

No. 751,225.

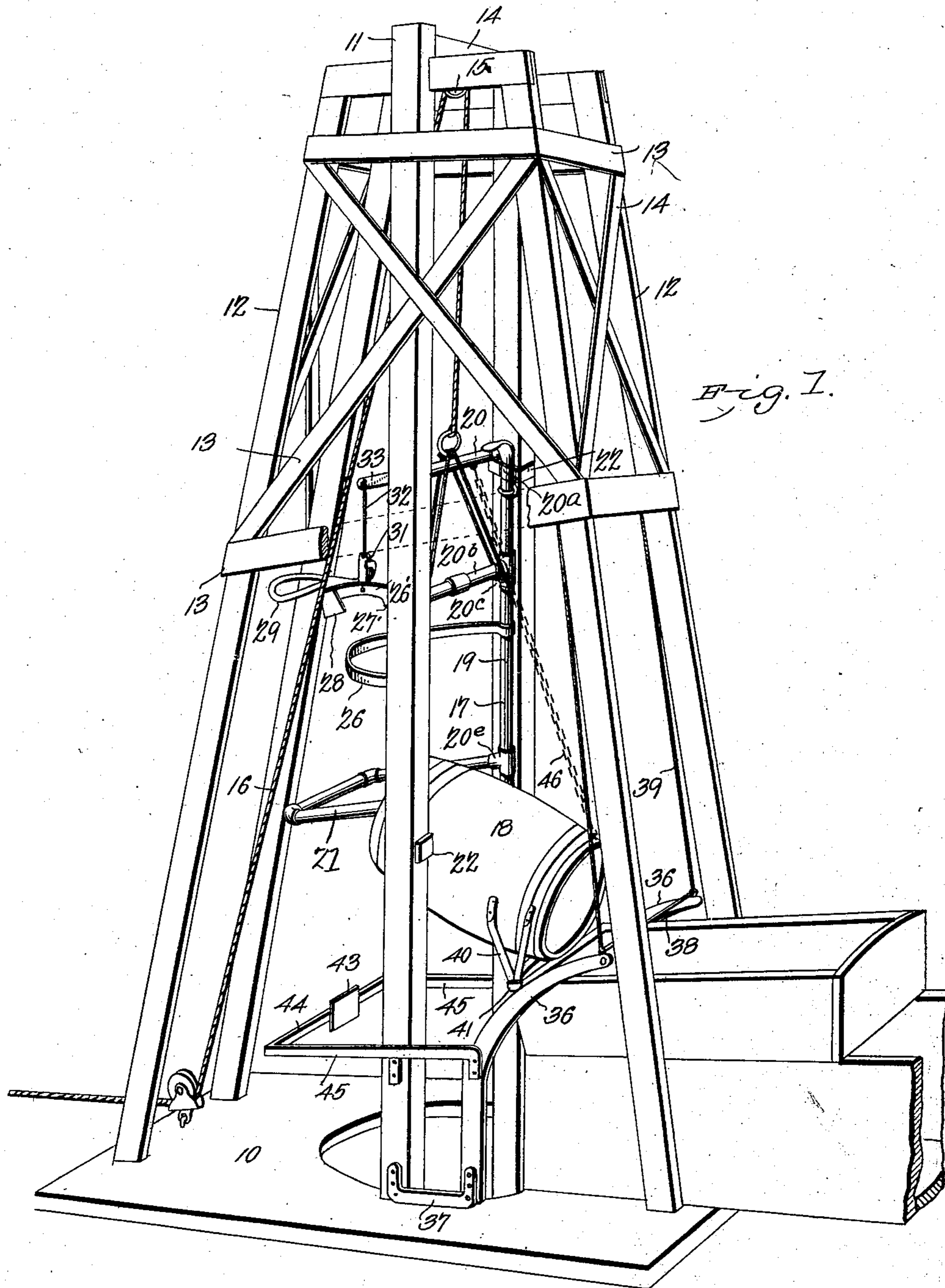
PATENTED FEB. 2, 1904.

