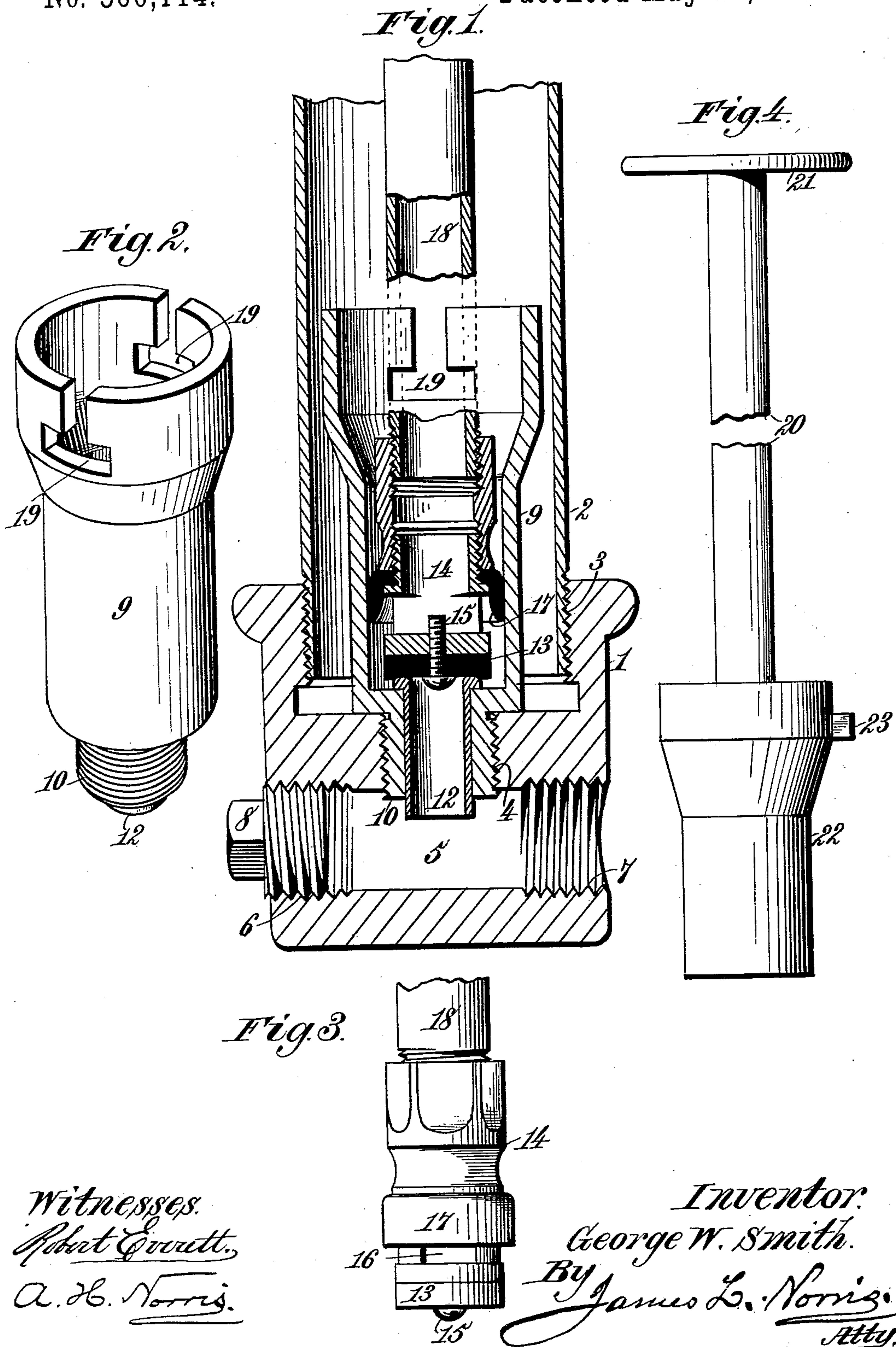


(Model.)

G. W. SMITH.  
HYDRANT.

No. 560,114.

Patented May 12, 1896.





# UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON SMITH, OF MAYSVILLE, KENTUCKY.

## HYDRANT.

SPECIFICATION forming part of Letters Patent No. 560,114, dated May 12, 1896.

Application filed September 9, 1895. Serial No. 562,024. (Model.)

*To all whom it may concern:*

Be it known that I, GEORGE WASHINGTON SMITH, a citizen of the United States, residing at Maysville, in the county of Mason and State of Kentucky, have invented certain new and useful Improvements in Hydrants, of which the following is a full, clear, and exact specification.

This invention relates to hydrants designed to connect by a service-pipe with the water-main in the street.

The object of my invention is to provide new and improved means for conveniently and quickly removing and replacing the valve-casing and its valve-seat for repairs without the necessity of digging or excavating the ground to withdraw the hydrant-stock in order to gain access to the valve-casing and valve, whereby the valve-seat and its casing are conveniently accessible and can be removed for repairs or renewal and readily replaced with comparatively little labor and a material reduction of the expense attending repairs to the valve-seat or valve-casing where the ground requires to be dug or excavated to withdraw the entire hydrant-stock.

