

F. L. GORMLEY.
 RATCHET DEVICE FOR LIFTING JACKS.
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983,359.

Patented Feb. 7, 1911.

Fig. 1.

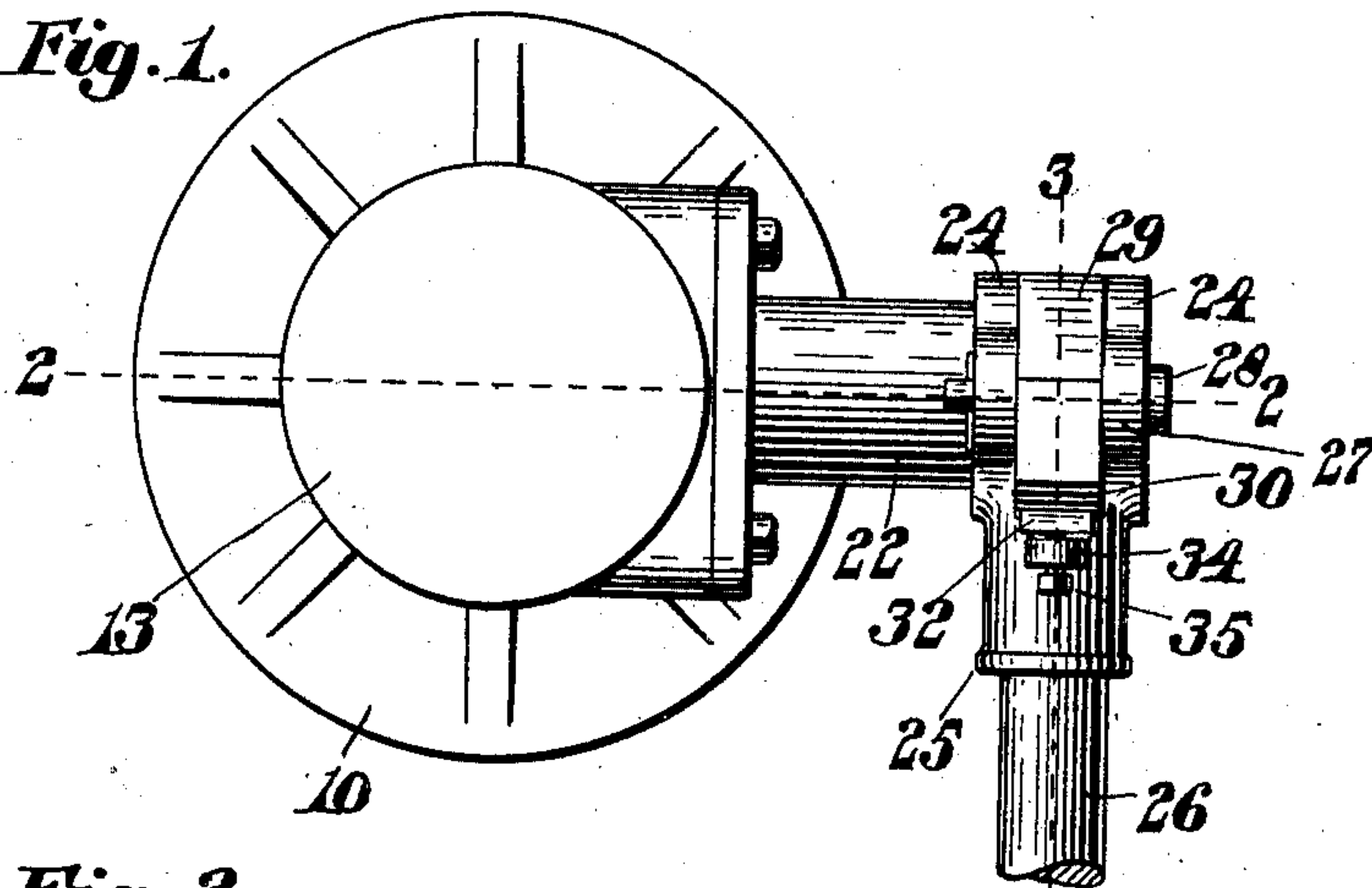
