

(No Model.)

A. HOGELAND.
ELEVATOR FOR WATER, SAND, &c.

No. 436,036.

Patented Sept. 9, 1890.

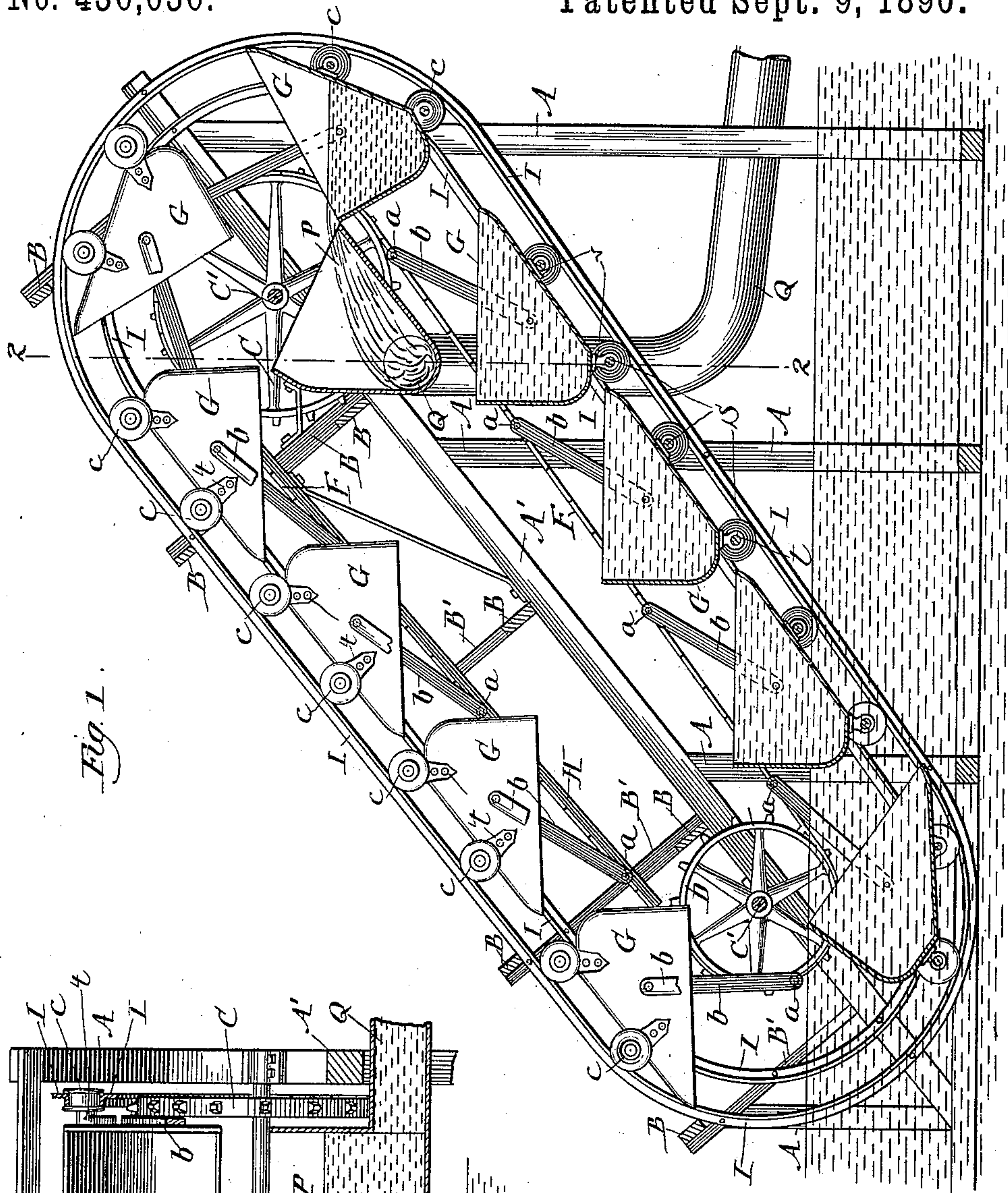


Fig. 1.

