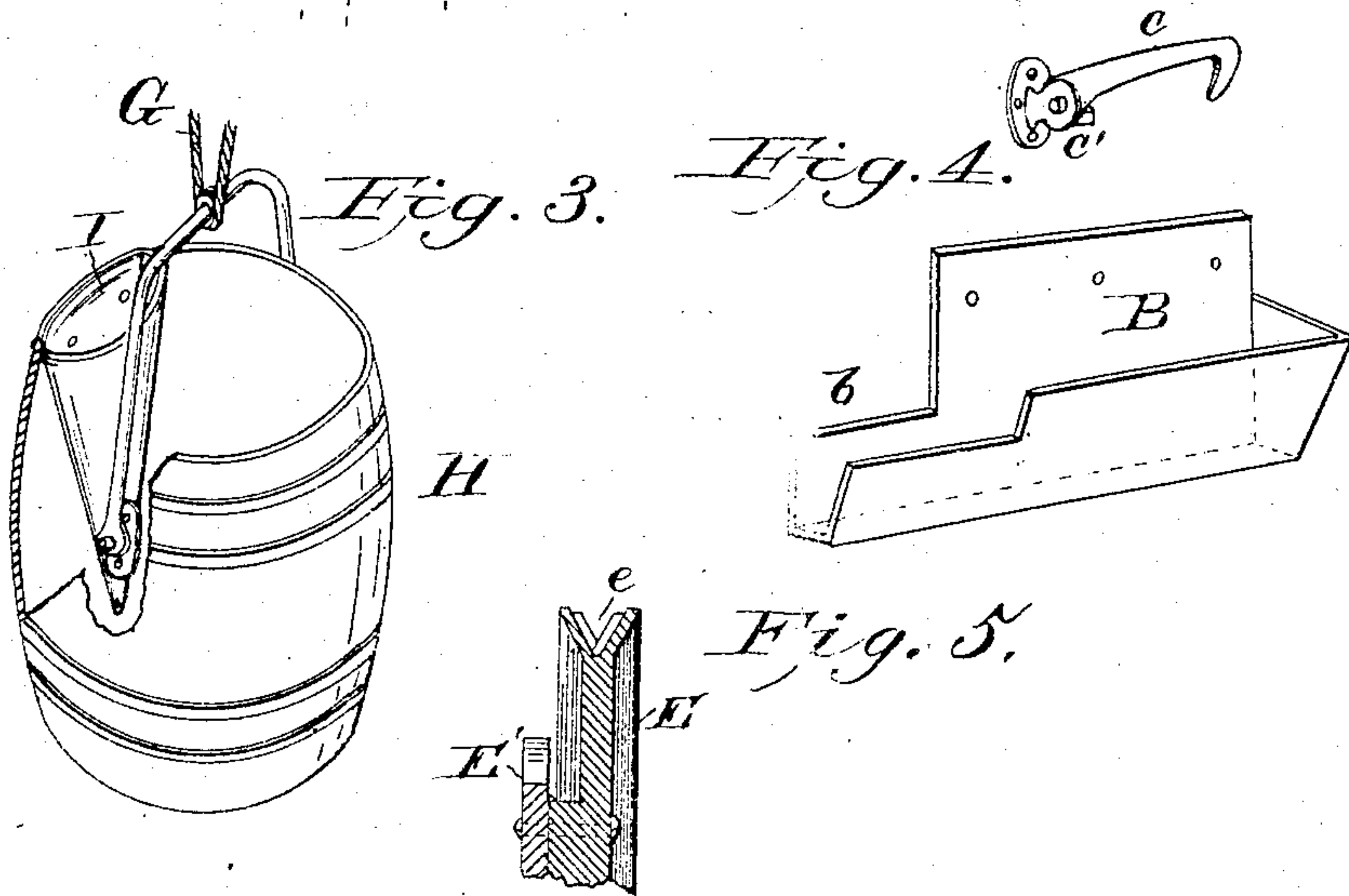
