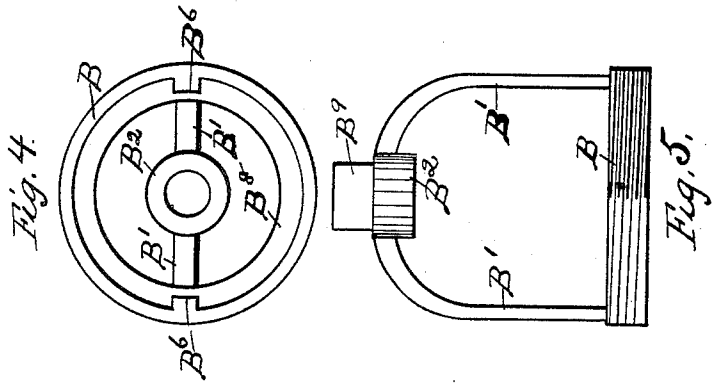
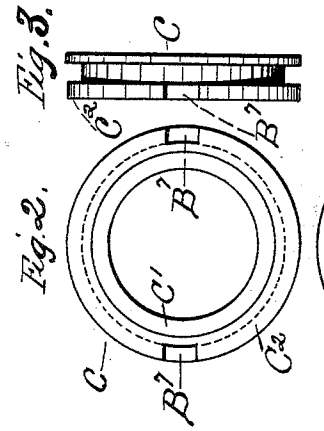
(No Model.)

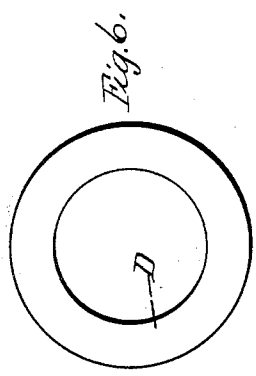
J. KNICKERBACKER.

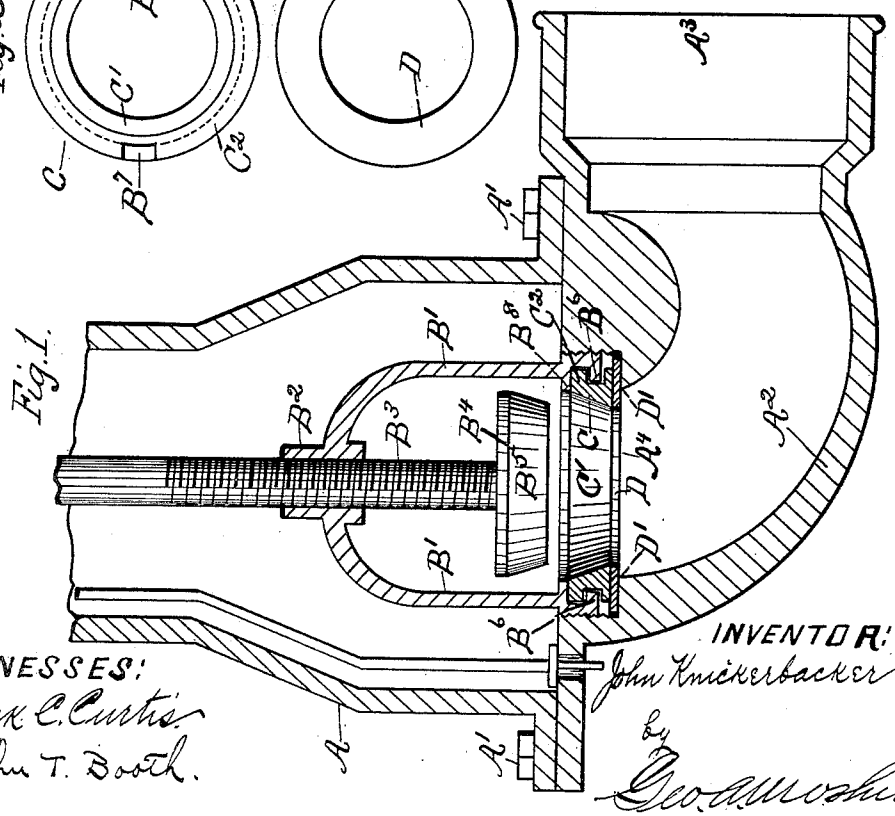
VALVE.

No. 424,715. Patented Apr. 1, 1890









WITNESSES:
Frank C. Curtis.
John T. Booth.

INVENTOR:
John Knickerbacker
by Geo. A. Wroshee
atty.

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN KNICKERBACKER, OF TROY, NEW YORK.

VALVE.

SPECIFICATION forming part of Letters Patent No. 424,715, dated April 1, 1890.

Application filed July 26, 1889. Serial No. 318,765. (No model.)

To all whom it may concern:

Be it known that I, JOHN KNICKERBACKER, a resident of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

My invention relates to improvements in valves, and more particularly to globe-valves and hydrants similar to the hydrants shown in my application for United States Patent, filed February 15, 1889, for improvements in hydrants, and given the Serial No. 300,010, to which reference may be had in connection with the following description:

The invention consists of the novel construction and combination of parts hereinafter described, and subsequently claimed.

