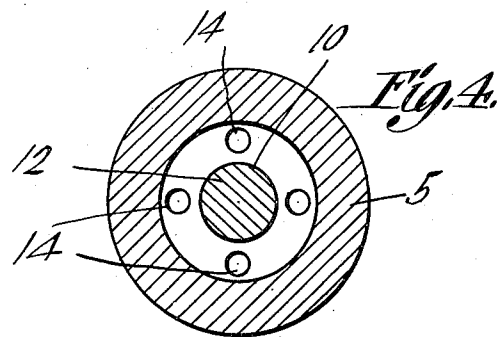
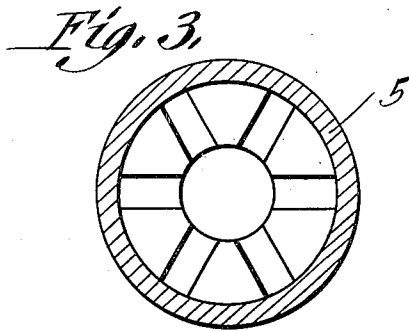
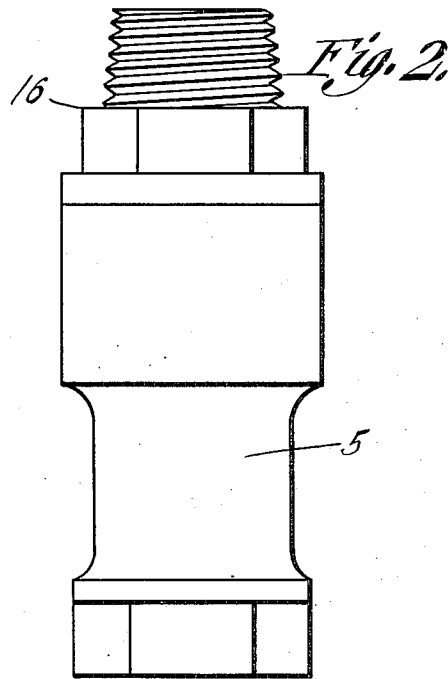
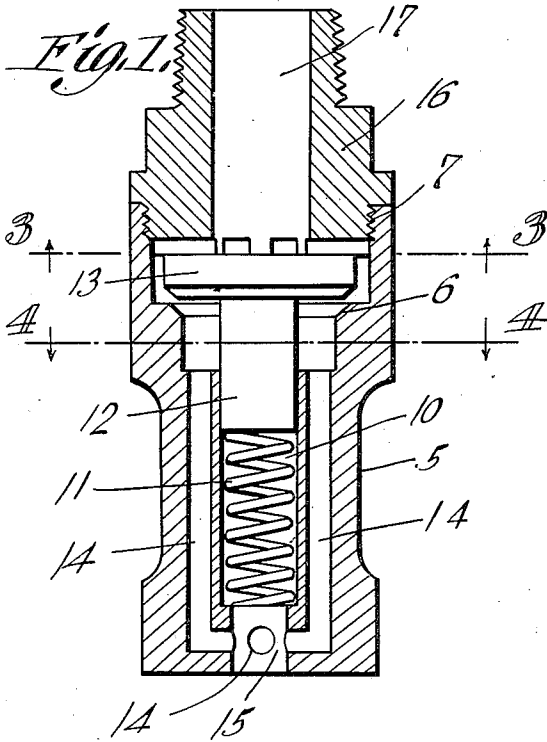


A. ABBAMONTE.
VALVE.
APPLICATION FILED AUG. 7, 1919.

1,381,049.

Patented June 7, 1921.

2 SHEETS—SHEET 1.



A. Abbamonte
Inventor

Witness

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2 SHEETS—SHEET 2.

Fig. 5.

