No. 763,115. PATENTED JUNE 21, 1904.

F. ROBINSON.

AIR VALVE FOR OIL TANKS, &c.

APPLICATION FILED APR. 15, 1904.

NO MODEL.

Fig. 1.

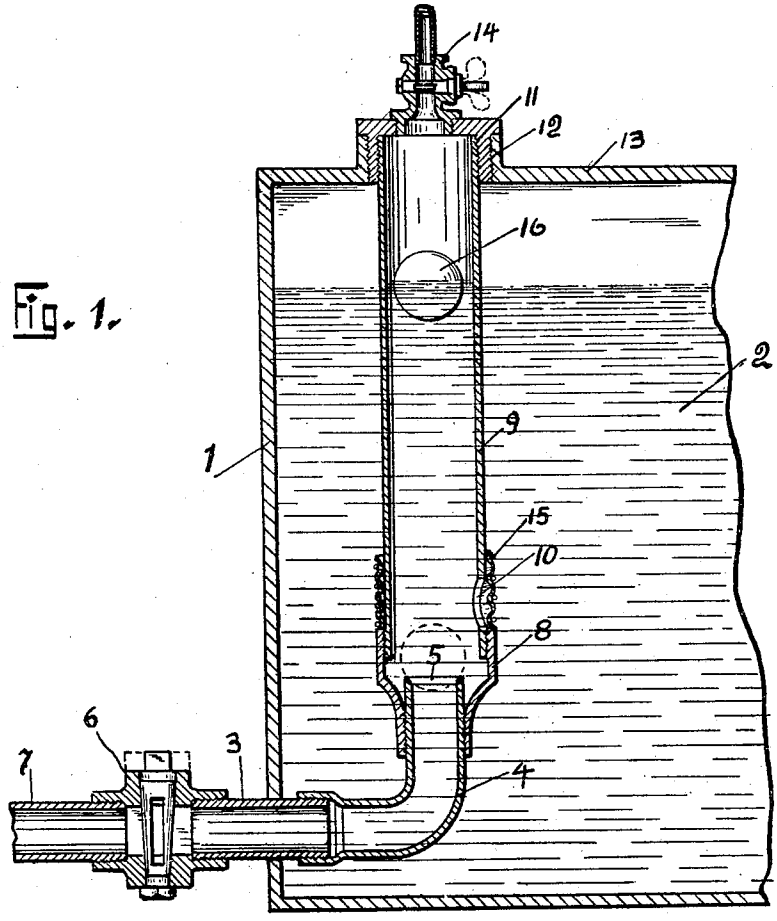
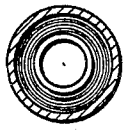


Fig. 2.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 763,115. Patented June 21, 1904.

UNITED STATES PATENT OFFICE.

FORSTER ROBINSON, OF SISTERSVILLE, WEST VIRGINIA.

AIR-VALVE FOR OIL-TANKS, &c.

SPECIFICATION forming part of Letters Patent No. 763,115, dated June 21, 1904.

Application filed April 15, 1904. Serial No. 203,319. (No model.)

To all whom it may concern:

Be it known that I, FORSTER ROBINSON, a citizen of the United States of America, residing at Sistersville, in the county of Tyler and State of West Virginia, have invented certain new and useful Improvements in Air-Valves for Oil-Tanks and the Like, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to oil-tanks, and has for its object the provision of means for preventing air from being drawn into the pipe-line or a branch thereof leading to the oil-tank from a pumping-station.

The invention consists in the novel construction, combination, and arrangement of parts hereinafter described and claimed, and in carrying my invention into effect I arrange within a closed oil-tank a stand-pipe which is mounted on an upturned end of an oil-pipe leading to the pipe-line and said upturned end being provided with a valve-seat which as the tank is emptied is closed by a ball or float arranged within the stand-pipe, so as to prevent access of air to the outlet-pipe.

The above is a brief description of my improvement, and the details thereof will be hereinafter more fully described.

