

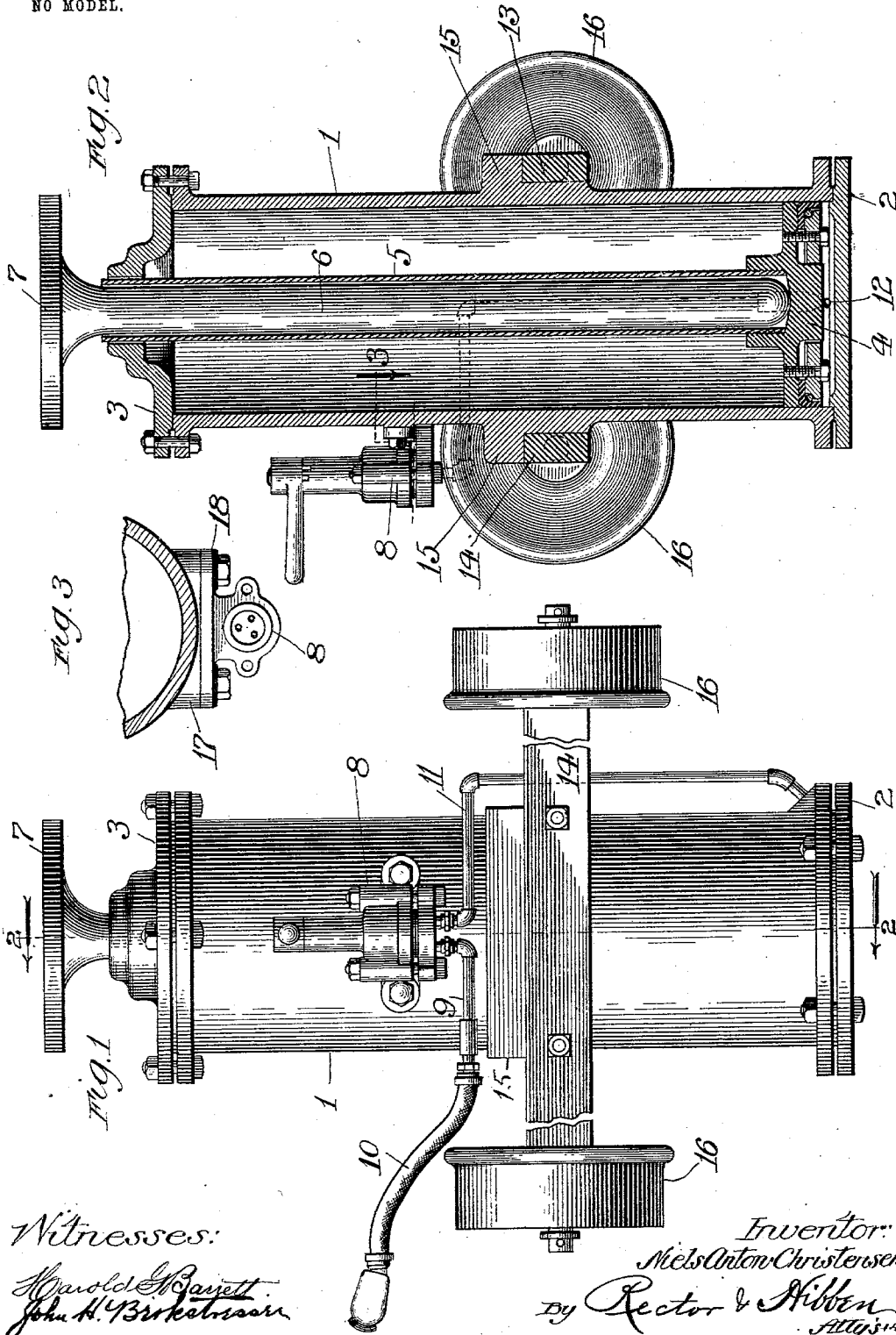
No. 752,201.

PATENTED FEB. 16, 1904.

N. A. CHRISTENSEN.
FLUID PRESSURE JACK.

APPLICATION FILED MAR. 2, 1901.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

NIELS ANTON CHRISTENSEN, OF MILWAUKEE, WISCONSIN.

