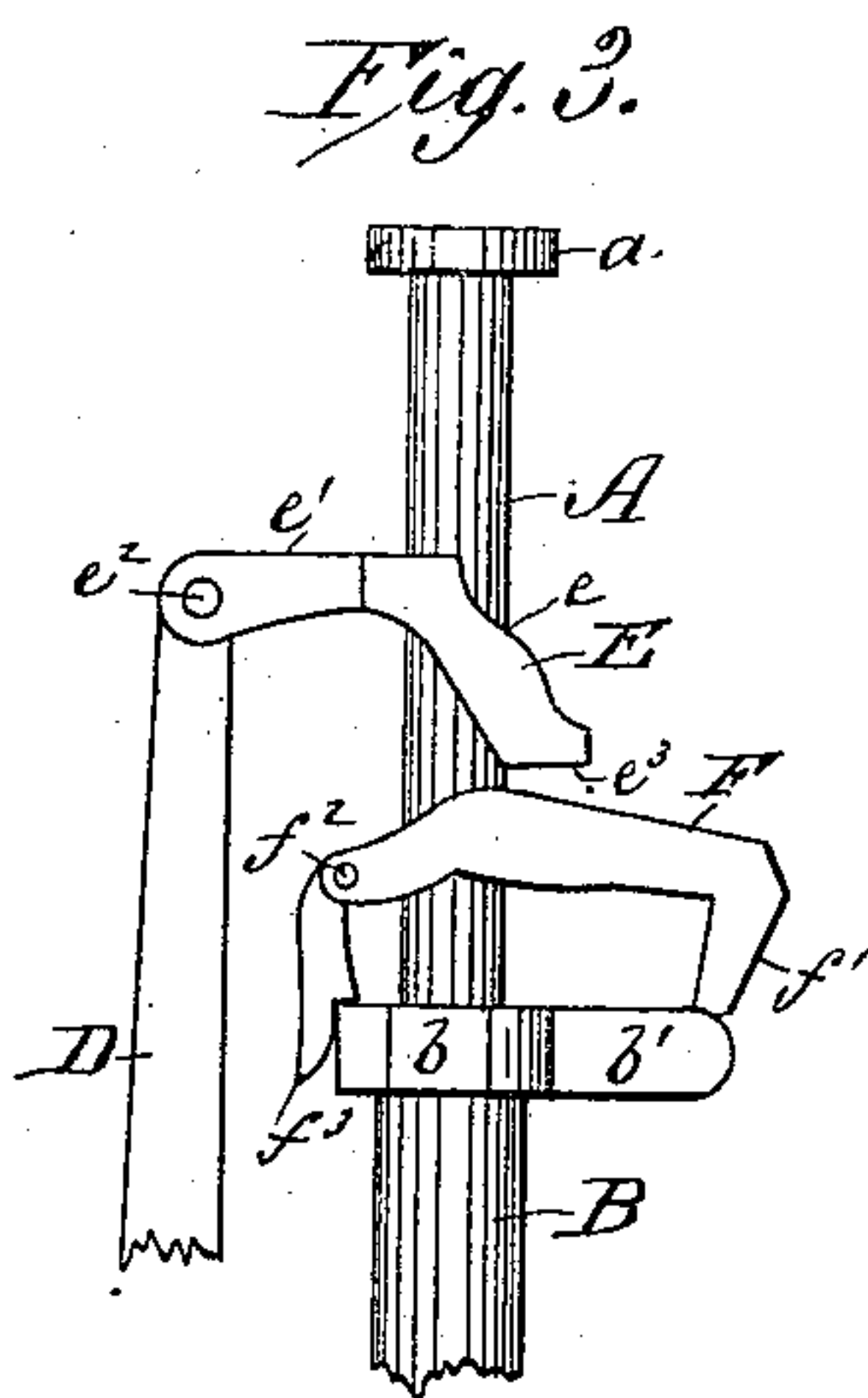
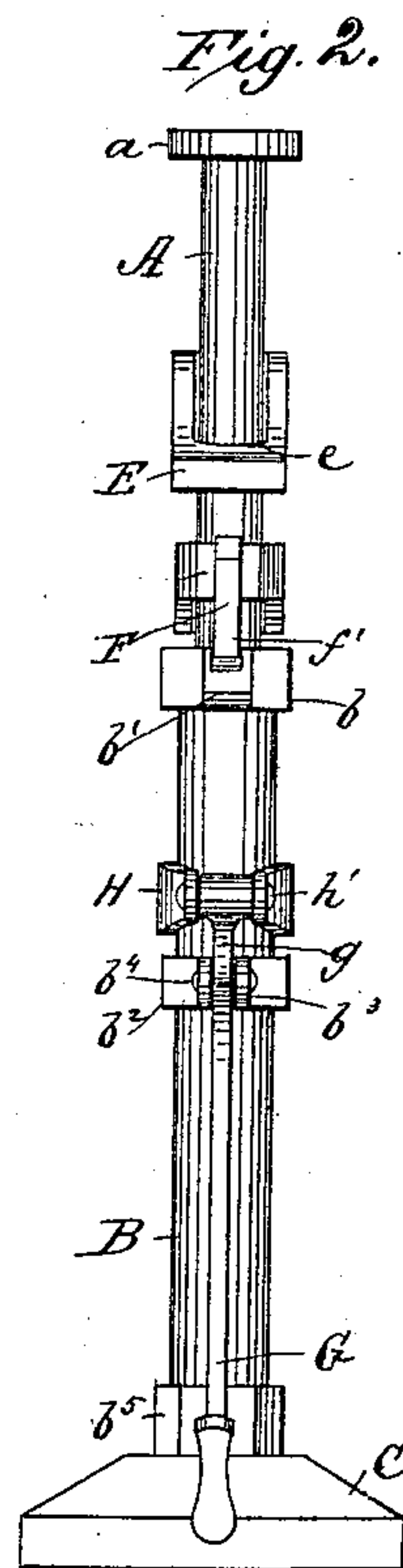