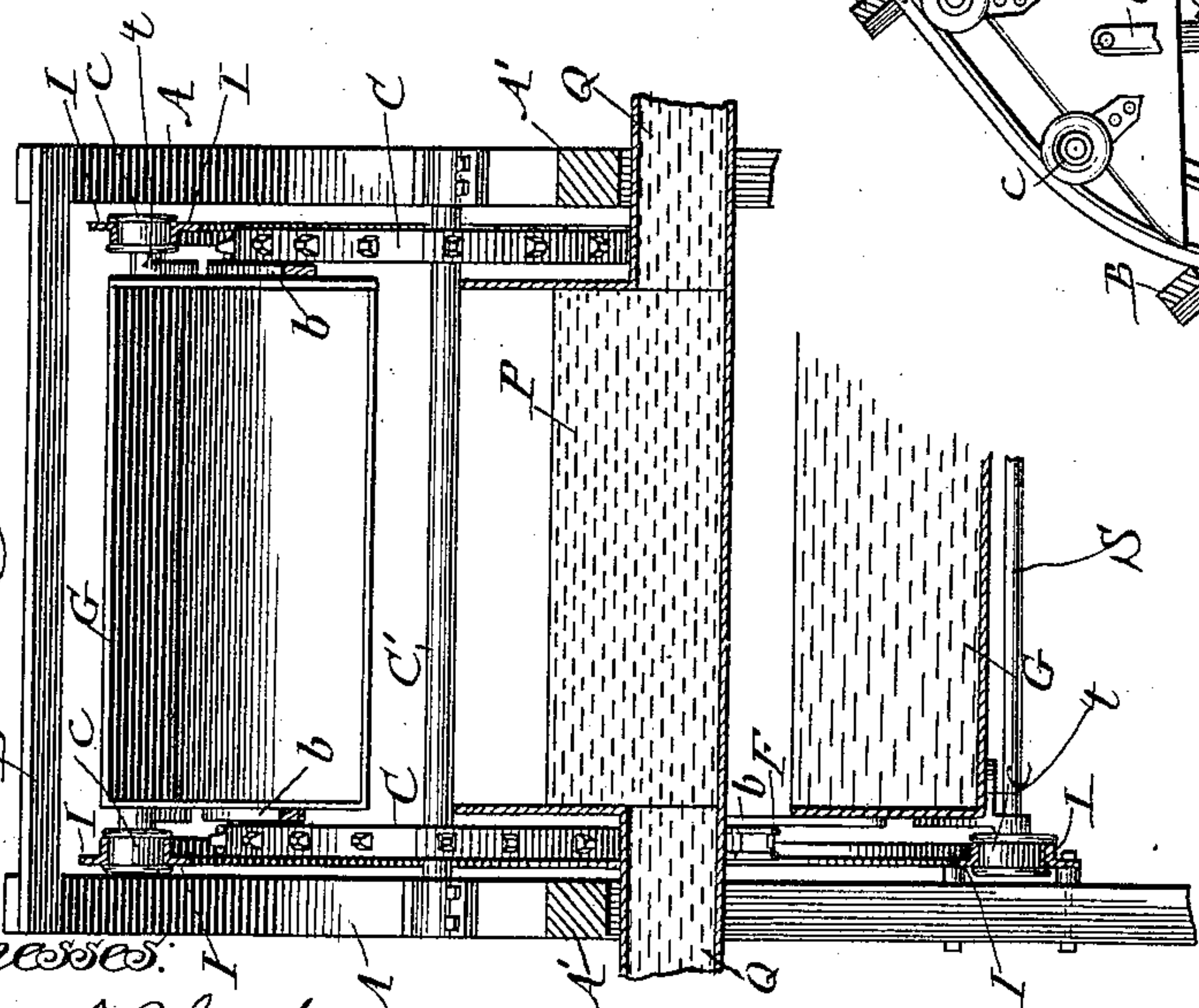


Fig. 2

Witnesses:
Frank M. Blanchard
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UNITED STATES PATENT OFFICE.

ALEXANDER HOGELAND, OF LINCOLN, NEBRASKA.

ELEVATOR FOR WATER, SAND, &c.

SPECIFICATION forming part of Letters Patent No. 436,036, dated September 9, 1890.

Application filed March 23, 1889. Serial No. 304,560. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER HOGELAND, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented a new and useful Improvement in Machines for the Elevation of Water, Sand, &c., of which the following is a specification.