FLUID-PRESSURE JACK.

SPECIFICATION forming part of Letters Patent No. 752,201, dated February 16, 1904.

Application filed March 2, 1901. Serial No. 49,630. (No model.)

To all whom it may concern:

Be it known that I, NIELS ANTON CHRISTENSEN, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Fluid-Pressure Jacks, of which the following is a specification.

My invention relates to fluid-pressure jacks; and its object is to produce a simple, compact, and efficient device of this character and also provide the same with means whereby it may be enabled to fit the load which it is designed to lift.

My jack may be either stationary or portable, as herein shown, and if portable it is particularly useful, for instance, in the pits of street-car barns for the purpose of dismounting motors from the trucks or for removing armatures or for changing wheels and axles.

While any fluid-pressure might be employed to operate the jack, air is the medium commonly used, and consequently for convenience in description I will describe the jack as operated by air.

In the drawings, Figure 1 is a side elevation of my jack. Fig. 2 is a sectional elevation on line 2 of Fig. 1, and Fig. 3 a section on line 3 of Fig. 2.

The cylinder 1 of the desired dimensions has a bottom head 2 and a top head 3. A piston 4 of proper construction, preferably leather, packed, as shown, travels in the cylinder and is provided with a hollow stem or pipe 5, extending upwardly and through the top head. The piston-rod 6, which is preferably though not necessarily a solid rod, is arranged loosely inside of the pipe 5, which forms a guide therefor; but such rod is readily removable from such pipe.

The upper end or head of the piston-rod may be formed with a saddle 7, which may be separate or integral with the rod and made of any special form so as to fit the load to be lifted. For instance, the saddle may be of a special form to fit the armature when the jack is used for handling motors in the pit of a street-car barn or to lift the lower field-frame of the motor when lowering the same down from the car-axle, or, in fact, any shape of saddle may be attached to the head of the piston-rod, or,

if desired, a set or series of piston-rods with different special saddles may be provided and used in the jack according to the character of the load to be lifted. One piston-rod and saddle can be easily substituted for another.

The admission and release of air to the cylinder is controlled by a valve 8, preferably mounted on the side of the cylinder. This valve may be of the ordinary three-way type, so as to establish connection, first, between a main reservoir or air-supply and the cylinder, and, second, between the cylinder and the atmosphere. The reservoir-pipe 9 may have a hose-coupling 10 for connection with the main line or source of air-supply. The cylinder connection or pipe 11 leads from the valve 8 into the cylinder below the piston through the port 12.

When the jack is to be made portable, as herein illustrated, it is provided with a truck, whose preferable construction is as follows: The two axles 13 and 14, which may be curved or straight, are bolted or otherwise secured to opposite sides of the cylinder beneath projecting lugs or shoulders 15 on the cylinder. These axles are provided with suitable wheels 16, so that the jack may travel on a track.

As shown, the valve is preferably mounted directly on the side of the cylinder, and to this end such cylinder has an exterior lug or boss 17, to which is bolted the fastening-plate 18 of the valve device.

The operation of the jack or lift is so obvious from the foregoing description that a detailed statement is unnecessary, except to say that the load may be lifted or lowered and held in any given position, whereupon the valve may be put on lap, the hose-coupling disconnected, and the jack and load transferred to any other point where it is desired to have it.

While the form and construction herein shown and described is the preferable one, yet I do not intend to be understood as limiting myself to the details thereof, inasmuch as mechanical changes might be made without departing from the spirit of my invention or avoiding my claims.

I claim—

1. In a fluid-pressure jack, the combination of a cylinder, a piston therein, means for ad-

mitting pressure to and releasing it from the cylinder, a pipe connected to the piston, and a removable piston-rod received by such pipe.

2. In a fluid-pressure jack, the combination
5 of a cylinder, a piston therein, means for admitting pressure to and releasing it from the cylinder, a pipe connected to the piston, a re-

movable piston-rod received within such pipe, and a saddle for the piston-rod.

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Witnesses:

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