

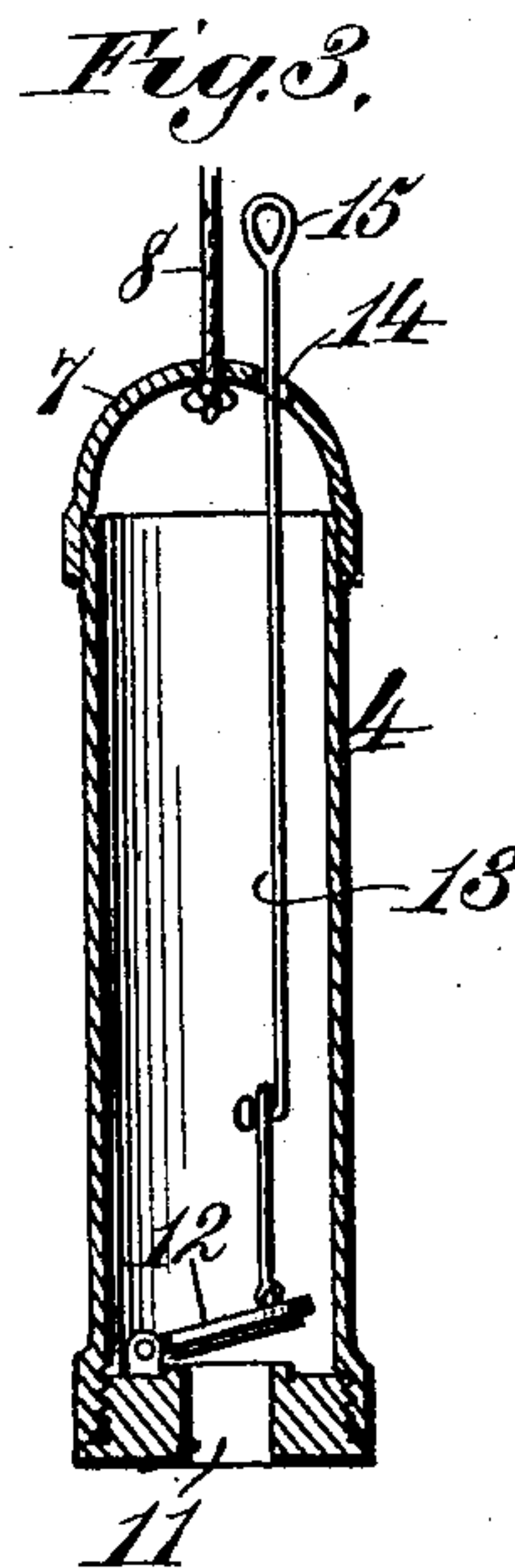
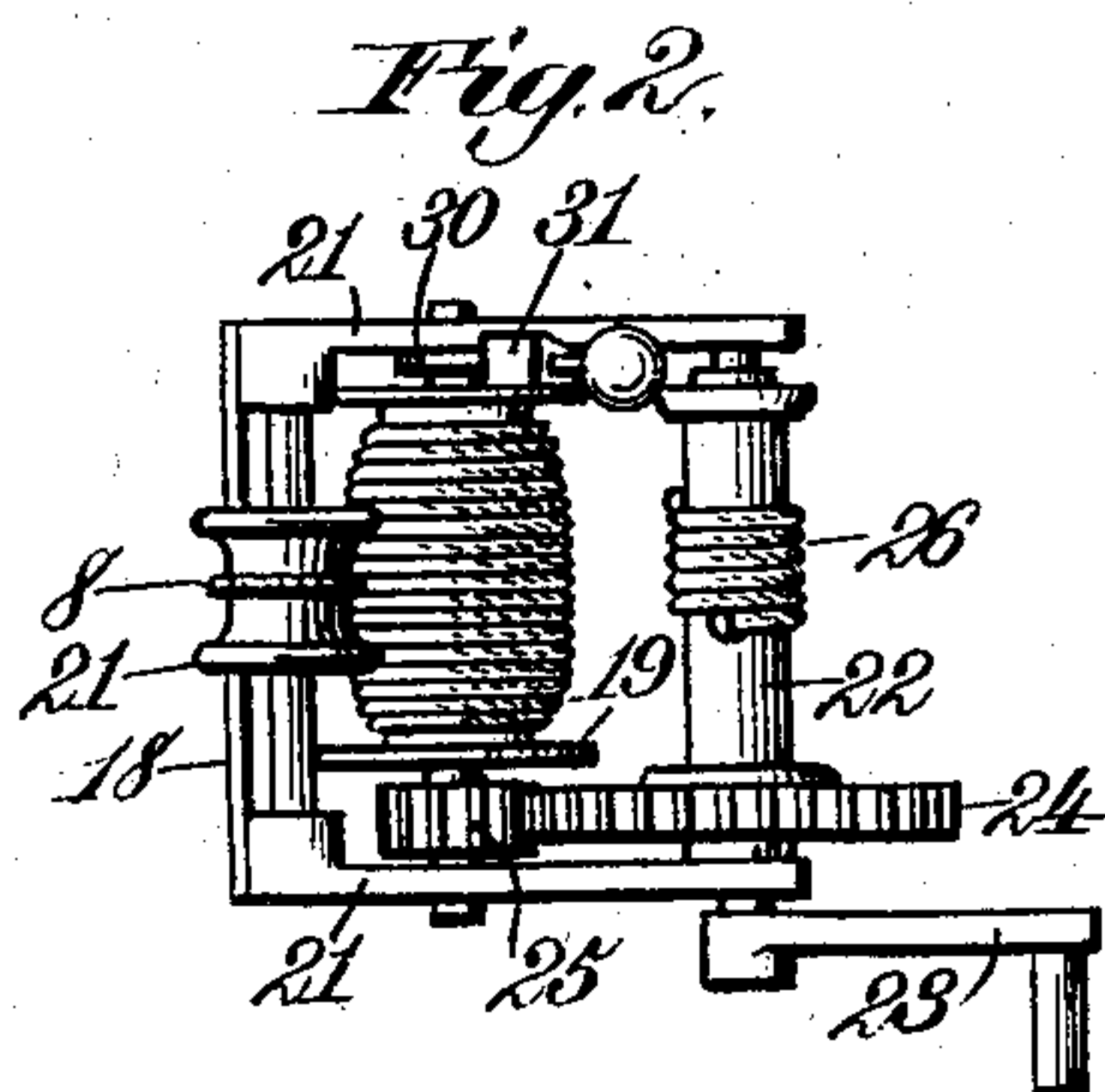
