No. 896,151. PATENTED AUG. 18, 1908.

J. Q. PRIMM.

LIFTING JACK.

APPLICATION FILED JAN. 8, 1908.

Fig. 1.

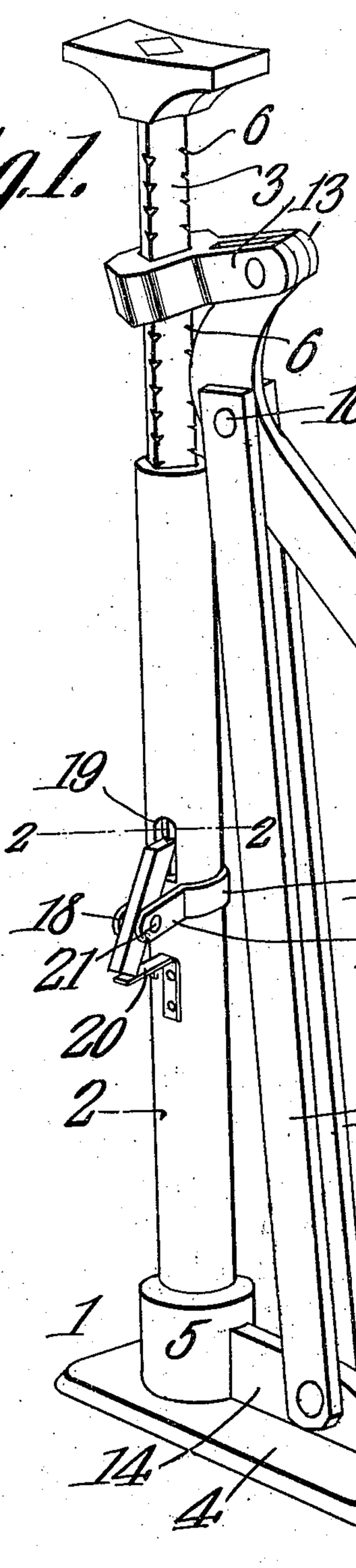



Fig. 3.

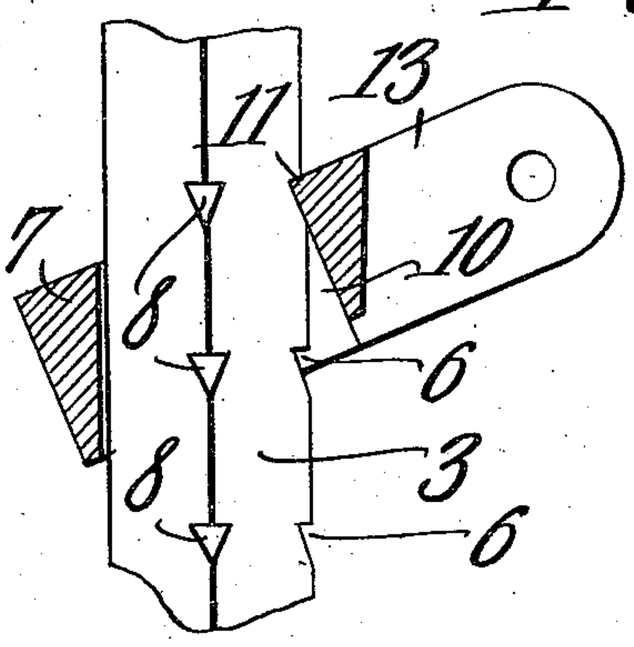
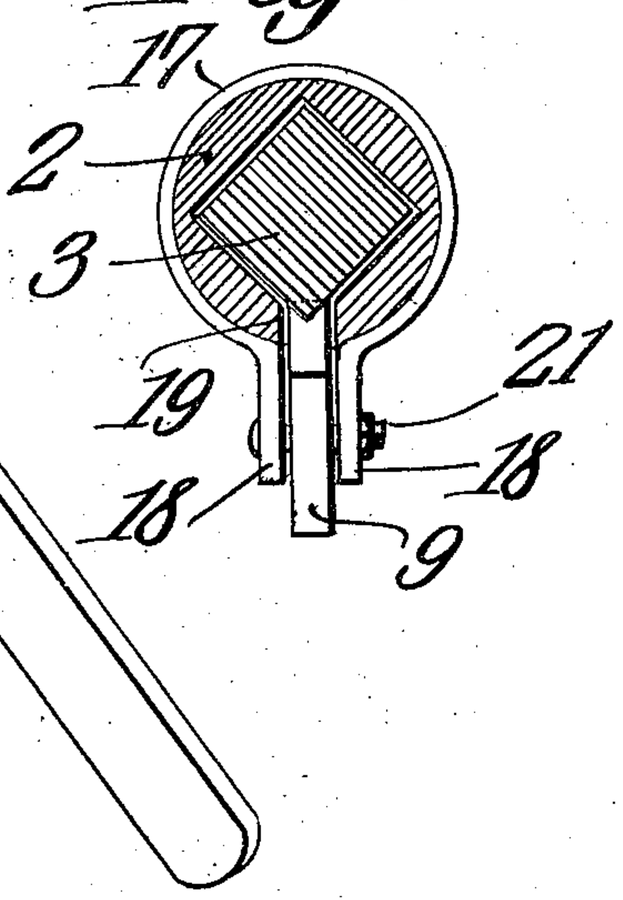



Fig. 2.




Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN Q. PRIMM, OF LINCOLN, ILLINOIS, ASSIGNOR OF ONE-HALF TO JAMES M. BEAVER, OF LINCOLN, ILLINOIS.

