

L. J. ROUCHLEAU.
COMPRESSED AIR JACK.
APPLICATION FILED APR. 20, 1912.

Patented Apr. 29, 1913.

2 SHEETS—SHEET 1.

1,060,496.

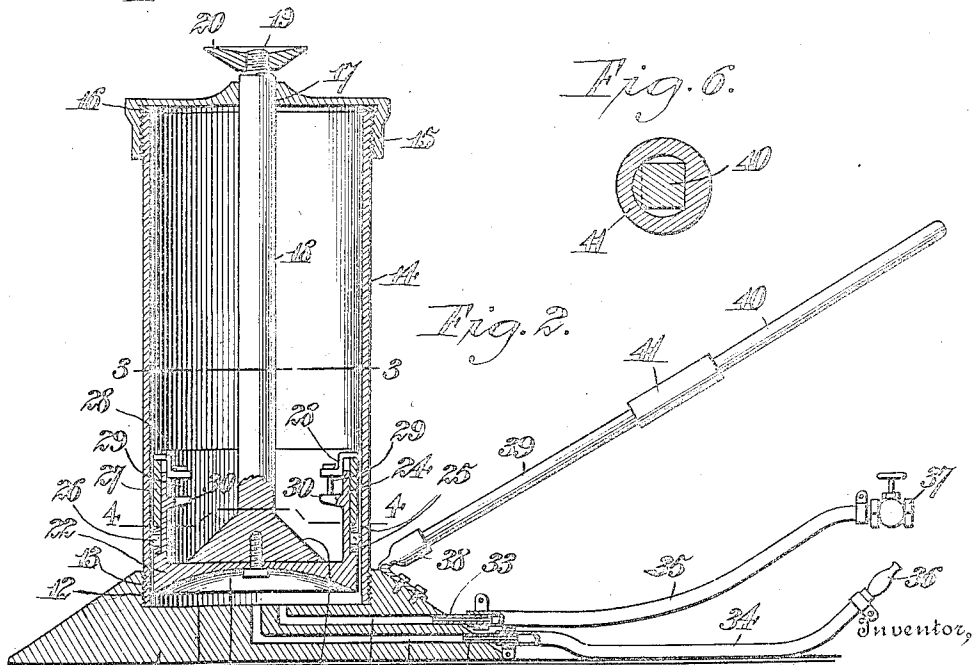
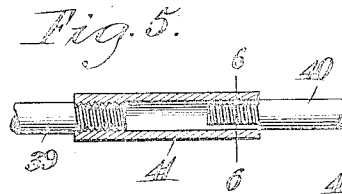
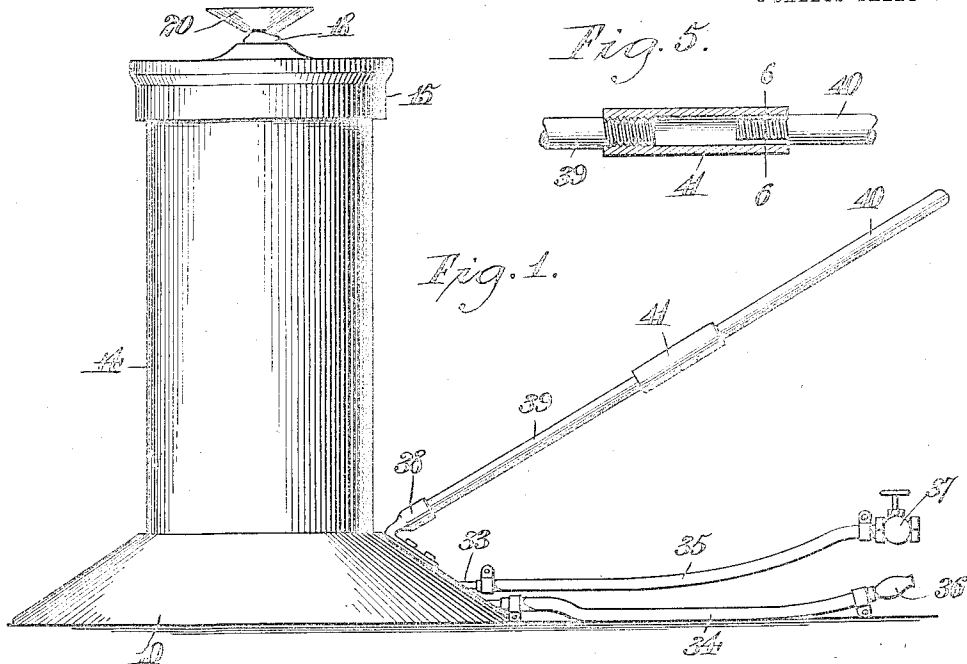
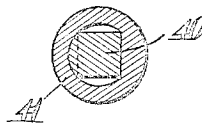


Fig. 6.



