

(No Model.)

T. B. CRAYCROFT.

WATER WAY AND GATE FOR RESERVOIRS.

No. 436,170.

Patented Sept. 9, 1890.

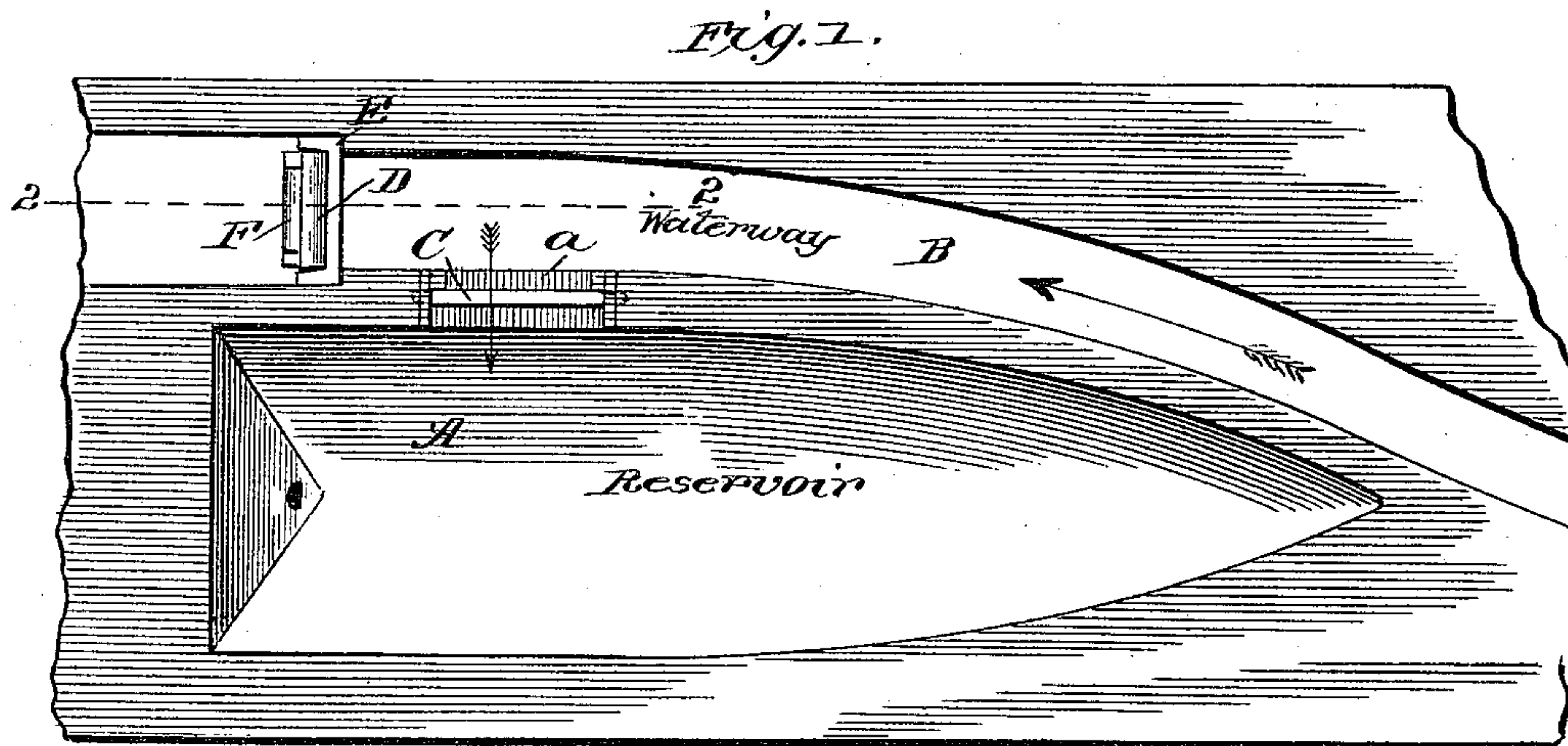


Fig. 2.