## LIFTING-JACK.

No. 896,151. Specification of Letters Patent. Patented Aug. 18, 1908.

Application filed January 8, 1908. Serial No. 409,837.

*To all whom it may concern:*

Be it known that I, JOHN Q. PRIMM, a citizen of the United States, residing at Lincoln, in the county of Logan and State of Illinois, have invented a new and useful Lifting-Jack, of which the following is a specification.

This invention relates to lifting jacks and has for its object to provide a simple, light, convenient and cheap implement of the kind for use mainly as a wagon jack, but which is adaptable for other purposes where a light tool of the kind is required.

To this end the invention comprises a hollow vertically disposed standard mounted on a base, and a lifting bar movable within the standard by means of a clamping block pivotally connected to an operating lever fulcrumed on vibrating links rising from the base. A lock for holding the lifting bar elevated when the clamping block is descending is also provided. By means of the link connections to the operating lever, the jack is made self locking.

With this and other objects in view, the invention comprises the novel construction, combination and arrangement of parts hereinafter described and claimed, reference being had to the accompanying drawing, in which

Figure 1 is a perspective view of the lifting jack complete; Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1, and Fig. 3 is a detail sectional view through the lifting block.

Similar reference numerals are used for the same parts in all the figures.

Fixed on a suitable base 1 is a hollow vertical standard 2 within which a lifting bar 3 is adapted to move freely in a vertical direction. The base 1 comprises a flat plate 4 to rest on the ground and provided with a socket 5 on its upper side to receive the standard 2 and rigidly support the same. The lifting bar 3 is preferably of polygonal shape in cross section and fits loosely in a similarly shaped bore in the standard, its upper end having fixed thereto a head of suitable size and shape to bear firmly against any object to be raised. One corner of the lifting bar is made with spaced notches 6 throughout its length with which a lifting block 7 is adapted to engage and raise the bar. A second series of notches 8, similarly spaced, are formed in another corner of the lifting bar for a supporting catch 9 to enter so as to retain the lifting bar in raised position when the lifting block 7 is lowered to reëngage the lifting bar. If desired the catch 9 may use the notches 6 and thus dispense with the notches 8.

The lifting block 7 comprises a head having an opening 10 preferably although not necessarily of like shape as the cross section of the lifting bar 3 but larger, so that the lifting block can normally lie diagonally across the lifting bar, and to permit the latter to drop the bottom of the standard when the lifting block is brought to a favorable position or one nearer horizontal. The opening 10 in the block is larger at the bottom than at the top to give freedom of movement to the block for gripping the bar 3 when the block is tipped. The upper corner 11 of the opening 10 is shaped to enter the notches 6 in the corner of the lifting bar and raise the latter when the lever 12 is depressed. Two arms 13 forming a part of the lifting block 7 project outwardly from that side of the block nearest the corner 11, between which arms one end of the operating lever 12 is pivoted.

The operating lever 12 is made of a flat bar, the major portion of which is straight, but at the end where it is pivoted to the lifting block 7, it is curved edgewise in an upward direction for a purpose hereinafter described.

Pivoted on opposite sides of a rib 14 on the base plate 1 are two parallel links 15 that extend upward to the operating lever 12 which latter is fulcrumed to their upper ends, the bearing pin 16 passing through the curved portion of the lever.

A removable metal band 17 surrounds the standard 2 at a suitable point, the ends 18 of which band are parallel to each other and project outwardly from the side of the standard. The catch 9 is intermediately pivoted to the ends 18 of the band and has its upper end beveled to a sharp edge so as to engage the notches 8 in the lifting bar. A hole 19 is made in the casing to expose the notches and enable the catch to have access thereto. The lower end of the catch is flat and presses on a flat spring 20 fastened to the standard, the spring holding the catch against the lifting bar when inclined as represented and away from the bar when raised to a vertical position, as is obvious. The band 17 is clamped to the standard by means of the pivot bolt 21 of the catch 9, the bolt tightening the band around the standard before it can force the arms 18 against the catch.

As thus constructed, when the operating lever is raised the lifting block is disengaged from the bar 3 and carried downward by the lever, its fulcrum is at the same time carried away from the standard outside the line joining the pivotal points of the lifting block and the lower end of the links. The catch 9 prevents the lifting bar from descending so the lifting block takes a new grip on the lifting bar and raises it when the operating lever is depressed. This movement of the operating lever carries its fulcrum across and within the line between the pivotal points heretofore described. When the downward movement of the operating lever is arrested by the links 15 striking the standard, the lifting bar is locked in elevated position, as the weight supported by the bar tends to move the fulcrum away from said line and press the links against the standard. It is to obtain this result that the upper end of the operating lever is curved in the manner hereinbefore described.

What is claimed is:

1. A lifting jack comprising a base plate having a socket and a rib on its upper side, a hollow vertical standard secured in said socket, a polygonal lifting bar vertically movable in said standard, one edge or corner of said bar having spaced notches formed therein, a lifting block on said lifting bar adapted to engage said notches, an operating lever pivoted to said lifting bar and links pivoted to said rib on the base and carrying in their upper ends the fulcrum pin of the operating handle.

2. A lifting jack comprising a flat base, a hollow vertical standard thereon, a polygonal lifting bar vertically movable in said standard, spaced notches being formed in two of the angles or corners of said bar, a lifting block slidable on said lifting bar and adapted to engage the notches in said bar and raise it, an operating lever having a straight handle and curved upper end pivoted to said lifting block for moving it, and links pivoted to the base and to the curved portion of said lever and adapted to swing as the lever is operated.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN Q. PRIMM.

Witnesses:

D. C. TURLY,

ALBERT A. AHRENS.