

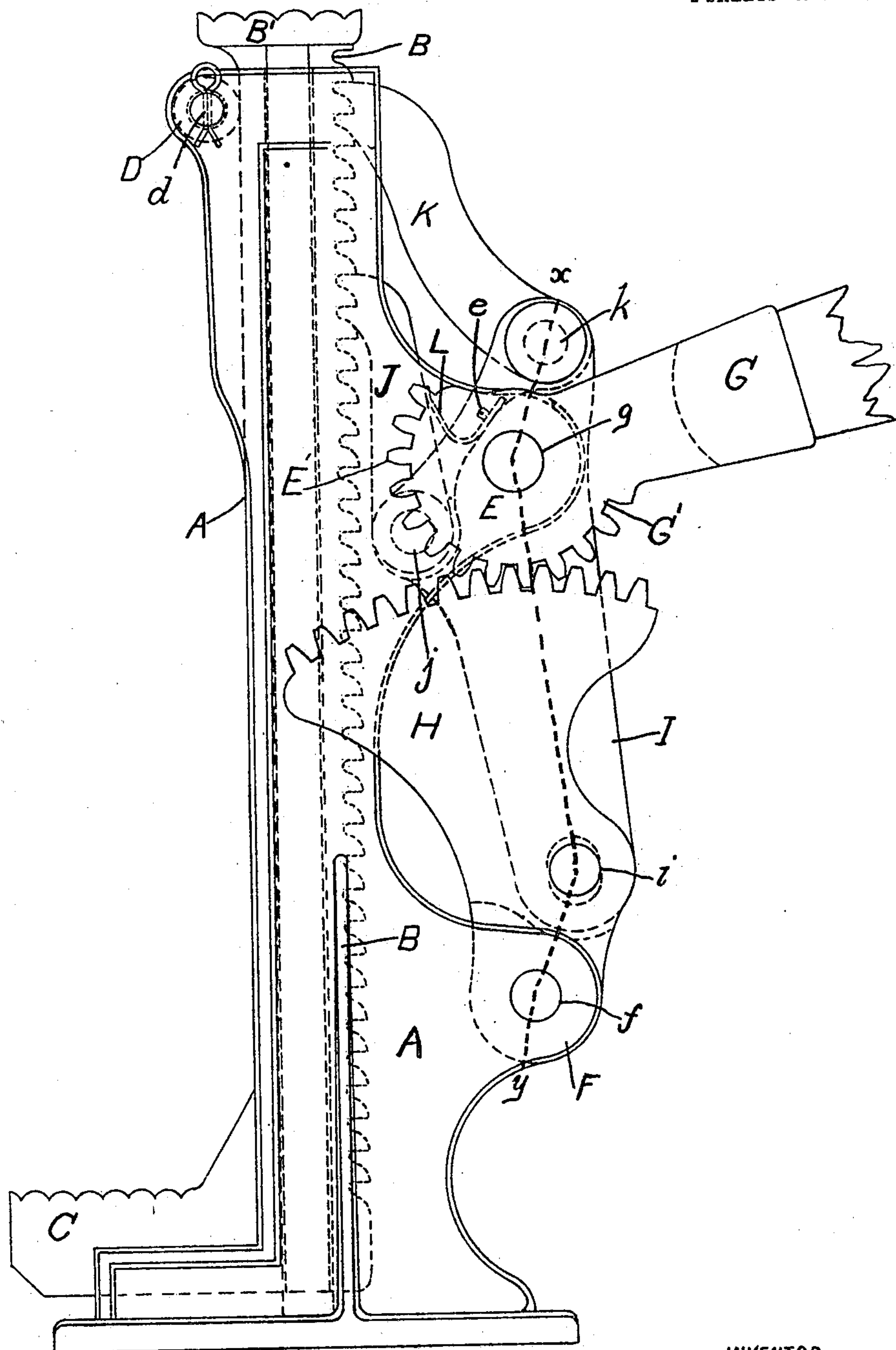
No. 819,825.

PATENTED MAY 8, 1906.

