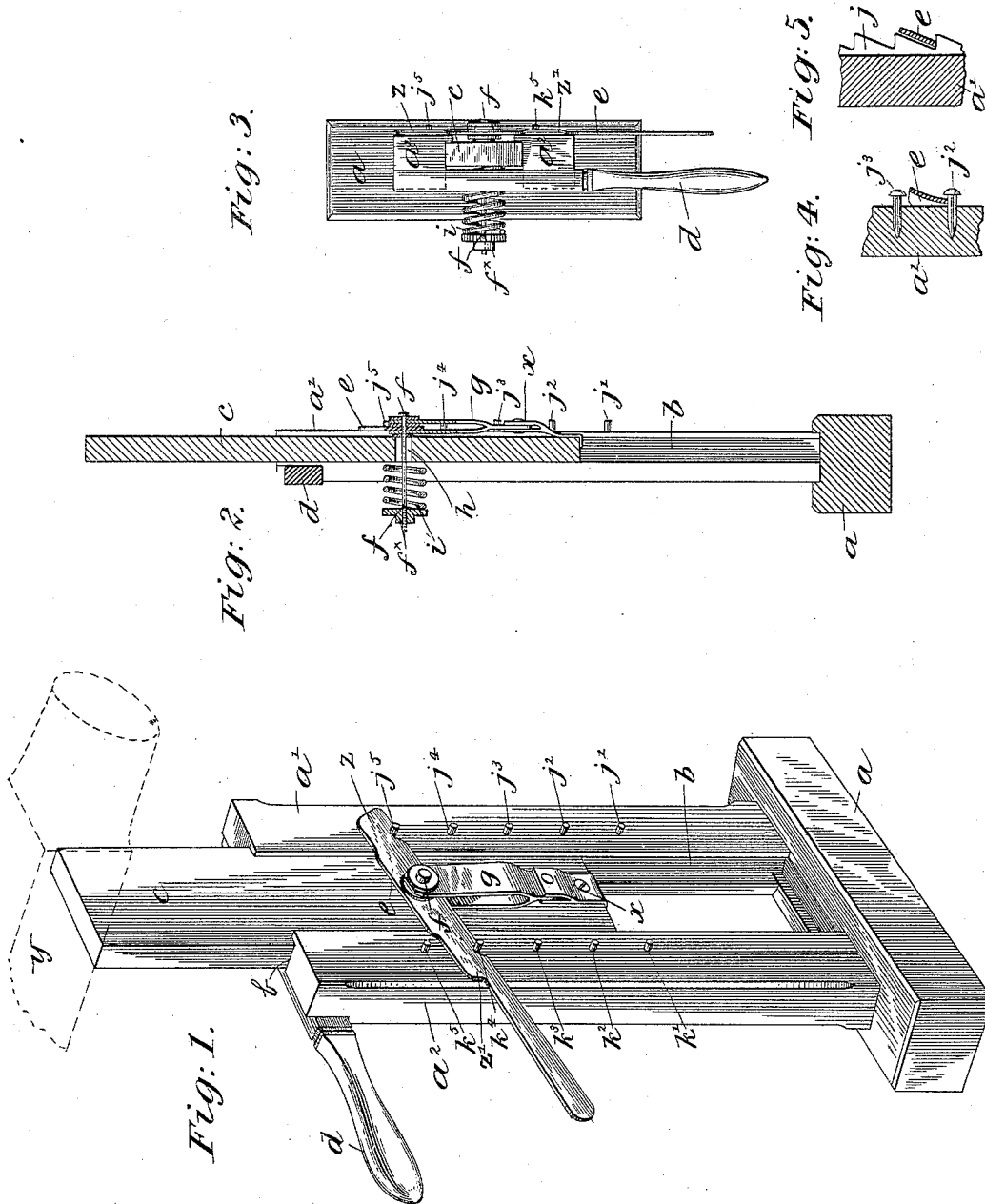


(Model.)

M. CHUMARD.  
LIFTING JACK.

No. 419,927.

Patented Jan. 21, 1890.



INVENTOR:

WITNESSES:

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# UNITED STATES PATENT OFFICE.

MELCHOIR CHUMARD, OF RICHMOND, VIRGINIA.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 419,927, dated January 21, 1890.

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*To all whom it may concern:*

Be it known that I, MELCHOIR CHUMARD, a citizen of the United States, and a resident of Richmond, in the county of Henrico and State of Virginia, have invented certain Improvements in Lifting-Jacks, of which the following is a specification.

This invention relates to the class of simple lever-jacks; and the object of the invention is mainly to simplify the construction and to effect an economy therein without sacrificing important advantages, and to produce a jack which will enable the weight to be both lifted and lowered gradually and carefully.

My invention will be fully described hereinafter, and its novel features carefully defined in the claims.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a perspective view of a jack embodying my improvements. Fig. 2 is a vertical longitudinal section of the same, taken in the plane of the axis of the jack; and Fig. 3 is a plan of the jack. Figs. 4 and 5 are fragmentary detail views, that will be hereinafter described.

The standard of the jack is preferably formed of a base-piece  $a$  and two uprights  $a'$  and  $a''$ , provided with grooves  $b$  in their opposed inner faces, in which plays an extension-slide  $c$ . These grooves form a keeper or guideway for said slide. The uprights  $a'$   $a''$  of the standard are tied together by a stout bar  $d$ , at their upper ends. This bar serves to strengthen the standard, and also to provide a handle to be grasped by the operator, whereby he is enabled to steady the jack when it is in use.

