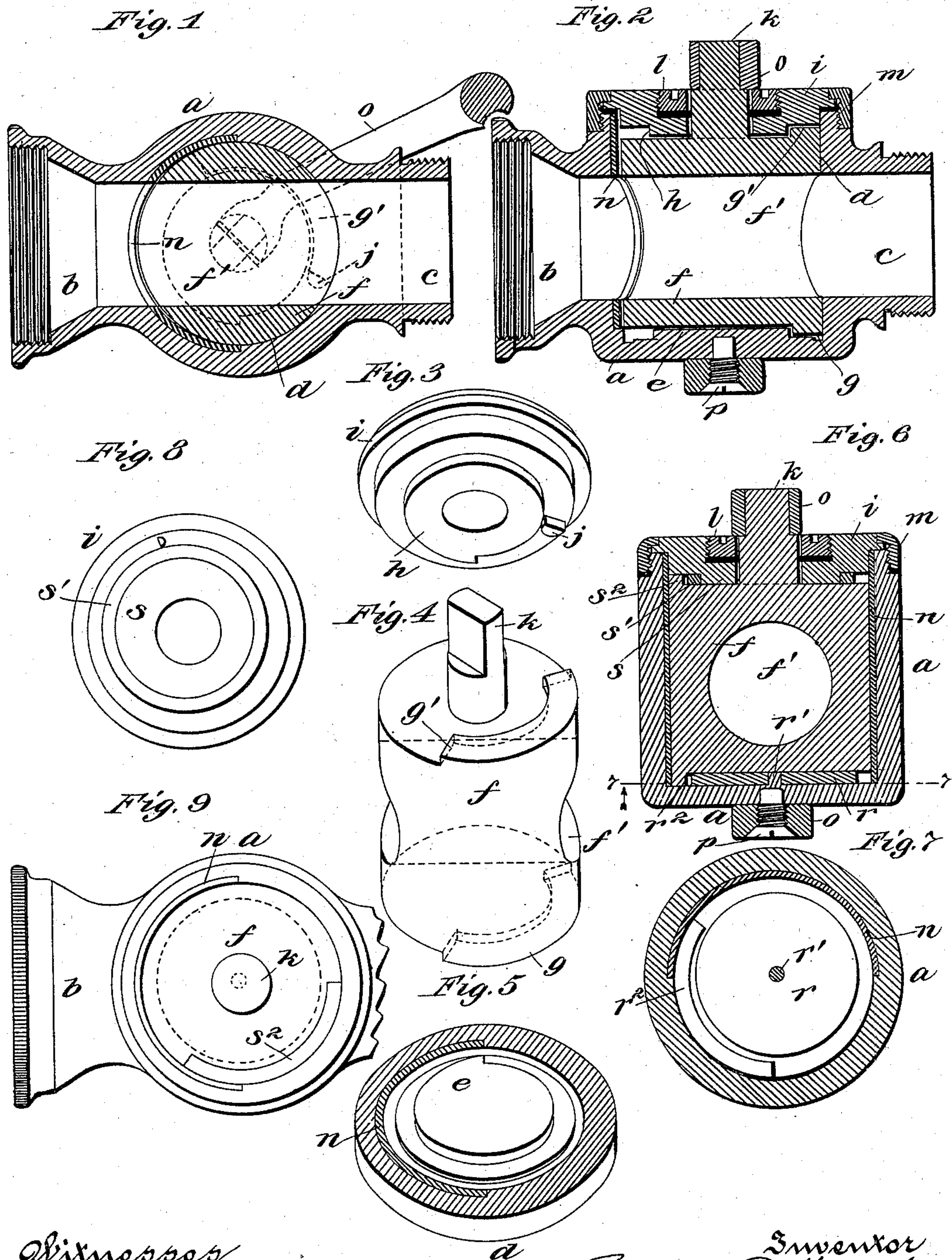


(No Model.)

J. E. HEINDL.  
VALVE.

No. 598,248.

Patented Feb. 1, 1898.



Witnesses  
J. E. Heindl  
E. A. Heindl

Inventor  
Joseph E. Heindl.  
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att'y.



# UNITED STATES PATENT OFFICE.

JOSEPH E. HEINDL, OF RICHMOND, VIRGINIA, ASSIGNOR OF ONE-HALF TO  
CHARLES E. BUEK, OF SAME PLACE.

## VALVE.

SPECIFICATION forming part of Letters Patent No. 598,248, dated February 1, 1898.

