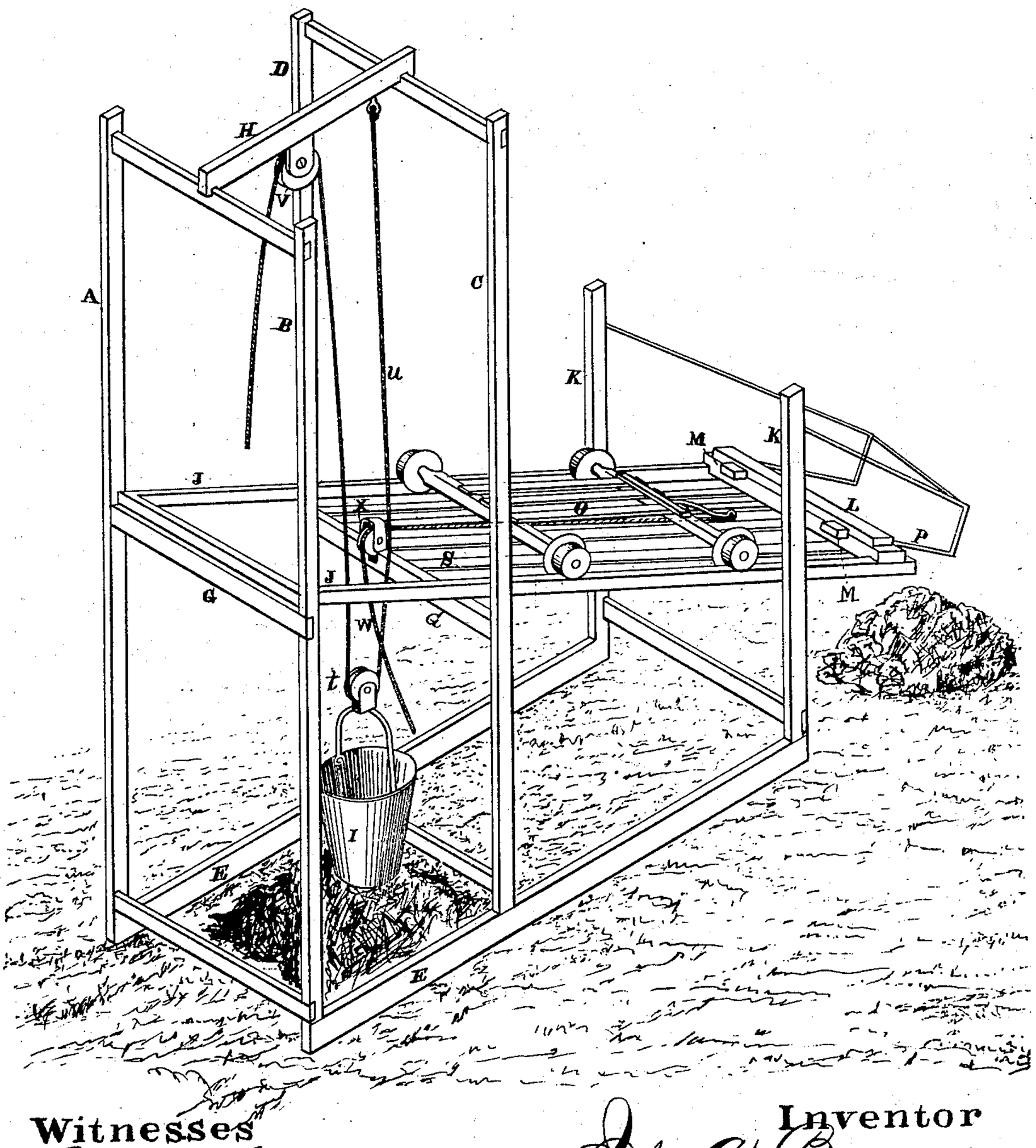
J. A. BRUNER & A. RICH.

Combined Elevator, Track and Self-Discharging Bucket.

