No. 637,945. Patented Nov. 28, 1899.

W. T. REED.

JACK.

(Application filed Apr. 18, 1899.)

(No Model.)

Fig. I.

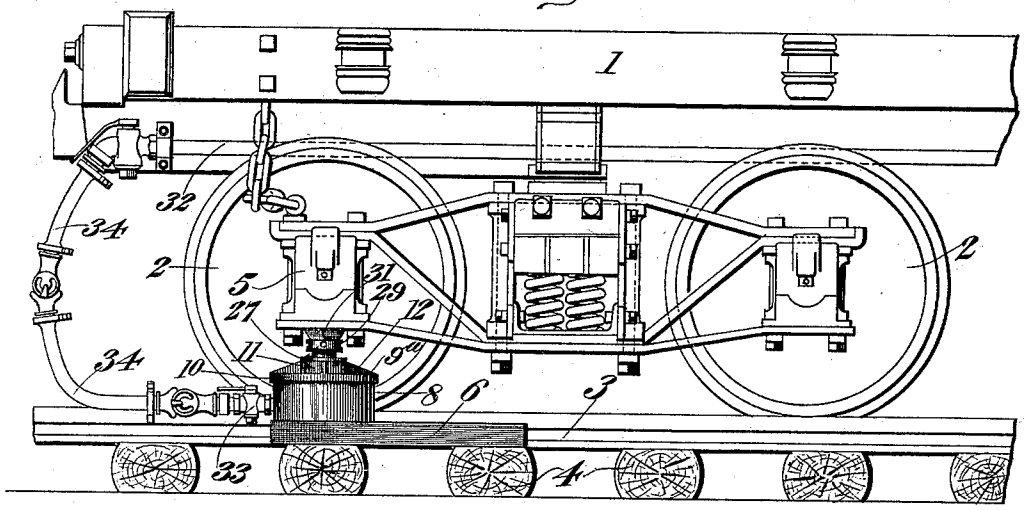
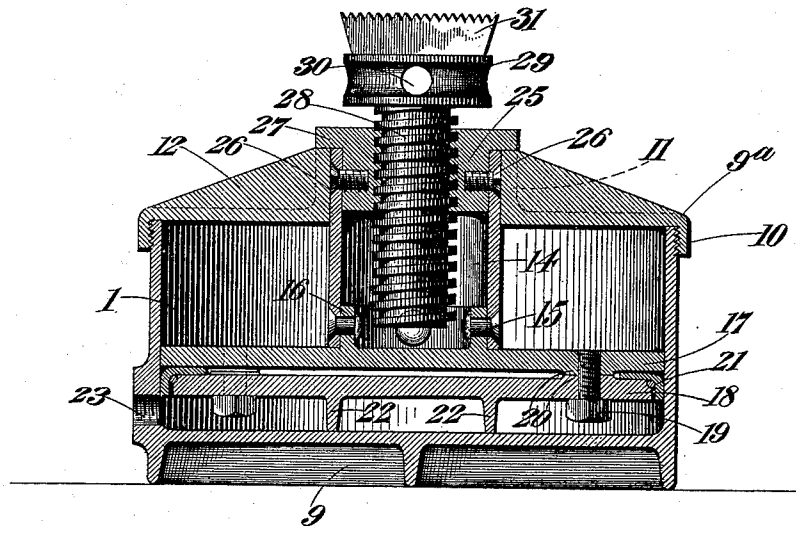


Fig. II.



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UNITED STATES PATENT OFFICE.

WILLIAM T. REED, OF PORTSMOUTH, VIRGINIA.

JACK.

SPECIFICATION forming part of Letters Patent No. 637,945, dated November 28, 1899.

Application filed April 18, 1899. Serial No. 713,500. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM T. REED, of Portsmouth, in the county of Norfolk, State of Virginia, have invented certain new and useful Improvements in Jacks, of which the following is a complete specification, reference being had to the accompanying drawings.

The object of my invention is to produce a jack especially though not exclusively adapted for use about railway-cars by combining in one simple device means of utilizing either fluid-pressure or screw-power for lifting purposes. In connection with railway-cars it is designed to be employed especially for relieving the weight of the car from a journal-brass in order to remove the old brass and apply a new one. The necessity for the operation described generally occurs while a car is on the road—in consequence, for instance, of a hot box—and when the time required in the operation is an item of no small importance. My device is adapted to facilitate and despatch the operation by attaching it to an air-pipe of the brake or other fluid-pressure system on the train, but is equally serviceable under conditions in which a fluid-pressure supply is not available.