Figure 1 of the drawings is a vertical central section of the lower end or valve part of a hydrant with the valve open, the upper portion of the hydrant being broken away. Figs. 2 and 3 are respectively plan and side elevations of the beveled ring forming the valve-seat, detached. Figs. 4 and 5 are respectively bottom, plan, and side elevations of the ring-follower and stem-nut connected by a pair of arms. Fig. 6 is a plan view of the gasket interposed between the valve-seat and the supporting casting.

A represents the stand-pipe of a hydrant secured by screws A′ through its lower flanged end to the similarly-flanged bottom casting or case A^2, having an inlet A^3, leading through the valved passage-way A^4 into the stand-pipe. The walls of the bottom casting surrounding the valve-opening are threaded and adapted to receive the exteriorly-threaded ring B. This ring is provided with two or more arms B′, which connect it with the screw-threaded stem-nut B^2, and are preferably made integral with both the ring and nut. The stem-nut is adapted to receive a screw-threaded stem B^3, provided with the valve-plug B^4, having the beveled edges B^5.

The ring B is provided with two oppositely-located lugs B^6, projecting interiorly from its inner surface at or near its lower edge adapted to enter the slots B^7 oppositely located in the periphery of the ring C, having its inner surface C′ beveled to form a contracted opening on one end and an expanded opening on its opposite end. The outer surface of the ring C is provided with a flange C^2, which affords on its upper side a bearing-surface for the flange B^8, projecting interiorly from the follower-ring, and on its lower side a bearing-surface for lugs B^6, projecting interiorly from the follower-ring.

D is a gasket or leather washer, which is placed upon the flange or ledge D′, projecting interiorly from the bottom casting.

In putting the parts together a gasket is first placed upon the flange D′. The loose beveled ring C is then inserted within the exteriorly-threaded ring B by passing the lugs B^6 through the slots B^7 and giving the loose ring a partial turn, so that the lugs B^6 will support the same by contact with the lower side of flange C^2, and then inserting the screw-threaded ring into the screw-threaded opening in the casting until the parts occupy the relative positions shown in Fig. 1. The gasket rests upon the ledge D′ of the casting, the lower edge of the beveled ring C resting upon the gasket, and the interiorly-projecting flange B^8 resting upon the upper edge of the beveled ring. The exteriorly-threaded ring B can be screwed into the casting by means of a socket-wrench adapted to receive and fit the rectangular projection B^9 on the stem-nut.

The valve is shown open, the plug B^5 being raised from the beveled surface C′ of the ring C by means of the valve-stem B^3. The valve is closed by turning the stem in its stem-nut until the plug B^4 is forced with considerable pressure against its seat, which is formed by the beveled ring. It will thus be seen that the valve-plug B^4 not only serves to close the passage-way through the valve, but to press the beveled ring down tightly upon the gasket D, thereby insuring a water-tight joint between such ring and the bottom casting.

It will thus be seen that it is not necessary to force the beveled ring against the gasket by means of the follower-flange B^8 on the nut-supporting exteriorly-threaded ring with sufficient pressure to form a water-tight joint about the gasket. Consequently I am able to easily turn the exteriorly-threaded ring-follower into and out of the screw-threaded bottom casting or valve-case by means of a simple socket-wrench, as before explained, or by hand. Should it happen, therefore, that the beveled ring forming the valve-seat should become worn or abraded from use, it could be easily removed and a new ring substituted therefor.

It will be seen that the beveled ring forming the valve-seat is not screw-threaded, and can be easily and cheaply constructed, so that I am able to renew the valve-seat with very little expense or trouble.

Although I have shown my improved valve applied to a hydrant, it may be applied to globe and other similar valves.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a valve-case having an interiorly-threaded passage-way and interiorly-projecting gasket-support, of a gasket, a valve-seat ring, a ring-follower exteriorly threaded to fit the threaded passage-way, a threaded valve-stem and valve movable to and from such seat-ring, and a threaded stem-nut, substantially as described.

2. In a valve, the combination, with the valve-case having an interiorly-threaded passage-way and interiorly-projecting gasket-support, of a gasket, a valve-seat ring, and a ring-follower exteriorly threaded to fit the threaded passage-way, substantially as described.

3. In a valve, the combination, with the valve-case having an interiorly-threaded passage-way and interiorly-projecting gasket-support, of a gasket, a valve-seat ring having a slotted exteriorly-projecting flange, a ring-follower exteriorly threaded to fit the threaded passage-way, and lugs adapted to fit the flange-slots projecting interiorly from the ring-follower, substantially as described.

In testimony whereof I have hereunto set my hand this 23d day of July, 1889.

JOHN KNICKERBACKER.

Witnesses:
FRANK C. CURTIS,
W. H. HOLLISTER, Jr.