

(No Model.)

H. W. SIMMS.

VALVE.

No. 340,630.

Patented Apr. 27, 1886.

Fig. 1.

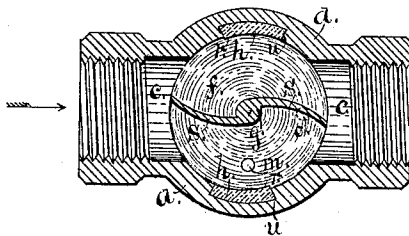


Fig. 2.

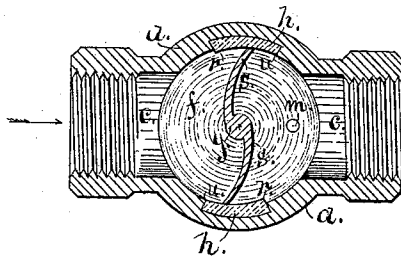


Fig. 3.

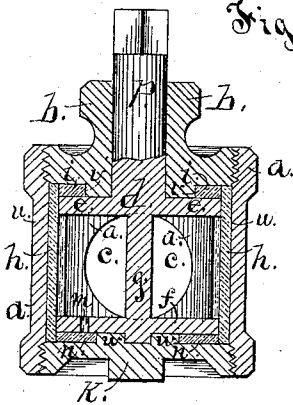
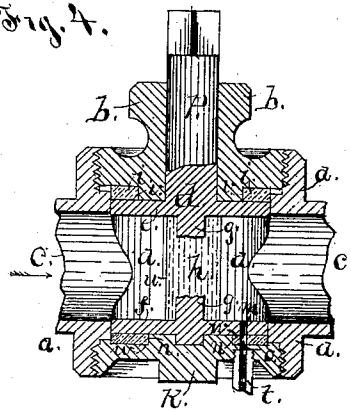


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

HENRY W. SIMMS, OF BAY CITY, MICHIGAN.

VALVE.

SPECIFICATION forming part of Letters Patent No. 340,630, dated April 27, 1886.

Application filed August 26, 1885. Serial No. 175,356. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. SIMMS, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Valves; 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.

My invention relates to valves or cocks of the class used in fluid or gas pipes; and it consists, chiefly, in the combination and arrangement of the different parts thereof, as I shall hereinafter more fully describe and claim; and the object of my invention is to construct a valve or cock which can be easily made and repaired, and that may, by means of packing, be rendered free from the leakage and wear of ordinary valves, and to provide a means by which water remaining in the pipes after the valve is closed will drip or run out therefrom and avoid the danger of bursting from the action of frost. I accomplish these objects by means of the device illustrated in the accompanying drawings, in which—

Figure 1 is a horizontal sectional view of my improved valve, showing the passage open. Fig. 2 is the same with the passage closed. Fig. 3 is a longitudinal vertical section of Fig. 1. Fig. 4 is a transverse section of the same.

Similar letters refer to similar parts throughout the several views.

a represents a hollow casing, with the side openings, *c*, opposite each other and provided with pipe-connections. The lower end of this casing is closed by a plug, *k*, the inner side of the plug being provided with a circular recess, *v*, into which is placed the packing-ring *f*, of rubber or other suitable material, and the side walls of the casing are provided on their inner sides with the longitudinal grooves *u*, into which are placed and properly secured the packing-strips *h*. These strips *h* are so constructed that the outer surface thereof is concave, to nearly conform to the plane of the inner surface of the walls of the casing, but arranged, however, to project at one edge to

a short distance beyond the walls of the casing, as at *r*.

Within the casing *a* is placed a valve, *d*, consisting of the central part, *g*, having the wings *s* extending entirely across the inner opening of the casing. The circular disk *f* is secured to the lower end of the parts *d* and *s* and rests upon the packing ring *n*, the central part extending into the plug *k*, and a similar disk, *e*, is secured to the upper ends of the parts *d* and *s*, while the smaller portion *p* extends out of the open end of the casing, and is arranged with a means of rotating the valve within the casing. Above and resting upon the disk *e* is the packing-ring *i*, and surrounding the upward-extending part *h*, and screwed into the open end of the casing *a*, is the gland *b*. This gland *b* is arranged with a recess, *v*, into which the packing-ring *i* rests, and the packing-strips *h* extend beyond the packing-rings *i* and *n*, so that when the gland *b* is screwed down upon the ring *i* the valve is forced down upon the ring *n*, pressing the rings and strips *h* firmly together as well, and forming a packed joint between all the parts. The valve is then turned to the position shown in Fig. 2, bringing the wings *s* to bear firmly against the packing-strips *h*, and the opening will be perfectly closed, and should any unevenness or wearing away of the parts occur the valve may be turned farther around, when the projecting portion *r* of the packing-strips will bear against and fill up or close the opening produced by the imperfect edges of the wings *s*, and when greatly worn the valve may be easily removed and the packing strips or rings be replaced with small cost or trouble.

Through the lower disk, *n*, is arranged an opening, *m*, and a similar opening, *o*, is made through the plug *k*, the opening *o* being located near one of the openings *c*, and the opening *m* is placed in such a position as that when the valve is turned for closing the way, as in Fig. 2, the opening *m* will be just over the opening *o*, so that when water is passing through the valve in the direction of the arrows, and the valve is turned to shut off the flow, the water that is beyond the valve will drip or run out through the openings *m* and *o*, and when the valve is turned to allow the water to pass the valve the opening *o* will be shut off,

so that no water can pass through it. A drip-pipe, *t*, may be attached to the opening *o* for conducting away the drip from the valve, and by this arrangement the water shut in the pipe 5 by the valve in cold weather may be removed, and the liability of freezing and bursting the pipes thereby is avoided.

Having fully described the operation and construction of my improvement, what I claim 10 as my invention, and desire to secure by Letters Patent, is—

In a valve, the casing *a*, having the grooves *u* in the side walls thereof, and the valve *d*, provided with the wings *s* and upward-ex-

tending part *p*, the packing-ring *n* below and 15 the packing-ring *i* above the valve, in combination with the packing-strips *h* within the said grooves *u*, and arranged with the part *v* projecting beyond the plane of the inner surface of the casing, substantially as and for the 20 purpose set forth.

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

HENRY W. SIMMS.

Witnesses:

JOHN ERNST,
J. E. THOMAS.