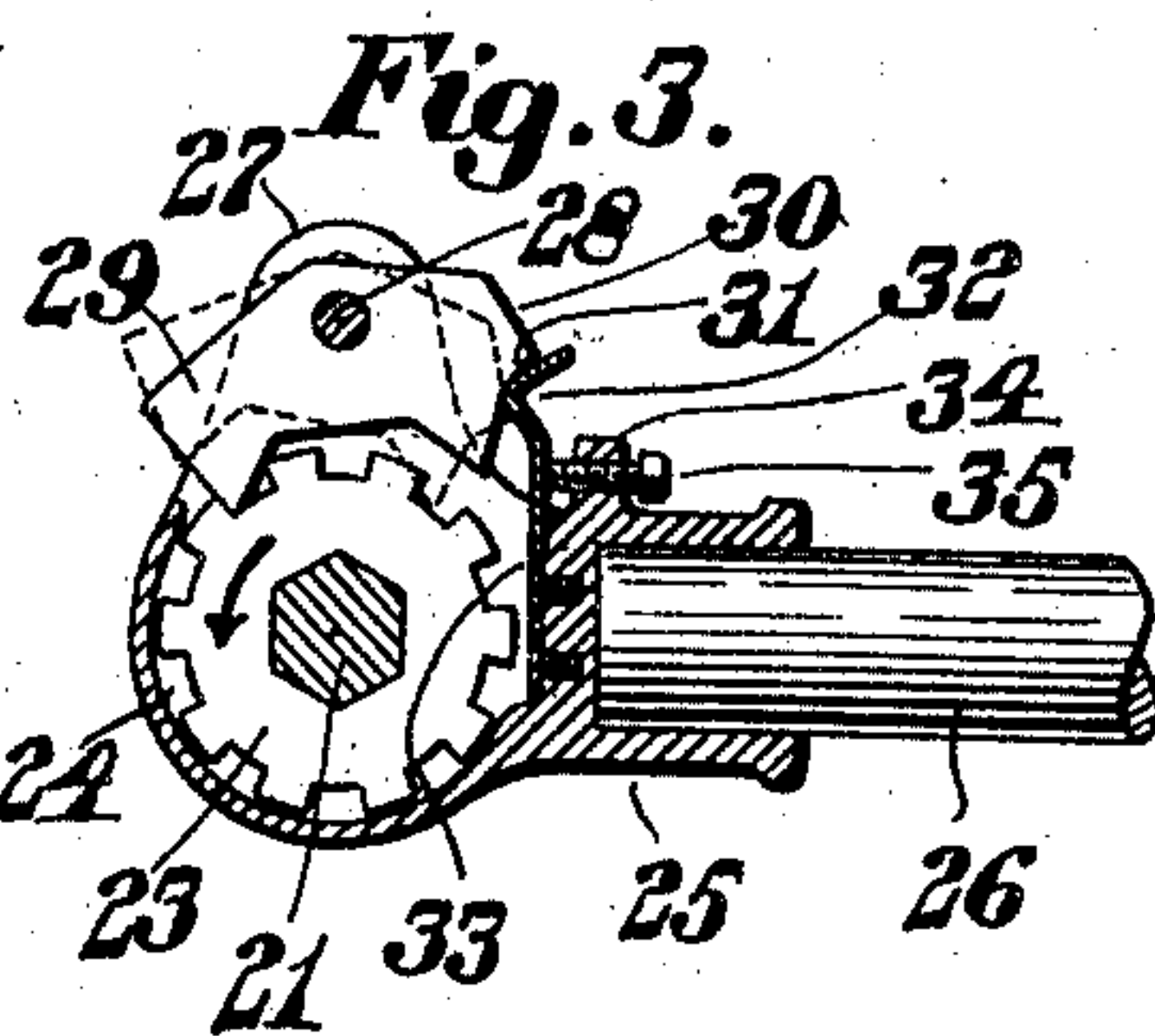
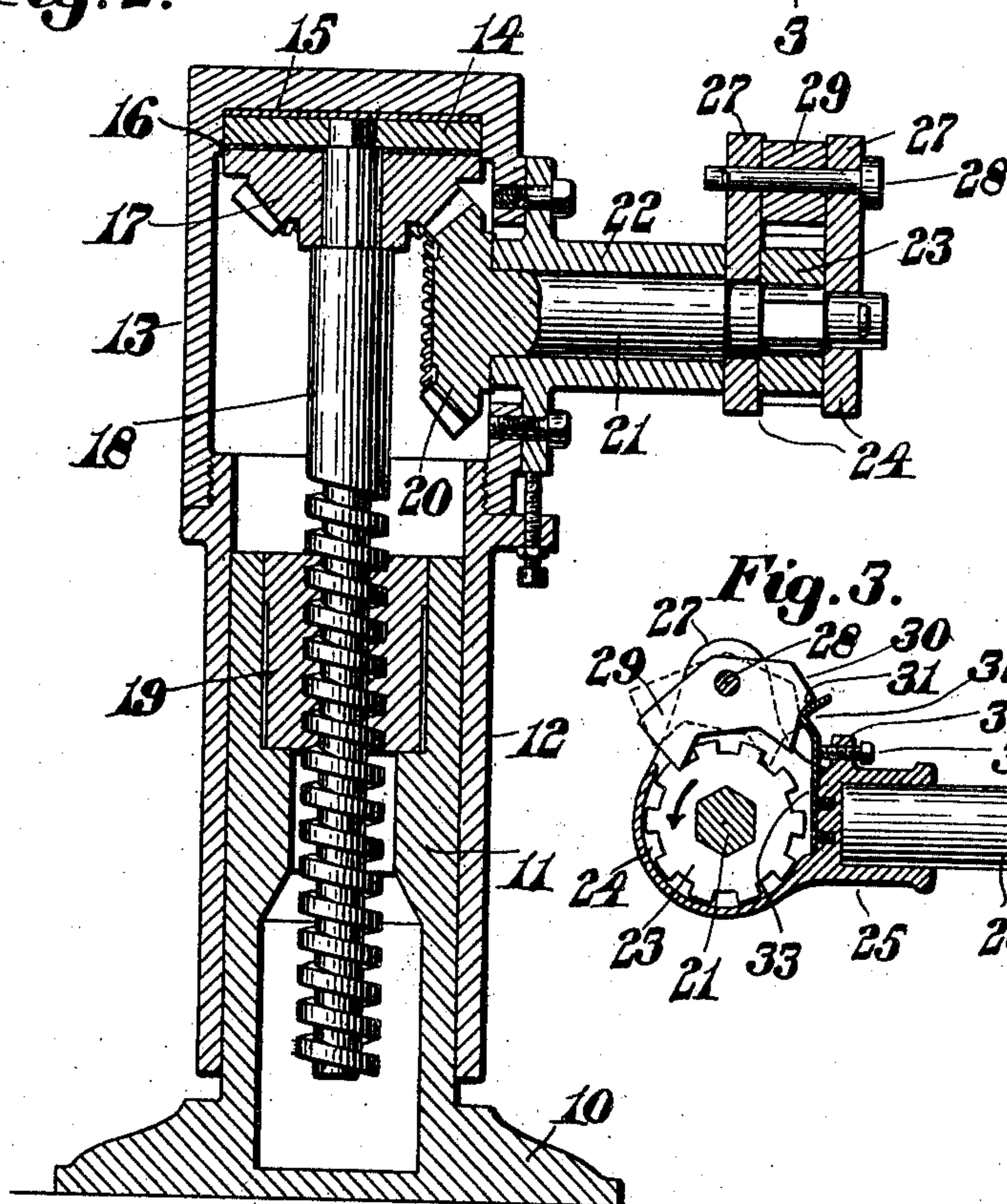


