(No Model.)

A. N. WOODARD.

LIFTING JACK.

No. 348,086. Patented Aug. 24, 1886.

Fig. 1

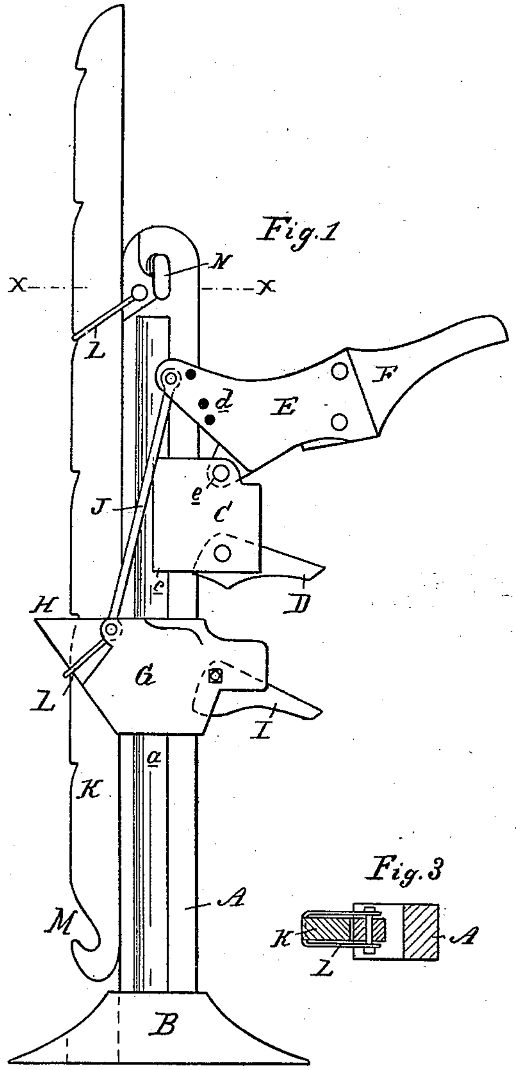


Fig. 3

Fig. 2

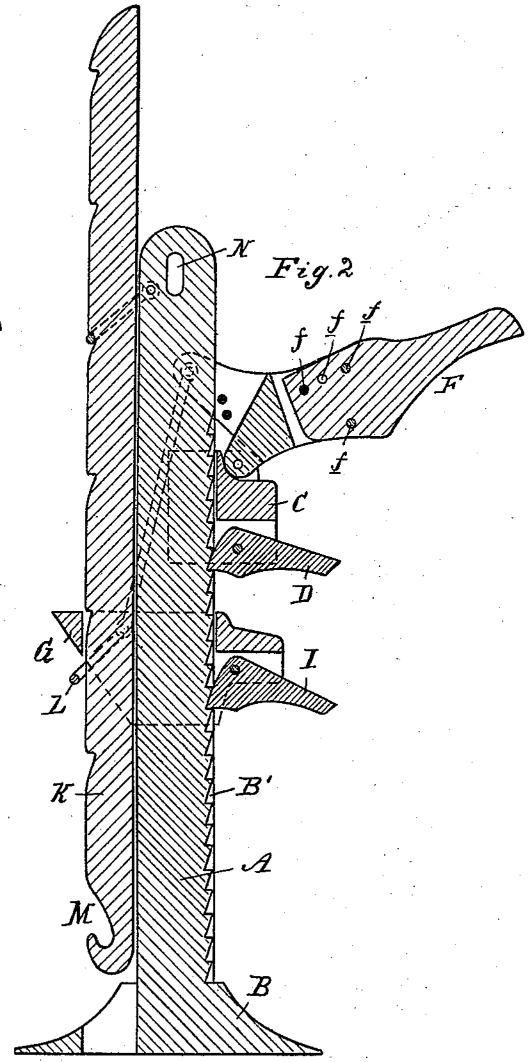


Fig. 4

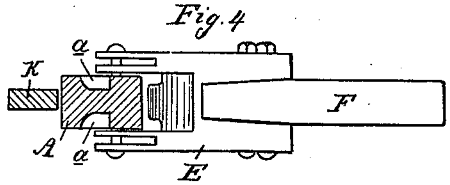


Fig. 5

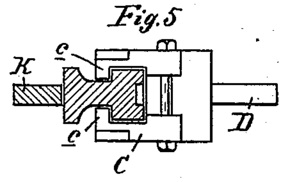
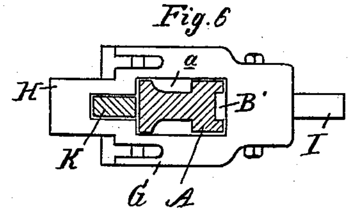


Fig. 6



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UNITED STATES PATENT OFFICE.