N. WEILER.
LIFTING JACK.

APPLICATION FILED SEPT. 9, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

Thor B. Chubb
J. Edwin Griffith

Fig. 1

INVENTOR

N. Weiler

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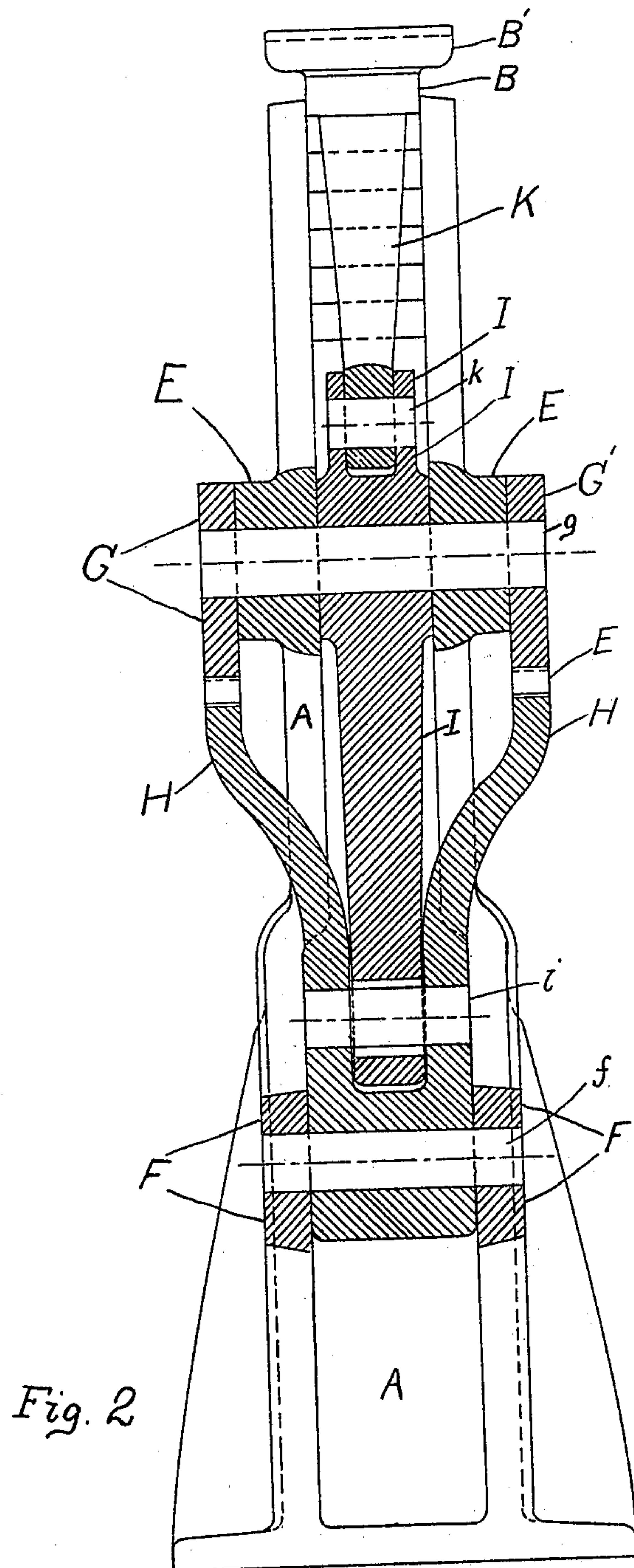
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Thor, B. Chubb
J. Edwin Griffiths

INVENTOR
N. Weiler
BY *H. C. Gardiner*

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UNITED STATES PATENT OFFICE.

NICHOLAS WEILER, OF SIOUX CITY, IOWA.

LIFTING-JACK.

No. 819,825.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed September 9, 1905. Serial No. 277,664.

To all whom it may concern:

Be it known that I, NICHOLAS WEILER, a citizen of the United States, residing at Sioux City, in the county of Woodbury and State of Iowa, have invented a new and useful Improvement in Lifting-Jacks; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part thereof.

The invention relates to means for raising heavy objects; and the object of the invention is the provision of an improved lifting-jack operated by means of reciprocating levers.

The invention consists in the novel application and combination of parts, some of which are new, part of which are old, as will be hereinafter pointed out in the claims.

Reference is had to the accompanying drawings, in which—

Figure 1 is a view of the invention in side elevation, some of the parts being shown by dotted lines. Fig. 2 is a sectional view on line *xy*, Fig. 1.

