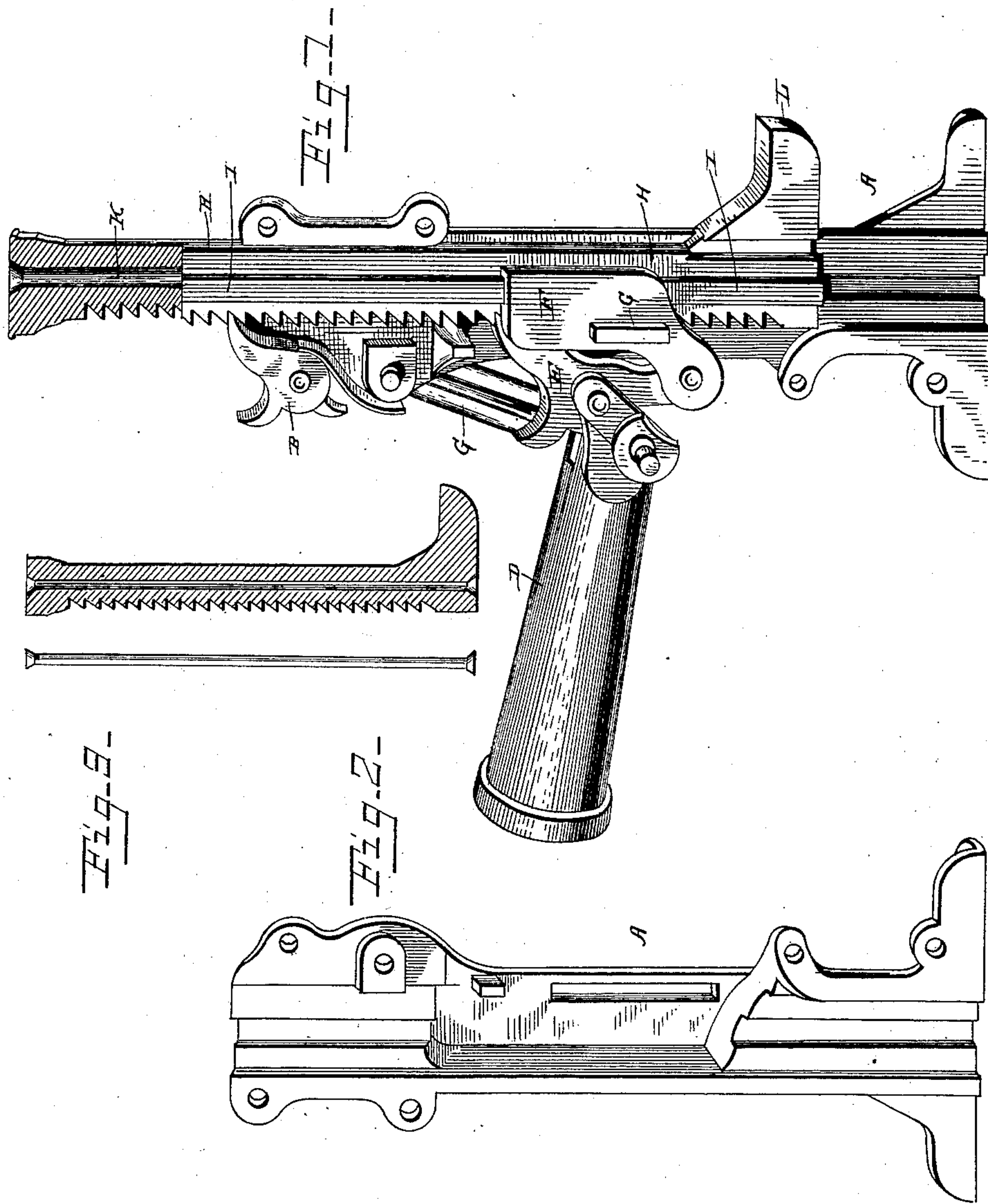


(No Model.)

T. MAXON.  
LIFTING JACK.

No. 333,878.

Patented Jan. 5, 1886.



WITNESSES

Edwin L. Yewell.  
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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. 333,878, dated January 5, 1886.

