(No Model.)

W. B. ALLEN.
Lifting Jack.

No. 232,430. Patented Sept. 21, 1880.

Fig. 2.

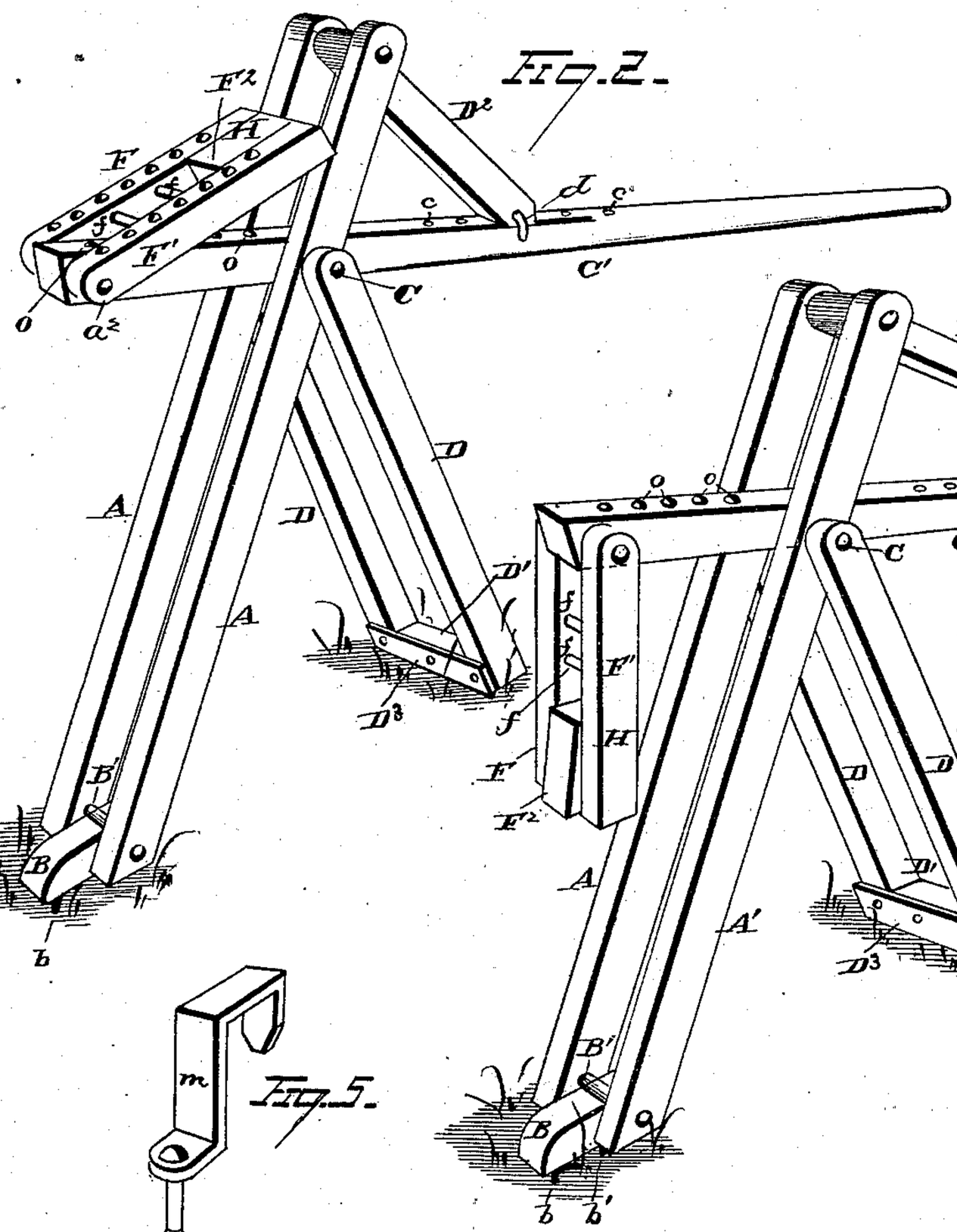


Fig. 1.

Fig. 3.

