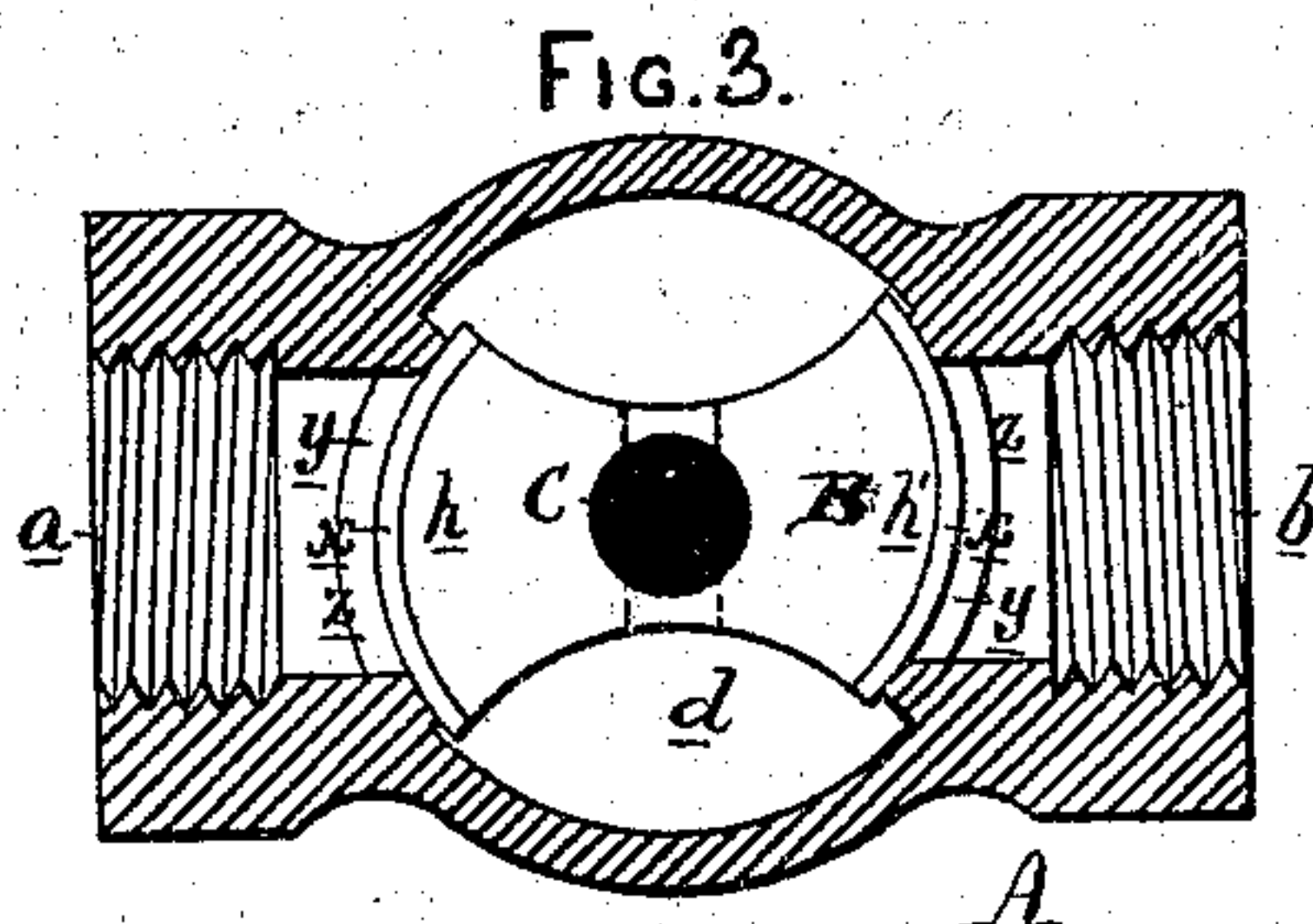
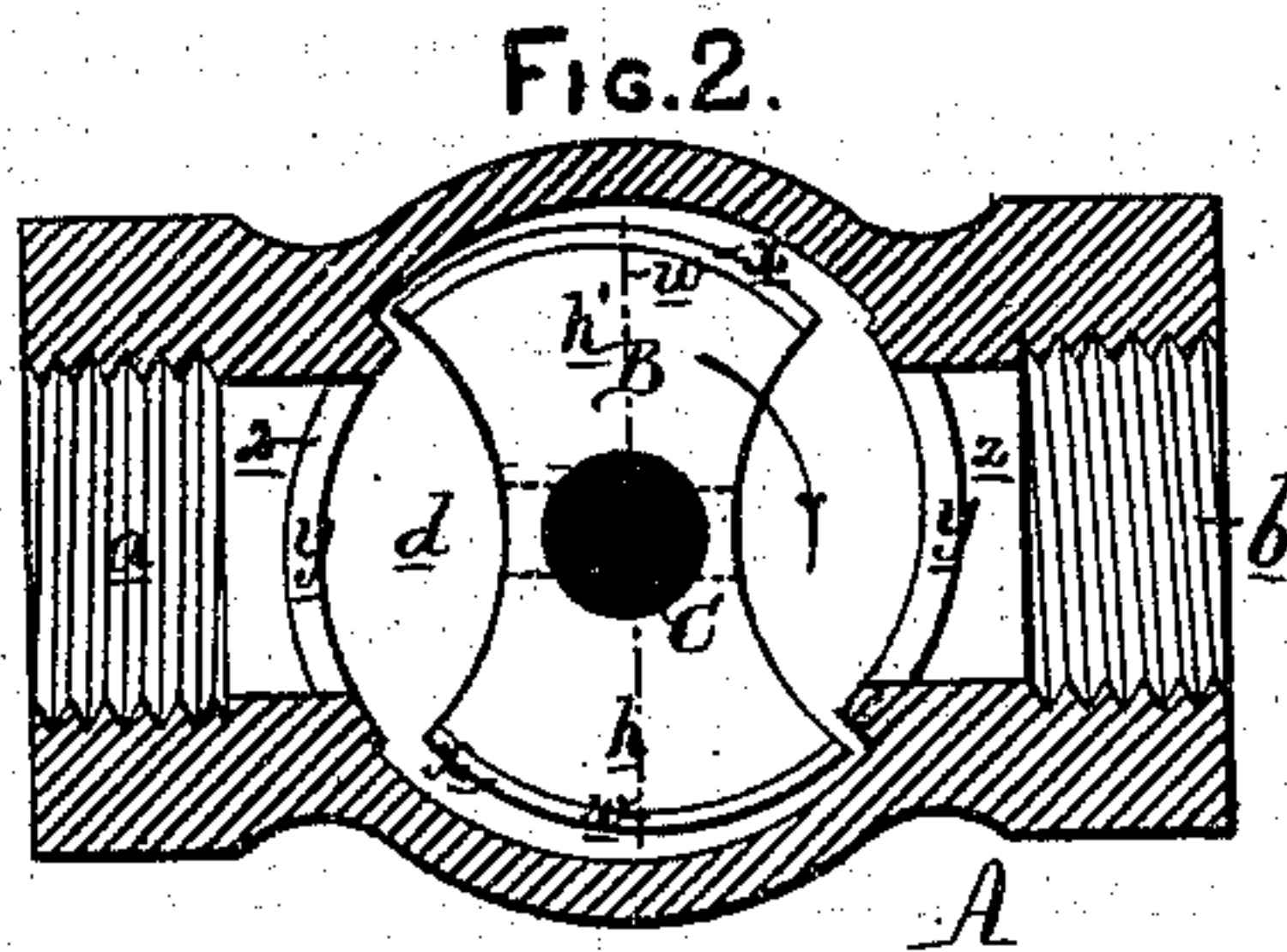