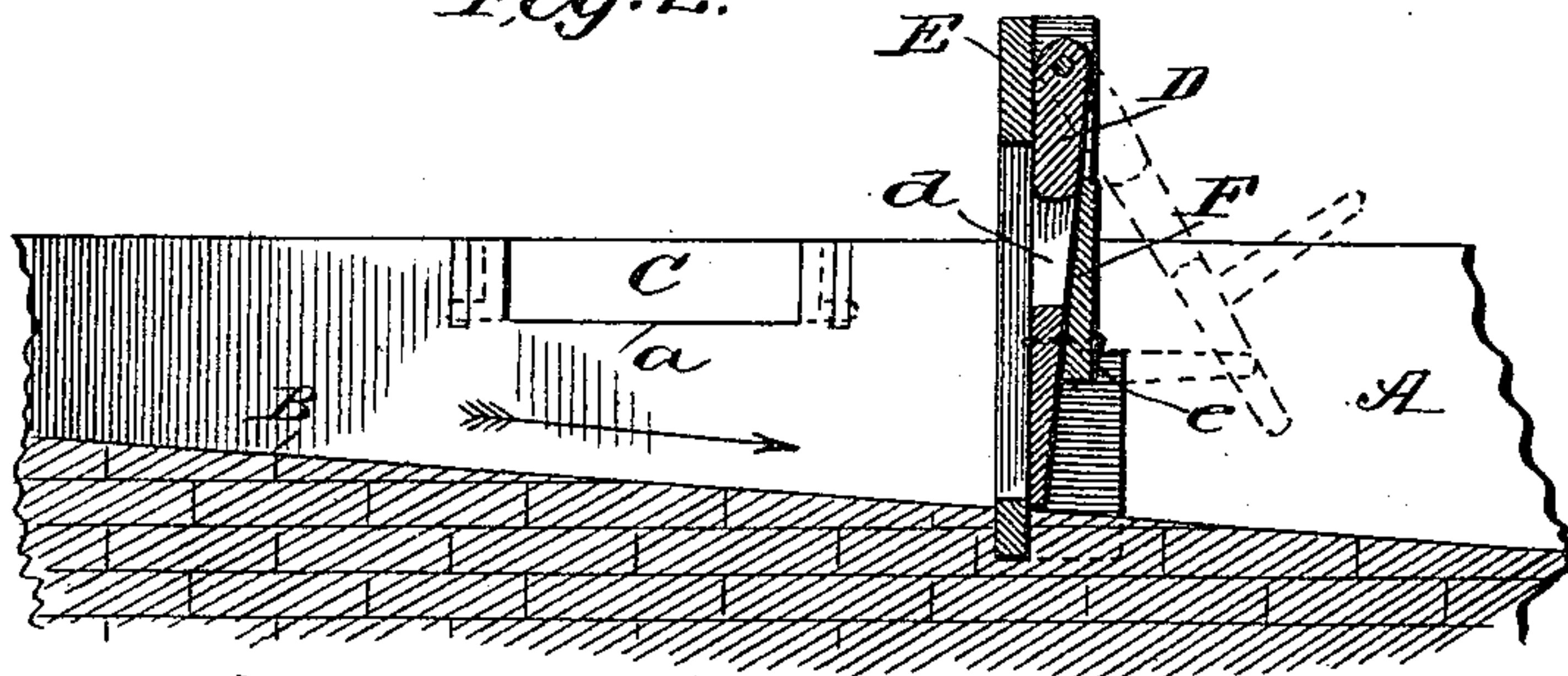


Fig. 4.