F. B. VAN CLEAVE,  
DUMPING ELEVATOR.

APPLICATION FILED MAR. 7, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses  
*E. F. Stewart*  
*J. W. Jochnum, Jr.*

by *F. B. Van Cleave, Inventor.*  
*C. A. Snow & Co.*  
Attorneys

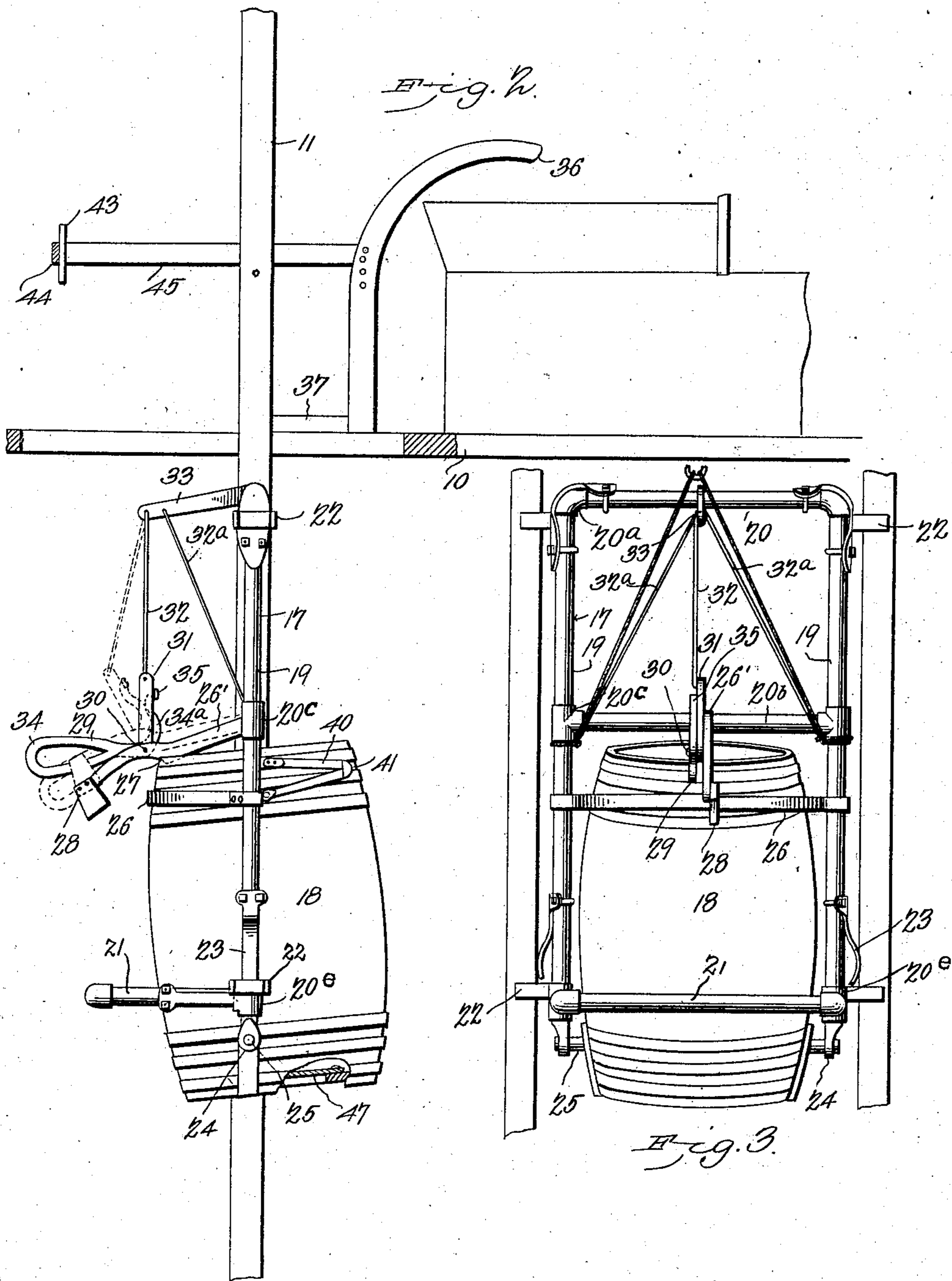
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Attorneys

# UNITED STATES PATENT OFFICE.

FRANKLIN B. VAN CLEAVE, OF ECHO, OREGON.

