

F. S. SMITH.  
Lifting-Jacks.

No. 133,728.

Patented Dec. 10, 1872.

Fig. 1.

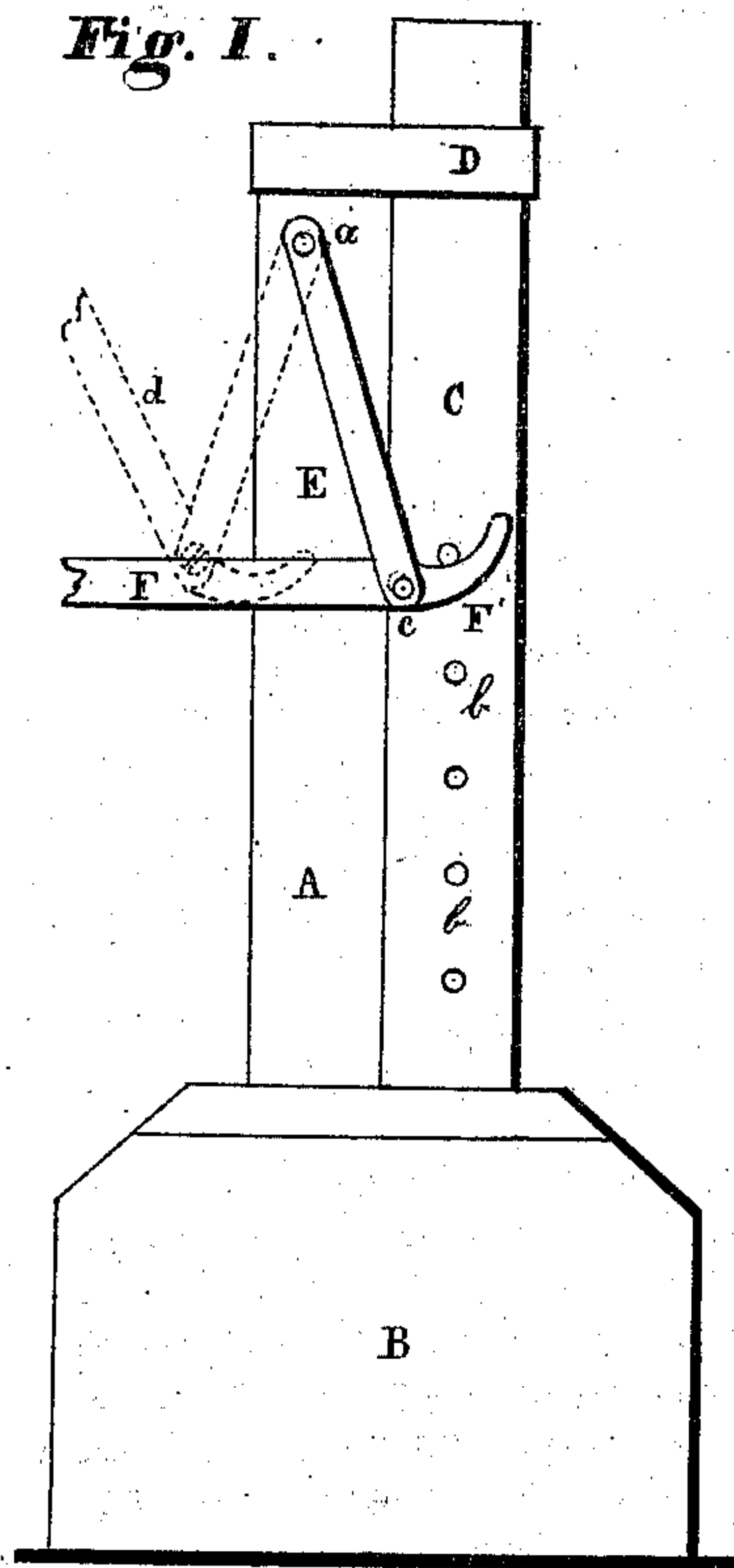


Fig. 2.