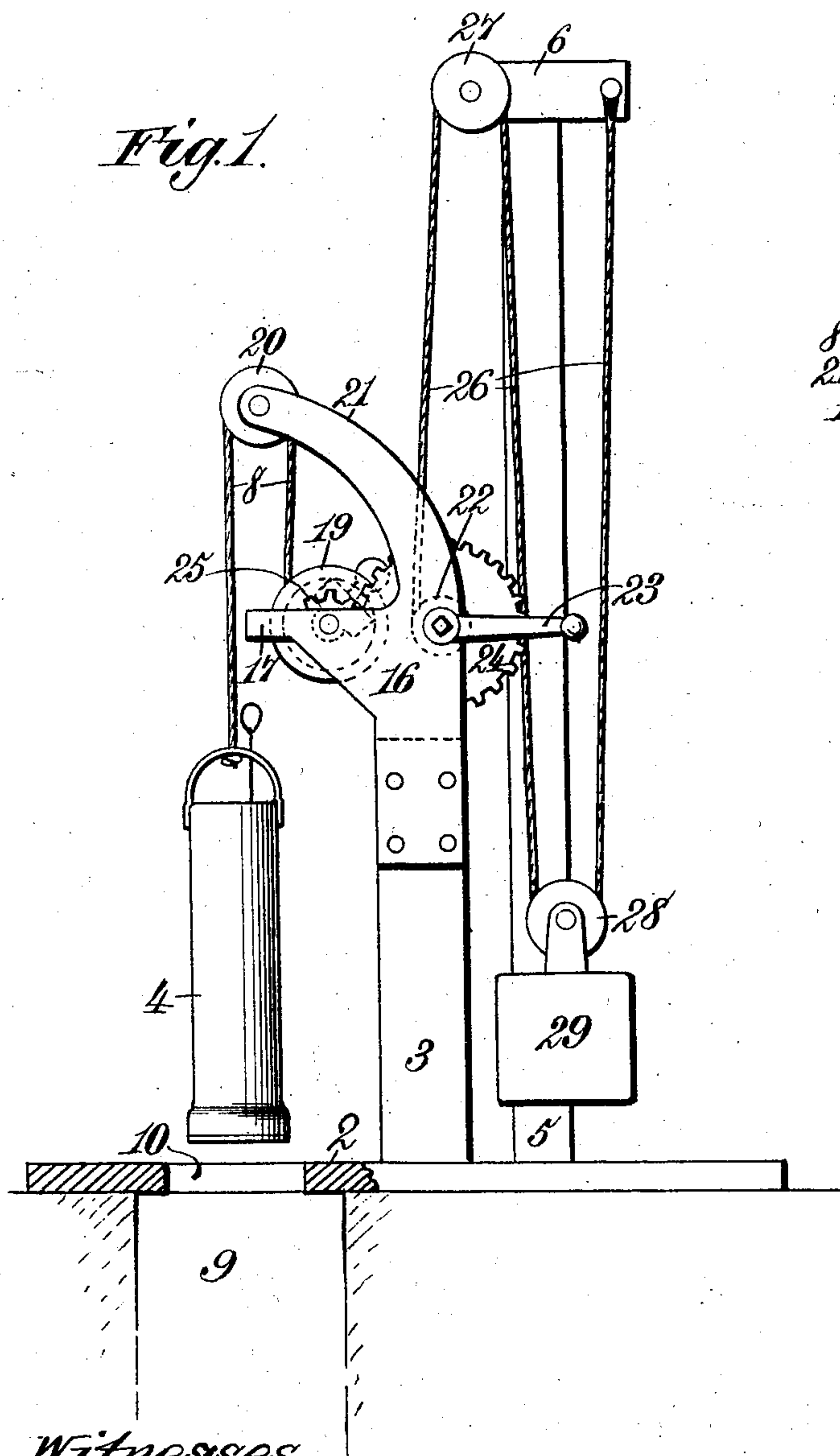
No. 709,809.

