J. T. LALLY.

VALVE FOR FIRE EXTINGUISHERS.

APPLICATION FILED DEC. 27, 1910.

1,027,344.

Patented May 21, 1912.

2 SHEETS—SHEET 1.

Fig. 4.

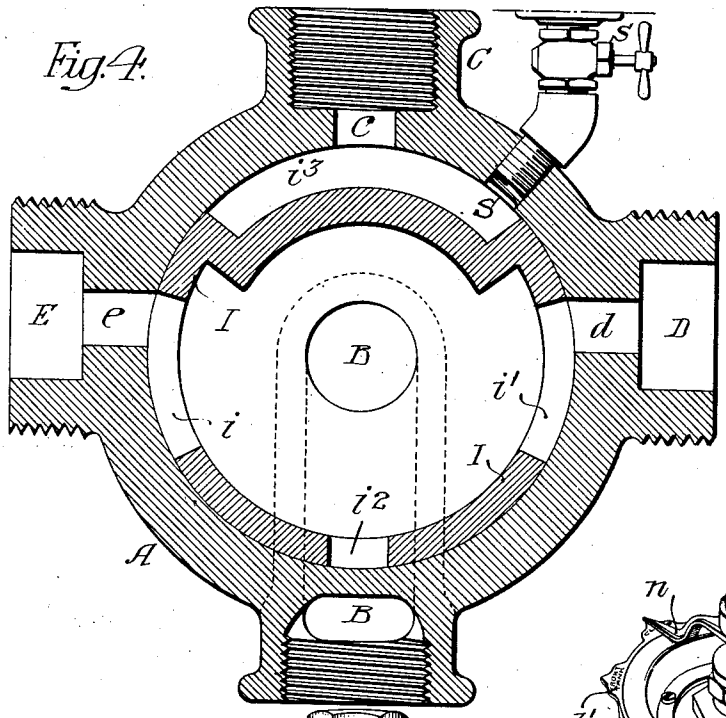


Fig. 5.

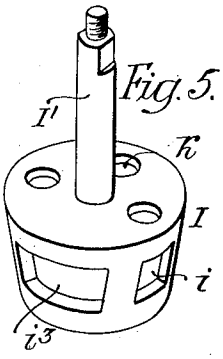


Fig. 1.

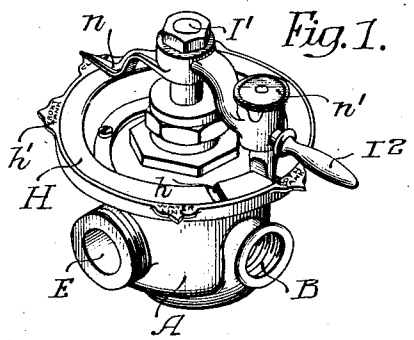


Fig. 3.

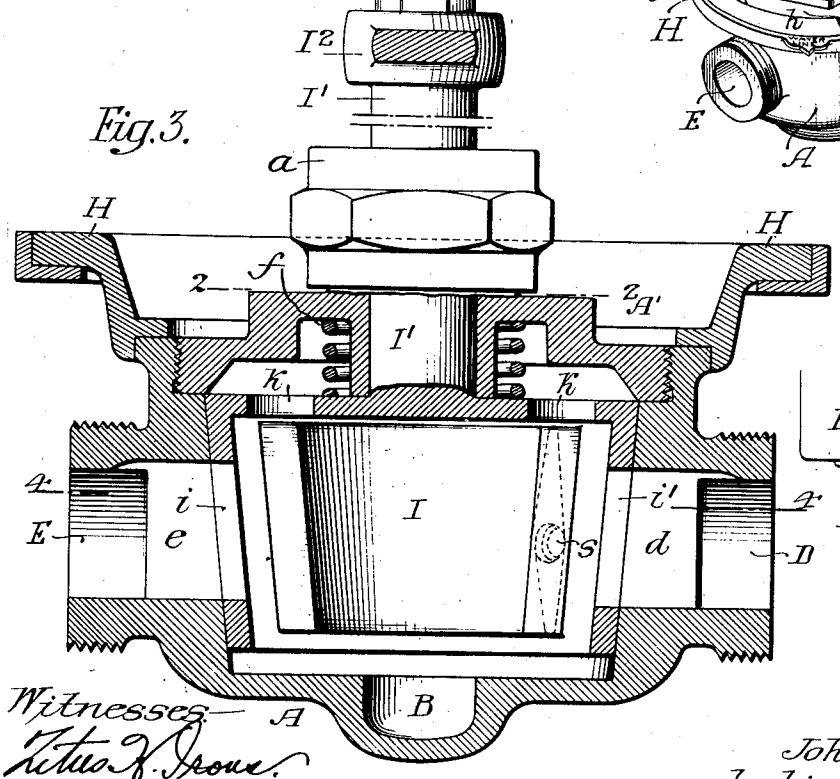
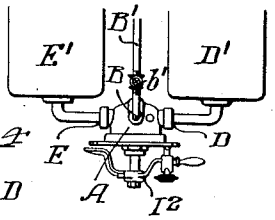


