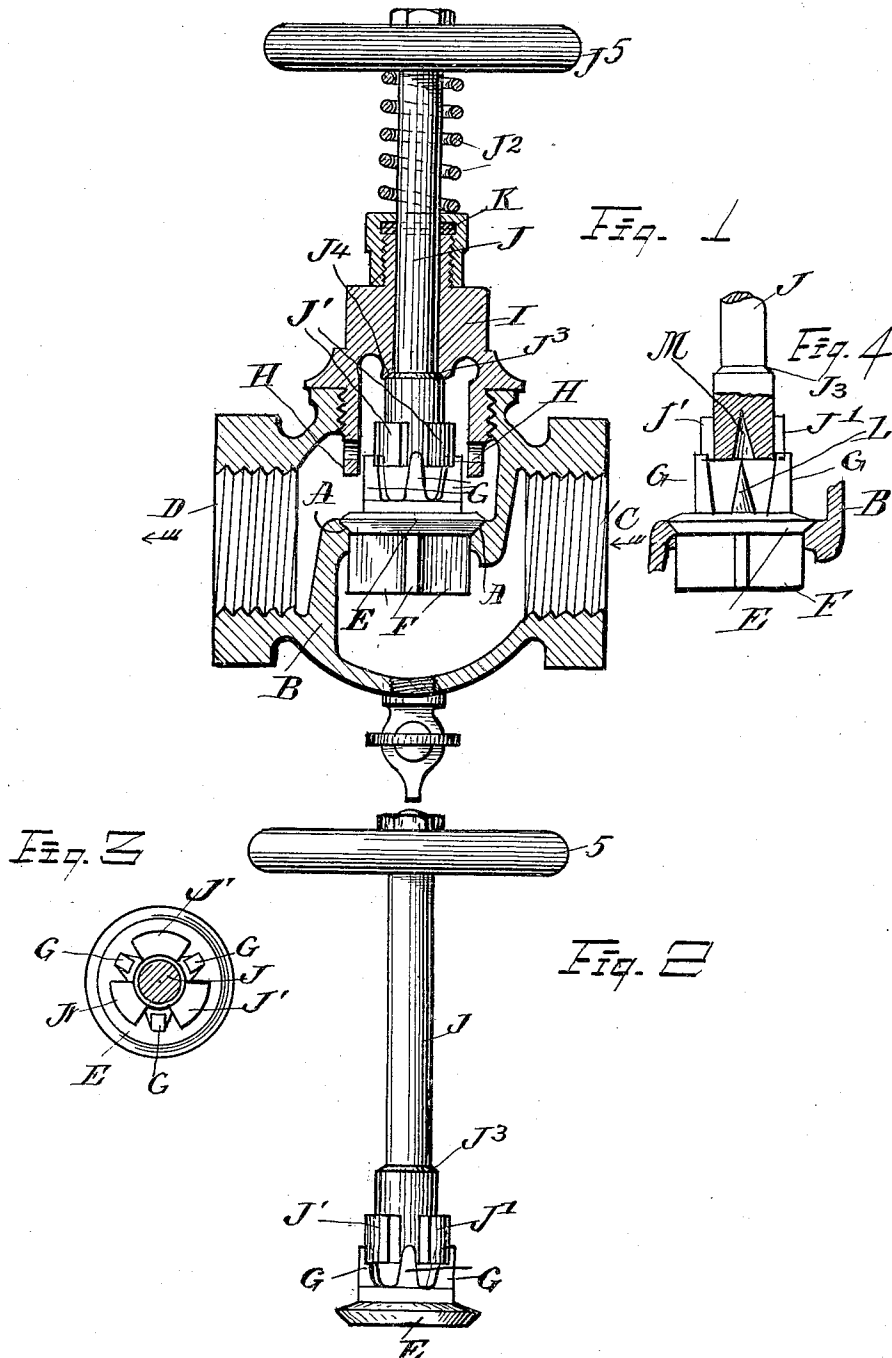


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 MEANS FOR RELEASING A CHECK VALVE.
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1,138,239.

Patented May 4, 1915.



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MEANS FOR RELEASING A CHECK-VALVE.

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Specification of Letters Patent.

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Application filed November 22, 1913. Serial No. 802,473.

