A. M. Waters,

Lifting Jack.

No. 106,639. Patented Aug. 23, 1870.

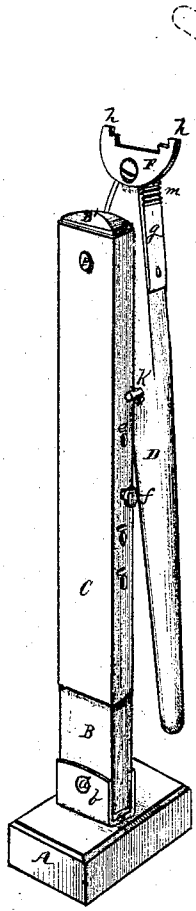

Fig. 1

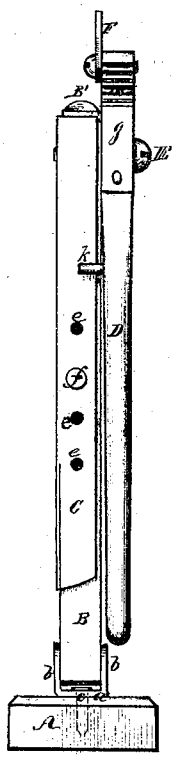

Fig. 3

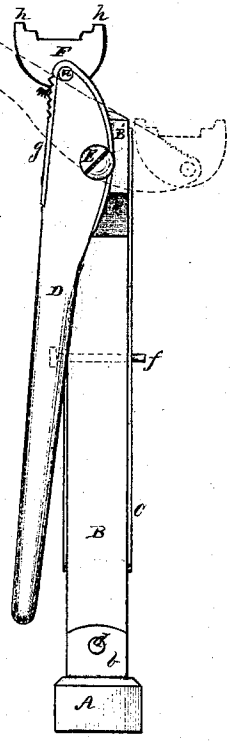

Fig. 2

Witnesses

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ALONZO M. WATERS, OF CUYAHOGA FALLS, ASSIGNOR TO HIMSELF AND HENRY E. MARINER, OF AKRON, OHIO.

Letters Patent No. 106,639, *dated August* 23, 1870.

IMPROVEMENT IN LIFTING-JACKS.

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, ALONZO M. WATERS, of Cuyahoga Falls, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Lifting-Jacks, for raising the axles of wagons or carriages to facilitate the removal of their wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 represents a perspective view of my improved lifting-jack;

Figure 2 represents a side view of my improved lifting-jack; and

Figure 3 represents a front view of the same.

To enable those skilled in the art to which my invention belongs to make and use the same, I will proceed to describe it more in detail.

The nature of my invention consists,

First, in the combination of the upright standard and foot-block, in a lifting-jack, of swivel and rocking joints, as hereafter described.

Second, in the combination with the upright stock or standard, of an extension metal slide and holding-pin, as hereafter set forth.

Third, in the combination with the standard and slide, of a peculiarly constructed lever.

Fourth, in the combination with the lever, of a peculiarly constructed rocker-piece, as hereafter described.

Fifth, in a lifting-jack, the parts of which are constructed and combined together for operation, substantially as hereinafter set forth.

In the drawing—

The part marked A is the foot-block.

B, the main stock or standard, which is secured to the foot-block A by a metallic joint piece, formed of a flat piece of metal, *a*, fastened through its center by a swivel bolt, *c*, to the foot-block A, and having its sides turned up at right angles to form ears, *b*, between which are secured the lower end of the main stock B, by a pin or bolt, *d*, which passes through the ears and stock from side to side.

By this construction a double joint is formed, as the main stock can be rocked back and forth on the bolt *d*, or it can be turned around upon the swivel-bolt *c*.

It will be seen, by this arrangement, the upper end of the stock is free to move or rock back and forth when the lever D is operated for raising the wagon, while the swivel-joint, in combination with the rocking joint, permits the bed or foot-piece to stand firm, and, at the same time, admits of its being turned to conform to the unevenness of the surface upon which it stands.

The top part B′ of the main stock is formed separate from the lower part, and is joined thereto by a metallic extension slide, C, the top piece B′ being firmly secured in the top of said slide, which latter extends down the stock B, and is formed to embrace three sides thereof, as shown in the drawing.

Holes, *e*, are formed through the stock B and slide C, in which to insert the holding-pin *f*, and, by changing the pin to the different holes, the height of the jack can be adjusted.

The lifting lever D is pivoted by the screw or bolt E to the side of the top piece B′, the bolt being arranged near the lower or rear side of the lever, as shown in fig. 2, the lever being made somewhat broader at its fulcrum for that purpose.

The upper part of the lever D is provided with a metallic guard-strap, *g*, which passes around its end, and is secured firmly to the wooden part of said lever by screws, nails, or rivets. The use of this strap *g* is to strengthen and to prevent excessive wearing of the parts.

The lever D is also furnished at its extremity with a semicircular rocker-piece, F, having its upper part formed to fit the axle of the wagon or carriage.

The corners *h* of the rocker-piece are made somewhat higher than its center, thereby forming notches upon its upper edge, which prevents the axle from slipping therefrom while it is being raised.

The rocker-piece F is pivoted to the lever D by a screw or bolt, *n*, which passes through the lower part of the rocker somewhat to the rear of its center, thereby balancing it in such a manner that the weight of the axle, or other object raised, will not be liable to overturn it toward the rear, as the lever is pressed down and the rocker swings upward.

The pivot-bolt *n* is arranged in line with the top or front side of the lever D, while the fulcrum-bolt E is arranged at the lower or rear side of said lever.

Now, it will be observed, that by arranging the parts in this manner, the center of gravity is carried past the vertical center of the fulcrum-pin E as the lever D is pressed down; consequently, the weight of the object raised holds the lever D in position when it has passed down far enough to bring the stop-pin *k* in the side of the lever D in contact with the upright standard of the jack.

It may sometimes be desirable to use the lever with the semicircular rocker-piece turned back, or even without the rocker-piece; and, for that purpose the metallic strap *g* is serrated or roughened at the upper side of the lever, as indicated at *m*, to prevent the axle or other object from slipping therefrom while being raised.

Those accustomed to the use of carriage or lifting-

jacks will readily appreciate the value and importance of my invention.

Having described my improvements in lifting-jacks,

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

A lifting-jack composed of the foot-block A, and the stock B pivoted and hinged to the same, in combination with the standard B', metallic extension sliding piece C, and its holding-pin *f*, lever D, and rocker-piece F, said parts being arranged for joint operation, as herein shown and set forth.

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Witnesses:

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