Application filed April 23, 1896. Serial No. 588,714. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH E. HEINDL, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented a certain new and useful Improvement in Valves, of which the following is a full, clear, and exact description.

The invention relates more especially to a valve for use on fire-hose; and the object of the invention is to provide a valve which may be conveniently opened and closed and wherein leakage is prevented when the valve is closed.

The invention comprises a valve-casing and a rotary plug arranged therein, with eccentrics interposed between the valve-casing and the plug, whereby the plug is moved bodily at right angles to its axis of rotation, so as to be seated in a perfectly fluid-tight manner when the valve is closed and so as to be eased off from the seat in the act of opening, all as I will proceed now more particularly to set forth and finally claim.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a vertical longitudinal section. Fig. 2 is a horizontal section. Fig. 3 is a perspective view of the cap. Fig. 4 is a perspective view of the plug. Fig. 5 is a perspective view of the end of the casing opposite the cap. Fig. 6 is a transverse section illustrating a modification. Fig. 7 is a horizontal section taken in the plane of line 7 7. Fig. 8 is a plan view of the inner side of the cap of the valve of Fig. 6, and Fig. 9 is a plan view of the form of valve shown in Fig. 6 with the cap removed and looking in at the cap end.

The valve-casing *a* may be of any approved construction and supplied with an internally-threaded inlet end *b* and an externally-threaded outlet end *c*. Midway between these ends the casing is provided with a cylindrical valve-seat *d*, and the bottom of this valve-seat is provided with an eccentric projection *e*. (See Fig. 5.) The valve-plug *f* is a cylinder perforated transversely to form the port *f'* to register with the inlet and outlet openings to make a straightway passage through the valve. This plug is provided on its bottom

with a concentric segmental projection *g*, which coöperates with the eccentric *e* of the casing, and the head of the plug is provided with a parallel concentric segmental projection *g'*, which coöperates with an eccentric projection *h* on the cap *i*. The cap *i* is provided also with a lug or stop-pin *j*, which coöperates with the projection *g'* to limit the rotation of the plug.

The plug is provided with a stem *k*, which projects through an opening in the cap *i*, and the said cap may receive the stuffing box or gland *l*, so as to surround the stem *k* and make a fluid-tight joint therewith. The cap is shown as adapted to be connected to the casing by means of a flanged screw-ring *m*.

I prefer to provide a lining *n* of bearing metal adjacent to the inlet end of the valve, in order to provide for the more secure seating of the plug when the valve is closed.

The plug may be rotated by means of a bail *o*, which has a forked end to engage a squared projection on the stem *k* and which is swiveled to the other end by a screw *p*, although other means may be employed for rotating the valve.

The plug is fitted to the seat in the casing with an amount of clearance substantially equal to the eccentricity of the eccentrics *e* and *h*, and hence when the plug is rotated to open the valve the action of the eccentrics tends to move the plug at right angles to the axis of rotation, and thereby the plug is eased off from its seat, and so also in the rotation of the plug to close the valve the eccentrics act to move the plug in the opposite direction at right angles to the axis of rotation and thrust it hard and tight to its seat.

In the modification shown in Figs. 6 to 9 instead of the eccentrics shown I use a disk, washer, or roller *r*, which is secured to an eccentric-pin *r'* on the casing and coöperates with the concentric flange or projection *r<sup>2</sup>* on the plug, and the cap at the opposite end of the plug is made with an eccentric *s*, having the surrounding annulus or annular roller *s'*, which coöperates with the concentric projection or flange *s<sup>2</sup>* of the plug. By the provision of the disk *r* and the annulus *s'*, both being removable members, repairs to the valve



may be readily effected and the valve may be kept in a perfectly tight condition at all times.

I have thus shown two forms of my invention of valves wherein the plug is seated and  
5 unseated by an eccentric movement; but I wish to be understood as not limiting my invention to these two special forms or to the mere details of construction.

What I claim is—

- 10 1. A valve provided with a rotary plug, a casing in which it is seated, and coöperating concentric and eccentric projections interposed between the plug and its casing and  
15 adapted to shift the plug at right angles to its axis of rotation as the said plug is rotated

to open and close the valve, substantially as described.

2. A valve having a rotary plug and a casing in which it is seated, combined with stationary eccentrics arranged in the casing, and  
20 concentric projections on the plug which coöperate with the said eccentrics to effect the movement of the plug at right angles to its axis of rotation, substantially as described.

In testimony whereof I have hereunto set  
25 my hand this 17th day of April, A. D. 1896.

JOSEPH E. HEINDL.

Witnesses:

N. LODOR,

W. P. ROGERS.