

(No Model)

W. H. GOHRING.
HYDRANT.

No. 583,112.

Patented May 25, 1897.

Fig. 1

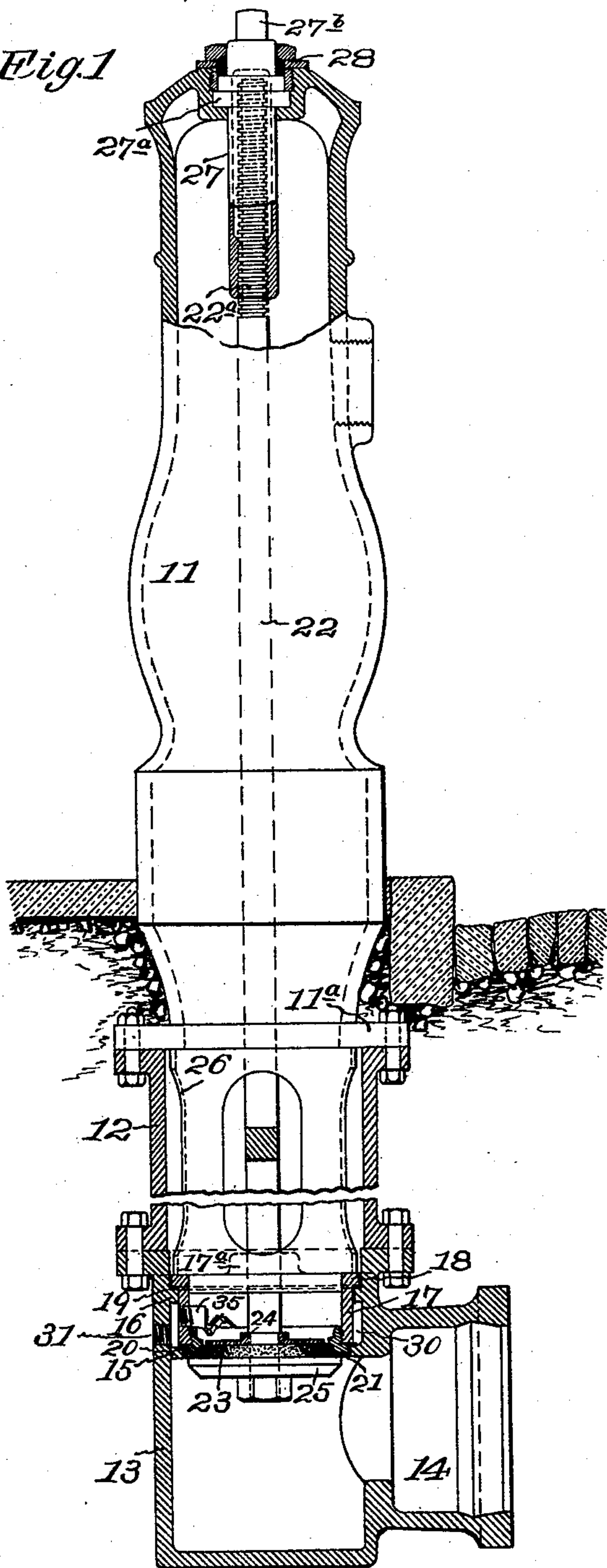


Fig. 3.

