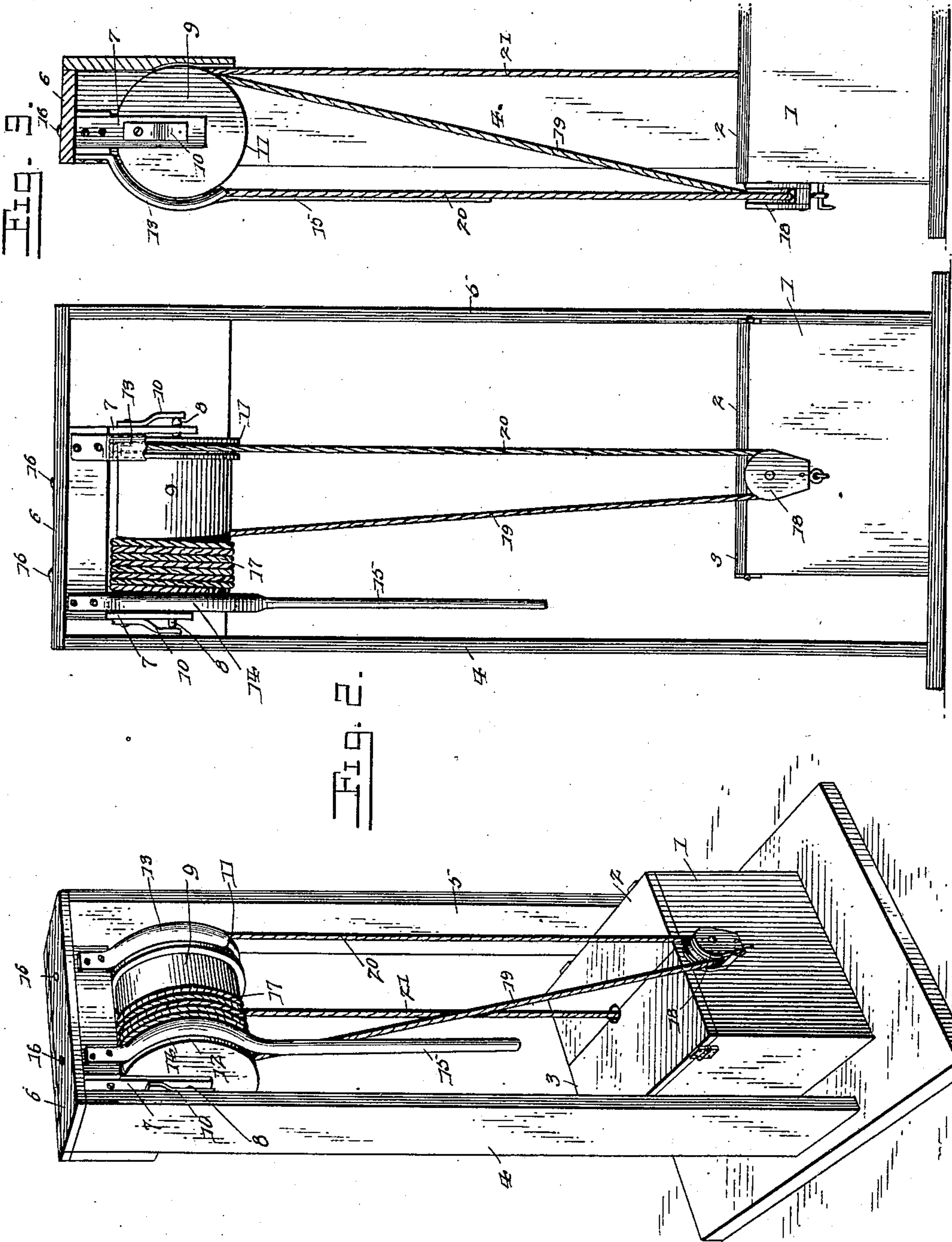


No. 669,443.

Patented Mar. 5, 1901.

J. S. HIGDON.
WINDLASS ELEVATOR.
(Application filed Dec. 13, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

JASPER S. HIGDON, OF QUINLAN, TEXAS.

WINDLASS ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 669,443, dated March 5, 1901.

Application filed December 13, 1900. Serial No. 39,755. (No model.)

To all whom it may concern:

Be it known that I, JASPER S. HIGDON, a citizen of the United States, residing at Quinlan, in the county of Hunt and State of Texas, have invented a new and useful Windlass Elevator, of which the following is a specification.

This invention relates to windlasses, and has for its object to provide an improved device of this character which is especially designed for use as a water-elevator for drawing a bucket out of a well and arranged so as to conveniently take up the slack cable and coil it upon the windlass-drum as the bucket is being drawn upwardly, and thereby prevent the slack cable from returning into the well or dropping to the ground and becoming muddy.

With this and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a windlass water-elevator constructed in accordance with the present invention. Fig. 2 is a side elevation thereof. Fig. 3 is a transverse sectional view taken at right angles to Fig. 2 and at the grooved end of the drum.

Like characters of reference designate corresponding parts in all the figures of the drawings.