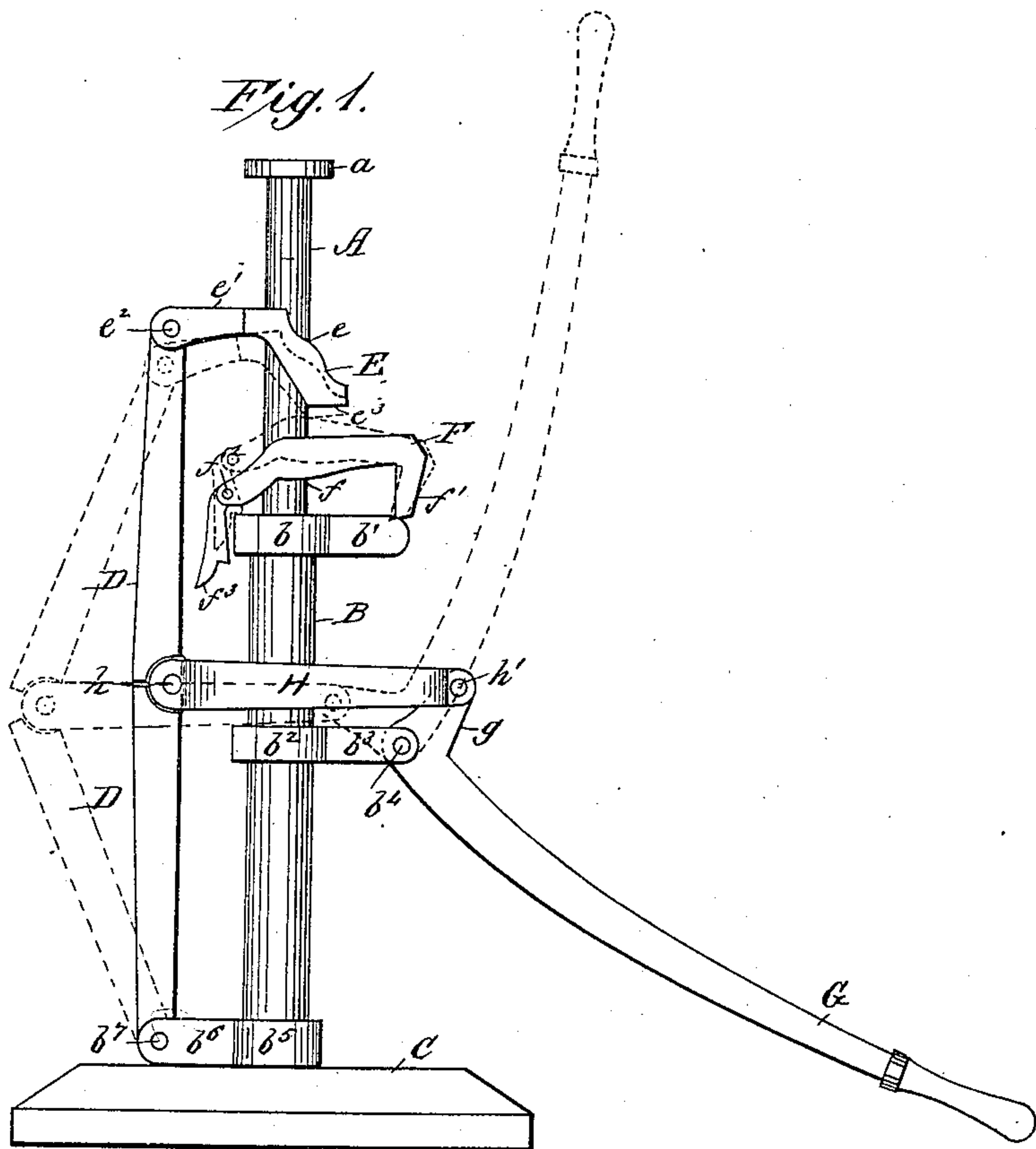