In the drawings, A is the hollow frame inclosing the vertical movable rack or bar B, which has the usual teeth on the operating side and the usual enlarged top B'. On the side opposite the teeth a foot C is attached to the lower end of the bar to be used in raising low objects. On the same side of the jack a roller D is mounted in the upper edge of the frame, supported between projecting sides thereof, a key *d* holding the roller in place. On the opposite side the frame has two rounded projections E and F, in the former of which a hand-lever G is fulcrumed on the pivot *g*, the inner end of the lever G' being forked and extending inward beyond the fulcrum and having cogs or teeth E' on the rounded surface adapted to mesh with the teeth of a forked segment of gear or lever H, which is fulcrumed on the pivot *f* in the rounded projection F. Each of the forks of the segment of gear is narrow at the fulcrum and broadens fan-shaped toward the teeth, which are upon a rounded surface to conform to the shape of the surface of the forked lever G'. Within the forks of the gear or lever H is fulcrumed on the axis *g* a triangular-shaped rock-lever I, the lower end being guided on a pin *i*, secured in the lower end of the gear and extending through a slot in the lever. The lower angle of the rock-lever is much longer than the others, the in-

ner angle, or the one opposite the hypotenuse, extending toward the teeth of the bar. Between the inner and upper angles the lever is recessed or cut out, the inner angle inclosing within the recessed part a pawl J, fulcrumed therein on the axis *j*, and in the upper angle is fulcrumed a pawl K on the axis *k*, both of the pawls engaging the teeth of the bar. The upper pawl being longer and fulcrumed farther from the bar engages the teeth of its own weight, while the lower pawl being fulcrumed nearer the bar is held to engage the teeth by a spring L, one end of which is secured to the lever I within the recessed part by the screw *e*, the other end being bent upward in the form of a bow and pressing against the pawl.

The operation of the jack will be readily understood. The pawls are pivoted to the rock-lever I in such manner that when a reciprocating motion is imparted to the hand-lever and communicated to the gear H by means of the cogs the pawls are alternately thrown inward and upward. Thus when the hand-lever is raised the gear H is forced outward, which throws the upper angle of the rock-lever inward, causing the upper pawl to engage the bar and releasing the lower pawl. When the hand-lever is lowered, the gear is forced toward the bar, which throws the inner angle of the rock-lever up, causing the lower pawl to engage the bar while releasing the upper pawl.

I am aware that it is not new to provide pawls pivoted to the angles of a triangular-shaped lever to which is imparted a reciprocating motion by a hand-lever; but I know of no jack in which the pawls are operated by the system of combined levers herein described.

Having described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with a hollow frame, and a vertical, movable toothed bar in said frame, of a hand-lever having a cogged sector fulcrumed to the frame, a segment of gear having cogs adapted to mesh therewith fulcrumed to the frame underneath the hand-lever, a pawl-bearing rock-lever fulcrumed to the frame and guided by said gear, pawls one above the other fulcrumed to said rock-lever and adapted to engage the teeth of said bar, whereby when the hand-lever is operated and a reciprocating motion imparted to said gear the pawls alternately engage said bar, and

means for holding said pawls in engagement, substantially as described.

2. The combination with a hollow frame, and a vertical, movable toothed bar in said
5 frame, of a hand-lever having forked cogged sectors fulcrumed to the frame, a forked segment of gear fulcrumed to the frame underneath the sectors and having cogs to mesh with the teeth of said sectors, a triangular-
10 shaped rock-lever fulcrumed with the forked sectors to the frame and guided within said forked segment of gear, pawls fulcrumed to the angles of said rock-lever one above the other and adapted to engage the teeth of said
15 bar, and means for holding said pawls in engagement with said bar, substantially as described.

3. The combination with a hollow frame having an upper and lower fulcrum, and a vertical toothed bar in said frame, of a hand- 20 lever pivoted to the upper fulcrum, a pawl-bearing lever fulcrumed with said hand-lever, pawls adapted to engage said bar pivoted to said pawl-bearing lever, and a second lever pivoted to the lower fulcrum and also to said 25 pawl-bearing lever, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

NICHOLAS WEILER.

Witnesses:

THOS. B. CHUBB,
H. C. GARDINER.