

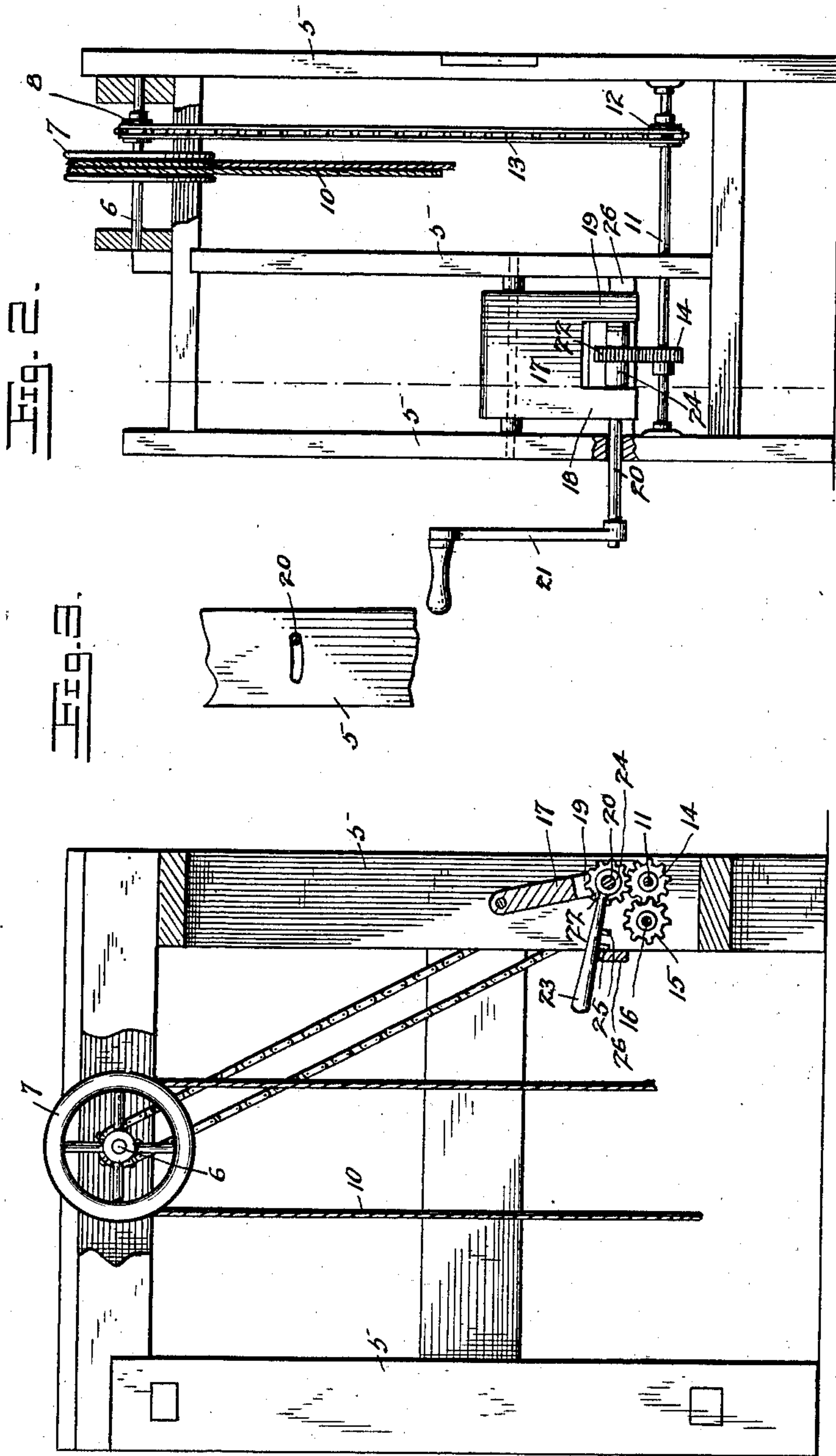
No. 676,131.

Patented June 11, 1901.

J. H. HARTMAN.
WINDLASS FOR WELLS.

(Application filed Apr. 4, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. HARTMAN, OF ADVANCE, NORTH CAROLINA.

WINDLASS FOR WELLS.

SPECIFICATION forming part of Letters Patent No. 676,131, dated June 11, 1901.

Application filed April 4, 1901. Serial No. 54,357. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HARTMAN, a citizen of the United States, residing at Advance, in the county of Davie and State of North Carolina, have invented a new and useful Windlass for Wells, of which the following is a specification.