Fig. 6.



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2 SHEETS—SHEET 2.

Fig. 2.

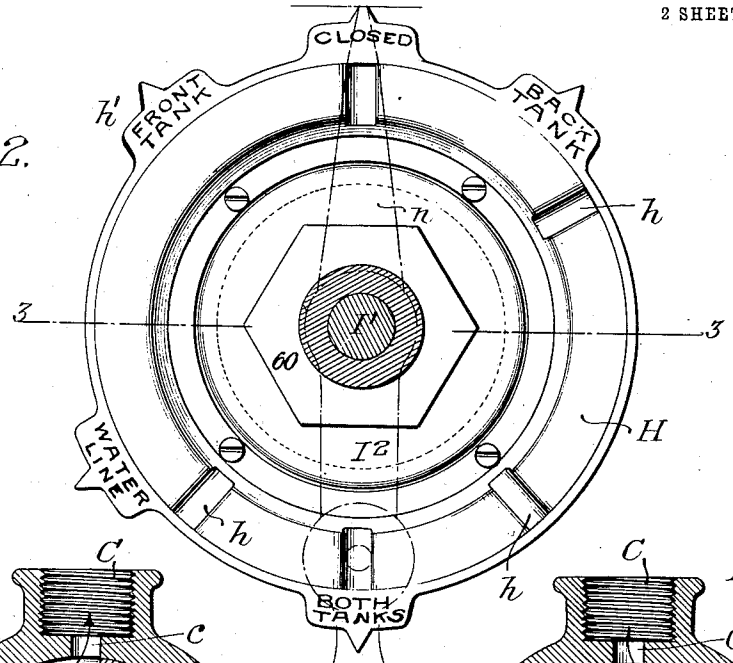


Fig. 7.

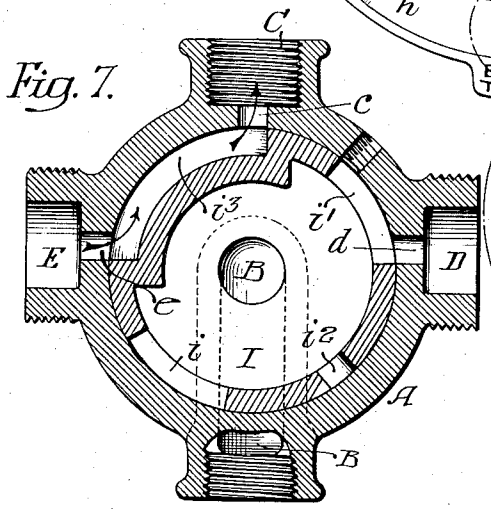


Fig. 8.

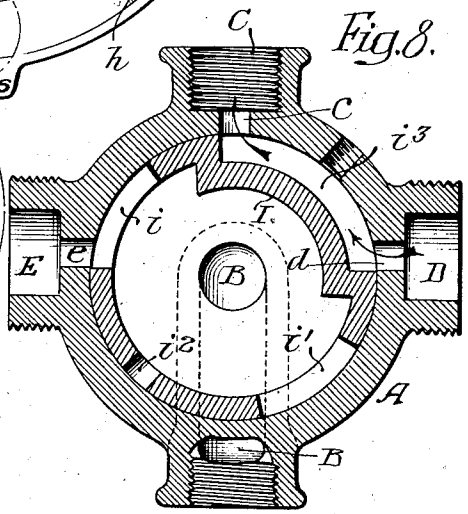


Fig. 9.

