E. F. ADSITT & C. W. PRATT.

Water-Elevators.

No. 149,087. Patented March 31, 1874.

Fig. 1.

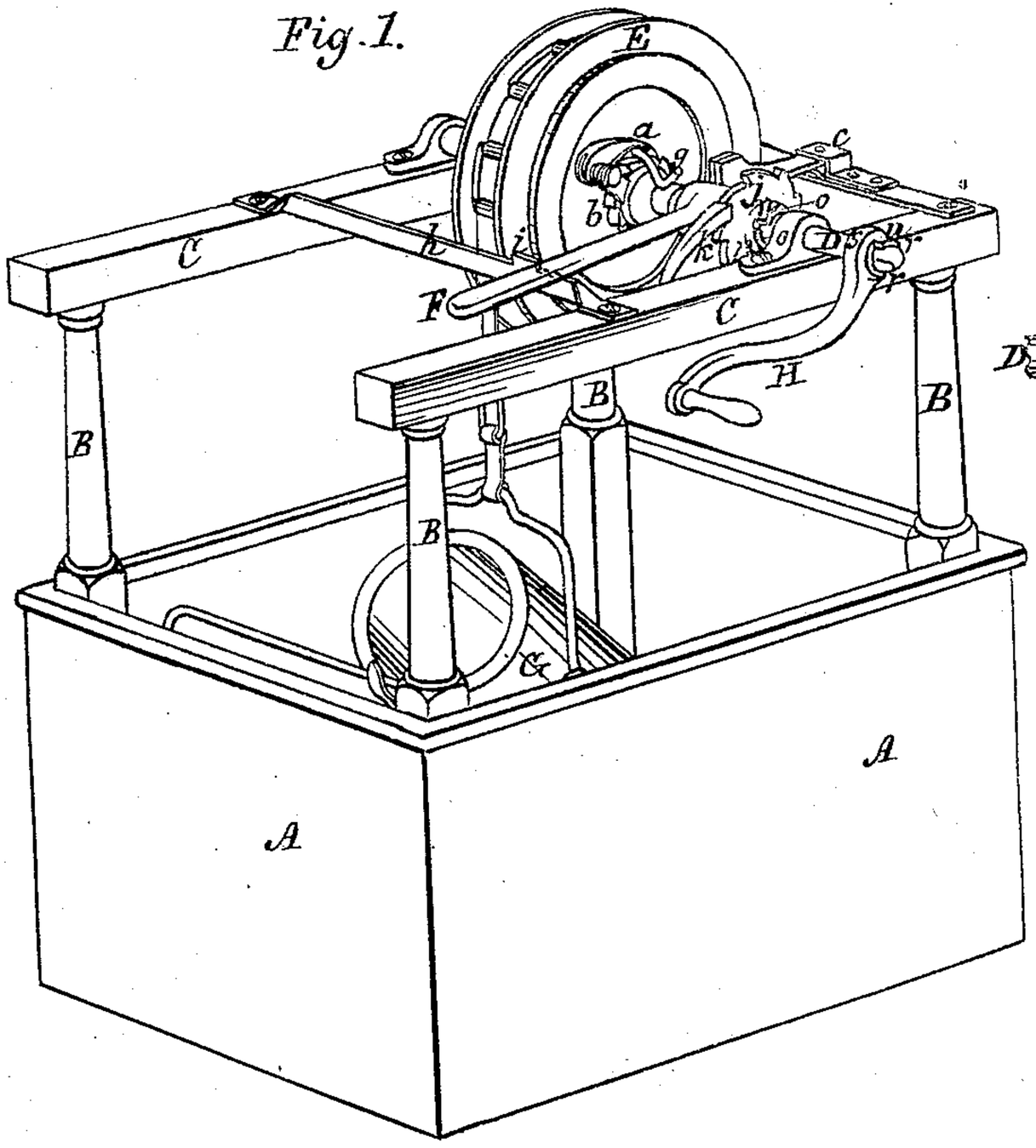


Fig. 2.

