

R. T. MULLEN & J. W. McKELVEY.

VALVE.

APPLICATION FILED APR. 4, 1912.

1,056,114.

Patented Mar. 18, 1913.

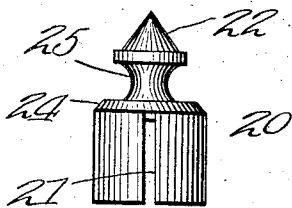
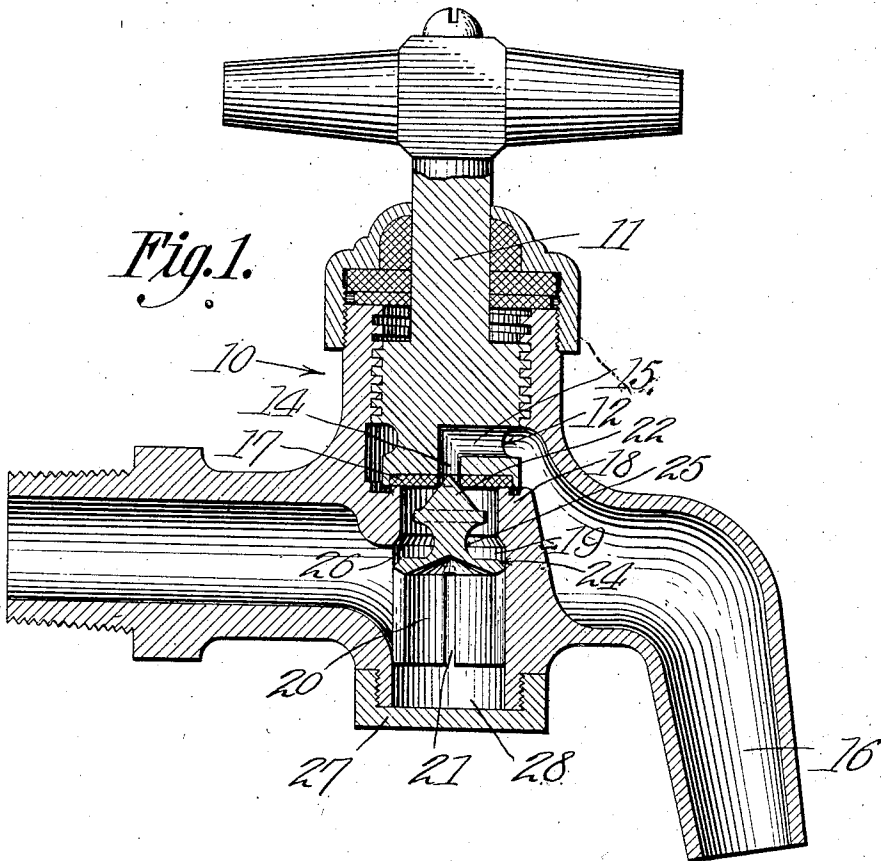


Fig. 2.

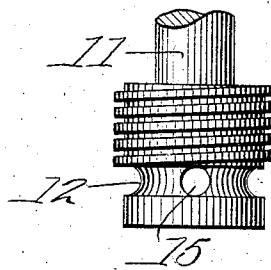


Fig. 3.

Witnesses

J. J. Tomlinson
L. H. Wilson

R. T. Mullen, and
J. W. McKelvey, Inventors.
by *C. A. Snow & Co.* Attorneys

UNITED STATES PATENT OFFICE.

RICHARD T. MULLEN AND JOHN W. MCKELVEY, OF LATROBE, PENNSYLVANIA, AS-SIGNORS OF ONE-THIRD TO DAVID J. SHULTE, OF LATROBE, PENNSYLVANIA.

VALVE.

1,056,114.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed April 4, 1912. Serial No. 688,472.

To all whom it may concern:

Be it known that I, RICHARD T. MULLEN and JOHN W. MCKELVEY, citizens of the United States, residing at Latrobe, in the county of Westmoreland, State of Pennsylvania, have invented a new and useful Valve, of which the following is a specification.

This invention relates to an improvement in valves.

The primary object of the present invention is to provide an attachment for faucets, which will permit the valve stem to be removed and repaired, without cutting off the supply of water.

A further object of the present invention is to provide means for opening the valve permitting the escape of water and air when the supply of water has been cut off at a point remote from the valve.

A still further object of the present invention is to provide means acted upon by the water previous to its exit through the faucet, for causing the delivery of the water in a solid stream, thereby preventing splashing.

