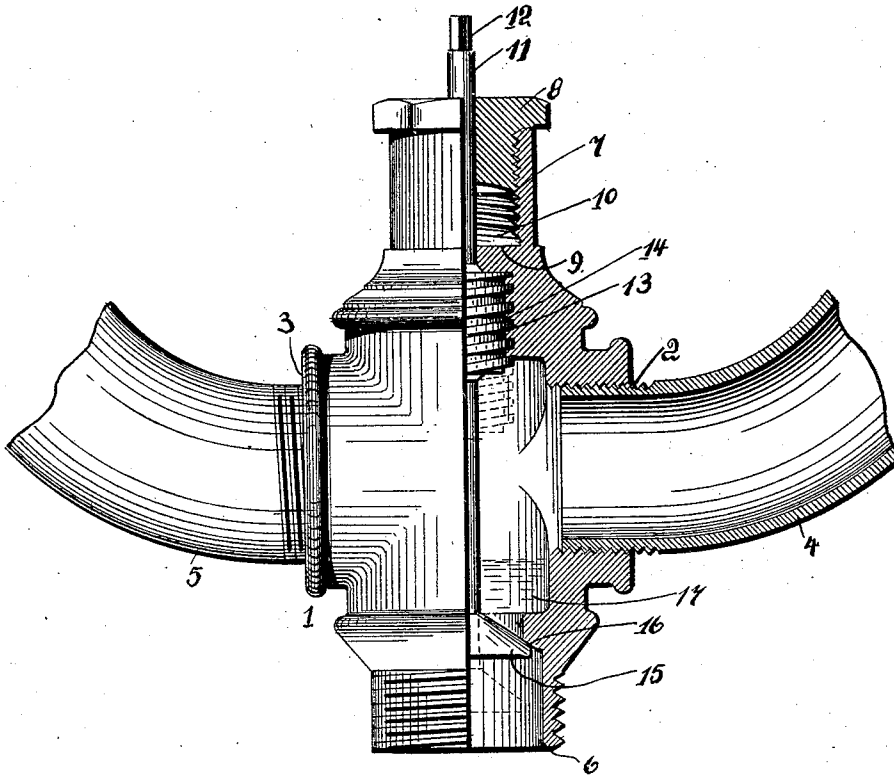


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VALVE.

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944,871.

Patented Dec. 28, 1909.



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UNITED STATES PATENT OFFICE.

WILLIAM J. JAMES, OF PITTSBURG, PENNSYLVANIA.

VALVE.

944,871.

Specification of Letters Patent.

Patented Dec. 28, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM J. JAMES, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Valves, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates to certain new and useful improvements in blow off valves for gas mains and the like, and is of the type particularly known in the art as "reciprocating."

15 My improvement contemplates, as a primary object the provision in a valve of this type, of means for draining any water that may accumulate at the various elbows or bends in the main, and without the escape of gas.

20 Heretofore, attempts have been made to secure this advantage in the draining operation, but the mechanisms employed have been so complicated and impractical that 25 they have for the most part been failures in actual use.

30 In the furtherance of the above object, my invention comprises the utmost simplicity of operation, and ready accessibility to all parts, which with a perfect working device will accomplish the highest degree of efficiency.

35 The detailed description will appear in the course of the following description in which reference is had to the accompanying drawing forming a part of this specification, like numerals indicating like parts throughout.

40 The figure illustrates a valve partly in elevation, and partly in section, and shows the arrangement thereof with respect to the bend or elbow in the pipes. I employ a chamber 1 formed with ports 2 and 3 at each side for the reception of the pipes 4, 5, which are threaded thereinto in the usual manner. In the bottom of the casing, there is a third port 6, which serves as a drainage port, and is externally threaded to receive any advantageous form of drainage pipe. 50 The valve is mounted within the casing 1, which is formed at the top with a port 7, closed by a collar 8 surrounding the valve stem. Adjacent the port 7, the valve casing is formed with an annular shoulder 9, and between the underneath surface of the collar 8 and the shoulder 9, is a space 10,

in which is placed any of the conventional forms of flexible valve packing. The valve proper embodies a stem 11, extending through the entire length of the casing 1 and formed at the top with a square head 12 to receive a wrench or handle. The stem 11 is provided with an intermediate enlarged portion which is formed with threads 13, preferably of heavy or coarse pitch, and which are screwed into an opening 14 internally threaded to correspond to the threads 13. The opening 14 is formed directly below the port 7, and in the thickened portion of the casing 1 adjacent the shoulder 9.

