O. A. DAVIS.

Water-Elevator or Chain-Pump.

No. 160,578. Patented March 9, 1875.

Fig. 1.

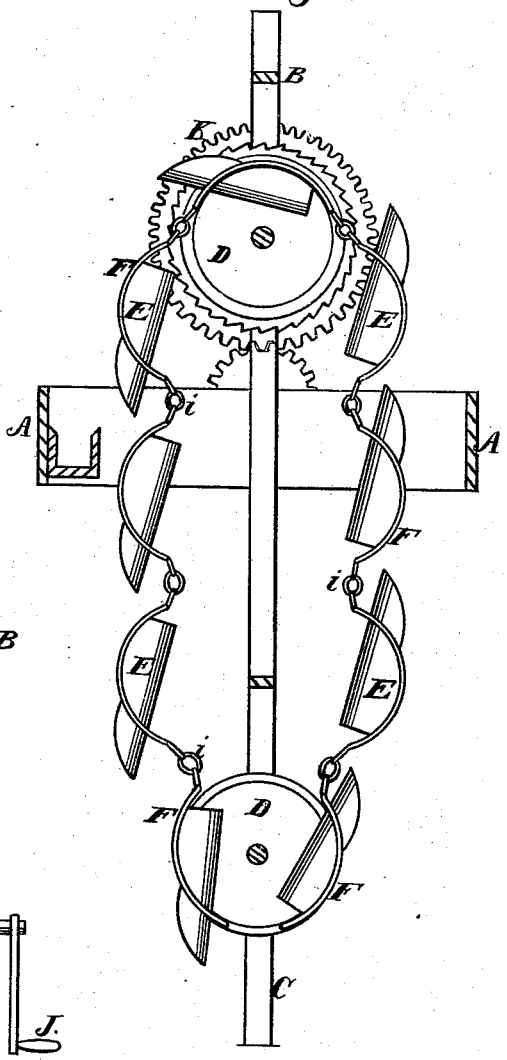


Fig. 2.

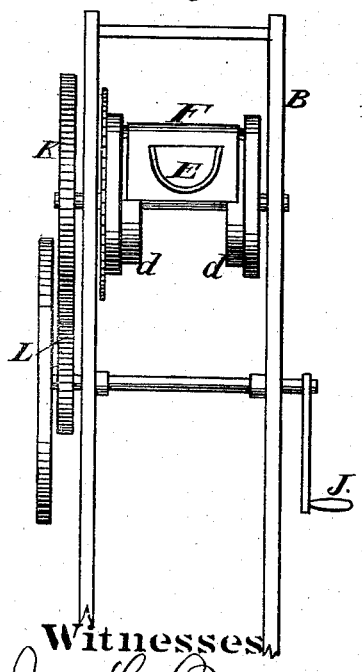
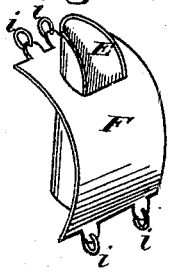


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

ORSON A. DAVIS, OF WASHINGTON, CALIFORNIA.

IMPROVEMENT IN WATER-ELEVATORS OR CHAIN-PUMPS.

Specification forming part of Letters Patent No. **160,578**, dated March 9, 1875; application filed January 23, 1875.

To all whom it may concern:

Be it known that I, ORSON A. DAVIS, of Washington, Yolo county, State of California, have invented an Improved Water-Elevator; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to improvements in that class of water-elevators in which an endless chain or series of buckets are employed for raising the water; and it consists in an improved manner of constructing the buckets and the pulleys over which they pass, so that the chain will be properly supported upon the pulleys, and prevented from slipping on account of the weight of water on one side.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a side elevation of my elevator. Fig. 2 is an end or back view. Fig. 3 is a view of a single bucket.

Let A represent the well-curb, having the frame B extending above it, and the frame C extending below it. D D are the pulleys over which the endless chain of buckets is stretched in the usual manner of constructing an endless chain-pump. The chain consists of a number of buckets, E, each of which is secured to a curved shield or plate, F, so that the shield or plate forms the front side of the bucket, while its upper end extends back of the opposite side of the upper end of the bucket, as shown. The upper end of the bucket is made scoop-shaped, and this scoop-shaped end extends above the upper end of the shield. The curved plate or shield is of sufficient width to extend out on each side of the bucket, and thus provide a bearing as the bucket passes over the pulleys D. The pulleys D each consist of two disks, *d d*, which are secured upon the pulley-shaft at a proper distance apart. The inner edges of the disk are turned down a little smaller than the outer edges, so that as the buckets pass between the disks, their wings or projecting sides will bear upon the reduced edge.

The chain is formed by connecting the extremities of the shields or plates F together by means of rings or links *i i*, and as the curve of the plates F correspond with the circumference of the pulleys, each bucket will be firmly seated upon the upper pulley, while its being emptied. The upper pulley is rotated by means of a crank, J, and toothed wheels K L, in the ordinary manner.

By this arrangement, I provide a strong and durable endless-bucket water-elevator, which can be cheaply constructed, and in which it will be impossible for the chain to slip by reason of the weight of water upon one side.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The pulleys D D, each of which consists of two disks, *d d*, in combination with the series of connected buckets E E, when each of said buckets is provided with a curved plate or guard, F, which project upon each side so as to provide bearings upon the disks, and allow the buckets to pass between the disks, substantially as and for the purpose described.

In witness whereof I hereunto set my hand and seal.

ORSON A. DAVIS. [L. S.]

Witnesses:
B. R. LOW,
F. H. RUSSEL.