## DUMPING-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 751,225, dated February 2, 1904.

Application filed March 7, 1903. Serial No. 146,734. (No model.)

*To all whom it may concern:*

Be it known that I, FRANKLIN B. VAN CLEAVE, a citizen of the United States, residing at Echo, in the county of Umatilla and State of Oregon, have invented a new and useful Dumping-Elevator, of which the following is a specification.

My invention relates to dumping-elevators, and more particularly to that type in which a bucket or barrel is employed for raising water.

It consists in the various features hereinafter described and more particularly claimed.

In the accompanying drawings, Figure 1 is a perspective view of one embodiment of my invention. Fig. 2 is a side elevation thereof, parts being broken away; and Fig. 3 is a rear elevation of the bucket and its supporting-frame.

Similar characters indicate like parts throughout the several figures of the drawings.

The numeral 10 designates some suitable platform, in the present instance constituting the covering of a well, which is provided with an opening to permit the lowering of a bucket or other receptacle. Extending above and below the platform are a pair of uprights 11, which reach downwardly into the water. At or near their upper ends they are stayed by inclined braces 12 and by transverse horizontal and diagonal bars 13 and are connected by a cross-bar 14, from which is suspended a sheave 15, over which operates the hoisting-rope 16. One end of this rope is connected with a frame 17, in which is mounted the barrel or bucket 18, and the other end is joined to the draft-rigging of an animal or other suitable source of motive power.

The bucket-frame is preferably formed of threaded pipe and connecting-fittings, there being two side pieces or pipes 19 connected at their upper ends by a cross pipe or brace 20, extending between the outlets of elbows 20<sup>a</sup>, and below this but above the bucket is an intermediate brace 20<sup>b</sup>, made into the side outlets of T's 20<sup>c</sup>. The bottom of the side pieces is made on T's 20<sup>c</sup>, into the side outlets of which is connected a preferably rectangular brace 21, conveniently formed of sections of

pipe and elbows. To the elbows 20<sup>a</sup> and lower T's 20<sup>c</sup> at each side are secured stirrups 22, adapted to work over the uprights 11 and serve to guide the frame in its movement along them. Contact-pieces 23 may extend outward from the frame in proximity to the guides and furnish a proper surface, preferably somewhat elastic, for coöperation with the uprights. Into the bottom opening of the lower T's are made plugs 24, having eyes into which project trunnions 25, secured upon the opposite sides of the bucket to permit its swinging or tilting upon the frame. The side pieces have connected to them, preferably at a point just below the top of the bucket, a strap 26 to retain said bucket against tilting too far rearwardly.

The trunnions of the bucket are so situated that when filled with water it is in unstable equilibrium, the excess of weight being in front of the trunnions, so that it will have a constant tendency to tip forward. To prevent this and hold the bucket normally in upright position in the frame, locking mechanism is employed, which may comprise an arm 26', pivoted upon the cross-brace 20<sup>b</sup> and formed near its end adjacent to the bucket with a shoulder 27 to contact therewith and prevent forward movement of the bucket until the arm is raised. A weight 28 holds this arm normally downward into engagement with the bucket. For the locking mechanism a releasing or tripping mechanism is provided, consisting of an angle-lever 29, connected to the arm 26' by a pivot 30, upon which pivot is also mounted one end of a link 31, the other end of which is connected by a member 32 with a bracket 33, secured to the upper cross-brace. Stays 32<sup>a</sup> may connect this bracket with the side pieces. The long arm 34 of the angle-lever projects outward beyond the free end of the arm 26', and a vertically-disposed shorter arm 34<sup>a</sup> is provided with a horizontal projection 35, adapted to engage the link 31 and hold the long arm in the position shown in Fig. 2.

