No. 744,491. PATENTED NOV. 17, 1903.

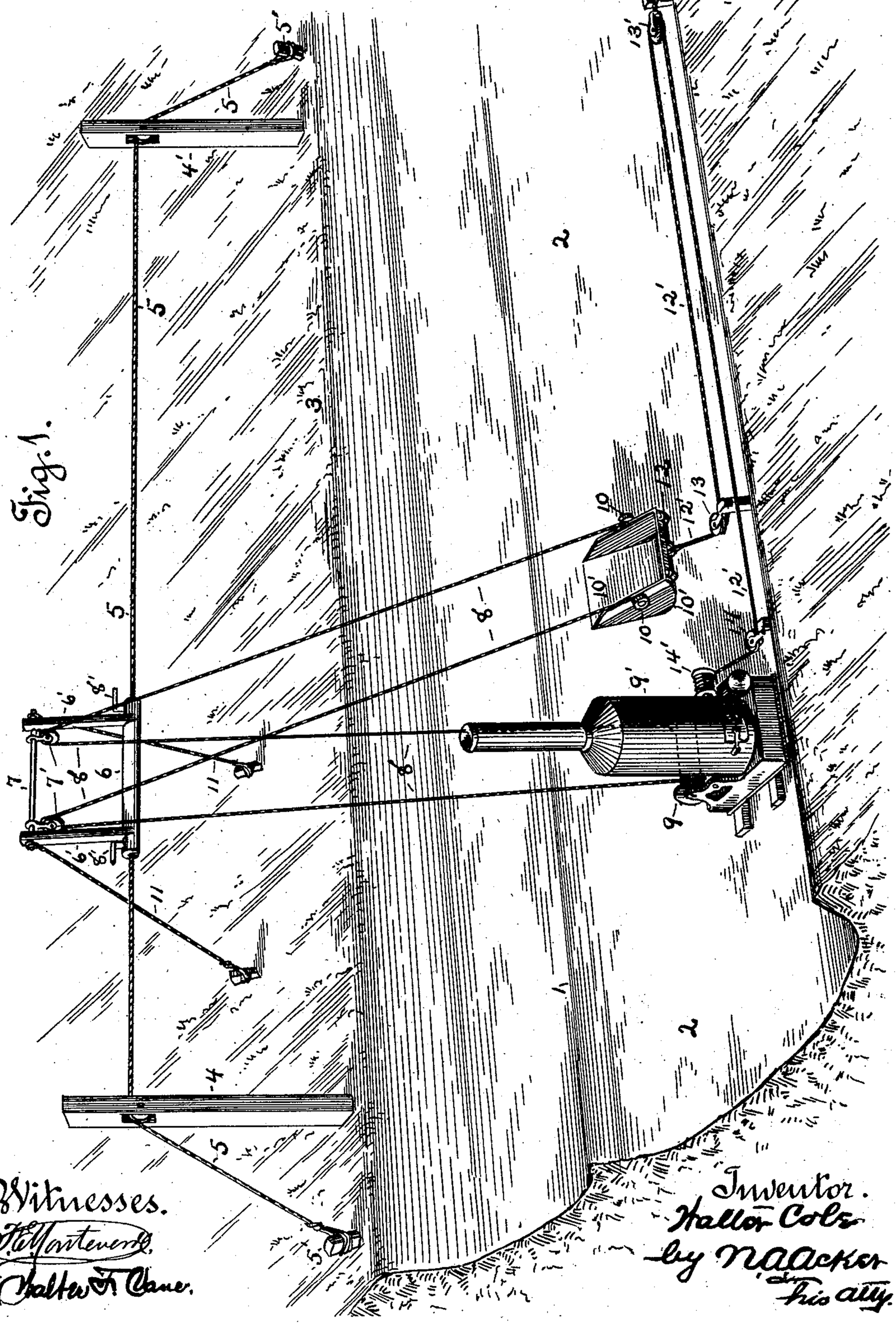
W. COLE.

EXCAVATING MECHANISM.

APPLICATION FILED APR. 9, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses.
F. L. Courtenay,
Walter F. Cane.

Inventor.
Hallor Cole
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his atty.

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NO MODEL. 2 SHEETS—SHEET 2.

