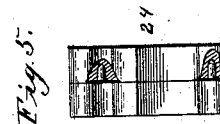
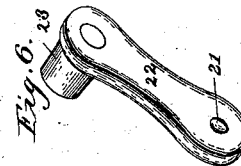
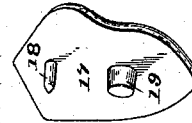
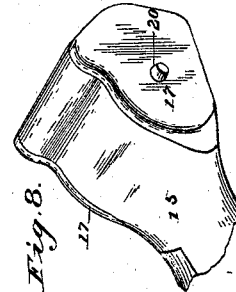
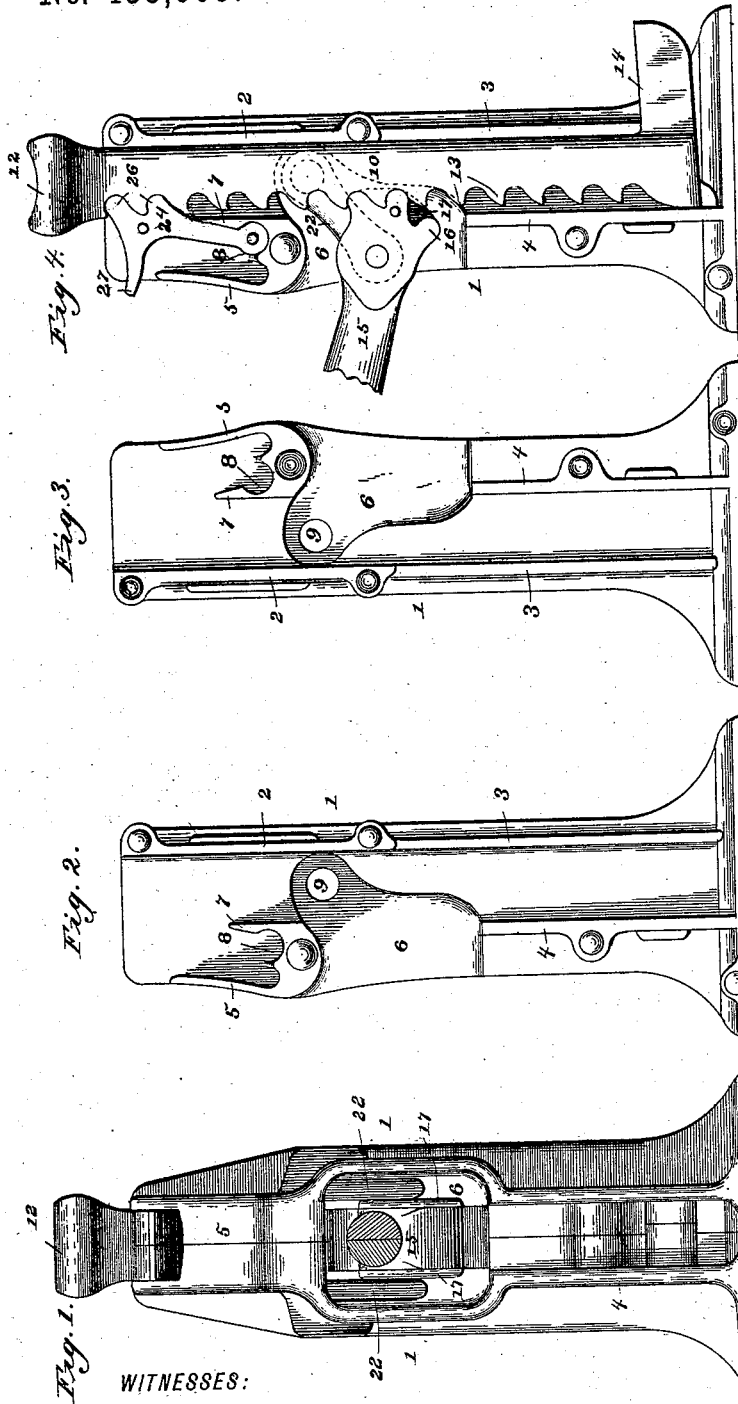


(No Model.)

A. B. CROWELL.  
LIFTING JACK.

No. 455,609.

Patented July 7, 1891.



**WITNESSES:**

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his — ATTORNEY.

