

No. 711,782.

Patented Oct. 21, 1902.

C. MYKOLASHEK.  
LIFTING JACK.

(Application filed Feb. 7, 1902.)

(No Model.)

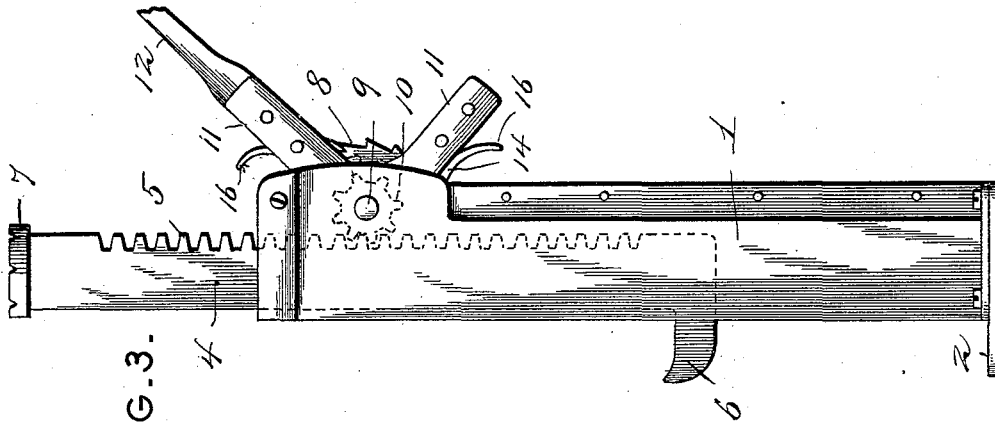


FIG. 3.

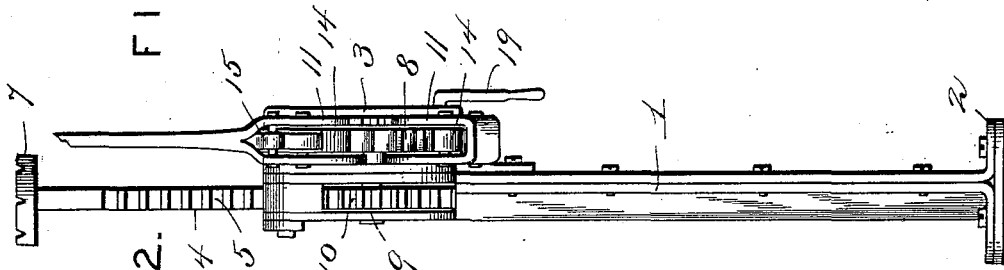


FIG. 2.

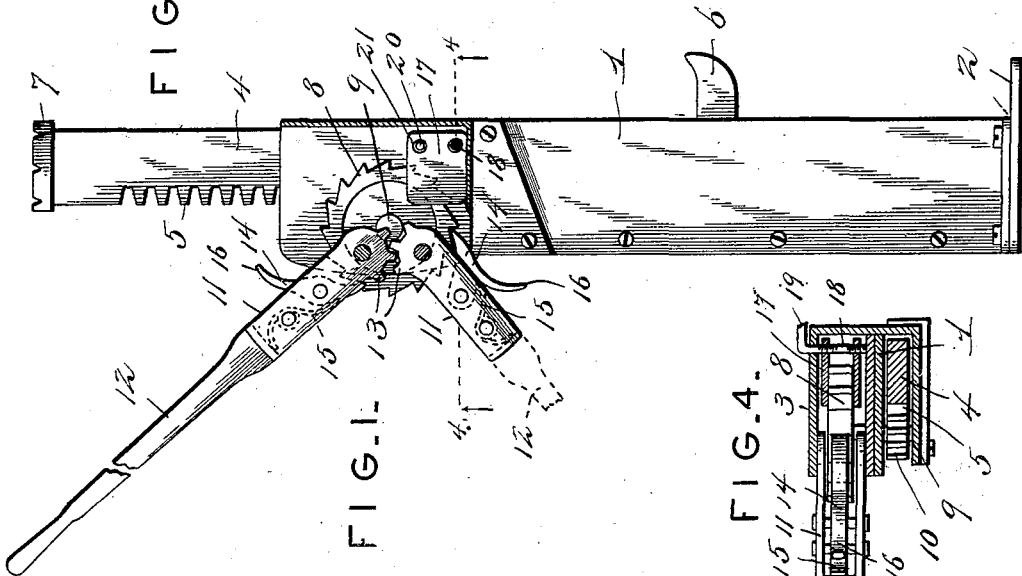


FIG. 1.

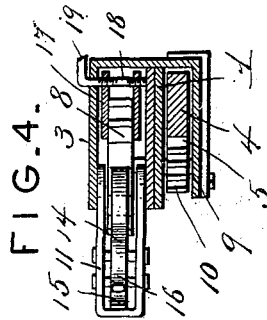


FIG. 4.

WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 711,782, dated October 21, 1902.

Application filed February 7, 1902. Serial No. 93,077. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES MYKOLASHEK, a citizen of the United States, residing at Southbend, in the county of Pacific and State of Washington, have invented new and useful Improvements in Lifting-Jacks, of which the following is a specification.