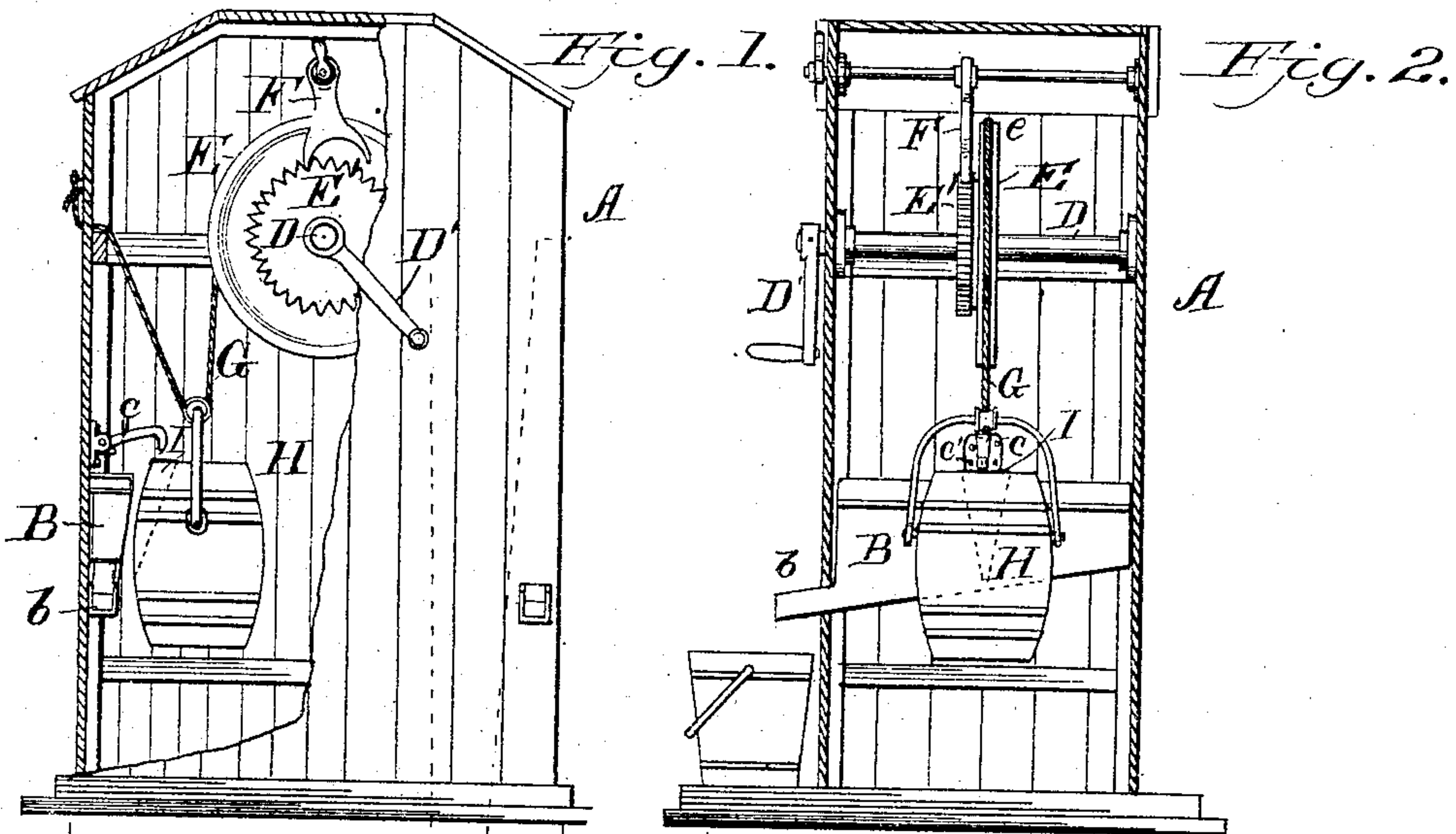


