

L. J. DITTMAR.
PNEUMATIC JACK.
APPLICATION FILED JAN. 6, 1911.

1,048,301.

Patented Dec. 24, 1912.

Fig. 1

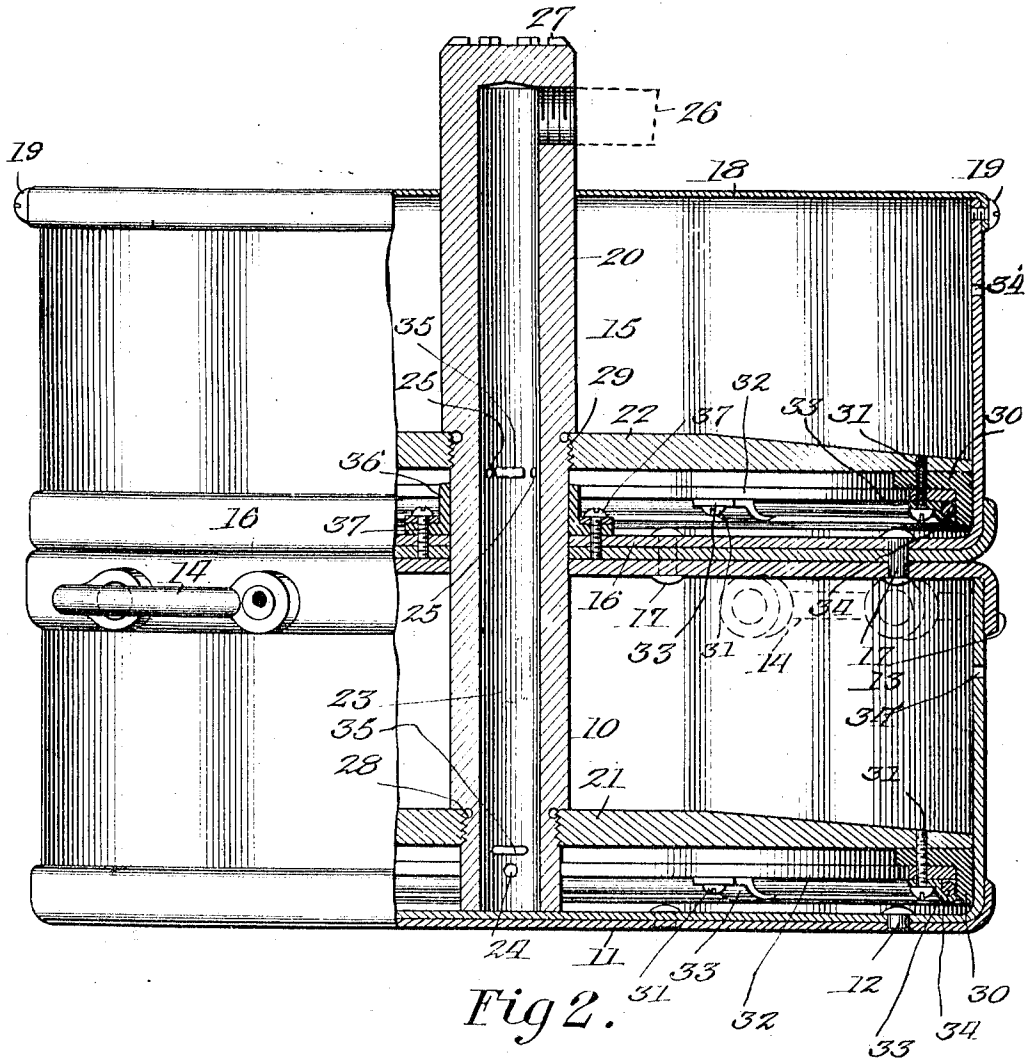
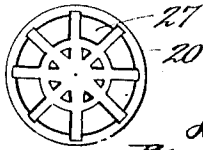


Fig. 2.



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LOUIS J. DITTMAR, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO PNEUMATIC JACK COMPANY, OF LOUISVILLE, KENTUCKY, A CORPORATION OF KENTUCKY.

PNEUMATIC JACK.

1,048,301.

Specification of Letters Patent.

Patented Dec. 24, 1912.

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To all whom it may concern:

Be it known that I, Louis J. DITTMAR, a citizen of the United States, residing at Louisville, county of Jefferson, State of Kentucky, have invented certain new and useful Improvements in Pneumatic Jacks, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a pneumatic lifting jack and particularly to a construction involving the use of a plurality of cylinders connected to move the reciprocating member of said jack by fluid pressure.