The object of my invention is accomplished by the features of construction and the combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a vertical central sectional view of the lower end portion of a hydrant embodying my invention. Fig. 2 is a perspective view of the valve-casing. Fig. 3 is a detail side elevation of the hydrant-valve, and Fig. 4 is a broken side elevation of the wrench for removing and replacing the valve-casing.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the metallic cast-metal base of a cylindrical casing 2, which latter is in practice of a length sufficient to extend the required distance above the surface of the ground. The metallic base and cylindrical casing constitute the hydrant-stock, and the base is constructed with two screw-threaded sockets 3 and 4, of different diameter, the inner screw-socket 4 being approximately one-half the diameter of the outer

screw-socket 3. The cylindrical casing 2 of the hydrant-stock is provided with an external screw-thread on its lower end which screws into the socket 3, and the base 1 is provided with a central chamber 5 and two opposite screw-threaded openings 6 and 7, either of which may be connected with the water-main in the street through the medium of the usual service-pipe, the other orifice being closed by screw-plug 8.

The valve-casing 9 is composed of a cylindrical tube having its lower end portion constructed with a screw-threaded nipple 10, which screws into the screw-socket 4 in the metallic base. The nipple 10 is of a diameter considerably less than the body portion of the valve-casing 9, so that the latter rests upon the metallic base around the screw-socket 4 when the nipple 10 is screwed into the latter, thus providing a strong and substantial structure. The nipple 10 contains a tube 12, which is soldered thereto and projects into the valve-casing at its upper end for the purpose of constituting a valve-seat upon which the hydrant-valve seats for the purpose of closing communication between the chamber 5 of the metallic base 1 and the interior of the valve-casing.

The hydrant-valve may be of any construction suitable for the purpose, but preferably it comprises a valve-face 13, of leather or other flexible material, secured to the metallic body 14 of the valve by a metal screw 15. The valve-body is formed with lateral inlet-orifices 16, above which is located a cup-shaped leather or other suitable disk 17, all in such manner that when the valve is raised from its seat in the valve-casing the water flows through the tube 12 into the valve-casing and through the inlet-orifices 16 to the tubular valve-stem 18. When the water is flowing through the valve, the cup-shaped leather disk 17 is expanded against the internal surface of the valve-casing, so that the water is compelled to flow laterally into the valve and through the same to the tubular valve-stem.

The upper end portion of the valve-casing is expanded laterally and constructed with oppositely-arranged angular slots 19, which, as here shown, are T-shaped in form. These angular slots in the upper end of the valve-



casing serve for receiving an instrument by which to unscrew the valve-casing and lift it out of the hydrant-casing. For this purpose it is essential that all parts of the valve-casing be of a diameter less than the diameter (and preferably considerably less) of the hydrant-casing 2.

The instrument for unscrewing and removing and replacing the valve-casing is preferably composed of a stem 20, Fig. 4, having a suitable handle 21 at its upper end and a large cylindrical head 22 at its lower end of a diameter approximately the same as the interior of the valve-casing. The expanded upper portion of the cylindrical head 22 is constructed with a lateral stud 23, adapted to enter into engagement with either one of the angular or T-shaped slots 19, so that when the stud is engaged with one of these slots and the stem 20 is rotated in the proper direction the valve-casing is unscrewed and can be lifted out of the hydrant-casing by withdrawing the stem 20 therefrom. When the valve-casing has been withdrawn from the hydrant-casing, the valve-seat, composed of the tube 12, can be unsoldered and a new valve substituted therefor, or any other necessary repairs can be made to the valve-casing in a very simple and economical manner.

My invention provides novel, simple, efficient, and economical means for removing, repairing, and replacing the valve-casing and valve of a hydrant without digging or exca-

vating and withdrawing the hydrant-stock from the ground, thereby entirely avoiding the expense incident to such work and enabling the valve and its adjuncts to be easily repaired or renewed at comparatively little expense.

It will be understood that when the valve-casing is to be removed the supply of water through the service-pipe to the base of the hydrant is cut off by the usual stop-cock.

Having thus described my invention, what I claim is—

The combination of the hydrant-base having two screw-threaded sockets of different diameter, the inner one of least diameter being arranged centrally of said base, a hydrant-casing screwed into the socket of greatest diameter, and a valve-casing provided at its lower end with a screw-threaded nipple containing a removable valve-seat and screwed into the said central screw-threaded socket of the base, said valve-casing containing a removable valve and constructed at its upper end with oppositely - arranged T-shaped slots for receiving a lateral stud on the head of an instrument designed to unscrew the valve-casing, substantially as and for the purposes described.

GEORGE WASHINGTON SMITH.

Witnesses:

W. S. FRANK,

C. S. WARICK.