

No. 812,128.

PATENTED FEB. 6, 1906.

W. H. GRIFFITH.
LIFTING JACK.

APPLICATION FILED JAN. 18, 1905.

FIG. 1.

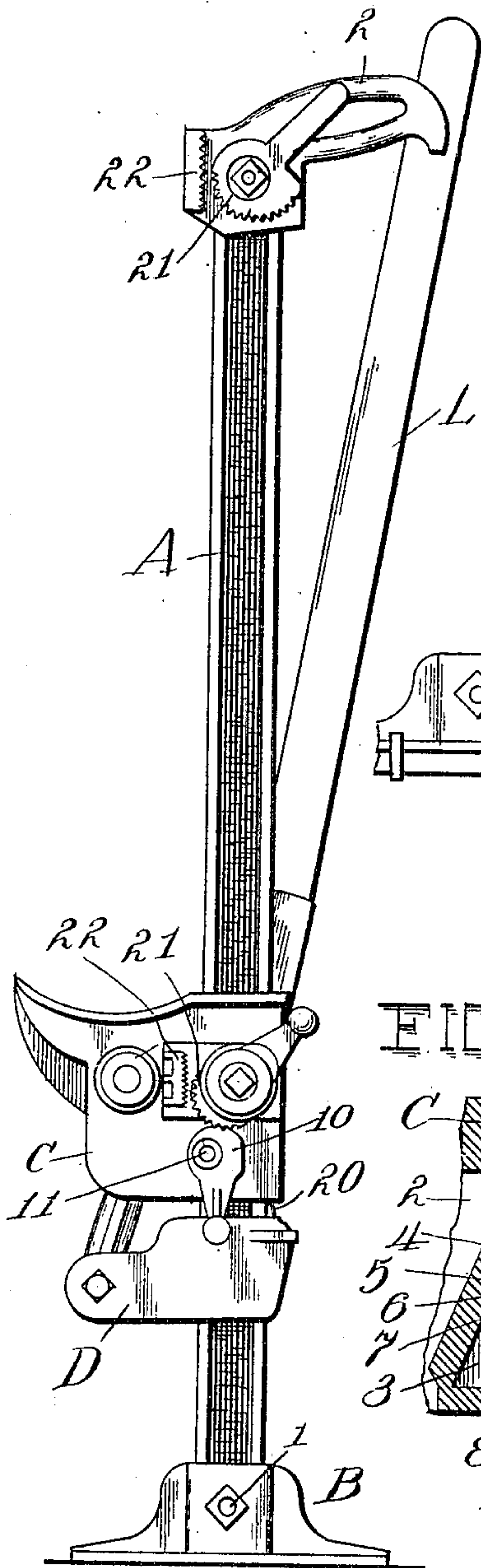


FIG. 3.