Patented Sept. 23, 1902.

L. WELLS.
WATER ELEVATOR.

(Application filed Nov. 5, 1901.)

(No Model.)



Witnesses.
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UNITED STATES PATENT OFFICE.

LUTHER WELLS, OF VERSAILLES, KENTUCKY.

WATER-ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 709,809, dated September 23, 1902.

Application filed November 5, 1901. Serial No. 81,214. (No model.)

To all whom it may concern:

Be it known that I, LUTHER WELLS, a citizen of the United States, residing at Versailles, in the county of Woodford and State of Kentucky, have invented new and useful Improvements in Water-Elevators, of which the following is a specification.

This invention relates to water-elevators; and the device is simple in construction, efficient in action, and capable of easy operation, it having a bucket to be lowered into a well to raise water therefrom, which water can be subsequently emptied into a bucket, pail, or like receptacle, and as there are no pipes present, as in a pump, the water cannot freeze in winter nor when first drawn be too warm for use in summer, similar objections attending the use of chain elevators.

The improved device includes other objects and advantages, which, with the foregoing, will be set forth at length in the following specification, while the novelty thereof will be covered in the claim constituting a part of said specification.

The invention is clearly represented in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of a water-elevator including my improvements and showing the water-lifting bucket in a well. Fig. 2 is a plan view of the windlass. Fig. 3 is a sectional elevation of the bucket.

Like characters refer to like parts in all the figures.

The curb of a well is shown at 2, and a pillar or column, as 3, rises from said curb, and the latter sustains suitable mechanism, hereinafter described, for elevating a bucket, as 4, from the well.

A post or upright is shown at 5, it having a transverse head or top strip 6, the post being of a suitable height and being arranged in proximity to the standard or column 3, and the purpose of said post will be hereinafter set forth.

The bucket 4 may be of any suitable material, shape, and size, it being represented as of cylindrical form and having at its top the bail 7, to which a rope, cable, or like connection, as 8, is suitably fastened, said rope being connected to a windlass, whereby it can be lowered into or raised from a well, as 9,

which registers with an opening, as 10, in the curb 2, through which opening said bucket is adapted to pass. The bucket 4 has a hole, as 11, in its bottom, which is adapted to be closed by a flap or valve, as 12, suitably hinged to the upper side of said bottom, and a wire or rod, as 13, is attached to the upper side of this valve or flap and extends upward therefrom and through a perforation, as 14, in the bail 7. As the bucket is lowered into the water in the well such water will force the valve or flap upwardly, so as to enter the bucket, and when the latter is filled or partially filled it will be raised, and the weight of the water in the bucket will hold the flap down or closed when said bucket passes above the surface of the water in the well. The rod or wire 13 has a suitable handle, as 15, which may consist of a loop or eye and which when the bucket has passed above the curb 2 can be grasped to pull the wire 14 upward for opening the valve or flap 12, so as to permit the contents of said bucket to be emptied therefrom and into a water-bucket or like receptacle resting on the curb.