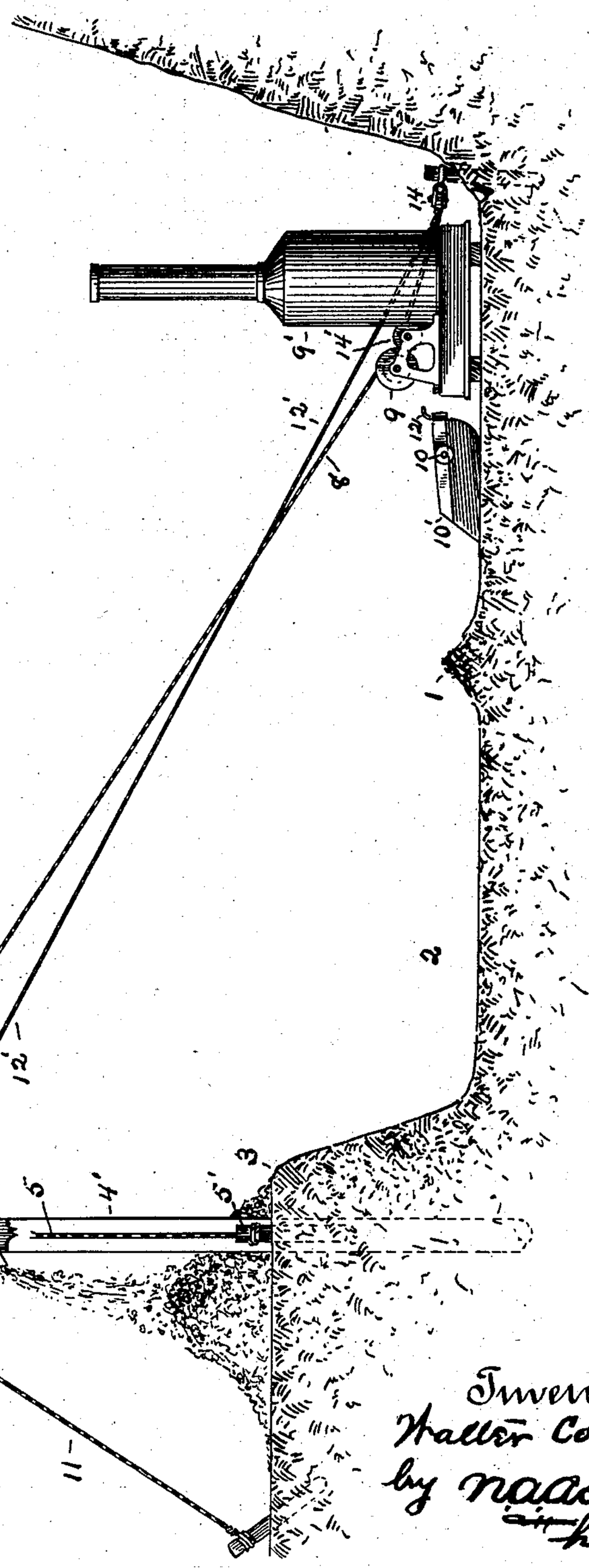

Fig. 2.

Witnesses.
Hellartevers.
Walter F. Cane.

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his Atty.

No. 744,491. Patented November 17, 1903.

UNITED STATES PATENT OFFICE.

WALTER COLE, OF SAN FRANCISCO, CALIFORNIA.

EXCAVATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 744,491, dated November 17, 1903.

Application filed April 9, 1903. Serial No. 151,745. (No model.)

To all whom it may concern:

Be it known that I, WALTER COLE, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented certain new and useful Improvements in Excavating Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the same.

The present invention is designed for use in connection with the work of excavating foundations, the removal of dirt from irrigating-ditches, or for the displacement of soil for the purpose of transporting the same to make a fill of hollow land.

To comprehend the invention, reference should be had to the accompanying sheets of drawings, wherein—

Figure 1 is a perspective view illustrating the mechanism as being used in connection with the removal of soil from a newly-excavated irrigating-ditch; and Fig. 2 is side view of the said mechanism, partly broken, the same being viewed from one end of the irrigating-ditch.

In the construction of irrigating-ditches with the form of mechanism set forth and described in the application, Serial No. 146,947, filed by me in the United States Patent Office on the 9th day of March, 1903, a central ridge 1 of dirt is left within the excavated ditch 2. This ridge gives an uneven or unfinished bottom to the ditch. For the purpose of the present application the invention is illustrated in the drawings as operating to remove such ridge 1 or the material left by the excavating-machine.