In the accompanying drawings, Figure 1 is a vertical sectional view of a part of an oil-tank having my improvements applied thereto. Fig. 2 is a sectional detail view of part of my device for preventing access of air to the pipe-line connected to said tank.

The tank 1 is of the usual construction, being composed of sheet metal, and is shown as containing oil 2. A nipple 3 is fitted in the vertical wall of the tank and carries on the end inside of the tank an elbow-joint 4, which is formed with a valve 5 on top, and the said nipple carries on its outer end a valve 6, into which is screwed a nipple 7, that connects to the pipe-line or a branch thereof. A funnel-shaped collar 8 surrounds the upper end of the vertical arm of the elbow-joint 4, and into said collar 8 is screwed a stand-pipe 9, which is formed with an opening 10 at one side, and the upper end of the stand-pipe screws into a screw-cap 11, which screws into a bushing 12, formed on the top 13 of the tank 1. A petcock 14 is screwed into the screw-cap 11 and serves to admit or exclude air from the stand-pipe, accordingly as it is opened or closed. A cylindrical screen 15 surrounds the stand-pipe and covers the hole 10 therein, the purpose of said screen being to exclude solid matter from the stand-pipe. Within the stand-pipe is arranged a float 16, which may be of any appropriate form, such as round or cone shape, and composed of suitable material, such as metal or wood, the said float being designed when the tank is partly emptied to rest upon the seat 5 on top of the vertical portion of the elbow 4.

The parts being constructed and arranged as above described operate in the following manner: When the oil is to be emptied from the tank, the valve 6 is opened and the connection of the pumps creates a powerful suction in the pipe connected to said valve, and the oil is drawn through the hole 10 in the stand-pipe and out through the elbow 4, the petcock 14 being closed previously to the starting of the pump. After the oil has been drawn out to such extent that the level of the same reaches the top of the hole 10 the pump has a tendency to suck air through the said hole; but the float 16 being at this time close to the seat 5 the float will be drawn down upon the seat by the suction and will prevent access of air to the elbow 4. All the oil being drawn from the tank the valve 6 on the outside of the tank is closed with wrench. Now as the tank again fills with oil my float 16 will leave its valve-seat and rise on the surface of the oil in stand-pipe 9, provided the petcock 14 is left open while the tank is being filled. It may then be closed preparatory to running oil from the tank again.

The devices above described provide simple and effectual means for preventing any air from entering the pipe-lines.

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

1. The combination with an oil-tank, and an outlet-pipe leading therefrom and having an upturned end, of a stand-pipe arranged over said upturned end, a float arranged in said stand-pipe, and means for admitting and

excluding air from the upper end of the stand-pipe.

2. In a device of the character described, the combination with a tank, an outlet-pipe projecting through the wall of the tank and having an upturned end, and a valve on said outlet-pipe, of a stand-pipe having a closed top surrounding and extending above the upturned end of said outlet-pipe and having a hole in its side adjacent to said upturned end, a float located in said stand-pipe, and a petcock arranged in the top of the stand-pipe, the passage through said petcock affording communication from within the stand-pipe to the open air.

3. In a device of the character described, the combination with a tank, an outlet-pipe passing through the wall of the tank, an elbow carried by said outlet-pipe and having an upturned end, a valve-seat formed on said upturned end, a stand-pipe inclosing the upturned end of the elbow and having a hole in its side, a cap screwing on the upper end of said stand-pipe and into the top of the tank, a petcock screwing into said cap, and a float arranged in said stand-pipe and adapted to seat on the upturned end of said elbow.

4. In a device of the character described, the combination with a tank, an outlet-pipe leading through the wall of the same and having an upturned end, a stand-pipe mounted over said upturned end and having a hole in its side, and a float arranged in said stand-pipe and adapted to seat on said upturned end, of a screen arranged over the said hole.

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

FORSTER ROBINSON.

Witnesses:
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