P. HOAG & O. JUNKERMAN.

Water-Elevator.

No. 163,999. Patented June 1, 1875.

Fig 1

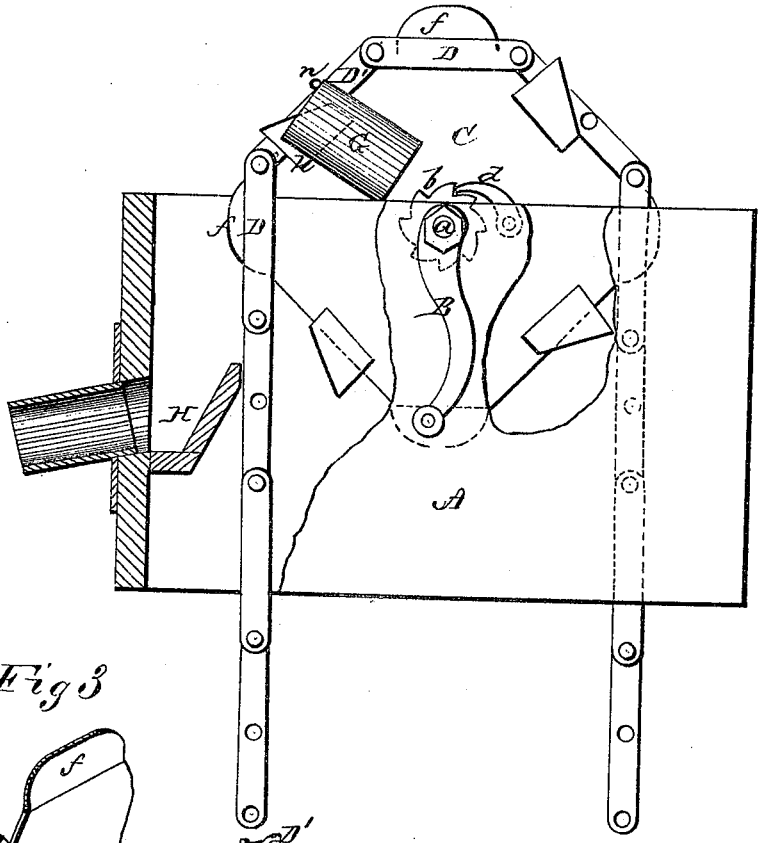


Fig 3

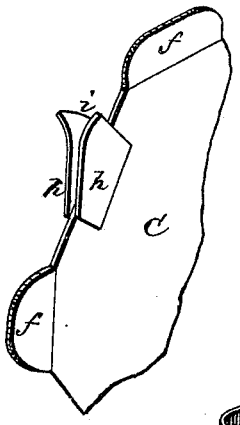
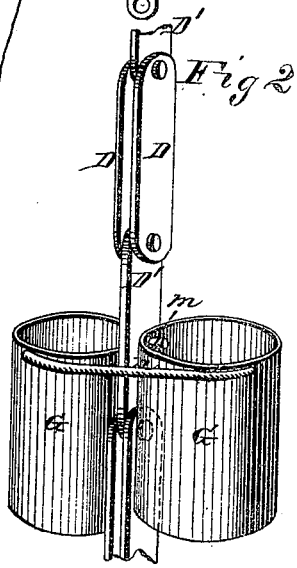


Fig 2



WITNESSES

Franck L. Durand

D. L. Enoch

INVENTOR

Peter Hoag.

Otto Junkerman

per Alexander & Mason

Attorneys

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE

PETER HOAG AND OTTO JUNKERMAN, OF CENTRALIA, ILLINOIS.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. **163,999**, dated June 1, 1875; application filed November 21, 1874.

To all whom it may concern:

Be it known that we, PETER HOAG and OTTO JUNKERMAN, of Centralia, in the county of Marion and in the State of Illinois, have invented certain new and useful Improvements in Water-Elevators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction and arrangement of a water-elevator, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of our water-elevator, the curb being partly in section. Fig. 2 is a perspective view of a section of the chain with one set of buckets attached thereto. Fig. 3 is a perspective view of a part of the wheel.

A represents the box or curb placed or erected above a well. In the upper part of said curb is a horizontal shaft, *a*, provided at one end with a crank, B, and also with a ratchet-wheel, *b*, and pawl *d*, to prevent the backward movement of the wheel.

On the shaft *a* is secured a wheel, C, of any desired diameter, which consists simply of a disk of suitable thickness, provided with elongated projections *f* on its periphery, at equal distances apart. The edge of the wheel between these projections is made straight, and on each side of the wheel, about midway between the projections *f*, are attached flanges *h h*, which project beyond the periphery of the wheel, and one end of each flange is bent or curved outward, forming, as it were, a flaring mouth, *i*, to the space between each pair or set of flanges.

The elevating-chain is composed of bars D and D′, they being arranged alternately, one pair of bars, D D, and a single bar, D′, pivoted together, as shown, forming an endless chain of alternate double and single bars. At suitable intervals on this chain are hung buckets G G, arranged in pairs, and pivoted on a pin, *m*, passing through the single bars D′. The two buckets of each pair are connected by a rod or bail, *n*, as shown particularly in Fig. 2.

In the operation of this machine, the projections *f* on the wheel C pass in between the bars D D, and the bars D′ are guided by the flaring mouths *i*, in between the flanges *h h*. The buckets G G hang perpendicularly until they have passed above and in front of the shaft *a*, when the bail *n* will strike the bar D′ back of the buckets, and cause them to turn with the wheel, so as to empty their contents into the spout H. As soon as the buckets have passed below said spout they turn over on their pivots, and are ready to receive water again.

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

1. The wheel C, provided on its circumference with alternate elongated projections *f* and flanges *h h*, constructed as described, to form the flaring mouth *i*, substantially as and for the purposes herein set forth.

2. The buckets G G, arranged in pairs, pivoted one on each side of the chain D D′, and connected by a rod or bail, *n*, substantially as and for the purposes herein set forth.

3. The combination, in a water-elevator, of the wheel C, having alternate elongated projections *f* and flanges *h*, forming flaring mouths *i*, the endless chain formed of alternate double bars D D and single bars D′, and the buckets G G, arranged in pairs, pivoted one on each side of the chain, and connected by a rod or bail, *n*, all substantially as and for the purposes herein set forth.

In testimony that we claim the foregoing, we have hereunto set our hands this 4th day of November, A. D. 1874.

PETER HOAG.
OTTO JUNKERMAN.

Witnesses:
L. HOFFMON,
W. L. HALLAM.