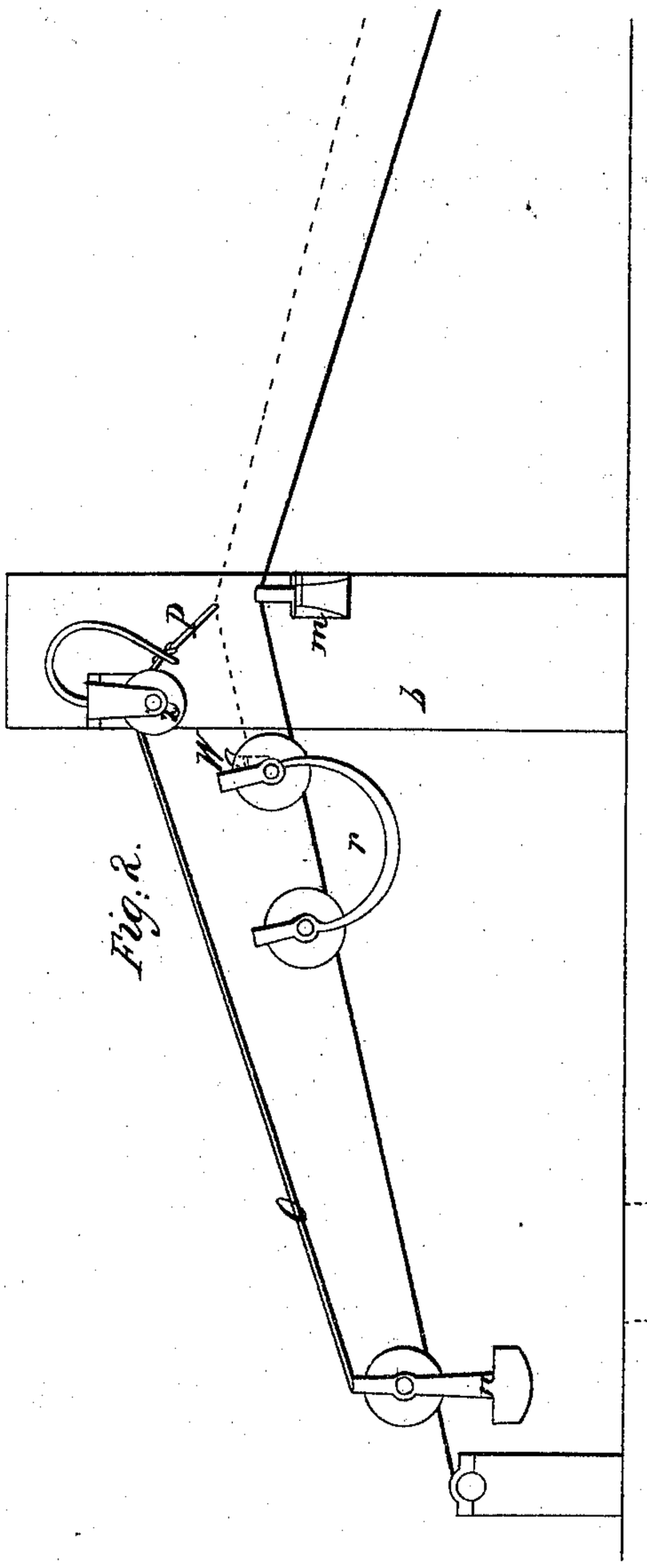
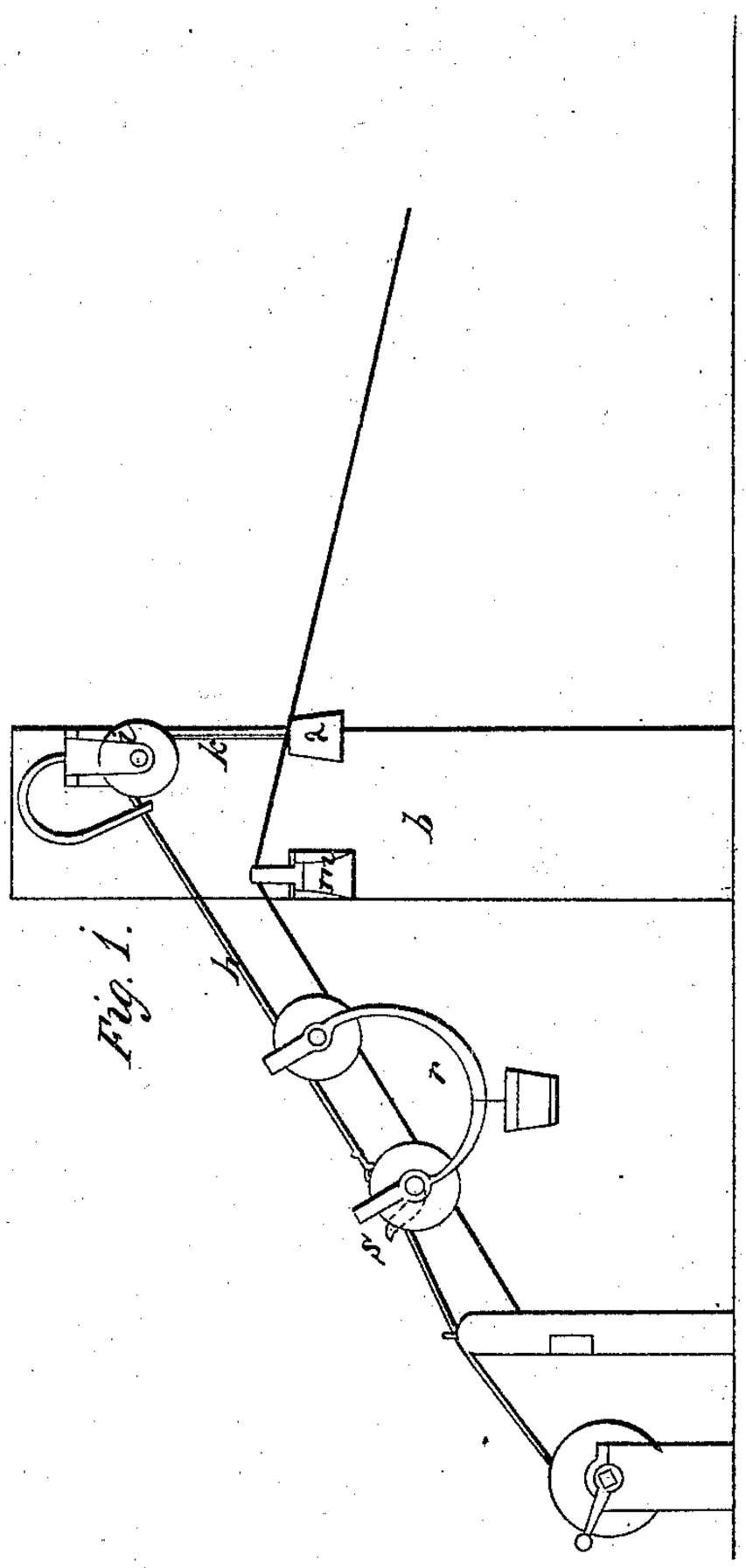
C. Broyles,

