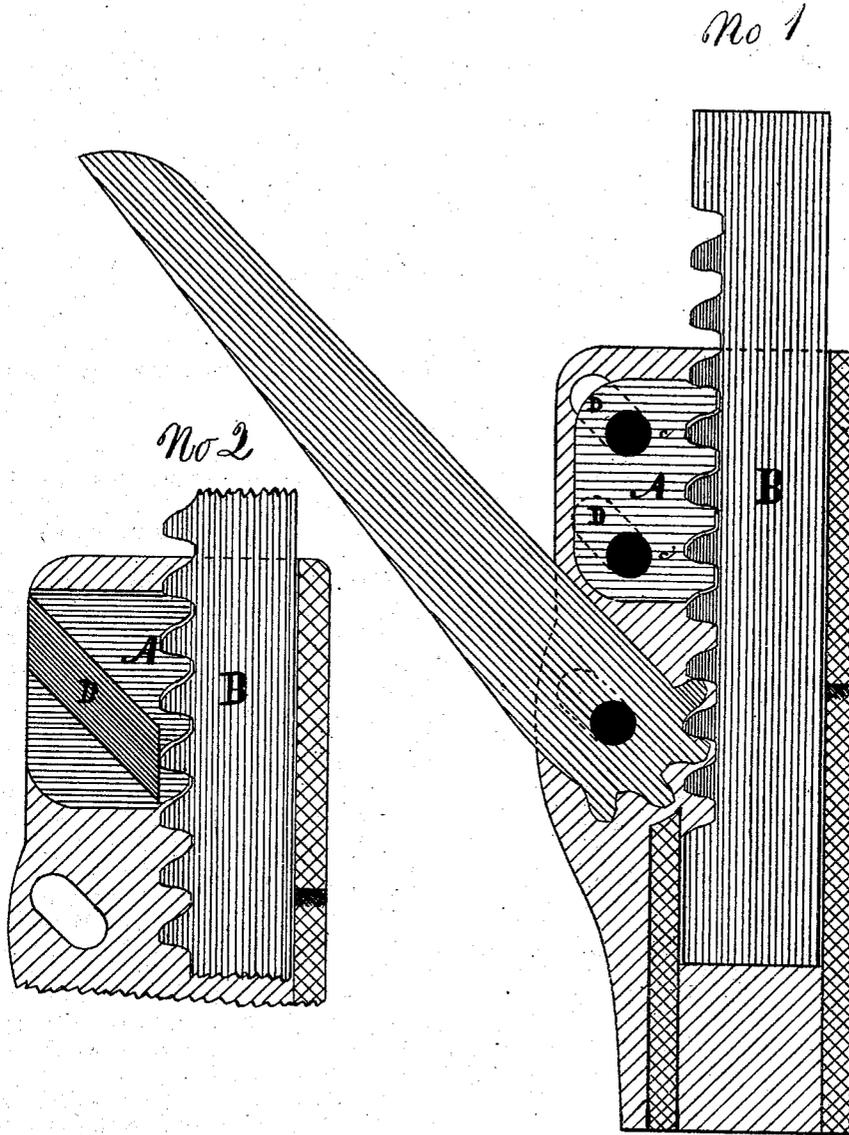


J. O. JOYCE.  
Lifting-Jacks.

No. 154,989.

Patented Sept. 15, 1874.



Witnesses,  
S. A. Goodwin  
Frank. S. Joyce.

Inventor  
Jacob, O. Joyce

# UNITED STATES PATENT OFFICE.

JACOB O. JOYCE, OF CARLISLE STATION, OHIO.

## IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. 154,989, dated September 15, 1874; application filed March 16, 1874.

*To all whom it may concern:*

Be it known that I, JACOB O. JOYCE, of Carlisle Station, Warren county, Ohio, have invented certain Improvements in Lever-Jacks, of which the following is a specification:

My invention relates to the pawl of such jacks; and its objects are, first, to substitute the weight of the pawl, sliding in inclined slots, grooves, or guides, for the elastic spring usually employed to press it against the teeth of the ratchet-bar; and, second, to obtain greater strength by dividing the load among several teeth of the pawl and ratchet-bar, instead of supporting it all on one tooth, as is commonly done.

Figure 1 of the accompanying drawings is a vertical section of so much of a jack as is necessary to show my improvements; and Fig. 2 is a modification of the same, in which the pins and slots of Fig. 1 are exchanged for the tongue and groove in Fig. 2.

Referring to Fig. 1, A is the pawl, having teeth that engage with the teeth of the ratchet-bar B. D D' are slots in the frame of the jack, inclined to the axis of the ratchet-bar at the angle of about forty-five degrees, in which slots move the pins C C' of the pawl A.

The operation is seen at a glance. When the ratchet-bar is raised, its teeth crowd or slide the pawl up the inclined slots out of the way, so as to allow it to pass, until it has traveled the length of a tooth, when the weight of

the pawl causes it to fall back into the next tooth below, ready to hold the ratchet-bar at the point gained, ready for another lift, and so on.

In Fig. 2, instead of slots D D', there is a tongue, D, on each side of the pawl, with corresponding grooves in the frame of the jack, in which the said tongues move; or the tongues may be on the frame, with the grooves in the pawl, the tongues and grooves performing the same office that the pins and slots do in the form of construction shown in Fig. 1.

Other modifications, involving the same principle of operation, may be possible; but I prefer the construction represented in Fig. 1, at the same time not limiting myself strictly to that, but claiming any equivalent arrangement by which the same objects are accomplished in substantially the same manner.

I claim as my invention—

1. A pawl for lever-jack with two or more teeth, and adapted to move in inclined slots, grooves, or guides formed in the frame, substantially as described.

2. The combination of the pawl A with its pins C C', slots D D', and ratchet-bar B, substantially as described.

J. O. JOYCE.

Witnesses:

S. A. GOODWIN,  
FRANK I. JOYCE.