F. J. DITTRICH.

THREE WAY STOP VALVE.

APPLICATION FILED MAY 24, 1912.

1,183,544. Patented May 16, 1916.

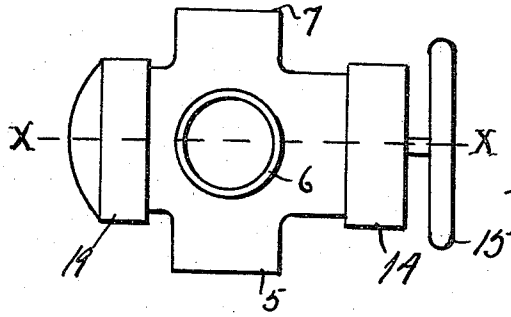


Fig. 1

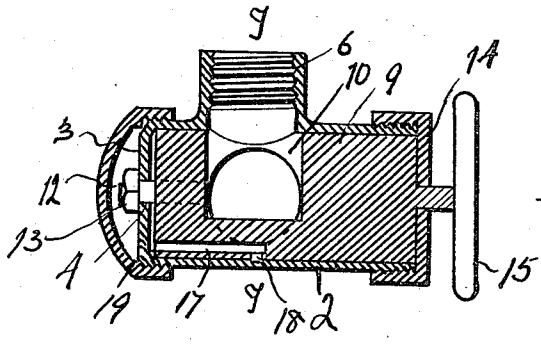


Fig. 2

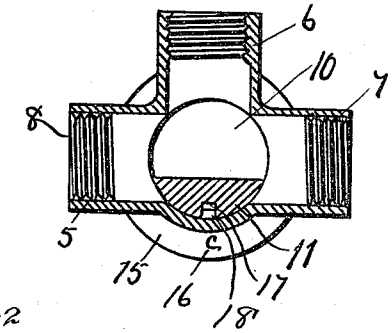
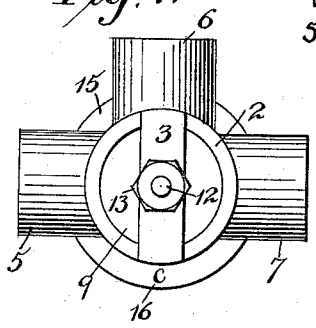


Fig. 3

Fig. 4.



Witnesses

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THREE-WAY STOP-VALVE.

1,183,544. Specification of Letters Patent. Patented May 16, 1916.

Application filed May 24, 1912. Serial No. 699,358.

To all whom it may concern:

Be it known that I, FERDINAND J. DITTRICH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Three-Way Stop-Valves, of which the following is a specification.

My invention relates to new and useful improvements in 3-way stop-valves and has for its object to provide a device of this character which will be a combination coupling or joint and stop valve.

The body of the stop valve is provided with three radiating stems, one of which is adapted to be connected with the supply pipe and the other two to pipes leading to spigots in different parts of the building, for instance one to the kitchen and one to the bath.

The object is to shut off either one of the two pipes leading from the stop-valve, allowing the water to pass through the other one, or shut off the supply so that no water passes through the stop valve.

Another object of the invention is to provide novel means for allowing the waste to pass from the pipe which is closed.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1, is a side elevation of a 3-way stop valve made in accordance with my improvement. Fig. 2, a section at the line *x*—*x* of Fig. 1; Fig. 3, a section at the line *y*—*y* of Fig. 2. Fig. 4, is an end view thereof, the cap being removed.

In carrying out my invention as here embodied, 2 represents the body of the stop valve open at both ends and having at one end an integral, relatively narrow bridge 3 provided with a central opening 4. The body carries three stems 5, 6 and 7, preferably formed integral therewith and having means for connection with pipes, said means being here shown as integral threads 8. Any one of these stems may be used for the connection with the supply pipe, the other two leading to spigots or similar outlets and these spigots may be situated any place. For convenience we will say that 7 is the supply, 5 leads to the kitchen and 6 to the bath.

9 denotes a plug of sufficient size to snugly fit within the body and this plug is provided with a cut-away portion 10 intermediate its ends and deep enough to form a sufficiently large passage way for the supply in order that the pressure will not be reduced. This passage way is in alinement with the stems when the plug is in place so that when turned to the correct position, the supply may pass through the passage way. Back of this passage way remains a solid portion 11 which should be approximately $\frac{1}{3}$ of the circumference of the plug, while the diameter of the outlets of the stems are approximately $\frac{1}{4}$ of the circumference of the plug. Thus it will be seen that when the solid portion 11 is turned toward one of the stems, said solid portion 11 will overlap the passage way of the stem and close the same.

