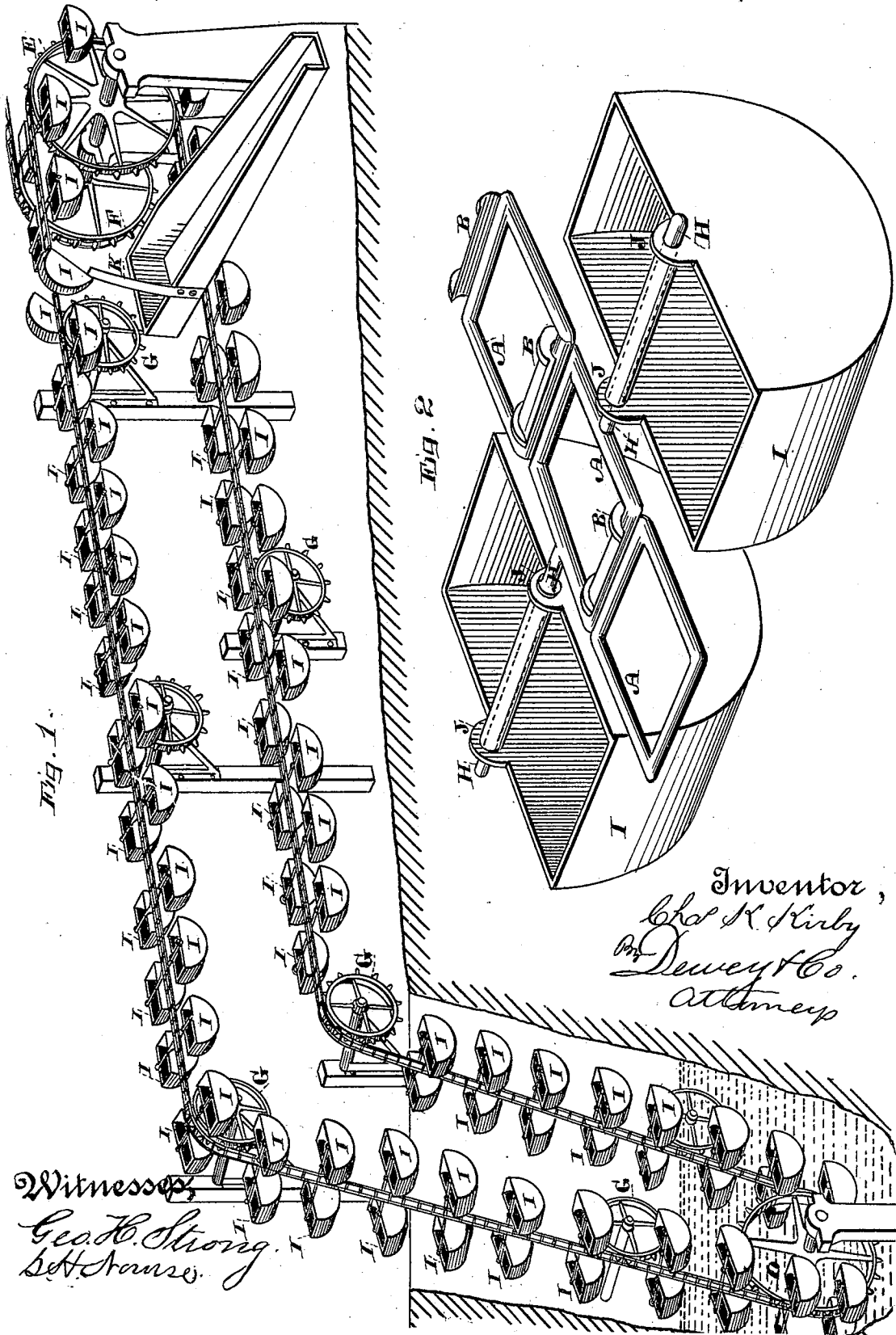


(No Model.)

C. K. KIRBY.
WATER RAISING DEVICE.

No. 269,295.

Patented Dec. 19, 1882.



Witnesses,
Geo. H. Strong.
S. H. House.

Inventor,
C. K. Kirby
By Dewey & Co.
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES K. KIRBY, OF SAN FRANCISCO, CALIFORNIA.

WATER-RAISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 269,295, dated December 19, 1882.

Application filed August 26, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES K. KIRBY, of the city and county of San Francisco, State of California, have invented an Improved Water-Raising Device; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an apparatus for raising water either vertically or upon inclines; and my invention consists in certain details of construction, as hereinafter fully described, and specifically pointed out in the claims.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view of my apparatus applied to a vertical and an inclined lift at one operation. Fig. 2 is an enlarged view of a part of the chain with arms and buckets.

The chain is composed of broad links A, each one having a curved or hook-shaped extension, B, at one end, extending nearly its full width, and a round bar at the opposite end, which fits into or engages the hook of the following link. This construction, which I employ, but do not claim, gives a steadiness to the chain and prevents its turning or tipping to either side as it moves, and also gives it a good bearing upon the guide-pulleys C C, over which it passes.

D is the direction-pulley at the bottom and below the water-level, so that as the chain passes over it it is submerged and comes up on the opposite side.

E is the upper or driving pulley, having projecting lugs suitable to engage the links of the chain and drive it.

F is a belt or chain pulley, through which the power may be applied to drive the chain; and G are pulleys over which the chain may pass to secure any change of direction which may be desired, from a nearly or quite vertical to any desired incline, or from one degree of inclination to another.

From the side bars of a certain number of links arms or bars H project horizontally, and the buckets I, which are made of any suitable or desired form, have lugs J extend-

ing upward from the center of the top, so that they may be suspended from the arms—one upon each side, to counterbalance. These buckets may be attached to every third or fourth link, or may have any desired interval, depending upon their size, the amount of work to be done, or the power available to drive them. When they are carried beneath the surface of the water by the traveling chain they will be filled and will maintain their upright position after they emerge by gravitation. This vertical position will always be maintained, whatever change of direction the chain may undergo. The arms H, extending from each side of the chain, carry the buckets entirely clear of all supporting and direction pulleys, so that they may be carried to any desired distances.

Any suitable device, K, may be fixed at the discharge-point to tilt the buckets and cause them to empty, after which they will return to their upright position.

When the apparatus is to be used upon very heavy work the chains may be doubled—that is, two chains running parallel, with corresponding supporting and guiding pulleys. An arm, H, would thus extend across between opposite links of each chain, and a bucket might be suspended from this, as well as the two upon the outer sides; but it will be manifest that the construction would not vary from that before described.

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

In a water-elevator, a series of pairs of buckets arranged on opposite sides of a drive-chain, and supported by and loosely pivoted to arms H, integral with and projecting from the sides of links within said drive-chain, in combination with sprocket-wheels E G and tipping device K, arranged to operate substantially as set forth.

In witness whereof I hereunto set my hand.
CHARLES K. KIRBY.

Witnesses:

S. H. NOURSE,
GEO. H. STRONG.