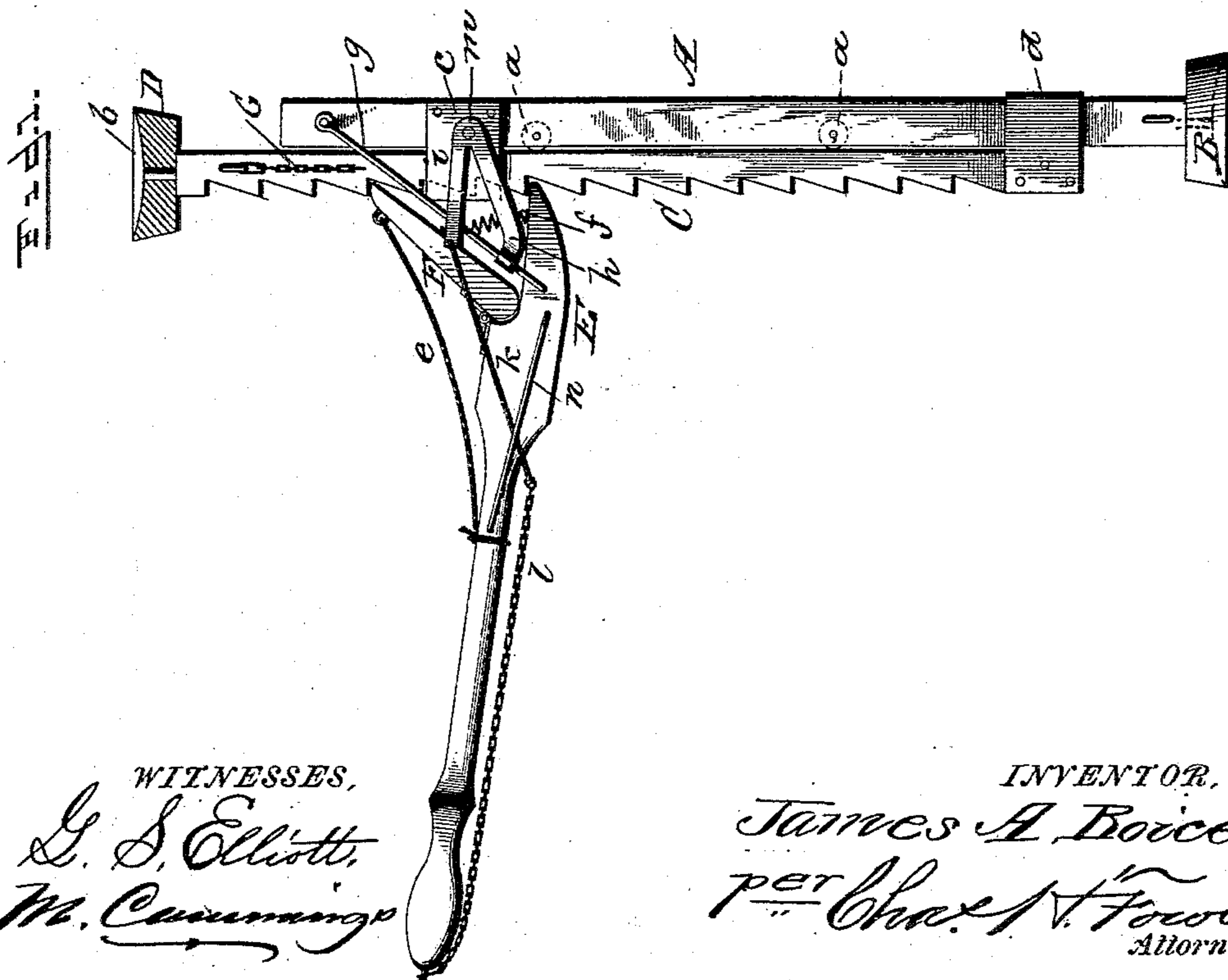