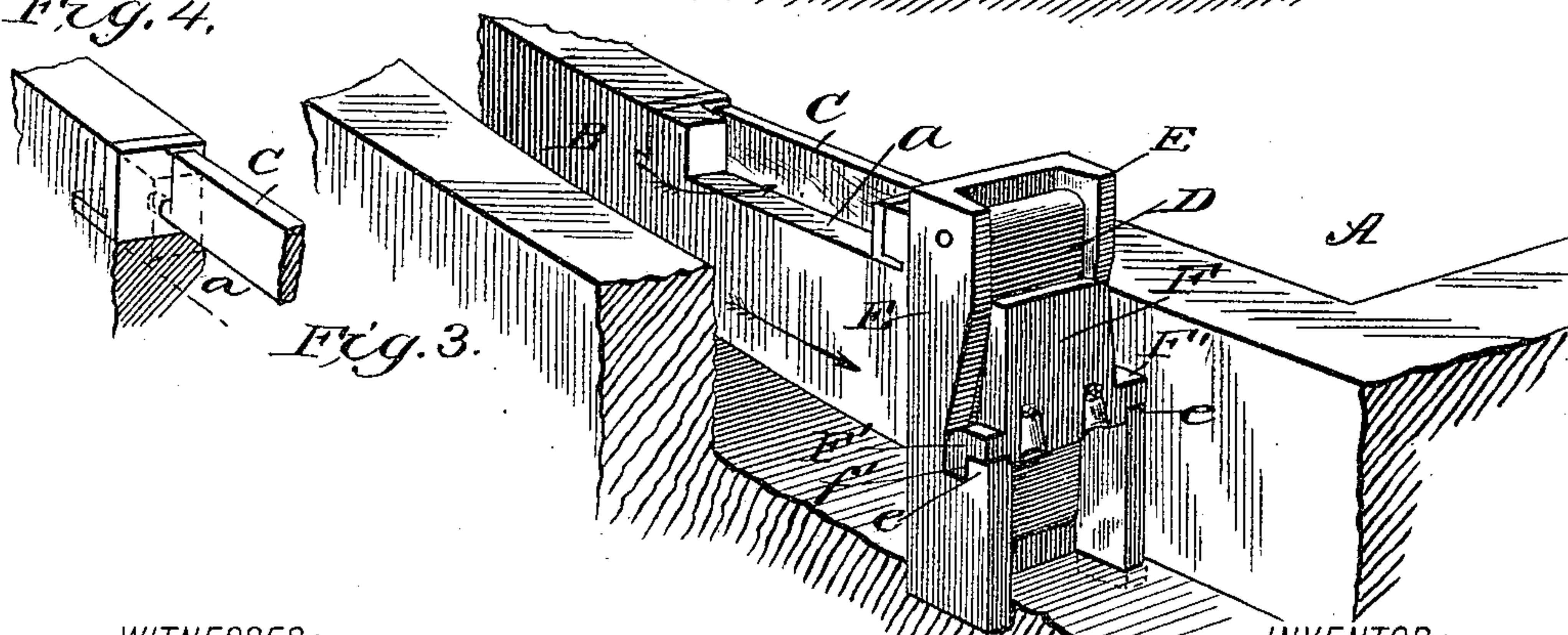


Fig. 3.

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WATER-WAY AND GATE FOR RESERVOIRS.

SPECIFICATION forming part of Letters Patent No. 436,170, dated September 9, 1890.

Application filed April 9, 1890. Serial No. 347,209. (No model.)

To all whom it may concern:

Be it known that I, THOMAS B. CRAYCROFT, of Panoche, in the county of Fresno and State of California, have invented a new and useful
5 Improvement in Water-Gates and Reservoirs and Water-Ways, of which the following is a specification.

My invention is an improvement in reservoirs, and in the construction for supplying
10 clear water thereto and separating the mud and sand from the water; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

15 In the drawings, Figure 1 is a plan view. Fig. 2 is a vertical longitudinal section on the line 2 2, Fig. 1. Fig. 3 is a detail view, in perspective, of the gate, and Fig. 4 is a detail view showing the hinge of the check-valve.

20 The reservoir A may be suitably shaped and constructed, as may also the water-way B, for supplying the water to the reservoir, communication between said water-way and reservoir being effected through an opening or
25 gap *a* in the wall or levee of the reservoir, so that water in the water-way may flow into the reservoir. In this gap or opening I arrange what may be termed a "check-valve" C, consisting preferably, as shown, of a flat plate pivoted at its lower edge to the reservoir, so that
30 water may flow freely into the reservoir from the water-way, and constructed, when said reservoir is full to the desired height, to rise and close against abutments or bearings in the reservoir-wall, the said valve-plate being
35 of buoyant material, so that it will be floated by the water in the reservoir to closed position when the said water is at the desired height.

A gate D is arranged in the water-way B
40 at a point beyond the point of communication of the water-way with the reservoir. In operation this gate is locked in closed position until the water has been supplied to the reservoir to fill the same to the desired height,
45 and the lock devices are then automatically released, permitting the gate to open to permit the subsequent flow of water through the water-way to thoroughly cleanse the latter and wash out all sediment, mud, sand, &c., which
50 may have accumulated in the bottom of the

water-way while the reservoir was being filled. The specific construction of this gate and its locking devices will now be described.

