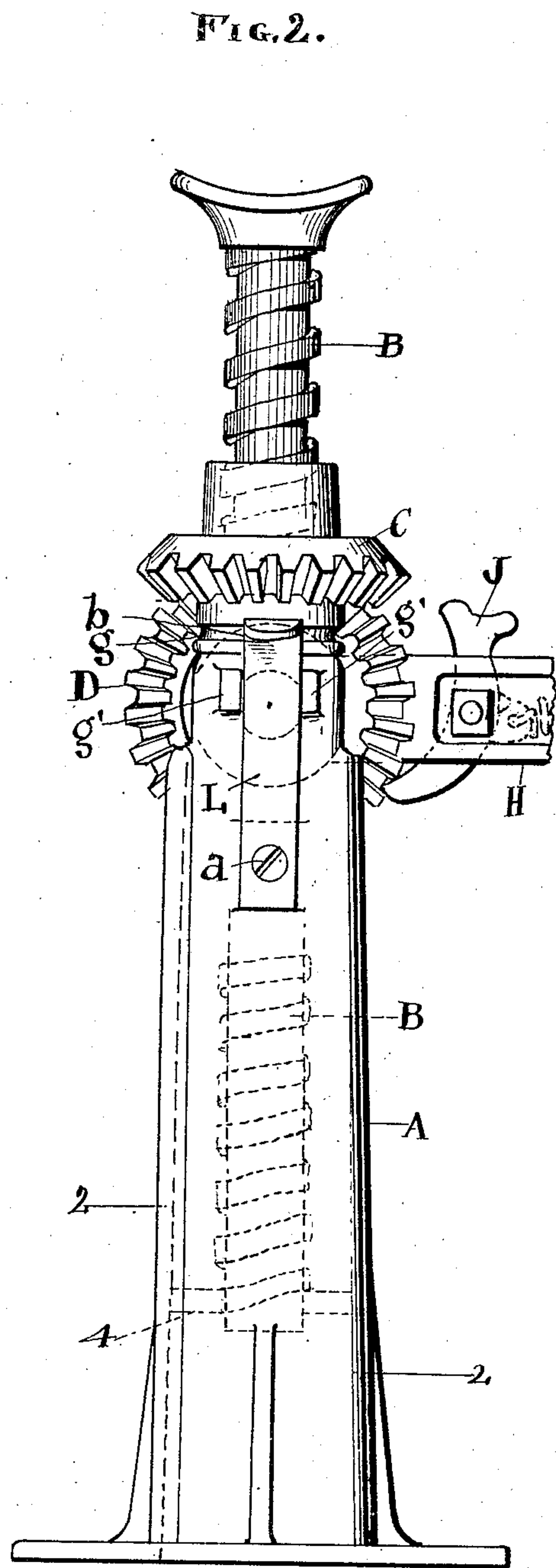
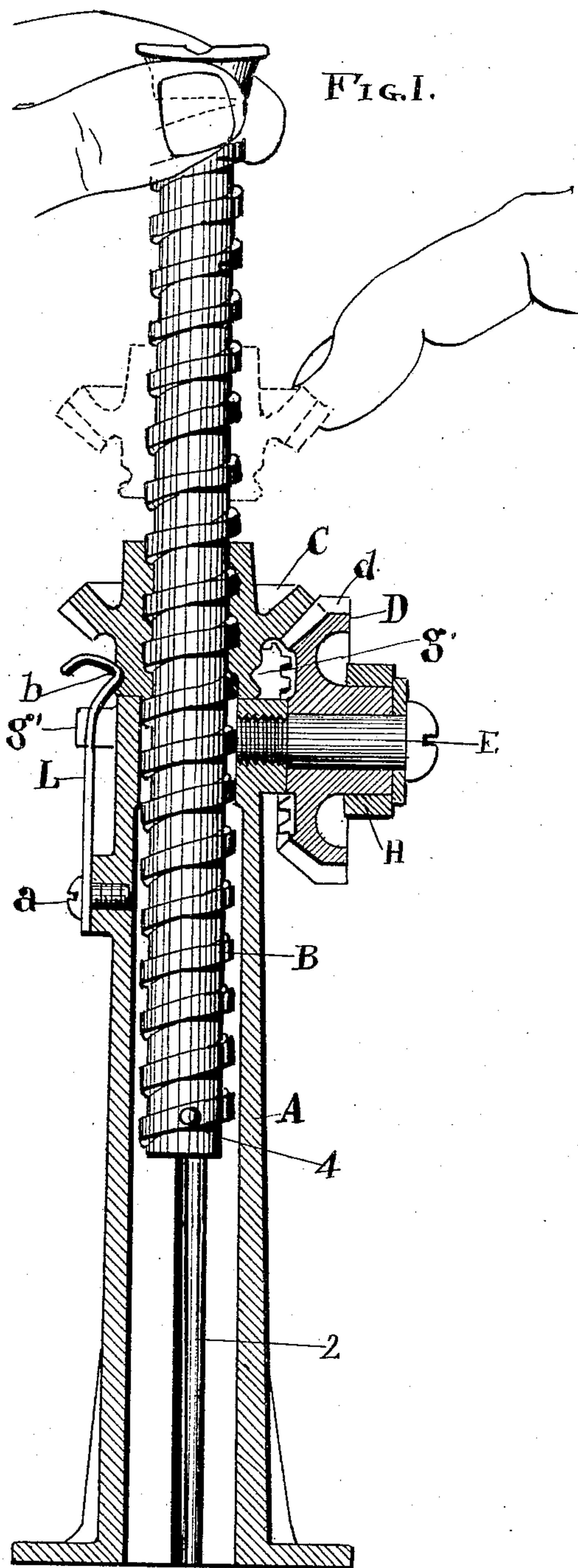


J. H. BURKHOLDER.
LIFTING JACK.
APPLICATION FILED JULY 9, 1909.

956,478.