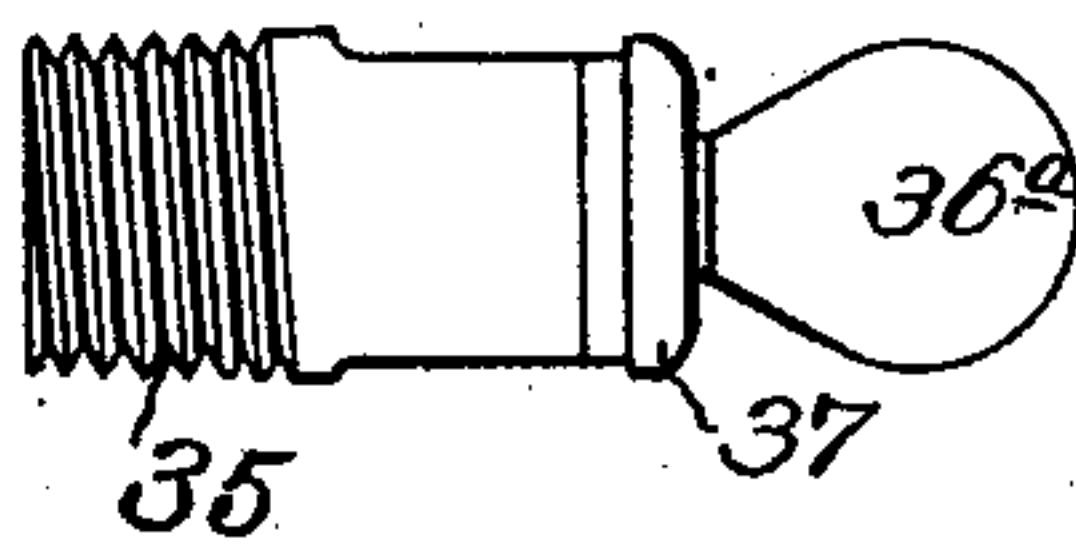


Fig. 4.