No. 786,165.

PATENTED MAR. 28, 1905.

J. B. SELLS.
WATER ELEVATOR AND PURIFIER.
APPLICATION FILED DEC. 6, 1904.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES B. SELLS, OF GREENSBORO, NORTH CAROLINA.

WATER ELEVATOR AND PURIFIER.

SPECIFICATION forming part of Letters Patent No. 786,165, dated March 28, 1905.

Application filed December 6, 1904. Serial No. 235,701.

To all whom it may concern:

Be it known that I, JAMES B. SELLS, a citizen of the United States, residing at Greensboro, in the county of Guilford and State of North Carolina, have invented new and useful Improvements in Water Elevators and Purifiers, of which the following is a specification.

My invention relates to certain improvements in windlass water-elevators, the object of the same being to provide a simple, cheap, and effective device for raising and at the same time aerating the water raised thereby.

The invention forming the subject-matter of this application includes novel construction of the hoisting apparatus and the buckets operated thereby, such buckets having within the same chambers with converging walls and vents for the escape of air for aerating and thereby purifying the water, as will be hereinafter set forth.

In the accompanying drawings, which illustrate my invention, Figure 1 is a front elevation, partly broken away, of a well-casing and attachments therefor made in accord with my invention. Fig. 2 is a vertical section. Fig. 3 is a perspective view of one of the buckets partly in section. Fig. 4 is a detail perspective view of one of the spouts and the hook above the same for engagement with the bucket, and Fig. 5 a sectional detail view.

The well casing or box A may be of any suitable construction, and to the two sides, which are at right angles to the front, there are attached combined troughs and spouts, the spouts *b* extending through the front of the casing. The troughs B are nailed or otherwise attached to the sides of the well-box A, and the side farthest from the wall of the well-box is upwardly inclined, so that the upper portion of the trough will be much wider than the lower portion, from which the spout projects. To the sides of the well box or casing and above the troughs are outward-projecting hooks having inwardly-extending ends for engagement with the bucket or fixtures carried thereby. The hooks *c* are pivoted to fixtures attached to the sides of the well-box A, such fixtures *c'* having lugs to maintain the hooks from downward movement beyond the horizontal, so that when the

buckets are raised the hooks will be in position to engage the buckets and tilt the same so that the contents will be discharged into the troughs. It will be noted that the spouts of each trough project through the front of the casing or well-box.

The well box or casing A supports bearings for a shaft D, so that such shaft will be maintained by the bearings centrally within the casing and at right angles to the front and rear walls thereof. The front end of the shaft projects beyond the front wall and carries a crank-handle D'. Upon the shaft within the casing is a wheel E, having a peripheral V-shaped groove *e*, with side flanges at intervals to afford a grip upon the rope or chain which is passed over the wheel. The wheel E has on the front side a ratchet-wheel E', which is engaged by a double-acting and reversible pawl F, mounted on the upward-extended portion of the front bearing for the shaft. The pawl F is mounted on a bar which extends through the casing, the projecting end of the bar having a handle for shifting the pawl, so that the detents thereof may be placed to permit the pulley or wheel to be turned in either direction.

With the construction shown I employ a continuous rope or chain G, one end thereof being permanently fastened to one side of the well-box. The rope or chain extends downward, is passed over a pulley attached to the bail of one of the pails, thence upward over the upper half of the wheel E, and then downward about the pulley on the bail of the other bucket, from which it extends upward and is secured to the casing in such a manner that it can be adjusted to suit the level of the water in the well. In some localities the water-level is not constant, and by providing means for lengthening and shortening the rope an objectionable feature to this type of water-elevators is overcome. The buckets H H, which are raised and lowered by the rope when the handle D' is turned, are each provided with chambers I, made of metal and attached to the inner sides of the buckets so that the wider open ends will be on a line with the upper edge thereof. The chambers I fit snugly against the inner portion of the bucket, and

the side farthest from the inner wall of the bucket converges toward the bottom, where there is a small opening or vent for the escape of air, such air as the bucket is being
5 filled, escaping through the vent into the water which is gathered in the pail as it is being filled thereby aerating and purifying the same to an appreciable degree. The chamber being attached to one side of the bail over-
10 weights one side of the bucket so that it will readily fill, and as the hook engages the metal edge of the chamber I wear at this point is prevented.

The arrangements of the parts is such that
15 a comparatively small well box or casing may be used with large buckets, and the diameter

of the wheel or pulley is such as to afford clearance for the buckets in passing one another. If desired a brake may be used in connection with the fixture shown and described. 20

I claim—

In combination with a water-elevator mechanism, a well-bucket having a bail, a supplemental chamber attached to the inner side of the bucket, such chamber extending from the
25 rim of the bucket and converging toward the bottom of the same, the smaller end thereof having a vent, substantially as shown.

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