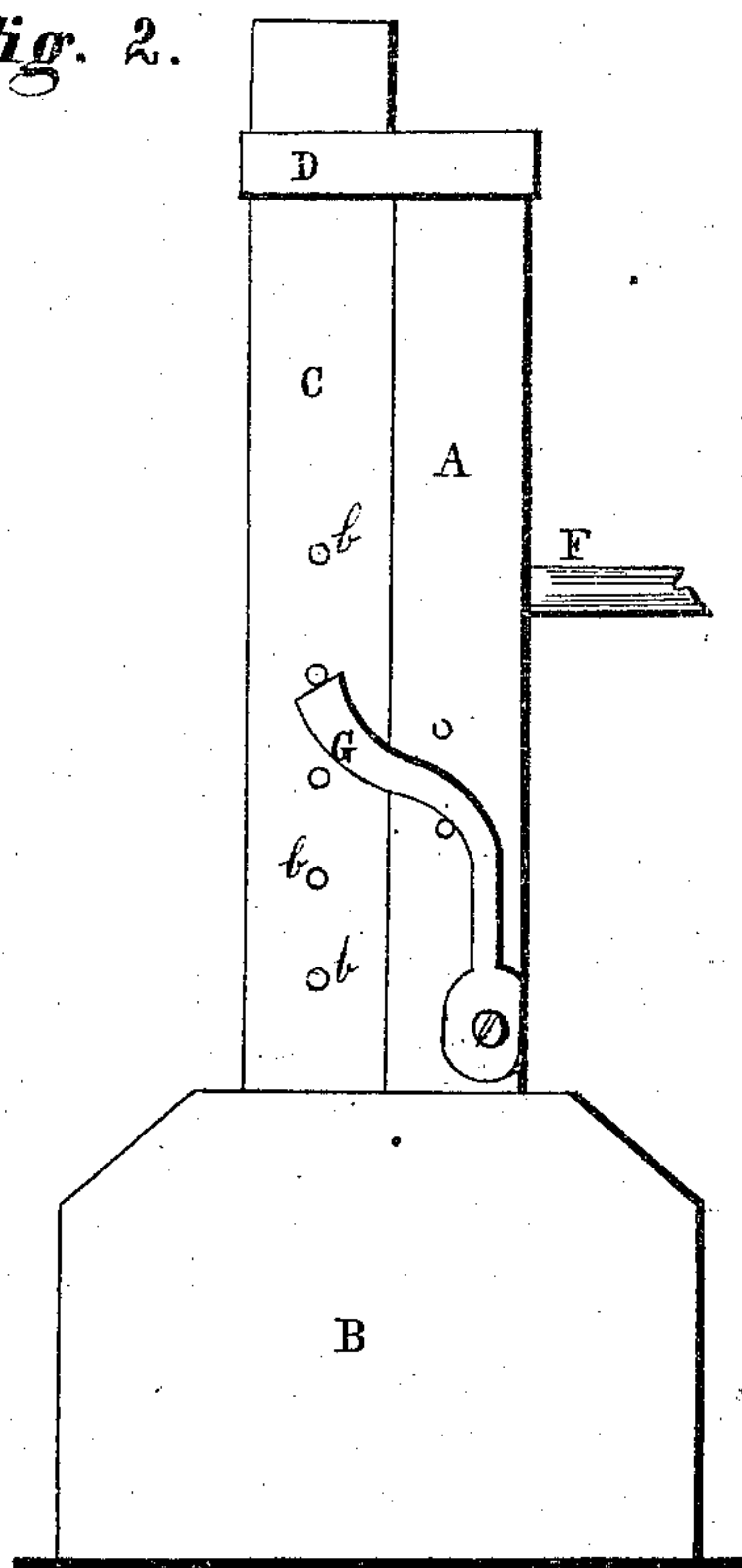
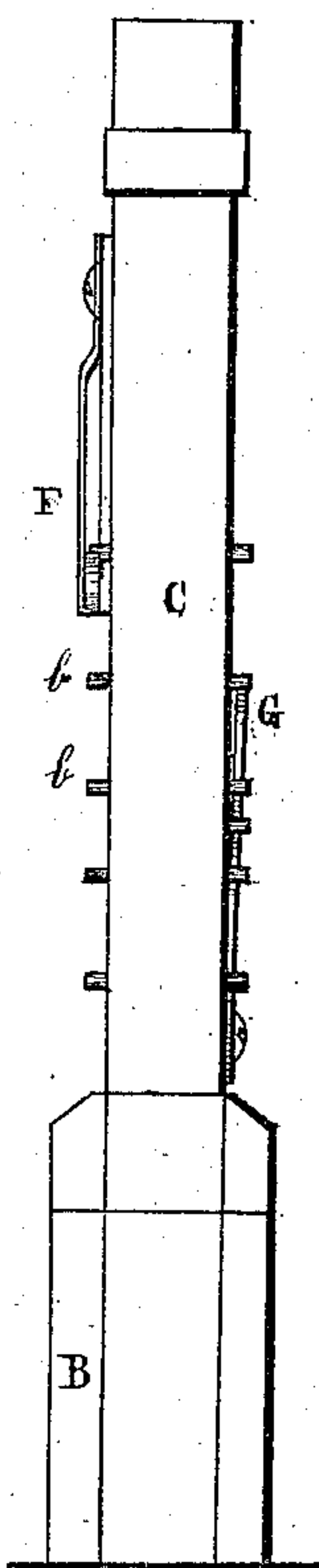


