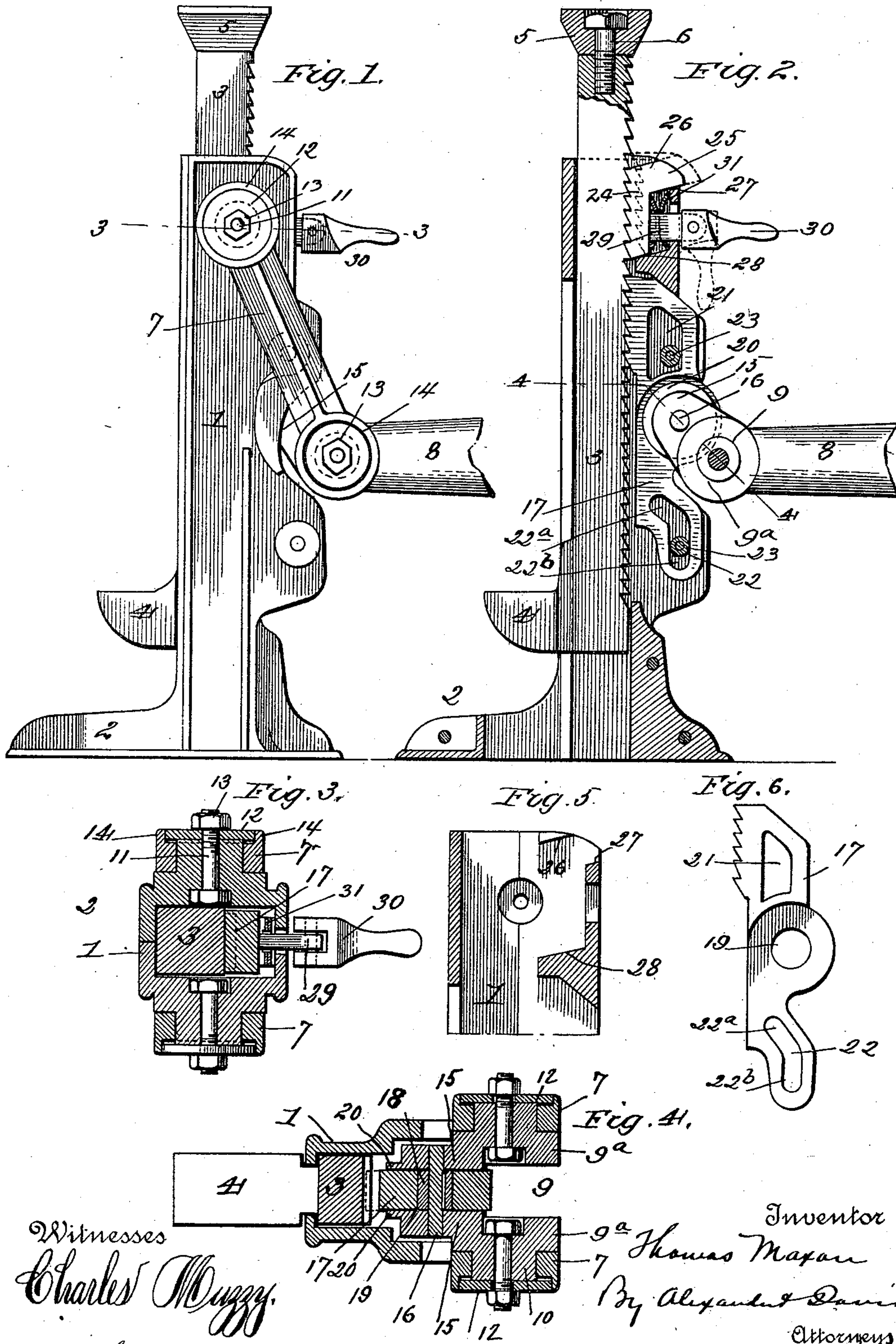


(No Model.)

T. MAXON.
LIFTING JACK.

No. 525,223.

Patented Aug. 28, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS MAXON, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO GEORGE AUGUST MILLER, OF SAME PLACE.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 525,223, dated August 28, 1894.

Application filed May 23, 1894. Serial No. 512,222. (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 drawings.

My invention relates to a new and improved lifting jack, and it has for its object to provide a simple and easily operated jack.

The invention consists in certain novel features of construction which are hereinafter fully described and particularly set forth in the claims appended.

In the drawings:—Figure 1 is a side elevation; Fig. 2 a vertical sectional view; Fig. 3 a sectional view taken on line 3—3 of Fig. 1; Fig. 4 a sectional view taken on line 4—4 of Fig. 2; and Figs. 5 and 6 detail views.

Referring to the various parts by numerals, 1 designates the hollow post of the lifting jack; 2 the base thereof, said base extending forwardly a sufficient distance to prevent the jack tipping forward when a load is raised on the toe of the lifting-bar; 3 the lifting bar, which operates within the post 1, and provided on its rear side with the usual ratchet-teeth and on its lower end with the usual lifting toe 4; 5 the head of the lifting-bar; 6 a bolt provided with a square head which is counter-sunk in a square hole in the head 5, its threaded portion entering the bar 3 and securing the head 5 to said bar; 7—7 links or swings pivoted at their upper ends on bearings formed at the upper end of the post 1, on opposite sides thereof; 8 the operating handle formed with bearings on which the lower ends of the links or swings 7 are journaled, said links supporting the handle in its operative position.

