No. 839,479. PATENTED DEC. 25, 1906.

T. B. HOWE.

APPARATUS FOR LIFTING AND CARRYING LOADS.

APPLICATION FILED MAR. 18, 1905.

2 SHEETS—SHEET 1.

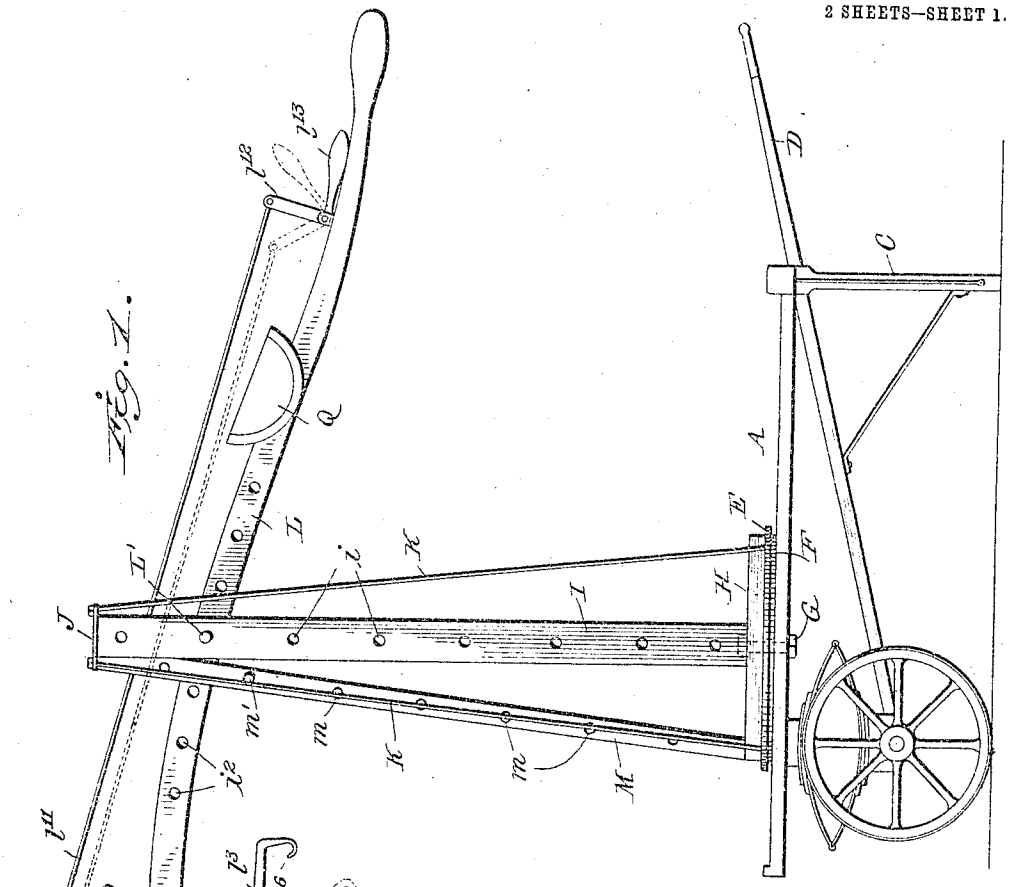

Fig. 1.

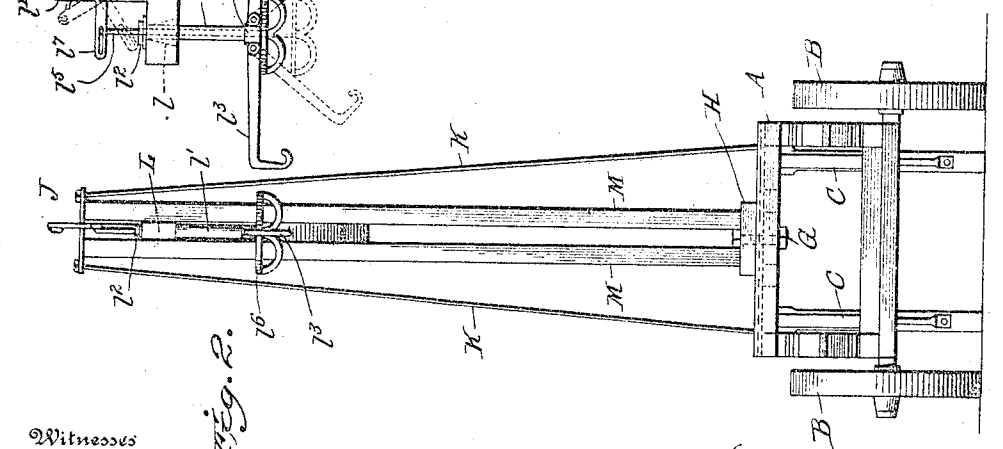

Fig. 2.

