

(No Model.)

W. KAISER.  
HYDRANT VALVE.

No. 284,021.

Patented Aug. 28, 1883.

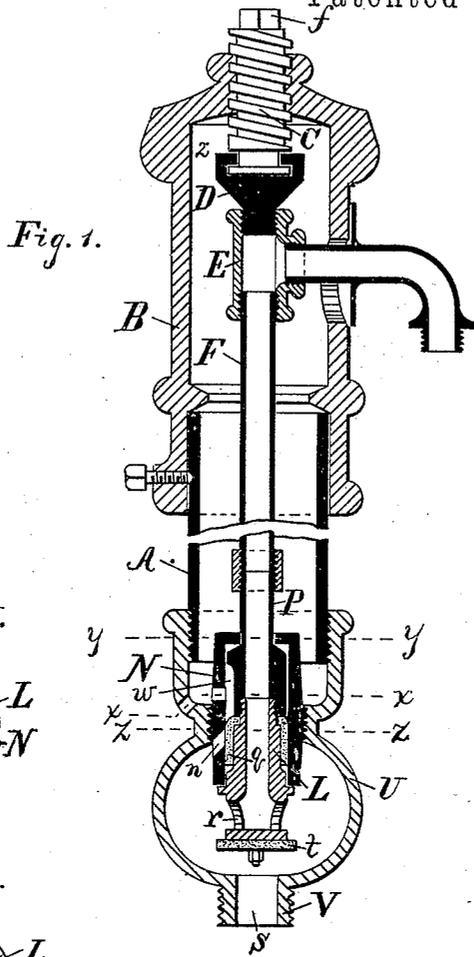


Fig. 1.

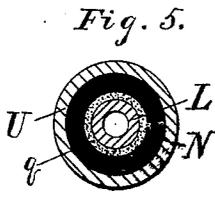


Fig. 5.

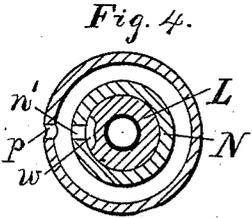


Fig. 4.

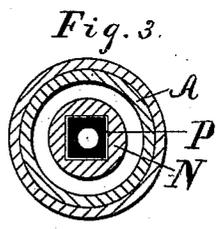


Fig. 3.

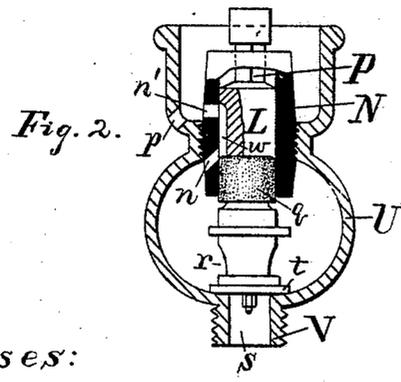


Fig. 2.

Witnesses:  
A. C. Eader  
John E. Morris.

Inventor:  
William Kaiser  
By Chas B. Mann  
Attorney

# UNITED STATES PATENT OFFICE.

WILLIAM KAISER, OF WILKES-BARRÉ, PENNSYLVANIA.

## HYDRANT-VALVE.

SPECIFICATION forming part of Letters Patent No. 284,021, dated August 28, 1883.

Application filed October 4, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM KAISER, a citizen of the United States, residing at Wilkes-Barré, county of Luzerne, and State of Pennsylvania, have invented certain new and useful Improvements in Hydrant-Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to valve mechanism for hydrants, and will first be described in connection with such parts as are necessary to a full understanding of the same, and will then be designated in the claims.

In the drawings hereto annexed, Figure 1 is a vertical section of the entire hydrant, valve open. Fig. 2 is a vertical section of the valve mechanism only, showing the valve closed. Fig. 3 is a cross-section on the horizontal line *yy*. Fig. 4 is a cross-section on the horizontal line *xx*. Fig. 5 is a cross-section on the horizontal line *zz*.

