F. M. PATTERSON.

VALVE.

APPLICATION FILED JUNE 18, 1906.

1,144,968. Patented June 29, 1915.

Fig. 1.

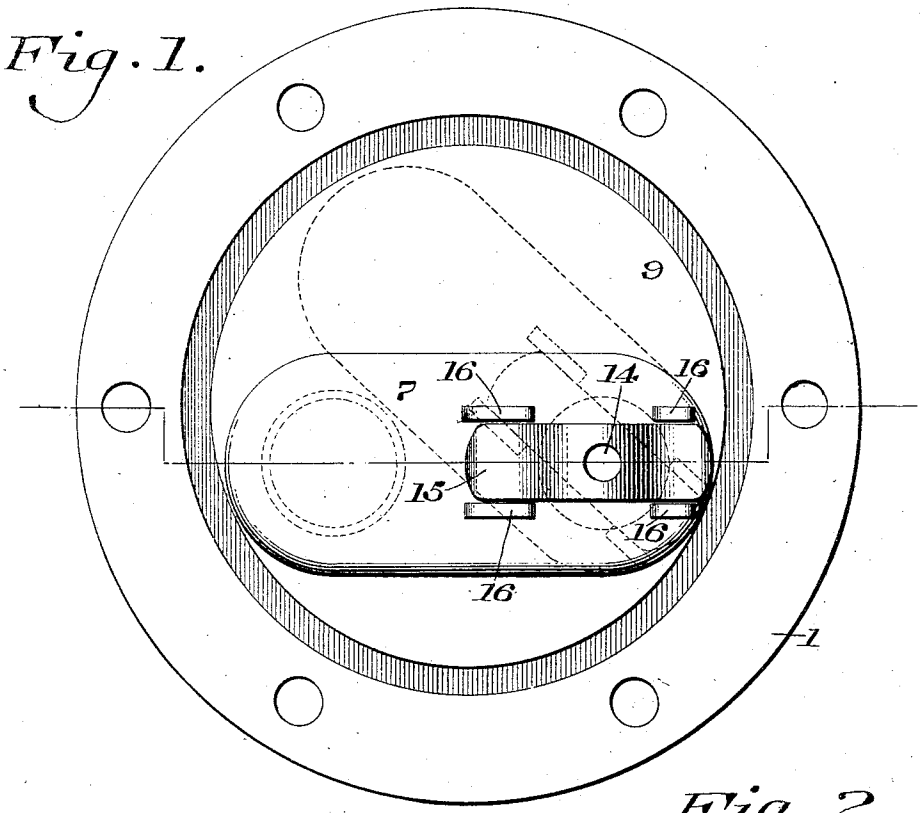
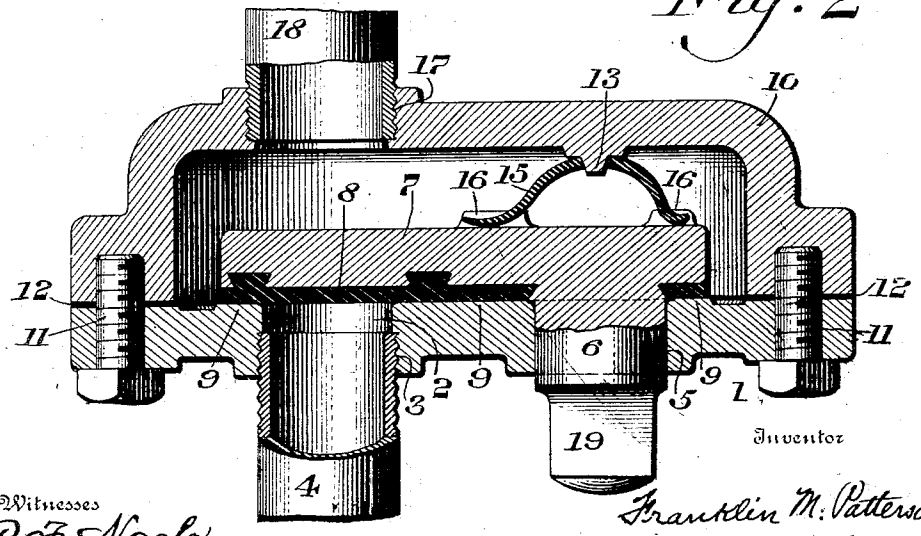


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE

FRANKLIN M. PATTERSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO PATTERSON-ALLEN ENGINEERING COMPANY, A CORPORATION OF NEW YORK.

VALVE.