To the bank or side wall 3 of the ditch the supporting posts or uprights 4 4′ are placed, the distance between the posts being approximately seventy-five feet. Through these supports or uprights extend the track or cable 5, the ends of which are suitably held in place by being attached to the anchors 5′. This track, which is parallel with the ditch, may be suspended any desired height above the embankment 3, the same depending solely upon the height of the supports or uprights 4 4′.

To the suspended track or cable 5 is secured the block 6, which block is slidable upon the said track or cable toward or from the end supports or uprights 4 4′. From this block upwardly extend the side pieces 6′, which are united by the cross-piece 7. From this cross-piece the pulleys 7′ are suspended, through which work the haulage-cables 8. The slide-block 6, with its side pieces 6′ and cross-piece 7, constitute a hoist-head slidably secured to the track or cable 5. This hoist-head is locked or clamped to the track or cable 5 by means of the screw-clamps 8′. These screw-clamps are of usual construction and call for no specific description. The haulage-cables are attached to the drum 9 of a hoisting-engine 9′, which engine is located within the ditch or trench adjacent to the wall opposite to that at which the suspended track or cable is located. The free end of the haulage-cables are attached to studs 10, laterally extending from the side walls of the bucket or scuppet 10′. To give stability to the hoist-head, the same is held against inward turning by means of the anchor-cables 11.

The scuppet or bucket is held against the earth to be removed by a workman within the trench bearing upon the handle 12. When commencing the work of removing the soil, the scuppet or bucket is at that side of the trench or ditch where the hoist-engine 9′ is situated. As the haulage-cables 8 are wound upon the engine-drum 9 the scuppet or bucket 10′ is drawn crosswise of the ditch or trench, so as to scoop the soil therein in a manner similar to an ordinary scraper. During the movement of the scuppet or bucket 10′ toward the side wall 3 the same filled with dirt is gradually raised or elevated until its upper surface bears firmly against the hoist-head, when the strain of the haulage-cable causes the scuppet or bucket to gradually tilt or swing over to dump its load onto the embankment 3, Fig. 2 of the drawings. To return the scuppet or bucket to its position after its load has been emptied, a return-cable 12′ is employed. This cable is attached to the back wall of the scuppet or bucket, running through pulley 13, snatch-block 13′, and pulley 14. The free end of the cable winds upon the gipsy 14′ of the engine 9′. During the forward or operating movement of the scuppet or bucket 10′ by the winding of the haulage-cables the cable 12′ unwinds from the gipsy 14′, while during the return of the scuppet or bucket 10′ due to the winding up of the cable 12′ the haulage-cables unwind

from the drum 9. After the proper removal of the soil in a line of cut has been made the hoist-head is adjusted upon the suspended track or cable 5, so as to present a new line of cut to the action of the scuppet or bucket, the position of the engine being altered to conform to the changed position of the hoist-head. By reason of the anchor-cables 11 the hoist-head is held in position to resist the pulling strain of the haulage-cables.

In case of the removal of dirt to fill in a hollow or low land the scuppet or bucket after being filled is at once returned to be emptied toward the position at which the engine is located.

Having thus described the invention, what is claimed as new, and desired to be protected by Letters Patent, is—

1. In an apparatus for removing soil, the combination with a suspended trackway, of a hoist-head adjustably secured thereto, haulage-cables working therethrough, a scuppet or bucket attached to one end of the cables, an engine for operating the haulage-cables, and means for returning the scuppet or bucket to its starting-point without being disconnected from the haulage-cables.

2. In an apparatus for removing soil, the combination with a suspended trackway, of a hoist-head adjustably secured thereto, haulage-cables working therethrough, a scuppet or bucket attached to the haulage-cables, and an engine for operating the haulage-cables.

3. In an apparatus for removing soil, the combination with a suspended trackway, of a hoist-head adjustably secured thereto, haulage-cables working therethrough, a scuppet or bucket attached to the haulage-cables, an engine for operating the haulage-cables, and a cable actuated by the engine for restoring the scuppet or bucket to its starting position.

4. In an apparatus for removing soil, the combination with a suspended trackway, of a hoist-head adjustably secured thereto, haulage-cables working therethrough, a scuppet or bucket attached to the haulage-cables, an engine for operating the haulage-cables, means for holding the hoist-head against displacement during the pulling strain of the haulage-cables, and means for returning the scuppet or bucket to its starting-point without being disconnected from the haulage-cables.

In witness whereof I have hereunto set my hand.

WALTER COLE.

Witnesses:
N. A. ACKER,
D. B. RICHARDS.