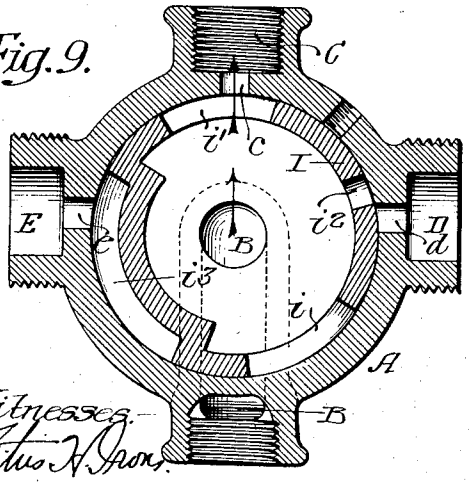
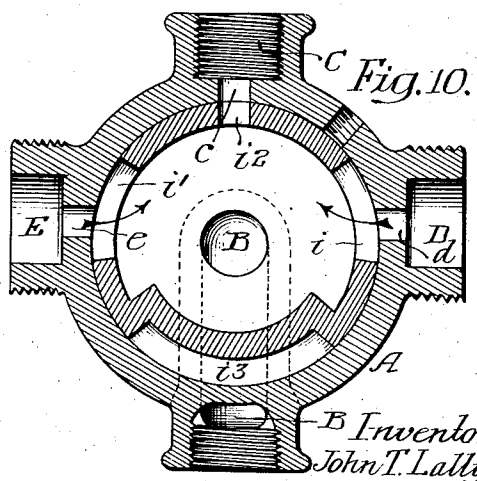


Fig. 10.



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UNITED STATES PATENT OFFICE.

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VALVE FOR FIRE-EXTINGUISHERS.

1,027,344. Specification of Letters Patent. Patented May 21, 1912.

Application filed December 27, 1910. Serial No. 599,400.

To all whom it may concern:

Be it known that I, JOHN T. LALLY, a citizen of the United States, residing in Wilmington, county of Newcastle, State of Delaware, have invented certain Improvements in Valves for Fire-Extinguishers, of which the following is a specification.

The object of my invention is to reduce the number of valves used on fire apparatus in which two chemical tanks are used.

Prior to my invention it has been the general practice to use five independent valves for directing the fluid from one or both tanks to the line of hose, or direct from the fire plug to the hose, or from the plug or water supply to the tanks. By my invention I provide a single valve for the above mentioned purpose, considerably lessening the number of parts and thus insuring the proper operation of the fire extinguisher.

In the accompanying drawings:—Figure 1, is a perspective view of my improved valve; Fig. 2, is a face view with the valve stem in section on the line 2—2, Fig. 3; Fig. 3, is a sectional plan view on the line 3—3, Fig. 2; Fig. 4, is a sectional elevation on the line 4—4, Fig. 3; Fig. 5, is a detached perspective view of the valve; Fig. 6, is a diagrammatic plan view, showing the valve attached to two tanks, and Figs. 7, 8, 9 and 10 are diagram views, showing the different positions of the valve in the casing.

A is the casing of the valve.

B is the inlet port which enters the back of the valve, as indicated in Figs. 3 and 4, and, for convenience, the inlet passage is carried to the bottom of the valve casing where it is connected to the pipe leading to a plug or other source of water supply.

C is a screw threaded socket having a port *c* extending through the body of the casing A and coupled to this socket is the hose, or other pipe, leading to a nozzle.

E and D are the threaded extensions on the casing A having ports *e* and *d* respectively, which communicate with the interior of the casing A. In the present instance, the projection E is coupled to the front tank E′ and the projection D to the rear tank D′, Fig. 6.

The water supply pipe B′, which communicates with the inlet passage B, is preferably provided with a stop cock *b′*, so that the water supply can be cut off without operating the main valve, if necessary.

I is the valve, slightly tapered, as indicated in Fig. 3, and adapted to a ground seat in the casing A. This valve has a stem I′ to which is attached the handle I^2. The stem extends through a stuffing box *a* in the cap A′, which has a threaded periphery adapted to the threaded opening in the casing. A spring *f* is mounted between the cap of the casing and the valve and this spring tends to keep the valve to its seat, yet allowing it to move freely when turned. In the shell of the valve I are ports *i*, *i′*, i^2, forming a communication with the center of the valve and the several ports *c*, *e*, *d*, when the valve is turned to certain positions, and in the wall of the valve I is a channel i^3 which is of such length that it forms a communication either between the ports *c* and *e* or ports *c* and *d*.