(No Model.)

E. NORDYKE.
LIFTING JACK.

No. 333,968.

Patented Jan. 5, 1886.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EMANUEL NORDYKE, OF HEPPNER, OREGON.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 333,968, dated January 5, 1886.

Application filed October 7, 1885. Serial No. 179,237. (No model.)

To all whom it may concern:

Be it known that I, EMANUEL NORDYKE, a citizen of the United States, residing at Heppner, in the county of Morrow and State of Oregon, have invented a new and useful Improvement in Lifting-Jacks, of which the following is a description.

This invention relates to lifting-jacks; and it consists in the detailed construction and combination of the parts hereinafter fully described and claimed, by which the center piston of the jack is raised during one stroke of the hand-lever, and is automatically held from falling back during the reverse movement of the said lever, and by which this self-sustaining clutch is thrown out of action and the center piston of the jack allowed to slide back when required.

In the drawings, Figure 1 is a side view of the jack, showing the center piston partly raised and the hand-lever depressed. The dotted lines show the position of the various parts when the said hand-lever is raised. Fig. 2 is an end view of the same on the side of the handle. Fig. 3 is a side view of the upper parts of the jack, showing the self-sustaining clutch thrown out of action.

Similar letters of reference indicate corresponding parts in all the figures.

A is the center piston of the jack, having a small flange, *a*, at the top of it, where it presses against the weight to be lifted.

B is the cylinder in which the piston A slides back and forth.

C is the stand to which the cylinder B is firmly secured.

D are toggle-levers for raising the center piston of the jack.

E is the clutch connecting the upper toggle-lever with the piston A of the jack.

F is the clutch for preventing the return of the center piston when the clutch E is disengaged from it.

G is the hand-lever provided with the bell-crank *g* at its lower end.

H are the links for connecting the bell-crank to the toggle-levers.

The cylinder B is provided with the collar *b* at the top of it, from which the arm *b'* projects. A second collar, *b²*, is secured about the middle of the cylinder, and is provided with the projecting arm *b³*, having a double

edge at its end, and the pin *b⁴*, upon which the hand-lever G is pivoted. The cylinder B is further provided with a third collar, *b⁵*, at its base, having the projecting arm *b⁶* and pin *b⁷*, upon which the bottom end of the lower toggle-lever is pivoted.

The clutch E is provided with a hole, *e*, through which the center piston, A, passes, and the edges of this hole bear upon the said piston in such manner as to grip it when the clutch is raised by the toggle-levers. *e'* is an arm projecting from the top of the clutch, and having a double eye at its end, and the pin *e²*, upon which the top end of the upper toggle-lever is pivoted. The lower part, *e³*, of the clutch E is made heavy, so that the edges of the hole *e* may grip the center piston without slipping.

The toggle-levers D are connected to the links H by means of the pin *h*, the other ends of the said links being connected to the bell-crank *g* by means of the pin *h'*.

The clutch F is provided with a hole, *f*, through which the center piston, A, passes. This hole is similar in form to that in the clutch E, and the edges of it bear upon the center piston, so that it cannot slip back when the clutch F is in the position shown in Fig. 1. A bent arm, *f'*, projects from the upper part of the clutch F and rests upon the projecting arm *b'* of the cylinder. A double eye is formed on the opposite and lower side of the clutch, and is provided with the pin *f²*, upon which the catch *f³* is pivoted.

The action of the jack is as follows: Each downstroke of the hand-lever causes the toggle-levers and their connections to move from the position shown by the dotted lines in Fig. 1 to the position shown by the full lines. This causes the center piston to be raised by the clutch E, which engages with it automatically while the toggle-levers are raising it up, but which disengages from it while the said toggle-levers are making their reverse movement. During this reverse movement the center piston is sustained by the clutch E, which comes into action automatically when in the position shown in Fig. 1. When desired to lower the center piston, the clutch F is tilted up until the catch *f³* rests upon the edge of the collar *b* at the top of the cylinder. In this position, as shown in Fig. 3, the clutch F can-

not engage with the center piston, and the said piston is therefore free to slide back into the cylinder directly the clutch E is disengaged from it, which occurs as soon as the lower 5 part, e^3 , of the said clutch comes against the upper part of clutch F while the toggle-levers are lowering the clutch E.

Having thus described my invention, what I claim as new, and desire to secure by Letters 10 Patent, is—

1. In a lifting-jack, the combination of the center piston, the toggle-levers, the clutch E, having hole e therein for engaging with the said piston, and the arm e' , connected to the 15 upper toggle-lever, the clutch F, having the hole f , engaging with the center piston, and provided with the arm f' , the cylinder having projecting arm b' , and a lever for working

the toggle-levers, substantially as and for the purpose set forth. 20

2. In a lifting-jack, the combination of the center piston, the toggle-levers, the clutch E, having hole e therein for engaging with the said piston, and the arm e' , connected to the upper toggle-lever, the clutch F, having the 25 hole f , engaging with the center piston, and provided with the arm f' , the catch f^3 , the cylinder having the collar b and projecting arm b' , and a lever for working the toggle-levers, substantially as and for the purpose set 30 forth.

EMANUEL NORDYKE.

Witnesses:

O. MINOR,

T. DODSON.