No. 684,728. Patented Oct. 15, 1901.

M. SCHWARTZ.

LIFTING JACK.

(Application filed Feb. 21, 1901.)

(No Model.) 2 Sheets—Sheet 1.

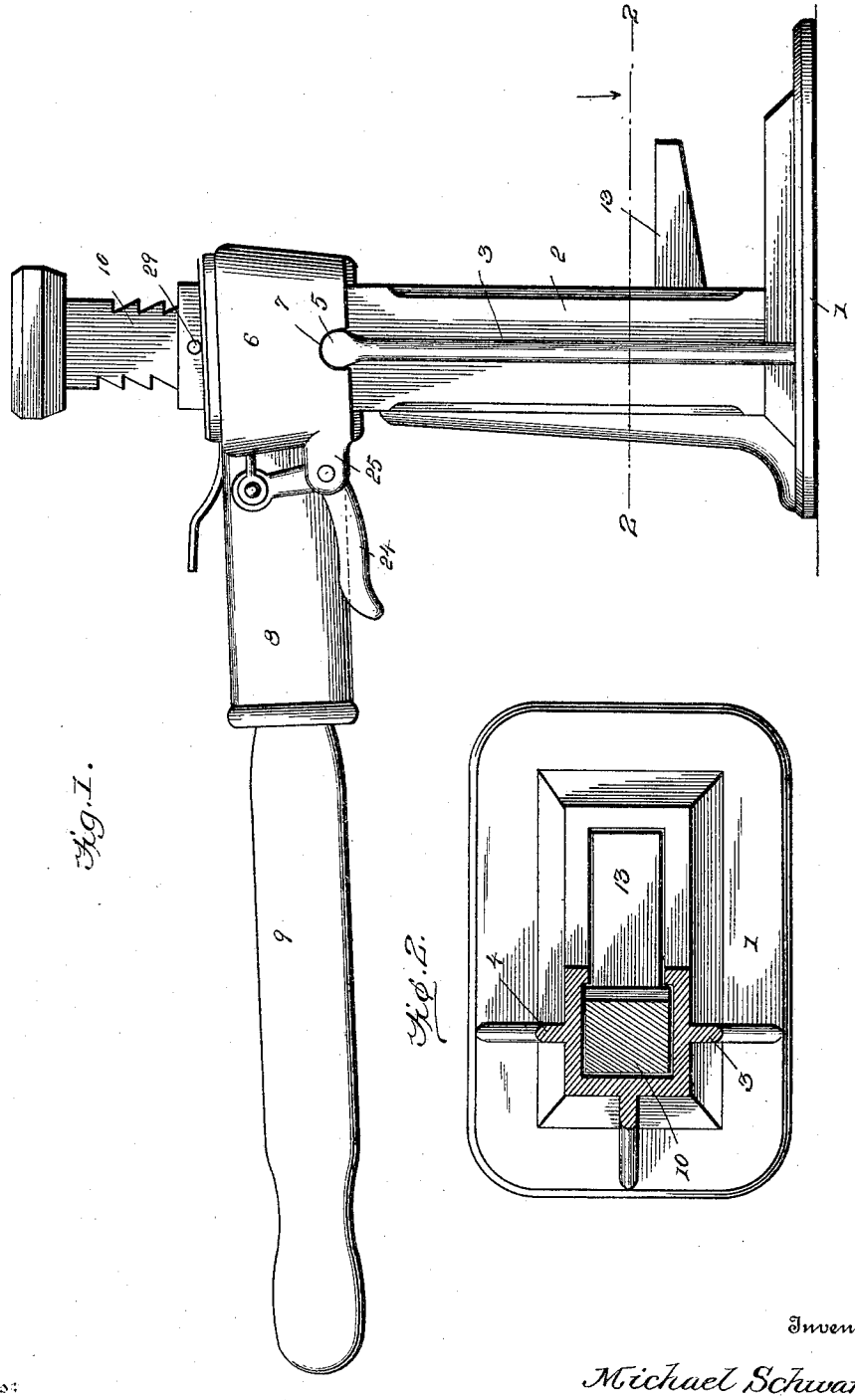


Fig. 1.

Fig. 2.

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Fig. 4.

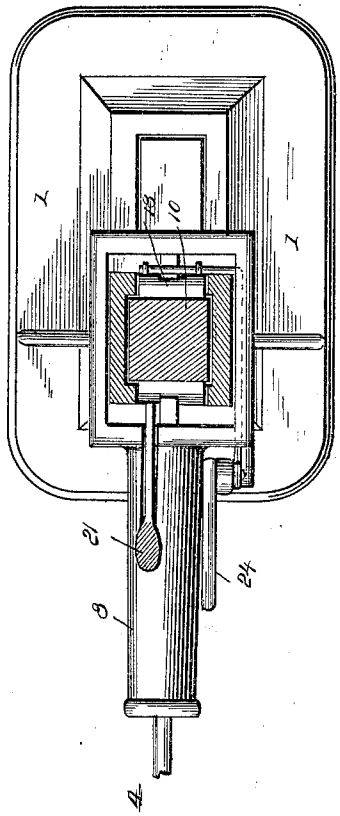


Fig. 6.

