(No Model.) 2 Sheets—Sheet 1.

M. BURT & J. W. SKILTON.

TANK FEEDER.

No. 482,617. Patented Sept. 13, 1892.

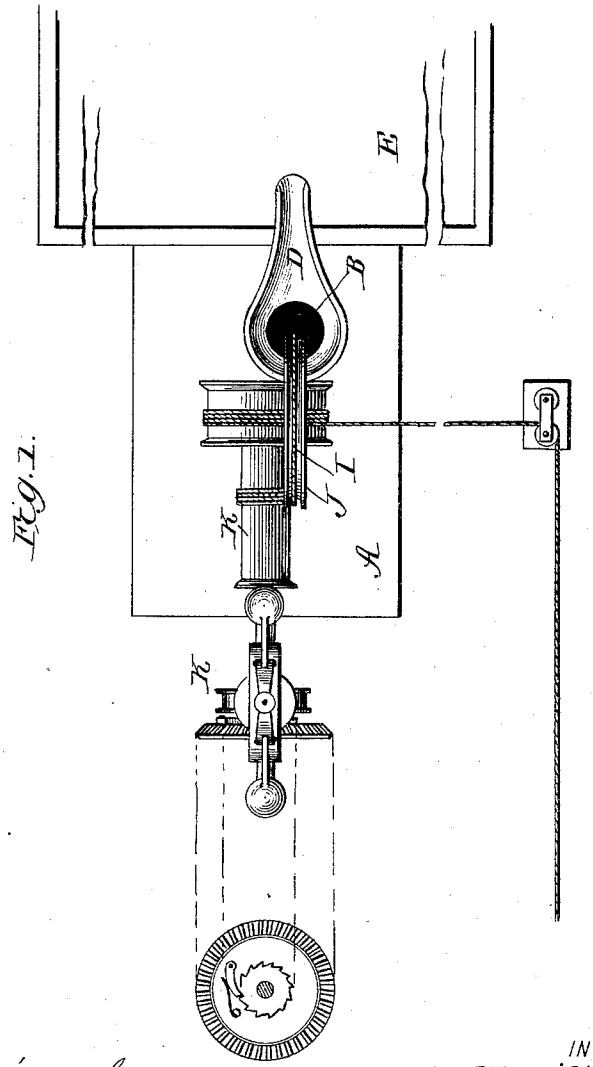

Fig. 1.

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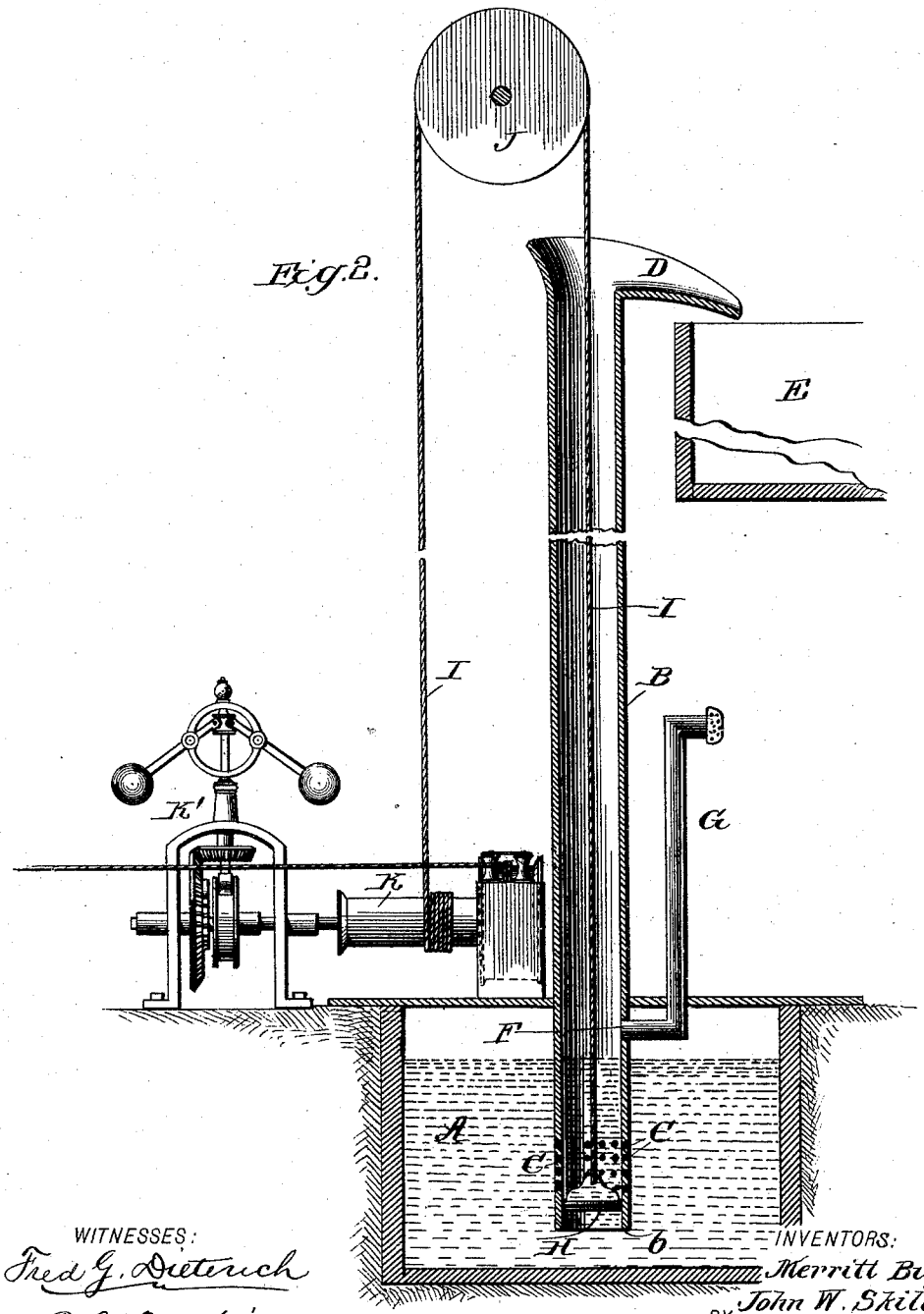
Fig. 2.