The inner end of the plug is provided with a threaded projection 12 which passes through the opening 4 in the bridge and has threaded thereon a nut 13, causing said plug to be drawn into the body and there held until its removal is desired. This bridge could be eliminated since the cap 14 threaded exteriorly upon the body will retain the plug in place. The plug is provided with a handle 15 for turning the same and this handle may be of the ordinary shape, but here it is shown as being a hand wheel and provided with an indicating mark 16, said indicating mark being any convenient configuration such as the letter "C", standing for "Closed", and this is on that edge of the handle that lies adjacent the solid portion 11 of the plug and when the indicating mark is pointing to any of the stems, said stem is closed.

When the water is turned off and it is necessary to repair any of the pipes, that pipe which is to be repaired must have the water therein wasted and to accomplish this end I provide a longitudinal opening 17 in the plug and extending into the solid portion 11 where a radiating inlet 18 passes into the plug and connects with the longitudinal opening 17. The longitudinal opening 17 leads to that end of the plug opposite

the handle, which end is covered with a cap 19 threaded externally upon the body, said cap preventing the waste from running out unless desired.

From this description it will be seen that when the plug is turned as shown in Fig. 3, a supply will pass from the supply pipe through the stem 7 through the passage way 10 in the plug to the stems 5 and 6 which are connected to the pipes leading to the kitchen and bath. If the pipe leading to the kitchen is to be repaired, the plug is turned until the indicating mark on the handle is brought into alinement with the stem 5, the solid portion 11 of the plug then lying across said stem 5, shutting off the supply at this point to allow the supply to pass to the bath. The water in the pipe leading from the stem 5 will then flow outward through the inlet 18 and the longitudinal opening 17 until the space between the walls of the cap 19 and the body are filled with water, when said flow will stop, but if it is desired to have all of the water pass out of this pipe, the cap 19 is removed. By turning the plug until the solid portion 11 lies across the stem 6, the supply to the bath will be shut off while the supply continues to run to the kitchen. If the plug is turned so that the solid portion lies across the stem 7, the supply will be cut off so that neither the kitchen or bath will receive any water. When the plug is in this position, the cap 19 must remain in place since the water would continue to run through the longitudinal opening unless the supply was turned off at the street. From this description it will be seen that a stop valve is produced having three stems, one of which is the supply and two the outlets and so arranged that either one or both of the outlets may be shut off, so that they receive no water, at the same time providing novel means for wasting the water when either of the outlets are closed and one which may be used as a coupling member or joint. When this device is used it takes the place of a T-coupling and two stop valves so that there is a saving of time, labor and expense.

Of course I do not wish to be limited to the exact details of construction as here shown, as these may be varied within the limits of the appended claims without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful, is—

1. A 3-way stop comprising a body open at both ends, a relatively narrow bridge formed integral with the body and lying across one of the open ends of said body, three ports leading from said body, a valve plug having a transverse passageway intermediate its ends and a longitudinal opening extending from one end thereof to a point opposite the transverse passageway, said opening terminating in an inlet, whereby the port which is closed will be in communication with the atmosphere through one of the open ends of the body, and means carried by the plug arranged to coact with the bridge, whereby said plug will be retained in the body.

2. A 3-way stop comprising a body open at both ends, being exteriorly threaded, a relatively narrow bridge formed integral with the body and lying across one of the open ends of said body, said bridge having a central opening therein, three ports leading from said body intermediate its ends and lying in the same plane, a valve plug rotatably mounted in the body, said valve plug having a transverse passageway intermediate its ends adapted to aline with the ports and provided with an internal longitudinal opening extending from one end thereof to a point opposite the transverse passageway or in line with the ports, said valve plug further having an inlet leading from the exterior thereof to said longitudinal opening, said inlet adapted to aline with the different ports whereby each port will be in communication with the atmosphere through the open end of the body having the bridge lying thereacross, means carried by the valve plug arranged to pass through the opening in the bridge, a nut threaded on said means for retaining the valve plug in its position and a cap threaded on each end of the body for entirely inclosing the plug as shown and for the purpose described.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

FERDINAND J. DITTRICH.

Witnesses:
WM. M. ROCK, Jr.,
JOHN T. EHINGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."