To support the bucket at the proper angle while its contents are being dumped, a pair of curved guide-rails 36 are mounted near the main tracks or uprights 11. These may be

of steel or faced at their upper edge with steel and secured at their lower ends to the platform 10 by straps 37, which also serve to fasten the uprights to the platform. The guides are connected together or stayed at their upper ends by a cross-bar 38 and are supported by a hanger 39 from the braces of the uprights at each side. Arms 40 40 at opposite sides of the bucket carry contact members 41 for coaction with the guides as the bucket rises and tilts.

To actuate the tripping mechanism and permit the bucket to tilt at the proper time as it rises from the platform-opening, a trip-plate or actuator 43 is provided lying in the path of the arm 34 of the angle-lever. It is preferably mounted upon a cross-bar 44, extending between side bars or arms 45 45, bolted to the uprights 11 and guides 36 and serving as braces for these members, as well as a support for the trip-plate.

In the downward movement of the bucket, the arm 26' being in engagement with the rim of the bucket, contacts between the longer lever-arm 34 and the trip-plate will merely cause the former to move freely on its fulcrum. When the bucket rises, contact with the plate will exert a downward pressure upon the arm 34, causing it to rock on its pivot, whereupon the shorter arm will transmit the movement through its projection to the link, which will tend to assume a horizontal position and will throw the arm upward and release the bucket, as is illustrated in Fig. 1. When released, said bucket by reason of its manner of support will at once tilt forward, bringing its contact members into coaction with the guides, along which they are moved as the bucket rises, maintaining it at the proper angle to best discharge its contents. A chain or other flexible connector 46, extending between the upper cross-brace of the frame and the rear edge of the bucket, prevents it from tilting too far. When the contents have been emptied from the bucket and it is lowered by its rope, the guides, acting upon the contact-faces, gradually restore it to its vertical position, at which it coacts with the arm 26' and is again locked in position to be filled. A valve 47 in the under side of the bucket opening inward permits its ready immersion and filling.

It will be seen that in my improved elevator the guiding and trip-actuating devices form a structure in which the parts may bear predetermined relation to one another, so that they may be assembled for use without the necessity of ascertaining what position the

trip-plate must have to the guide-rails to secure the proper tilting of the bucket, as would be the case if the guides and trip-plate were separately secured to the platform.

Having thus described my invention, I claim—

1. In a dumping-elevator, the combination with a supporting-frame and a tilting bucket, of locking mechanism for the bucket, tripping mechanism for the locking mechanism, guides with which the bucket coacts when it is tilted, and an actuator for the tripping mechanism having an arm secured to the guides and to the supporting-frame.

2. In a dumping-elevator, the combination with a tilting bucket, of locking mechanism for the bucket, tripping mechanism for the locking mechanism, guide-rails with which the bucket coacts when it is tilted, side bars secured to the guide-rails, a cross-bar connecting the side bars and an actuator for the tripping mechanism carried by the cross-bar.

3. In a dumping-elevator, the combination with a tilting bucket, of uprights along which the bucket moves, locking mechanism for the bucket, tripping mechanism for the locking mechanism, guides with which the bucket coacts when it is tilted, a connector between the uprights and guides, and an actuator for the tripping mechanism carried by a portion of said connector.

4. In a dumping-elevator, the combination with a tilting bucket, of uprights along which the bucket moves, braces for the uprights, guides with which the bucket coacts when it is tilted, and stays connected with the guides, the upright and braces.

5. In a dumping-elevator, the combination with a bucket, of a supporting-frame therefor consisting of pipes, opposite fittings provided with side outlets and made integral with the pipes, and pipes connecting these outlets.

6. In a dumping-elevator, the combination with a bucket provided with trunnions of a supporting-frame therefor consisting of oppositely-disposed T's at the lower ends of the pipes, and plugs extending from the lower opening of the T's and provided with openings to receive the trunnions.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANKLIN B. VAN CLEAVE.

Witnesses:

D. B. CRIGLER,  
B. B. HALL.