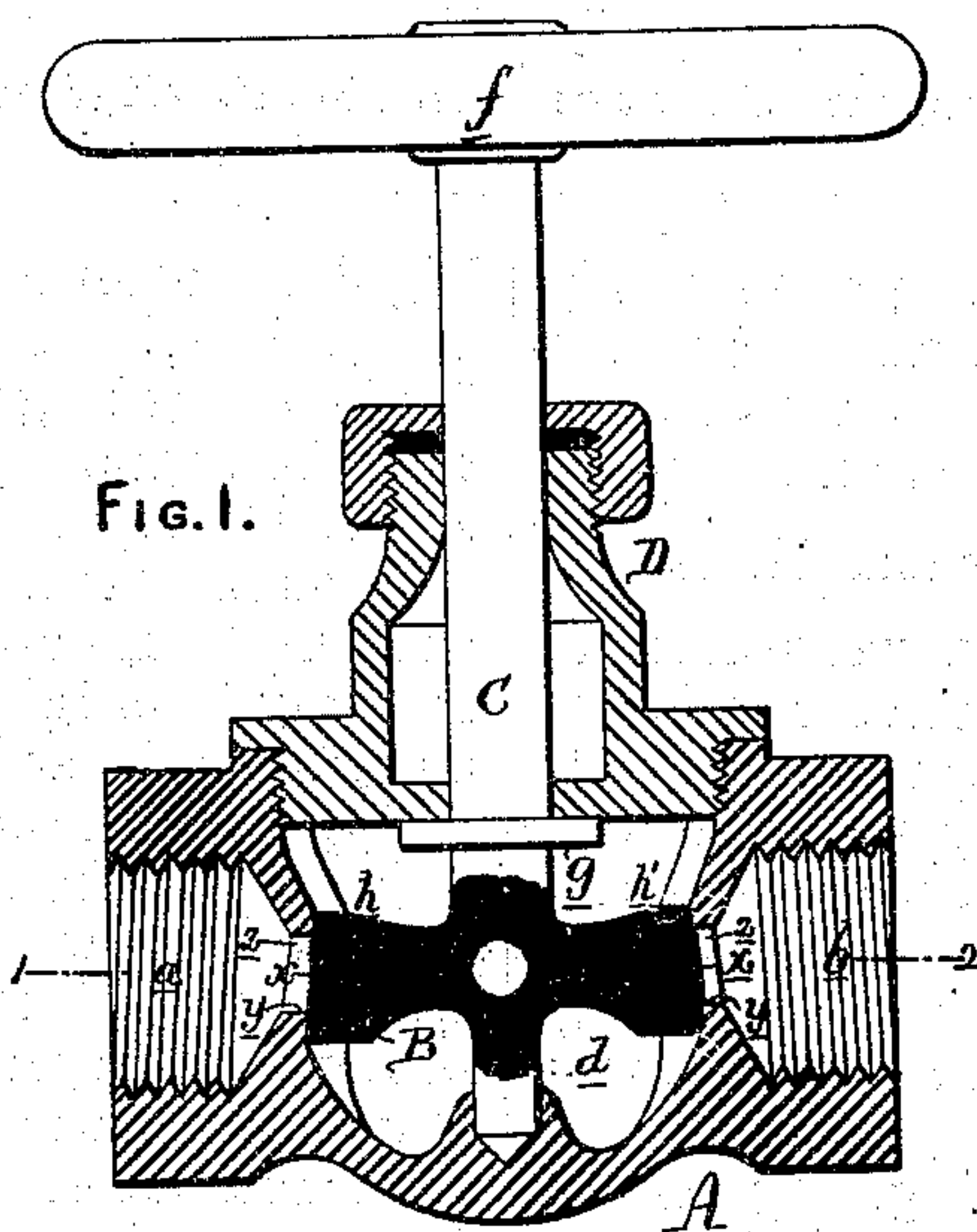