This invention relates to a lifting-jack particularly adapted for use in railroad construction, bridge-building, house-moving, and logging; and the aim and purpose of the same is to provide a simple and effective arrangement or combination of devices whereby a greater amount of lifting power is obtained by a comparatively reduced applied operating force and wherein the lifting-bar is mounted to lower with a load thereon or prevented from slipping and also capable of being locked in adjusted position.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a sectional elevation of a lifting-jack embodying the features of the invention. Fig. 2 is a front edge elevation of the same. Fig. 3 is a side elevation of the improved lifting-jack looking toward the side opposite that shown by Fig. 1. Fig. 4 is a horizontal section on the line 4-4, Fig. 1.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates a box-standard having a lower extended base 2, and at the upper extremity thereof one side of said standard has a laterally-projecting housing 3 for the operating mechanism, which will be hereinafter set forth. Movably mounted in the standard is a lifting-bar 4, having rack-teeth 5 along the greater portion of one edge, and a lower terminal foot 6, which projects outwardly through the standard for engagement with low bodies, such as railroad-rails. On the upper end of the lifting-bar 4 is a horizontally-disposed contacting head 7, which is preferably grooved or roughened to prevent the same from slipping when in engagement with a log or other object raised and lowered thereby.

In the housing 3 a ratchet-wheel 8 is mount-

ed and secured to one end of a transversely-extending shaft 9, which projects through the adjacent upper portion of the standard 1 and has a pinion 10 also fixed thereto and held in continual mesh with the rack 5 of the lifting-bar 4. Eccentrically fulcrumed in relation to the ratchet-wheel 8 are a pair of bifurcated sockets 11, to which hand-bars 12 are secured. The one side of each bifurcated socket is extended and formed with gear-teeth 13, said teeth being held in continual mesh and serving to cause a simultaneous operation of both sockets and hand-bars by the application of operative power to one of the same. Each of the bifurcated sockets is also equipped with a dog or detent 14, engaged by a spring 15 to hold the same in continual engagement with the teeth of the ratchet-wheel 8, the dog or detent having an outwardly-extending projection 16, whereby it may be released from the ratchet-wheel when it is desired to lower the lifting-bar 4, and during this operation an outward pressure is exerted on the projection 16 of the lower dog or detent and an inward pressure on the similar projection of the upper dog or detent and the sockets arranged in the position shown by Fig. 1.

From the foregoing description it will be seen that the dogs or detents respectively operate to impart an alternate pushing force to the ratchet-wheel 8, and the lifting-bar 4 is gradually lifted by a step-by-step movement. This compound or combined mechanism also provides for applying a great amount of lifting power to the bar 4 by a comparatively small operating force manually applied to the hand-bars 12, and by releasing the dogs or detents from the ratchet-wheel 8 in the manner set forth said lifting-bar can be easily lowered in an expeditious manner and without requiring a reverse actuation of said ratchet-wheel and the correlative parts.

The improved lifting-jack is also provided with a locking device or friction-clamp by means of which the lifting-bar can be held immovably closed within the standard 1, or when said lifting-bar is raised or elevated it can be positively held against movement. By releasing the dogs from the ratchet-wheel the lifting-bar can be sustained and lowered through the retention and release of said clamp. This locking means comprises clamp-

ing-plates 17, located within the housing 3 on opposite sides of the ratchet-wheel and engaged by a right and left hand adjusting-screw 18, passing through the outer lower corner portions thereof, said screw projecting transversely through the housing and continuous with an outer angularly-disposed handle 19, by which it is operated. The clamping-plates 17 at a point above and in vertical alinement with the said screw are formed with openings 20 to loosely receive a guide-pin 21, whereby the said plates will always be maintained in an operating position and be prevented from becoming displaced or disarranged. A portion of the plates extend over a part of opposite sides of the ratchet-wheel 8, and by turning the handle 19 in one direction the screw 18 will cause the plates to slide toward and firmly bind on the said ratchet-wheel, whereas if the handle 19 be turned in the opposite direction the plates 17 will be loosened or freed from contact with the ratchet-wheel. The frictional binding of the plates 17 against the ratchet-wheel will prevent movement of the latter, and hence the lifting-bar will be maintained in fixed adjusted position or housed within the standard 1, as before set forth.

The improved lifting-jack is comparatively inexpensive in the cost of manufacture, and such materials will be used as to produce a strong and durable structure. Furthermore, the parts will be so formed as to permit them to be conveniently assembled and also of such light nature as to adapt the device for convenient transportation.

Having thus fully described the invention, what is claimed as new is—

1. In a lifting-jack, the combination of a hollow standard, a lifting-bar adjustably mounted in said standard and having a rack along one edge and a lower, outwardly-projecting foot, a pinion in mesh with the rack,

a ratchet-wheel for operating the pinion, bifurcated sockets having hand-levers attached thereto and one side of each extended and terminally formed with intermeshing gear-teeth, and a spring-actuated detent carried by each socket and normally held in engagement with the ratchet-wheel.

2. In a lifting-jack, the combination of a standard, a lifting-bar vertically movable in the standard, means for operating said lifting-bar, and sockets having hand-levers attached thereto and carrying devices for actuating said means, the one side of each socket being extended and terminally formed with gear-teeth and the teeth of both sockets continually held in mesh.

3. In a lifting-jack, the combination of a standard, a lifting-bar, means for operating said lifting-bar, and a locking device consisting of slidable plates to frictionally clamp against opposite portions of the said means.

4. In a lifting-jack, the combination of a standard, a lifting-bar movably mounted in said standard, means for operating the lifting-bar, clamping-plates to frictionally bear against opposite portions of the said means, and an exteriorly-operative screw for the said plates.

5. In a lifting-jack, the combination of a standard, a lifting-bar movably mounted in said standard, means for operating the said lifting-bar, clamping-plates adapted to be moved to frictionally engage opposite portions of the said means to lock the lifting-bar against movement, an adjusting-screw engaging the plates, and a guide-pin to hold the plates in operative position.

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

CHARLES MYKOLASHEK.

Witnesses:

SAML. J. ROSE,  
GEO. W. MYERS.