(No Model.)

T. MAXON.

LIFTING JACK.

No. 306,341. Patented Oct. 7, 1884.

Fig. 1.

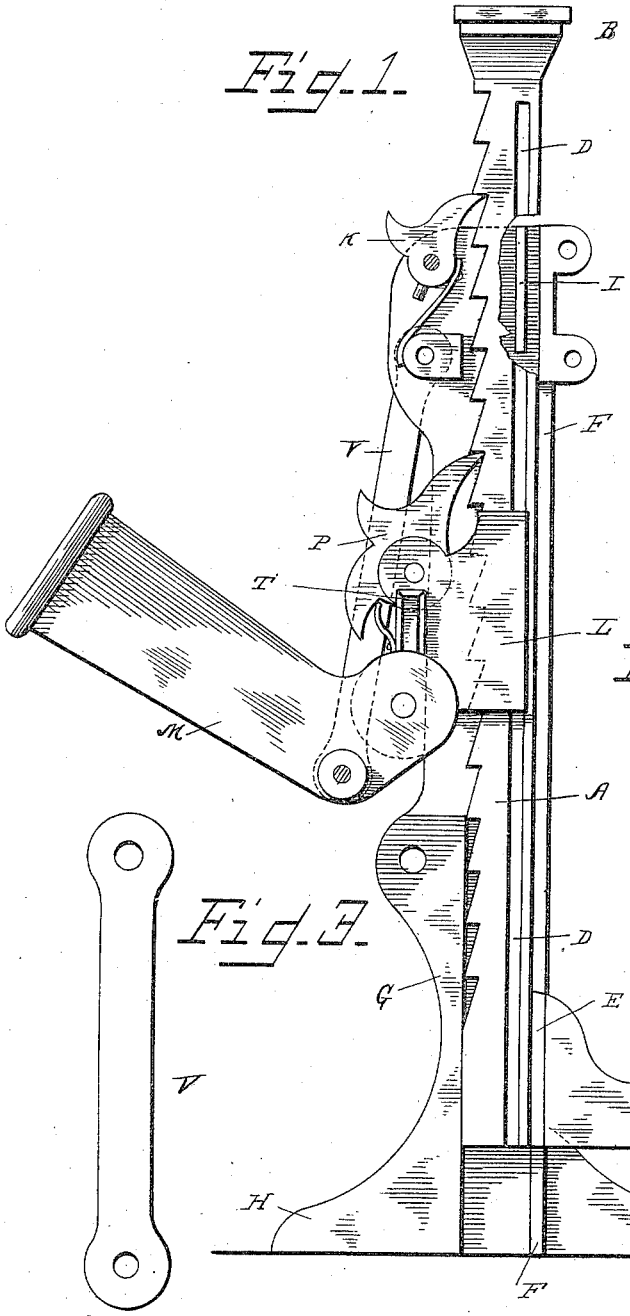

Fig. 2.

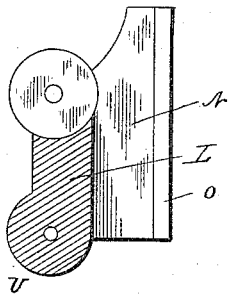

Fig. 4.

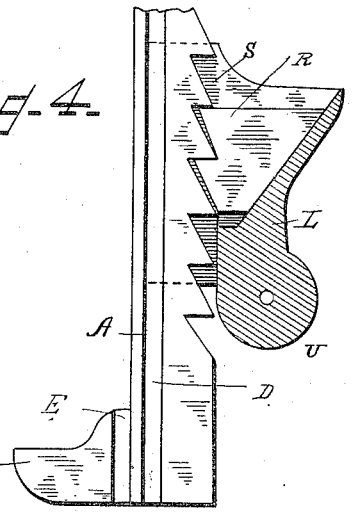

Fig. 3.

WITNESSES

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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. 306,341, dated October 7, 1884.

Application filed July 9, 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 drawings.

My invention relates to certain improvements in lifting-jacks, and is designed to produce a strong, durable, and efficient device for raising objects of greater or less weight through a limited distance.

