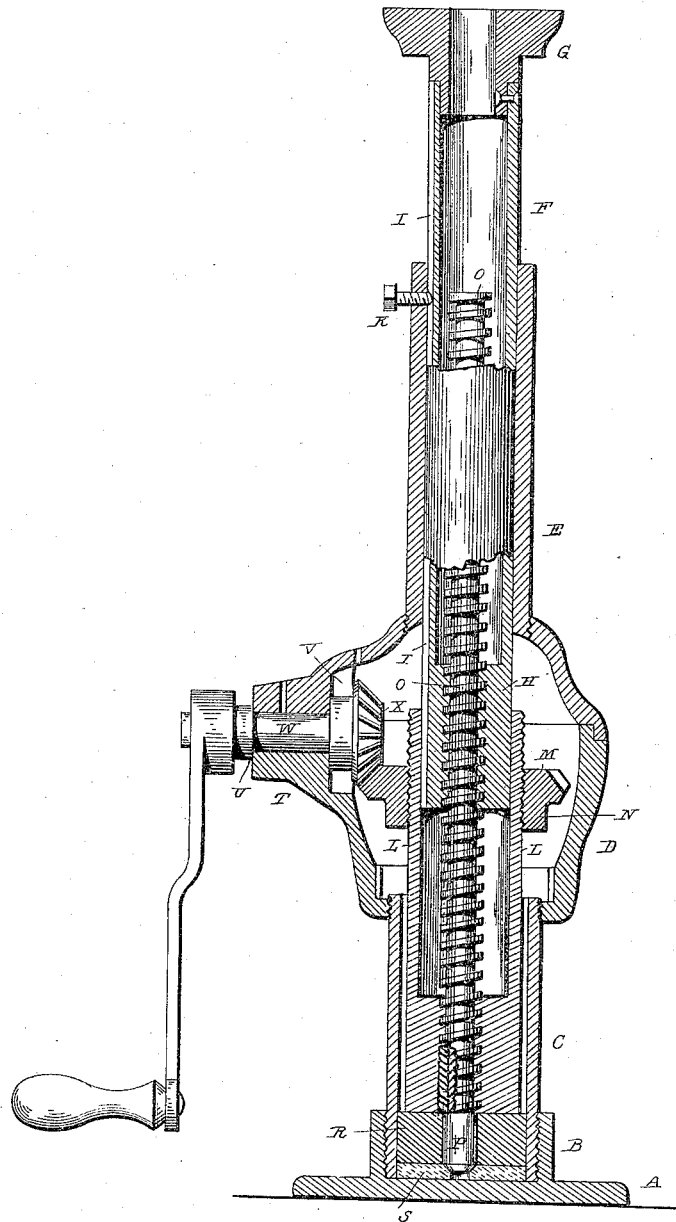


(No Model.)

T. MAXON.  
LIFTING JACK.

No. 306,340.

Patented Oct. 7, 1884.



WITNESSES

Edmund L. Jewell.  
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# UNITED STATES PATENT OFFICE.

THOMAS MAXON, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO JAMES W. CARPENTER, OF SAME PLACE.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 306,340, dated October 7, 1884.

Application filed April 24, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS MAXON, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Lifting-Jacks, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in lifting-jacks, and is designed to provide an instrument for heavy lifting, in which the motion imparted is steady and constant.

The construction used is simple, cheap, and at the same time strong and efficient.

In the following description of the device reference will be made to the accompanying drawing, which is a sectional view taken vertically through the jack.