# UNITED STATES PATENT OFFICE.

ABNER B. CROWELL, OF RICHMOND, VIRGINIA.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 455,609, dated July 7, 1891.

Application filed July 8, 1890. Serial No. 358,030. (No model.)

### *To all whom it may concern:*

Be it known that I, ABNER B. CROWELL, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Lever-Lifting Jacks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in lifting-jacks; and it consists in the construction and novel combination of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a front view of a lifting-jack constructed in accordance with my invention. Figs. 2 and 3 are inside views, respectively, of the two sections composing the box or casing of the jack. Fig. 4 is a side elevation of the jack, one of the sections being removed. Fig. 5 is an end view of the pawls detached. Fig. 6 is a detail perspective view of one of the links forming the bearings for the operating-lever. Fig. 7 is a similar view showing one of the end plates for the lever. Fig. 8 is a view of the end of the lever with the plates attached.

In the said drawings the reference-numeral 1 designates the two sections comprising the box. These are exact duplicates of each other, so that when properly placed together they will form a casing or box to receive the working parts of the jack. These sections are provided or formed with the rear vertical flanges 2 and 3, the flanges 2 being of greater depth than flanges 3, so that when the sections are placed together the flanges 2 will meet, while a space will be left between flanges 3 to allow the tail of the follower, hereinafter described, to move vertically therein. Upon the front of each section are formed the flanges 4 and 5 with an intermediate bulge and recess 6 to receive the end of the operating-lever. The lower ends of flanges 5 are extended inward and formed with a short upwardly-extending flange 7 and a semicircular recess or bearing 8. At the upper ends of the recesses 6 are formed openings 9, which form the bearings of the links which connect with the operating-lever. When these two sections are placed

together and properly secured by bolt-rods or the like, (not shown,) a space will be formed for the vertically-reciprocating follower, an open front recess for the operating-lever, an opening in the rear for the tail of the follower to work in, and a recess with a curved bearing for the end of the pawl, which holds the follower and prevents downward movement thereof.

The numeral 10 designates the follower, consisting of a metallic bar having a head 12, rack-teeth 13, and an outwardly-projecting tail 14. This follower fits loosely within the box so as to reciprocate freely therein.

The numeral 15 designates the operating-lever having at its inner end a series of teeth 16, which engage with the teeth of the follower. This lever is provided with cheek pieces or plates 17, having projections or lugs 18 and 19, which fit in corresponding recesses in the lever by which they are retained in place. These plates are also provided or formed on their outer faces with short studs or journals 20, which have their bearings in depressions 21 in the links 22. These links are formed at their other ends with journals 23, which have their bearings in the holes 9 in the sections 1.

The numeral 24 designates a pawl for holding the follower and preventing any downward movement thereof by engaging with the teeth thereon. The lower end of this pawl is rendered so as to fit within the recess 8, which forms a bearing therefor. The upper end of this pawl has two projecting lugs 26, which engage with the teeth of the follower, and a finger-piece 27 for disengaging the lugs from the said teeth.

The operation is as follows: The jack is placed under the object to be raised and the follower elevated by means of its tail-piece until its head rests firmly against said object. It will of course be understood that the pawl is first disengaged from the rack-teeth. When thus adjusted, the pawl is allowed to engage with the teeth when the follower is retained in place. The teeth of the operating-lever are now engaged with the teeth of the follower and the free end of the lever depressed, the links serving as a fulcrum for said lever. When the outer end of the lever has been depressed to its fullest extent, its teeth are dis-

engaged from the follower-teeth, and when the outer end of the lever is raised the teeth on its inner end will engage with a new set of teeth on the follower and the operation repeated and the object raised or elevated.

Having thus described my invention, what I claim is—

In a lifting-jack, the combination, with a box or casing having a rear opening, a front opening, a recess to receive a lever, and a curved seat to receive a retaining-pawl, of the follower having rack-teeth and a tail-piece, links journaled in said box and piv-

oted to and supporting the lever, a retaining-pawl having lugs and a finger-piece, and cheek pieces or plates having projections fitting in recesses in the end of the lever and provided with depressions on their outer faces to form seats for the pivots on the links, substantially as described.

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

ABNER B. CROWELL.

Witnesses:

WILSON WILLIAMS,  
JNO. J. CREER.