

J. H. JONES.
 DEVICE FOR AUTOMATICALLY DILUTING CHARGES FOR INTERNAL COMBUSTION ENGINES
 WITH MOISTENED AIR.
 APPLICATION FILED JUNE 1, 1917.

1,275,563.

Patented Aug. 13, 1918.

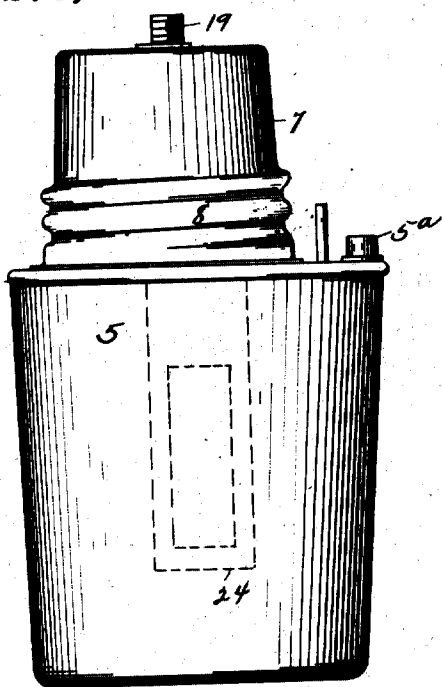


Fig. 1.

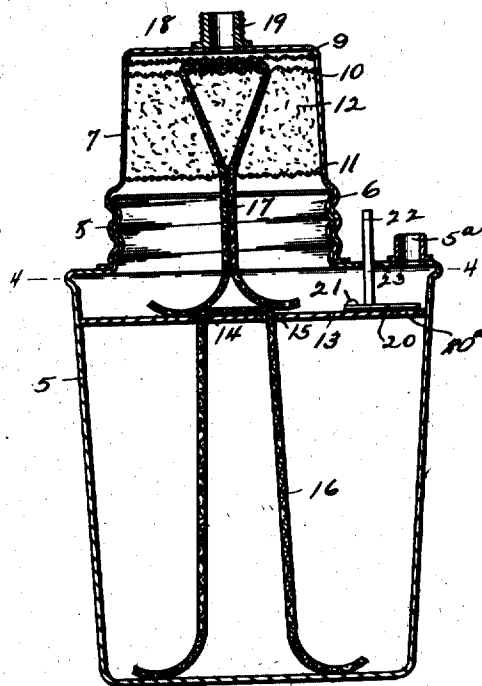


Fig. 2.

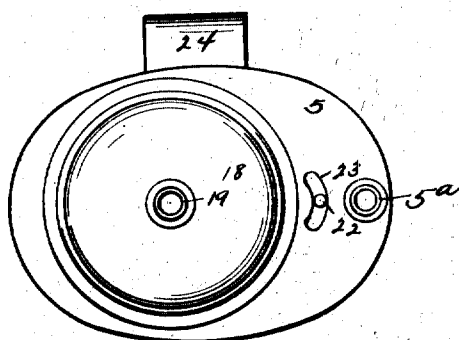


Fig. 3.

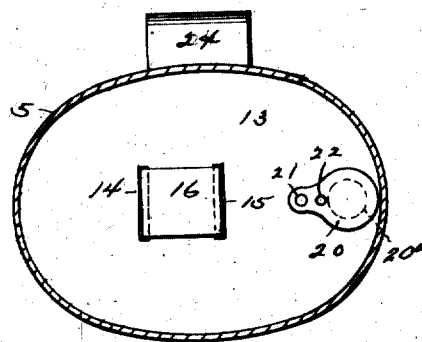


Fig. 4.

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DEVICE FOR AUTOMATICALLY DILUTING CHARGES FOR INTERNAL-COMBUSTION ENGINES WITH MOISTENED AIR.

1,275,563.

Specification of Letters Patent.

Patented Aug. 13, 1918.

Application filed June 1, 1917. Serial No. 172,346.

To all whom it may concern:

Be it known that I, JOHN H. JONES, a citizen of the United States of America, residing at Oakland City, in the county of Gibson and State of Indiana, have invented certain new and useful Improvements in Devices for Automatically Diluting Charges for Internal-Combustion Engines with Moistened Air, of which the following is a specification.

This invention has for its object the provision of simple, inexpensive and highly efficient means for diluting the incoming charge in an internal combustion engine manifold with a controllable quantity of moistened air.

It has frequently been observed by the operators of internal combustion engines that the engines operate much smoother in damp or foggy weather. The increased supply of oxygen delivered to the engine cylinders when the air is moist or damp not only results in rendering the operation of the engine much smoother and efficient but this additional supply of oxygen tends to prevent the formation of carbon in the cylinders and also tends to remove carbon already formed.

Further objects and advantages of the invention will be set forth in the detailed description which now follows:

In the accompanying drawing,

Figure 1 is a side elevation of an apparatus constructed in accordance with the invention.