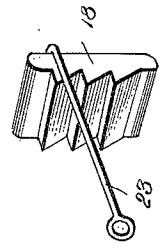


Fig. 5.

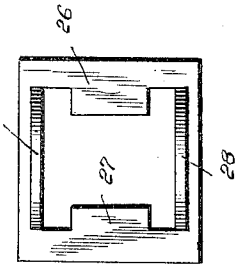
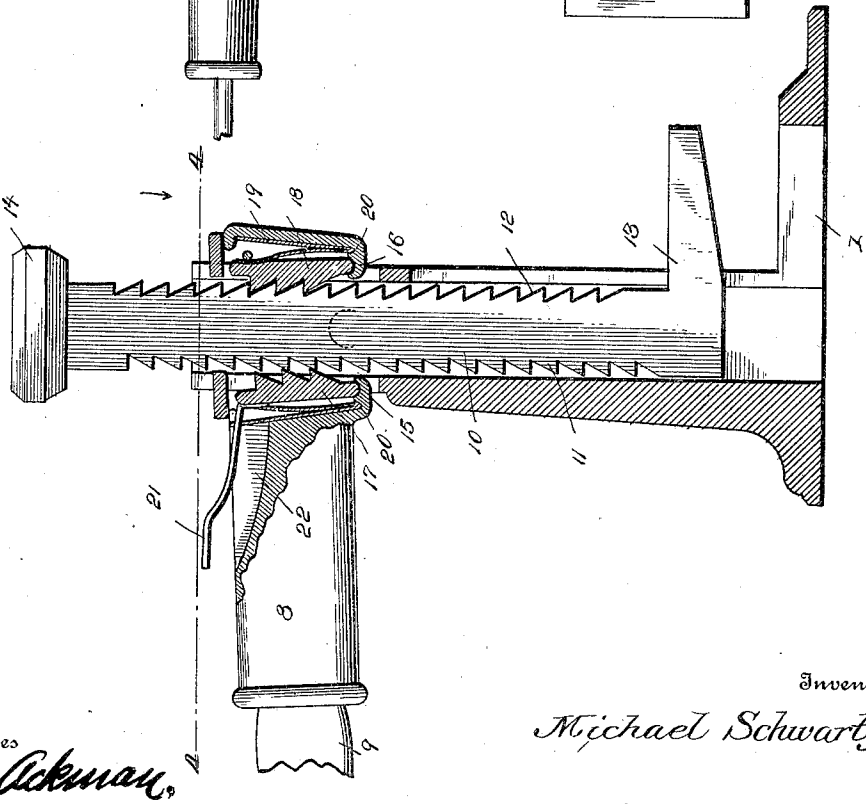


Fig. 3.



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UNITED STATES PATENT OFFICE.

MICHAEL SCHWARTZ, OF CHILLICOTHE, OHIO.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 684,728, dated October 15, 1901.

Application filed February 21, 1901. Serial No. 48,359. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL SCHWARTZ, a citizen of the United States, residing at Chillicothe, in the county of Ross and State of Ohio, have invented new and useful Improvements in Lifting-Jacks, of which the following is a specification.

My invention relates to lifting-jacks of the class which are designed primarily for lifting cars or other heavy loads; and the primary object of the invention is to provide a device of the character named which may be easily operated and will be so constructed as to insure safety in use.

The invention comprises a framework or hollow standard of novel construction provided on opposite sides with vertically-disposed ribs, a lifting-bar arranged therein and formed with ratchet-teeth on opposite sides, a rocking head supported on said frame, oppositely-disposed spring-controlled dogs adapted to engage the ratchet-teeth of the bar, means for tripping said dogs, and a lever for rocking the head.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, forming part of this specification, and its novel features will be pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of a lifting-jack embodying the invention. Fig. 2 is a transverse section on the line 2 2 of Fig. 1. Fig. 3 is a longitudinal vertical section of the jack. Fig. 4 is a transverse section on the line 4 4 of Fig. 3. Fig. 5 is a plan view of a frame supported on the tilting head of the jack, and Fig. 6 is a view in perspective of one of the dogs engaging the ratchet-teeth of the bar.

The reference-numeral 1 designates a base, from which rises a hollow standard 2, preferably square in cross-section, as shown in Fig. 2. The standard 2 is provided at opposite sides with vertically-disposed ribs 3 and 4, each of which is formed at its upper end with a rounded head 5.

