

No. 634,035.

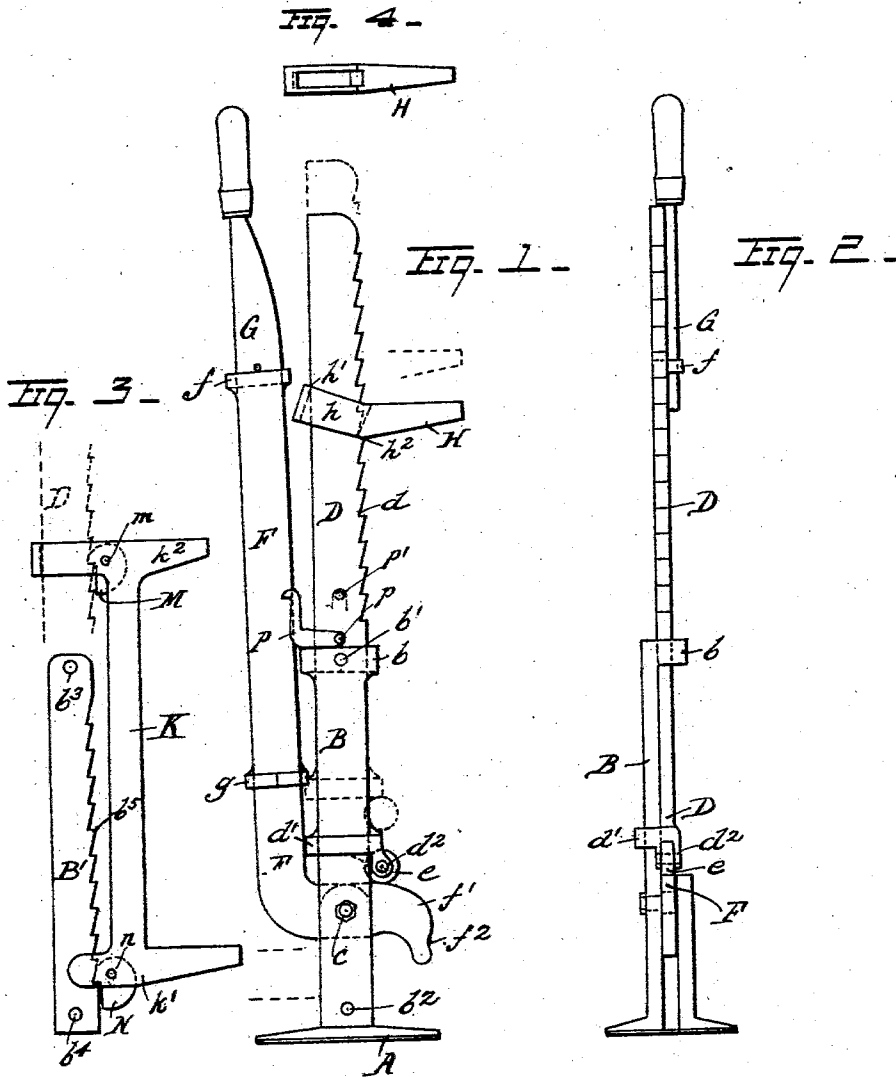
Patented Oct. 3, 1899.

J. SCHARER, JR.

LIFTING JACK.

(Application filed Apr. 6, 1890.)

(No Model.)



Jacob Scharer, Jr.
Inventor.

Witnesses.
Cameron E. Strauss.
D. M. Stewart

by 
Attorney.

UNITED STATES PATENT OFFICE.

JACOB SCHARER, JR., OF READING, PENNSYLVANIA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 634,035, dated October 3, 1899.

Application filed April 6, 1899. Serial No. 711,897. (No model.)

To all whom it may concern:

Be it known that I, JACOB SCHARER, JR., a citizen of the United States of America, and a resident of Reading, county of Berks, and State of Pennsylvania, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification.

My invention relates to certain improvements in lifting-jacks, which are fully described in connection with the accompanying drawings, and specifically pointed out in the claims.

Figure 1 is a side elevation of my improved jack without the special lifting attachment, the full lines showing the lifting-bar lowered with the operating-lever in corresponding position and the dotted lines indicating the positions to which said parts are moved when operated. Fig. 2 is a partial front elevation of the same. Fig. 3 is a side elevation of the special lifting attachment for adapting the jack to effect successive upward movements of the lifting-bar by respectively operating the lever. Fig. 4 is a separate view of the lifting-toe.