1,144,968. Specification of Letters Patent. Patented June 29, 1915.

Application filed June 18, 1906. Serial No. 322,166.

To all whom it may concern:

Be it known that I, FRANKLIN M. PATTERSON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Valve, of which the following is a specification.

My invention relates to a new and useful valve and consists in providing an integral valve and means for operating the same, said valve having a seat so constructed as to obviate the use of a stuffing box.

It further consists of novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a plan view of the valve with the upper portion of the casing removed. Fig. 2 represents a vertical sectional view thereof.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings:—I have found in practice that in order to construct a successfully operative valve of the slide valve type that it is necessary to have the same seated in such a manner that a tight joint exists between the valve and its seat, so that the use of stuffing boxes is obviated and at the same time, the valve and means for operating the same being integral, there is no opportunity for displacement of the parts or wear between the valve and its operative parts.

In the present instance I have shown one form for carrying out my invention, although it will be evident that other forms may be employed.

1 designates a plate forming the lower portion of the casing, which is provided with outlet opening 2, which is threaded at 3 to have engagement with the threaded end of a discharge pipe 4, which is connected therewith.

5 designates a second opening in said plate 1 which is adapted to receive the rounded portion of a stem 6 which closely fits said opening and which is integral with the valve 7, the lower face of which is adapted to closely engage the faces 9 on the plate 1, which forms the seat for the slide valve, said faces being carefully ground in order to form a tight joint so that leakage is prevented therebetween.

In the drawings I have shown a Babbitt metal facing 8 upon the valve which may or may not be used, it being only necessary that a tight joint is effected between the two faces.

10 designates a cover plate or top of the casing which is adapted to be connected with the plate 1 in any suitable manner, as by the screws 11 and between which top 10 and plate 1 is interposed packing 12.

13 designates a pin or projection which is adapted to enter an opening 14 in a spring 15 and between the lugs or projections 16 on the top of said valve so that the lateral movement of the spring is prevented. The top of the casing 10 is provided with a threaded opening 17 for engagement with a pipe 18 leading from a suitable source of supply.

The end 19 of the stem 6 may be squared if desired for engagement with a suitable tool.

It will be noted that the openings 2 and 17 are substantially in alinement and that the shape of the slide valve is as shown in Fig. 1.

In order to open or close the valve a suitable tool is applied to the stem 6 so that said valve is operated to open or close the passage 2 in the casing and that at all times the valve is in close engagement with the seat on all sides of the opening 5 so that no escape of fluid is permitted therethrough and the use of stuffing boxes is obviated, it being further apparent that the valve is so constructed and arranged that the pressure entering the casing is on the top of the valve so that it will tend to be seated tighter.

It will be further seen that the valve and stem are integral so that breaking of the parts or disarrangement of the same is prevented and the valve is at all times quickly and easily operated. The spring 15 serves to assist to hold the valve in place should the pressure be removed.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a valve device of the character described, a valve casing made in sections having a chamber, inlet and outlet ports in alinement opening into opposite sides of the chamber and a lateral valve seat about and extending a substantial distance to one side of the outlet port, said casing also having a stem opening arranged laterally of said ports and close to the bounding walls of the

chamber and in the section of the casing having the valve seat, combined with valve devices for controlling the outlet port, said devices comprising a flat valve face sligthly wider than the diameter of the outlet port and continuously supported by and laterally movable over the valve seat and in constant contact with the said seat alone, an operating stem arranged at one side of the valve face and extending through the stem opening and rotatable therein for operating the said valve device, said stem at its inner end surrounded by an integral portion providing a transversely extending bearing face continuous around the stem and forming a tight working joint with the inner surface of the valve seat section of the casing adjacent to and bounding the stem opening and guided wholly by the portion of the casing having the valve seat, and a spring device arranged within the casing in contact with the other section of the casing and extending into the valve chamber in contact with the valve devices for causing the transversely extending bearing surface around the stem to be pressed upon the inner surface of the valve casing bounding the stem opening therein, the said spring device bridging the space between the opposite wall of the casing and the valve devices.

2. In a device of the character described, a valve casing, a plate forming the lower portion of said valve casing and having openings therein, a valve seat formed on all sides of said openings, a slide valve in close contact with said seat, a stem projecting through one of said openings, ears on the upper face of said valve, a spring having its ends situated between said ears and bearing on said valve and a lug projecting from the casing and entering an opening in said spring to hold the same in proper position.

FRANKLIN M. PATTERSON.

Witnesses:

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CHARLES S. FRETZ.