Patented Apr. 26, 1910.



ATTEST
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LIFTING-JACK.

956,478.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed July 9, 1909. Serial No. 506,835.

To all whom it may concern:

Be it known that I, JOHN H. BURKHOLDER, 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, of which the following is a specification.

My invention relates to lifting-jacks, and the invention consists in an improvement upon the construction described and claimed in Letters Patent issued to me May 12, 1908; No. 887,734.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of the jack, and Fig. 2 is a side elevation at right angles to Fig. 1.

In the main, the two constructions are substantially alike, but a material difference appears particularly in connection with the means for engaging the gears and holding the same as against a reverse movement of the handle or lever and also for holding the screw in the standard except when it is purposely lifted up or out, as will presently appear.

In detail, the parts comprise a standard A which has longitudinal channels or grooves 2 inside, and a screw B with a pin 4 through its lower end having its ends engaged in said grooves and serving to guide the screw on straight lines vertically but preventing end rotation in the standard, as formerly. There are also two miter gears C and D, the gear C being internally threaded and mounted upon the screw B, and the said screw and gear adapted to be raised within the standard to any desired elevation or to be lifted bodily off and out if desired. Ordinarily, in use, when the jack is brought to a vehicle to apply it to the axle, a quick adjustment of the parts is made by lifting the screw with gear C bodily up to about the elevation wanted and the gear is then run down and seated in operating position on the standard in mesh with the gear D. This affords a quick and easy adjustment to an axle rather than awaiting the slow method of jacking up the screw by or through the lever H. Gear C rests directly upon the top of the standard, which serves as a bearing therefor, and the gear D is supported upon a short spindle or shaft E, shown as removably secured into the upper

end of the standard and having the handle H rotatably mounted thereon outside of the gear D. A double acting pawl J is pivotally mounted on said lever and adapted to engage the ratchet teeth *d* upon the gear D, so that in order to operate the jack the lever H is caused to engage gear D through said pawl and ratchet teeth and the jack is raised or lowered according as the pawl is set to work at one end or the other. As to these features, it need only be said that they are acknowledged to be present in my patent above referred to, but a present description thereof is deemed necessary in order that the associated novelty in this case may be understood.

In the said patent means are provided for frictionally locking the gears and holding them in any position to which they may be turned by the lever pending the moment when the lever is reversed to get another hold, as for example, when the jack is being raised. Then the handle is raised as far as may be convenient and depressed to do the lifting. However, if the jack be without a load, the tendency is for the gears to work too easy and they will run back with the depression of the handle and no real progress is made in jacking up the screw. To prevent this result I employed a split ring or spring L in my said patent, which was mounted on shaft E and bore against the hub of gear D and served the purpose of holding said gear firmly enough to prevent backward rotation when the lever was making its idle or reverse stroke, but I found that I could perform this function as well by an arrangement of spring which would enable it to perform still another important function. To this end I have provided the jack with a substantially flat spring L which has its lower end affixed to the standard A at *a* on the opposite side from gear D and its free end projecting upward and reversely turned with something of a shoulder or tooth shaped projection *b* formed by bending the said spring rather sharply at said point and adapting the said bent portion *b* to bear against the hub of gear C with sufficient tension or pressure to frictionally hold the said gear and prevent backward rotation when the handle is making its idle stroke in order to get a grip. This construction and arrangement of the spring serves identically the same purpose as

the spring L in the patent aforesaid, but has the further advantage and value of holding the gear C upon the standard A when otherwise it would fall out.

5 It has already been observed that the screw and gear C can be bodily withdrawn from the standard, and which was the case also in the above patent, but I have found that entire freedom in this respect is not desirable
 10 and that it were better to have a temporary connection, so that ordinarily the parts will be held together, but can be separated at will. To this end, the hub of gear C is provided with an annular shoulder or groove *g* which
 15 produces a shoulder, and in or upon which the tooth like projection *b* of spring L engages and serves to lock the said gear with the standard temporarily as against its being drawn off, and a guard *g'* confines the spring
 20 in said groove. But by engaging the curved or rather hook shaped extremity of the spring with the finger the parts may be readily disengaged when it is desired to withdraw the gear and screw. Thus the said spring per-
 25 forms two important functions by reason of

this arrangement, and a material improvement of the jack is obtained.

What I claim is:

In a lifting jack, a standard and a lift screw mounted thereon and adapted to be 30 bodily raised in respect thereto, a nut member for said screw adapted to rest upon said standard and to be lifted apart therefrom for quick adjustment of the nut member upon said screw, means on said standard 35 separably engaged with said nut member to operate the same in a given direction, and a friction device for said nut member to prevent back rotation thereof upon idle movements of said operating means, said device 40 and nut member having self-separable engaging portions to permit the screw to be lifted by one hand while adjustment of the nut member may be had by the other hand.

In testimony whereof I affix my signature 45 in presence of two witnesses.

JOHN H. BURKHOLDER.

Witnesses:

GEO. A. NICOL,
 J. H. RAY.