From the base A of the jack rises a rigid standard or post B, at the top of which is formed a guide-pocket *b*, through which slides the vertically-movable lifting-bar D, the lower end *d'* of which is also pocket-shaped to engage and slide upon the standard. At a point *c* near the bottom of the latter is pivoted an operating-lever F, the right-angled short end of which forms a cam *f'*, upon which the lifting-bar D rests upon a point of support *d''* forward of the pivotal center *c* of the lever and preferably provided with an antifriction-roller *e*, as shown. This point of support is thus kept almost directly under the load and is operated upon by the cam-surface *f'* to the best advantage. The lever F is preferably provided with an extensible handle G, slidably engaging therewith by means of guide-pockets *f* and *g*. As the lever is thrown down to the position indicated in dotted lines the bar D is raised by the cam *f'* until the roller *e* is seated in the recess *f''* at the extremity thereof, which recess tends to prevent a return movement of the lever, and thus hold the bar in elevated position. I prefer, however, to provide an additional positive stop P,

which is pivoted to the bar D at *p* and which drops automatically into vertical position when its pivotal point *p* is raised to the dotted position *p'*, and thus positively prevents dropping of the bar until the stop is swung out of such vertical position.

The edge *d* of the lifting-bar is toothed, as shown, and upon it is carried a lifting-toe H, the hollow shank *h* of which stands at an obtuse angle to the squarely-projecting toe portion and normally engages the front and rear edges of the bar at *h''* and *h'*, respectively, so as to naturally retain its position thereon, while at the same time readily adjustable thereon up and down to suit different heights of axles or the like.

In order to adapt my jack for uses in which a greater movement of the lifting-bar is required than is practicable to effect by a single movement of the lever, I provide an addition thereto, which may be detachable, as shown, this addition comprising a toothed rack B', which may be rigidly secured to the standard B by means of bolts at *b'* *b''* and *b''* *b''*, respectively, as indicated. The immovable rack edge *b''* thus provided enables me to employ a double lifting device K, the upper portion *k* of which rides upon the lifting-bar D and is provided with a gravity-pawl M, adapted to engage the teeth *d*, while the lower portion *k'* carries a similar pawl N, arranged to engage the teeth *b''* and is provided with a lower lifting-toe, as shown. The effect of operating the lever F when this attachment is applied to the jack is to raise the lifting-bar D and with it the double device K and the load upon it. On relieving the lifting strain upon the lever the pawls M and N fall into contact with the adjacent rack edges *d* and *b''*, respectively. The former, however, is free to fall or be pressed down as the lever is returned to position for a second stroke, the lower pawl N meanwhile supporting the load until the lifting operation is repeated. The lifting-toe H of course may be removed when the device K is employed.

With my improved jack I am thus enabled to secure sufficient leverage to lift very heavy loads, while at the same time it is adapted to a great variety of work.

What I claim is—

1. In a jack the combination with the stand-

ard, of the lifting-bar arranged to slide vertically thereon, the toe adjustably carried by said bar, the lever for elevating the same, and the automatic L-shaped stop P for said bar
5 pivoted thereto and adapted to fall into supporting position therefor when the bar is fully raised substantially as set forth.

2. In a jack the combination with the standard, of the lifting-bar arranged to slide vertically thereon and provided with a laterally-projecting lifting-toe on the upper portion thereof and a corresponding laterally-projected supporting-base lying in the same vertical plane with the overhanging toe and the main
15 body of the bar, and an operating-lever having a projecting cam-faced end upon which

said laterally-projected base rests, substantially as set forth.

3. In a jack the combination with a relatively-fixed standard, a movable lifting-bar 20 and an operating-lever, of a double lifting device provided with a top pawl adapted to engage the toothed edge of the lifting-bar and with a bottom pawl adapted to engage the toothed edge of the relatively-fixed standard 25 substantially as set forth.

Signed by me at Reading, Pennsylvania, this 4th day of April, 1899.

JACOB SCHARER, JR.

Witnesses:

CAMERON E. STRAUSS,
W. G. STEWART.