F. FRANKE.

VALVE.

APPLICATION FILED APR. 15, 1919.

1,353,037. Patented Sept. 14, 1920.

Fig. 1.

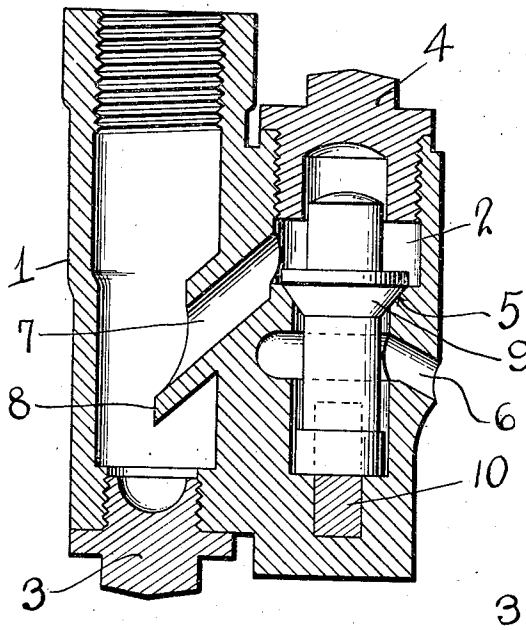


Fig. 3.

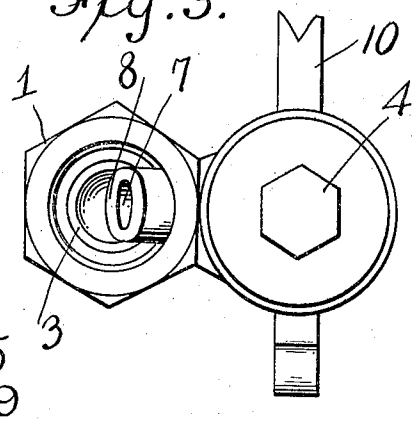


Fig. 4.

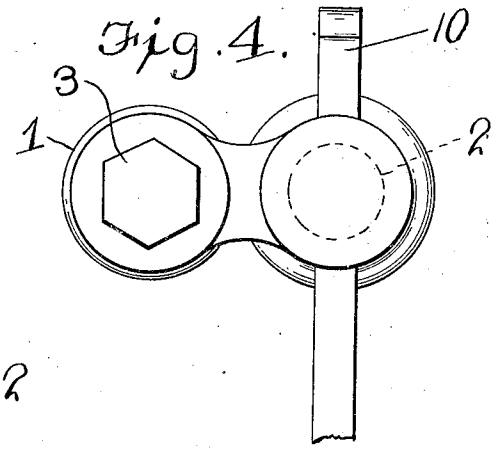
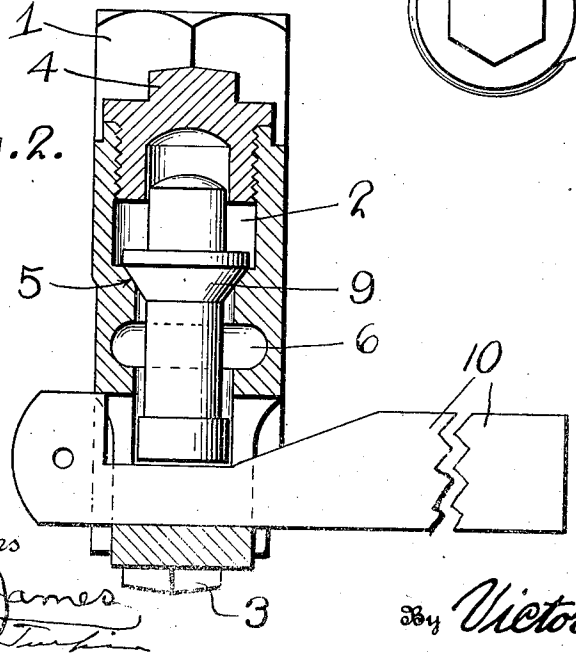


Fig. 2.



Witnesses

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FRANK FRANKE, OF CINCINNATI, OHIO.

VALVE.