$e$  is the operating or lifting lever of the jack, which lever is mounted on the slide  $c$ . This lever is pivoted on a rod or pin  $f$ , in a yielding or spring-like yoke  $g$ , secured at  $x$ , to the face of the slide  $c$ . The pivot-pin  $f$  extends back through an aperture  $h$ , Fig. 2, in the slide, and has a disk or plate  $f^*$ , on its rear end, between which and the back of the slide  $c$  is arranged a coil-spring  $i$ , which embraces the rearwardly-extending end of the pin  $f$ . This spring  $i$  keeps the lever  $e$  drawn up elastically to and against the faces of the uprights  $a'$   $a''$  of the standard. In the upright  $a'$  are fixed fulcrum studs or projections  $j'$   $j''$   $j'''$ , &c., in a row, as seen in Fig. 1,

and in the other upright  $a''$  are fixed similar fulcrum-studs  $k'$   $k''$   $k'''$ , &c., in a row. Preferably, the studs of one row stand opposite the middle of the spaces between the pins of the other row, as clearly represented in the drawings. These studs or projecting parts form the fulcrums for the operating-lever  $e$ , in lifting the load.

In Fig. 1 the extension-slide  $c$  is represented as supporting a load that has been lifted by the jack. This object  $y$  is seen in dotted lines. Normally the slide  $c$  of the jack will rest at its lower end on the base-piece  $a$  of the standard, and the free end  $z$  of the lever  $e$  will or may, under these conditions, rest on the lower stud  $j'$  in the upright  $a'$ .

To operate the jack, the operator places it under the load to be lifted in the usual way, steadying it with the left hand by grasping the projecting end of bar  $d$ , and grasps with his right hand the handle of lever  $e$ . He lifts lever  $e$ , with the stud  $j'$  as a fulcrum, until the part  $z'$  of the lever rises above the lowermost stud  $k'$  in the upright  $a''$ , and rests thereon. In order to make the lever pass the stud, he presses or draws the lever outward a little, the yoke  $g$  and spring  $i$  yielding enough to permit this. Now, with the stud  $k'$  as a fulcrum, the operator depresses the handle of the lever  $e$  and raises the end  $z$  thereof above the stud  $j''$  in upright  $a'$ , and permits it to rest thereon. He makes the lever pass the stud in the same manner as before described with reference to stud  $k'$ . Then, with stud  $j''$  as a fulcrum, he lifts the part  $z'$  of the lever up to stud  $k''$ . Thus step by step, and using the studs of the respective rows alternately as fulcrums, the operator raises the load. The lever is one of the first class when a stud in upright  $a''$  is used as a fulcrum, and one of the second class when a stud in upright  $a'$  becomes the fulcrum. To let the weight down step by step the operator merely reverses the operation above described. To prevent the lever  $e$  from slipping on the fulcrum-studs, it is by preference provided with slight notches in its lower edge where it bears on the said studs; and, in order to enable said lever to "wipe" over the studs in rising, it is by preference slightly beveled or flared outward at its top or upper edge at the points where it passes the studs.

This flare is seen in Fig. 3, but more clearly in the fragmentary view, Fig. 4. In this view the studs are also represented as having heads. If the lever *e* were made of a flat bar of iron, as represented in the drawings, it might be swaged at the points where it engages the fulcrum-pins until the inner face of the lever at these points has the flare or bevel represented in Fig. 4. When these bevels are provided, the lever will wipe over the studs in raising the load without any special attention on the part of the operator.

As seen in Fig. 4, the fulcrum-studs may have heads, and these will serve as guards to prevent the operating-lever from slipping off from them; or, in lieu of studs driven separately into the upright or standard, a ratchet-strip *j*, as seen in Fig. 5, may be employed. Indeed, the fulcrum projections may be formed in any convenient manner.

One important advantage of my jack is the perfect control in raising and lowering the load, the operating-lever resting directly on the fulcrum, and no intermediate pawl or dog being employed. This simplifies the construction and enables the operator to control the lowering of the load perfectly.

Having thus described my invention, I claim—

1. A lifting-jack comprising as its essential features a standard provided with a keeper or guideway for the extension-slide, the said slide mounted in said standard, an operating-lever pivotally mounted on said slide and held up to the face of the standard by a spring, the said spring, and fulcrum studs or projections on said standard upon which the operating-lever bears in raising and supporting the load.

2. In a lifting-jack, the combination, with the standard and the extension-slide mounted therein, of the yoke *g*, mounted on said slide, the operating-lever pivotally mounted in said yoke, the spring which holds the operating-lever up elastically to the face of the standard, and the two rows of studs on the standard forming fulcrums for said lever, as set forth.

3. In a lifting-jack, the combination, with the standard, the extension-slide therein, and the fulcrum projections on said standard, of the yoke *g* on said slide, the operating-lever *e*, mounted in said yoke and provided with flares or bevels to enable it to pass over said projections in lifting, and the spring which holds said operating-lever up elastically to the face of the standard, as set forth.

4. In a lifting-jack, the combination, with the standard, the headed fulcrum-studs arranged in two rows thereon, as described, the extension-slide mounted in said standard, and the yoke *g* on said slide, of the operating-lever pivotally mounted in said yoke at a point between the rows of fulcrum-studs, said lever being notched and flared, as described, at the two points where it engages said studs, and the spring which holds said lever up to said standard, as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

MELCHOIR CHUMARD.

Witnesses:

HENRY CONNETT,  
J. D. CAPLINGER,