J. HEUERMANN.

LIFTING-JACK.

No. 185,530. Patented Dec. 19, 1876.

Fig: 1.

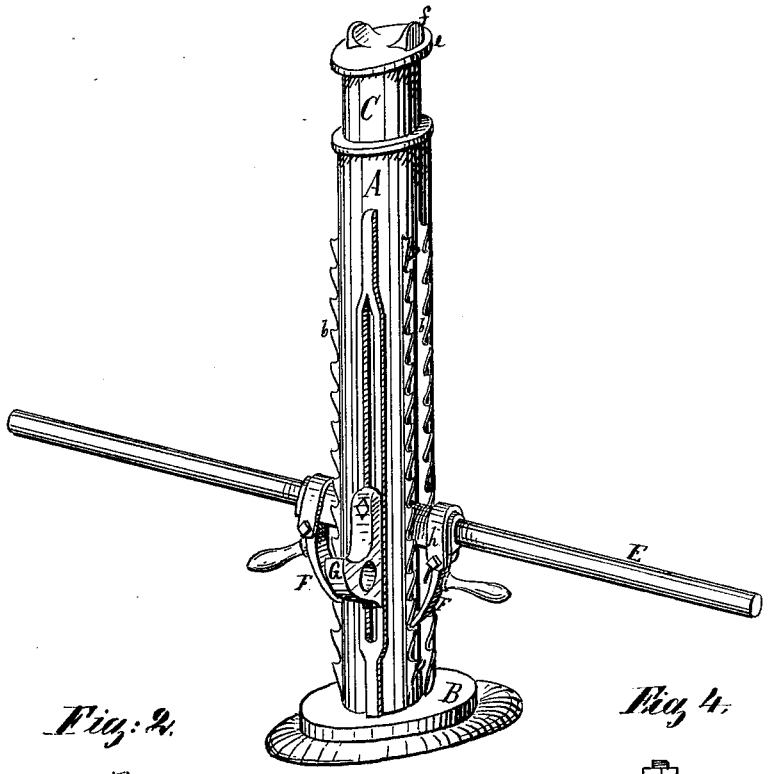


Fig: 2.

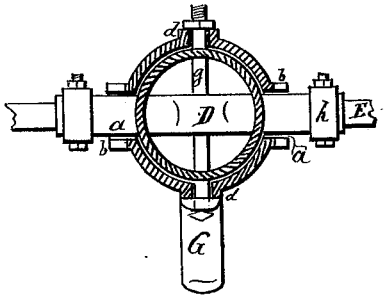
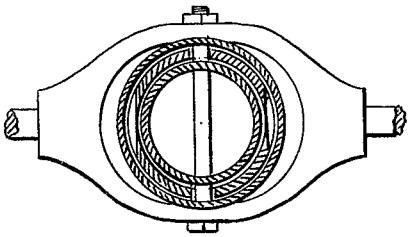


Fig: 4.



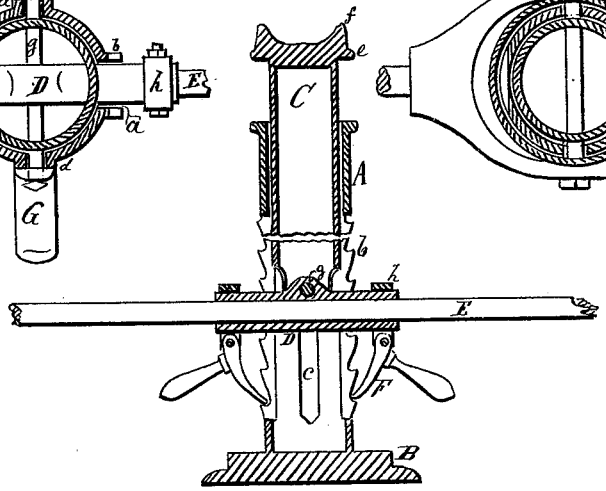


Fig: 3.

Witnesses
Chas. L. Thurman
L. W. Seely.

By

Inventor.
John Heuermann.
by Geo. W. Dzero & Co
Attorneys

UNITED STATES PATENT OFFICE.

JOHN HEUERMANN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. **185,530**, dated December 19, 1876; application filed August 14, 1876.