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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RATCHET DEVICE FOR LIFTING-JACKS.

983,359.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed June 16, 1909. Serial No. 502,840.

To all whom it may concern:

Be it known that I, FRANK L. GORMLEY, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ratchet Devices for Lifting-Jacks, of which the following is a specification.

This invention relates to lifting jacks and particularly to that class of jacks which are known as ratchet screw jacks and which are manipulated by an operating handle carrying a double ended pawl, either end of which is adapted to engage with a ratchet wheel on the operating shaft.

The object of the present invention is to simplify the mechanism for retaining either end of the double-ended pawl in engagement with the ratchet wheel and to provide a means for regulating the tension of said mechanism.

The invention consists in certain novel features of construction and arrangement of parts which will be readily understood by reference to the description of the drawings and to the claims hereinafter given.

Of the drawings: Figure 1 represents a plan of a jack embodying the features of this invention. Fig. 2 represents a vertical section of the same, the cutting plane being on line 2—2 on Fig. 1, and Fig. 3 represents a vertical section of the same, the cutting plane being on line 3—3 on Fig. 1.

Similar characters designate like parts throughout the several figures of the drawings.

In the drawings, 10 represents a suitable base supporting a stationary standard 11 over the outer periphery of which is fitted a movable sleeve 12, to the upper end of which is threaded a head 13. In the upper end of the head 13 is mounted a plate 14, between the upper end of which and the inner face of the head 13 is interposed a friction disk 15 while the friction disk 16 is interposed between the under face of said plate and the upper face of a beveled gear 17 splined to the reduced upper end of a screw 18, the threaded end of which is threaded to a nut 19 mounted in the upper end of the standard 11. The gear 17 meshes with a gear 20 secured to or formed upon a revoluble shaft 21 mounted in the bearing 22 on the side of the movable member 12. To the reduced end of the revoluble shaft 21 is splined or otherwise secured a ratchet

wheel 23 between two arms 24 of a bifurcated member 25. This bifurcated member 25 is provided with an extension 26 which may be gripped by the operator to cause an oscillation of the member 25 about the shaft 21, the arms 24 thereof being freely movable about the axis of said shaft. The member 25 is provided with projecting ears 27 carrying a pin 28 on which is mounted the double-ended pawl 29, one tooth of which is adapted to engage with the teeth of the ratchet wheel 23 to move the shaft 21 in one direction while the other tooth is adapted to engage with said teeth to provide a reverse movement of said shaft 21. One end of the pawl 29 is provided with two beveled faces 30 and 31, either one of which is adapted to be engaged by a projection 32 secured to or formed upon the yielding spring member 33 secured by suitable screws to the inner face of the member 25. Preferably the projection 32 is formed from the plate 33 by a suitable bend therein.

It is obvious from an inspection of the drawings that when the upper face of the projection 32 engages with the inclined face 31 of the pawl 29 the tooth farthest away from the member 33 will be retained in engagement with the teeth of the ratchet wheel 23 and the manipulation of the handle 26 will cause the shaft 21 to be revolved in the direction of the arrow on Fig. 3 of the drawings. Should a reversal of the movement of the shaft be desired the pawl 29 may be moved into the position indicated in dotted lines on Fig. 3 of the drawings and the under face of the projection 32 will then come into contact with the face 30 of said pawl 29 and retain the other tooth of the pawl in engagement with the teeth of the ratchet wheel 23 so that the manipulation of the handle 26 will cause a movement of the shaft 21 in a direction opposite to that indicated by the arrow on said figure.

A lug 34 projecting from the member 25 has threaded thereto a member 35, the inner end of which engages with the yielding member 33 to regulate the tension thereof so that the teeth of the pawl 29 may be more or less firmly held in engagement with the ratchet wheel 23, as desired. This provides a very simple mechanism for retaining the pawl in engagement with the ratchet wheel and allowing it to be moved about its pivot 28 to cause an engagement of either of its two ratchet-engaging teeth. It simplifies

the construction of the operating mechanism affording a ready means of dismantling the various elements of the operating mechanism when it is desired to dismember the jack for any reason.

5 It is believed that the operation and many advantages of the invention will be thoroughly understood from the foregoing.

Having thus described my invention, I claim:

10 1. In combination, a spindle; a ratchet wheel secured thereto; an oscillating handle on said spindle provided with two ears at right angles to its operating arm; a double
15 pawl pivotally mounted in said ears carried thereby and having two oppositely beveled faces at one end; a flat yielding member secured to said handle between said ears and provided with a projection adapted to en-
20 gage with either beveled face of said pawl to retain either end thereof in engagement with said ratchet wheel; a lug on said handle; and a member threaded to said lug and adapted to bear upon an intermediate por-

tion of said flat yielding member and regu- 25 late the tension thereof.

2. In combination, a spindle; a ratchet wheel secured thereto; an oscillating handle on said spindle provided with two ears at right angles to its operating arm; a double 30 pawl pivotally mounted in said ears carried thereby and having two oppositely beveled faces at one end; a flat yielding member secured to said handle between said ears and bent at its outer end to form a projection 35 adapted to engage with either beveled face of said pawl to retain either end thereof in engagement with said ratchet wheel; a lug on said handle; and a member threaded to said lug and adapted to bear upon an inter- 40 mediate portion of said flat yielding member and regulate the tension thereof.

Signed by me at 4 Post Office Sq., Boston, Mass., this 4th day of June, 1909.

FRANK L. GORMLEY.

Witnesses:

WALTER E. LOMBARD,
NATHAN C. LOMBARD.