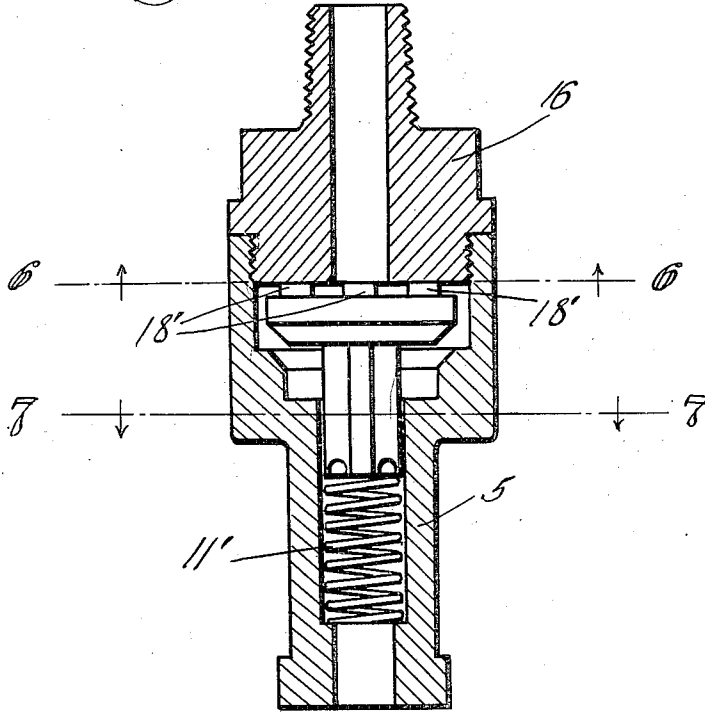


Fig. 6.

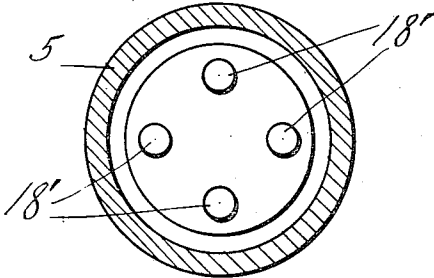
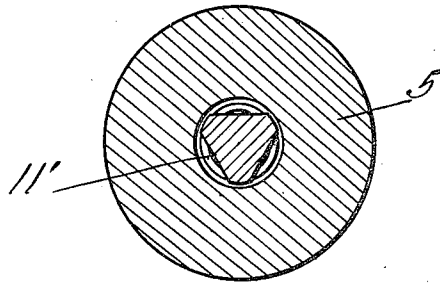


Fig. 7.



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UNITED STATES PATENT OFFICE.

ANTISTENE ABBAMONTE, OF POCATELLO, IDAHO.

VALVE

1,381,049.

Specification of Letters Patent. Patented June 7, 1921.

Application filed August 7, 1919. Serial No. 315,925.

To all whom it may concern:

Be it known that I, ANTISTENE ABBAMONTE, a citizen of the United States, residing at Pocatello, in the county of Bannock and State of Idaho, have invented a new and useful Valve, of which the following is a specification.

The present invention relates to valves intended primarily to be used in conjunction with steam boilers and the like, the principal object being to provide a drain valve which will allow the water or condensation to drain from the valve and to remain open when the pressure of the steam is reduced or shut off but adapted to be closed by proper steam pressure.

A further object of the invention is to provide a valve of this type wherein the water is free to pass from the valve thus to prevent freezing or otherwise injuring of the valve.

Another important object of the invention is to provide a suction valve or drain valve wherein a spring actuated valve member is employed, the spring being so arranged as to be protected from the water passing through the valve casing.

Another object of the invention is to provide a drain valve which may be readily taken apart and the valve member removed therefrom and wherein the valve member may be readily resealed.

Another object of the invention is to provide a valve that is normally open but which will be closed upon the exertion of a given pressure against the valve member to prevent the escape of steam or other pressure therethrough.

Another object of the invention is to provide a valve which is simple in construction, which consists of few parts, and which may be manufactured and placed on the market at a minimum cost.