ALVIN N. WOODARD, OF CHARLESTON, WEST VIRGINIA.

LIFTING-JACK.

SPECIFICATION forming part of Letters Patent No. 348,086, dated August 24, 1886.

Application filed April 22, 1886. Serial No. 199,766. (No model.)

To all whom it may concern:

Be it known that I, ALVIN N. WOODARD, of Charleston, in the county of Kanawha and State of West Virginia, have invented new and useful Improvements in Lifting-Jacks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in lifting-jacks.

The object of the invention is to construct a device that shall combine strength and power, and that can readily be adapted to perform the various functions of a lifting-jack, wherein the movement of lifting can be readily changed from fast to slow.

The invention consists in the peculiar construction and arrangement of sliding heads upon a standard, said heads being provided with gravity-dogs that engage with the ratchet of one edge of the standard; in the peculiar arrangement of a ratchet-bar to be operated by the device when the same is hung in a derrick or from some support overhead, and in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter set forth.

Figure 1 is a side elevation of my improved jack. Fig. 2 is a central vertical section in the longitudinal direction of the actuating-lever. Fig. 3 is a cross-section on the line *x x* in Fig. 1; and Figs. 4, 5, and 6 are plan views of lever E and sliding blocks C G, respectively.

In the accompanying drawings, which form a part of this specification, A represents a substantially rectangular standard mounted in a base, B. This standard has formed in its side faces the longitudinal grooves or channels *a*, and upon its rear edge is secured a rack-bar, B′, though such rack may be formed as an integral part of the standard, if preferred; but in either event it should be a continuous sunken ratchet, leaving a plain margin upon both sides.

C is a sliding block provided with flanges *c*, which embrace the standard A and have a vertical sliding movement in the grooves *a*.

D is a gravity-dog pivotally secured in the lower portion of the block C, while E is a bifurcated lever-head fulcrumed, as at *e*, in the top of such block, and this lever-head E is provided with a handle, F, secured in place by bolts which pass through the head and the end of the handle through any pair of the holes *f* therein, by means of which such handle can be adjusted so as to be within easy reach of the operator.

G is a vertically-sliding block that embraces the standard A, and is provided with a toe, H.

I is a gravity-dog pivotally secured in the rear side of the block G, as shown. This block G is connected to the lever-head E by connecting-rods J, the arms of such head being slotted to receive them, and through these arms is formed a series of holes, *d*, through which pins may be inserted, and with which the upper ends of the rods engage. By this arrangement it will readily be seen that I can change power and increase or diminish the travel of the blocks upon the standard. Through the toe H and base B is formed a slot in which the notched bar K moves, said bar being sustained in place by the bales L, one of which is pivoted to the head of the standard A and one to the block G. The lower end of the bar K is provided with a hook, M, and the upper end of the standard is provided with an eye, N.

In practice, the parts being constructed and arranged substantially as described, if it is desired to raise an object under which the toe H can be inserted, the device is adjusted in position, when, by raising the lever upward, the block C is caused to slide up the standard, its dog engaging with the rack-bar. By now depressing the lever the block G is drawn upward, raising the object until the dog I engages with the rack, and so on, each block alternately sliding up the standard. If the object to be raised is too high for the toe H, a block or plank may be set upon the toe in the manner well known to those accustomed to the use of jacks.

If it is desired to use the device for raising a stone, pulling a stump, or work of a similar character, the standard is suspended in a suitable tripod or derrick, and the bar K lowered to its lowest point, hanging upon the upper bail, L. The lower end of the bar is now made fast to the object to be raised and the lever operated as above described, causing the block

G to rise till its bail engages with the bar K, when a continued movement of the lever will compel the bar K to slide upward and raise the object to which it is attached.

What I claim as my invention is—

1. In a lifting-jack, the combination, with the ratcheted standard A and bar K, of the two blocks sliding on said standard, a gravity-dog for each block, and an oscillating lever for operating said blocks and connected with one of them, substantially as and for the purpose specified.

2. In a lifting-jack, two blocks, C G, actuated by an oscillating lever to travel vertically upon a standard, in combination with the standard A, the rack-bar B', gravity-dogs D I, the bar K, and connecting-rods J, substantially as set forth.

3. A lifting-jack comprising the following elements, in combination: the standard A, base B, rack-bar B', blocks C G, lever E, pivoted to the block C and connected with the block G, handle F, dogs D I, pivoted to said blocks C G, respectively, rods J, bar K, and bails L, all constructed, arranged, and operating substantially in the manner and for the purposes set forth.

4. In a jack of the kind described, the combination of the standard A, bar K, the block G, and rods J, with the bifurcated lever-head E, provided with a series of holes, *d*, and an adjustable handle, F, substantially as described.

ALVIN N. WOODARD.

Witnesses:
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