

JOHN L. BURCH. Water Elevator.

No. 124,328.

Patented March 5, 1872.

Fig. 1.

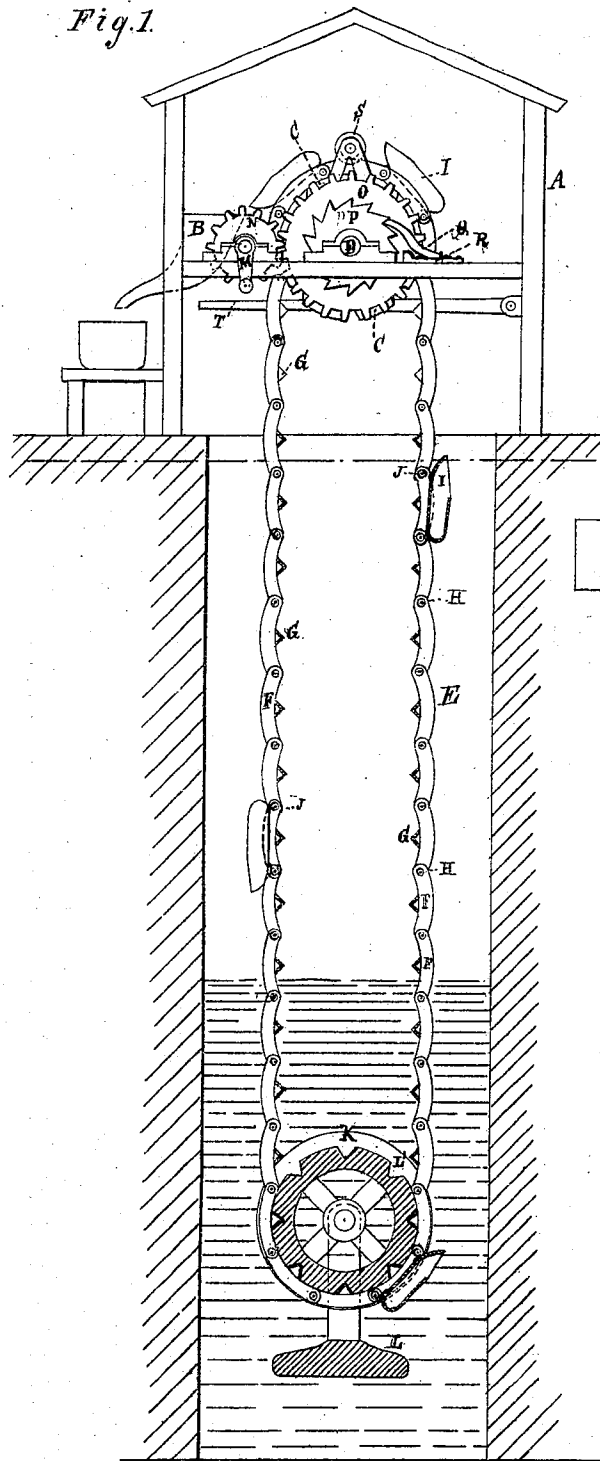
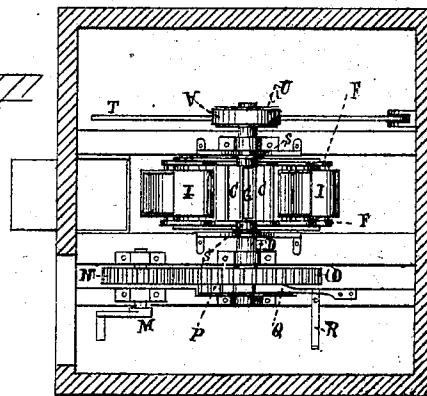


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN L. BURCH, OF FRANKLIN, TENNESSEE.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 124,328, dated March 5, 1872.

Specification describing a new and useful Improvement in Water-Elevators, invented by JOHN L. BURCH, of Franklin, in the county of Williamson and State of Tennessee.

Figure 1 is a detail vertical section of my improved elevator. Fig. 2 is a plan or top view of the same.

My invention has for its object to furnish an improved endless-chain water-elevator, which shall be so constructed that it can be conveniently taken apart for increasing or decreasing the length of the chains, detaching buckets, transportation, or other purposes; and it consists in the construction and combination of parts, as hereinafter more fully described.

A represents a well-curb or house; and B, a discharge-trough or spout, about the construction of which parts there is nothing new. C is a hub or drum fixed on a rotary shaft, D, that has its journals in a suitable frame located at the top of the well or cistern. E is the endless chain, composed of a series of links, each link consisting of two end bars, F, connected by a transverse bar or rib, G, and all of the links flexibly attached to each other by rods H. I are the buckets, which may be of any desired shape, but I prefer the form shown in the drawing. The buckets are detachably attached to the chain by means of plates J having hook-shaped ends, which fit over the transverse rods connecting the chain-links. K is a loose roller or hub located at the bottom of the well or cistern, around which the chain passes, the object of the same being to balance the former and steady its movement. The roller may either be made of the desired weight or a weight, L, may be attached to it. The upper or stationary hub, C, as well as the loose one, K, are provided with grooves L' on their peripheries for receiving the ribs G during the revolution of the chain, and thereby preventing the same from slipping. M is a short crank-shaft, to which the driving force is applied, the same being communicated to the rotary shaft carrying the hub C, by means of the small and large gear-wheels N O, attached, respectively, to the crank and hub-shafts. P is a ratchet-wheel on the shaft D, which, when engaging

with the pawl Q, will prevent the movement of the chain in a backward direction when water is being raised. R is a pivoted arm for disengaging the pawl from the ratchet-wheel, so as to allow the chain to be turned in a reverse direction for discharging the water that may be in the buckets and not required for use again into the well. S are small friction pressure-rollers, which are located at opposite ends of the hub C above the surface of the same, and are intended to press the chain-links into the grooves in said hub, and thus prevent the same from being disengaged. A brake mechanism is applied to the shaft D, consisting of a pulley, U, a spring-band, V, and operating-lever T, attached to the latter.

The mode of operation is as follows, viz.: The driving-shaft being turned will impart a rotary motion to the drum-shaft, which will cause the chain to travel around the same, and as the various buckets pass over the top of the drum they are inverted so as to discharge their contents into the conducting-spout leading into a suitable reservoir, &c.

From the above description it will be perceived that a water-elevator is produced which can be applied to an ordinary well or cistern, without requiring the use of a frame extending to the bottom of the well for the reception of the lower drum or roller; and also one in which the buckets can be easily detached from the chain, as well as the links themselves.

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

A water-elevator, consisting of the endless chain E, detachable buckets I, grooved stationary revolving drum C, loose grooved and weighted drum K, driving-shaft M, gear-wheels N O, rotary shaft D, ratchet-wheel P, pawl Q, arm R, and brake mechanism T U V, and pressure-rollers S, when all the parts are constructed and arranged as herein shown and described.

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Witnesses:

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