The improvements consist, essentially, in the clutch embracing the ratchet-bar, and the peculiar arrangement and combination of the various parts.

In describing the device, reference will be had to the annexed drawings representing the jack, and in which—

Figure 1 is a side elevation with one-half the frame removed; Fig. 2, a detail of the clutch; Fig. 3, a detail of one of the handle-supporting links, and Fig. 4 a modification of the clutch.

A designates a rack-bar having teeth on one side, and provided with a head, B, and a projecting foot, C. On each side of the bar is a longitudinal groove, D, and parallel with it is one E at the butt of the projecting foot. The grooves E guide the bar in the frame G by means of the tongue F, cast thereon. This frame is constructed of two parts or halves, and has a base, H, for supporting it. The two parts are secured together by bolts, and when so secured are arranged to allow the vertical passage of the projecting foot. On each part near the top is a tongue, I, which engages in the grooves D on the bar and aids in guiding it. The upper end of the frame also contains a pivoted spring-actuated retaining-pawl, K. A clutch, L, operates in the lower part of the frame, and is pivotally supported at its lower end by the handle-socket M. The clutch has wings N passing on each side of the ratchet-bar, and the ends of the said wings have tongues O on them adapted to engage in the longitudinal groove in the said bar.

In Fig. 1 the clutch is slotted on its side, and carries pivoted therein a spring-actuated pawl, P, similar to the one K.

In Fig. 4 a gravity-pawl, R, is used having one side inclined, as shown, and the other with notches to fit in and engage with the teeth on the rack-bar. The clutch is continued outward, forming an inclined casing, S, to contain the pawl R, so that as it is moved downward the said pawl will move outward and disengage from the rack-bar, and when it is moved upward the pawl will engage with and lift the bar. On each side of the clutch is raised a lug, T, which assists in guiding the said clutch and prevents cramping the same. The handle-socket M has one end straddling the projection U on the clutch, and is there pivoted, and is supported by links V, pivoted to the upper portion of the frame, thereby allowing the said handle to have a certain "swing" necessary for it to accommodate itself to the clutch, which has a vertical movement only. The sides of the clutch bear against the inner sides of the casing. As the handle is operated to elevate the bar the pawl engages in the teeth on the bar, while the tongues on the wings or sides of the clutch clamp against the sides of the grooves in the bar. The pawl acting as a fulcrum, the pressure on the handle accomplishes this object, and thereby the strain is not brought directly on one point, but is distributed to several points of contact, thus reducing the danger of rupturing any of the parts, and increasing the durability of the entire device.

Having described the device, what I claim is—

1. In a lifting-jack, a clutch pivoted to a handle and carrying a pawl, the said clutch embracing the lifting-bar of the jack, so as to move in about a vertical direction.

2. In a lifting-jack, a clutch pivoted to a handle and carrying a pawl, the said clutch having its sides or wings embracing the rack-bar of the jack provided with tongues adapted to travel in a longitudinal groove on each side of the said bar.

3. A handle-socket pivoted at one end to a movable clutch containing an elevating-pawl, the said socket being hung on swinging links to give it proper lateral motion.

4. A rack-bar provided with a head and projecting foot, and having a longitudinal groove through nearly its entire length on each

side, and a parallel groove on each side of the foot.

5. A divided casing provided with a broad base, and having a tongue near the top of each piece, and one at the side thereof, in combination with a rack-bar having in it grooves in which the tongues fit.

6. In a lifting-jack, a divided casing provided with guiding-tongues, a rack-bar provided with grooves in which the said tongues fit, a clutch carrying a pawl and embracing the bar, and having tongues to fit in one of the grooves thereon, a handle-socket pivoted at one end to the lower portion of the clutch and hung on swinging links pivoted to the casing, and a retaining-pawl pivoted near the top of the casing, the parts operating as specified.

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

THOMAS MAXON.

Witnesses:
WEBSTER W. SHUEY,
CHARLES DAVIS.