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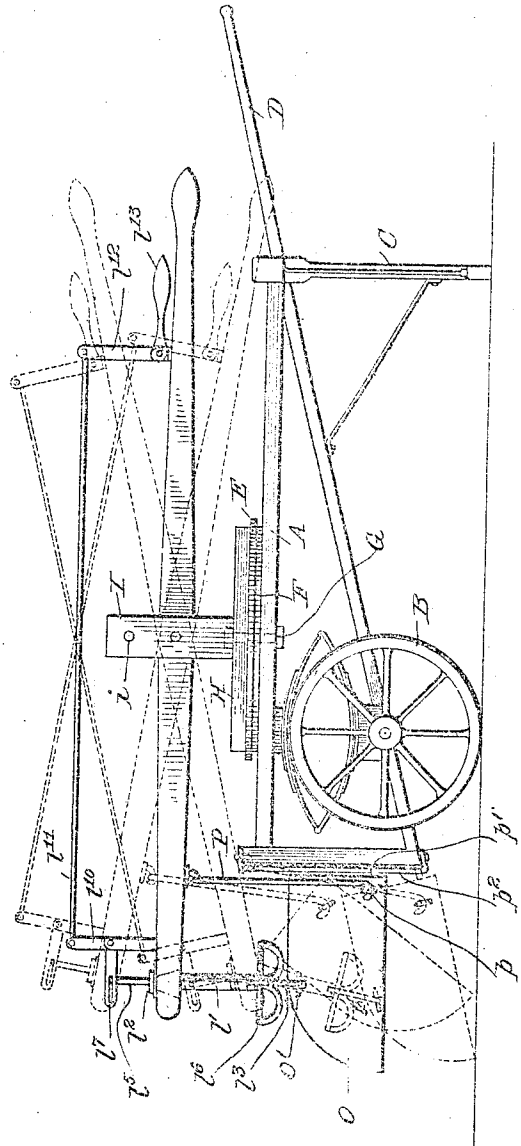
Fig. 5.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR LIFTING AND CARRYING LOADS.

No. 839,479. Specification of Letters Patent. Patented Dec. 25, 1906.

Application filed March 18, 1905. Serial No. 250,840.

To all whom it may concern:

Be it known that I, THOMAS B. HOWE, a citizen of the United States, residing in Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Lifting and Carrying Loads; and I do hereby declare my invention to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part thereof, and to the letters of reference marked thereon.

This invention relates to improvements in apparatus for lifting and carrying loads, being more especially adapted for use in the manufacture and handling of concrete or other composition blocks for building purposes.

To these ends the invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and the particular features of novelty pointed out in the appended claims.

Referring to the accompanying drawings, wherein is illustrated a preferred embodiment of the invention, Figure 1 is a side elevation of an apparatus embodying the present invention. Fig. 2 is a front view. Fig. 3 is a side elevation of a modified form of apparatus.

Similar letters of reference in the several figures indicate the same parts.

Referring to the drawings, the letter A indicates a body or bed of any suitable material, mounted at the forward end upon wheels B and having at the rear legs or supports C, a handle D being provided whereby the device may be readily moved from place to place.

At or near the front of the bed or body portion A is mounted a turn-table of any suitable construction, preferably formed of two rings or plates E and F, the lower one F fixedly mounted upon the body A. The upper ring E is slightly larger than the lower ring F, thereby extending beyond the periphery of the lower ring and effectually preventing the lodgment of dirt and grit thereon. A pivot-bolt G extends through the bed A and a cross-piece H, which is secured to the upper ring E. Mounted upon this cross-piece are the upright standards or supports I I, suitably spaced apart, connected together at the top by a cap-piece J, stay rods or braces K K being bolted to this cap-piece and to the upper ring of the turn-table, whereby the standard I will be held firmly and securely, as will be readily understood. Pivotally mounted between these standards I I is a lifting lever or arm L, preferably by means of a bolt or pin L′, passing through holes i and i^2 in the standards and lever, respectively. In order that the lever may be carried at various heights on the standards I I, a series of holes i are provided therein.

It will be noted that the forward end of the lever extends beyond the bed or body A, and in order that the lever may be guided in its movements up and down guide posts or bars M M are mounted upon the cross-piece H, suitably spaced for the movement of the lever therebetween at their upper ends, being secured to the uprights I I. These guide-posts M M also assist in bracing the uprights I I. These guide-posts M M are provided with openings m m for the reception of a pin m', whereby the downward movement of the forward end of the lever L may be arrested and the lever supported thereby.