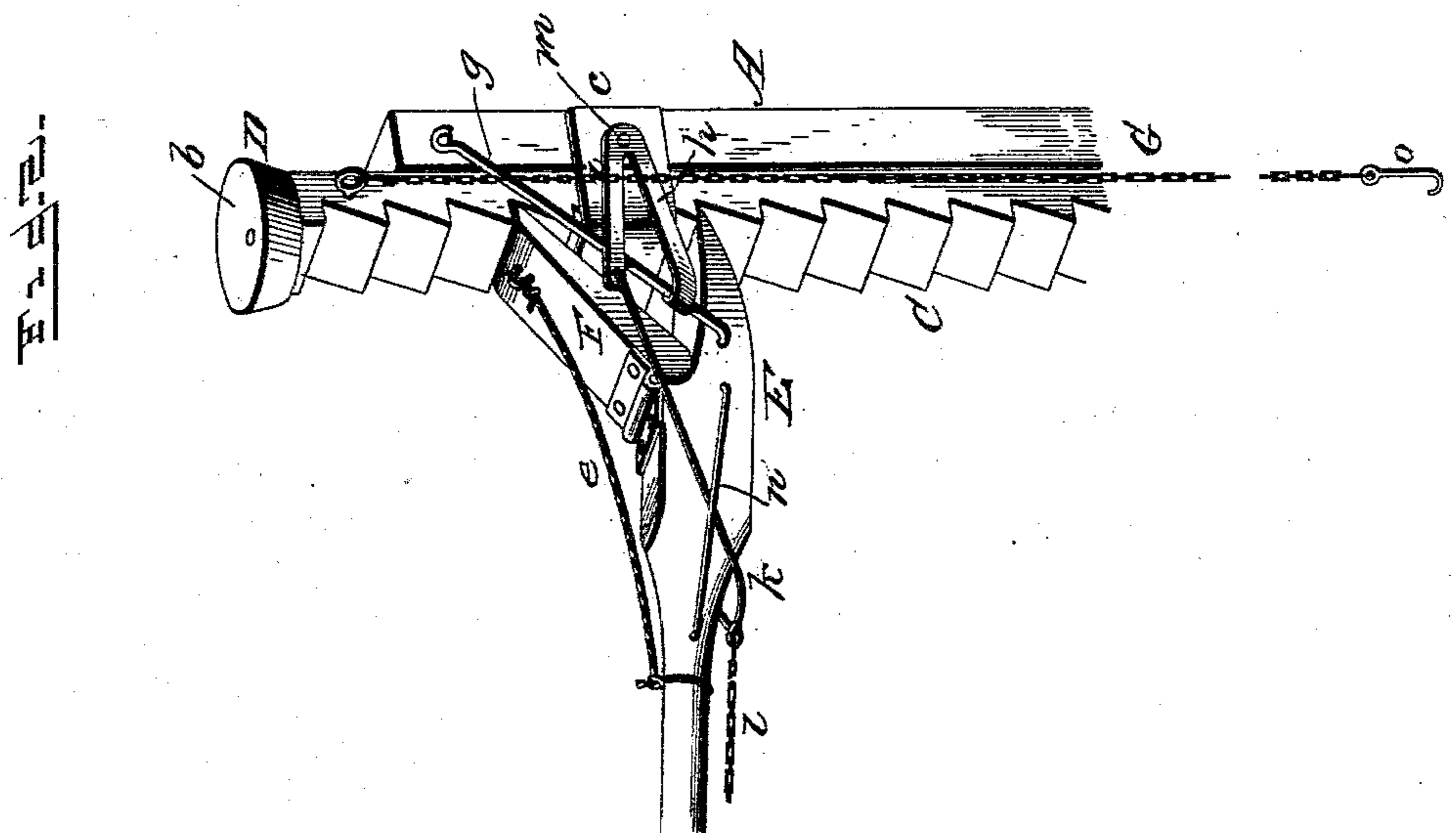