Fitting over the upper end of the standard 2 is a hollow casing 6, formed on opposite sides with semicircular recesses 7, which fit over the rounded upper ends 5 of the ribs 3 and 4 and serve as bearings upon which the hollow casing 6 is adapted to rock. The casing 6 constitutes the rocking head and is formed with an integral socket 8, adapted to receive a handle or lever 9, by means of which the head is tilted upon the upper ends of the ribs.

10 designates the lifting-bar of the jack, formed on opposite sides with ratchet-teeth 11 and 12 and provided at its lower end with a laterally-projecting foot 13. The upper end of the bar 10 carries a head-block 14.

The tilting head 6 is formed on opposite sides of the lifting-bar 10 with inwardly-projecting lugs 15 and 16, which are formed on their upper surfaces with semicircular depressions to receive the lower rounded edges of the oppositely-disposed dogs 17 and 18. These dogs are provided with ratchet-teeth, as clearly shown in Fig. 3, and are fitted within the tilting head in such a manner as to have a limited vibratory movement therein. Behind each of these dogs is a V-shaped spring 19, the lower ends of which fit within recesses 20, formed in the lugs 15 and 16. The dog 17 is provided with a lever 21, which fits within a recess 22, formed in the socket 8, and the dog 18 is connected, by means of a link 23, with the bell-crank lever 24, fulcrumed upon a bracket 25, projecting from the tilting head 6.

26 designates a cap, (see Fig. 5,) which serves the double purpose of retaining the tilting head and the dogs contained therein in position and protecting the interior of the tilting head from dust and dirt. The cap 26 conforms to the shape of the upper side of the tilting head and is formed with lugs 27, which extend over the upper ends of the dogs. The cap is also provided with semicircular projections 28, which serve as rockers to permit of the required movement of the tilting head. The cap 26 is secured in position upon the hollow standard by screws 29, which are secured into the sides of the hollow standard above the projections 28 of the cap.

The operation of the mechanism constructed as above described is as follows: Either the head-block 14 or the projecting foot 13 of the lifting-bar is placed under the head to be raised, and by tilting the head 6 by a pumping motion the dogs 17 and 18 alternately engage the lifting-bar, thus gradually lifting the latter and the load carried thereby. It

will be noted that when the tilting head is being operated one or the other of the dogs is at all times in engagement with the lifting-bar, and when the tilting head is at rest both of said dogs are in engagement with the opposite sides of the bar, thus insuring safety in maintaining the load at any point to which it may be elevated. To lower the lifting-bar, depress the lever 21 and elevate the lever 9, and then raise the bell-crank lever 24 and lower the lever 9, repeating this alternate operation of the dog until the lifting-bar has reached the desired lowered position. To lower the lifting-bar when there is no load thereon, press both the levers 21 and 24, when the bar will drop by its own weight.

The construction above described affords a very firm and durable support for the tilting head and the spring-controlled dogs arranged therein, thus adapting the improvement for car service or other heavy work.

I claim—

1. In a lifting-jack, the combination with a hollow standard provided on opposite sides with vertically-disposed ribs; of a tilting head supported on the upper ends of said ribs; and provided with inwardly-extending lugs; a lifting-bar formed on opposite edges with ratchet-teeth and arranged within the hollow standard; dogs formed with ratchet-teeth to engage the lifting-bar and supported on the lugs of the tilting head; springs for controlling the said dogs; means for tilting said head; and means for disengaging the dogs from the lifting-bar.

2. In a lifting-jack, the combination with a hollow standard provided on opposite sides with vertically-disposed ribs rounded at their upper ends; of a tilting head fitting over the end of the standard and formed with recesses to receive the rounded ends of said ribs; spring-controlled dogs arranged within the tilting head; a lifting-bar formed on opposite edges with ratchet-teeth and arranged within the hollow standard; and a lever for tilting the head.

3. In a lifting-jack, the combination with a hollow standard formed on opposite sides with vertically-disposed ribs; of a tilting head fitting over the upper end of the standard and supported on the upper ends of said ribs; lugs projecting inwardly from opposite sides of the tilting head; spring-controlled dogs supported on said lugs; a lifting-bar provided on opposite sides with ratchet-teeth; means for releasing the dogs from engagement with the lifting-bar; and a cap fitting over the hollow standard above the tilting head.

4. In a lifting-jack, the combination with a hollow standard formed on opposite sides with vertically-arranged ribs rounded at their upper ends; of a tilting head fitting over said standard and recessed to receive the upper ends of said ribs; a lifting-bar formed on opposite sides with ratchet-teeth and having at its lower end a laterally-projecting foot; a head-block arranged at the upper end of said lifting-bar; oppositely-disposed spring-controlled dogs within the tilting head provided with teeth to engage the lifting-bar; means for disengaging said dogs from the lifting-bar; and a cap fitting over the upper end of the standard to maintain the tilting head and dogs in position, said cap being provided with curved projections to permit of the required tilting movement of the head.

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

MICHAEL SCHWARTZ.

Witnesses:

GEORGE SCHWARTZ,

HENRY GRIESHEIMER.