The lever L may be adjusted to various heights on the standards in any suitable manner; but in the present instance when it is desired to adjust the lever its forward end is raised until one of a series of openings i^2 in the lever registers with the holes in the guide-posts, where it is held by the pin m'. The pin L′ is removed and the rear end of the lever raised, the lever pivoting on the pin m' until one of the openings i^2 registers with the openings in the standards I I, when the lever is held by the pin L′, the operation being repeated until the lever is at the proper height, as will be readily understood.

At the forward end of the lever L is carried the load-supporting device, which in the present instance is of the following construction: Passing through an opening l in the lever L is a hollow rod or tube l', having at its upper end lateral extensions, in the present instance a nut l^3, whereby it will be freely suspended from the end of the lever L. At the lower end of the tube l' are pivoted grapple arms or hooks l^2, preferably upon a sleeve or collar l^5, secured to the lower end of tube l'. Passing through the tube l' is a rod l^5, which carries at its lower end a ring or plate l^6, which bears against the under side of the grapple-hooks l^2, whereby by an upward movement of the rod l^5 the ring l^6 will be raised and the grapple-hooks spread apart, as shown in full lines, Fig. 1. The reverse

movement of the plate will permit the grapple-hooks to close, as will be readily understood.

In order that the grapple may be conveniently operated, the rod l^5 is secured at its upper end to one arm l^7 of a bell-crank lever pivoted to a post l^9 on the lever L. To the other arm l^{10} of the bell-crank lever is secured a rod l^{11}, which extends to nearly the rear end of the lever L, where it is secured to one arm l^{12} of another bell-crank lever, the other arm l^{13} of which being in the form of a handle in convenient position to be grasped by the operator.

In use the apparatus is wheeled into position and the forward end of the lever L depressed until the load to be handled may be grasped by the grappling-hooks. The rear end of the lever L is then depressed and the load carried to the desired locality, when by pulling upon the rod l^{11} the grapple-hook will through the described instrumentalities be released and the load deposited in the desired position.

In the manufacture of concrete blocks the molds when filled may be jarred by raising the lever L and permitting it to fall, the mold, if desired, being caused to strike upon a block or other obstacle, whereby the contents of the mold will be quickly and effectually tamped. The completed block can be carried easily and quickly to the spot where it is to be used, and owing to the lever L being adjustable in height on its support the apparatus is well adapted for use in construction of building walls, &c.

With a slight modification the above-described apparatus is well adapted for loading and carrying sand, gravel, and the like, and such a modified structure is illustrated in Fig. 3 of the drawings. Referring particularly to this figure, it will be seen that the general structure is the same as that previously described, except that in this structure the standards upon which the lever is supported are not so high, as a great range of adjustment of the lever is not necessary. For carrying the load, a scoop O is employed in this form of device, which is supported at the front by means of the grapple on the lever-engaging loops or eyes O′ on each side of the scoop, said scoop being supported near the rear by means of hooked links P engaging loops or eyes p on the scoop. The scoop may be loaded by lowering the lever until the scoop is at the proper angle, when it may be pushed into the pile of sand, gravel, &c., and then raised and the load carried to the place where it is to be dumped. This is done by simply releasing the grapple, when the forward end of the scoop will be released and will drop down, the rear end being held by the links P. The scoop is guided at the rear in these movements by means of rings p', which run on guide bars or runners p^2, carried at the front of the frame. If necessary, the lever L may be counterweight, and such a weight is shown at Q.

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

1. In a device such as described, the combination with the bed or body suitably mounted on wheels, a turn-table thereon, the standards or supports carried by the turn-table, the lever pivotally and adjustably mounted on said standards, and extending beyond the forward end of the body or bed, and the guide-posts also carried by the turn-table and between which the lever plays and is guided in its movements, and a load-sustaining device carried by the lever; substantially as described.

2. In a device such as described the combination with the wheeled bed or body, the standards carried thereby, having a series of holes for the reception of a pin, the lever pivoted on said pin, the guide-posts between which the lever plays and is guided, having a series of holes for the reception of a pin, and a load-sustaining device carried by the lever.

3. In a device such as described, the combination with the wheeled body or frame, a turn-table carried by said body to the rear of the wheels and midway of the sides, standards on said turn-table, the lever pivotally and adjustably mounted on said standards and extending beyond the forward end of the body, a load-sustaining device carried by the forward end of the body, mechanism carried by said lever for releasing the load and means for operating said releasing mechanism carried by the lever; substantially as described.

4. In a device such as described the combination with the frame, the standards thereon, the lever having a series of holes therein, said standards also having a series of holes therein, a pin upon which the lever is pivoted, the guide-posts having a series of holes therein for the reception of a pin whereby the lever may be adjusted in the standards, substantially as and for the purpose set forth.

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Witnesses:
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