The bearings for the swings formed on the post 1 and on the inner bifurcated end 9 of the handle, each consists of a trunnion 10 which is bored out, as shown, for the passage of the bolts 11. The inner sides of the arms 9^a formed by bifurcating the inner end of the handle, and the inner sides of the hollow post, are recessed to receive the heads of the bolts 11, as shown in Figs. 3 and 4. The ends of the swings are provided with circular openings within which the trunnions 10 fit, the

outer ends of said trunnions projecting slightly beyond the outer face of the swings, as shown, in order that washers 12 may be clamped down on the trunnions by means of the nuts 13 on bolts 11, without in the least effecting the free operation of the swings. These washers are of a greater diameter than the trunnions and cover the joint between the trunnions and the swings and prevent any dust or foreign substance getting on the trunnions and also materially aid in keeping the oil on the bearings. The swings are provided with the annular flanges 14 which fit closely around the washers 12 as shown in Figs. 3 and 4 and together with said washers make a dust-proof bearing.

From the swing bearings on the bifurcated end of the handle, arms 15 extend inwardly and slightly upwardly and at their inner ends said arms are perforated for the passage of the pin 16. The pawl is provided with an enlarged opening 19 through which the pin 16 passes, and on this pin is keyed an enlarged cylindrical bearing-block 18 which fits within the opening 19, as shown in Fig. 4. The arms 15 are formed with the flanges 20 which entirely cover the opening in the pawl 17 and prevent dust and other foreign substance from entering the bearing. The pawl 17 is pivoted on the pin 16 at about its center and the upper part of that portion of the pawl above the pin is provided with ratchet-teeth which engage the teeth on the bar 3. Slots 21 and 22 are formed in the pawl 17, the slot 21 being above the pivot pin and the slot 22 being below said pin, and through these slots pass stationary pins 23 which pins are mounted in the post 2. The slot 21 is formed with substantially vertical walls and is large enough to permit the free vertical and lateral movement of the upper part of the pawl. The lower slot 22 is formed of the narrow vertical part 22^b and from the upper part of said vertical part extends the upwardly and inwardly inclined part 22^a. As the pawl 17 is raised and lowered by the handle 8, the upper toothed part of the pawl 17 is thrown into and out of engagement with the lifting bar by the slot 22 in co-operation with the swings 7 on which the handle is hung. As the pawl is lowered the inclined slot 22^a passes down over the pin and the upper part of the pawl is thrown out

from the teeth of the bar 3, and when it is raised the upper part of the pawl is thrown into engagement with the teeth by means of the vertical part 22^b of the slot, as shown in Fig. 2.

To hold the lifting bar elevated while the lifting pawl is lowered I have provided a spring actuated pawl 24 mounted in the upper end of the post 1 and provided with suitable teeth, as shown, said pawl having at its upper end the upwardly and outwardly inclined part 25 which extends out through an opening in the post. This inclined part is guided in its movements by the inclined shoulders 26—27 formed in the post, shown in Fig. 5. The lower end of this pawl is also inclined and is guided by an inclined shoulder 28 formed in the post. It will be seen that by the use of the inclined part 25 and the shoulders 26—27 and 28, the pawl 25 will be accurately and positively guided into place.

Projecting rearwardly from the pawl and through an opening in the post is an arm 29 on the outer end of which is pivoted an eccentric 30, whose eccentric face bears on the rear side of the post 1 in operation. By throwing this lever down, as shown in dotted lines, the pawl will be withdrawn from the lifting bar and held out of engagement therewith until the lever is thrown up into position again. Springs 31 operate to keep the pawl pressed into engagement with the teeth of the lifting bar 3 when released by the eccentric. It will thus be seen that I provide a jack whose operating parts and their bearings are protected, from dust and other foreign substances, which insures the free operation of the parts and materially lengthens the life of the jack. It will also be seen that by securing the head to the lifting-bar in the manner described it will not work loose accidentally, as the whole head must be revolved in order

to loosen the screw which secures it in position. The bolts not only securely clamp the swings in position, but materially strengthen the bearings.

Having thus fully described my invention, what I claim is—

1. A lifting jack comprising a post, a lifting-bar therein, an operative handle a lifting-pawl operating said bar and carried by the operating handle, swings or links mounted on bearings formed on the post and on the operating handle and supporting the handle in its operative position, said bearings consisting of the trunnions 10, the links being provided with openings in which said trunnions fit, the flanges 14 formed on the links, the washers 12 fitting closely within said flanges and bearing on the trunnions, said washers being of a larger diameter than the trunnions and the bolts 11 clamping said washers in place and strengthening the bearing, substantially as described and for the purpose set forth.

2. A lifting jack comprising a post, a lifting bar therein, means for raising said bar, a spring pawl for holding the bar in its raised position, said pawl being provided with the inclined part 25 and the inclined lower edge, shoulders formed on the post against which the inclined parts of the pawl work, an arm projecting from said pawl, an eccentric pivoted on said arm and bearing against the outer side of the post and operating to withdraw the pawl and to lock it in its withdrawn position, and a spring to return the pawl to its operative position, substantially as described and for the purpose set forth.

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

THOMAS MAXON.

Witnesses:

GEO. W. FRANK,
JOHN L. H. FRANK.