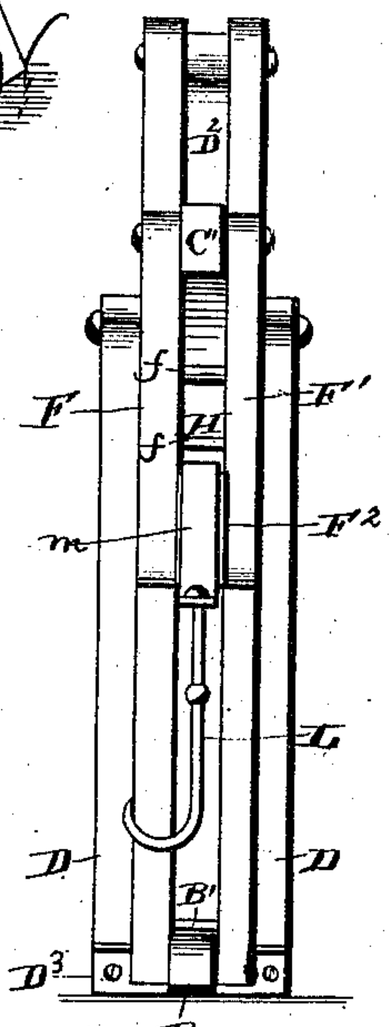
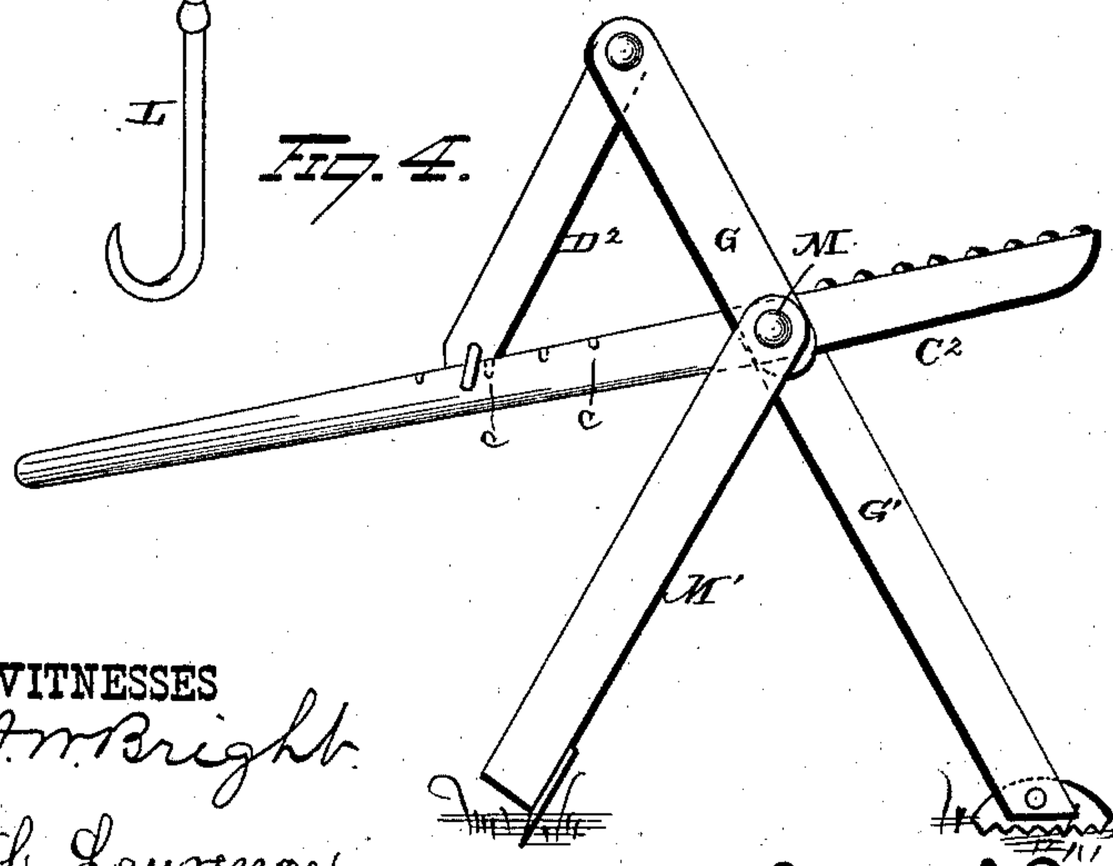


Fig. 5.

Fig. 4.



WITNESSES

A. M. Bright

R. L. Lawrence.

INVENTOR

Wm B. Allen.

By Hla. Sizemore.

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM B. ALLEN, OF ORLEANS, NEW YORK.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 232,430, dated September 21, 1880.

Application filed July 13, 1880. (No model.)