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UNITED STATES PATENT OFFICE.

MERRITT BURT AND JOHN W. SKILTON, OF JACKSONVILLE, FLORIDA.

TANK-FEEDER.

SPECIFICATION forming part of Letters Patent No. 482,617, dated September 13, 1892.

Application filed October 23, 1891. Serial No. 409,635. (No model.)

To all whom it may concern:

Be it known that we, MERRITT BURT and JOHN W. SKILTON, residing at Jacksonville, Duval County, State of Florida, have invented a new and Improved Tank-Feeder, of which the following is a specification.

This invention is an improvement in tank-feeders, and has for an object to provide a simple, novel, easily-operated apparatus; and the invention consists in certain features of construction and novel combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a top plan view of the improved apparatus, and Fig. 2 is a vertical section thereof.

In carrying out the invention we provide a water-reservoir A, which may be a well or cistern, as shown, or may be a pond, ditch, or part of a running stream or other suitable water-supply. The pipe B is open at its lower end *b* and projects at such end into the water in the reservoir, and is provided at points slightly above such lower end with lateral ports or openings C for the ingress of water. At or near its upper end the pipe B has a suitable discharge D, which may in the construction shown be a spout formed and arranged to discharge into the tank E, which may be an ordinary railroad-tank, having means, as usual, whereby its contents may be discharged into the tenders of the locomotives. Just above the water-lever the pipe has an opening F, which for convenience of reference we term an "air-inlet opening," and which preferably communicates with a pipe G, which extends upward and opens into the air above the ground. This opening F in the arrangement shown performs an important function in the operation of the apparatus, as will be more fully described hereinafter. A piston H is fitted in the pipe B and is valved to permit it to pass down into the water in said pipe and of sufficient weight to cause it to descend by gravity to its lowest position in the pipe B, as shown in Fig. 2. To raise this piston, we provide lifting mechanism, including in the construction shown a wire rope I, connected at one end with the piston extended up through the pipe B over a guide pulley J, and thence down and connects with a drum K, arranged as shown, and having suitable governing devices to regulate the descent of the weighted piston. Manifestly the means for pulling the wire rope may be varied, and it should be understood that the governing devices (marked K′) are not claimed herein, but form a part of the subject-matter of a separate application for patent, which we have executed preparatory to obtaining a patent. While the part I is preferably a wire rope, it is manifest that other constructions of rope and suitable cables may be employed without in any way departing from the invention.

The operation is simple. The draft-rope of the drum should be connected with a locomotive or other source of power, and as the rope I is wound on the drum the piston will rise in the pipe, lifting the body of water above it. When the piston has risen to the opening F, air will enter such opening and break the suction or effect a disconnection between the piston and the water in the tube below such piston, which water has been raised by suction, and the water below the piston will consequently fall back in the pipe to the level of water in the reservoir. Thus it will be seen we free the piston of the water below it and render much easier the raising of the piston with the water above it, and as such water rises above and empties into the discharge-spout the labor of lifting the piston constantly decreases until all the water has been discharged.

While the invention is especially adapted for use on railroads, it will be understood that the apparatus described, and parts of it, may be employed in irrigating orange-groves, for lifting water to very high tanks, to supply water-works, and for other purposes, as may be desired.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. An apparatus substantially as described, comprising a pipe having a water-inlet and provided at about the water-level with an air-opening, through which air may enter to break the suction, and a piston and hoisting means therefor, the piston being movable from a point below the air-opening up to a point above the same, substantially as set forth.

2. In an apparatus substantially as described, the combination of the reservoir, the

pipe extending at its lower end thereinto and provided near the water-level with an air-opening, the piston movable in the pipe past the said air-opening, and means whereby to hoist the said piston, substantially as set forth.

3. In an apparatus substantially as described, the combination of the reservoir, the pipe opening at its lower end into the reservoir and having an air-opening F at about the water-level, and a pipe G, communicating at one end with the said opening and extended at its upper open end above the ground-level, the piston in the pipe, and the means whereby to raise said piston, substantially as set forth.

4. The improved apparatus herein described, comprising the reservoir, the pipe having an air-inlet, the piston movable in the pipe past the said opening, and the rope connected with the said piston, whereby to raise the same, substantially as set forth.

5. The improved apparatus substantially as herein described, consisting of the reservoir, the pipe opening at its lower end in the reservoir and having an air-opening F, and a pipe G, communicating with said opening, the piston movable in the pipe past the opening G, the rope connected with said piston, and the guide-pulley J, all substantially as set forth.

6. The combination, substantially as described, of the tank E, reservoir A, pipe B, having its inlet in the reservoir and its discharge arranged to deliver into the tank, the piston in the pipe, the latter having an air-opening at about the water-line in the reservoir, the rope connected with the piston, and mechanism for pulling said rope to lift the piston, substantially as set forth.

MERRITT BURT,
JOHN W. SKILTON.

Witnesses to signature of Merritt Burt:
R. B. ARCHIBALD,
O. J. H. SUMMERS.
Witnesses to signature of John W. Skilton:
O. F. JANES,
JAMES A. SKILTON.