A. CROSSLEY.

Valve Cocks and Faucets.

No. 125,792.

Patented April 16, 1872.



WITNESSES

J. B. Harding.  
Thomas McIlwain

Alfred Crossley  
by his Attor.  
Howson and Son

# UNITED STATES PATENT OFFICE.

ALFRED CROSSLEY, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN VALVE-COCKS AND FAUCETS.

Specification forming part of Letters Patent No. 125,792, dated April 16, 1872.

Specification describing an Improvement in Valve-Cocks and Faucets, invented by ALFRED CROSSLEY, of the city and county of Philadelphia, State of Pennsylvania.

### *Improvement in Valve-Cocks and Faucets.*

My invention consists of a valve-cock or faucet, in which a double eccentric valve is combined with a casing, having two seats adapted to the eccentric edges of the said valve, as fully described hereafter, the object of my invention being to obtain steam and water-tight joints without the aid of packing, and to prevent the usual rapid wearing away of the parts.

In the accompanying drawing, Figure 1 is a sectional view of a valve-cock with my improvement; Fig. 2 is a sectional plan on the line 1 2, Fig. 1, showing the valve opened; and Fig. 3 the same, showing the valve closed upon its seats.

A represents the valve-casing, of which *a* is the inlet-branch, *b* the outlet-branch, and *d* a central-chamber, in which is contained the valve B, the latter being secured to a spindle, C, which has its bearings at the bottom of the casing, and in a cap and stuffing-box, D, screwed into the top of the said casing. The spindle has at its upper end the usual operating handle or wheel *f*, and is retained in position by a collar, *g*, which bears against the under side of the screw-cap D. The latter forms no part of my invention, and may consist of a simple flat cap, instead of being elongated, as shown in the drawing. The valve B has two wings, *h* and *h'*, the outer edges *x x* of which are adapted to seats *y y* of corresponding shape, formed in the casing at points opposite the inlet and outlet branches *a* and *b*. The edges *x x* of the valve are formed on curves the centers of which are eccentric to that of the valve-spindle, and the seats *y y* are correspondingly curved, so that when the valve is turned in the direction of the arrow from the position shown in Fig. 2 to that indicated in

Fig. 3, the eccentric edges of its opposite wings *h* and *h'* will be closed tightly upon, and be firmly wedged against the seats, so as to form a perfectly-tight joint without producing any strain whatever upon the spindle.

A slight reverse movement of the spindle will release the valve and permit it to be turned freely to its original position, Fig. 2, the fluid passing freely around the valve and through the opening in the spindle.

It will be observed, on reference to Fig. 1, that the eccentric edges of the valve are inclined outward to a slight extent toward the bottom. This prevents the said valve from being accidentally lifted so as to expose the inlet and outlet openings *z z*, in case the cap D is not screwed down to its full extent. The central chamber *d* of the casing is of sufficient width on the line *w*, Fig. 2, to permit the valve, when turned to the position shown in that figure, to be lifted from the casing after removing the screw-cap.

The principal advantages of my invention are that two perfectly tight joints are obtained with one valve, without the aid of any of the usual packing, which renders the cock especially useful for steam or hot water, and that there will be comparatively little wear of the parts, as there is no frictional contact of the valve and seats, excepting just at the points of closing.

I claim as my invention—

The combination, substantially as described, of a valve, B, with two faces coinciding with arcs of circles having different centers, and a casing having curved seats *y y* adapted to the eccentric faces or edges of the said valve.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED CROSSLEY.

Witnesses:

WM. A. STEEL,  
J. B. HARDING.