In order to balance the valve, I provide perforations *k* in the body of the valve, as illustrated, so as to allow the fluid to gain access to the space between the valve and the cap, as well as the interior of the valve. The spring, however, keeps the valve normally to its seat.

Secured to the valve casing is a ring H having a series of notches *h* and indicating plates *h′*, as clearly illustrated in Fig. 2. Carried by the handle I^2 is a pointer *n*, which can be brought in line with any of the indicating plates *h′* and, in order to lock the handle in a given position, a spring bolt *n′* is provided, which is shaped to enter any of the notches *h* in the ring H.

When the valve I is in the position illustrated in Fig. 4, the ports are closed or cut off from the nozzle and the valve *b′* is closed; the pointer being opposite the plate marked "Closed." If it is necessary to supply the tanks E′ and D′ with water, the valve *b′*, which is in the supply pipe B′, may be opened. When it is desired to form a communication between the tank E′ and the port *c* leading to the nozzle, the valve is turned so that the channel i^3 is in line with the ports *e* and *c*, Fig. 7; the other ports being closed and the pointer will be in position to line with the plate marked "Front tank." When the valve is moved so as to form communication between the rear tank D′ and the port *c* leading to the nozzle,

then the valve is moved so that the channel i^3 communicates with the ports c and d, Fig. 8, and the pointer is in line with the plate marked "Back tank." When the valve is moved to the position illustrated in Fig. 10, the pointer will be in line with the plate marked "Both tanks," and both ports e and d will communicate with the ports c leading to the nozzle. If it is desired to cut out both tanks and yet allow water to flow through the valve from the inlet B through the port c, then the valve is moved to the position illustrated in Fig. 9; the pointer being in line with the plate marked "Water line." Thus, by the above construction, I am enabled to provide a single valve which will control the flow of fluid to and from the tanks.

In order to lubricate the valve, I provide a grease cup S, which communicates with a passage s in the valve casing and the wall of the casing is flared on each side of this passage, as shown by dotted lines in Fig. 3, so that when the grease is forced in the passage and the valve is turned the grease will lubricate the greater portion of the surface of the valve.

I claim:

1. The combination in a valve for fire extinguishers, of a casing having a central inlet port for water, a port on each side adapted to be connected to respective pressure tanks, and a port located between the two last mentioned ports and arranged to be coupled to a nozzle, with a hollow valve mounted in the casing and having three ports extending through the shell thereof and a channel in its wall, said channel being of such a length that when the valve is turned in one position, it will form a communication between one side port and a nozzle port and when turned in the other position it will form a communication with the other side port and a nozzle port.

2. The combination in a valve for fire extinguishers, of a casing having a central inlet port for water, a port at each side, one of the side ports leading to one tank and the other side port leading to another tank, and a port centrally located between the two side ports and arranged to be connected to a hose or nozzle, with a hollow valve mounted in the casing and having three ports extending through the shell, and an elongated channel in its wall, the ports and channels of the valve being so arranged that when the valve is in one position the side ports will be cut off from the intermediate port, when in another position one side port will communicate with the intermediate port and when moved in still another position the other side port will communicate with the intermediate port and when the valve is moved to another position the three ports in the valve will form a communication with both ports leading to the tanks and the central port leading to the nozzle.

3. The combination in a valve for a fire extinguisher, of a casing having a central inlet port for water, side ports arranged to be coupled to tanks, a port intermediate of the two side ports and connected with the nozzle or exhaust, a cap secured to the casing, a hollow valve mounted in the casing, said valve having passages to allow the liquid to gain access to the space on both sides of the valve, with a spring mounted between the valve and the cap, the cap tending to hold the valve to its seat, the valve having a series of three ports and a channel in its wall, said valve having a stem extending through the cap, and a handle mounted on the stem by which it is turned.

4. The combination in a valve for fire extinguishers, of a casing having an inlet port communicating with the casing at the back, two side ports arranged to be coupled to tanks, an upper port intermediate of the two side ports and arranged to be attached to a hose or nozzle, a valve mounted in the casing and having a hollow center communicating at all times with the water inlet passage and having three ports in its shell and a channel in its outer surface, said valve having a stem, a handle on the stem, a latch carried by the handle, said handle having a pointer, and a ring secured to the valve casing and having notches to receive the latch of the handle and having indicating marks with which the pointer is arranged to aline.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN T. LALLY.

Witnesses:
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WM. A. BARR.