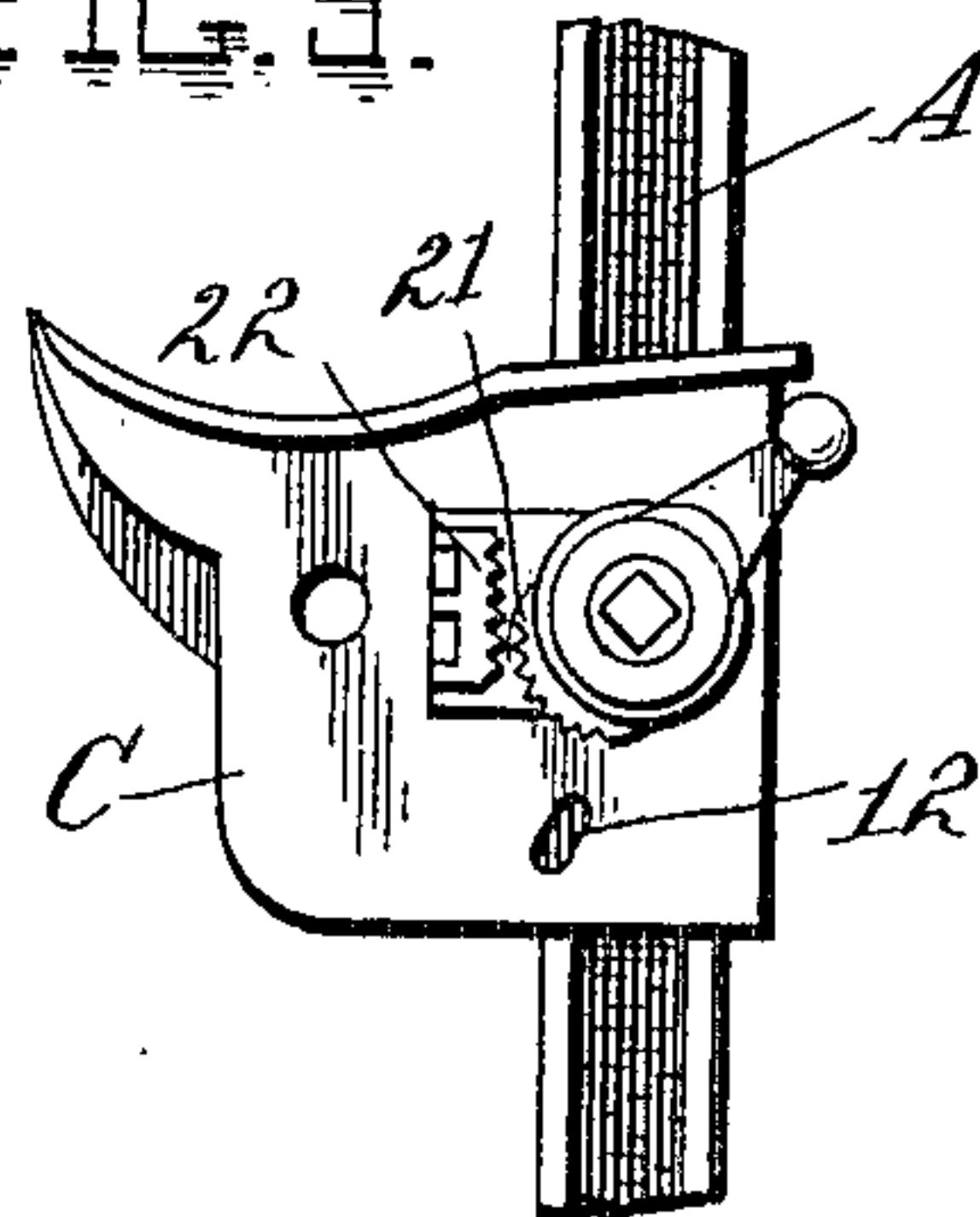


FIG. 4.

