No. 659,391. Patented Oct. 9, 1900.

A. FISCHER.

AUTOMATICALLY CLOSING FLOAT VALVE APPARATUS.

(Application filed Feb. 19, 1900.)

(No Model.)

Fig. 1.

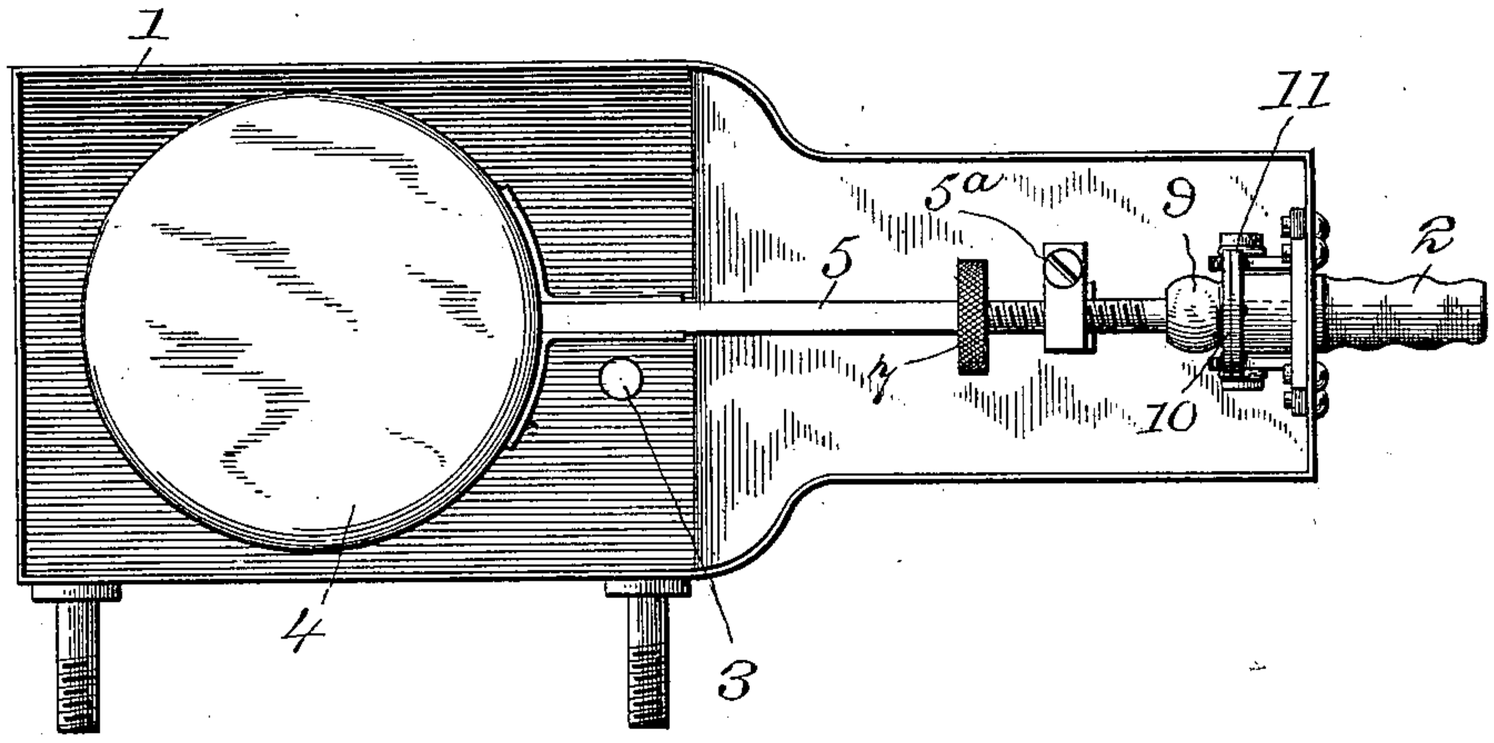
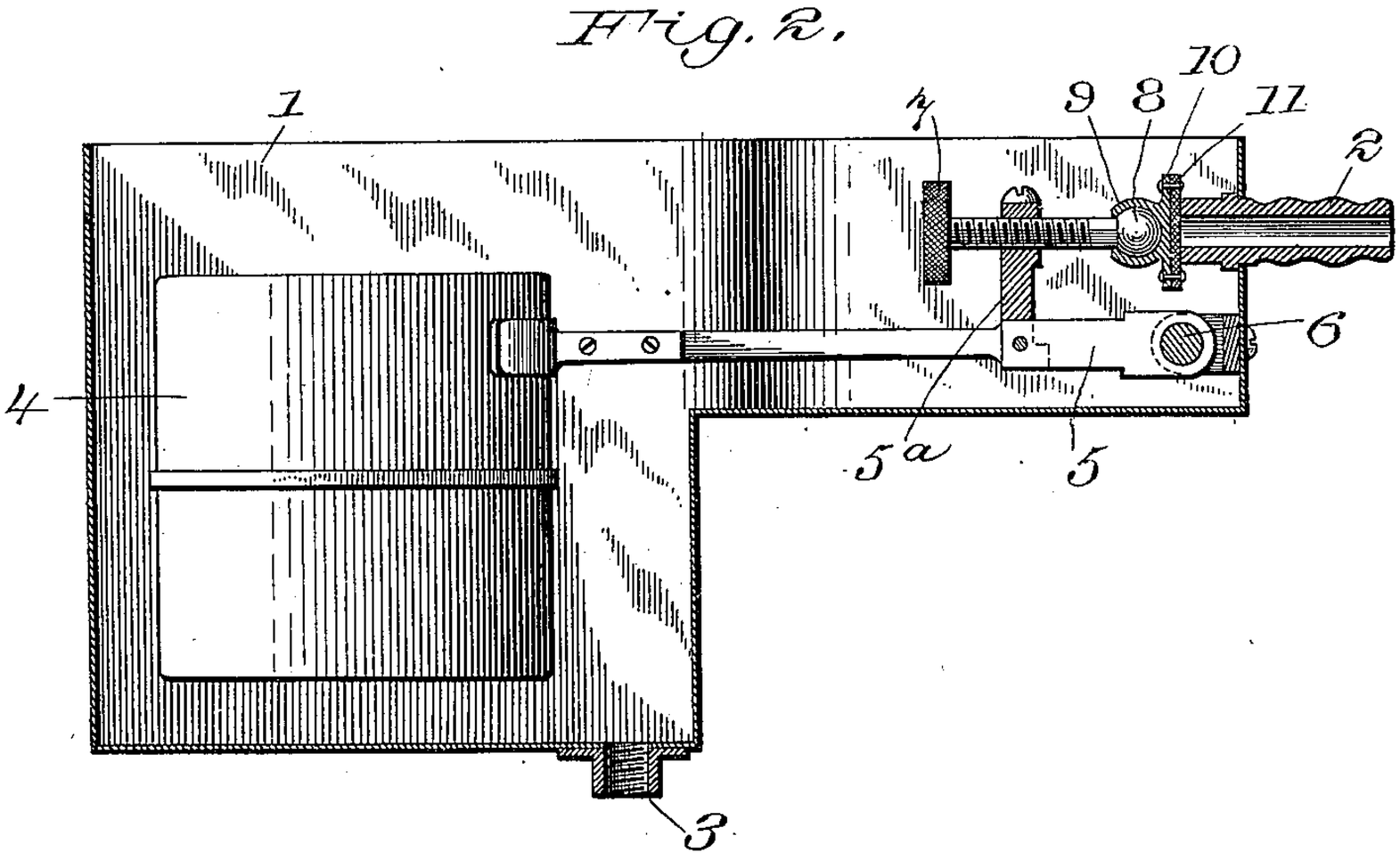