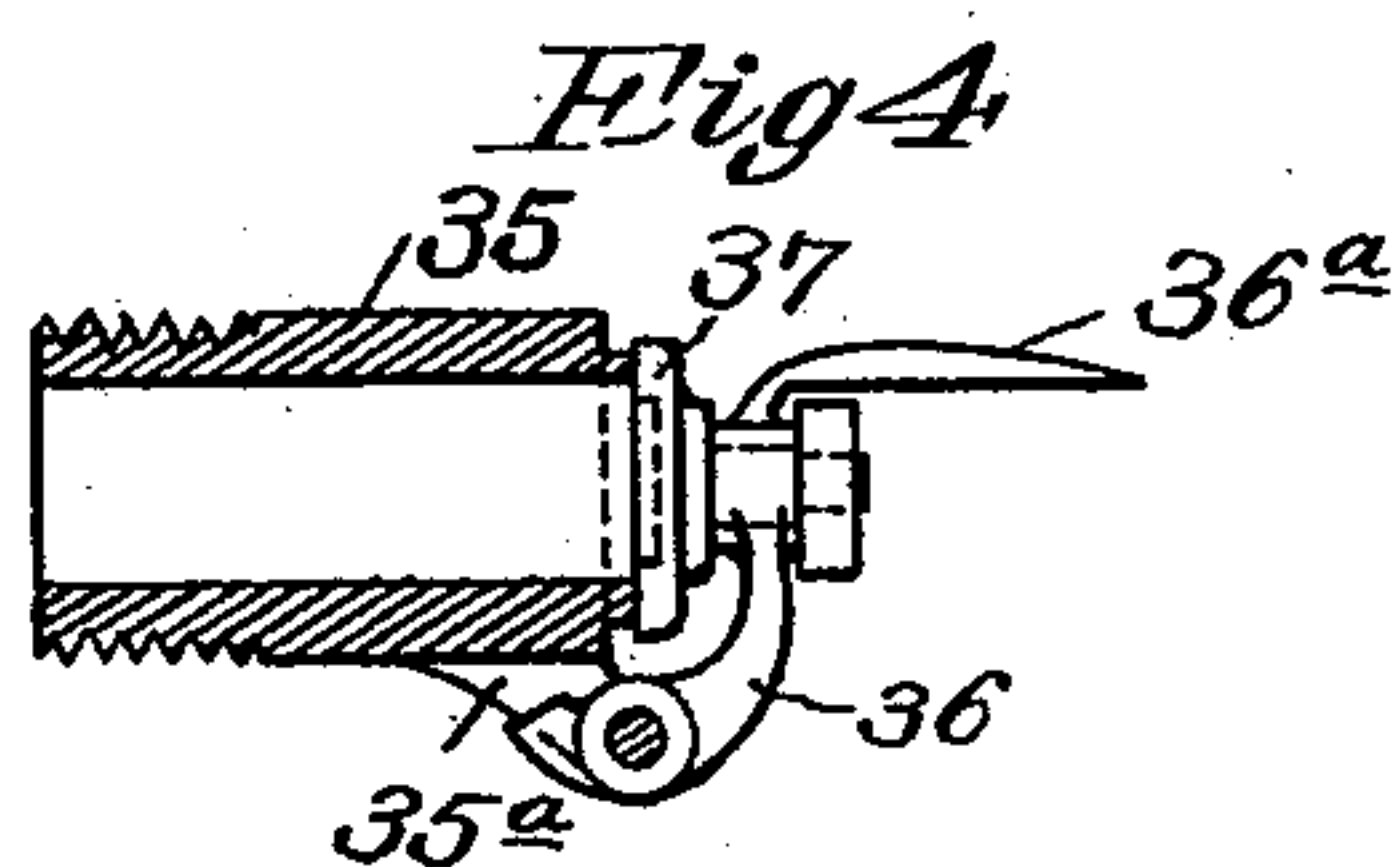
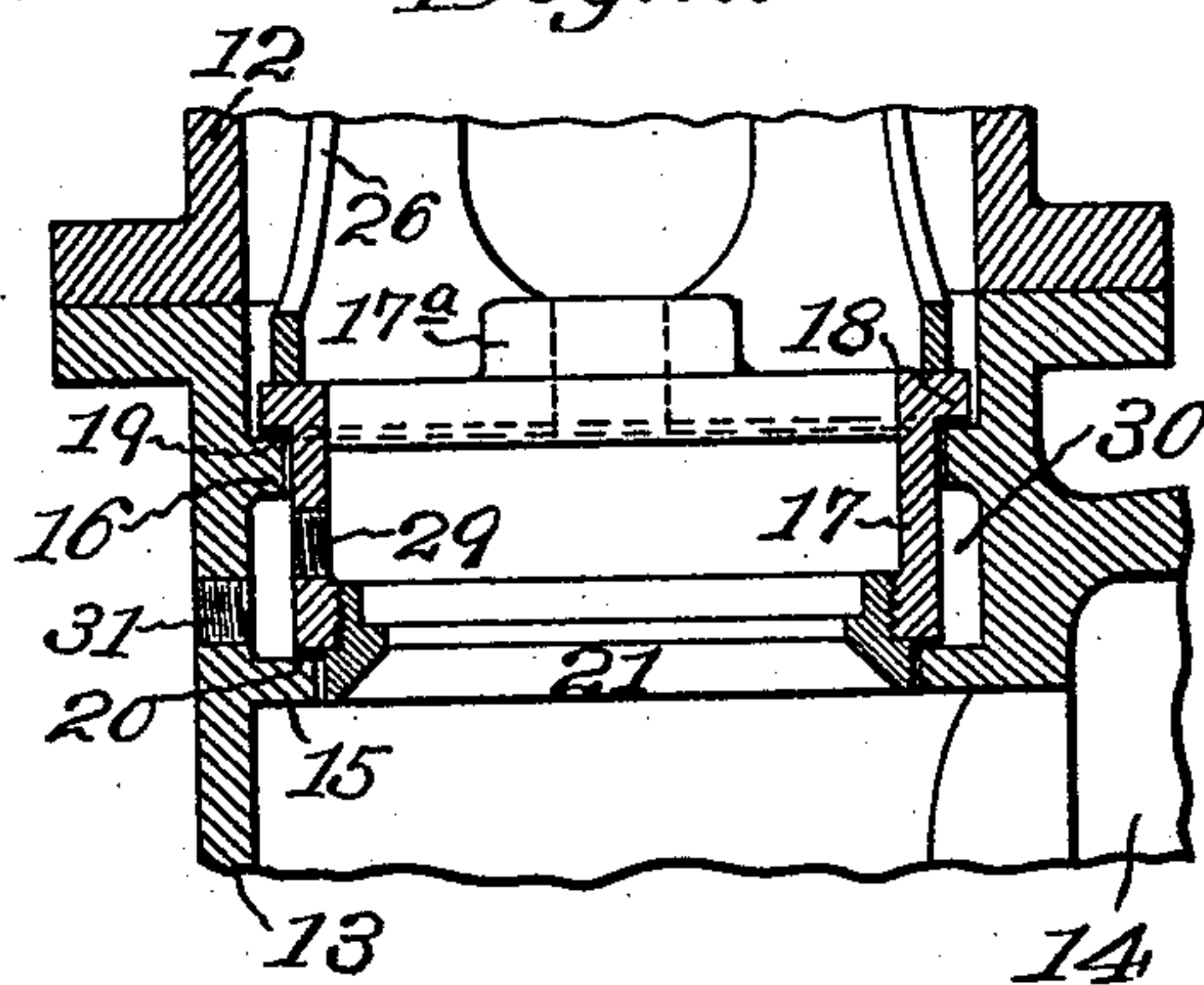