To all whom it may concern:

Be it known that I, JOHN HEUERMANN, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Lifting-Jack, which is fully set forth in the following specification, reference being had to the accompanying drawing.

The object of my invention is to provide a lifting-jack which is simple and compact in its construction, and which will answer all of the numerous purposes for which lifting-jacks generally are used.

My invention consists, first, in the adopting of a certain mechanical movement, being two pawls secured to a lever at opposite sides of its fulcrum to match into ratchet-teeth on opposite sides of a standard, so that alternately either of them acts as the resisting-point from which the weight is to be lifted; and, secondly, in the peculiar construction and arrangement of the various parts, as more fully hereinafter set forth.

In the drawing, Figure 1 represents a perspective view of my lifting-jack; Fig. 2, a longitudinal section on line *x x* in Fig. 3, which is a transverse section on line *y y* in Fig. 2, while Fig. 4 represents a transverse section of a modification of the same.

A hollow cylindrical standard, A, open at its top end, and secured at its bottom end to a foot-plate, B, is provided with two pairs of slots, intersecting each other at right angles, these slots being in a line with the axis of the standard, and reaching from near the foot-plate to near the top end of said standard. The slots *a a*, which are opposite to each other, are bordered by projecting ratchet-teeth 6, while the slots *c c*, opposite to each other and intersecting the slots *a a* at right angles, are bordered by projecting ribs *d d*. A hollow cylindrical stem or extension or lifting bar, C, the outside diameter of which is to correspond with the bore of the standard A, so as to telescope into said standard A, is provided on its upper end with a solid head, *e*, on top of which are two spurs or points, *f*, and its bottom ends into a fork shape, which forms the bearings for the fulcrum-pin *g*. To a cross-head, D, which at its center pivots upon said fulcrum-pin *g*, and which is longitudinally cored out for the insertion of the hand-lever E at its extreme ends, and on its bottom side, by means of stirrups *h*, two pawls, F, are hinged, which match into the ratchet-teeth *b* of standard A, each of these pawls having a right-angular handle attached, to act as a weight for pressing the pawls against the ratchet-teeth, and for holding the pawls out of gear in lowering the jack. The fulcrum-pin *g* passes through the slots *c c*, where, at one side, a lifting-toe, G, is secured to its end by a thread and nut, while the other end is only held in position by a nut sliding against the ribs *d d*.

In using the jack the operation is as follows: The foot-plate of the jack being placed upon a solid bed, or upon the ground, and the body to be lifted being suspended or resting upon either of the spurs *f* of the lifting-bar C, or upon the lifting-toe G, the hand-lever E is inserted, either entirely through the cross-head D, so as to be operated by two men from opposite sides, or to be put in with one end only for one or two men to operate with a more powerful leverage. Now, in raising the lever and then lowering it, each motion will cause a lifting of the load, as alternately one pawl or the other will take a resting-point upon one of the ratchet-teeth, while the other pawl is lifted to a higher ratchet-tooth. For lowering a weight, one operator will take hold of the handles attached to the pawls, to prevent their dropping into gear with the ratchet-teeth except where he wants them to do so.

Every mechanic will understand that jacks with the above-described movements of ratchets and pawls can be constructed of different kinds of material, and in different manner, from the one above described—as, for an example, shown in Fig. 4, where only two slots opposite to each other are necessary. The cross-head, instead of passing through the center of the standard, is shaped to pass around it, and the fulcrum-pin connects the cross-head to the extension or lifting bar. The lifting-bar may also be made to telescope over the standard, when all slots may be dispensed with; but I do not wish to be restricted to any of these arrangements.

What I claim as my invention is—

1. The combination, with the slotted stand-

ard A, having ratchets *b* on its outside, of the lifting-bar C, the cross-head D, provided with pawls F, and the removable hand-lever E, substantially as described and shown.

2. The combination, with the slotted standard A and lifting-bar C, of the cross-head D, pivoted to the lower end of the said lifting-bar, the removable hand-lever E, and the lifting-toe G, substantially as described and shown.

3. The combination of the slotted tubular standard A, the cylindrical lifting-bar C, cross-head, hand-lever, lifting-toe, and the pawls and ratchets, all constructed and arranged substantially as described and shown.

JOHN HEUERMANN.

Witnesses:
WM. H. LOTZ,
G. F. GROSKREUZ.