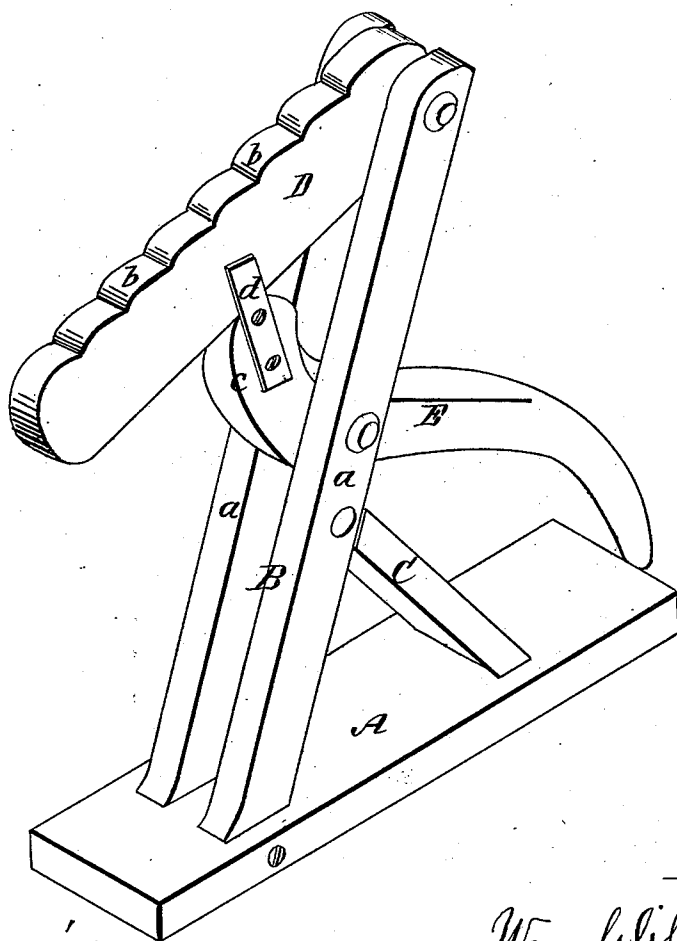


W. Clifford,

Lifting Jack,

No 82,384,

Patented Sept. 22, 1868.



Witnesses:

J. A. Davis.
Quincy, Antrobus.

Inventor.

Wm Clifford,
By J. Fraser & Co
Atty.

United States Patent Office.

WILLIAM CLIFFORD, OF MINA, ASSIGNOR TO A. F. JENNINGS, & CO., OF
DUNKIRK, AND THOMAS R. COVENEY, OF MINA, NEW YORK.

Letters Patent No. 82,384, dated September 22, 1868.

IMPROVED WAGON-JACK.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM CLIFFORD, of Mina, in the county of Chautauqua, and State of New York, have invented a certain new and useful Improvement in Wagon-Jacks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings making part of this specification.

The figure represents a perspective view of my improved jack.

My improvement belongs to that class where a pivoted bar, acted upon by a lever, elevates the axle. My invention consists essentially in combining the lever with the bar loosely, through the medium of projecting straps, so that a free range of motion is produced, and the power applied is uniform through the whole range.

In the drawings, A indicates the bed or base-plate, in which is mortised an inclined standard, B, made of two side-pieces *a a*, stayed by rear brace C.

To the upper end of the standard is pivoted a swing-bar, D, having a series of corrugations or ratches *b b*, to receive the axle of the carriage. Beneath this is pivoted the curved lever or handle E, whose short arm *c* rests directly under the bar D. The arm *c* has two iron straps *d d*, projecting up from the opposite sides, and loosely embracing the sides of the bar—the object being, simply, to retain the parts in place as the lever traverses the bar.

This loose construction of the end of the lever with the bar presents some special features of advantage:

First, the power applied to the long end of the lever, and the upward consequent motion of the ratchet-bar, are uniform at all portions of the stroke; hence there is no unusual strain upon any of the parts.

Second, there is no limit fixed to the action of the lever in raising the axle; hence its range of motion in elevating the axle is of the maximum degree.

Third, the connection of the lever and bar is always retained without fastening.

Fourth, the swing-bar is always at liberty to be turned over, which is desirable in transportation and storage.

I am aware of a patent issued to C. H. Paine, September 30, 1862, No. 36,587, in which a swing-bar is raised by a pivoted lever; but in that case, the said parts are connected fast together by a link which forms a toggle and hence the same effect is not produced as in my device. In that case, the greatest power is necessary at the commencement of the movement, and the motion is more rapid at that time, and the power and motion both decrease as the toggle is straightened. The result is a sudden jerk in applying the power, which is liable to displace the axle or injure the parts. Furthermore, the range of motion is very limited. In my device, the power applied and the motion produced are the same at the commencement as at the close of the movement, and the action is thus uniform. Also, the range is limited only by the length of the swing-bar. In Paine's case, also, the toggle prevents the swing-bar from turning over, and therefore the device is in an inconvenient form for transportation and storage.

The construction of my device is of the simplest and cheapest character, and, aside from the special advantages of the loose connection of the lever and bar, as above set forth, presents features not shown in other arrangements, so far as I am aware.

This arrangement also allows the axle to be raised at any time, above the capacity of the jack, by simply applying the hand at the loose end of swing-bar D, which could not be, were there a fast connection.

I disclaim the use of a swing-bar and pivoted lever when connected fast together, as in the aforesaid patent. Such is not the equivalent of my invention.

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

The swinging bar D, pivoted to standard, B, with its free end resting on the disconnected lever E, and guided by the straps *d*, rigidly secured to the lever, so as to operate in the manner and for the purpose as described.

In witness whereof, I have hereunto signed my name, in the presence of two subscribing witnesses.

Witnesses:

THOS. R. COVENEY,
MARION BURT,

WM. CLIFFORD.