(No Model.)

**J. A. BOICE.**  
**LIFTING JACK.**

No. 401,119.

Patented Apr. 9, 1889.



WITNESSES,  
G. S. Elliott,  
Wm. Cummings

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Attorney.

# UNITED STATES PATENT OFFICE.

JAMES ASBERY BOICE, OF NEVADA, MISSOURI.

## LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 401,119, dated April 9, 1889.

Application filed December 29, 1888. Serial No. 294,944. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES ASBERY BOICE, a citizen of the United States, residing at Nevada, in the county of Vernon and State of Missouri, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of my improved lifting-jack; and Fig. 2, a perspective view thereof.

The present invention has for its object to provide a simple and effective jack that can be readily operated for lifting wagons or other vehicles to remove the wheels from the axle; also for raising cars, houses, and other like structures and heavy objects; and the invention consists in the several details of construction, substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A represents the standard, of wood or metal, as preferred, which is provided upon its inner face with friction-rollers *a*, and upon its lower end has a pivoted support, B. The rack-bar C, which may also be of metal or wood, as found most desirable, has upon its upper end a pivoted support, D. These supports B D are constructed alike, with a concave bearing-surface, as shown at *b* on support D, and in dotted lines on support B, so that there will not be as great a frictional surface presented to the object being supported or a bearing-surface at the lower end of the standard A. The standard A near its upper end has a yoke, *c*, rigidly connected thereto and which embraces the rack-bar C, and at the lower end of said rack-bar is attached a similar yoke, *d*, to embrace the standard A, as shown, the yokes acting as guides when the rack-bar is moved up and down.

Engaging with the teeth of the rack-bar C is a hand-lever, E, said lever being provided with a hinged pawl, F, having a chain or cord, *e*, connected thereto for the purpose of disengaging the pawl from the rack-bar, when

the latter is to be lowered, by pulling the pawl back from under the teeth of the rack-bar. The pawl F is retained in engagement with the teeth of the rack-bar by a spring, *f*, of any of the usual forms, which is disposed between the pawl and end of the lever, as shown in Fig. 1. The lever E is connected to the standard A by means of rods *g*, which pass through arms *h* and loosely work therein, and the arms *i*, which join the arms *h*, have rods *k* connected thereto, and to the rods are attached one end of suitable chains, *l*, which are of a length to extend to the end of the handle of the lever E. The arms *h i*, as will be noticed, are constructed from one and the same piece of metal, or, if preferred, can be made separately and afterward rigidly connected together, and at their point of juncture are pivoted at *m* to the yoke *c*.

The rods *k*, if preferred, may be constructed from a single length of wire bent as shown in Fig. 2, and the rods *k* in either case pass through guides *n* secured to the sides of the lever E.

Chains G of suitable length and strength may be connected to one or both sides of the rack-bar C and provided with suitable hooks, *o*, for the purpose of raising heavy objects by engaging the hooks therewith under the object, said chains being detachable when not required for use. The rods *g* serve to hold the lever E in place and retain the operating parts in gear, and by means of the pivoted arms *h i*, rod *k*, and chain *l*, enables the lever to be brought out of engagement with the rack-bar.

The pawl F may be connected to the lever in any well-known manner, as I wish it understood that I do not desire to confine myself to hinging it, as previously described, and various modifications or changes may be made in the construction of the device as would come within ordinary mechanical skill or judgment without departing from the principle of my invention.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lifting-jack, the combination, with the standard A, having guide-yoke *c* and pivoted support B, of the toothed rack-bar C,

having guide-yoke *d* and pivoted support D, and the lever E for operating the rack-bar C, substantially as and for the purpose set forth.

2. The standard A, rack-bar C, and lever E,  
5 with pawl F, in combination with the pivoted arms *h i*, rods *g k*, and the cords or chains *e l*, substantially as and for the purpose described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES ASBERY BOICE.

Witnesses:

S. H. CALLAWAY,  
GEO. DUREN.