The letter A designates the hydrant-stock, consisting of an ordinary iron pipe, which may be surmounted by a top or cap, B, of any desired construction. A pipe, F, connects the discharge-nozzle and movable water-way L of the valve mechanism. The exterior of the upper end of the movable water-way should be squared or hexagonal, as shown at P, and a valve-hood, N, should have its top correspondingly perforated, to allow the said part P to move through it freely in a vertical direction. The square, hexagonal, or equivalent shape and the corresponding perforation are to prevent the one part from turning without the other. The exterior of the valve-hood N is screw-threaded for its attachment to the valve-case U. The vertical channel *w* on the round outer periphery of the movable water-way L constitutes the wasteway of the hydrant when the valve is in a closed condition, as shown in Fig. 2. Said waste-channel extends from the lower perforation, *n*, to and communicates with the perforation *n'*, both in the valve-hood N, the latter being opposite the outlet *p* in the case, thereby allowing all the water remaining in pipe F, after the supply has been stopped, free egress or escape. After having finished the respective round portions

of the exterior of movable water-way L and the interior of the valve-hood N to as close a fit with each other as is consistent with easy vertical movement of the water-way, a horizontal annular depression is cut or turned around the outer periphery of movable water-way L, of such depth and width as will allow of a ring, *q*, of leather or other material to rest therein, immediately below the vertical channel *w*. Said ring or washer must be of such thickness as to closely fill the space between the inner side of the valve-hood and the lower round portion of the water-way, thereby to serve as a packing between them, and to prevent the escape of any water through the waste-channel when the hydrant is in process of opening or open, as shown. The lowermost part of the valve-case U is provided with a nipple, *v*, having a male screw-thread for attachment to a service-pipe or other source of supply. The inlet *s* for the water passes through this nipple, and its upper side constitutes a seat against which the washer *t*, at the lower extremity of the movable water-way, rests, as seen in Fig. 2, to close the inlet. Side openings, *r*, above the washer communicate through the movable water-way directly with the discharge-pipe F.

Some suitable means must be employed for raising the water-way L, whereby the valve is opened. It is immaterial what this is. In the present instance the upper end of the pipe F has a threaded connection, E, into which a plug, D, is screwed. To the upper end of this plug a screw-threaded bolt, C, is swiveled. The screw passes through the cap of the hydrant, and has at its upper end a handle, *f*.

When the hydrant is properly attached to a water-supply, and having been closed, as shown in Figs. 2 and 4, the water remaining in pipe F will flow out the two openings and into the casing U, thence will flow through perforation *n*, channel *w*, and then through perforation *n'* in the valve-hood, and finally escape through outlet *p* in the valve-casing. The valve mechanism being now closed to prevent water from entering the inlet *s*, the water-way L may be raised vertically, lifting the valve-washer *t* from its seat, and at the same instant the movement of the water-way closes

the waste way or channel *n w n'* by the leather ring or washer *q* sliding over and covering the lower perforation, *n*, as shown in Fig. 1, thus preventing the escape of any water when the valve is open, or while it is being opened, and allowing free ingress of water into the casing *U*, and thence through water-way *L*, pipe *F*, and discharge nozzle. The reverse movement of the water-way again closes the working parts, which are then cleared of water through the waste-channel, as before described, and thus prevent freezing.

Whenever it is desired to make repairs, it is only necessary to revolve horizontally the pipe *F*. This revolves the water-way, which, being squared or otherwise shaped at *P*, will cause the valve-hood to turn and disconnect from the case *U*, and then the entire valve mechanism may be drawn from the stock.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. As an improvement in hydrant-valve

mechanism, the herein-described construction—to wit, a vertically-movable water-way having its exterior upper part, *P*, square or equivalent shaped, and a valve-hood, *N*, through the top of which the square or equivalent shaped part passes and has free vertical movement, the said hood being screw-threaded for attachment to the interior of the hydrant-case, as set forth.

2. In a hydrant, the movable water-way having a vertical channel, *w*, on the outer side, and a ring-washer, *q*, below the channel, in combination with the valve-hood *N*, through which the water-way moves vertically, having the perforation *n* below and the perforation *n'* above, as set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 24th day of August, 1882.

WILLIAM KAISER.

Witnesses:

MARTIN L. KAISER,  
CHARLES S. KAISER.