(No Model.)

R. PATTEE.

WATER GATE.

No. 330,800. Patented Nov. 17, 1885.

Fig 1

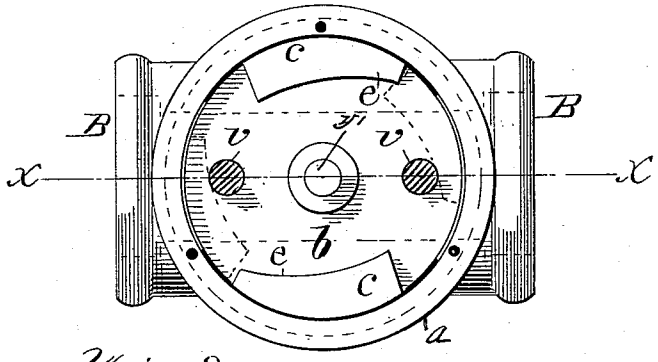


Fig 2

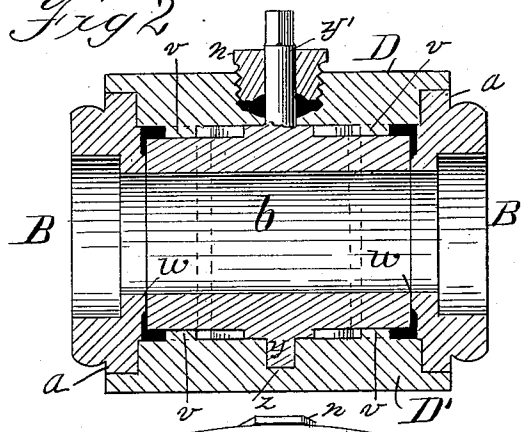
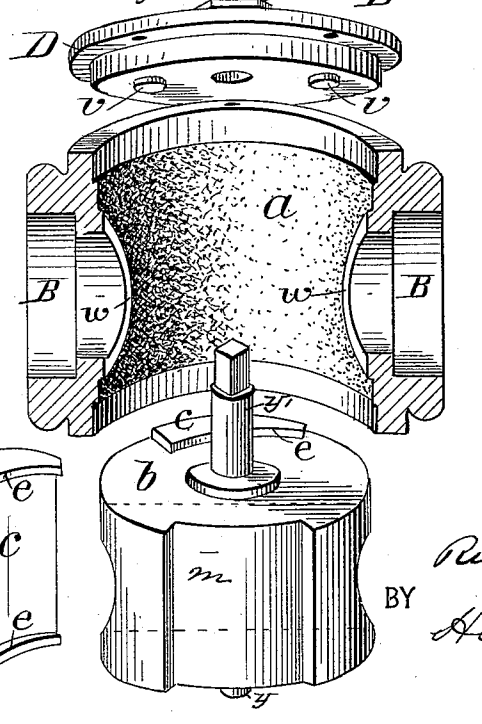


Fig 3



WITNESSES:

J. D. Garfield

W. E. Hoch

INVENTOR

Richard Pattee

BY Henry A. Chapin

ATTORNEY

N. PETERS. Photo-Lithographer. Washington. D. C.

UNITED STATES PATENT OFFICE.

RICHARD PATTEE, OF HOLYOKE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO EDWARD P. DRAPER, OF SAME PLACE.

WATER-GATE.

SPECIFICATION forming part of Letters Patent No. 330,800, dated November 17, 1885.

Application filed March 21, 1885. Serial No. 159,631. (No model.)

To all whom it may concern:

Be it known that I, RICHARD PATTEE, a citizen of the United States, residing at Holyoke, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Water-Gates, of which the following is a specification.

This invention relates to improvements in water-gates, the object being to provide an improved revolving plug-gate, the plug of which has attached thereto loosely valves which have a motion thereon by turning the plug in the direction of the water-way to close the passage through the gate.

In the drawings forming part of this specification, Figure 1 is a top plan view (with the head removed) of a water-gate embodying my invention. Fig. 2 is a longitudinal section on line *x x*, Fig. 1. Fig. 3 is a perspective view of detached parts, partly in section.

In the drawings, *a* is the barrel of the gate having the usual socket-nozzles, B B, on opposite sides thereof. D D′ are heads which are secured by screw-bolts or other suitable means on each end of the barrel *a* after the plug *b* has been inserted therein. The lower head, D′, has a central step, *z*, to receive one plug-bearing stud, *y*, and the upper head, D, has a hole through its center, through which passes the upper bearing-stud of the plug *y′*, and an ordinary stuffing-box is made in head D, having the packing-nut *n*, whereby any leakage around the stud *y′* is prevented. The end of the last-named stud is squared to provide for any convenient attachment thereto for turning the plug. The heads D D′ are each made with two projections or pins, *v*, on their inner faces, as shown. The interior of the barrel *a*, except directly around the inner ends of the nozzles B at *w*, is either left in the condition in which it is cast or ordinarily finished, as it needs no grinding, as is the case with ordinary plug-valves; but at the points *w* within the barrel a slightly-raised collar is provided, for the purpose hereinafter set forth, said collars being properly faced and finished. The plug, or more properly the gate-wheel *b*, as aforesaid, has the studs *y y′* on either end, for the purpose described, and on opposite sides thereof is formed a wide groove, *m*, in the direction of the length of the wheel. The diameter of wheel *b* is such that, when placed in the barrel, it rotates freely between the collars *w*, the latter constituting gate-seats, as hereinafter set forth.

A segmental gate, *c*, is loosely fitted into the groove *m* on each side of the wheel *b* in the position shown, said gate having on each end a cam-flange, *e*, projecting over each end of said wheel toward its center. The edge of the flange *e* is eccentric to the curve of the outer surface of the gate *c*, as shown. When the gates *c* lie close against the sides of the wheel *b*, their outer surfaces are about flush with the surface of the wheel each side of the groove *m*.

Figs. 1 and 2 show the relative positions of the projections *v* on the heads D D′, and the gate-wheel and gates, together with the cam-flanges *e*, when the passage through the gate is open. In Fig. 1 the projections *v v* are shown in section as though cut off from the head when it was removed and left in the positions over the end of the wheel *b* which they occupy when the head is on.

As shown in Fig. 1, the gates *c* stand on opposite sides of the passage-way through the water-gate when the latter is open, and in shutting the latter the wheel *b* is turned to the right in Fig. 1, thereby carrying the narrow ends of the cam-flanges *e* against the sides of the projections *v*, when wheel *b* is turned, thereby forcing the curved outer face of the gates *c* against the collars *w*, around the nozzle openings on the barrel, and tightly shutting said openings.

The dotted lines in Fig. 1 on the end of the wheel *b* show the positions of the cams *e* just after engaging with the projections *v*.

When the gate is fully shut and the gates *c* come to a bearing against the collars *w* in the barrel, their opposite bearing-points are two of projections *v*, one at each end, upon which they are free to oscillate more or less, and adjust themselves to a proper bearing against the face of the collars *w*.

What I claim as my invention is—

The gate-wheel *b*, having the grooves *m* therein to receive the gates, and having a pivot-connection with both heads of the gate, the gates *c*, of segmental form, having on each end thereof a cam-flange, *e*, the heads D D′, each having the two pins *v* thereon, for engagement with said cam-flanges on the gates, and the barrel *a*, all combined and operating substantially as set forth.

RICHARD PATTEE.

Witnesses:

H. A. CHAPIN,

J. D. GARFIELD.