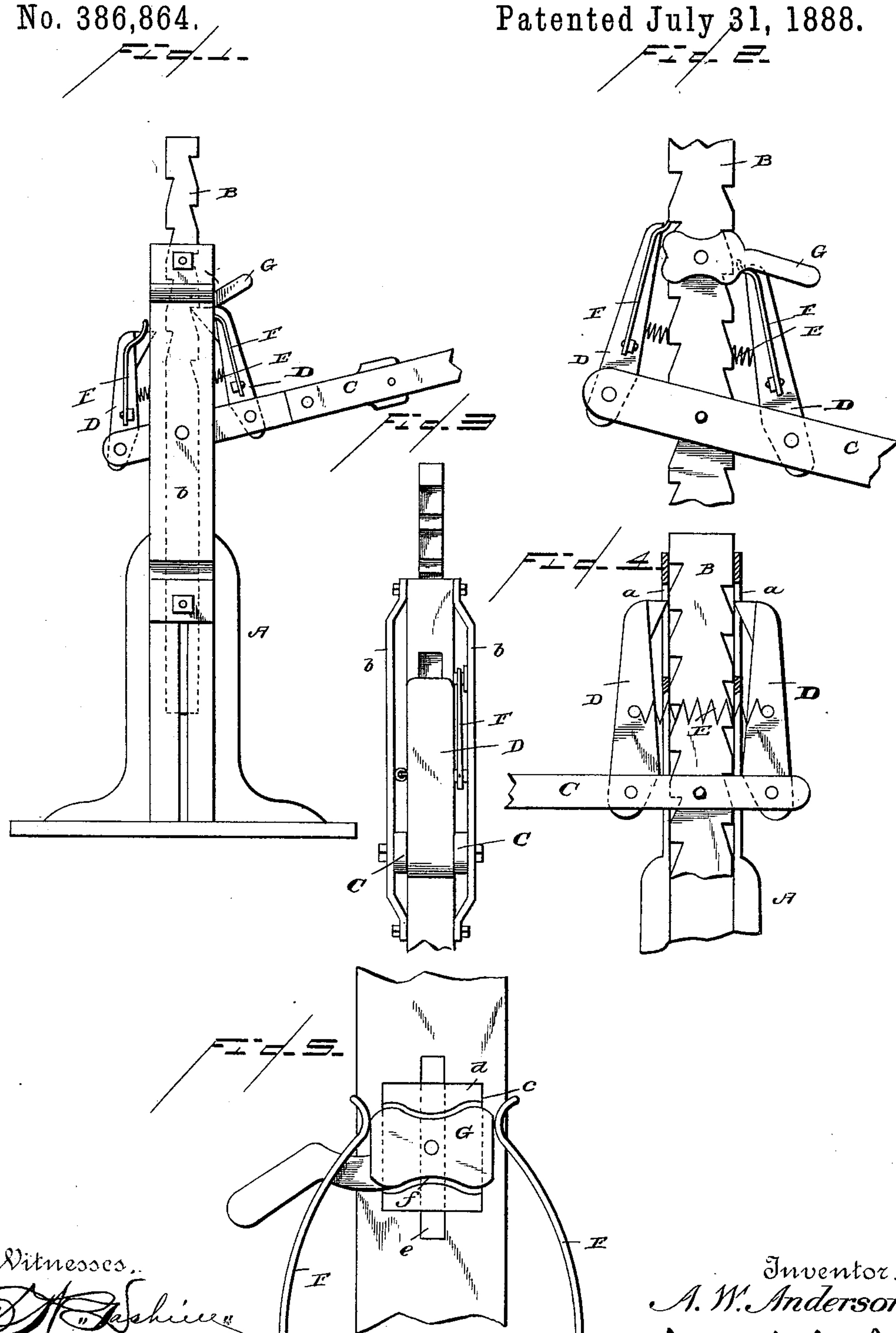
(No Model.)

A. W. ANDERSON.

LIFTING JACK.

No. 386,864. Patented July 31, 1888.



Witnesses.
S. W. Bashiell
H. Turpin.

Inventor.
A. W. Anderson.
By his Attorney James J. Sheehy.

UNITED STATES PATENT OFFICE.

ANDREW W. ANDERSON, OF GOODHUE, MINNESOTA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 386,864, dated July 31, 1888.

Application filed May 5, 1888. Serial No. 272,888. (No model.)

