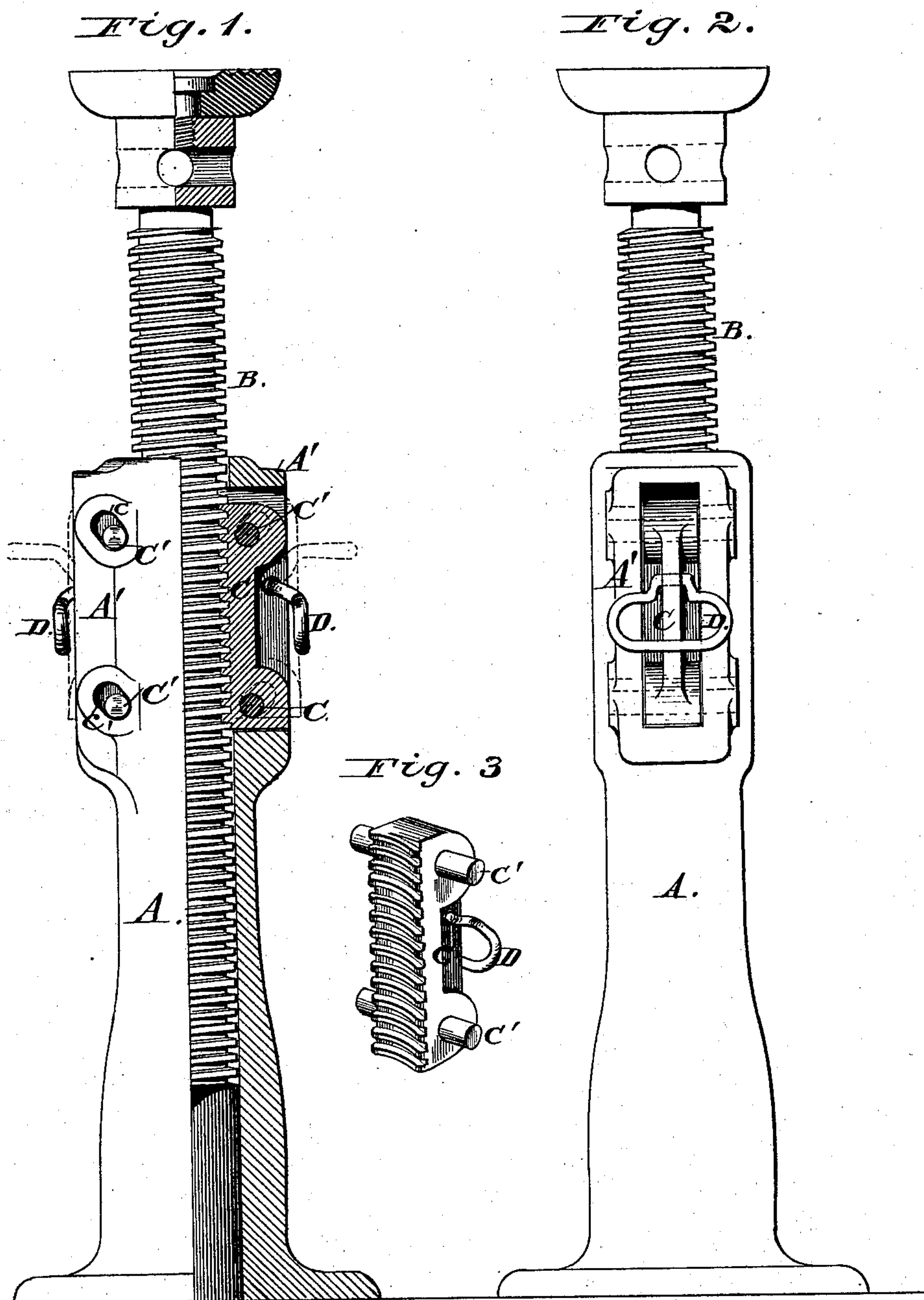


J. O. JOYCE.
Lifting-Jack.

No. 209,344.

Patented Oct. 29, 1878.



Attest:

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UNITED STATES PATENT OFFICE.

JACOB O. JOYCE, OF DAYTON, OHIO.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. **209,344**, dated October 29, 1878; application filed March 14, 1878.

To all whom it may concern:

Be it known that I, JACOB O. JOYCE, of the city of Dayton, Ohio, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a full, clear, and exact description.

This invention relates that kind of lifting-jacks in which the lifting-bar consists of a screw-spindle turning in a nut of the standard. Its object is to adapt this kind of jack to quick work for railroad and other purposes; and it consists substantially in the herein-described mechanism for substituting for the solid fixed nut of the standard, to wit, segmental movable nuts so arranged that they can be readily retracted or withdrawn from engagement with the screw-threads of the lifting-bar, and as readily re-engaged, in order that the said lifting-bar may be quickly adjusted to the height of the weight that is required to be lifted.

In the annexed drawings, Figure 1 is a sectional elevation of my improved lifting-jack. Fig. 2 is a side elevation thereof. Fig. 3 is a detail view of the segmental nut.

The same letters of reference indicate like parts in all the figures.

The standard A is tubular, the screw-threaded portion of the lifting-bar B being of a size snugly but not tightly fitting the bore of the standard. At the top the standard is provided with two mortises or recesses, A', for the reception of the segmental nuts C. In the side walls of these mortises oblique slots *c* and *c'* are formed to receive stout pins C', which project laterally from the upper and lower ends of the segmental nuts C, and serve to hold them in proper position. The slots *c* and *c'* incline at an angle of forty-five degrees, or thereabout, so that the natural tendency of the segmental nuts is to seek and maintain the position in which their pins C' are in the

lower ends of these oblique slots. In this position the screw-threads of the segmental nuts engage the screw-threads of the lifting-bar, and the latter may be raised and lowered by screwing, as in an ordinary nut. The length of the slots *c* and *c'* is sufficient to permit a retraction of the segmental nuts until they become disengaged from the lifting-bar, when the latter may be raised or lowered quickly by sliding it up or down, and thus adjusted to the height of the object to be operated upon, and also to rapidly contract or telescope the jack after use.

The segmental nuts carry pivoted handles D, for convenience of retracting them. To relieve the pins *c* and *c'* of strain, the arrangement of the parts may be so calculated that the segmental nuts will touch the bottom of their mortises when they are engaged with the lifting-bar. The latter terminates in the usual capstan-head provided with a swiveling cap.

The working side of the screw-threads, both in the nut and spindle, are in a plane at right angles to the axis of the lifting-bar, while the other side is at an angle thereto of about thirty degrees, the object being that the nuts may be retracted by simply raising the lifting-bar by its cap.

What I claim as my invention is—

1. The combination, substantially as specified, of the screw-threaded lifting-bar, the mortised standard provided with oblique slots, and the segmental nuts having lateral pins projecting into said slots.

2. The lifting-bar provided with beveled screw-threads, in combination with the retractible nuts, as and for the purpose specified.

J. O. JOYCE.

Witnesses:

T. H. CRIDLAND,
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