A. A. & R. P. McPheeters,

Water Elevator.

No. 102,955. Patented May 10. 1870.

fig. 1.

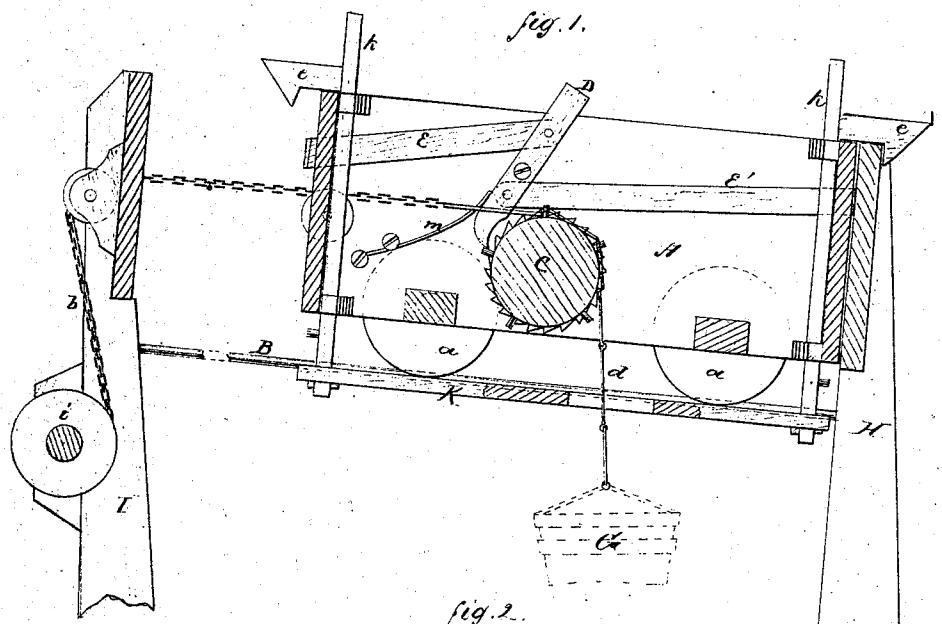
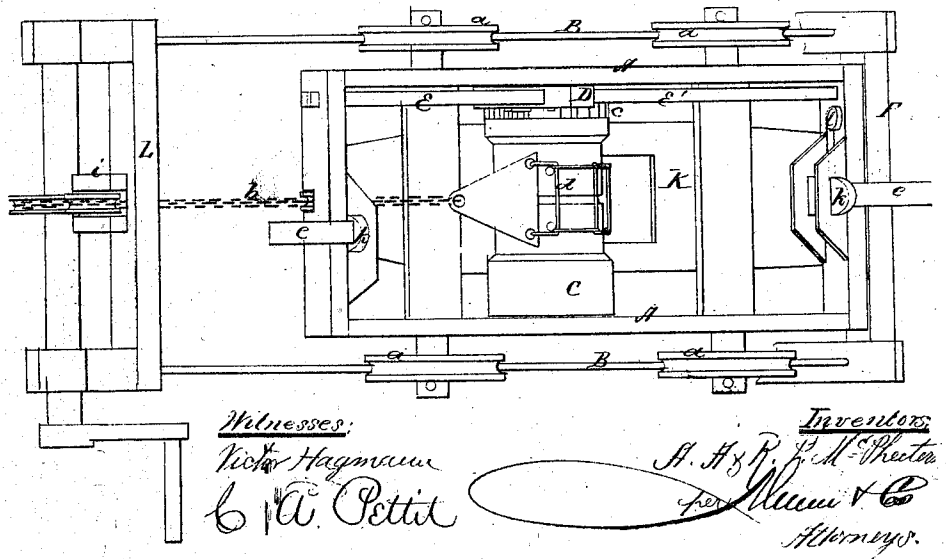


fig. 2.



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United States Patent Office.

ARCHIBALD A. McPHEETERS AND ROBERT P. McPHEETERS, OF ARBOR HILL, VIRGINIA.

Letters Patent No. 102,955, *dated May* 10, 1870.

IMPROVED WATER-ELEVATOR AND CARRIER.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, ARCHIBALD A. McPHEETERS and ROBERT P. McPHEETERS, of Arbor Hill, in the county of Augusta and State of Virginia, have invented a new and improved Water-Elevator and Carrier; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a sectional elevation, and

Figure 2 a plan view.

This invention relates to elevating material from mines, wells, or any place whence it is to be raised and carried.

The invention consists in an automatic device for disengaging from the windlass that carries the bucket-rope, the pawl that prevents said windlass from rotating, in order to allow the bucket to descend both for filling and emptying; in combination, an automatic device for enabling the bucket as it is raised, both after being filled and after being emptied, to release the hooks which attach the carrier to the bulkheads at the upper and lower ends of the inclined elevated railway on which the carrier moves.

In the drawings—

A is the carrier, consisting of a box mounted on wheels *a a*, which run on an inclined railway, B, elevated over the mouth of the pit.

C is the windlass, which carries the bucket rope.

The windlass is mounted crosswise of the carrier, having a ratchet, *c*, at one end.

D is a pawl, hung to the inside of the carrier at a point where its lower end may engage with the ratchet *c*, and

m is a spring, which tends to keep the pawl constantly engaged with the ratchet.

E E′ are rods pivoted to the pawl D, one above and the other below its fulcrum, and extending, one through the forward end of the carrier and the other through its rear end, and projecting outside these ends so far that, when the carrier runs down to the bulkhead F at the end of the frame that sustains the elevated railway, the bulkhead strikes the rod E′, and forces it back, and thus disengages the pawl D from the ratchet *c*, so that the windlass is left free to be revolved by the weight of the bucket G descending into the well, mine, or other excavation, whose mouth is supposed to be immediately in front of the end H of the sustaining-frame.

The bucket, having been filled, is raised by rotating the windlass *i*, placed within convenient reaching distance across the end I of the sustaining-frame, to which windlass is attached the opposite extremity of the bucket-rope *b*.

K is a plate, attached at its extremities to the lower ends of bars *k k*, provided with upwardly-pressing springs, which slide in guide-ways on the inner sides of the two ends of the carrier A, opposite each other, so that the plate K extends beneath the carrier lengthwise, and has an orifice for the bucket-chain *d* to pass through, but too small to admit the bucket.

Hooks *e e* project outward from the bars *k*, one of which hooks catches over the top of the bulkhead F when the carrier runs down to the latter.

As soon as the bucket, during its ascent, strikes the plate K, it throws the latter up, releasing the hook *e* from the bulkhead F. The rope B thereupon draws the carrier up the inclined railway B, bearing the bucket held against its under side, until the front end of the carrier strikes the upper bulkhead L, when the upper hook *e* catches over the bulkhead and holds the carrier fast. At the same time the projecting end of the bar E strikes the bulkhead and throws the upper end of the pawl D backward, so as to disengage it from the ratchet *c* and allow the windlass C to be rotated by the weight of the full bucket as the latter descends to be emptied.

On raising the empty bucket, as soon as it strikes the plate K it releases the hook *e* from the bulkhead L, and allows the carrier to run by its own gravity down the railway till it strikes the bulkhead F, when the other hook *e* catches over the latter, and the bar E′ disengages the windlass, again allowing the bucket to descend into the pit, as before described.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

The combination of the pawl D, rods E E′, windlass C, provided with the ratchet *c*, plate K, rods *k k*, provided with the hooks *e*, and the bulkheads, all constructed and arranged to operate as described.

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Witnesses:

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