The invention has for an object to provide an improvement upon the construction shown in Patent No. 845,144, dated February 26, 1907, by which the fluid pressure is introduced through the lifting member and communicates with each of the cylinders to raise the pistons carried by said member.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing—Figure 1 is a side elevation of the invention with parts in vertical section; and Fig. 2 is a top plan of the lifting member.

Like numerals of reference refer to like parts in the several figures of the drawing.

The numeral 10 designates the lower cylinder which may be of any desired construction or configuration, preferably formed of pressed metal parts. As shown, this cylinder is provided with a base plate 11 riveted thereto at 12 and with a cap plate 13. The cylinder 10 is also provided with handles 14 disposed in any convenient location to permit the ready transportation of the jack. Above the cylinder 10, a cylinder 15 is disposed and this is provided with a base plate 16 secured to the plate 13 by means of rivets 17 or other fastening devices. The cylinder 15 is provided with a cover 18 secured thereon by any desired fastening device, for instance the screws 19. Within these cylinders, a piston rod or lifting member 20 is disposed and provided with a piston 21 within the cylinder 10, and a piston 22 within the cylinder 15. This lifting member 20 is provided with a central passage 23 which communicates by the opening 24 with the cylinder 10 beneath the piston 21 and by

the openings 25 with the cylinder 15 beneath the piston 22. The member 20 is adapted to be connected with any suitable source of air or fluid pressure as indicated by dotted lines at 26, while the upper face thereof is provided with contact lugs 27 adapted to engage the object to be lifted, as shown in Figs. 1 and 2.

The pistons 21 and 22 are threaded upon the rod 20 as shown at 28 and 29, respectively, and the outer periphery of these pistons is provided with a packing 30 secured thereon by means of a bolt 31 which extends through a clamping ring 32 and a holding clip 33, the latter being adapted to embrace a pressing member 34. This holding ring provides the necessary tension upon the vertical surface of the packing 30 to secure proper contact with the walls of the cylinders. The pistons and packing rings in the cylinders 10 and 15 are similar in construction and each of these cylinders is provided with an exhaust opening 34' adjacent the upper portion thereof. Each of the pistons 21 and 22 may be secured against accidental removal by means of a cotter pin 35 or other securing device as shown in Fig. 1. The base of the cylinder 15 is provided with a packing 36 secured thereto by screws 37 so as to effect a fluid-tight joint between the cylinders.

This construction permits the introduction of the fluid pressure through the lifting member or piston rod and provides for its introduction beneath each of the pistons carried by said rod and also the pistons are each formed with packing means to contact with the walls of the cylinders, while the lifting stem is similarly packed at the point where it extends into the lower cylinder. It will be seen that in this construction each of the lifting cylinders may be supplied with fluid pressure through the lifting stem and the packing at the outer edges of the pistons therein prevents the escape of the pressure. Furthermore, the lifting stem is provided with apertures communicating with the cylinders beneath each of the pistons mounted upon said stem, while the passage for the stem through the lower cylinder is provided with a proper packing to prevent escape of fluid pressure therefrom. The outlet opening in the sides of these cylinders limits the upward travel of their pistons and relieves the pressure above said pistons.

It will be seen that the invention presents a simple, efficient and economically constructed form of lifting jack, embodying a plurality of cylinders and pistons simultaneously operated by fluid pressure applied through the reciprocating stem or lifting member.

Having described my invention and set forth its merits, what I claim and desire to secure by Letters Patent is—

1. A pneumatic jack comprising a lower cylinder having a centrally apertured cap, an upper cylinder arranged on said cap provided with an apertured base and an apertured cap, a hollow lifting member slidably mounted in said apertures having stepped reduced threaded portions, apertured pistons mounted on said threaded portions of said member, said member having openings communicating with the respective cylinders beneath the pistons, and an inlet port adjacent its upper end.

2. A pneumatic jack comprising a pair of cylinders, each having a double bottom and

a removable cap, said cylinders being arranged upon one another and provided with exhaust openings adjacent their upper ends, a hollow lifting member slidably mounted in said cylinders, having stepped portions to form shoulders, adjacent threaded portions, threaded apertured pistons arranged on said threaded portions abutting against said shoulders, fastening members extending through said lifting member below said pistons, said lifting member being provided with an open lower end and a closed upper end, having a lateral inlet adjacent the closed end thereof, and provided with openings communicating with the respective cylinders beneath the pistons, and means for securing said cylinders in superposed position.

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

LOUIS J. DITTMAR.

Witnesses:

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