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ISAAC L. MAYFIELD.

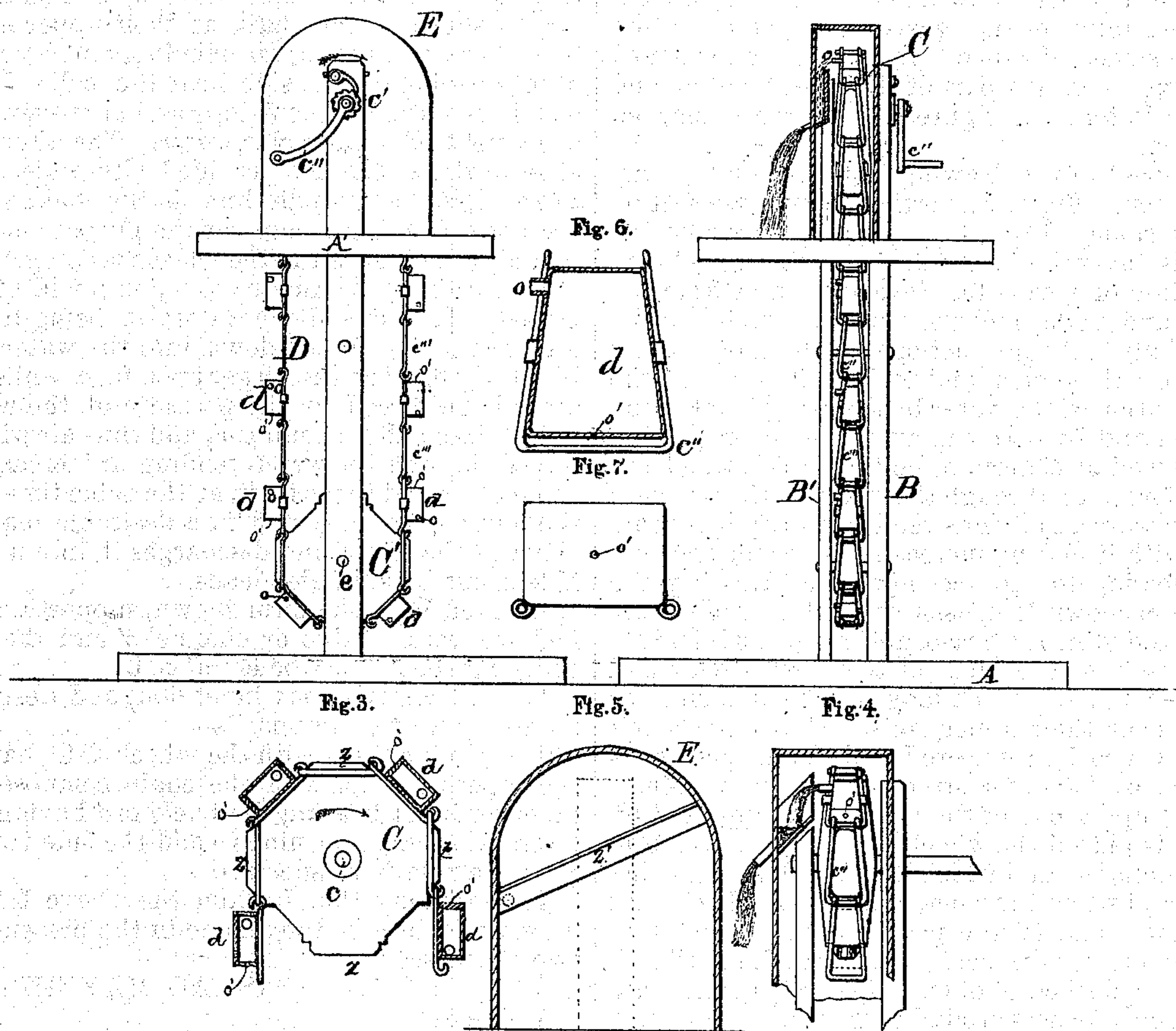
Water Elevator.

No. 119,380.

Fig. 1.

Patented Sep. 26, 1871.

Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

ISAAC MAYFIELD, OF MAYFIELD, KENTUCKY.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 119,380, dated September 26, 1871.

To all whom it may concern:

Be it known that I, ISAAC MAYFIELD, of Mayfield, in the county of Graves and State of Kentucky, have invented a new and valuable Improvement in Water-Elevators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a front view of my invention. Fig. 2 is a vertical transverse section of the same. Figs. 3, 4, 5, 6, and 7 are details.

This invention consists in an improved construction of means for elevating water from cisterns and wells; and the object of the invention especially is the production of a chain-pump that is effectual as such, and which will tend to the purification of the water by throwing it into commotion and by carrying air to the lower portion of the well or cistern, to be there discharged and to be forced up through the water by the pressure of the water, and thus tend to purify it by contact with it and by increasing its commotion.

Referring to the accompanying drawing, the frame is shown to consist of a sill, A, which may be in the form of a circle, upright posts B and B', supported on the sill A at their lower ends and by the plate A', which may also be of a circular form, near their upper ends. The posts B and B' may also be connected at different points, as shown, by bars, for strength and convenience. At the upper end of the posts, and supported by them, is placed the wheel C, which is in the form of an octagon, and which has an axle, c, provided with a pawl and ratchet, c', and a crank, c''. At the lower end of the posts is placed, and supported on a plain shaft, a similar wheel, C'. A chain, D, formed of oblong links c''', in the manner shown, passes around these wheels, the links being adapted in length to the sides of the wheels, and the length of the chain being just sufficient

to extend around the wheels, as shown. On the alternate links of the chain are fixed the boxes, buckets, or cups d, by means of ears on the cups, through which the sides of the links pass. These cups are in a form adapted to the form of the link and the sides of the wheel, and may be rectangular, as shown. They have at their upper ends, or rather at one end, an opening, and also another opening on one side near the end. These openings serve for the escape and admission, respectively, of air and also water. The alternate sides of the wheels are provided with projections z to engage the alternate links in the chain which are not covered by a cup, for the purpose of propelling the chain when the wheels are in motion.

By turning the crank c'' the pump will be operated. The cups above the water being full of air, upon being forced down into the water will be slowly filled at the larger opening o, while the air will be forced by the pressure of the water out at the smaller opening o', and thus air will be forced through the water, tending to increase its commotion and to purify it, at the same time that the pump effectually and in a desirable manner elevates the water and discharges it into a suitable spout by suitable means.

A cover, E, in the form shown, supporting the inclined water-ledge or channel z' and the discharging-spout, may be employed.

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

The combination, with the wheels C C', having the tapering studs z of the chain composed of tapering links, bearing the buckets d having the lateral discharge-openings o and the side trough z', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ISAAC MAYFIELD.

Witnesses:

B. A. HOWARD,
G. S. MAYFIELD.

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