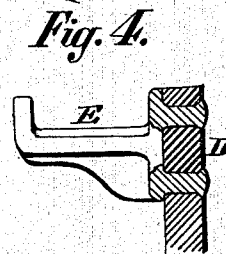
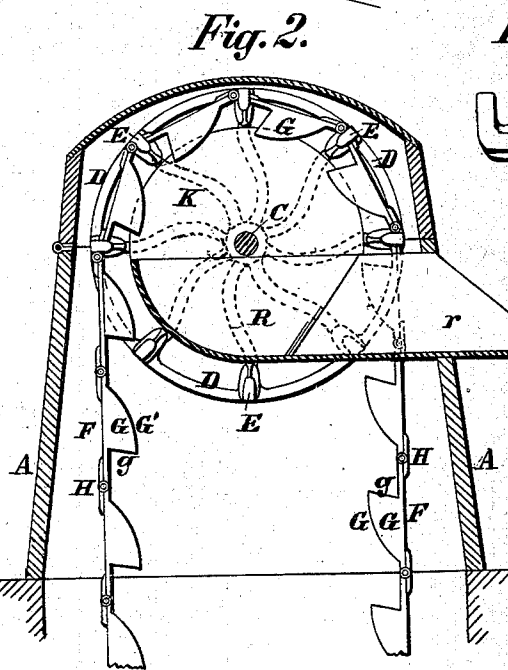
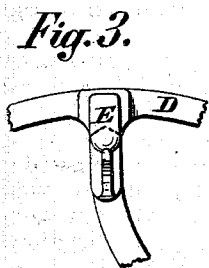
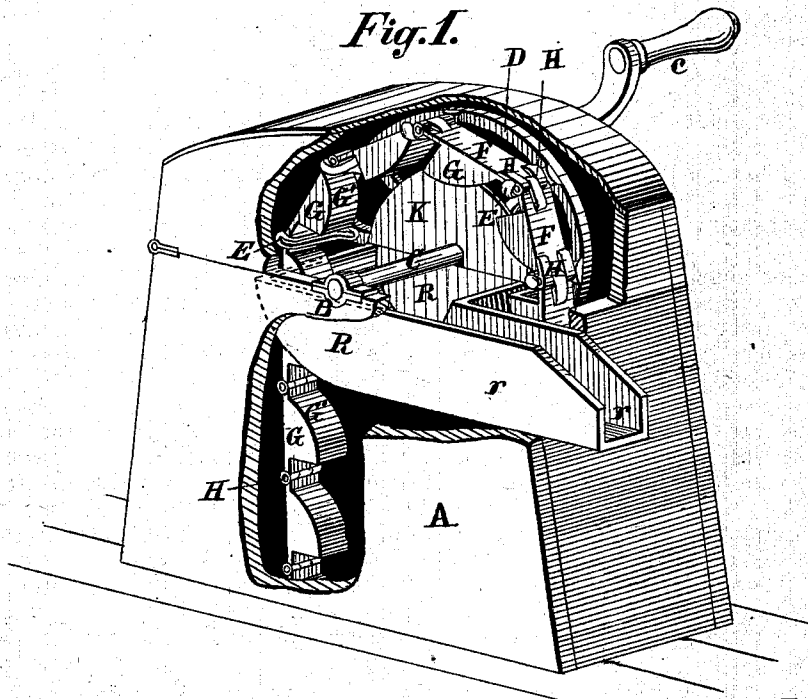


T. J. CHRISTY.
Water-Elevators.

No. 146,231.

Patented Jan. 6, 1874.



ATTEST.

Robert Burns.
Walter Allen

INVENTOR.

Thomas J. Christy
By Wright & Co.
Atty.

UNITED STATES PATENT OFFICE.

THOMAS J. CHRISTY, OF EAST ST. LOUIS, ILLINOIS.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. **146,231**, dated January 6, 1874; application filed November 6, 1873.

To all whom it may concern:

Be it known that I, THOMAS J. CHRISTY, of East St. Louis, St. Clair county, Illinois, have invented a certain Improved Water-Elevator, of which the following is a specification:

My improvement relates to that class of water-elevators in which the liquid is raised in vessels whose ascent is caused by the continuous rotation of a shaft, which supports the endless cord or chain, to which the vessels are attached.

My improvement consists, first, in forming the side edges of the buckets with a downward inclination from the front edge, (see Fig. 2,) so that they can be tilted forward somewhat when about to be discharged, before the water will commence to flow out, so that they may be brought over the receiver before such discharge takes place, and so that none of the water may run to waste.

The second part of my improvement consists in the combination, with the said endless elevator, of a wheel, having side hooks, upon which the elevator is supported, so that the wheel is placed beside the receiver, into which the water is emptied from the buckets, as shown.

In the drawings, Figure 1 is a perspective view, with part of the curb broken away. Fig. 2 is a side view of the elevator, showing the receiver and curb in section. Fig. 3 is an end, and Fig. 4 a side, view of one of the hooks, upon which the elevator is supported.

A is the curb, supporting in boxes B the shaft C. The shaft carries a wheel, D, having projecting from one side the hooks or pins E to support the endless elevator. The shaft C is turned by a hand-crank, c. The endless elevator consists of a number of vessels hinged together, in which F is a flat back plate, having at each end hinge-connection, H, with the next back plate above and below. The plate F forms the backs of the cups or vessels, in which the water is raised, said cups having sides G and front G'. The upper edges g of the sides G are preferably inclined, as shown in Fig. 2, so that, when the cup is upright, the water will not be up to the level of the upper edge of the front G'. The purpose of this is that, when the cup begins to tilt so as to discharge its contents into the receiver R, the water shall not flow out over the top of

G' until it is well over the receiver, so that there shall be no loss of water, which would be the case if the upper edge of the cup were level; for, in that case, immediately on the cup commencing to tilt on reaching the receiver, the water would begin to flow out, and some of it would fall outside the receiver, and the labor of raising it would be thrown away. The hinges H rest on the hooks E, and the cups occupy the space between the hooks, so that there is no impediment to the outflow of the water as it empties into the receiver.

The placing of the cups upon the inside of the chain, of which their backs form a part, has special advantages over an arrangement in which the open sides of the cups are upon the outside. In the latter case the projecting edges may catch fast against the sides of the well, either in ascending or descending, and would be subject to scrape against the bottom, and carry up dirt therefrom, but where the projection is on the inside there cannot be any difficulty of these kinds.

K is a shield, by which the water is directed into the receiver, when the apparatus is so violently operated as to render such shield desirable. r is a spout to carry the water from the receiver. The shaft C may be furnished with the usual ratchet-wheel and pawl to prevent the weight of the water in the ascending cups giving a retrograde movement to the shaft C when the hand is removed from the crank c.

I claim as my invention—

1. The buckets of an endless-chain elevator, arranged to project inwardly, so that they will discharge inwardly into a receiver, R, directly beneath the top of the elevator-chain, substantially as and for the purpose set forth.

2. The combination of the endless elevator F G G' H, and wheel D, having side hooks or pins E, arranged substantially as set forth.

3. The combination of the endless elevator F G G' H, supporting and operating wheel D E, and receiver R, all arranged in relation to each other substantially as shown and described.

THOMAS J. CHRISTY.

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.