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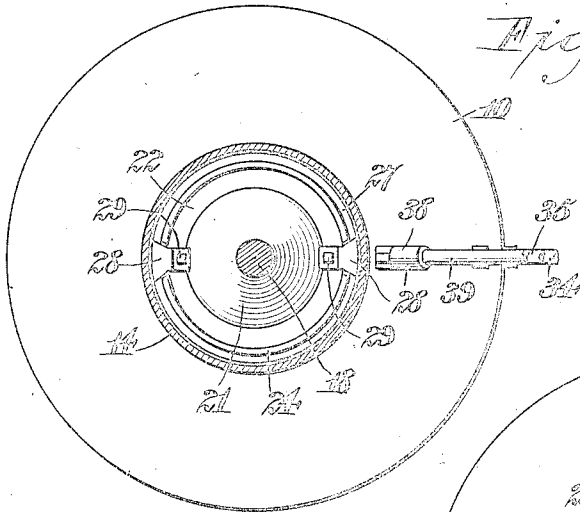


Fig. 3.

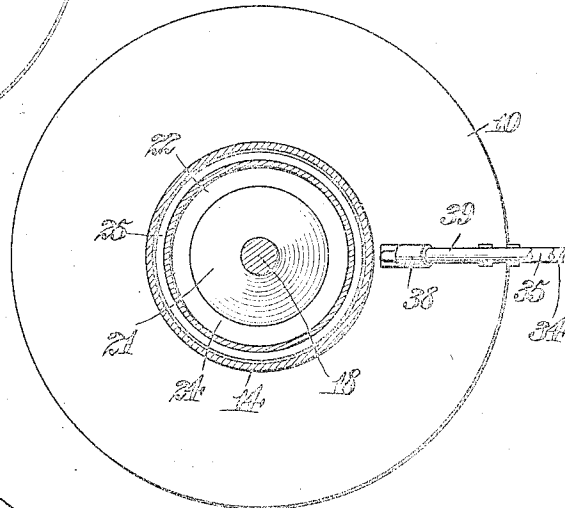


Fig. 4.

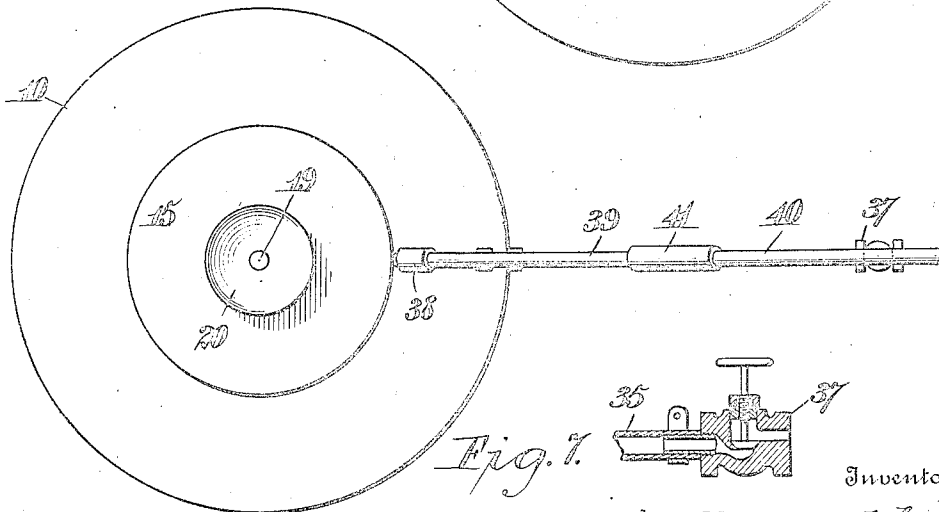
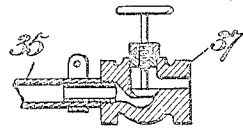


Fig. 7.



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UNITED STATES PATENT OFFICE.

LOUIS J. ROUCHLEAU, OF ARLINGTON, CALIFORNIA.

COMPRESSED-AIR JACK.

1,060,496.

Specification of Letters Patent.

Patented Apr. 29, 1913.

Application filed April 20, 1912. Serial No. 692,114.

To all whom it may concern:

Be it known that I, LOUIS J. ROUCHLEAU, a citizen of the United States, residing at Arlington, in the county of Riverside and State of California, have invented new and useful Improvements in Compressed-Air Jacks, of which the following is a specification.

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

The primary object of the invention is the provision of a device of this character in which compressed air is utilized for operating the jack whereby it may be employed for raising objects such as vehicles or the like, thereby avoiding the necessity of manually raising the jack in the ordinary well-known manner.

