T. C. NARAMORE.

Apparatus for Raising Heavy Bodies.

No. 213,128 Patented Mar. 11, 1879.

Fig. 1.

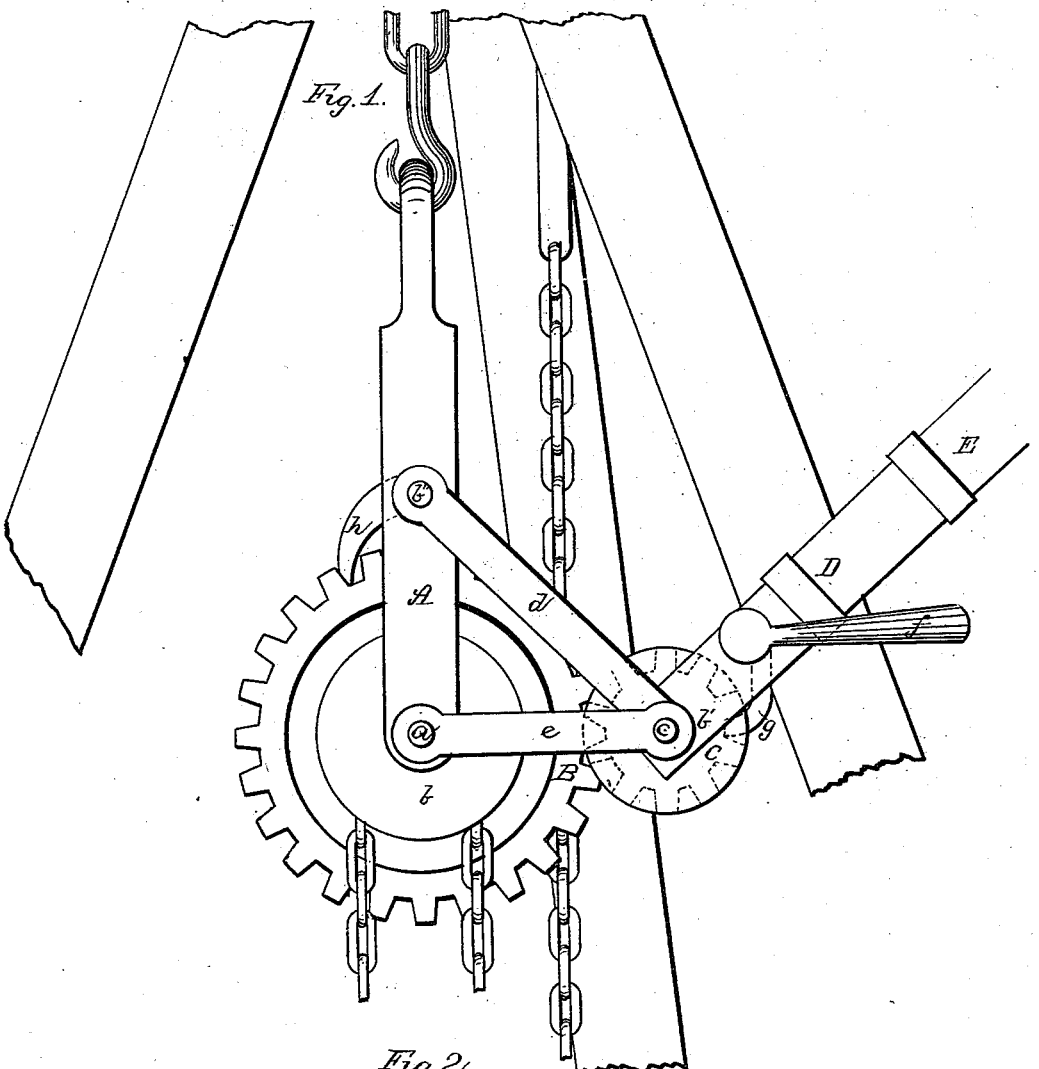
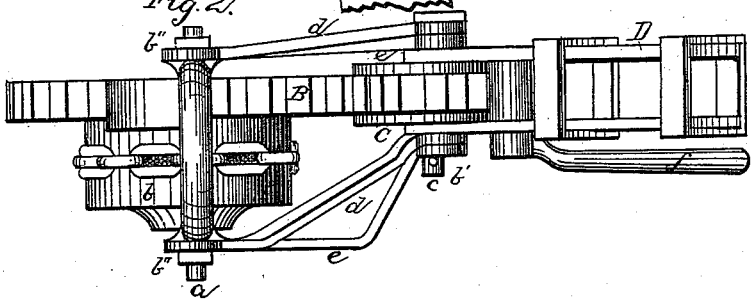


Fig. 2.