Fig. 3.



Witnesses.

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Inventor.

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# UNITED STATES PATENT OFFICE.

FRANKLIN S. SMITH, OF GENEVA, OHIO.

## IMPROVEMENT IN LIFTING-JACKS.

Specification forming part of Letters Patent No. 133,728, dated December 10, 1872.

*To all whom it may concern:*

Be it known that I, FRANKLIN S. SMITH, of Geneva, in the county of Ashtabula and State of Ohio, have invented a certain new and Improved Lifting-Jack; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawing making part of the same.

Figures 1 and 2 are side views of the jack. Fig. 3 is an edge view.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a lifting-jack; and the object thereof is so to apply the lever-power of the implement that it shall increase as the weight rises by the shortening up of the leverage by means of a free or swing fulcrum, constructed and arranged in relation to the lever, and operated in the manner as follows:

In the drawing, A represents a standard, secured in a foot or block, B, whereby it is enabled to stand alone and erect. To said standard is attached a slide, C, by means of a yoke, D, at the upper end and the foot B at the lower one, into which it is fitted and slides when operated. E is a link, the upper end of which is pivoted to the side of the standard at *a*, whereas to the lower end is pivoted the lever F. By means of the link the lever is allowed to swing backward and forward toward and away from the slide for being hooked upon the pins *b* for raising the slide. It will be observed that the short arm of the lever curves upward, forming a curved inclined end from the fulcrum *c*.

The practical operation of the above-described jack is as follows: In order to lift a wagon the jack is so adjusted that the upper end of the slide C will come under the axle-tree, the slide at this time being down about level with the end of the standard. The slide is now raised, and also the wagon, by raising

upward the long end of the lever, as indicated by the dotted lines *d*, Fig. 1, thereby depressing the hook end of the lever, which, on being swung forward, will catch under one of the pins *b*. Now, on depressing the long arm of the lever, the slide will, in consequence, be raised upward, and in so doing the power of the lever increases as the pin under which it is hooked rises above the horizontal line in which the pin and the fulcrum may lie.

In the event the fulcrum was a stationary one, the further the pin raised above said line the less the leverage would be, as the weight or pin would in that case recede from the point *c* or fulcrum, hence a decrease of leverage power; but inasmuch as the fulcrum is not stationary, but movable, it will swing forward toward the pin as the slide rises upward until the pin slides along upon the curve of the hook and lodges against the side of the link, and therefore can go no further.

It will be obvious that by this application and use of a swinging fulcrum I am enabled to raise a heavy weight with much less power than it could be raised by the same lever having a fixed fulcrum and a straight end instead of a curved one for the pin to slide on.

The slide, when raised the distance of from one pin to another, is prevented from sliding back by the check, Fig. 2, which, as the slide rises up, falls under the opposite end of the pin, which is made to project through the slide for that purpose, as shown in Fig. 3.

What I claim as my invention, and desire to secure by Letters Patent, is—

The link or swing fulcrum E, lever F having a curved or hooked end, F', as arranged to operate, in combination with the slide C and pins *b*, in the manner as described, and for the purpose set forth.

FRANKLIN S. SMITH.

Witnesses:

JOHN H. BURRIDGE,  
A. F. CORNELL.