1,353,037. Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed April 15, 1919. Serial No. 290,171.

To all whom it may concern:

Be it known that I, FRANK FRANKE, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Valves, of which the following is a specification.

One object of my invention is the provision of a valve designed more especially for use in conjunction with a locomotive piston cylinder, and constructed with a view to avoiding the deposit of dirt on the valve seat, and also with a view to preventing dirt entering the valve chamber; the valve chamber being at the side of an auxiliary steam chamber and the latter being provided with clean-out means and also with guard means which without preventing the free passage of steam to the valve chamber is calculated to prevent deposited dirt from reaching the valve chamber.

The invention also seeks to provide a construction that permits of ready removal and replacing of the valve body without disconnection of the casing from the steam cylinder.

Other objects and practical advantages of the invention will be fully understood from the following description and claims, when the same are read in connection with drawings accompanying and forming part of this specification, in which:

Figure 1 is a sectional view showing my novel valve complete; the valve body being in elevation.

Fig. 2 is a sectional view taken at right angles to Fig. 1.

Fig. 3 is a plan view of the valve.

Fig. 4 is an inverted plan view of the valve.

Similar numerals of reference designate corresponding parts in all of the views of the drawings.

The casing of my novel valve comprises a steam chamber 1 and a valve chamber 2. At one end the steam chamber 1 is interiorly threaded for connection with a cylinder (not shown), and the opposite end of said chamber is normally closed by a threaded plug 3. One end of the valve chamber 2 is closed and the other end is normally closed through the medium of a threaded plug 4. In the chamber 2 is a tapered seat 5; and in communication with the chamber is an eduction port 6. Intermediate the two chambers 1 and 2 is a connecting port 7, the eduction orifice of which is disposed at the opposite side of the seat 5, with reference to the eduction port 6. The said port 7 is inclined toward the chamber 1, and the lower wall of said port is extended into the chamber 1 to about the longitudinal median line thereof as illustrated, so as to afford an overhanging guard 8, designed to prevent dirt deposited in the lower portion of the chamber 1 from finding its way through the port 7 and into the valve chamber. It will also be noticed that the upper wall of the port 7 is extended into the chamber 1 to a slight extent, with a view to forming a baffle, and in that way lessening the liability of dirt being carried with the steam into the chamber 2.

At 9 is the valve body, and at 10 is the lifting slide through which the valve body is raised from its seat; the said slide being designed to be operated from the engineer's side of the cab by the ordinary cylinder cock rigging. The seating portion of the valve body 9 is preferably tapered, as indicated by 11, to properly fit the seat 5.

In the light of the foregoing it will be appreciated that incidental to the use of my novel valve, dirt will be collected in the lower end of the chamber 1 and may be readily removed therefrom following the temporary removal of the plug 3; also, that for the reasons stated there is little liability of dirt finding its way into the valve chamber 2. The valve body 9 may be readily removed following the removal of the plug 4 and may as readily be replaced, without entailing removal of the slide 10.

Having described my invention, what I claim and desire to secure by Letters-Patent, is:

1. In a valve, a casing having a steam chamber adapted at one end for connection with an engine cylinder and also having a valve chamber in which latter is an eduction port and a valve seat, and also having a port intermediate the steam chamber and the valve chamber at the opposite side of the valve seat with respect to the eduction port, and further having in the steam chamber a conduit extending laterally inward from the wall of said chamber and forming a continuation of said port, for lessening the liability of dirt finding its way into the valve chamber, in combination with a valve body movable in the valve chamber and having a portion opposed to the seat thereof.

2. In a valve, a casing having a steam

chamber adapted at one end for connection with an engine cylinder and also having a valve chamber arranged alongside the steam chamber, an eduction port leading from the valve chamber, and a valve seat in said chamber, and further having an inclined port between the chambers, the lower wall of which is extended laterally into the steam chamber from the wall thereof to form a guard and the upper wall of which is extended laterally into the steam chamber from said wall thereof to form a baffle, in combination with a valve body movable in the valve chamber and having a portion opposed to the valve seat.

In testimony whereof I affix my signature.

FRANK FRANKE.