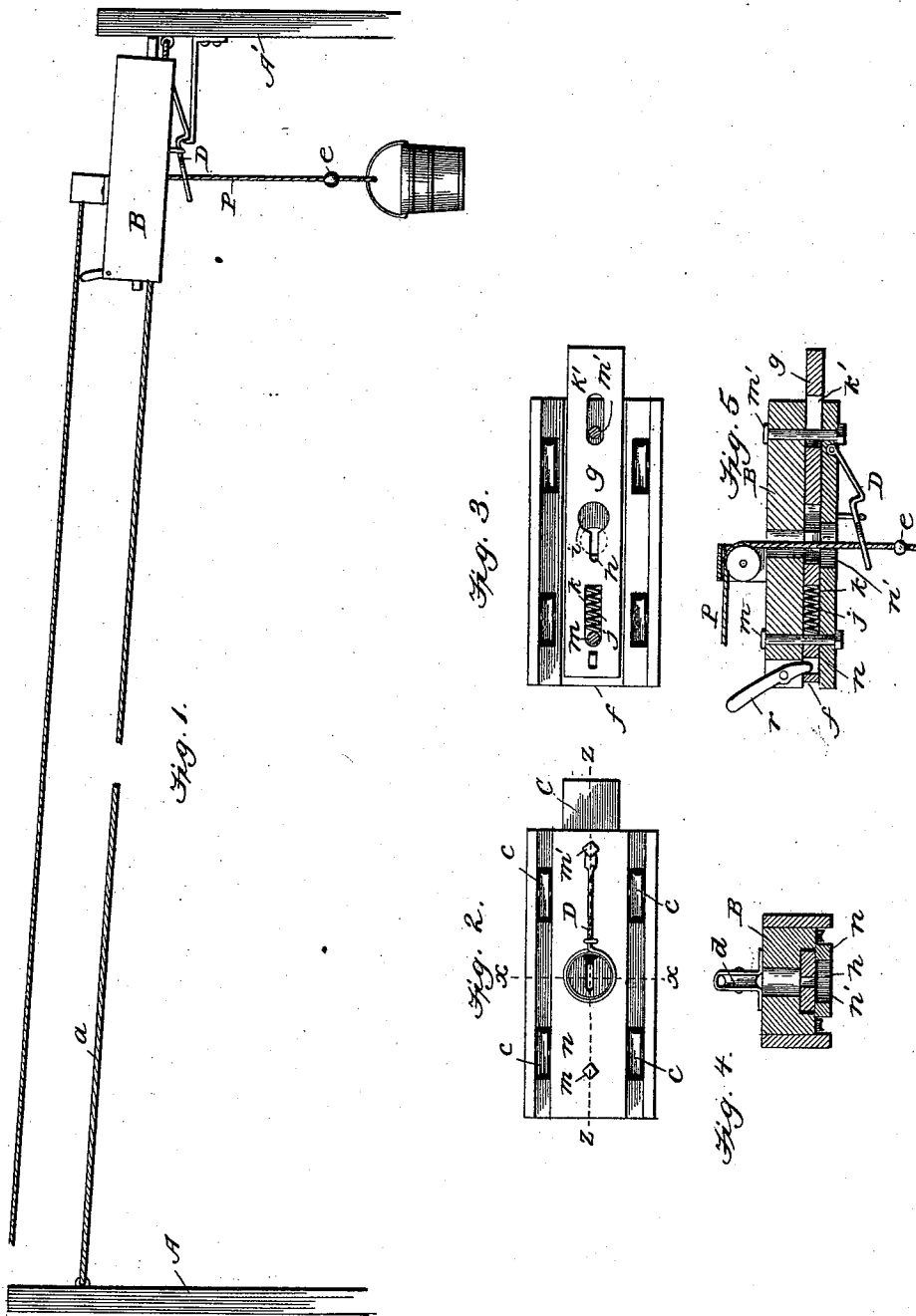


(No Model.)

J. H. HODGES.
WATER ELEVATOR AND CARRIER.

No. 523,911.

Patented July 31, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. HODGES, OF ADLER, ARKANSAS.

WATER ELEVATOR AND CARRIER.

SPECIFICATION forming part of Letters Patent No. 523,911, dated July 31, 1894.

Application filed August 22, 1892. Serial No. 443,702. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HODGES, a citizen of the United States of America, residing at Adler, in the county of Izard and State of Arkansas, have invented certain new and useful Improvements in Water Elevators and Carriers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to water elevators and carriers; and belongs to the class in which the water is to be first elevated, as from a well, and then carried to its destination on an inclined elevated way.

In the accompanying drawings: Figure 1 is a side elevation of my inclined way, with the carrier, hoisting rope, and bucket attached. Fig. 2 is an inverted plan view. Fig. 3 is a similar view to that shown in Fig. 2, but with the plate *b* removed. Fig. 4 is a vertical cross section taken on the line *x-x* Fig. 2. Fig. 5 is a longitudinal section taken on the line *z-z* looking from the side.

Like letters of reference indicate the same parts in the several views.

