D. BASHORE & J. E. SHAVELAND.

AIR PURIFIER AND SEPARATOR.

APPLICATION FILED JUNE 7, 1910.

991,932. **Patented May 9, 1911.**

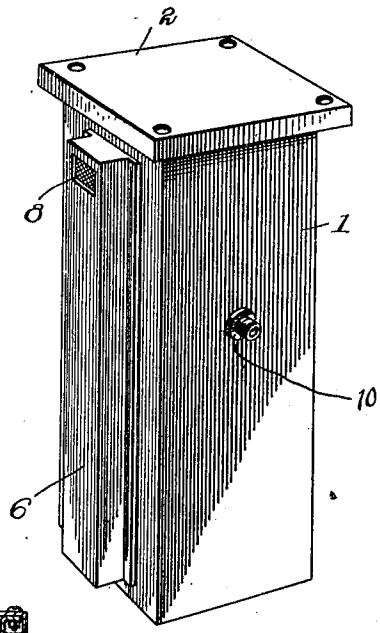

Fig. 1

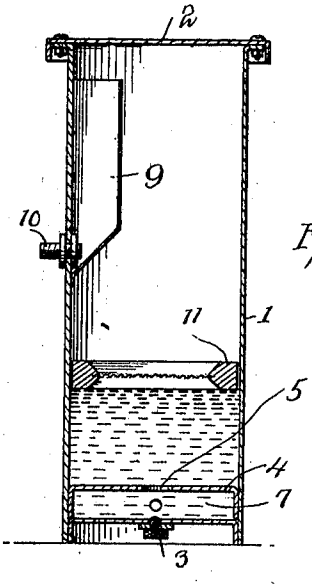

Fig 2.

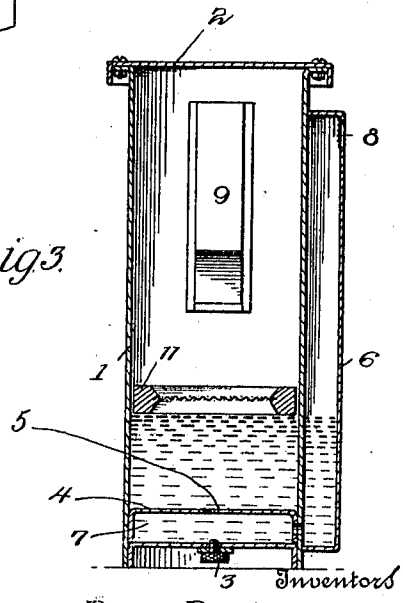

Fig 3.

Witnesses

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UNITED STATES PATENT OFFICE.

DAVID BASHORE AND JOHN E. SHAVELAND, OF WALLA WALLA, WASHINGTON.

AIR PURIFIER AND SEPARATOR.

991,932. Specification of Letters Patent. Patented May 9, 1911.

Application filed June 7, 1910. Serial No. 565,462.

To all whom it may concern:

Be it known that we, DAVID BASHORE and JOHN E. SHAVELAND, citizens of the United States, residing at Walla Walla, in the county of Walla Walla and State of Washington, have invented new and useful Improvements in Air Purifiers and Separators, of which the following is a specification.

The purpose of the present invention is to devise means for purifying air to be subsequently mixed with hydrocarbon vapor or gas to form a mixture for use in the operation of internal combustion engines, thereby preventing the inconvenience and annoyance occasioned by the carbureter of gasolene engines fouling by the entrance of dust or other foreign matter so as to interfere with the free working of the controlling valves and spray nozzle.

The present invention provides an appliance for effectually removing all impurities from the air, thereby preventing obstruction of the carbureter and insuring positive action and reliability in the working of the carbureter when the engine is in operation.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawing, and pointed out in the appended claim.

Referring to the drawing, forming a part of the application, Figure 1 is a perspective view of a purifier and separator embodying the invention. Fig. 2 is a vertical central section thereof. Fig. 3 is a sectional view similar to Fig. 2 in a plane at a right angle thereto.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawing, by the same reference characters.

The device comprises a casing 1, which may be of any size and shape and is preferably of some considerable height and arranged in vertical position, said casing being closed at its upper end by means of a removable top 2 and having a drain opening in its bottom which is closed by means of a plug 3. A false bottom 4 is provided a short distance above the main bottom and has a centrally disposed opening 5 through which the air passes. A duct 6 is located at one side of the casing preferably upon the exterior thereof and its upper end communicates with the atmosphere, whereas its lower end communicates with the space 7 formed between the main and false bottoms of the casing. The inlet opening at the upper end of the duct 6 is protected by means of a screen 8 so as to exclude large particles which may otherwise enter the duct. A second duct 9 is provided upon a side of the casing and is arranged preferably upon the interior thereof, the upper end communicating with the upper space of the casing and the lower end being adapted for connection with the carbureter by means of a hose pipe or other connecting means not shown. A coupling 10 is provided at the side of the casing and communicates with the lower end of the duct 9 and the connection between the separator and carbureter is adapted to be joined thereto. A splash screen 11 is loosely fitted within the casing and is adapted to float upon the water contained in the lower part of the casing so as to prevent splashing thereof. The splash screen 11 consists of a wooden frame and screen cloth, the wooden frame serving to float the screen upon the surface of the water.

In the operation of the invention the coupling 10 is adapted to be connected in any manner with the intake of the carbureter, it being understood that the lower portion of the casing is supplied with a proper amount of water so as to remove all impurities from the air passing therethrough. When air is drawn through the carbureter it enters the duct 6 at 8 and passes into the space 7, thence upwardly through the opening 5 through the water contained in the lower portion of the casing, thence into the duct 9 and out through the coupling 10. Any floating particles contained in the air are removed in the first instance by the screen 8 and any dust or other light impurities are removed by means of the water contained in the lower portion of the casing. The air after passing through the water in the casing is washed and rendered free from all impurities and enters the carbureter in a state so as not to obstruct the workings of the valve or spray nozzle. From time to time the sediment is removed from the lower portion of the casing by unscrewing the plug 3, thereby drawing off the water and the impurities contained therein as well as all sediment that may collect in the bottom of the casing. After the plug 3 has been replaced water may be supplied to the casing either through

the top 2 or through the opening 8. In practice the casing may be filled to about one-third or one-half its depth with water. The screen 11 prevents water splashing so as to enter the duct 9.

From the foregoing description, taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while we have described the principle of operation of the invention, together with the device which we now consider to be the embodiment thereof, we desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the claim appended hereto.

Having thus described the invention what is claimed as new, is:—

The herein described air purifier and separator consisting of a casing having a drain opening in its bottom and provided with a removable top, a false bottom located within the casing and having an approximately centrally disposed opening, a duct at one side of the casing exterior thereto and communicating at its lower end with the space formed between the main and false bottoms and having its upper end opening into the air and protected by a screen, a second duct located within the casing against a side thereof and having its upper end in communication with the upper portion of said casing and having a coupling at its lower end for connection with the carbureter of an internal combustion engine, and a splash screen arranged within the casing and adapted to float upon a quantity of water contained therein.

In testimony whereof we affix our signatures in presence of two witnesses.

DAVID BASHORE.
JOHN E. SHAVELAND.

Witnesses:
G. S. BOND,
W. S. CLARK.