V. JOHNSON.

LIFTING-JACK.

No. 189,468. Patented April 10, 1877.

Fig. 1.

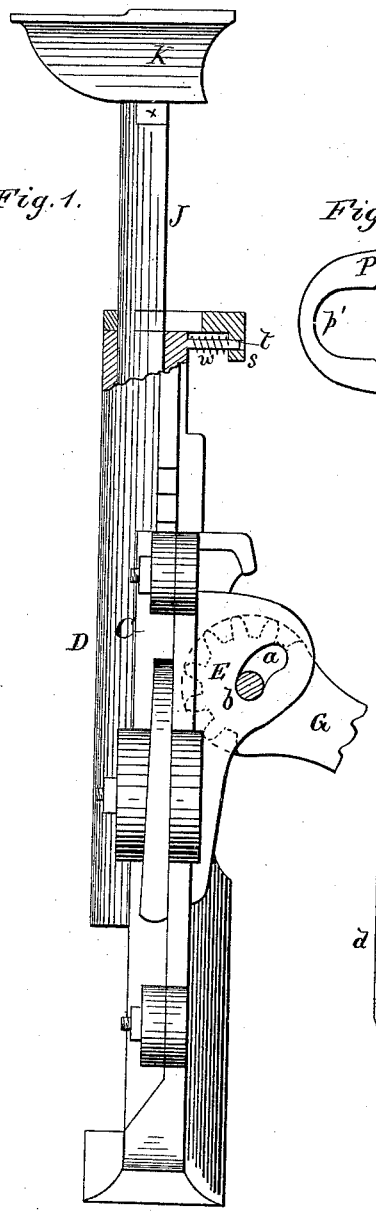


Fig. 3.

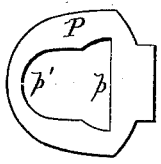


Fig. 4.

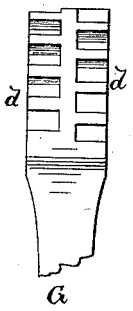
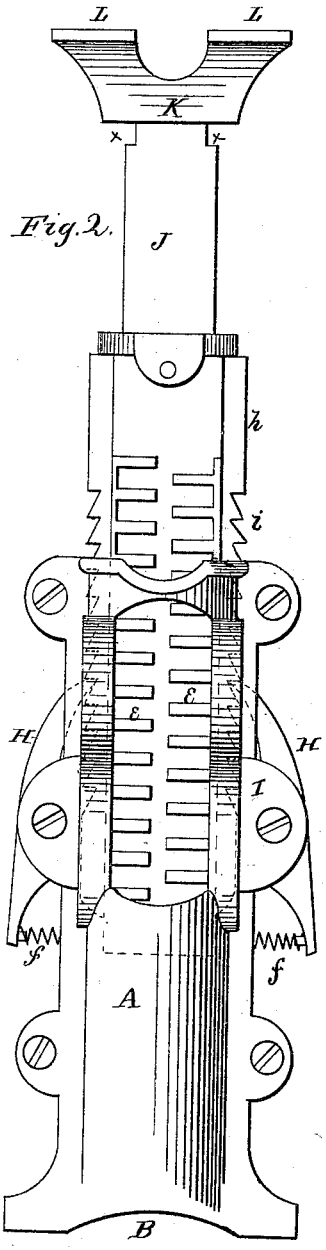


Fig. 2.



WITNESSES

Henry N. Miller

Frank Galt

INVENTOR

Victor Johnson

Alexander Mason & Son

ATTORNEYS.

UNITED STATES PATENT OFFICE

VICTOR JOHNSON, OF MOUNT PLEASANT, IOWA, ASSIGNOR OF ONE-HALF HIS RIGHT TO J. W. HAMPTON, OF SAME PLACE.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. **189,468**, dated April 10, 1877; application filed March 15, 1877.

To all whom it may concern:

Be it known that I, VICTOR JOHNSON, of Mount Pleasant, in the county of Henry, and in the State of Iowa, have invented certain new and useful Improvements in Tire-Tightener and Lifting-Jack; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a lifting-jack, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation, partly in section, of my invention. Fig. 2 is a front view of the same, and Figs. 3 and 4 are detailed views of parts thereof.

A represents the main standard of my lifting-jack, provided with a concave foot, B, as shown. The main part of the standard A is made in concavo-convex form, with side pieces C C bolted thereto, so as to form vertical side grooves for guiding a sliding standard, D, placed therein.

The front of the standard A is slotted near the upper end, and on each side of such slot is a projecting ear, E, having a curved slot, *a*, as shown in Fig. 1. Between these ears is pivoted the operating-lever G by means of a pin or bolt, *b*, passing through the curved slots *a a*.

The inner end of the lever G is made in segmental form, and provided with two sets of alternating cogs, *d d*, as shown in Fig. 4. These cogs engage with two series of cogs, *e e*, formed on the sliding standard D, for raising the same by the manipulation of the lever G.

By having two alternating sets of cogs upon the lever and on the standard, the cogs of each set may be made farther apart, and yet all the advantages of close cogs secured without any unnecessary friction or binding of the parts.

On each side of the sliding standard D is a vertical flange, *h*, fitting in the side groove of the main standard, and in each flange *h* is formed a series of ratchet-teeth, *i*, into which engages a pawl, H, pivoted to ears I on the main standard A, and operated by a spring, *f*, as shown. By means of the pawls H the sliding standard D is held at any point as it is raised by the operating-lever G.

By pressing inward the lower ends of said pawls the standard D drops down, the operating-lever G being drawn away from the same by its pivoting-bolt *b* sliding outward in the slots *a*. These slots also allow of the lever being raised to engage in the cogs *e*, for raising the standard D by pressing down on the lever.

The sliding standard D is hollow, and in the same is a post, J, provided on its upper end with a head, K, having two projecting jaws, L L, the top of the head being made concave between said jaws.

The post J is made in half-round form, and at suitable distances apart, in its sides, are notches *x x* for a slotted plate, P, to slide into and hold the post at any desired height. The peculiar construction of the aperture in this plate is shown in Fig. 3, said aperture being wider at one end, *p*, than at the other end, *p'*. The plate P rests on the upper end of the hollow sliding standard D, and the post J passes through the aperture *p p'* therein. The plate is provided with a perforated lug, *s*, fitting over a pin, *t*, projecting from the upper end of the standard D on the front side, and a spring, *w*, surrounding said pin forces the plate forward so that the smaller portion *p'* of its aperture will surround the post. The plate then enters two of the notches *x* on the post, and holds it stationary. By pressing on the plate the post is released, as the larger end *p* of the aperture will then be close to the post, and the post can then be raised or lowered as required, and the spring *w* moves the plate into the next set of notches *x* to hold the same.

The operation of this device as a lifting-jack is easily understood, and the machine can be used as a felly-expander by placing the concave foot B on the hub of the wheel, and the head K on the inner side of the felly, and then forcing the same outward.

Having thus fully described my invention

what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the standard A with concave foot B, the sliding standard D, having two series of alternating cogs, *e e*, and the operating-lever G, provided on its inner segmental end with two series of alternating cogs, *d d*, all substantially as and for the purposes herein set forth.

2. The combination of the sliding standard D, having side flanges *h*, with ratchet-teeth *i*, the pivoted pawls H, and springs *f*, substantially as and for the purposes herein set forth.

3. The combination of the hollow standard D, the post J, having notches *x*, and the plate P, provided with the aperture *p p'*, and operated by a spring, *w*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 18th day of February, 1877.

VICTOR JOHNSON. [L. S.]

Witnesses:
W. I. BOBB,
JOHN F. LEECH.