Fig. 2 is a vertical, sectional view thereof.

Fig. 3 is a plan view thereof, and

Fig. 4 is a horizontal section upon line 4-4 of Fig. 2.

Like numerals designate corresponding parts in all of the figures of the drawing.

In the drawing 5 designates a receptacle for water having a threaded neck extension 6 upon which a cap 7 is threaded at 8. The cap 7 is spanned by three gauze screens 9, 10 and 11. The space between the screens 10 and 11 is filled with sand 12. A division plate 13 spans the receptacle 5 and has openings 14 and 15 formed therethrough for the passage of the bight portion of a wick 16. The terminal ends of this wick depend into the water contained within the receptacle 5. A second wick 17 has its bight portion disposed flat between the screens 9 and 10 and

its terminal ends disposed in contact with the portion of the wick 16 which lies above the plate 13. By virtue of this construction it is possible to entirely remove the cap 7 with all of the associated parts without disturbing the wick 16. This is important for the purpose of cleansing the device because the apparatus herein shown and described not only moistens the air but it strains from the air all of the dust and dirt contained therein so that it is desirable to clean the filter provided by the sand 12 and the screens, from time to time. The top 18 of the cap 7 is spaced from the screen 9 to thereby provide an air space above the screen 9 and a threaded nipple 19 mounted upon the top of this cap provides means for connecting the device to the manifold of an internal combustion engine at a point between the carbureter and the intake valve. When this is done the air that is drawn through an inlet 5^a passes upwardly through the bed of sand 12 and through that portion of the wick 17 which lies above the screen 10 and is thereby thoroughly moistened before it finally passes through the outlet 19 to the engine manifold.

A shutter 20 is mounted upon plate 13 and controls an opening 13^a in said plate, said shutter being pivoted at 21 and being provided with a stem 22 that projects to the outside of the receptacle 5 so that it is possible for the operator to adjust the position of this shutter, at will. The stem 22 operates in an arcuate slot 23 formed in the top of the receptacle 5. By moving this shutter to uncover the opening some of the very moist air from the water compartment may find its way to and mingle with the air being drawn through inlet 5^a. A bracket 24 provides means for attaching the device in position upon an engine.

From the foregoing description it will be observed that the present invention contemplates more than merely moistening the air. Upon the contrary it contemplates passing the air through a moistened filter bed so that the air is not only moistened but it is also purified.

While the elements shown and described are well adapted to serve the purposes for which they are intended it is to be understood that the invention is not limited to the precise construction set forth but that it includes within its purview whatever changes

come within the spirit of the appended claims.

Having described my invention what I claim is:—

5 1. The combination with a water receptacle of a filter bed carrying element mounted thereupon, an air filtering and moistening means mounted in said element, means for supplying moisture to said bed from the
10 receptacle, one side of the filter bed being in communication with the atmosphere and means for conducting air from the other side thereof.

2. The combination with a water receptacle, of a cap therefor, screens spanning
15 said cap, a body of granular material disposed between said screens, a wick passing through said granular material for conducting water to said granular material, one
20 side of said material being exposed to atmosphere and means for conducting the moistened air from the other side thereof.

3. A device of the character described, comprising a water receptacle, a division
25 plate spanning the same, a wick depending into said receptacle and passing through the division plate and having a part disposed above said division plate, a cap mounted
30 upon the receptacle, a bed of granular material in said cap, a wick engaged with said bed of granular material and contacting with the first named wick, one side of
35 said material being exposed to the atmosphere and means for conducting the moistened air from the other side thereof.

4. A device of the character described comprising a water receptacle, a division
plate spanning said receptacle, a wick passing through said division plate and having
40 a portion disposed above said division plate, a cap threaded upon the receptacle, screens

spanning said cap, a body of sand between said screens a wick engaged with said body of sand and contacting with the first named wick, one side of the body of sand being
45 exposed to atmosphere and means for conducting the moistened air from the other side thereof.

5. A device of the character described, comprising a water receptacle, a cap removably mounted thereon, a plurality of screens
50 spanning said cap, a filling of sand between some of said screens, one side of the body of sand being exposed to atmosphere and means for conducting the moistened air from
55 the other side thereof.

6. A device of the character described, comprising a water receptacle, a cap removably mounted thereon, a plurality of screens spanning said cap, a filling of sand between
60 some of said screens, a wick passing through said body of sand and having a portion horizontally disposed above the body of sand, one side of the body of sand being
65 exposed to atmosphere and means for conducting the moistened air from the other side thereof.

7. A device of the character described comprising a cap, screens spanning said cap, a body of sand disposed between two of said
70 screens, a wick extending horizontally across the uppermost of said screens, then passing through said screens and through the body of sand and having a projecting portion
75 disposed below the lowermost of said screens, one side of the body of sand being exposed to atmosphere and means for conducting the moistened air from the other side thereof.

In testimony whereof I affix my signature. 80

JOHN H. JONES.