(No Model.)

C. B. DUNTON.

VALVE FOR WATER GAGES.

No. 383,448. Patented May 29, 1888.

Fig. 1.

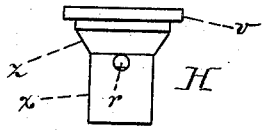


Fig. 2.

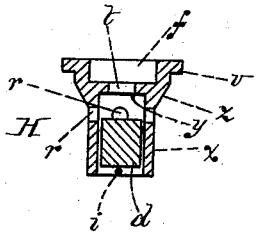
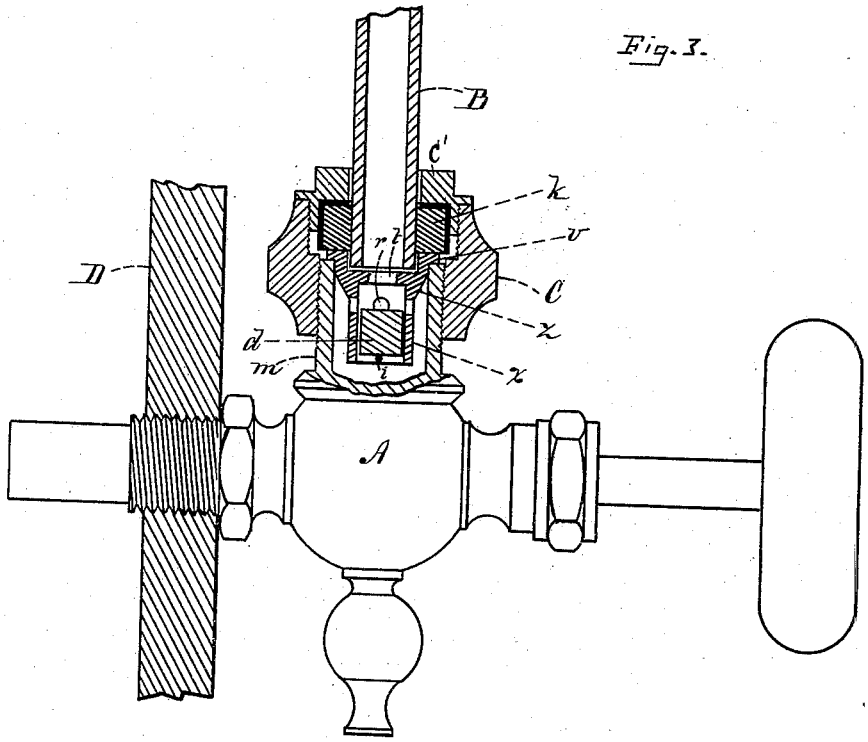


Fig. 3.



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UNITED STATES PATENT OFFICE.

CLARK B. DUNTON, OF PORTLAND, MAINE.

VALVE FOR WATER-GAGES.

SPECIFICATION forming part of Letters Patent No. 383,448, dated May 29, 1888.

Application filed February 3, 1888. Serial No. 262,847. (No model.)

To all whom it may concern:

Be it known that I, CLARK B. DUNTON, of Portland, in the county of Cumberland, State of Maine, have invented a certain new and useful Improvement in Valves, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of the auxiliary valve detached; Fig. 2, a vertical transverse section of the same; and Fig. 3 a side elevation of a valve embodying my improvement, a portion of the boiler and valve being shown in vertical longitudinal section.

Like letters and figures of reference indicate corresponding parts in the different figures of the drawings.

My invention relates more especially to that class of valves which are used in connection with the water-gages of steam-boilers; and it consists in certain novel features, as hereinafter fully set forth and claimed, the object being to produce a more effective device of this character than is now in ordinary use.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

In the drawings, A represents the body of the valve; B, the gage or glass tube; C, the nut for packing the tube; C', the perforated cap of said nut, and D the boiler, these parts being all of the ordinary form and construction.

The auxiliary valve H (see Figs. 1 and 2) consists of a metallic tube, *x*, having a head, *z*, provided with an annular flange, *v*, adapted to rest upon the upper end of the gasket-nipple *m* of the valve A and sustain the valve H in a pendent position therein. The head *z* of the valve H is provided with a socket, *f*, adapted to receive one end of the glass tube B, as shown in Figs. 2 and 3, which rests upon an inwardly-projecting annular flange, *y*, an opening, *t*, for the passage of water into the glass tube B being left between the tube *x* and socket *f*. A valve proper, *d*, consisting of a cylindrical metallic block, is fitted to work loosely in the tube *x*, said valve being adapted to be seated against the lower side of the annular flange *y*, and prevented from escaping from the tube *x* by a laterally-arranged pin, *i*, in the lower portion of said tube. Holes *r* are provided in the tube *x*, near its head *z*, to permit the passage of water from the gasket-nipple *m* into said tube, and thence through the opening *t* into the glass tube B.

In the use of my improvement the auxiliary valve H is disposed in the nipple *m* with its flange *v* resting upon the upper end of said nipple, as described. The glass tube B is then adjusted in the socket *f*, and the whole secured in position in the ordinary manner by turning the nut C onto its nipple *m*, the elastic packing-ring *k* ordinarily employed pressing against the flange *v* of the valve H and securely holding it in position. The water from the valve A readily passes from the nipple *m*, through the holes *r*, into the tube *x*, around the valve proper, *d*, and thence through the opening *t* into the glass B.

It will be obvious that while the pressure of the water on all sides of the valve proper, *d*, is equal, it will be "balanced" and the valve H remain open; but should the glass gage-tube B become accidentally broken, thus removing the pressure from the top of the valve *d*, the pressure beneath said valve will instantly cause it to rise and rest on its seat *y*, thereby automatically closing the duct *t*, preventing the water from escaping, and enabling the broken tube to be readily replaced.

Having thus explained my invention, what I claim is—

1. The combination of a valve provided with a screw-threaded nipple, a nut thereon provided with a perforated cap, a packing-ring between said nut and nipple, a gage-tube passing through said cap, and an auxiliary dependent valve within said nipple, comprising a perforated tube having a flanged socket-head, a duct and valve seat at its upper end, and a valve-stop at its lower end, and a cylindrical block-valve within said tube, substantially as described.

2. The auxiliary valve herein described, the same consisting of the tube *x*, provided with the holes *r*, head *z*, flanges *v y*, duct *t*, socket *f*, and pin *i*, in combination with the valve proper, *d*, disposed within said tube, all of said parts being constructed and arranged to operate substantially as set forth.

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