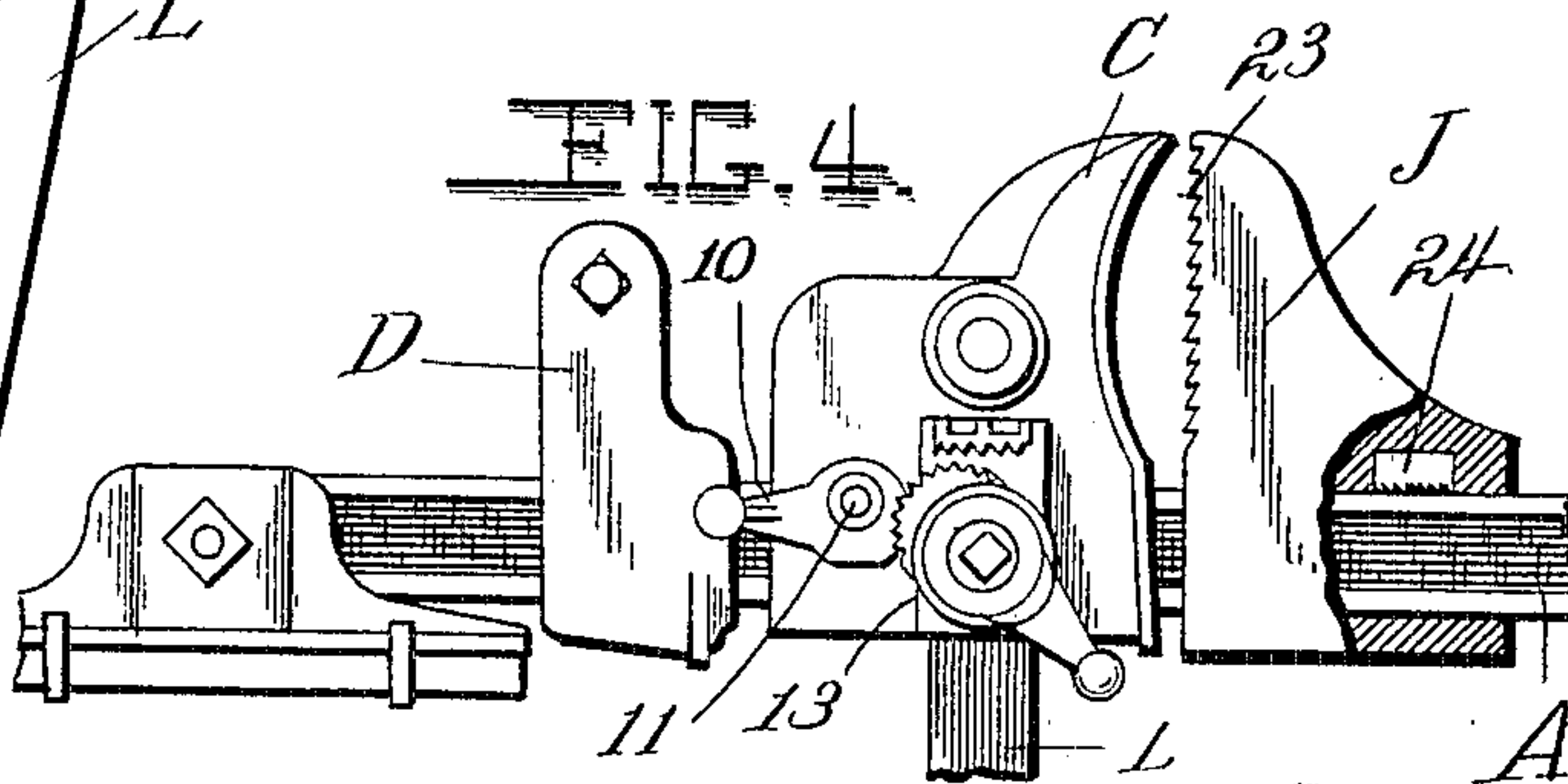


FIG. 2.