My said invention relates to certain improvements upon a machine designed to do the same work described in my application for Letters Patent of the United States for an elevator for water, &c., filed May 11, 1888, and will be fully described hereinafter, with reference to the accompanying drawings, in which—

Figure 1 represents a side elevation, partly in section, of a machine embracing in its construction my said improvement; and Fig. 2, a vertical cross-section of the same, taken as indicated by the broken line 2 2 in Fig. 1.

In the drawings, A indicates two series of vertical posts resting upon any suitable foundation under water; A', two long inclined girders framed with said vertical posts, a series of studs standing upon the inclined girders at right angles therewith; and B, certain cross-joists, all of which parts constitute the framework for the operative parts of the machine, and may be made of wood, iron, or other suitable material.

The upper and lower ends, respectively, of the side girders A' are provided with suitable bearings or boxes for the sprocket-shafts C' of the sprocket-wheels D and C. The upper sprocket-wheels G have a diameter nearly twice as large as those of the lower sprocket-wheels D in order to furnish sufficient space for the tank P, which is attached to and extended across the frame in a position to receive the contents of the buckets G as they assume successively the position shown in Fig. 1. These sprocket-wheels, when motion is imparted to one of the shafts C', will drive the open-linked endless chains F, which is placed around them, as shown. H is merely a floor, down which the chain will slide when the machine is in motion. The outer sides of each belt F are provided along their whole circuit at regular intervals with ears a, having in them rivet-holes, and by means of rivets or bolts the links b, linked to each end of

the buckets G, the buckets are linked to and swing freely upon the open-linked belts. The buckets may be made of either sheet or cast metal, or any other suitable material and of any desired capacity, the rear sides of each being made nearly perpendicular to its bottom, while the other side is sloped or inclined thereto, so as to facilitate the forcing of the upper or forward edge thereof into a body of water or sand in order to scoop up the same. Each bucket is provided with a truck consisting of two axles and four double flanged or grooved wheels c, the forward axles having their bearings in the angle-irons v, which are rigidly fastened to the sloping sides of the buckets, while the rear axles are fastened to like flanges on the forward edges of the bottoms of the buckets, as shown. This arrangement of the axles with reference to the buckets is required to secure the peculiar positions the buckets are required to assume during the circuit.

In order that the trucks and their buckets may be sustained and guided securely in their circuits, two tracks I—one opposite to the other, the truck-wheels rolling between them—are provided on each side of the machine and fastened to the frame, as shown. The truck-wheels having grooved peripheries are at every point confined by rails fitting into their grooves and securing their true action, whatever their position in respect to a horizontal plane may be.

As shown in Fig. 1, the buckets are top downward as they pass down empty to the left until they pass down around the lower curve of the tracks and fill themselves with water, for instance, and then travel up the incline until each bucket reaches a point where its contents will be delivered automatically over its rear side into tank P, and thence to be conducted by pipes Q to any receptacle required.

In the operation of scooping up the water by means of the buckets and drawing the same up the incline upon their trucks and then emptying them into the tank P automatically, the powers of the wheel and axle and the inclined plane are availed of to lessen the expenditure of power. My continuous straight tracks will allow the trucks to move entirely around without break or jar in their motion, and my receiver being located be-

tween the chains will not be in the way of the buckets, and will discharge the water without hinderance or damage to them in any way.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the described frame for the operative parts, consisting of two straight tracks for truck-wheels opposite to each other and on each side of the frame, and the open-linked endless chains with their buckets G linked thereto and provided with their trucks adapted to said tracks, substantially as specified, the sprocket-wheels C and D, the upper sprocket-wheel C being much larger in diameter than wheel D, and the tank P, fastened to the frame between the endless chains, so as to be out of their way and in a position to receive the water from each bucket successively when it reaches the proper elevation, substantially as described.

2. In combination with the described frame

sustaining the described tracks at an inclination to a horizontal plane, the operative parts consisting of the endless straight tracks on each side of the frame and attached thereto, and the series of buckets linked at their ends to the endless open-linked chains F, which are provided with trucks adapted to said endless straight tracks, so that on each side the two rails of each track shall be on opposite sides to each other of the wheels of the trucks, the said open-linked endless chains F, the sprocket-wheels D and C and their shafts, and the tank P, attached to the frame between and out of the way of the endless chains, the whole adapted and operated substantially as described.

ALEXANDER HOGELAND.

Witnesses:

A. MOORE,

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