

(No Model.)

C. J. CHENEY.

WATER GATE.

No. 323,562.

Patented Aug. 4, 1885.

Fig. 3.

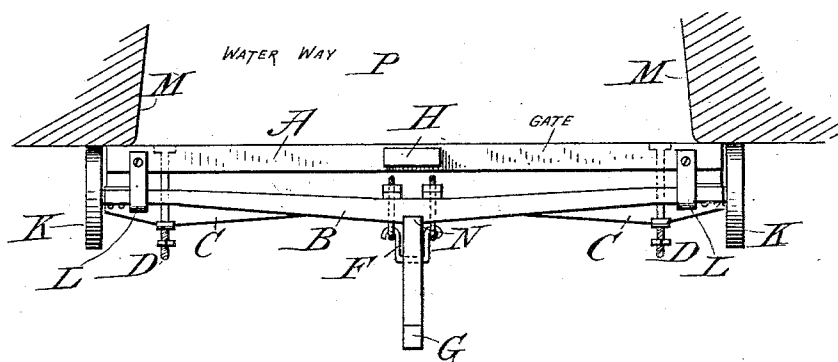


Fig. 2.

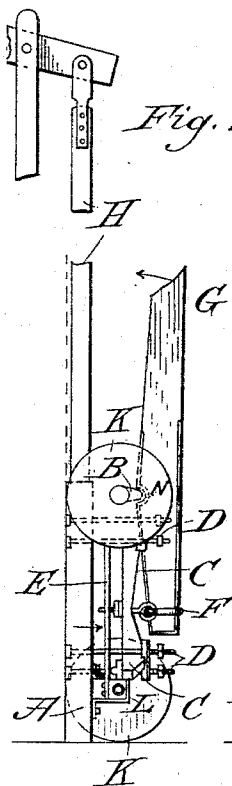
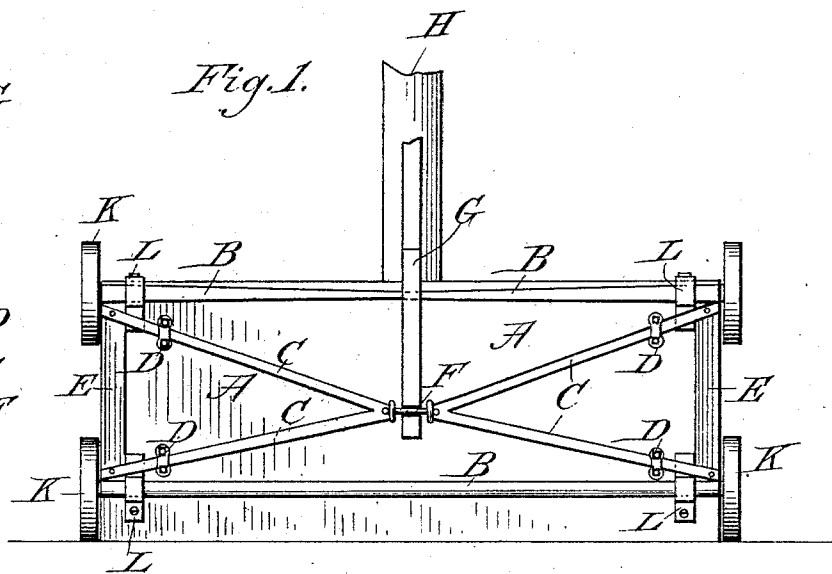


Fig. 1.



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UNITED STATES PATENT OFFICE.

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WATER-GATE.

SPECIFICATION forming part of Letters Patent No. 323,562, dated August 4, 1885.

Application filed June 2, 1885. (No model.)