To all whom it may concern:

Be it known that I, WM. B. ALLEN, of Orleans, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Lifting-Jacks; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in lifting-jacks, and is more particularly designed to be used as a wagon-jack, but will be found to be equally subservient to many other lifting purposes, the object being to provide a jack of very light and simple construction, arranged to be easily operated by one person, adapted to a wide range of lifting adjustment, collapsible, and therefore convenient of transportation, and capable of being supplied to the trade at a comparatively light cost.

With these ends in view my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a perspective view of my lifting-jack. Fig. 2 is a perspective view with the component parts in different adjustment. Fig. 3 is a front view, and Fig. 4 shows a modified form of my improved lifting-jack. Fig. 5 is a detached view of the swiveled hook and its attaching-clasp.

A A′ represent the two posts forming the standard, between which, at their lower extremities, a pivotal foot, B, is secured, the engaging-face of which is provided with friction-pins *b b′*, the latter readily engaging with any smooth surface upon which the jack may be used, and thereby preventing the foot B from slipping thereon. Directly above the pivotal foot B a stop-pin, B′, is placed, to prevent the foot from turning over and to keep it always in engaging position.

At a short distance above the center of and between the standard-posts the actuating-lever is secured by a bolt, C, which serves the twofold purpose of forming the fulcrum of the lever and also of attaching in pivotal adjustment to the standard the two arms D D of the brace-frame.

Bolted between the upper ends of the standard-posts A A′ is a gravity-pawl, D^2, which has a free sliding movement on the long arm of the lever C′. This gravity-pawl is provided at its lower end with a U-shaped guard, *d*, the arms of which clasp the sides of the lever and prevent any lateral or twisting motion of the pawl, thereby insuring certainty of the registration of the pin or stud d^2, secured at the end of the pawl, with the holes or sockets *c c*, formed at frequent intervals on the upper face of the long arm of the lever C′.

The brace-frame is composed of two arms, D D, and the beveled foot D′, said brace-foot joining the two arms at their lower ends, and provided with a metallic plate, D^3, arranged to project slightly below the lower face of the brace-foot, the thin edge of this plate readily engaging with any smooth surface on which it may be rested. The arms D D of the brace are secured to the standard at the same point and by the same bolt, C, which forms the fulcrum of the actuating-lever C′.

The foot-bearings B and D′, respectively, of the standard and brace-frame are so situated with reference to each other, and have such broad bearing, that the jack is supported by means of them without other aid, rendering it of much easier operation, and enabling one person to use it more conveniently.

The short arm of the actuating-lever C′ is provided with a number of metal studs, *o o*, serving to prevent the undue wear of the lever-arm, and also acting as a friction agent to engage with the object lifted and to prevent it from slipping on the lever-arm, thereby allowing the short arm of the lever to be raised to its highest or depressed to its lowest position without danger of having the weight lifted slip on the lever to another point from that which it had at its first engagement with the lever-arm. These friction-studs thus overcome a great objection which has always obtained in that class of lifting-jacks wherein the point of support moves through an arc of a circle in raising or lowering the weight lifted.

To the end of the short arm of the lever a supplemental supporting-block, H, is attached, the same being composed of two pieces, F F′, and a guide-block, F^2. The parts F F′ are secured on either side of and at the end of the

short arm of the lever C′ by a bolt, a^2, upon which they have a free swinging movement. Guide-block F^2 is secured between the outer ends of the pieces F F′, and fits between the standard-posts when the supplemental block is in its elevated position. The design of this supplemental supporting-block device is to give a wider range of adjustment to the jack and render it capable of higher lifts than would be otherwise possible without changing the position of the standard or brace-frame feet, which is often inconvenient, not to say impracticable, for want of sufficient room. It is also especially adapted for lifting when, from the nature of the object, a broad supporting-surface is necessary, and where the narrow lever-arm would not answer the purpose. When used as above alluded to it is in the position as shown in Fig. 2 of the drawings, and the guide-block F^2 has sliding bearing between the standard-posts A A′. One side of the supplemental supporting-block is provided with metal studs in the same manner and for substantially the same purpose as the studs on the short arm of the actuating-lever C′. By means of these metal studs either on the lever-arm or supplemental block, and an independent lifting-bar recessed at one end and adapted to fit over any one of the studs, weights may be lifted or supported far above the reach of the lever-arm. This very simple use of my device will often take the place of a jack-screw, which is heavier and not always attainable. By throwing the supplemental block over, as shown in Fig. 1, a convenient opportunity is afforded, by means of a series of cross bars or pins, *f*, on said supplemental block, of attaching a swiveled hook, L, provided with a clasp, *m*, adapted to engage with any one of the pins *f f f*, according to the height of the object to be lifted from the ground. This hook-lifter may be put to very many convenient uses, as in repairing fences and lifting logs and all objects near the ground and either too low to be reached by the lever-arm or of unwieldy shape and size therefor.