Application filed June 15, 1885. Serial No. 168,750. (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 improvements in lifting-jacks, and is designed to produce a jack for heavy or light work, the cost of manufacture of which shall be comparatively slight, while the efficiency is increased rather than diminished thereby.

In describing the device reference is had to the annexed drawings, in which Figure 1 represents a perspective of the jack with one side of the casing and the top of the lift-bar in section; Fig. 2, the remove side of the casing in perspective, and Fig. 3 a vertical section of the lift-bar with the core removed and shown to one side.

Heretofore the lift-bars of jacks of the character shown have been formed by milling, as by casting the tensile strength would be sacrificed to too great a degree, malleable or wrought iron being the material used. The cost of steel is such that its use is practically out of the question in a jack adapted to such miscellaneous work as the one illustrated—that is, the formation of the parts requiring great strength entirely out of steel. The jack being adapted for both heavy and light work must be of such cost as to be within reach of those using it for light work only, and still be made of material strong enough to stand the strain of heavy work. To illustrate, two of the jacks, as shown, when properly applied are sufficient to lift the heaviest locomotive, while they are equally adaptable as wagon-jacks; hence some means must be sought whereby the cost of production, as compared with the strength, must be reduced to a minimum. This desideratum is accomplished in the device illustrated, it being constructed as follows:

The standard A is formed of two parts, secured together preferably by bolts. Near or at the top thereof is pivoted the spring-actuated pawl B. Hung from the standard A, by

means of pivoted links C, is the lever D, the shorter end projecting at an angle to the other, which is formed into a handle-socket. To the end of the shorter arm is pivotally secured a pawl or dog, E, having one end provided with one or more teeth and the other continued downward from the pivotal point, and pivotally there connected to the clutch F. This clutch is provided on the outer side with lugs G, which serve as guides when the device is incased in the standard and on the inner side with grooves. The toothed lift-bar H is provided with longitudinal tongues I, which rest within the grooves in the clutch. This arrangement of the clutch and bar has the advantage over a grooved bar and tongued clutch, in that it prevents friction and obviates the danger of slipping of the lift-bar, and hence renders the jack perfectly safe in operation, a performance not accomplished by the said grooved bar and tongued clutch. It is to be understood that the pawl or dog E plays an important part in the operation of the bar and clutch.

The formation of the bar H is one of the main elements of the invention, as it very materially reduces the cost of production of the jack. To obtain the required strength for heavy lifting, if made solid it would be necessary to mill it out of a bar of iron or steel. To obviate the cost of milling, and to reduce the expense of production fully as much as eight or more to one, the said bar is made by casting it of malleable iron with an internal longitudinal passage through it. Within this passage is placed an iron or steel rod, K, which may be cheaply made of great tensile strength by processes well known in metal working. This rod is secured at both ends by riveting or other modes of fastening. The bar is provided with the usual foot, L. Thus while the cast bar is not sufficiently strong for the purpose the rod adds sufficient strength thereto to bring it to the required standard, while the said cost is at a minimum.

The main points of novelty in the jack are the lift-bar and the clutch, both substantially as formed.

I claim—

1. A lifting-jack having a hollow lift-bar

provided with an internal longitudinal core secured therein, substantially as and for the purpose specified.

2. A lifting-jack having a hollow lift-bar 5 of malleable iron provided with a longitudinal core, consisting of a rod or bar of steel, substantially as and for the purpose specified.

3. A lifting-jack having a hollow lift-bar 10 provided with an internal longitudinal core secured therein, and having externally longitudinal tongues and a clutch with grooves in which the tongues rest, said clutch carrying a pawl, substantially as and for the purpose specified.

4. A lifting-jack having a hollow malleable 15 iron lift-bar provided with an internal core consisting of a steel rod or bar secured therein, and also provided externally with longitudinal tongues, a clutch with grooves in which the tongues rest, and a pawl carried by 20 said clutch and engaging with said bar, substantially as and for the purpose specified.

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

THOMAS MAXON.

Witnesses:

W. K. CULLATON,  
WEBSTER W. SHUEY.