Fig. 2.



WITNESSES:

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ALEXANDER FISCHER, OF NEW YORK, N. Y.

AUTOMATICALLY-CLOSING FLOAT-VALVE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 659,391, dated October 9, 1900.

Application filed February 19, 1900. Serial No. 5,767. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER FISCHER, a citizen of the United States of America, and a resident of New York city, county of New York, State of New York, have invented certain new and useful Improvements in Automatically-Closing Float-Valve Apparatus, of which the following is a specification.

My invention relates generally to float-valves, and more specifically consists of an improved form of automatically-closing float-valve apparatus for use on gasolene-tanks for automobile vehicles.

Gasolene being a liquid of great lightness will leak through a valve unless it is extremely tight. The ordinary form of valve cannot be made tight enough to prevent gasolene from passing through without rendering it liable to stick, especially under the jarring and twisting to which it would be subjected if used on an automobile. It is especially difficult to construct a valve composed of metal working on metal which will avoid both of these difficulties. To overcome these and other difficulties, I have invented a form of float-valve, the preferred construction of which is illustrated in the accompanying sheet of drawings, in which—

Figure 1 is a plan view of the tank and valve apparatus, and Fig. 2 is a vertical central section thereof.

Throughout the drawings like reference-figures refer to like parts.

A tank 1, of sheet-iron or other suitable material, of any convenient shape has an inlet-pipe 2 and an outlet-pipe 3. In this tank is the float 4, mounted on the lever 5, pivoted to the tank at 6 or any other convenient way. The float 4 and lever 5 together form the ordinary float-lever. From the lever 5 extends the projection 5^a, in which is a threaded opening through which the adjusting-screw 7 extends. The end of this adjusting-screw terminates in a ball 8, with which the corresponding socket 9 of the plate 10 coöperates. The plate 10 is arranged opposite the end of the inlet-pipe 2 and constitutes a plunger-plate for closing said inlet-pipe. Preferably this plunger-plate is provided with a facing 11 of some yielding waterproof material, such as rubber, leather, or other suitable substance. Proper connections being made to the inlet-pipe 2 and outlet-pipe 3, the tank 1 is filled with gasolene or other fluid. The float 4 rising forces the plunger-plate 10 or its facing 11 against the end of the inlet-pipe 2 and closes the same. The mouth of said inlet-pipe is preferably trued up in a plane approximately at right angles to the position of the float-lever when the valve is closed and the adjusting-screw 7 is preferably arranged approximately parallel to the lever 5. The plunger-plate 10, being mounted on a universal joint, will of course adjust itself easily to a tight fit against the mouth of the inlet-pipe when the float has risen to the predetermined position and the inlet will be tightly closed. At the same time no matter how great the pressure with which the plunger is forced against the inlet-pipe it will not stick there. The moment the fluid-line falls below the predetermined point in the tank the inlet-pipe will promptly open. The point at which the valve will close may be adjusted by turning the adjusting-screw 7 in or out, and the plunger-plate 10, being mounted on a universal joint, will adjust itself to the inlet-pipe opening with equal facility in all positions of the adjusting-screw.

Among the advantages of the invention may be mentioned the fact that the valve always closes tightly and opens readily, and this with equal facility whatever the point of adjustment of the apparatus as a whole. Moreover, no matter how great the pressure exerted in closing the valve before the flow of liquid is ultimately stopped the valve cannot stick, but will open freely the moment the fluid-level falls again.

It is evident, of course, that various changes could be made in the details of construction illustrated without departing from the spirit and scope of my invention so long as the relative arrangement of parts or the principle of operation described is preserved. Other means of adjusting the valve might be substituted for the adjusting-screw shown and different forms of universal joint might be employed. The inlet-pipe might be differently located in the tank so long as the other parts were arranged to coöperate therewith, and different forms of tank and float might be used. All such modifications, how-

ever, I still consider within the scope of my invention.

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

1. In a float-valve the combination of the tank, the inlet-pipe therefor, the float-lever, and the valve-plunger adapted to close the inlet-pipe, said plunger being mounted on the float-lever by a universal joint.

2. In a float-valve the combination of the tank, the inlet-pipe therefor, the float-lever, and the valve-plunger adapted to close the inlet-pipe, said plunger being mounted on the float-lever by a universal joint, and consisting of a flat plate with a facing of yielding waterproof material located opposite the open end of the inlet-pipe.

3. The combination of the tank, the float-lever pivoted therein, the inlet-pipe whose mouth is in a plane approximately at right angles to the float-lever, the adjusting-screw mounted in a projection from the float-lever and approximately parallel to said lever, and the valve-plunger plate carried on the end of the adjusting-screw by a ball-and-socket joint.

Signed by me at Jersey City, New Jersey, this 14th day of February, 1900.

ALEXANDER FISCHER.

Witnesses:

GEO. B. ADAMS,

W. H. PUMPHREY.