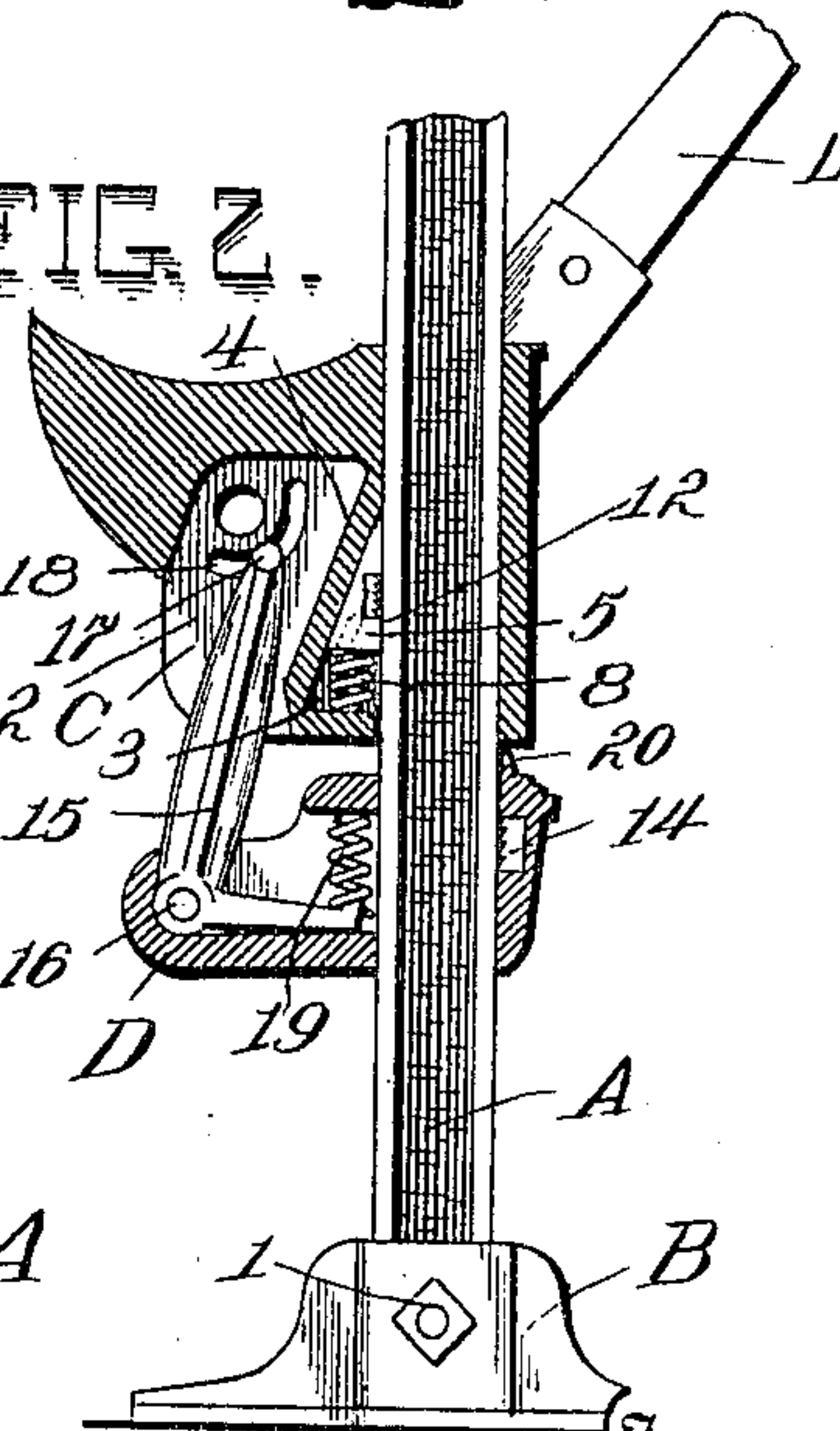
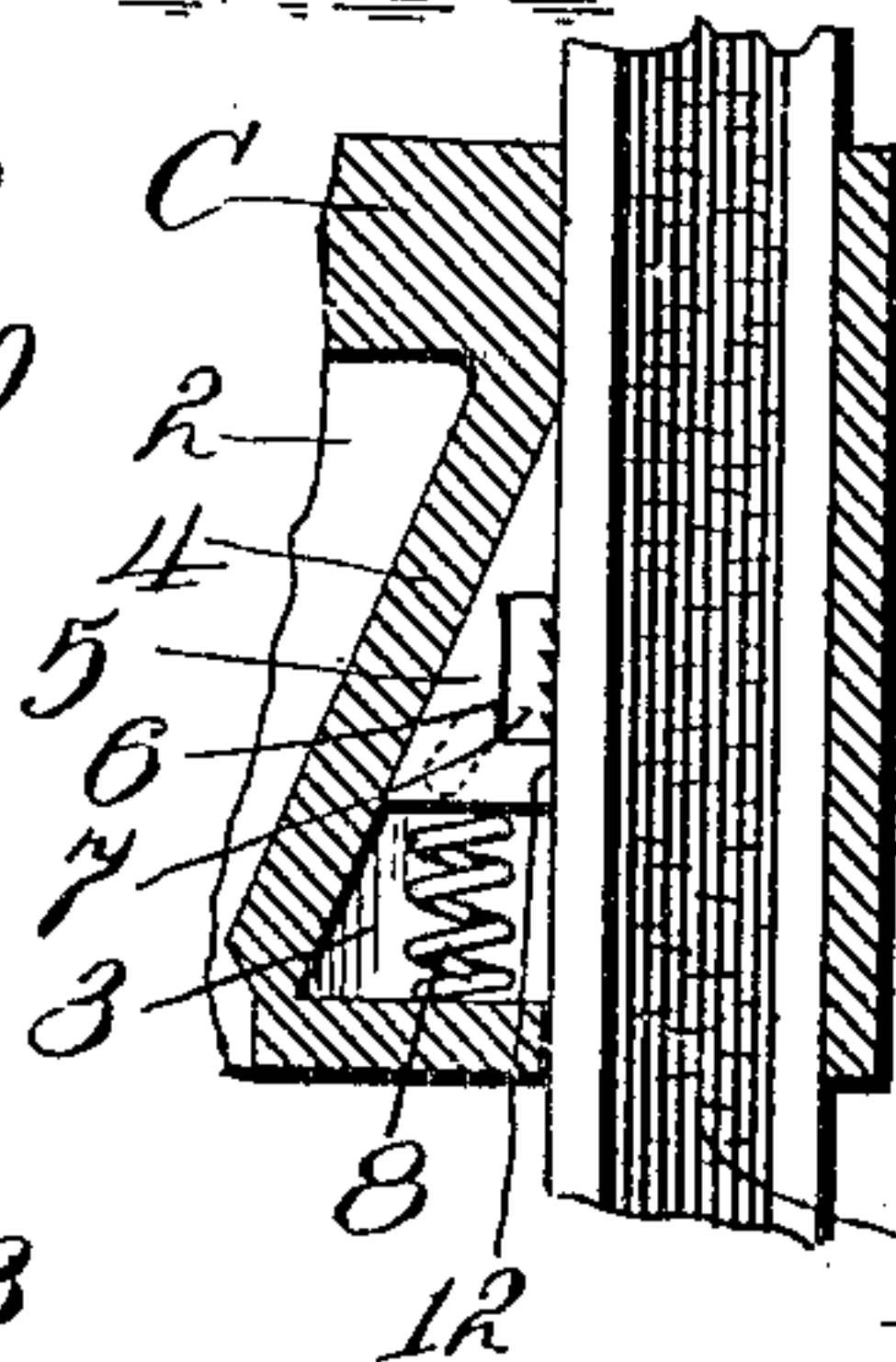