In Fig. 1, *A, A'*, indicate two supports connected by ways *a*, only one of which can be seen, as the other is supposed to be located diametrically opposite it. Upon this way, a carrier *B* is mounted, which is provided with sheaves *c, c, c, c*, as shown in Figs. 2, 3, and 4. Upon the top of the carrier and near its center is mounted a pulley *d* over which the hoisting rope passes before connecting with the bucket. This rope serves to draw the carrier with its load up the way. Upon this rope just above its attachment with the bucket is formed a knot, or a small ball may be secured as at *e*, the object of which will be presently described. The carrier is grooved at *f* upon its under side, and fitted with a reciprocating bar *g* having a slot *h* terminating in a circular opening *i* and held to a forward position by a spring *j*. The bar *g* is also provided with slots *K, K'*, through which extend the bolts *m, m'*, that serve to connect the bottom plate *n* with the main body *B* of the carrier. Plate *n* is provided with a circular opening *n'* through which the hoisting rope *p* passes to the bucket.

By examination of Figs. 2, 3, and 4 it will be observed that the opening *n'* in the plate *n* registers with a corresponding opening in the

main body of the carrier and with the slot *h* in the reciprocating bar *g* when it is in normal position. It will also be observed that in one end of the main body of the carrier there is formed a recess and in this recess there is pivoted a lever *r*, the shorter arm of which engages an opening in the rear end of the bar *g*, and that by raising this lever it will retract the bar *g* against the force of the spring *j* and bring the circular part of the slot in bar *g* into position to register with the openings in the plate *n* and main body *B*.

The operation of the carrier is as follows: The bucket is first drawn close to the carrier and the circular part of the slot in the bar *g* is brought to register with the openings in the main body *B* and bottom plate *n* by operating the bar *g* through the lever *r*. The rope is then drawn up until the bucket is arrested by the bail coming in contact with the hinged-plate *D*, closing it against the main body *B*. The lever *r* is then released, when the bar *g* moves forward bringing the rope into the narrow part of the slot, which prevents the ball *e* from passing downward, when the rope is slackened; the rope is then paid out and the carrier descends the way *a* by gravity, until it reaches its destination when the protruding end of the bar *g* coming in contact with that support, drives it in against the action of the spring *j*, thereby arresting the carrier and releasing the bucket as the larger part of the slot in the bar *g* is now brought under the ball *e* on the rope; the bucket now descends into the well and is filled when drawing in the rope *p* will elevate it, until the bail of the bucket comes in contact with the hinged-plate *D*, which as has been stated, it cannot pass; and as the bucket cannot be raised further the continued taking in of the rope will cause the carrier to move with the bucket up the inclined way and as soon as it moves off from the support, the bar *g* is advanced by the spring *j* and secures the bucket to the carrier by passing the smaller part of the slot under the ball *e*. On the arrival of the bucket at its destination it can be emptied by pressing on the lever *r* which will again cause the bar *g* to retract and release the ball *e*. In this way the operation can be repeated as often as may be desired.

My invention is designed especially for carrying water, but it is obvious that it may be used for hoisting earth, coal, minerals, or anything that requires to be first elevated in a vertical line and afterward carried to a convenient distance for delivery.

The purpose of the hinged plate D is to engage with a suitable stop S on the post A' and retain the carrier in position during the lowering and the raising of the bucket from the well in the usual manner. When the bail of the bucket strikes the free end of the plate D it raises and disengages it from the stop S and permits the carrier to move up on the track *a*.

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

1. In an elevator and carrier, a carrier constructed to travel upon a way, and having a longitudinal opening and a vertical opening intersecting, a bar adapted to move in the longitudinal opening and having a slot provided with an enlargement to be brought in register with the said vertical opening, and a lever pivoted to the carrier and having a positive engagement with the said bar to operate the latter and bring the enlarged portion of the slot in register with the vertical opening in the carrier, substantially as described.

2. In an elevator and carrier, the combination with a carrier having longitudinal and vertical openings intersecting, a bar working in the longitudinal opening and having a slot provided with an enlargement, means for actuating the bar, and a hoisting rope having

an enlargement, of a plate hinged to the carrier and adapted to be struck by the bail of the hoisting bucket and moved upward at its free end, and a stop engaged by the said plate substantially as set forth.

3. The herein shown and described carrier composed of a body having a groove in its nether side and provided with a vertical opening intersecting with the said groove, a plate closing the open side of the groove and having an opening in vertical alignment with the opening in the body, a bar seated in the said groove and held in place by the plate and having longitudinal slots near its ends, and an intermediate slot provided with an enlargement, bolts connecting the plates with the body and passing through the end slots in the bar to limit the movements of the latter, a spring located in one of the end slots of the bar to normally hold the latter so that the enlarged portion of the intermediate slot will be out of register with the aligning vertical openings in the body and plate, and a lever pivoted to the body and adapted to engage with the said bar to move it against the tension of the spring to the enlarged portion of the intermediate slot in line with the vertical openings in the body and plate, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. HODGES.

Witnesses:

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