The standard or column 3 carries a frame or bracket, as 16, at its top, the latter having the side cheeks or plates 17 rigidly fastened in some convenient way to the opposite sides of said column or standard and united by the transverse bar 18. The cheeks or plates rotatively support the journals of a drum, as 19, around which the rope or cable 8, to which reference has been hereinbefore made, is wound a large number of times. I employ a considerable quantity of rope, so that the bucket may be lowered into a deep well. The rope 8 passes upwardly from said drum and over the guide-pulley 20, located above said drum and rotatively supported between the arms 21, projecting upwardly and slightly outwardly from the cheeks 17, said arms converging toward their top. A second drum, as 22, is rotatively sustained between the cheeks 17, one end of its shaft having a hand-crank 23, by which the drum 22 can be readily actuated. The shaft of the drum 22 carries a gear 24, meshing with a pinion 25 on the shaft of the drum 19. By turning the crank 23 the drum 19, through the intermediate gearing, can be operated so as to wind the rope 8 thereon for the purpose of elevating

the bucket 4 or for lowering the same into the well, in accordance with the direction in which said crank is moved. A rope or like device, as 26, is wound upon the drum 19 and is carried upward therefrom and over the grooved pulley 27 at one end of the head or cross piece 6, downward and under the grooved pulley 28, located below the drum 19, and then upward again and fastened to the head or cross piece 6 at the end opposite that carrying the pulley 27. The pulley 28 is carried in some suitable manner upon the weight 29, which has, as will be evident, rising and falling movements during the descent and ascent, respectively, of the bucket 4, and it will be apparent that said weight by falling materially assists the operator in hoisting the filled bucket. By turning the crank 23 in one direction the bucket 4 is caused to descend into the well, the rope 8 being thereby unwound from the drum 19, while the rope 26 is wound on the drum 22 during this operation, thereby lifting the weight, so that subsequently when the bucket is filled the weight by dropping will cause the rope 26 to be unwound from the drum 22, so as to furnish power for lifting the bucket 4 with the water therein.

I have described toothed gearing as constituting a suitable connection between the drums 19 and 22; but this is not essential, for other means, such as sprocket-gearing, might be employed with equal advantage for this purpose.

One end of the shaft of the forward drum 19 loosely carries an arm, as 30, having a wedge-piece, as 31, adapted to be thrust between the adjacent cheek 17 and said drum for the purpose of blocking the rotation of said drum when it is desired to maintain the bucket at any point in the well. When the wedge-piece is lifted out of engagement with these parts, the drum can be freely operated.

In pumps and chain-bucket elevators there is at all times a large quantity of water above the surface of the well, which in winter is likely to become frozen and in summer becomes so warm as to be unfit for use for drink-

ing purposes, the water in the last-mentioned case being frequently wasted. There is no waste of water in my elevator and no pipes in which the water can freeze. Said elevator is exceedingly simple, it can be operated with ease and rapidity, it can be used with advantage in very deep wells, and it secures saving in time and money.

Changes in structure may be made within the scope of the appended claim.

Having described the invention, what I claim is—

In a water-elevator, the combination of a standard, a bracket having side cheeks or plates rigidly fastened to the opposite sides of said standard, and a transverse bar united to said side cheeks or plates said cheeks or plates having upwardly and outwardly projecting arms, a drum supported between said plates at the forward side thereof, a guide-pulley supported between said arms, a rope wound on said drum and extending upwardly therefrom and then downwardly and passing over said pulley, a bucket carried by said rope and having a valve, means for operating said valve, an arm loosely mounted upon the shaft of said drum having a wedge adapted to be inserted between one end of the drum and the adjacent cheek or plate of said bracket, a weight provided with a pulley, a second drum also supported between said cheeks or plates and operatively connected with the other drum and having a hand-crank, a pulley supported above said second drum, and a rope wound upon said second drum and extending upward therefrom over said last-mentioned pulley and then downward and under the pulley on said weight and then upward and fastening at a suitable point.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LUTHER WELLS.

Witnesses:

D. L. THORNTON,
FANNY TURNER.