J. M. TICHENOR & H. L. DEXTER.

Lifting Jack.

No. 201,467. Patented March 19, 1878.

Fig. 2

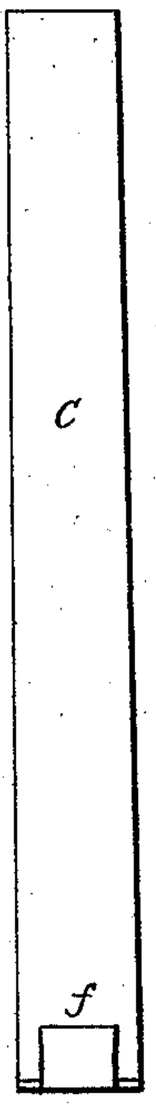


Fig. 1.

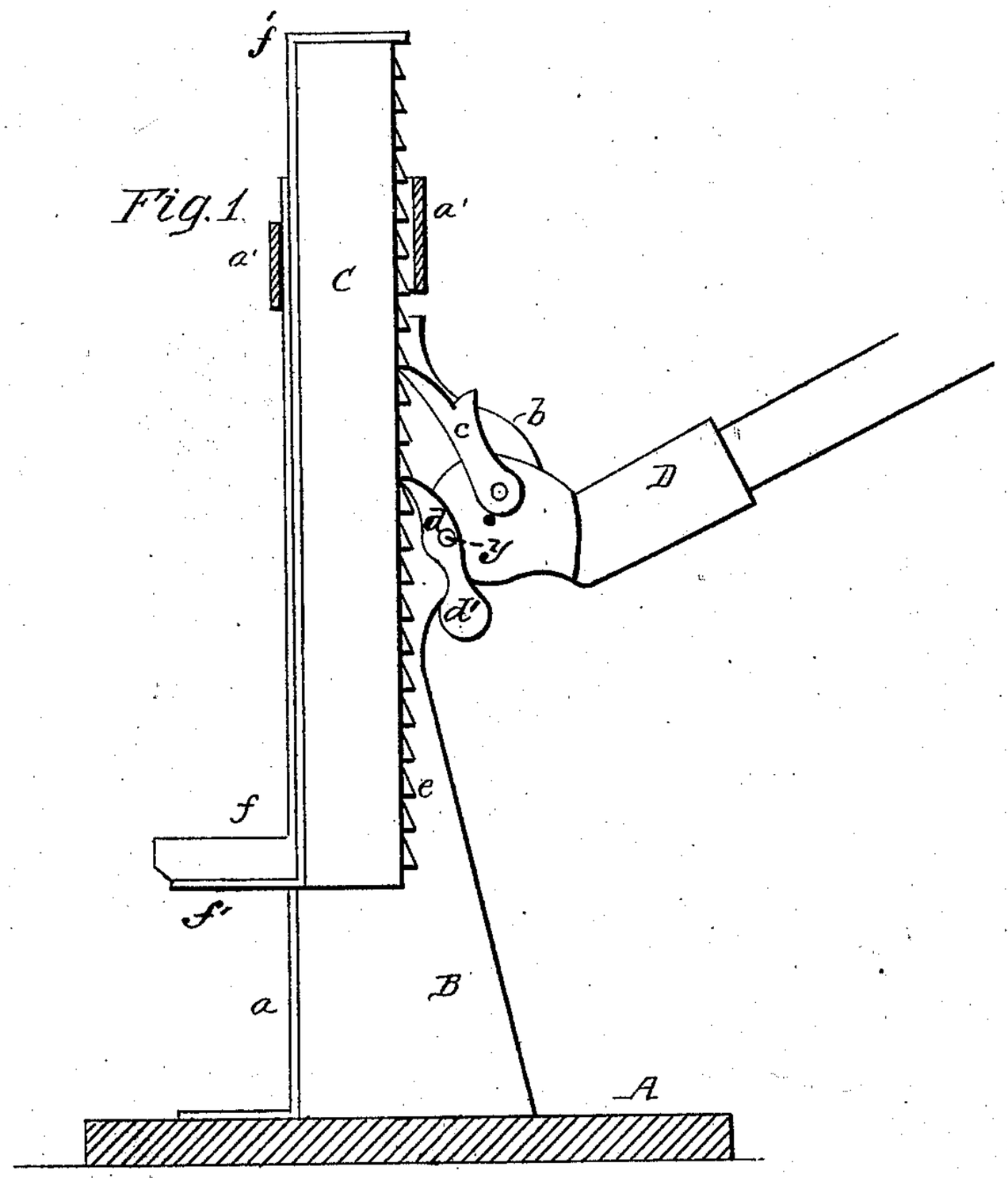
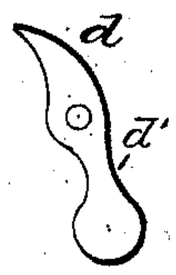


Fig. 3.