In the accompanying drawings, Figure I is a side elevation of a portion of a car-body, its truck, and road-bed, illustrating in side elevation my jack in use. Fig. II is a central vertical section of my jack, some of the parts being shown in elevation.

Referring to the figures on the drawings, 1 indicates a portion of a car-body; 2, the wheels; 3, the track of the road-bed; 4, the ties, and 5 one box of the truck, illustrated as in position to be lifted by my jack, shown as in position underneath the same and resting, as usual, upon a block 6, spanning two or more of the ties 4.

The jack consists, essentially, of a body part 8, preferably cylindrical in shape, provided with a base or bottom 9 and made of requisite weight of metal to stand such strain as may be put upon it. The top of the body part 8 is closed by a cap 9^a, secured to the end thereof, as by an internally-threaded flange 10. It is provided also with an upwardly-projecting concentric flange 11 and with strengthening ribs or braces 12, extending from the top of the flange 11 to the juncture of the cap 9^a with its depending flange 10. Within the flange 11 works a hollow neck or guide-support 14, that is rigidly secured, as by rivets 15, to a flange 16, projecting from a piston-head working snugly within the body part or cylinder 8. The piston-head preferably consists of two plates—an upper plate 17, of which the flange 16 forms a part, and a bottom plate 18. The two plates are united, as by screw-bolts 19, which passing through abutting bosses 20, serve to removably secure in place around the edge of the plate 18 a packing-ring 21, the plate 18 being made of sufficiently shorter diameter than the plate 17 to accommodate the packing-ring. The bottom of the plate 18 is preferably provided with supporting-legs 22, which serve to prevent the descent of the piston below the upper edge of an inlet orifice or pipe-tap 23, although, of course, the office of the legs 22 may be performed by any other stop mechanism. The neck 14 is provided in its upper end with a block 25, secured, as by screws 26, to the neck and provided at its upper edge with a flange 27, which when the piston is resting upon its legs 22 rests solidly upon the edge of the flange 11, wherefore the body part 8 with its cap, and the piston with its neck, afford at one and the same time when the piston is inactive a rigid support and constitute, in effect, one solid base for the block 25. The block is provided with a central threaded aperture within which works a screw 28, that is provided, as usual in jacks, with a head 29. The head 29 is preferably provided with a lever-aperture 30 and with a toothed supporting or abutting member 31, pivotally carried on the head.

The body part 8 is equipped with suitable provision for making a pipe connection between the pipe-tap 23 and a source of pressure-supply—as, for example, a train-pipe 32. Such means of connection may consist of a valve-controlled coupling or cock 33, between which and the pipe 32 connection is made, as by means of a section or sections of flexible pipe 34.

In operation the jack is adjusted and, if a source of fluid-pressure supply be available, it is connected thereby, as through the cock

33. Pressure being applied, forces the piston upwardly, thereby elevating the neck 14, the block 25, and the screw 28 with its head.

The screw may be operated independently of or in connection with the operation of the piston; but its special purpose is complementary, being intended to adapt the one device to use under all conditions. When the screw is independently employed, the block 25, with its flange 27, affords, as already specified, that rigidity of support required in jacks of its class.

What I claim is—

1. In a jack, the combination with a body part and its base, of a piston working within the body part, and a screw operatively carried by the piston, substantially as set forth.

2. In a jack, the combination with a body part and base, of a piston working in the body part, a neck upon the piston, a cap upon the body part surrounding the neck, and a screw operatively mounted in the neck, substantially as set forth.

3. In a jack, the combination with a body part and base, of a neck upon the piston, a flanged block in the neck, a cap upon the body part surrounding the neck, and a screw mounted in the block, substantially as set forth.

4. In a jack, the combination with its body part and base, of a piston working within the body part, a neck upon the piston, a flanged block in the neck, a flanged cap upon the body part surrounding the neck, braces upon the cap supporting the flange, and a screw mounted in the block, substantially as set forth.

In testimony of all which I have hereunto subscribed my name.

WILLIAM T. REED.

Witnesses:

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