Another object of the invention is the provision of a lifting jack of this character in which the lifting stem thereof will be elevated under the influence of compressed air to the required height for lifting purposes, the said stem being provided with a piston head which is prevented from pounding against the head of the cylinder in which the same works, thereby avoiding fracture of the said piston head and also rendering the jack noiseless when being operated.

A further object of the invention is the provision of a lifting jack which is simple in construction, easily operated, reliable and efficient in its purpose 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 drawing, and pointed out in the claim thereunto appended.

In the drawings: Figure 1 is a side elevation of a jack constructed in accordance with the invention. Fig. 2 is a vertical longitudinal sectional view thereof. Fig. 3 is a sectional view on the line 3—3 of Fig. 1. Fig. 4 is a sectional view on the line 4—4 of Fig. 1. Fig. 5 is a fragmentary, vertical sectional view through the two part detachable handle. Fig. 6 is a sectional view on the line 6—6 of Fig. 5. Fig. 7 is a fragmentary vertical longitudinal sectional

view through the exhaust pipe and its valve. Fig. 8 is a top plan view of the device.

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

Referring to the drawings by numerals, the lifting jack comprises a base 10, the same being formed with a central circular-shaped recess 11 having its side wall provided with screw threads 12 detachably engaged by the exteriorly screw threaded end 13 of a piston cylinder 14, rising from the said base 10, the opposite outer end of the said cylinder 14 being exteriorly screw threaded for the detachable engagement therewith of a head cap 15 between which and the edge of the outer end of the said cylinder 14 is placed a packing ring 16 for a purpose hereinafter described.

Formed centrally in the cap 15 is an aperture 17 through which is passed a lifting stem 18, provided with an outer screw threaded end 19 and having detachably connected thereto a rest piece 20, on which is adapted to bear the object to be raised by the jack, in a manner to be presently described.

The inner end of the stem or bar 18 is formed with a flared portion 21, the same being centrally connected to a piston head 22, formed with a concaved face 23, the piston head 22 being designed to work within the cylinder 14, and is adapted to travel longitudinally therein. The said piston head 22 is formed with a peripheral rim 24, upon the upper edge of which is superimposed spaced packing rings 25, between which is arranged a packing 26 and against the uppermost packing ring 25 there is an adjustable retaining ring 27, the same being engaged by means of adjustable clamps 28 having swiveled therein regulating bolts 29, the same threaded in inset lugs 30 formed on the flange 24, whereby on the adjustment of the bolt 29 the ring 27 may be forced tightly against the uppermost ring 25, thereby compressing the packing 26, thereby causing it to expand outwardly between the rings 25, so as to closely contact with the inner surface of the cylinder 14, so as to form a fluid tight joint between the piston head and the same, thereby avoiding leakage of fluid from one side of the piston head to the other within the cylinder.

Formed in the base 10 are inlet and outlet conduits or vents 31 and 32 respectively, the inner ends of which open into the lower end of the cylinder 14, while the outer ends have fitted therein couplings or nipples 33 for the connection of the respective inlet and exhaust tubes 34 and 35, the tube 34 being provided with a back pressure spring-held check valve 36, while the exhaust tube 35 has connected thereto a hand operated cutoff globe valve 37 of the ordinary well-known construction. The inner tube 34 is adapted to be connected with a compressed air pump of any ordinary well-known construction, so as to supply compressed air to the cylinder 14, whereby said compressed air will act against the piston head 22 for forcing outwardly a lifting stem, or bar 18 for the raising of an object by the jack.

When it is desired to exhaust the compressed air fluid from the cylinder 14, it is only necessary to open the cutoff valve 37, whereby the said fluid may be discharged to the atmosphere.

Fixed to or integral with the base 10 at any desired point therein is a handle receiving socket member 38, in which is detachably threaded the inner section 39 of a handle which includes an outer section 40, the same being detachably connected to the inner section 39, thereof, by means of a coupling sleeve 41, thus it being seen that the handle may be shortened or lengthened as the occasion may require and this handle

enables the jack to be placed beneath the object at the proper location for the lifting thereof.

From the foregoing description, taken in connection with the accompanying drawing, it is thought that the construction and operation of the invention will be clearly understood, and therefore, a more extended explanation has been omitted.

What is claimed is:—

A piston for air jacks comprising a piston head having a concaved portion at one end and a recess in its opposite end, the walls of the recess being slotted at diametrically opposite points, lugs integrally formed with the walls of the recess and projecting into the same and alining with said slots, the said head being formed with a packing seat in the side thereof, an expansible packing located within the seat, packing rings arranged on opposite sides of the packing and mounted within the piston head, a retaining ring circumscribing the said piston head and adjustably movable in the packing seat, clamps mounted in the slots and working against the retaining ring, and adjustable bolt members loosely engaged in the clamps and threaded in the lugs.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS J. ROUCHLEAU.

Witnesses:

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