(No Model.)

F. THOMAS.

LIFTING JACK.

No. 599,026. Patented Feb. 15, 1898.

Fig. 1.

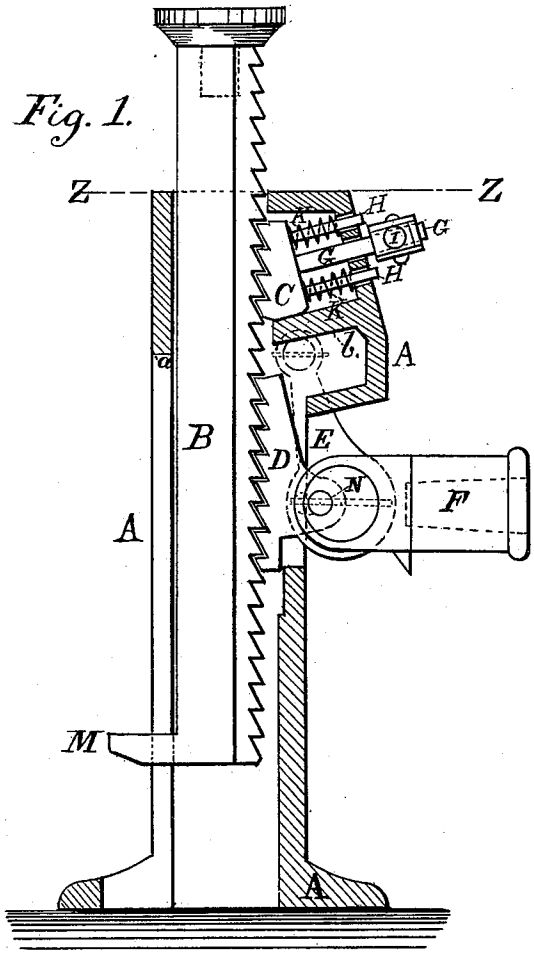


Fig. 2.

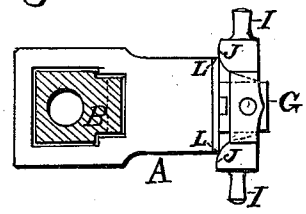
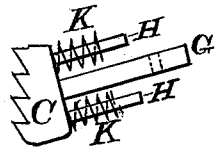


Fig. 3.



Witnesses.

William F. Forbes.

William F. Winchell

Inventor.

Frederick Thomas

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERICK THOMAS, OF AURORA, ILLINOIS.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 599,026, dated February 15, 1898.

Application filed March 20, 1897. Serial No. 628,526. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK THOMAS, of Aurora, in the county of Kane and State of Illinois, have invented a new and Improved Lifting-Jack, of which the following is a specification.

In my drawings, Figure 1 represents a vertical central section of my improved lifting-jack; and Fig. 2 is a plan view of same, showing the head of lifting-jack on the line Z Z with double-handle lever I connected to handle G of upward-toothed dog or stop C. Fig. 3 is a detail view of upward-toothed dog C with handle G and round studs H H, over which spiral springs K K coil, are held in position, and operate on.

Letters of reference indicate corresponding parts.

My invention relates to an improved and safe lifting-jack whereby the operator cannot meet with accident by the slipping or falling out of place of the lifting-bar, my lifting-jack to be made of malleable iron or other metal.

The invention consists of a hollow standard that guides a tubular or solid toothed lifting-bar, into which the toothed and lever-acting block enters that raises the lifting-bar to support the same on a toothed dog or stop at any height. The actuating-lever is made in one piece, with round beaded stock or shank cast with taper hole to admit long taper-turned hard-wood lever when extra power is required for operating jack. The lever has trunnions on each side, over which side plates or links are placed. The upper end of links hang on pivots cast on head of standard and oscillate on them. The actuating-lever is fulcrumed to lower end of side links and oscillates in them. The trunnions on actuating-lever act as cams, the hole through them being placed to one side of trunnion for shaft to pass through to support and oscillate the toothed lifting-block. When actuating-lever is raised, these cam-trunnions release the toothed raising-block. When lever is lowered, the block goes forward, meshing into lifting-bar and raising it as lever is oscillated.

In the drawings, A represents the hollow supporting standard or frame, made in one casting to guide the interior sliding lifting-bar B. The lifting-bar can be made hollow or solid, as required. The lifting-bar B is square, recessed on either side of its toothed rack, and passes upward in standard A until its projecting foot or flange M stops at *a*. The standard A is cast with pivots on either side of head, on which hang the side plates or links E, one of which is shown, and which oscillate on these pivots. The actuating-lever F is hung in lower end of side plates and oscillates in them.

The raising-block D is fulcrumed in the actuating-lever F at N. The shaft N being to one side in the actuating-lever causes an upward forward and downward back motion of the lifting-block D when the actuating-lever F is oscillated. The oscillating or rocking links E admit the ready entrance of the block D into the teeth of the lifting-bar B for raising the same or the withdrawal of the same when it is desired to lower the lifting-bar. The lifting-block D has enough play in the surrounding casing of the standard that its teeth may clear the teeth of the bar B. For this purpose the casing of the standard A is provided above the lifting-block D with an inclined plate *b*, up to which the block D may be raised, while its downward motion is defined by a recess and shoulder in the lower part of standard A. The toothed dog C is placed sidewise on the inclined plate *b* in the upper part of the standard and forced by combined spiral springs K K on guide-studs H H into the teeth of the lifting-bar B until released by being withdrawn on taking hold of either handle of the double-handle lever I, attached to handle G of the same, that projects through a slot in the standard. The guide-studs H H, around which the spiral springs K K coil, pass through oblong holes in the standard A and serve to keep these springs in form and position. These springs being spiral rarely break and form a perfect cushion for the dog C to operate against.

The pushing up of the bar by the lifting-block by means of the actuating-lever and oscillating plates or links and the instant support of the bar by the dog C, operated by spiral springs K K, produces an effective, safe, and quickly-operated lifting-jack. For the purpose of lowering the lifting-bar B the double-handle lever I, attached to handle G of dog C, with cams at J J, which press on corners of standard A at points L L, will be

found very efficient. By pulling either handle of lever I the dog C is instantly released from lifting-bar, allowing it to drop or fall any desired distance.

Having thus described my invention, I claim—

In a lifting-jack, the combination of a standard, a toothed lifting-bar, and means for operating the same, a dog adapted to engage the teeth of said lifting-bar, studs extending from the dog and engaging the standard, springs encircling said studs, a handle secured to said dog and extending through the standard, and a lever centrally pivoted to said handle and provided with cam-faces near each end for engaging the standard, whereby the dog may be withdrawn from engagement with the lifting-bar, substantially as described.

FREDERICK THOMAS.

Witnesses:

WILLIAM F. FORBES,

WILLIAM T. WINCHELL.