FIG. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. GRIFFITH, OF WORTHINGTON, INDIANA.

LIFTING-JACK.

No. 812,128.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed January 18, 1905. Serial No. 241,667.

To all whom it may concern:

Be it known that I, WILLIAM H. GRIFFITH, a citizen of the United States, and a resident of Worthington, in the county of Greene and State of Indiana, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a specification.

My invention relates to an improvement in lifting-jacks and to a species of lifting-jacks which is capable of being converted into a bench-vise when the exigency for such use may arise; and the object is to provide a simple, powerful, quick-acting lifting-jack which is capable of easy and ready operation and manipulation; and it consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of my improved lifting-jack. Fig. 2 is a broken view, partly in section. Fig. 3 is a detail with a portion of the mechanism removed. Fig. 4 is a broken view, partly in section, showing the parts in position to act as a vise; and Fig. 5 is an enlarged vertical section through a fragmentary portion of the lifting-jack, showing a part of the runner C, chamber 3, and elements therein.

A represents the main bar or standard of my improved lifting-jack, and B is the base, to which the standard is preferably secured by a bolt 1 or similar means. A handle 2 at the upper end is provided for lifting and holding the jack in position.

C and D are the upper and lower runners, respectively. These are mounted to slide on the upright or bar A. The runner C is chambered out, as at 2 and 3, immediately beneath the point where the object to be lifted is adapted to rest, a wall 4 forming a division between these chambers, and this wall inclines or has an inclining surface, as indicated in Fig. 2. A wedge-shaped block 5 is fitted to this V-shaped chamber and is adapted to be crowded forward and held securely against the forward edge of the bar or standard A by means of the inclining surface of the wall 4. By thus chambering out the runner and locating the block 5 at this point it is possible to utilize space in the runner which would otherwise be lost and at a point almost directly beneath the load. This wedge-shaped block is recessed, as shown at 6, to receive the toothed grip-block 7, which is made of hard steel and the teeth of which are adapted to

engage the bar or standard and lock the runner C in position when the wedge-shaped block is forced upwardly, and it is normally held upward by a spiral spring 8 beneath it and expanding upwardly thereagainst. This spring 8 not only thrusts the block upward into the V-shaped recess, but it also yields to permit the upper runner to be raised at any time, the teeth of the grip-block projecting downward to further assist in this operation.