Witnesses:

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W. S. D. Haines.

Inventor:

T. C. Naramore,

per

C. E. Allen,

atty

UNITED STATES PATENT OFFICE.

TRUMAN C. NARAMORE, OF WILLISTON, VERMONT.

IMPROVEMENT IN APPARATUS FOR RAISING HEAVY BODIES.

Specification forming part of Letters Patent No. **213,128**, dated March 11, 1879; application filed February 6, 1879.

To all whom it may concern:

Be it known that I, TRUMAN C. NARAMORE, of the town of Williston, in the county of Chittenden and State of Vermont, have invented certain new and useful Improvements in Apparatus for Raising Heavy Weights; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The invention relates to a device designed to move a heavy body in any desired direction by the application of a lever-purchase.

Hitherto such devices have been so arranged as to require either the attachment of the whole mechanism to fixed standards, or, the mechanism being held in suspension, the lever is pivoted upon a fixed pinion, which greatly limits its action; or the whole mechanism, although practically suspended, is so arranged that it can only be advantageously operated when in certain limited positions, and often at great inconvenience to the operator, each of said methods being more or less objectionable, according as it presents obstructions to the free, independent, and convenient application of the motive power.

The object of my invention is to provide a system of mechanism of such simple construction and efficient arrangement, with great capacity of power, that immense weights can be easily moved without injury to the machine, and regardless of their position or direction in which the movement is to be made.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a side elevation of my invention. Fig. 2 is a plan view of the same.

A is a yoke, through the lower extremity of which passes a steel shaft, *a*, on which revolve the large gear-wheel B and sprocket-wheel *b*, which is cast solid to B. C is a pinion-wheel, which is pivoted upon the shaft *c*, its segments being held in close contact with the gearing of the wheel B by the double braces *d* and *e*, which are located on either side of the wheel B, and are attached to the yoke A by shaft ends at *b'* below and the bolt *b''* above. They terminate by crossing each other at the right of the wheel B, where they are bolted together by the shaft *c*, which passes through the pinion-wheel C, and also the lever-socket D, thus forming the fulcrum of the lever E. *f* is the weight or handle of the counterbalance-dog *g*, which is located inside of the lever-socket D, and is intended to fall into the notches of the pinion-wheel C, thereby constituting it the short arm of the whole lever E, and also enables the operator to control the force while he is raising the lever for a new purchase. A pawl, *h*, pivoted on the bolt *b''*, falls by gravitation into the notches of the gear-wheel B, and holds it securely wherever it stops.

The operation of the device is as follows: To move a rock, stump, or other heavy body perpendicularly, attach the top of the yoke A, by a chain or otherwise, to a clevis or swivel in the apex of a tripod formed of stanchions, united at their upper extremities, and which should be located above the weight to be raised. Pass the chain which is attached to the weight around the sprocket-wheel *b* in the direction in which the wheel B is turned, the spaces between the spurs of the drum of the wheel *b* being made so as to admit and retain the alternate links of the chain as they fall flatwise into them in their passage over the drum. Then, by operating the lever E, the gear-wheel B and sprocket-wheel *b* are revolved, which tightens and draws the chain, and thus lifts the weight to which it is attached. The wheel B is held fast by the pawl *h* while the lever is being elevated for a new purchase.

By means of the dog *g* the lever can always be operated at whatever height and to such an extent as may be most convenient, inasmuch as it prevents a reverse motion of the pinion-wheel C, and therefore causes it to be ready for the action of the lever at any desired point.

The weight to be raised can be more readily swung out of its bed by suspending the device over one side of its center.

This device is equally effective in moving

heavy bodies horizontally by attaching it to some fixed point in the direction in which it is to be moved.

Having thus described my invention, I claim—

The combination of the yoke A, gear-wheel B, sprocket-wheel *b*, pinion C, lever E, and dogs *g h*, substantially as shown.

In testimony that I claim the foregoing as my own I do affix my signature in presence of two witnesses.

TRUMAN C. NARAMORE.

Witnesses:
JAS. H. HILLS,
CHARLES E. ALLEN.