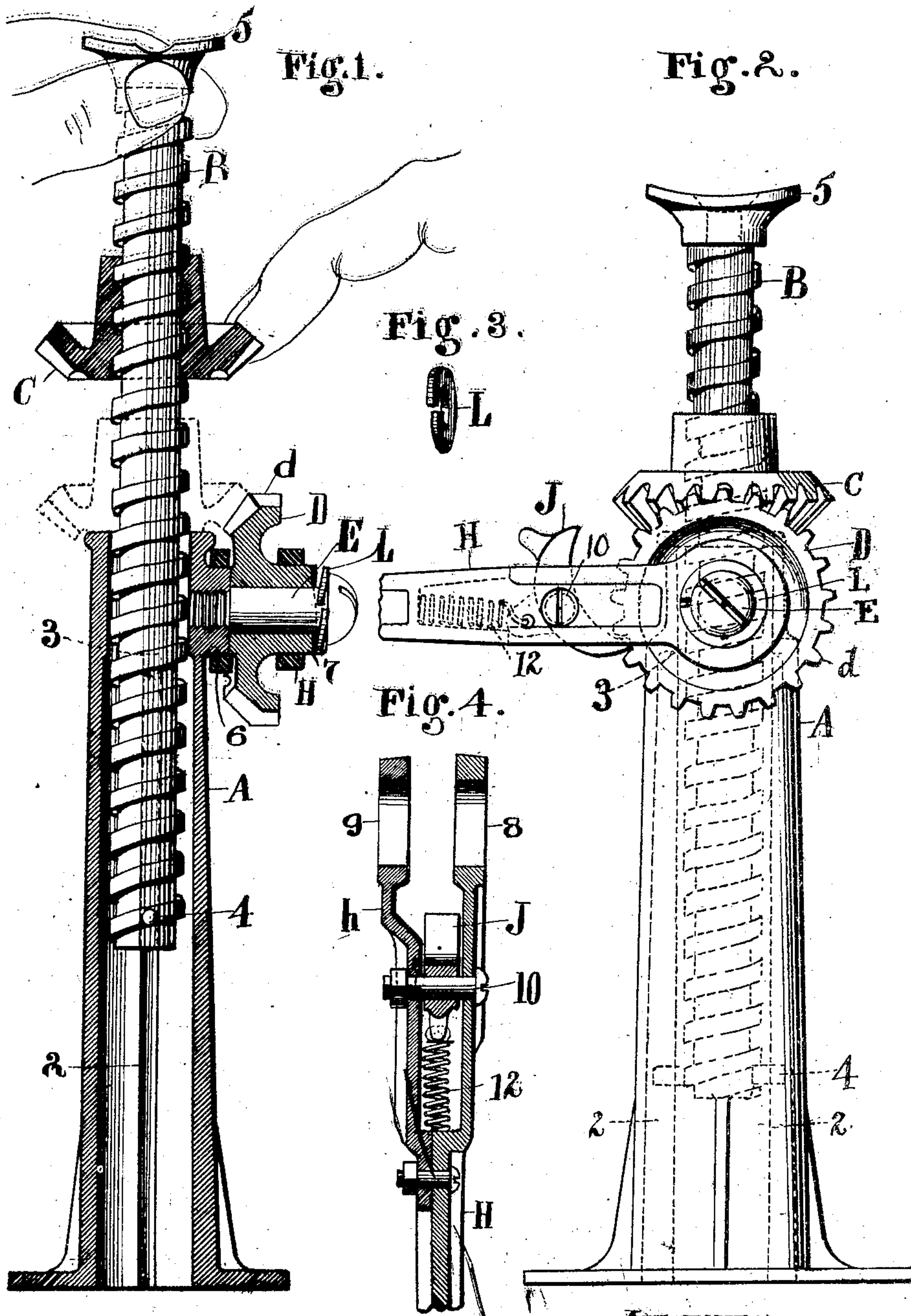


No. 887,734.

PATENTED MAY 12, 1908.

J. H. BURKHOLDER.
LIFTING JACK.

APPLICATION FILED FEB. 7, 1908.



ATTEST
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LIFTING-JACK.

No. 837,734.

Specification of Letters Patent.

Patented May 12, 1906.

Application filed February 7, 1903. Serial No. 414,800.

To all whom it may concern:

Be it known that I, JOHN H. BURKHOLDER, a citizen of the United States, residing at Ashland, in the county of Ashland and State of Ohio, have invented certain new and useful Improvements in Lifting-Jacks, and do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to lifting jacks, and the invention consists in the construction and combination of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of the jack, and Fig. 2 is a side elevation thereof. Fig. 3 is a perspective detail of the ring spring employed in the device as hereinafter fully described, and Fig. 4 is a longitudinal section of the operating lever.

