O. I. SHAVER.

AIR MOISTENING DEVICE.

APPLICATION FILED AUG. 18, 1916.

1,225,684. Patented May 8, 1917.

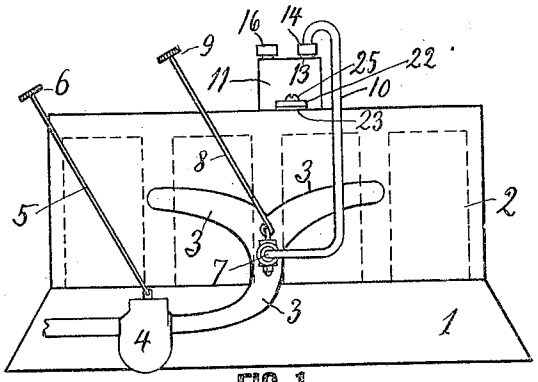


FIG. 1.

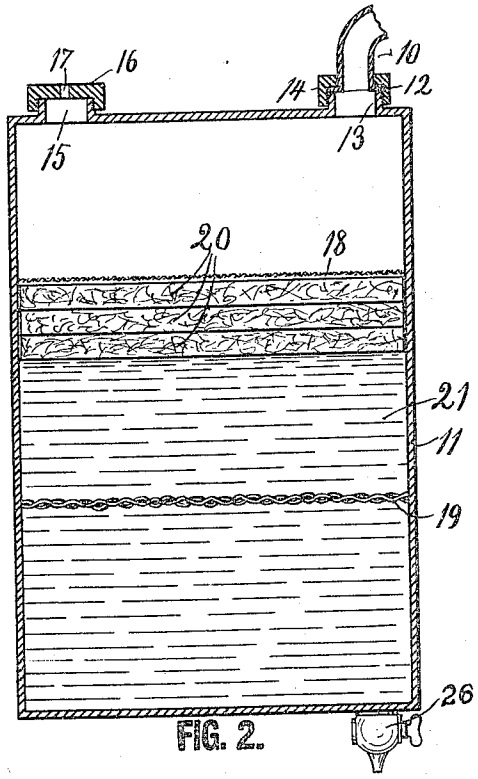


FIG. 2.

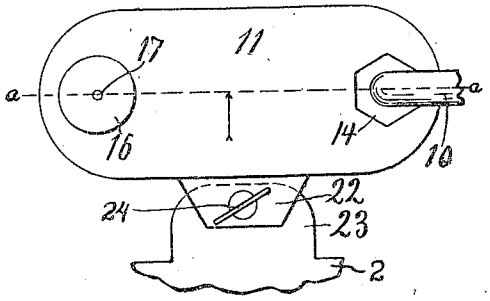


FIG. 3.

INVENTOR.

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OLIVER I. SHAVER, OF PARK RAPIDS, MINNESOTA.

AIR-MOISTENING DEVICE.

1,225,684. Specification of Letters Patent. Patented May 8, 1917.

Application filed August 18, 1916. Serial No. 115,681.

To all whom it may concern:

Be it known that I, OLIVER I. SHAVER, a citizen of the United States, residing at Park Rapids, in the county of Hubbard and State of Minnesota, have invented a new and useful Air-Moistening Device, of which the following is a specification.

This invention relates to fuel saving devices for gasolene engines, and the object is to provide a device that will produce and feed moist air into the manifold of the engine, so that it will combine with the gas, which has been formed in the carbureter, prior to its explosion in the cylinders.

In the accompanying drawing: Figure 1 is a side elevation of a gasolene engine with my device applied to it. Fig. 2 is a vertical section on the line *a*—*a* Fig. 3. Fig. 3 is a top view of the vessel used in my device, showing how it may be fastened to the engine.

Referring to the drawing by reference numerals, 1 designates a main base upon which is secured an engine 2. 3 designates the manifold through which gas is drawn from a carbureter 4 which is started and regulated by a rod 5 and a handle 6. An air inlet valve 7 is threaded into the manifold 3 at a point between the carbureter and the engine. Said valve is operated by a rod 8 and a handle 9. Into the valve 7 is fitted one end of a pipe or tube 10, the other end of which is secured to a water receptacle 11. The end of the pipe fitted to the receptacle may have a flange 12 which is held securely against the neck 13 of the receptacle by a collar 14 which is threaded upon the neck 13. 15 designates an opening through which water can be let in when the cap 16 is removed and when the cap is secured in position air can still be drawn into the receptacle through a small aperture 17 in the cap.

The interior of the receptacle 11 is fitted with two horizontal screens 18 and 19 preferably of copper wire or perforated copper plates so as to resist corrosion. Between said screens or plates are loosely fitted about three layers of floating felt 20 designed to prevent splashing and to increase the evaporation of the water 21.

In Fig. 3 is shown how the water receptacle may be fastened to the engine by means of a lug 22 which is fixed on the receptacle and may be secured to some part 23 of the engine either by a thumb screw as 24 in Fig. 3, or by a bolt or screw as 25 in Fig. 1. Usually one of the bolts holding the cylinder cover may receive the lug 22.

In the operation of the device, the vessel 11 being filled with water up to the partition 18, and the engine is running, and gas is being drawn through the manifold by the engine, I open the valve 7 which allows damp or moist air to enter the manifold. This air has become moist by the evaporation of the water in the water receptacle. When such water vapor combines with the gas from the carbureter and is exploded in the cylinders the efficiency of the explosion is increased from 20% to 40% according to the construction and use of other parts of the engine. The moisture also dissolves or loosens the carbon accumulating in the combustion chamber and thereby keeps said parts clean of carbon which is a great advantage besides the fuel saving feature.

When the water is evaporated until the felt pads rest upon the perforated bottom 19 the receptacle in order to work at its best should be filled again up to the bottom or partition 18.

As the objects of the felt pads are to prevent splashing and to diffuse the water into evaporation, it is evident without illustration that instead of the felt pads I may use a sponge or any other porous body and retain the same by any suitable means so it will not get high enough up to interfere with the outlet opening leading to the tube 10. 26 is a pet cock for reducing water in the vessel 11 when so desired.

What I claim is:

1. In a device of the class described, a closed vessel adapted to contain water, a horizontal perforated partition fixed some distance from the bottom of the vessel, and one or more felt pads adapted to float upon the water above said partition.

2. In a device of the class described, a closed vessel adapted to contain water, a horizontal perforated partition fixed some distance from the bottom of the vessel, one or more felt pads adapted to float upon the water above said partition, said vessel having in its top an air inlet and outlet and therebelow a foraminous horizontal partition by which to limit the upward floating of the felt pad or pads.

In testimony whereof I affix my signature.

OLIVER I. SHAVER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."