As a means for unlocking the runner or releasing the grip-block from the bar or standard a cam-lever 10 is provided. This is connected by a pin 11 to the block 5, and this pin 11 operates in a slot 12, which is elongated and parallels the outer wall of the partition 4. The enlarged portion of the cam-lever is adapted to bear on a shoulder 13 when the cam-lever is moved to a horizontal position and by so doing to force the wedge-shaped block downward against the expansive action of the spring 8, and with it the grip-block, away from the bar or standard, thus permitting the runner to be lowered. The lower runner D is also provided with a toothed grip-block 14, which engages the rear edge of the upright or standard, the two grip-blocks being adapted normally to alternately take hold upon the bar or standard.

An L-shaped lever 15 is fulcrumed at 16 in the lower runner D, and the upper end is provided with a pin 17, which extends through the curved slot 18 in the upper runner C, and this pin 17 extends through to the other side, where it is connected with the hand-lever L, which latter is pivoted to the upper runner C. (Not shown.) A spring 19, interposed between the opposite end of L-shaped lever 15 and the upper end of the runner D, normally acts to retain the runner in operative position. A projection 20 on the rear upper side of the lower runner D is in position to be struck by the upper runner C when the latter is lowered, whereby to tilt the lower runner D to cause the release of the grip-block 14 from the bar or standard and permit the runner to slide downwardly thereon.

To use the lifting-jack as a vise, the supplemental jaw J is used. This is provided with teeth 23, preferably to cooperate with the runner C, and it is held in place by the grip-block 24. When used as a vise, the bar or standard A is preferably swung over into the horizontal position indicated in Fig. 4 and the runner C is operated by hand or lever to force it up into position to hold the article to

be clamped rigidly between it and the jaw J. When not in use as a vise, the jaw J is removed from the lifting-jack.

In this way I not only provide a simple and efficient lifting-jack, but also a convenient form of vise into which the jack may be transformed at a moment's notice.

Slight changes might be resorted to in the form and arrangement of the several parts described without departure from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a lifting-jack, of a supplemental jaw arranged and adapted to cooperate with the movable parts of the lifting-jack whereby to form a vise.

2. The combination with the bar or standard of a lifting-jack, and runners mounted thereon, with means for automatically gripping the runners to the bar or standard, of a supplemental jaw mounted on the bar or standard and adapted to cooperate with one of the runners whereby to transform the jack into a vise.

3. The combination with a base, and a bar or standard pivotally supported thereon, of runners mounted on the bar or standard, means for locking them thereto, and a supplemental jaw adapted to be employed to cooperate with the runner whereby the lifting-jack may be transformed into a vise.

4. The combination with the bar or stand-

ard of a lifting-jack, of a runner having a V-shaped chamber therein located directly beneath the load, a wedge-shaped block fitted to said chamber and carrying a grip-block, and a cam-lever for forcing said V-shaped block in one direction.

5. The combination with a bar or standard, of a runner having a V-shaped chamber therein located directly beneath the load, a wedge-shaped block fitted to said chamber and carrying a grip-block, a spring for moving said wedge-shaped block into position to cause the grip-block to lock the runner to the bar or standard, and means for releasing said block therefrom.

6. The combination with a bar or standard, of a runner mounted to slide thereon and provided with a V-shaped chamber located directly beneath the load, a wedge-shaped block fitted therein, a grip-block carried by the wedge-shaped block, a spring for normally raising the wedge-shaped block, the runner having a diagonally-disposed slot therein, a pin extending through this slot from the block, cam-lever mounted on the pin and adapted to engage a shoulder on the runner whereby to force the block against the action of the spring and release the runner from the bar or standard.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILLIAM H. GRIFFITH.

Witnesses:

W. H. WADSWORTH,
JAS. A. YOCKEY.