The jack as thus shown comprises a tubular standard A, adjusting screw B, miter gears C and D and lever handle H. The standard A has opposite longitudinal grooves or channels 2 inside open from their bottom and terminating at a stop or shoulder 3 at their upper ends, and screw B has a pin 4 through its lower end with its ends engaged in said grooves and limited in its travel by shoulders 3 and serving to guide the screw in straight lines. The said screw is adapted to be inserted only through the lower end of the standard and has a head 5 removably fixed thereon after being put in the standard. Miter gear C also is threaded upon the screw from over the standard before head 5 is put in place and serves as an adjusting nut and bearing, and a novel feature of the jack as thus constructed is the arrangement of said gear with respect to the standard and the screw, as shown. Thus, it will be seen, that the said gear serves not only as an adjusting nut and bearing for the screw but that it is also free to be run up or down on the screw by hand when the jack is to be raised or lowered instead of depending on the slow process of operating it by or through the lever and gear D as usual. This adaptation is shown in Fig. 1 wherein screw B is bodily raised by one hand and gear and nut C is engaged by the other and adjusted wherever wanted, when the parts are rested down on the standard again, and are ready for use. Again, further novelty and sim-

plicity are found in the mounting of gear D and handle lever H. Thus, said gear is supported on a spindle E having a reduced screw threaded end engaged in a boss 6 at the side and top of standard A and carrying said gear D in position to mesh with gear C. Now, as to this construction and arrangement of parts, I have found that there is more or less lost movement in my former construction of jack when no weight rests on screw B and lever or handle is operated to adjust said screw to its work, so that in such case there is actual loss in the lift or elevation already attained by reason of some reverse and downward rotation of the screw. Hence the present novel construction and mounting of handle H and the friction spring L inserted beneath the head of spindle E and bearing against the side of gear D. The tension of this spring is such as to make a firm friction bearing between said parts strong enough to hold said gear stationary when the reverse action of the lever occurs to take a new position and grip for the pawl.

The boss 6 against which gear D bears and in which spindle E is fixed is annular and of sufficient depth to afford a support and bearing for one half of lever H in side gear L, while the other half engages on the hub 7 of said gear on the outside thereof. Thus said lever has a main portion with an eye 8 to engage on the said hub, and an attached side portion h with an eye 9 to engage on said boss 6, thus dividing the bearing and friction of said lever between said parts and to this extent reducing its tendency to reversely rotate gear D when the lever is on its idle stroke. A dog or double pawl J is engaged on a pivot 10 between the sides of lever H and has a coiled push spring 12 connected therewith and adapted to hold it in either position of adjustment according as the parts are to be operated one way or the other. Said pawl engages the outer ends of the teeth on gear D.

What I claim is:

1. In lifting jacks, a standard and a lifting screw therein, and a combined adjusting nut and gear mounted on said screw and resting freely on the immediate top of said standard, and the screw being adapted to slide up and down in said standard independently of other parts, whereby easy and rapid adjustments of the screw may be effected, combined with a bevel gear and lever and ratchet mechanism to actuate the same and a friction device

to bear against said bevel gear to hold the same in action during idle strokes of the lever and ratchet parts.

2. In lifting jacks, a tubular standard having guide channels lengthwise therein, a lift screw having projections engaged in said guides and a combined adjusting nut and gear mounted on said screw on top of said standard and adapted to be freed therefrom, whereby said screw and nut can be bodily lifted together by hand for adjustment by hand, in combination with an actuating gear meshing with the aforesaid gear and a headed spindle on which said actuating gear is mounted, a friction tightening spring between said gear and the head on the spindle carrying the same, and means to actuate said actuating gear.

3. In lifting jacks, a standard having an annular boss at its side and top, a headed spindle screwed into said boss, and an actuating bevel gear mounted on said spindle and having a hub at one side corresponding to said boss, in combination with a divided handle having one half mounted on said boss and

the other half on said hub on opposite sides of said gear, and a friction retarding spring on said spindle engaging said gear.

4. In lifting jacks, a tubular standard having a right angled spindle affixed thereto, a bevel gear sleeved on said spindle and a lever and pawl member mounted upon said standard and gear and adapted to operate the same, and a split spring washer engaged between a fixed part of said standard and said gear to retard its movement, in combination with a screw slidably mounted within said tubular standard and provided with means to prevent rotation therein, and a bevel gear threaded upon said screw and adapted to rest upon the top of said standard and mesh with said other gear and adapted to be freed therefrom by bodily lifting said screw and its gear for individual adjustment.

In testimony whereof I sign this specification in the presence of two witnesses.

JOHN H. BURKHOLDER.

Witnesses:

E. M. FISHER,

F. C. MUSSUN.