A represents the base of the jack, having an annular shoulder, B, raised on it, and which is internally screw-threaded. Into the base is screwed a hollow standard, C, which is also screw-threaded at its upper end. On the standard is screwed the cap or receptacle D, which is adapted to contain the gearing hereinafter described. The cap is divided laterally near its center, the parts being rabbeted to fit so as to make a snug and strong joint when the parts are placed together and fastened by screws or bolts. Screwed into the top of the cap is a hollow upright, E, which forms a guiding-support for the upright sliding bar F, said bar being the only part of the device having a positive vertical movement. The bar has secured to its upper end a cap, G, which is provided with an opening through its center, as shown. The bar is hollow and is provided near its lower end with an annular interior shoulder, H, which is provided with a heavy internal screw-thread. The said bar has on its outer surface a longitudinal groove or slot, I, in which is adapted to fit the end of a set-screw, K, passing through the upright E. This set-screw prevents the sliding bar turning when being moved.

In the standard C is adapted to set the hollow sleeve L, which has at its upper end the bevel-gear M, having on its under side a shoulder, N, adapted to rest in a groove in the cap.

Passing centrally through the sleeve L is a

screw, O, keyed in the lower end of the said sleeve, a small part projecting beyond and without threads, as shown at P. This projection passes through a washer, R, in the bottom of the standard C, and rests on a leather washer, S, below. By varying the thickness of the leather washer the position of the gear may be regulated and adjusted as circumstances require. The washer R, which is of metal, forms a bearing for the sleeve L. The screw O passes through the screw-threaded shoulder H into the sliding bar, which is of a size adapted to enter the hollow sleeve L. The cap has a continuation on one side forming a lateral projection, T, which has centrally through it a cylindrical opening, U, at the inner end of which is a groove or recess, V. The opening U forms a bearing for the short shaft W. This shaft is shouldered at its outer end, beyond which it is squared to receive a crank, and at its inner end bears a beveled pinion, X, which engages with the beveled gear-wheel M. The gear-pinion sets in the groove V.

It will readily be seen that as the large gear is caused to turn by means of the pinion being operated by a crank, it will also cause the screw to rotate with it. The rotation of the screw will cause the sliding bar to move vertically, as it cannot rotate, and thereby will elevate or lower any load that may be placed on the jack.

The various parts may be otherwise connected than by being screwed together.

Having described the invention, what I claim is—

1. The combination, with a hollow sleeve having a screw keyed to and projecting centrally upward through it, of the hollow post provided with a threaded shoulder through which the screw passes, and a gear-wheel secured to the upper end of the sleeve and intermeshing with the actuating-pinion, substantially as and for the purpose specified.

2. A lifting-jack with a vertically-moving hollow post having an internal screw-threaded shoulder at its lower end, a cap secured to its upper end, and a longitudinal groove or slot on its outer surface to receive the end of a set-screw, a hollow sleeve having a centrally-projecting screw keyed to its lower end and pro-

jecting unthreaded beyond it, and having a bearing in a metal washer, under which is a leather washer varying in thickness as the contact of the gear and pinion requires, and a gear-wheel on the sleeve intermeshing with a pinion on a shaft bearing a crank or other actuating means, the whole inclosed in a suitable case, substantially as specified.

3. A lifting-jack with a vertically-moving post or bar operated by a screw having a rotative movement, and actuated by gearing, all inclosed in a case, consisting of a base having on it an annular internally-screw-threaded shoulder, a short standard screwed into the base, and bearing on its top a laterally-divided cap or receptacle for the mechanism with a side projection for the crank-shaft, and the upright guide on the cap, all the parts properly connected and operating substantially as specified.

4. The actuating mechanism consisting of a

crank-shaft with a gear-pinion at its end, a hollow sleeve having at its upper end a shouldered gear-wheel, and a screw-bar passing centrally through the sleeve and keyed to it, the parts operating substantially as and for the purpose specified.

5. The lifting mechanism consisting of a vertically-moving hollow bar or post having a cap secured at one end and an internal screw-threaded shoulder at the other end, and having an external longitudinal slot to receive the end of a set-screw passing through the standard, the said bar acting in connection with an actuating-screw, substantially as and for the purpose set forth.

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

THOMAS MAXON.

Witnesses:

T. B. CARPENTER,  
THOMAS MCADOO.