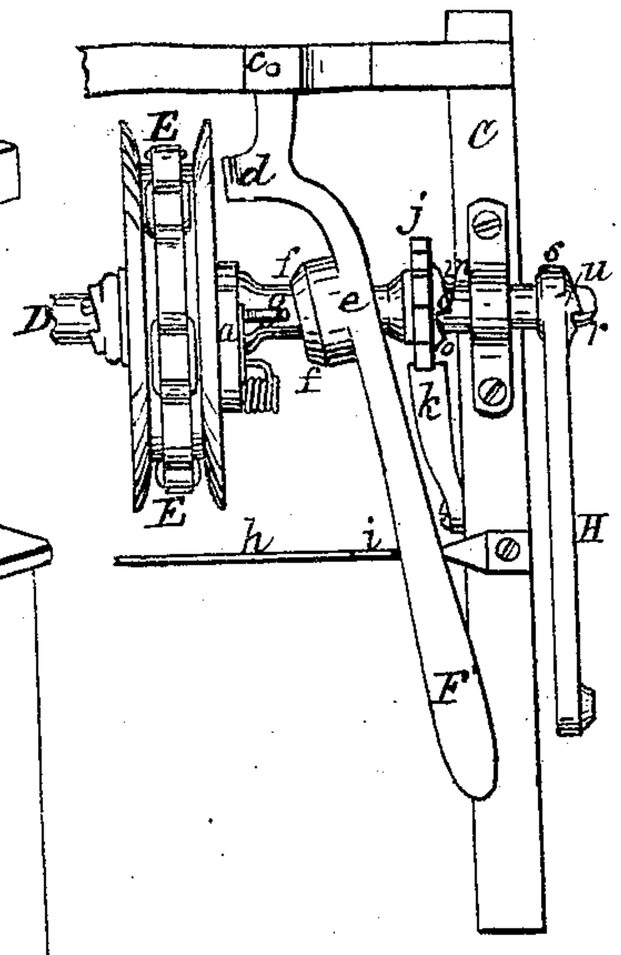


Fig. 3.

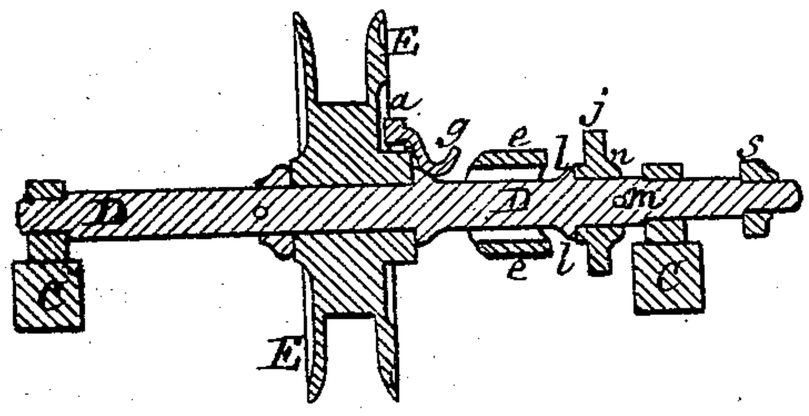
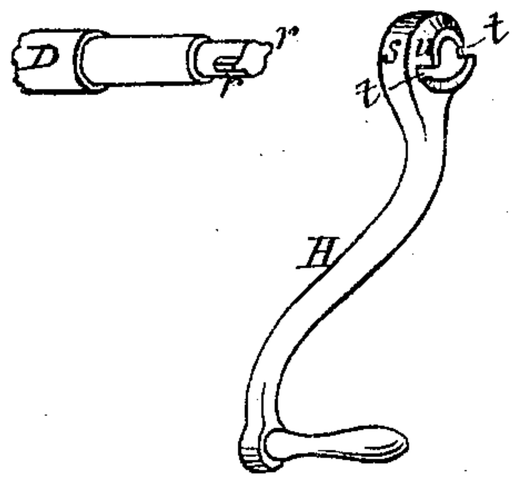


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

EUGENE F. ADSITT AND CHARLES W. PRATT, OF WATERLOO, NEW YORK.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. **149,087**, dated March 31, 1874; application filed September 15, 1873.