With the above and other objects and advantages in mind, the invention consists in the combinations of elements, constructions and arrangements of parts, formations and general assemblage, the details of which will be hereinafter enlarged upon and recited in the subjoined claim, the invention being

illustrated in the accompanying drawing wherein:—

Figure 1. is a longitudinal sectional view of my improved drain valve;

Fig. 2. is a side elevation of the valve;

Fig. 3. is a transverse sectional view taken on line 3—3 of Fig. 1;

Fig. 4. is a transverse sectional view taken on line 4—4 of Fig. 1;

Fig. 5. is a longitudinal sectional view of a modified form of the invention;

Fig. 6. is a transverse sectional view taken on line 6—6 of Fig. 5; and

Fig. 7. is a transverse sectional view taken on line 7—7 of Fig. 5.

On the drawing, wherein like characters of reference designate like parts on all of the views, the numeral 5 designates a solid walled, hollow and relatively cylindrical valve casing or barrel having its upper end enlarged and provided with an internal valve seat 6 and further provided with interior screw threads 7 therebeyond. The opposite end of the barrel is provided with an inwardly extending annular flange.

A central longitudinal recess 10 is formed within the casing which is open at one end preferably at its upper end as shown. A coil spring 11 is disposed within the recess and bears against the bottom of the same, while the valve stem 12 projecting from a reciprocal valve 13, extends within the recess. The valve 13 is adapted to rest on or engage the seat 6 and is normally unseated urged off its seat by the spring 11.

Extending longitudinally of the recess 10 and having end portions adjacent to the flange of the barrel disposed radially of the same is a plurality of ducts 14, the upper ends of which are disposed below the valve seat 6, the opposite ends of these ducts extend toward each other and communicate with central duct 15. A bushing or plug 16 is threaded in the end of the barrel and is provided with a longitudinal bore 17 through which steam or other fluid under pressure is adapted to pass, the fluid passing around the valve and thence escaping by way of ducts 14 and 15. When the pressure becomes high enough to move the valve against

- the tension of the coil spring 13 the valve will seat on the seat 6 and the steam prevented from escaping through the ducts. The bottom of the plug 16 is provided with 5 lugs 18' to bear against the valve head 13 to allow the escape of the fluid around the valve, the latter being smaller in diameter than the adjacent portion of the bore of the casing.
- 10 Due to the fact that the spring 11 is accommodated in the recess 10 protected by the surrounding wall or inner tube, it will be obvious that the spring will always be protected against contact with the water or 15 steam passing through the casing. It will also be seen that any condensation forming in the barrel will always pass from the same thus avoiding freezing or otherwise damaging the valve.
- 20 A modified construction of the valve is illustrated in Figs. 5, 6, and 7. In this embodiment of the invention there is provided a barrel 5, one end of which is reduced in diameter and accommodates an expansible 25 spring 11'. The valve 12' is triangular in cross section to permit the pressure to flow through the reduced end of the barrel and escape by way of the port in this reduced end. Lugs 18' extend from the upper face 30 of the valve which bear against the plug 16' and space the valve from the plug to allow the pressure fluid to flow around the valve which is also smaller than the adjacent bore of the casing.
- 35 The embodiments of the invention herein illustrated and described are examples of the invention and it will be understood that the

invention may be embodied in constructions other than the ones set forth and that my limits of modification are governed only by 40 what is claimed.

What is claimed is:—

A drain valve including a casing having a central longitudinal recess provided at its inner end with a duct opening through the 45 adjacent end of the casing, the other end of the recess opening into a bore in the casing, there being a counterbore in the outer end of said bore provided with interior threads, the junction between the bore and the coun- 50 terbore constituting a valve seat, a valve loosely mounted in the counterbore, a stem projecting therefrom and slidable within the central recess, a spring seated within the recess and engaging the end of the stem, 55 there being ducts extending longitudinally within the casing from the inner end of the bore and opening into the duct extending from the recess, and a screw plug engaging the threaded portion of the wall of the coun- 60 terbore and having a central opening there-through and radial recesses in the inner face of the plug and extending from said passage to the periphery of the plug, the recessed end of the plug constituting an abut- 65 ment for the spring pressed valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ANTISTENE ABBAMONTE.

Witnesses:

S. J. BURNS,
H. N. PAYNE.