

C. T. Woodman,
Gage Cock,
No 51,274, *Patented Nov. 28, 1865.*

Fig. 1

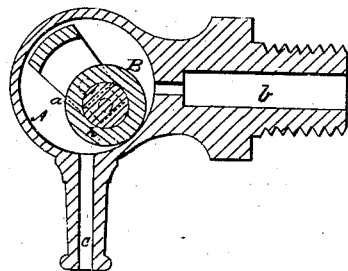


Fig. 3.

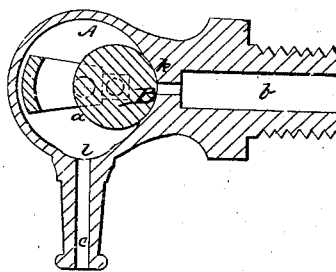


Fig. 2

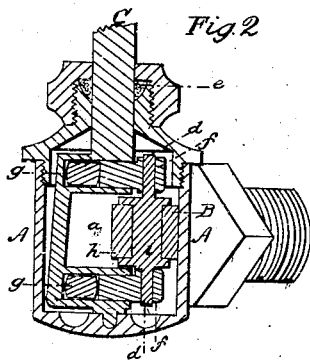
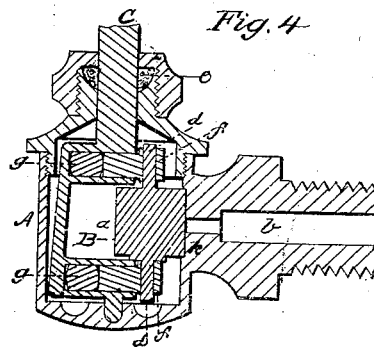


Fig. 4



Witnesses
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CHARLES T. WOODMAN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND CHAS. E. WOODMAN, OF SAME PLACE.

IMPROVEMENT IN GAGE-COCKS.

Specification forming part of Letters Patent No. 51,274, dated November 28, 1865.

To all whom it may concern:

Be it known that I, CHARLES T. WOODMAN, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Steam Cocks or Faucets; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a horizontal section, and Fig. 2 a vertical section, of one construction of a steam cock or faucet, as provided with my invention. Fig. 3 is a horizontal section, and Fig. 4 a vertical section, of another form of such faucet, or mode in which I have contemplated the application of that principle by which my said invention differs from others of like character.

In such drawings, A denotes the valve-case of the faucet, it being constructed with a cylindrical chamber, *a*, provided with an induction-passage, *b*, and an eduction-passage, *c*, which in the drawings are shown as arranged at right-angles with respect to each other, although such arrangement is not material to my invention.

B is the valve of the faucet, which in this case is a cylindrical roller arranged with its curved surface against the interior curved surface of the case. The journals *d d* of the roller are indirectly supported by a shaft, *e*, whose axis is coincident with that of the case. The shaft is pivoted to the bottom or one end of the case, and extends through a stuffing-box, *e*, disposed at the other end of such case, in manner as shown in Figs. 2 and 4. The journals of the roller, however, are exhibited in the drawings as doubly supported in boxes *f f*, which slide freely in the shaft and against springs *g g*, arranged therein in manner as represented in Figs. 2 and 4.

The roller-valve B of Figs. 1 and 2 is shown as having its body *h* made of vulcanized india-rubber, or some equivalent elastic material secured to a shaft, *i*, but the roller-valve B, as represented in the other two figures, may be supposed to be made of an entirely inelastic material, such as copper, iron, or wood, for instance, in which case the bearings of its journals should be capable of sliding into their sup-

porting-shaft, and should rest against springs arranged therein, the whole being substantially as shown in Figs. 3 and 4; and, furthermore, there should be at the inner terminus of each of the inlet and outlet passages *b c* a curved valve-seat, *k* or *l*, formed to fit to the curved surface of the valve when in contact with it.

When the cylindrical roller-valve is made of vulcanized india-rubber, or of any equivalent elastic material, it is not essential to have the springs to its journal-bearings, as such bearings may be fastened to and not slide into the shaft; but as the employment of the springs with the elastic india-rubber is advantageous, I have represented it in Fig. 2 as provided with them and slide-bearings.

While the roller is caused to cover either of the passages *b c*, there will be no passage of either steam or liquid through and out of the faucet or cock; but by turning the shaft so as to carry the roller off or away from the inner end of either of such passages, the steam or liquid will be discharged from the eduction-passage *c*, it being understood that the cock or faucet, under such circumstances, is duly in connection with a steam-boiler, or a vessel holding a liquid.

The advantage of the roller-valve, made and applied as hereinbefore described, is that, generally speaking, it will operate with less friction than is incident to a slide-valve or a common rotary valve-plug, and it will preserve itself tight against its seat, up to which it will be pressed either by its inherent elasticity or that of its springs.

I claim—

The improved cock or faucet, constructed substantially as described—viz., with a roller-valve made and applied to a shaft, as explained, and arranged so as to operate with the curved inner surface of the case, and with inlet and outlet passages leading therefrom in manner substantially as hereinbefore set forth.

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Witnesses:

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