70 The valve stem 11 carries at its lower end a conical valve 15, which recedes upwardly and bears against the beveled seat 16 formed adjacent the port 6 in the casing 1. It is to be observed that the casing 1 is formed with a recess or depressed portion 17, extending below ports 2, 3.

80 In operation, any water or extraneous substances that may collect in the valley between the pipes 4, 5, will gravitate into the recess 17. The valve stem 11 is then turned into proper direction to cause the valve 15 to travel downward to position shown in dotted lines, away from the seat 16. The water or extraneous matter will then gravitate 85 through port 6, and be conveyed through a suitable conducting pipe, but the gas through its natural buoyancy will flow above the recess 17 and port 6 into either of the pipes 4, 5, as the case may be, and at normal pressure, will not pass through the same when the valve 15 is in the open position shown in dotted lines.

95 Having fully described my invention, I claim:—

1. In a valve of the type described, a valve casing having a central chamber and oppositely disposed inlet and outlet ports, said casing further provided in its underneath side with a drain port, an inwardly tapering annular valve seat carried by the casing at the upper end of the drain port, the said central chamber of the valve casing extending below the inlet and outlet ports and terminating at its lower end at said valve seat and forming a space for the accumulation of liquid, the portion of the casing forming the top of said chamber provided with a threaded recess opening into the chamber, the upper end of said casing being formed with a threaded opening communicating with said recess by a central con-

tracted bore through the casing, a screw collar provided with a wrench hold surface on its outer periphery and fitting said opening and a perforation provided through said collar, said casing provided with a shoulder adjacent the lower end of said collar and a space adapted to receive a valve packing provided between said shoulder and collar end, a stem extending through said casing and said bore and perforation and provided with a threaded enlargement engaging the threaded recess of the casing and an upwardly seating valve on the lower end of said stem below the valve seat for engaging with the latter to normally close the valve chamber at its lower end.

2. In a valve of the type described, a valve casing having a central chamber and oppositely disposed inlet and outlet ports, said casing further provided in its underneath side with a drain port, an inwardly tapering annular valve seat carried by the casing at the upper end of the drain port, the said central chamber of the valve casing extending below the inlet and outlet ports and terminating at its lower end at said valve seat and forming a space for the accumulation of liquid, the portion of the casing forming the top of said chamber provided with a threaded recess opening into the chamber, the upper end of said casing being formed with a threaded opening communicating with said recess by a central contracted bore through the casing, a screw collar fitting said opening and a perforation provided through said collar, said casing provided with a shoulder adjacent the lower

end of said collar and a space adapted to receive a valve packing provided between said shoulder and collar end, a stem extending through said casing and said bore and perforation and provided with a threaded enlargement engaging the threaded recess of the casing and an upwardly seating valve on the lower end of said stem below the valve seat for engaging with the latter to normally close the valve chamber at its lower end.

3. In a valve of the type described, a valve casing having a central chamber and oppositely disposed inlet and outlet ports, said casing having a threaded recess and provided in its underneath side with a drain pipe, an upwardly extending annular valve seat carried by the casing at the upper end of the drain port, the said central chamber of the valve casing extending below the inlet and outlet ports and terminating at its lower end at said valve seat and forming a space for the accumulation of liquid, a stem mounted in said casing and having a threaded enlargement engaging the threaded recess of the casing, and an upwardly seating valve on the lower end of said stem below the valve seat for engagement with the latter to normally close the valve chamber at its lower end.

In testimony whereof I affix my signature in the presence of two witnesses.

WILLIAM J. JAMES.

Witnesses:

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W. H. STERRITT.