No. 198,966. Patented Jan. 8, 1878.



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UNITED STATES PATENT OFFICE.

JOHN A. BRUNER AND ALEXANDER RICH, OF STOCKTON, CALIFORNIA.

IMPROVEMENT IN COMBINED ELEVATOR, TRACK, AND SELF-DISCHARGING BUCKET.

Specification forming part of Letters Patent No. **198,966,** dated January 8, 1878; application filed November 21, 1877.

To all whom it may concern:

Be it known that we, JOHN A. BRUNER and ALEXANDER RICH, of Stockton, in the county of San Joaquin and State of California, have invented a Combined Elevator, Track, and Self-Discharging Bucket; and we do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention without further invention or experiment.

Our invention has reference to a portable machine for hoisting earth, water, or other substances, transporting them to a short distance, and dumping them.

The machine is especially adapted for hoisting earth from an excavation, running it to a dump, and discharging it, and it is so constructed that one man can operate the entire machine.

Our invention is fully represented by the accompanying drawing, in which the figure represents a perspective view of our improved machine.

The hoisting-frame consists of four upright timbers, A B C D, mounted upon base-timbers E E, in the ordinary manner of constructing the frame of an elevator. These uprights we connect together at suitable points by cross-timbers G, and across the upper end of the frame we secure the beam H, from which the hoisting bucket or tub I is suspended. J J are two parallel timbers, each of which forms a track for the wheels of a car to move upon. These timbers or tracks are properly connected together, and the double track thus formed is placed upon an inclination, with its upper ends extending across inside of the hoisting-frame, while its opposite ends lead to the place where it is desired to dump the material. Other uprights K K are arranged to support this track at intervals wherever required. At the lower end of the track is a bumper-beam, L, against which the car O will strike when it is allowed to run down the track. On the inside edge of this beam we place india-rubber buffers M M, to receive the force of the concussion when the car comes in contact with the bumper-beam. Outside of this buffer-beam we attach a light frame, P, so as to project beyond the track, which serves to catch the bucket or tub I when it has been thrown forward and tipped by the force of the concussion, as hereinafter more fully described.

The upper end of the track, where it crosses the upright hoisting-frame, we leave open; but we make a floor, S, which we have represented in the present instance as a skeleton floor extending from the hoisting-frame to the lower end of the track underneath the car.

The bucket or tub I has a pulley, *t*, attached to its bail. The rope *u*, by which the bucket is hoisted, has one end attached to the overhead cross-beam H. It then passes down under the pulley *t* on the bail of the bucket; thence up over a pulley, V, which is secured to the under side of the beam H, and then down into the excavation, so that the pulley *t* of the bucket travels in the bight of the rope.

The car or carriage O has a rope, W, attached to it, and this rope passes over a pulley, X, and thence down into the excavation.

It will thus be seen that the person who fills the bucket or tub in the excavation can hoist and unload it in the following manner: After he has filled the bucket he hoists away upon the rope *u* until the bucket has been hoisted above the track. By hauling upon the rope W he can then draw the car or carriage O up the track and under the bucket. Then, by lowering the bucket, it will rest upon the car. He then lets go of both ropes, so as to allow the car with its loaded bucket to run down the track and strike the buffers M M, which pitches the bucket forward into the basket or light frame P outside of the beam L. A trip-bar on the car causes the bucket to turn on its side as it pitches forward, so that its contents are emptied through the frame P upon the dump-pile. The bucket can then be hauled back up the floor S, and again lowered into the excavation to be refilled.

The upper end of the track can be raised or lowered, according to the inclination or grade desired.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

A combined elevator, track, and self-dis-

charging bucket, consisting of the frame A B C D, with its cross-beam H and hoisting tub or bucket R, in combination with the inclined track J J, with its bumper-beam L, floor S, and basket or frame P, and the car O, all combined and arranged to operate substantially as above specified.

In witness whereof we have hereunto set our hands and seals.

JOHN ANDREW BRUNER. [L. S.]
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Witnesses:

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