To all whom it may concern:

Be it known that I, CLEVELAND J. CHENEY, a citizen of the United States, residing at Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Water-Gates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in flood or sluice gates such as are used in the forebays of mills, penstocks, or similar water-conduits to regulate the discharge of the water, the object being to provide a gate whose manipulation may be more convenient and easy than that of other forms now in use, and whereby the usual excessive friction of sliding bearings in water-gates may be avoided; and the invention consists of any ordinary sluice-gate having fastened thereto a frame-work provided with wheels, and having a system of leverage whereby the gate may be lifted from its seat and caused to bear upon this locomotive frame-work in such a manner as to be vertically or horizontally movable.

In the annexed drawings, illustrating my invention, Figure 1 is a front view of my improved water-gate. Fig. 2 is a side view, and Fig. 3 a top view, of the same.

A represents a water-gate, constructed in any ordinary and familiar fashion, of a strength sufficient to withstand the head of water coming from the mill-race or other water-course, and it has a bearing on both sides of the conduit at M M. It is evident that to raise a gate thus constructed when there are several tons' pressure of water upon it would take enormous power; but my device lessens very greatly the amount of power required, and obviates many other difficulties attendant upon raising and lowering the gate.

B B designate two axles, connected at their extremities by cross-pieces E E, thus making a quadrilateral frame situated close to the gate A, and held there in proper position by clasps L L L L, attached to the gate and running loosely over the axles B B. Upon the

ends of the axles are placed wheels K K K K, which move in the same plane upon which the gate rests at M.

C C C C are four combination-levers, connected near the middle of the frame with an eye-hook, F, whence they radiate to the corners of the frame, where their extremities rest on pivots on the cross-bars E E. D D D D are straps or clasps for attaching these levers C to gate A, and they are securely fastened to the gate and pass over the top of the levers. A long lever, G, engages with the eye-hook F, and is fulcrumed on the axle B at N. When the far end of this lever is depressed, the hook F will be raised, and with it the inner ends of the levers C C C C. These levers, since they are fastened to the gate A at D D, will be elevated slightly at D D, and will remove the gate from its seat on the sides M M of the water-way P to that extent.

H is a start attached to the upper edge of the gate, and it operates the gate by lifting or lowering the same.

The operation of the gate is as follows: The lever G is depressed toward the gate, so as to act upon the combination-levers sufficiently to lift the gate from its position one-half inch, more or less. This leaves it clear of contact with the slides, and at the same time lifts it onto the vertically-moving car, or, what is the same thing, suspends it therefrom by the strap-connections D D D D of the levers. Now, by any suitable means, the lever G may be fastened into its depressed position, after which, by suitable mechanism provided, as the lever in Fig. 2, attached to the start, this start can be raised, when the car will roll easily upward, and the gate be removed from the sluiceway.

In large gates, if desired, screws or cams may be used for lifting the gate from its seat, instead of the levers I have described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A water-gate consisting of a gate, a locomotive frame-work, and a system of leverage for lifting the gate from its seat onto the frame-work and for moving the same, substantially as shown and described.

2. In a water-gate, the combination of a gate, A, having start H, and a quadrilateral

frame-work joined thereto by clasps L, provided with wheels and serving as a vertically-movable car, the said gate adapted to be lifted onto the car by means of a lever, G, fulcrumed
5 on one axle, and levers C C C C, connected therewith by an eyebolt, F, and fulcrumed on the cross-pieces E E, and attached to the gate at D D D D, all arranged and operating substantially as shown and described.

10 3. In a water-gate, a system of levers for lifting the same from its seat, which is composed of a main lever, G, engaging with an eye-hook, F, to which are united four levers, C C C C, fulcrumed at points on cross-beams E E,

and fastened to the gate A by straps D D D D, 15 for lifting the same, substantially as shown and described.

4. In a water-gate, the vertically-moving car consisting of axles B B, cross-beams E E, and wheels K K K K, the whole adapted to 20 raise or lower a gate attached to it, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

CLEVELAND J. CHENEY.

Witnesses:

SAMUEL B. WYMAN,
GEO. H. STEVENS.