This invention relates to windlasses, and is particularly designed for use with wells, one object of the invention being to provide a construction employing two buckets at the ends of a rope and wherein one bucket will be raised and the other lowered, the mechanism being operated by a crank and both buckets being both raised and lowered without changing the direction of rotation of the crank.

A further object of the invention is to provide a simple and efficient means for adjusting the parts to raise the buckets interchangeably.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a vertical section taken through the crank-shaft and adjacent shafts at right angles thereto, a portion of the framework of the mechanism being broken away to show the pulley-wheel. Fig. 2 is a front elevation of the mechanism, a part of the frame being broken away to show the pulley-wheel with the driving-sprocket on its shaft. Fig. 3 is a detail elevation showing the slotted side of the frame to permit of swinging of the crank-shaft.

Referring now to the drawings, there is shown a frame including uprights 5 and connecting cross-beams, and in the upper portion of which frame is journaled a shaft 6, on which is fixed a pulley-wheel 7 and also a sprocket 8. The pulley or drum 7 has a rope 10 wound thereon, with its end portions depending into the well, and connected with the ends of the rope are buckets, as usual, so that if the drum be rotated in one direction one bucket will be lowered and the other raised and if rotated in an opposite direction the direction of movement of the buckets will be reversed.

To rotate the drum and to reverse its direction of movement, a shiftable gearing is provided and includes a crank-shaft 11, having a sprocket 12, connected with the sprocket 8 by means of a chain 13, and this drive-shaft

carries a gear 14, with which is engaged a second gear 15, mounted upon a shaft 16, these shafts being mounted in bearings in the supporting-frame. If gear 14 is rotated in one direction, the drum will be correspondingly rotated to raise one bucket, and if the gear 15 be then rotated in the same direction as gear 14 was formerly rotated gear 14 will be reversely rotated and the drum will also be reversely rotated to raise the other bucket. To thus rotate the gears, a hanger 17 is provided and is mounted for swinging movement between two of the uprights 5 of the supporting-frame, and the lower end of this hanger is bifurcated to form separate arms 18 and 19, having alining bearings therein to receive a shaft 20, provided with a crank 21 for rotating it, and on this shaft is fixed a gear 22, which when the hanger is swung in one direction engages gear 14 and when swung in an opposite direction engages gear 15, while when in an intermediate position it is free from both gears.

To shift the hanger 17, a handle 23 is provided and is connected with collars or sleeves 24, one of which is disposed upon the shaft 20 at each side of the gear 22 to hold it properly spaced between the arms of the hanger, and this handle is provided with depending spaced lugs 25 for engagement with a cross brace or piece 26, attached to the adjacent uprights of the supporting-frame. When the handle is raised, the lugs are raised from the cross-piece and the hanger may be swung to any of its other positions, and the handle may be then lowered to engage the proper lug with the cross-piece and hold the hanger against swinging movement. These lugs are so disposed as to hold the handle with the hanger in position to engage gear 22 with either of gears 14 and 15 or to hold it from engagement with both. Thus by operation of the handle the hanger may be shifted to so engage the gears that either bucket may be raised or lowered without reversing the direction of rotation of the crank-shaft.

What is claimed is—

1. The combination with a winding-drum of a drive-shaft operatively connected therewith, a gear upon the drive-shaft, a second shaft, a gear upon the second shaft meshing with the first gear, a crank-shaft, a gear upon

the crank-shaft, said crank-shaft being mounted for bodily-swinging movement to engage its gear with the first-named gears interchangeably.

- 5 2. The combination with a winding-drum of a drive-shaft operatively connected with the drum, a gear upon the drive-shaft, a second shaft, a gear upon the second shaft engaged with the first-named gear, a hanger swing-
10 ingly mounted, a crank-shaft journaled in the hanger, a gear upon the crank-shaft for engagement with the first-named gears interchangeably as the hanger is swung, and means for holding the hanger in its different posi-
15 tions.

3. The combination with a winding-drum of a drive-shaft operatively connected therewith, a gear upon the drive-shaft, a second

shaft, a gear upon the second shaft engaged with the first gear, a hanger mounted for 20 swinging movement, a crank-shaft journaled in the hanger, a gear upon the crank-shaft for engagement with the first-named gears interchangeably, a handle connected with the hanger for swinging it and provided with 25 lugs, and means for engagement by the lugs of the handle for holding the hanger against swinging movement.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 30 the presence of two witnesses.

JOHN H. HARTMAN.

Witnesses:

N. A. PEEBLES,
E. L. GAITHER.