By preference the gate D is hinged at its upper end to a frame E, so that such gate
55 when released and free will swing at its lower edge downstream. This gate D has an opening *d*, which is arranged on or above the level of the opening *a* leading from the water-way into the reservoir. This opening is controlled
60 by a valve F, arranged on the rear side of the gate and arranged to be opened by the pressure of waste water acting through opening *d*. This valve F is hinged, preferably
65 loosely, as shown, at its lower edge to the gate, and is provided at such lower edge with lateral projections F', which engage hook-like bearings *e* on the frame E when the valve
70 is closed, and so operate to hold the gate closed.

The projections F' fit in the hooks *e* when the valve F is closed, and are formed with shoulder-like portions *f'*, which bear upon the hooks when the valve turns from its vertical closed to its horizontal open position,
75 and so operate to release the lock devices, such lock devices consisting of the hook-like bearings on the gate-frame and the projections on the valve, and arranged to be operated by said valve as it adjusts from closed
80 to open position. It will be seen that the lock devices hold the gate firmly and positively closed until such devices are released.

In operation the water flowing into the water-way, when it has reached the height of the
85 gap or opening *a*, flows from the top of the water-way into the reservoir until the latter fills, when the rise of water therein will lift and close the check-valve. At the same time the rise of water in the water-way above the
90 level of the opening *b* will act by pressure against the valve to open the same, release the latch devices, and open the water-gate, so that the latter may swing open and permit the flow of water through the water-way to flush
95 and cleanse the same.

The specific construction of the water-way B will now be described and its relative position with the gate D. The gap or opening leading into the reservoir is formed by a
100

levee running parallel with the reservoir, and having its bed below the level of the opening or gap into the reservoir and level with the lower end of the gate D, thus forming a large
 5 and deep space for water, thereby stopping the motion of the water, so that all sediment will be compelled to drop to the bottom. Then the clear water will strain off into the reservoir, thereby separating the mud from the
 10 water, and also carrying off all surplus water and sediment, thus preventing the surplus flow of water through the reservoir and over the dam.

Having thus described my invention, what
 15 I claim as new is—

1. The combination of the reservoir, the water-way, a gate controlling said water-way, and lock devices for said gate, said lock devices including a valve supported on and movable with the gate and being constructed and
 20 arranged to be released by the rise of the water above the desired height, substantially as and for the purposes set forth.

2. The combination of the gate having an
 25 opening, a valve by which to close said opening and arranged to lock the gate closed when the valve is closed, and to release the gate when the valve is adjusted to open position, said valve being movable with and also independently of the gate, substantially as set
 30 forth.

3. The combination of the reservoir, the water-way arranged to supply the reservoir and to settle or stop the sediment, a gate controlling said water-way below the point where
 35 it communicates with the reservoir, and automatic lock devices for said gate, whereby the latter may be released when the reservoir has been filled to the desired height, substantially as set forth.

4. An improved water-gate consisting of the frame having hook-like bearings or keepers, the gate proper having an opening, and the valve arranged to close said opening when
 45 in closed position, and having projections or portions to engage the bearings or keepers of

the frame, all substantially as and for the purposes set forth.

5. The combination, in a water-gate, of the frame having hook-like bearings or keepers, 50 the gate proper hinged at its upper end and provided with an opening, and the valve hinged to the gate below said opening and provided with projections F' to fit the hook-like bearings or keepers, such projections F' 55 being provided with shoulder-like portions f', all substantially as set forth.

6. The combination of the reservoir, the water-way arranged to supply the reservoir with clear water, a gate controlling said water- 60 way beyond the point of its communication with the reservoir, such gate being movably supported whereby it may open and close and being provided with an opening, a valve arranged in rear of said gate and controlling 65 such opening, and lock devices for the gate arranged for operation by the said valve, all substantially as and for the purposes set forth.

7. The combination of the water-way B with the opening a and the gate D, such 70 water-way having its bed below the level of the opening a into the reservoir and level with the lower end of the gate D, being thereby adapted to separate the mud and water and to effect the filling of the reservoir 75 with clear water, substantially as and for the purpose set forth.

8. The improved apparatus herein described, consisting of the reservoir, the water-way for supplying such reservoir with clear 80 water, the check-valve controlling the opening between said water-way and reservoir, the water-gate arranged in the water-way below the opening between the water-way and reservoir, and automatically-released lock de- 85 vices for said gate, all substantially as and for the purposes set forth.

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Witnesses:

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