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UNITED STATES PATENT OFFICE.

JAMES M. TICHENOR, OF IRVINGTON, AND HENRY L. DEXTER, OF ROSELLE, NEW JERSEY.

IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. **201,467**, dated March 19, 1878; application filed July 13, 1877.

To all whom it may concern:

Be it known that we, JAMES M. TICHENOR, of Irvington, in the county of Essex, and HENRY L. DEXTER, of Roselle, in the county of Union, and State of New Jersey, have invented certain new and useful Improvements in Lifting-Jacks; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of lifting-jacks in which the adjustable support is elevated and held in position by means of an operating-lever and two pawls or catches arranged to engage with the rack-teeth upon the support, so that while the lower pawl descends as the lever is being raised, the upper pawl will prevent the said support from descending by reason of its engagement with the rack-teeth.

Our present improvement consists in a lifting-jack in which the two pawls are pivoted between the bifurcated ends of a lever, and arranged so as to engage with the rack-teeth upon the adjustable support, and, to operate the same in the manner hereinafter set forth, the combination therewith of the lower one of the said pawls, formed with an extension-arm and counter-balance, extending below its pivotal point, and below the bifurcated ends of the lever, substantially as and for the purposes hereinafter set forth and claimed.

In the drawing, Figure 1 is a side elevation of the lifting-jack, with one side of the frame removed in order to more fully illustrate the operative parts of the device. Fig. 2 represents the adjustable support detached, and Fig. 3 is a view of the lower pawl with its extension-arm and counter-balance.

The adjustable support *c* is arranged to slide vertically between the sides B of a frame suitably mounted upon a base, A. Ways and guides are formed by means of the metallic straps *a a'* to retain and guide the said support in its up-and-down movement. An auxiliary lower support, *f*, is secured to the main support *c* by means of a metallic strap, *f'*, or in any other suitable way.

The operating-lever is composed of a socket, D, in which handles of various lengths may be inserted when desired, the said socket having bifurcated ends, between which the two pawls are pivoted. A rod which passes through the said bifurcated ends of the socket, and also through the parts *b* of the side pieces B of the frame, constitutes the fulcrum of the operating-lever. The upper pawl *c* is pivoted between the bifurcated ends of the socket, in about the position shown in Fig. 1, and the lower pawl *d d'* is in like manner pivoted between the said ends, but below the fulcrum, and also at a distance therefrom greater than the distance between the fulcrum and the upper pawl. The length of this lower pawl from its pivotal point to its end which engages with the rack-teeth is, it will be observed, considerably less than the corresponding portion of the upper pawl, and that it is curved somewhat toward the rack-teeth. When the lever is raised the lower pawl will slide down over the rack-teeth, so as to engage with the same lower down, while the upper long pawl *c*, by reason of its relative position to the fulcrum of the lever, will not only keep the support from descending by reason of its engagement with the rack-teeth, but will also ascend, so as to raise the same. As shown, these pawls are pivoted at different distances from the fulcrum; but by making the upper one still longer, and pivoting the same still farther away from the rack-bar, the same effect might be accomplished.

In carrying out our invention in a lifting-jack thus constructed, the lower pawl, which is pivoted between the bifurcated ends of the socket, as above described, is formed with an extension-arm and counter-balance, *d'*, which extends from its pivotal point *y* below the bifurcated ends of the socket. The object of this arm is twofold—first, to afford a ready means whereby, when it is desirable to release both of the pawls, so as to let the support fall entirely down, the same may be effected without the danger of jamming one's fingers, which would obviously often result if the same were to be inserted between the rack-teeth and

pawl, either from above or from below; secondly, when the lever is raised to a considerable extent, the short pawl *d* would swing down out of the way if it were not for the counter-balance to keep it in position.

It will be observed that the parts *d* and *d'* nearly balance each other, and that the part *d* curves inward toward the teeth, so that its engagement therewith is always insured.

What we claim is—

In a lifting-jack in which the two pawls are pivoted between the bifurcated ends of a lever, and arranged so as to engage with the rack-teeth and to operate the adjustable support, the combination therewith of the lower pawl *d*, formed with an extension-arm and counter-balance, *d'*, extending below its pivotal point, and below the bifurcated ends of the lever, substantially as and for the purpose specified.

In testimony that we claim the foregoing as our own we hereto affix our signatures in presence of two witnesses.

JAMES M. TICHENOR.
HENRY L. DEXTER.

Witnesses:
OLIVER DRAKE,
GEO. S. FRANCISCO.