(No Model.)

P. G. VAN WIE.

STRAIGHT WAY VALVE.

No. 279,617. Patented June 19, 1883.

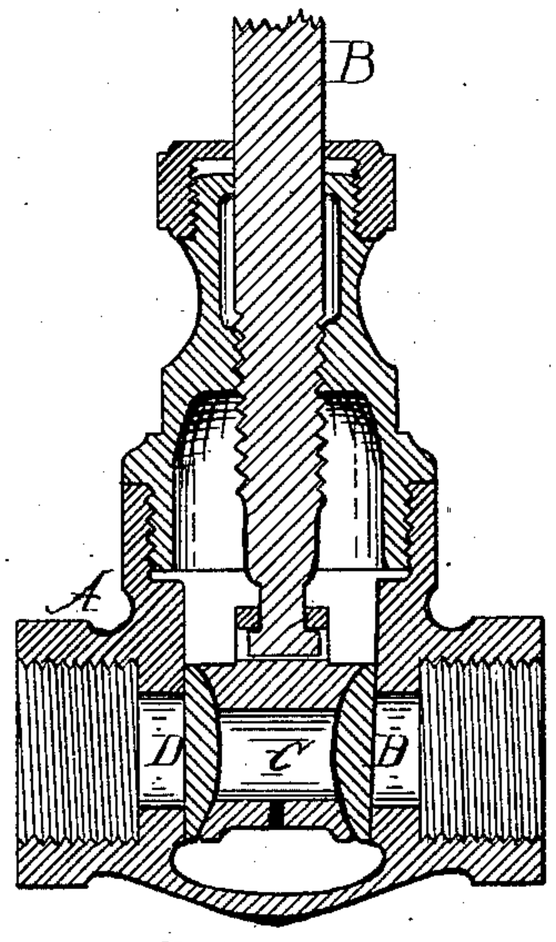

Fig. 1

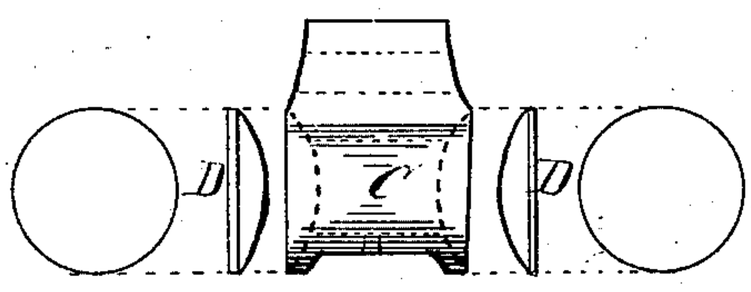

Fig. 2.

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UNITED STATES PATENT OFFICE.

PETER G. VAN WIE, OF CLEVELAND, OHIO.

STRAIGHT-WAY VALVE.

SPECIFICATION forming part of Letters Patent No. 279,617, dated June 19, 1883.

Application filed September 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, PETER G. VAN WIE, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Straight-Way Valves, of which the following is a specification.

The nature and objects of these improvements will fully appear from the subjoined description when considered in connection with the accompanying drawings, in which—

Figure 1 is a vertical section. Fig. 2 is a detached view of the gate with its disks.

A is the shell of the valve, having a neck and screw-cap for the valve-operating stem B. The inside walls of the shell, against which the valve or gate slides in closing the ports, on one side are made perpendicular or in a right angle with the water-passage, and on the opposite side are made slightly slanting from top to bottom, whereby the valve closes over the ports tightly when forced down.

The valve or gate C consists of a hollow round piece having a socket on the upper side, to which the lower end of the stem B is swiveled. The ends of said piece C are reamed out, forming recesses for the reception of plano-convex disks D D. These disks form the closing surfaces to the openings through the shell, and are of somewhat greater diameter than said openings. They are loosely fitted into the recesses, and are self-adjusting to their places. Said disks are made plano-convex, the plain or straight side bearing against the walls of the shell and their convex sides fitting the cavities in the valve C.

The bottom of the shell is made full to provide a chamber beneath the valve for the collection of any sediment and prevent its interfering with or clogging the valve. A hole is made through the bottom of said piece into the interior, the object of which is to admit a pressure of steam or water when the disks have just passed the lower edges of the openings, thereby keeping the disks close against the walls of the shell.

The operation of this construction of the valve, it will be observed, is that the disks are at all times working snugly against their seats, insuring a perfectly-tight joint. The disks have perfect freedom to adapt themselves to place whether the valve is straight or not, and, furthermore, by making one side of the inside walls slanting, as stated, when the valve is clear down, the disks are crowded tightly home.

But one disk might be employed, and that on the slanting side of the valve, while the other side, being straight, might be closed by a smooth side of the valve itself; but it is found preferable to employ two disks. The straight side of the valve is placed toward the steam or water pressure entering the valve. Therefore, the resistance being equal over the surface of the disk, it is not liable to be tilted and made to wear unequally.

Having described my invention, I claim—

1. In a straight-way valve, the plano-convex disks D, combined with the hollow valve C, having recesses in its sides for holding said disks, substantially as described.

2. In a straight-way valve, the plano-convex disks D and the hollow valve C, having a hole in its bottom to admit steam or water for pressure on inside of said disks, substantially as and for the purpose specified.

3. In a straight-way valve, the plano-convex disks D and hollow valve C, in combination with shell A, having straight and slanting inside walls, and the swiveled stem B, all constructed and operating substantially as specified.

PETER G. VAN WIE.

Witnesses:

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GEO. W. TIBBITTS.