To all whom it may concern:

Be it known that we, EUGENE F. ADSITT and CHARLES W. PRATT, of Waterloo, in the county of Seneca and State of New York, have invented certain new and useful Improvements in Water-Elevators; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents the water-elevator in perspective. Fig. 2 represents a top plan of a portion of the mechanism for operating the elevator. Fig. 3 represents a longitudinal section through the pulley and crank-shaft, as also through the mechanism or appliances thereon. Fig. 4 represents in perspective, but separate from each other, the crank end of the crank-shaft, as also the crank, and its construction so that the two may be united or detached at pleasure, and without separate appliances other than those cast with or upon them.

Our invention consists, first, in the combination of chain or pulley wheel, loose upon its shaft, with a brake-lever and a pawl-detacher, so that the act of applying the brake-lever to the chain-wheel shall at the same time detach the pawl, and thus leave the chain-wheel to the action entirely of said lever, and allow the shaft and crank to stand still.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

The well-curb is shown at A, and B are the vertical and C the horizontal timbers, or frame, for holding the crank and bucket shaft D. Upon this shaft D is placed the chain-pulley or bucket-wheel E, which is loose thereon, except when held thereto by the action of a pawl, *a*, connected to the shaft, and a ratchet-wheel, *b*, connected to the pulley or wheel E. F is a brake-lever pivoted to the well curb or frame at *c*, and near its pivotal point it has a projection, *d*, upon it, the face of which may be covered with rubber or leather, so as to make frictional contact with the face of the pulley-wheel E, when forced up against it. At the part *e* of said lever there is a hub or opening, through which the shaft D passes, and the end of this hub is beveled or inclined, as at *f*, so as to take under a bent arm, *g*, that projects from the pawl *a*, and raises said pawl out of the teeth of the ratchet-wheel *b*, and so frees the pulley or chain-wheel on the shaft D. The application of the brake *d* and the throwing out of the pawl *a* are simultaneous acts, almost, so that the operator who works the lever controls the wheel, allow-it to run fast or slow, or to stop it anywhere; and when this pulley or chain-wheel runs free, so as to lower the bucket G in the well, the shaft D and crank H remain stationary—that is, do not revolve. At the front of the curb there is a bar, *h*, having a projection, *i*, upon it. When the brake-lever F is upon side of this projection, as in Figs. 1 and 2, the pulley-wheel E is held to and turns with the shaft D, through the intervention of the pawl *a* and ratchet *b*. When the lever is shifted to the other side of the projection, the pawl is raised from the ratchet, and the wheel is free to run without the shaft, but controlled by the brake-lever F, as above stated. On the shaft D there is a ratchet, *j*, and on the frame or curb a pawl, *k*, which are arranged to prevent the bucket, pulley, and shaft from running back, when released from the friction of the brake-lever, or when the crank H is let go. As we propose to make these fixtures of cast metal, arrangement is made by which they are readily put together or taken apart without expensive fittings or requiring a skilled mechanic to put them up. A collar, *l*, is cast on the shaft D, which shaft, for convenience of making, may be round, and a pin or stud, *m*, is set in the shaft. The hub *n* of the ratchet-wheel *j* has a feather or slot made through it that will slip over the head of the pin, and has also upon its end next the pin a cam-plane, *o*, which binds against the pin and holds said ratchet-wheel tight to and on said shaft when any strain comes upon said ratchet-wheel. The end of the shaft D, where the crank H is fitted to it, is round, and has two diametric projections, *r r*, upon it. The opening in the hub *s* of the crank H has two diametric slots, *t*, through it, which will allow the crank to be slipped onto the shaft over the projections *r*, and around the end of the hub *s* of the crank there is a cam-plane, which, when the crank is slipped on and turned in the direction in which the crank is to go or move, in raising its weight or load, binds against the projections *r*, and so

holds the crank tight to its shaft. By reversing the crank slightly, until the slots *t* come in line with the projections *r*, the crank may be taken off from the shaft, and as readily be replaced again.

The bucket may be fitted with the usual valve in its bottom, to allow it to fill with water when lowered into the water; and the bucket and curb may have the usual devices for tipping the bucket when full, and allowing the water to run out.

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

The combination of the pulley-wheel, loosely arranged upon its shaft, the armed pawl, the ratchet in which the pawl works, and the brake-lever, for the double purpose of disconnecting the pawl from its ratchet by taking under or against its arm, and at the same time stopping or controlling the motion of the pulley-wheel upon its shaft, as and for the purpose described and represented.

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Witnesses:
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