Referring to the drawings, 1 designates an ordinary well-curb formed of wood or masonry, as may be desired, and having its upper open end closed by means of the opposite hinged covers 2 and 3. At opposite sides of the curb rise the opposite frame standards or posts 4 and 5, which extend a suitable distance above the well-curb, and have their upper ends connected by means of a suitable cross-bar 6. It will be observed that the uprights or posts are next to the hinged edges of the respective covers, so that the latter may rest against the posts when opened to

give access to the bucket within the well. These parts are common and well known and therefore may have any preferred form, as they have been shown in the drawings to more adequately illustrate the mounting and operation of the present windlass.

In carrying out the present invention there is provided a drum-frame comprising a cross-bar 6, from the opposite ends of which depend the duplicate hanger-straps 7, which are provided with corresponding openings for the pivotal reception of the opposite journals 8 of the drum 9, so that the latter may be mounted beneath the cross-bar and between the hangers. Suitable leaf-springs 10 are secured to the outer sides of the hangers and have their free ends bearing against the projecting ends of the respective journals, so as to prevent endwise displacement of the shaft of the drum.

As best indicated in Fig. 2 of the drawings, it will be seen that one end of the drum, which is provided with a grooved flange 11, is located above the center of the well-curb, so that the portion of the cable which supports the well-bucket will depend from the groove, while the opposite end of the drum is provided with a brake-flange 12.

A bowed guard 13 has its upper end secured to the front side of the cross-bar 6, so that its lower portion may cover the groove, and thereby prevent accidental displacement of that portion of the cable which is in the groove. At the opposite end of the cross-bar there is secured a brake-band 14, which frictionally engages the brake-flange and has a pendent handle 15 for manipulating the brake, so as to retard the backward movement of the drum. The cross-bar of the drum-frame is secured to the under side of the upper cross-bar of the supporting-frame by means of suitable detachable fastenings 16.

One end of the bucket-supporting cable is secured to the periphery of the drum, adjacent to the brake end thereof, from which it is wrapped upon the drum, as indicated at 17. Then it depends to a block or pulley 18, which is secured to the outer side of the well-curb and in vertical alinement with the grooved end of the drum. This pendent portion 19 of the cable then extends upwardly, as at 20, over the grooved flange, and thence

downwardly, as at 21, into the well, the well-bucket (not shown) being secured to the lower free end of the cable.

It will now be observed that the weight of the bucket acts as a tension to keep all parts of the cable taut and that by pulling downwardly upon the portion 20 the portion 21, which extends into the well, is drawn upwardly, thereby turning the drum by frictional contact with the grooved flange thereof and winding the portion 19 upon the drum. Thus the cable portion 19, which would otherwise be free and either drop into the well or upon the ground, is conveniently and effectively wound or coiled upon the drum, which automatically takes up all slack, and the entire cable is maintained in a proper taut condition. It will of course be understood that the cable portions 19 and 21 engage the drum from opposite the cable portion 20, which is the hand-operated portion, whereby a downward movement of the latter results in an upward movement of the other portions.

Should a chain be used instead of a rope, the groove will be substituted by peripheral teeth or spurs to take into the links of the chain, as will be understood.

To lower the bucket into the well, the brake-handle is manipulated so that the frictional contact of the brake-band is slightly less than the weight of the bucket, whereby the drum will be reversely rotated, thereby unwinding the coiled portion of the cable, which passes through the block or pulley, thence over the grooved periphery of the drum, and finally down into the well.

Any suitable means may be employed for locking the brake-lever when the brake is applied to the drum.

What is claimed is—

1. The combination with a drum, of a guide fixed independently of the drum, and a cable having one end connected to the drum, then reeved through the guide, and then having its free end portion passed around the drum, the opposite portions of the cable being passed around the drum in opposite directions.

2. The combination with a drum, of a cable having its opposite portions applied in opposite directions to the drum, one end of the cable being fixed to the drum, the opposite end being free to pass over the drum, and a guide

fixed independently of the drum and receiving the intermediate portion of the cable. 55

3. The combination with a support, and a frame rising above the same, of a drum mounted upon the frame, a pulley-block connected to the support, and a cable having one end secured to the drum, then passed downwardly and through the pulley-block, thence upwardly and over the drum, and finally extending freely downward therefrom, the opposite portions of the cable being passed around the drum in opposite directions. 65

4. The combination with a supporting-frame, of a windlass-drum mounted thereon, and provided at one end with a brake-surface, and at its opposite end with a cable-guide, a guide located below the drum and in vertical alinement with the cable-guide, a brake for frictional engagement with the brake-surface, a guard embracing the cable-guide, and a cable having one end secured to the drum, thence passed downwardly and through the guide, thence upwardly and over the guide of the drum, and finally freely pendent therefrom, the opposite portions of the cable being passed around the drum in opposite directions. 75

5. The combination with a support, and opposite posts rising at opposite sides thereof, of a cross-bar supported upon the posts, opposite hangers pendent from the cross-bar, a drum mounted in the hangers, and provided at one end with a brake-flange, and at the opposite end with a grooved flange, a pulley-block mounted upon the support, a band-brake secured to the cross-bar and embracing the brake-flange, means for operating the brake-band, a bowed guide embracing the grooved flange and secured to the cross-bar, and a cable having one end secured to the drum adjacent to the brake-flange thereof, then passed downwardly and through the pulley-block, thence upwardly and over the grooved flange, and finally freely pendent from the latter, the opposite portions of the cable being passed around the drum in opposite directions. 85

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 90

JASPER S. HIGDON.

Witnesses:

N. W. WARD,

R. B. BROWNING.