Fig. 2.



Witnesses:

Edward C. Claussen
Janette S. Ellsworth.

Inventor:

William H. Gohring

UNITED STATES PATENT OFFICE.

WILLIAM H. GOHRING, OF HARTFORD, CONNECTICUT.

HYDRANT.

SPECIFICATION forming part of Letters Patent No. 583,112, dated May 25, 1897.

Application filed January 20, 1897. Serial No. 619,942. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. GOHRING, a citizen of the United States, residing at Hartford in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Hydrants, of which the following is a full, clear, and exact specification.

This invention relates to a hydrant such as stationed on streets, public highways, and factory yards to furnish water to the steamer in case of a fire and for general purposes such as a hydrant is generally used.

One of the principal objects of my invention is to provide a hydrant of improved construction in which the seat with its valve may be removed or changed in a very short time, in case the valve should leak, without digging up the street to remove the hydrant post and pipe, as is the case in all hydrants of present construction, thus saving time and the great annoyance of obstructing and blocking the street to pedestrians and traffic and saving a great cost where asphalt or like pavement is used.

Another object of my invention is to provide an improved drip-valve which evacuates the hydrant post and pipe of the water remaining therein after the hydrant is shut off or closed, thus preventing the freezing and bursting of the same in cold weather, and which will close automatically as soon as the hydrant-valve is opened or the water turned on.

In the drawings accompanying and forming part of this specification, Figure 1 represents a side view, partly in section, embodying my invention in its preferred construction and showing the hydrant closed with the drip-valve open. Fig. 2 shows a central vertical section of the seat-ring and its holder drawn in an enlarged scale and having the valve-disk removed. Figs. 3 and 4 represent a plan and a sectional side view of my improved drip-valve in a closed position.

In the specification similar numerals of reference designate like or equivalent parts wherever found throughout the several views.

The numeral 11 designates the hydrant-post, which is bolted onto the pipe 12 and which again is securely fastened with bolts to the valve-body 13, which in this case is pro-

vided with the bell-shaped end 14. The valve-body 13 is also provided with two concentrically-annular projections 15 and 16, adapted to receive the seat-ring holder 17, which is of a hollow cylindrical form, and having at the upper end the annular flange 18, resting on the concentric annular projection 16 of the valve-body. The lower part of the seat-ring holder rests on the concentric annular projection 15 of the valve-body, thus forming a water-tight joint between the valve-body and the seat-ring holder. In order to make these joints perfect, I prefer to place two lead washers 19 and 20 between the flange 18 and the projection 16 and between the lower part of the seat-ring holder 17 and the projection 15, as shown.

The lower and inner side of the seat-ring holder 17 is threaded, into which is securely screwed the seat-ring 21, which is usually of brass to prevent the corroding of the same. The upper part of the seat-ring holder is provided with a cross-bar having a hub 17^a, provided with a central and square opening through which the valve-rod 22 passes, which is preferably square in cross-section and therefore rigidly affixed against rotation, but capable of longitudinal axial movement. The lower end of the rod is shouldered or turned off and has attached thereto the valve-disk 23, held in position between the upper and lower washers 24 and 25, respectively. Between the lower flange 11^a of the hydrant-post and the annular flange 18 of the seat-ring holder is placed the retainer 26, which serves to hold the latter firmly down in its position and in the drawings is represented as a tube having openings to make it lighter.