To all whom it may concern:

Be it known that I, JOSEPH B. MOWRY, a citizen of the United States, and resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Means for Releasing a Check-Valve, of which I hereby declare the following to be a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of the invention is to provide a device for replacing a gravity check valve upon its seat when the valve becomes locked and fails to fall thereon by its own weight while in use. This circumstance may be occasioned by the accumulation of sand or scale in the valve chamber and when it occurs in hot water pipes such as may be used for feed water to a boiler, it may be the occasion of an accident such as the blowing out of the injector or other pumping device until the valve is taken out and cleaned. With this device however the valve can be quickly replaced upon its seat and the valve and seat can be cleaned and reground by rotating it when pressed against the seat, but the device will immediately release the valve to operate normally after it has been restored to place and cleaned.

The invention further consists in a withdrawal engaging means for the check valve, and an automatically acting means for withdrawing the same, with the details of construction and combination and arrangement of parts, hereinafter described, shown in the accompanying drawings and specifically pointed out in the claims.

In the accompanying drawings Figure 1 is a central vertical section through the valve and its casing showing the mechanism for depressing the valve when it has been locked in the elevated position; Fig. 2 is an elevation of the detachable member so employed; Fig. 3 is a transverse section of said member showing the means thereon for engaging the valve; Fig. 4 is a vertical section of the depressing member showing a centering device.

In these views A is the valve seat, B is the valve casing having the inlet and outlet openings C and D respectively.

E is a gravity check valve provided with the guide webs F, F which extend downwardly through the valve seat opening, and

also provided with the upwardly extending lugs G, G which serve as guides for the valve and extend upwardly into the sleeve H depending from the closure I, which can be removed to give access to the valve seat when placing the valve in position.

When the feed water is charged with sand or sediment or scale the valve E will some times fail to return to its seat and the operation of the device will cease until the valve has been removed and all the parts carefully cleaned, thus causing delay and great inconvenience. For this reason a device is provided enabling the operator to return the valve to its seat quickly, and also capable of rotating the valve to clear away any deposits that may be retaining the valve from operating and encircling it to regain its seat. To accomplish this result an independent stem or member J is inserted through the closure I and at its lower end is provided with laterally extending lugs J' J' which are passed between the lugs G, G upon the valve so that by rotating the member J the valve can always be rotated.

The member J is slidably mounted in the closure I and is held normally in an elevated position by means of the spring J² to give the check valve plenty of room to rise above its seat. When the valve becomes locked in its elevated position (shown in dotted lines in Fig. 1) a sharp blow upon the member J will immediately dislodge the valve so that it will fall upon its seat and a disk J⁵ is provided for rotating the valve so that all incrustation or deposits will be removed and the valve and seat will be ground upon each other to make them water tight. The stem of the member J is provided with a beveled shoulder J³ engaging the seat J⁴ in the closure in order to prevent leakage when the member J is raised. A stuffing box K is also employed to prevent fluid from escaping when the member J is depressed.

The device can be applied to any check valve by inserting in the closure, and can be applied and removed therewith.

In Fig. 4 a tapered center pin L is shown secured to the valve E and the member J is provided with a corresponding tapered central opening M, thus enabling the member J to be employed to center the valve on its seat and to grind the valve and seat with more accuracy.

Having described the invention what I

claim as new and desire to secure by Letters Patent is:

1. The combination with a gravity valve and a casing and valve seat therein, of a
 5 stem vertically movable and revoluble in said casing, a stuffing box for said stem, an actuating spring therefor, a series of spaced engaging devices upon said stem, a corre-
 10 sponding series of engaging devices, annularly arranged upon the valve, said engaging series of devices permitting vertical movement of said stem, without coming out of en-
 15 gagement with each other, and a separate centering device for stem and valve, whereby the valve can be maintained in accurate relation to its seat when the stem is rotated to grind the valve.

2. The combination with a gravity valve, and a casing and seat therefor, of a stem
 20 longitudinally movable and rotatable in said

casing, a stuffing box therefor, a centering device upon opposed extremities of the stem and valve, and engaging devices upon said stem and valve, said engaging devices positioned exterior to said centering device. 25

3. The combination with a gravity valve, and a casing and seat therefor, of a stem longitudinally movable and rotatable in said casing, a stuffing box therefor, a centering device upon opposed extremities of the stem 30 and valve, and engaging devices upon said stem, and valve, said engaging devices positioned exterior to said centering device, and annularly arranged thereabout.

In testimony whereof, I hereunto set my 35 hand this 14 day of November, 1913.

JOSEPH B. MOWRY.

In presence of—

WM. M. MONROE,

P. BREDIL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."