A simple and modified form of lifting-jack is shown in Fig. 4, and while it embodies much that is important in my invention it has a more limited field of usefulness and is not self-supporting. The standard is formed of two parts, G G′, the leg G′ of which is cut off just below the point of the lever-fulcrum at M. This jack has no frame-brace and is not self-supporting, but it has a pivotal leg, M′, attached to the standard by the fulcrum-bolt M, and on the side of the standard-piece G′. The short arm of the lever C^2 is provided with metal studs, and between the upper ends of the standard-pieces a gravity pawl, D^2, is secured, which is provided with a guard and pin, engaging with the holes or sockets *c c* in the lever-arm in the same manner as in the larger jack. The lower end of the standard-leg G is recessed and provided with notched pivotal foot to insure its ready engagement with any smooth surface upon which it may be placed. The lower end of the pivotal leg M′ is provided with a thin metallic plate a little more than flush with the end thereof. Said plate, having a thin edge, will readily engage with any smooth surface, it being substantially the same device as that employed in the larger jack.

Heretofore the majority of lifting-jacks have been not only complicated in construction and difficult to operate, but they have been unwieldy and cumbersome and not easily placed in a convenient operative position. My improved lifting-jack is, however, both simple in construction and operation, and is adapted to have a very wide field of usefulness. It may be compactly folded and transported, it is light, and can be supplied to the trade, it is thought, at a lower price than any device of its kind and of equal value and efficiency now before the public.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a lifting-jack, the combination, with a standard composed of two uprights which extend above the actuating-lever, and an actuating-lever pivoted between said uprights, of a swinging brace composed of two uprights and a bolt inserted through the upper ends of the swinging-brace uprights, the standard, and the actuating-lever, substantially as set forth.

2. In a lifting-jack, the combination, with a standard composed of two uprights, which extend above the actuating-lever, and an actuating-lever pivoted between said uprights, of a two-part swinging brace and a gravity-pawl pivoted between the upper ends of the two uprights of the standard, substantially as set forth.

3. In a lifting-jack, the combination, with the actuating-lever having a series of holes or sockets formed in its upper edge, of a gravity-pawl having secured to its lower end a metal pin or stud adapted to fit into said holes or sockets, substantially as set forth.

4. In a lifting-jack, the combination, with the actuating-lever having a series of sockets or holes formed in its upper edge, of a gravity-pawl provided at its lower end with a pin or stud and with a guard, the latter adapted to fit against the sides of the actuating-lever, substantially as set forth.

5. In a lifting-jack, the combination, with a standard, of a pivotal foot having friction-points attached to its engaging-face and a stop-pin secured above said foot, substantially as set forth.

6. In a lifting-jack, the combination, with the standard and actuating-lever, of a supplemental supporting-block pivoted to the short arm of the actuating-lever and adapted to engage with the standard when in operation, substantially as set forth.

7. In a lifting-jack, the combination, with the standard and actuating-lever, of a supplemental supporting-block provided with arms

which are pivoted to the opposite sides of the short arm of the actuating-lever, said block adapted to engage with the standard when in operative position, substantially as set forth.

8. In a lifting-jack, the combination, with the actuating-lever and standard, of a supplemental supporting-block pivoted to the short arm of the actuating-lever and provided with a guide-block on its free end, which fits between the sides of the standard when the supplemental block is in operative position, substantially as set forth.

9. In a lifting-jack, the combination, with the actuating-lever and standard, of a supplemental supporting-block pivoted to the short arm of the actuating-lever and adapted to engage with the standard when in operative position, said block having metal studs secured to one side thereof, substantially as set forth.

10. In a lifting-jack, the actuating-lever having metal studs secured to the upper face of the short arm thereof, substantially as set forth.

11. In a lifting-jack, the combination, with the actuating-lever and a supplemental supporting block or frame pivoted thereto, of a swiveled hook adapted to be removably secured to cross bars or pins on the supplemental block or frame, substantially as set forth.

12. In a lifting-jack, the combination, with the actuating-lever having studs secured to its short arm, of an independent lifting-bar having a recessed end adapted to fit over said studs, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 9th day of July, 1880.

WILLIAM B. ALLEN. [L. S.]

Witnesses:

GEORGE MOORE,

A. VROOMAN.