A still further object is to provide a valve structure in which the various washers, etc., may be removed and replaced without permitting the escape of water through the faucet.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

Figure 1 is a sectional view. Fig. 2 is a detail view of the valve member. Fig. 3 is a detail view of the lower end of the valve stem.

In the drawings, 10 designates a faucet. The faucet receives the stem 11 which at a point adjacent its base is formed with the annular groove 12 communicating with the vertically disposed bore 14, a passage 15 which enters the stem through the groove 12 communicating with the vertically disposed bore 14 thus bringing said bore in communication with the outlet 16 of the same. The lower terminal of the stem is provided with

a washer 17, said washer seating upon the valve seat 18. Disposed for movement within the chamber 19 is a cylindrical valve member 20 which is formed with a plurality of slots 21, and the vertically disposed conical extension 22 the apex of which projects within the bore 14 and closes the same, the water outlet 16 thus being cut off when the washer is seated upon the seat 18, the pressure of the water holding the floating valve member in the position shown in Fig. 1. When it is desired to remove the valve stem to place a new washer on the same, or renew the stem or repair the same, the stem is removed, the water pressure forcing the valve member 20 which is provided with the bevel portion 24 in contact with the bevel portion 26 of the casing, cutting off the supply of water from the outlet 16, the water pressure retaining the member 20 in this position. After the stem or washer has been repaired the stem is again placed within the casing and as it is screwed down the member 20 is again forced into position as shown in Fig. 1, the pressure of the water at the same time maintaining the conical extension 22 within the bore 14. It will be noted by this construction that the valve stem may be readily removed and replaced without cutting off the supply of water.

The valve is opened by rotating stem 11 so as to cause the washer 17 to lift off of its seat 18, the water thus being permitted to flow over the valve member 20 and around the conical extension 22 after which it passes out between washer 17 and seat 18. The water which passes through the faucet when the valve is open is directed against the concave portion 25 of the member 20, and against the washer 17, thus breaking the force of the water, deadening the same and allowing it to flow through the outlet 16 in a solid stream, preventing splashing. When it is desired to cut off the supply of water at a point remote from the faucet, it will be noted that as soon as the supply is cut off and the pressure relieved the valve member 20 will seat itself on the cap 27 which opens passage 15 admitting air to pipe, allowing pipe to drain from the faucet back to stop and waste without moving the valve stem 11 from the seat 18, and when the water pressure is turned on again the valve member 20 will remain seated on cap

27 allowing air to escape from pipe through passage 15 to outlet 16 and when water pressure strikes member 20 it will rise and close off passage 15.

5 It will be noted that the device may be easily and economically manufactured, and that the various parts may be readily assembled.

Having thus described the invention, what is claimed as new is:—

1. A faucet comprising a casing, a valve stem disposed within said casing said stem normally seated across the passage between the inlet and outlet openings of the casing, said valve stem being formed with a vertically disposed bore and a transverse passage communicating with said bore and with the outlet of the casing, a pressure actuated valve member disposed within the casing, said valve member being provided with a conical extension adapted to close the bore in said valve stem, said valve member forming a closure for the passage between the inlet and outlet of the casing when the valve stem is removed.

2. A faucet comprising a casing, a valve stem normally seated across one end of the passage between the inlet and outlet of said casing said valve stem being formed adjacent its base with a circumferential groove, said valve stem being provided with a centrally disposed bore and a passage communicating with the said bore and with said groove, and means separate from and located entirely outside of the valve stem, for normally closing said bore, said bore being opened when the water pressure ceases.

3. A faucet, comprising a casing, a valve stem disposed within said casing, said valve stem normally seated across the passage be-

tween the inlet and outlet portions of said casing, said valve stem being provided with a vertically disposed bore and a transverse passage which communicates with said bore and the outlet of said casing, and a pressure actuating member separate from and located entirely outside of the valve stem and normally forming a closure for said bore.

4. A faucet comprising a casing, a valve stem disposed within the said casing, said valve stem normally seated across the passage between the inlet and outlet of the casing, a cylindrical member disposed for movement between said inlet and outlet said member adapted to form a closure for the passage between the inlet and outlet when the valve stem is removed, said valve stem being formed with a vertically disposed bore, and a transverse passage which communicates with said bore and the outlet, and a conical extension formed integral with the valve member, said conical extension normally forming a closure for said bore.

5. A faucet, comprising a casing, a valve stem arranged within said casing, a washer upon the stem, said washer being normally seated across one end of the passage between the inlet and outlet of the casing, and pressure actuated means for deflecting the water from the inlet to the periphery of the washer.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

RICHARD T. MULLEN.
JOHN W. McKELVEY.

Witnesses:

JOSEPH STAHL
P. C. T...