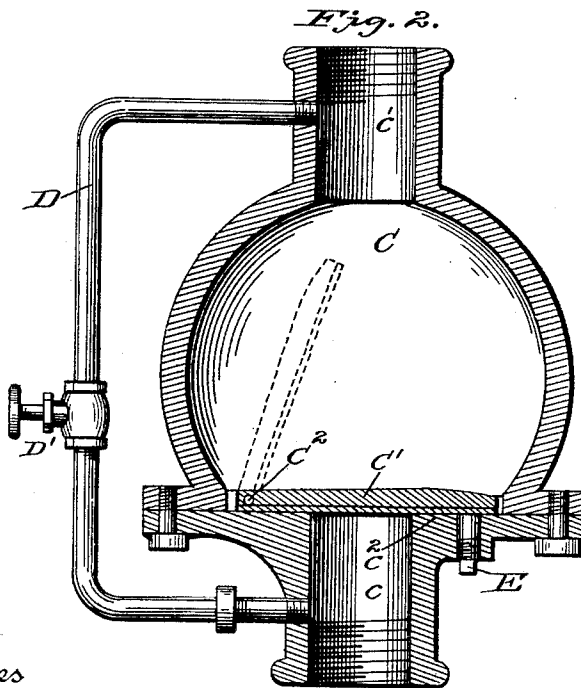
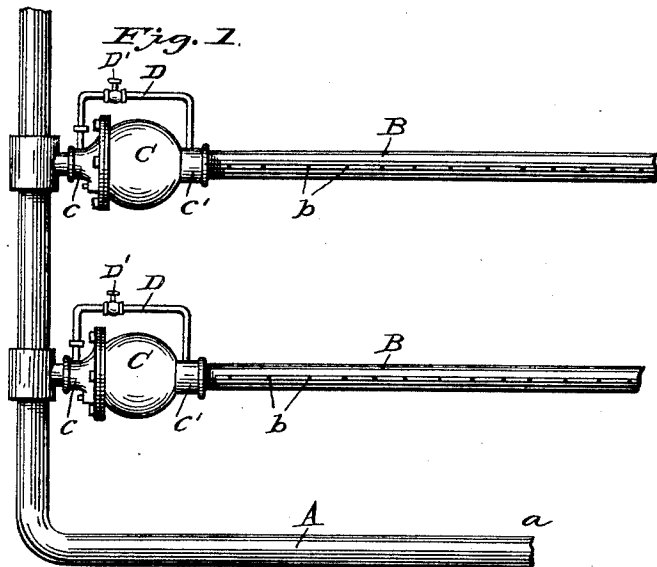


(No Model.)

J. H. BROWN.
VALVE.

No. 586,721.

Patented July 20, 1897.



Witnesses
Edwin G. Rice
H. A. Han.

Inventor
James H. Brown
By John Hedderburn
his Attorney.

UNITED STATES PATENT OFFICE.

JAMES H. BROWN, OF EAU CLAIRE, WISCONSIN.

VALVE.

SPECIFICATION forming part of Letters Patent No. 586,721, dated July 20, 1897.

Application filed January 31, 1896. Serial No. 577,577. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. BROWN, a citizen of the United States, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented certain new and useful Improvements in Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in air valves or traps for use in buildings that are piped up for fire protection dry systems; and it has for its objects, among others, to provide a simple and cheap yet most efficient valve for the purpose of keeping the air in the pipes that have not had the heads melted off, so as to allow the water to enter the pipe which has been opened more readily.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an elevation of a system of piping with my improvement applied. Fig. 2 is an enlarged sectional view of the valve and its connections.

Like letters of reference indicate like parts in the views.

Referring now to the details of the drawings by letter, A designates the pipe from the water-main or from the pump or tank. *a* designates the point where in practice a valve may be located, and this pipe A has communication with the branch pipes B, perforated, as at *b*, in the usual manner and, as is customary in this system of fire protection, arranged in different parts of the room or building, and at the junction of each of said pipes with the main or supply pipe A, I locate my improvement, which consists of the valve-casing C, having the screw-threaded nipple or neck *c* for attachment or connection with the pipe from the pump or tank, and at the opposite ends a screw-threaded neck or nipple *c'* for the connection of the pipe leads to the

heads. This valve-chamber is provided with a seat *c²* for the valve C', which is pivotally mounted, as at C², and has its face provided with a soft-rubber covering or facing, as indicated. 55

From the nipple *c* there leads a pipe D, which extends outside of the valve-casing and communicates with the interior of the nipple *c'*, the said by-pass pipe being provided with 60 a suitable valve or cap by which the passage of water therethrough can be controlled.

The operation will be readily understood, and, briefly stated, is as follows: Suppose, for instance, that a fire starts at the head or 65 pipe No. 1 and melts off the head. As soon as this is done the air commences to escape, and as the systems are so arranged that the expansion of the air in all the pipes would have to blow the fire until the air-pressure 70 was reduced sufficiently to allow the automatic air-valve to lift and let the water go to the fire it will be seen that considerable time would be lost. Now by my construction,

wherein there is a valve at each of the leading pipes, when the fire takes place at No. 1 and a head is melted off all the rest of the pipes, by reason of their valves being closed, would hold the air and thus let the water get 75 to the point of fire much sooner, and the valves being in the ratio of about six to one the water will not fill the pipes that do not call for water and freeze them up so that they would be liable to burst before the water 80 could be taken out. When the air is pumped up, the valve D' should be opened in order to have the air-pressure equal. A removable plug E is provided in the bottom of the valve-chamber, which can be removed at any time 85 after water has been used in the pipes, and by passing a rod or suitable instrument through the opening in which the said plug is located the valve C' can be opened and all the water allowed to escape. 90

Modifications in details may be resorted to 95 without departing from the spirit of the invention or sacrificing any of its advantages. It is evident that the ratio of the valves may be changed as circumstances may require. 100

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

The combination with the supply-pipe and the branch pipe, of a valve-casing located at the junction of the branch and supply pipes, said casing having a threaded nipple upon
5 one side and upon the opposite side a detachably-flanged plate having a threaded nipple, a valve pivoted within the casing, a pipe arranged outside the casing and connecting the two nipples, a valve located in said pipe, and
10 a threaded plug removably inserted in the

bottom of the valve-chamber and against the upper end of which the valve C' seats itself.

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

JAMES H. BROWN.

Witnesses:

F. H. L. COTTEN,
W. A. SMITH.