To all whom it may concern:

Be it known that I, ANDREW W. ANDERSON, a citizen of the United States, residing at Goodhue, in the county of Goodhue and State of Minnesota, have invented certain new and useful Improvements in Lifting-Jacks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention has relation to improvements in lifting-jacks; and it consists in the construction, novel arrangement, and adaptation of parts, as will be hereinafter fully set forth and claimed.

The invention will be fully understood from the following description and claim, when taken in connection with the annexed drawings, in which—

Figure 1 is a side elevation of a jack constructed according to my improvements, with the operating-lever partly broken away. Fig. 2 is an elevation in detail with the vertical standard or casing removed. Fig. 3 is an elevation taken in a plane at right angles to Fig. 2 with the casing in position. Fig. 4 is a view of the parts shown in Fig. 3, with the casing thereon and the same partly in section; and Fig. 5 is a detail view showing the cams for operating the dogs and the springs of the dogs in position.

Referring by letter to the said drawings, A indicates an upright case or standard, which is provided with a suitable base to firmly support the same during operation. This case or standard may be of a form such as at present employed in this class of devices, and is provided at opposite sides near its upper end with vertical slots *a* to allow the biting ends of the dogs to pass into the same and engage a rack-bar, as will be presently explained.

B indicates the rack-bar, which is vertically arranged within the casing and toothed on opposite sides, the teeth alternating with relation to each other and are directed outwardly and downwardly to receive the dogs. This rack-bar is designed to move freely within the casing and receive at its upper end the weight or load to be elevated.

C indicates the operating-lever, which is pivoted at a suitable point to the casing A, and between the vertical straps *b*. (Better shown in Fig. 3 of the drawings.) Pivoted to the outer end of this hand or operating lever is a dog, D, and at a suitable point to the said lever and on the opposite side of the casing is pivoted a similar dog D, the upper or biting ends of which respectively enter the slots *a* of the said casing and engage the teeth of the rack-bar. These dogs are connected by means of a spiral or other suitable spring, E, it being necessary to have a yielding connection in order that the said dogs may be normally held to bear in the teeth of the rack. These dogs have attached to one side of each a flat spring, F, the free ends of which are designed to bear against a cam-lever, as will be presently explained.

In one of the vertical straps *b*, which is secured to the main standard or casing, is formed a recess, *c*, in which is arranged a spring-pressed bearing-block, *d*, backed by a flat spring, *e*, which construction is better shown in Fig. 5 of the drawings. This spring-pressed block *d* has a transverse recess, *f*, the walls of which are beveled and conform in outline with the curvature of a cam-lever, G, which is pivoted in the center of the said recess-block, as well as the main case and one of the straps *b*. From this construction it will be seen that I practically form a clutch from the spring-pressed block and the cam-lever. It will also be seen that the cam-lever is so arranged with reference to the flat springs of the dogs that when the cam-surface of the former is bearing upon one of the said springs the other will be practically disengaged therefrom and its dog allowed to bite the rack.

By reference to Fig. 5 of the drawings it will be seen that the flat springs of the dogs are in such a position with relation to the cam as would allow both of the said dogs to engage the rack, and that the said cam has its lever in a convenient position to be grasped by the operator, which, when oscillated vertically, will alternately engage and force outwardly the flat springs F, which would consequently effect a similar movement upon the dogs, thereby disengaging one dog at a time from the rack. This operation is effected in lowering the rack-bar, and when it is desirable to throw the cam out of operation it is simply necessary to move

its hand-lever up or down by the side of the standard or casing. When the said cam-lever has been turned up by the side of the casing it will ride out of the recess in the spring-pressed block *d*, which latter will sustain the same in such position by the action of its spring.

When it is desirable to lift a weight, the operator should take hold of the lever C and oscillate or rock the same, when the rack will be carried up by the successive engagement of the dogs to the desired point, where it may be held without any exertion on the part of the attendant.

Having described my invention, what I claim is—

The combination, with a standard or casing, of a vertically-movable double rack-bar, a hand-lever pivoted thereto, dogs pivoted to the said lever and yieldingly connected, a cam-lever adapted to engage the dogs to release them from the rack, and a spring-clutch adapted to engage the said cam, substantially as specified.

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

ANDREW W. ANDERSON.

Witnesses:
J. S. WING,
OSCAR SEEBACK.