Windlass Water Elevator.

No. 7,319. Patented Apr. 30, 1850.





UNITED STATES PATENT OFFICE.

CAIN BROYLES, OF GREENE COUNTY, TENNESSEE.

IMPROVEMENT IN APPARATUS FOR DRAWING WATER.

Specification forming part of Letters Patent No. **7,319**, dated April 30, 1850.

To all whom it may concern:

Be it known that I, CAIN BROYLES, of the county of Greene and State of Tennessee, have invented a new and useful Improvement on the Plan of Drawing Water, &c., upon a Wire or other Material upon an Inclined Plane, which improvement I believe has not been used or known before my discovery, and is as follows, viz:

It will operate upon a perfect plane, upon a slight inclination over a hill, or on a plane by constructing a perpendicular curve in the wire-line of sufficient height at its greatest elevation to cause the car, &c., to run from said elevation to the spring. The position of the greatest height of curve should be situated variously within half the distance to the spring, according to circumstances and locality. The *primum mobile* is the weight which carries the car and empty bucket up the ascent, as in Figure 1, or acts upon the inclination of the wire line beyond the turning-point, as in Figs. 1 and 2.

When the spring or fountain is not a great distance off, and the situation favorable, the greatest height or turning-point (from whence the car will run of its own gravity) may be placed from twenty feet and upward from the place where the water is received, the distance having a correct proportion to the maximum height of the wire and the construction of the pulley, hereinafter described.

On or near an arm attached to the high post *b*, Fig. 1, at the turning-point place, is a pulley or windlass, *i*, of the proper length for the action of the two cords and their appendages acting horizontally, the end next the post being much smaller than the end next the wire, as the capstan. The greater the difference in the diameter of the two ends of the pulley the more obtuse and convenient will be the angle of operation at the turning-point. At the small end of the pulley *i*, near the main post *b*, attach a cord, *k*, reaching nearly to the ground, with a weight suspended, and at the large end attach a cord, *h*, reaching to where the water is received, the two cords belting the pulley in opposite directions. To the near end of cord *h* attach a ring, through which a long cord, *h'*, reaching from the house to the spring, will pass, and as the bucket is returning from the spring, drawn by the long cord passing through the ring confined to the pulley by the weight suspended from the small end by cord *k*, the car, as it passes the turning-point, with the hook *s* catches the ring and raises the suspended weight to the arm, when the water is at the house. When the bucket is empty at the house the weight *l*, suspended from the pulley by the cord *k*, will descend to the base and thereby wind up the cord *h*, with its ring connected with the cord *h'* by a hook, *s*, attached to the car, thus carrying the car with the bucket to the turning-point, where the ring will stop and the hook will run out and on to the spring, extending the long cord from the house to the spring.

Fig. 2: At about half or within half the distance from the house to the spring erect the main post, which gives the maximum height of the curve, which height must be sufficient for the descent of the car, &c. From thence to the spring place in said post, Fig. 2, an arm above the one that sustains the wire. On the far side of and near the turning-point place a propelling-car, *n*, with varied gravity, to suit each locality respectively. Said propelling-car must have a cord, *o*, attached, reaching to where the water is received, with a ring, *p*, on the end, through which the long cord *q*, reaching to the spring, passes. When at the spring turn the crank at the house, draw up the car, &c., to the turning-point by the cord *q*, passing through the ring *p*, when the hook *w* will catch the ring and bring it on to the house, when the propeller will be at the turning-point and the car and bucket at the house. When the bucket is emptied, the cord *o*, attached to the propeller at the turning-point by the ring *p*, at the near end, acts upon the hook projecting from the car *r*, which carries the bucket, &c. When the bucket is discharged, the propeller, by its cord *o*, acting on hook *w*, will carry the car, &c., over the turning-point, from whence they will run of themselves.

What I claim as my invention, and wish to secure by Letters Patent, is—

The plan herein described of bringing water upon a level over a hill or in any situation where the fountain is not higher than

where the water is wanted for use, viz: the combination of the weight and its cord, pulley, and ring with the cord by which the bucket is drawn and the hook or catch upon the carriage, the whole being arranged substantially as described, for the purpose of drawing the empty bucket from the place of discharge over the highest point of the way to the spring.

CAIN BROYLES.

Attest:
V. SEVIER,
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