The valve-rod 22 is threaded at its upper end, as at 22^a, and adapted to receive the rod-actuating nut 27, provided with the shoulder 27^a, resting in a corresponding recess of the hydrant-post. 27^b is a square projecting from the rod-actuating nut, by which the rod is operated to open or close the valve. To prevent the water leaking out of the top of the hydrant-post during the time the valve is opened, I have provided the stuffing-box 28, screwed into the same in the usual manner.

In Figs. 3 and 4 I have represented the drip-valve, which consists of a casing 35, having a thread cut thereon corresponding with a

tapped hole 29 in the seat-ring holder. Integral with the casing is a hub 35^a, onto which is pivoted an arm 36, which branches off into a spoon-like form 36^a. The arm 36 has piv-
 5 oted thereto the disk 37 of usual construction. The normal position of the arm 36 with its overhanging spoon is the open adjustment to keep the disk from its seat.

The valve-body 13 is provided with a hole
 10 31, so that when the drip-valve is open the contents in the hydrant post and pipe may flow through the drip-valve into the annular recess 30, formed between the annular pro-
 15 jections 15 and 16, and thence through the opening 31 through a pipe into the sewer, or, as is the usual custom, to drain off into the surrounding soil.

In the drawings I have represented the valve-disk 23 as being of leather, but any
 20 other material well known in the art may be used.

The operation of closing or opening my improved hydrant is as follows: A wrench of proper shape and size to fit the square 27^b of
 25 the rod-actuating nut 27 is placed thereon, and when turned or rotated in one or the other direction raises or lowers the rod according to the thread 22^a being right or left hand. The rod-actuating nut is held against
 30 axial longitudinal motion by means of the shoulder 27^a, bearing against its bearing-surface in the hydrant-post on one side and the stuffing-box 28 on the other side. The rod is held against rotation by means of the hub 17^a
 35 of the seat-ring holder, which is provided with a square hole to fit the rod, and therefore as the rod-actuating nut is turned the rod is raised or lowered and therewith the disk, which is securely fixed to its lower end.
 40 When the valve is opened—that is, when the disk is lowered—the water from the main rushes into the pipe 12 and the hydrant-post, striking against the spoon 36^a, forces the drip-valve disk 37 on its seat, thus closing and
 45 holding the same closed until the rod-actuating nut is operated and the valve-disk 23 is drawn up against its seat. The overhanging spoon attached to the arm then assumes its

normal open position and the post is evacuated of its contents.

I claim—

1. A hydrant comprising a valve-body 13 provided with the upper and lower annular projections 16 and 15, forming a recess 30 between them, the removable seat-ring holder
 55 17 having the seat-ring 21 secured thereto, means for holding the seat-ring holder upon its seat all combined and constructed that the seat-ring holder may be taken out by removing the hydrant-post 11 from the pipe 12 substantially as described.

2. A hydrant comprising a valve-body 13 provided with the upper and lower annular projections 16 and 15, forming a recess 30 between them, the removable seat-ring holder
 65 17 having the seat-ring 21 secured thereto, means for holding the seat-ring holder on the valve-body, consisting of the retainer mounted and securely held between the hydrant-post and the seat-ring holder, the valve rigidly secured to the rod, all combined and constructed that the valve-disk and the seat-ring holder may be taken out by the rod by removing the hydrant-post 11 from the pipe 12 substantially as described.

3. A hydrant consisting of the hydrant-post 11, the pipe 12, the valve-body 13 the rod-actuating nut 27, the rod and the disk capable of longitudinal movement, the valve-body having the concentric annular projections
 80 15 and 16 forming the annular recess 30 between them, the removable seat-ring holder 17 having the seat-ring secured thereto and held in position by the retainer 26, the seat-ring holder provided with the drip-valve in
 85 open adjustment when the disk 23 is held against its seat, all combined and constructed substantially as described, that the valve, the seat-ring holder and the drip-valve may be drawn from its position by removing the
 90 hydrant-post from the pipe, substantially as described.

WILLIAM H. GOHRING.

Witnesses:

EDWARD E. CLAUSSEN,
 H. C. BAKER.