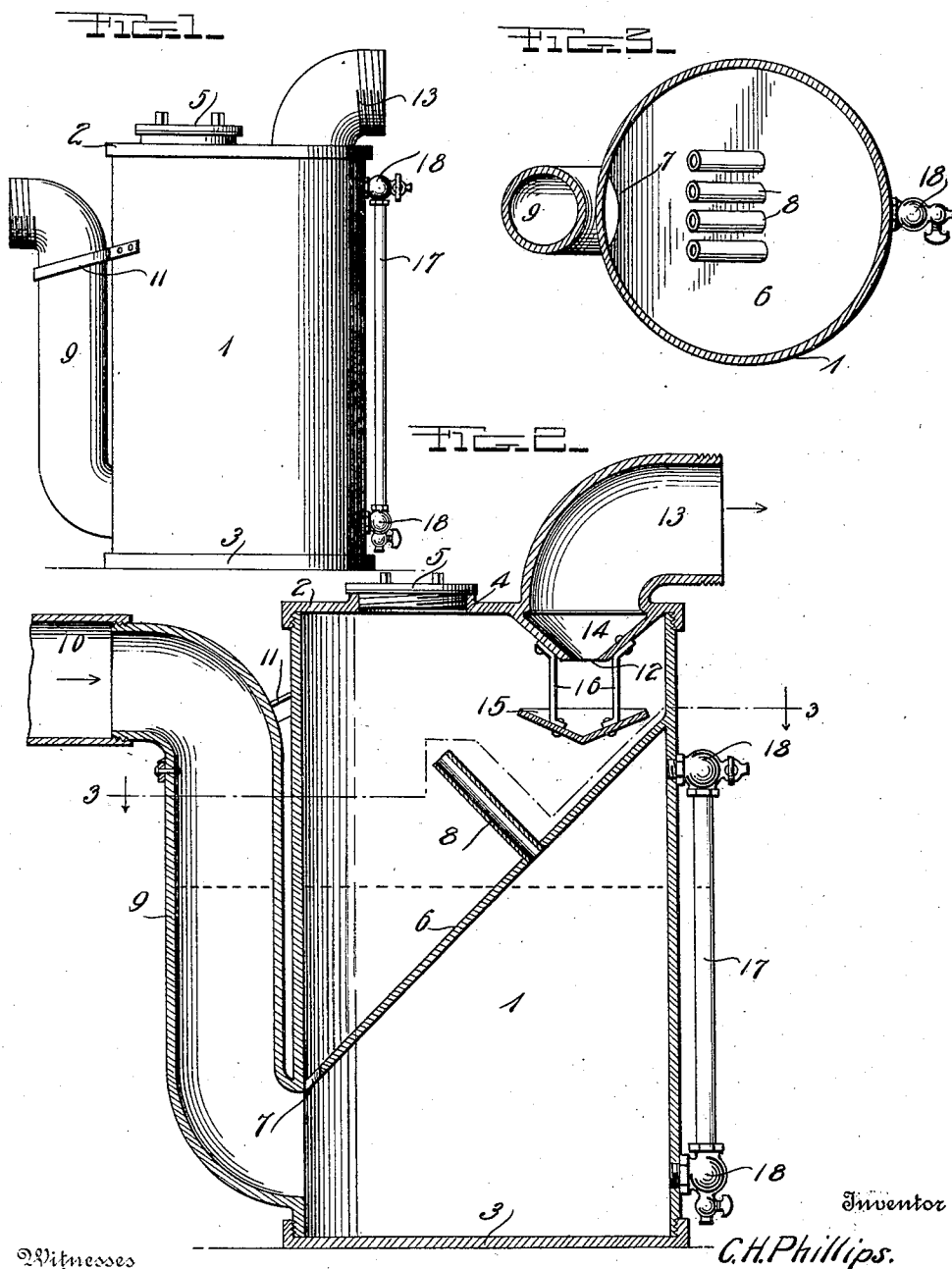


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 APPARATUS FOR DEODORIZING THE EXHAUST GASES OF MOTORS.
 APPLICATION FILED JULY 27, 1911.

1,017,900.

Patented Feb. 20, 1912.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DEODORIZING THE EXHAUST-GASES OF MOTORS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES H. PHILLIPS, a citizen of the United States, residing at Poughkeepsie, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Apparatus for Deodorizing the Exhaust-Gases of Motors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in apparatus for deodorizing the exhaust gases of motors.

One object of the invention is to provide an improved apparatus of this character whereby all odors will be effectually removed from the exhaust gases of the motor and the smoke condensed without causing any back pressure on the motor.

Another object is to provide a device of this character which will be simple, durable and inexpensive in construction, efficient and reliable in operation and well adapted for the purpose for which it is designed.

With these and other objects in view, the invention consists of certain novel features of construction, combination and the arrangement of parts as will be hereinafter particularly described and afterward specifically claimed.

In the accompanying drawings: Figure 1 is a side view of a deodorizing apparatus constructed in accordance with the invention; Fig. 2 is a central vertical longitudinal section thereof; Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2.

In the embodiment of the invention I provide a tank or receptacle 1 which may be of any suitable size and shape and which is here shown as of cylindrical form. The receptacle 1 is provided with a removable top or cover 2, and a removable bottom 3. In the top 2 is formed a filling opening 4 which is normally closed by a screw plug or cap 5.

Within the tank or receptacle 1 is a transversely disposed inclined baffle plate 6 in which at its lower side and adjacent to its juncture with the side of the receptacle is formed a passage 7 through which the deodorizing fluid poured in the filling opening is adapted to pass into the lower portion of the receptacle. In the upper portion of the baffle plate 6 above the level of the fluid in the receptacle are mounted several ob-

liquely disposed gas discharging tubes 8, said tubes being preferably arranged at substantially right angles to the plate 6 and extending a suitable distance therefrom as shown. The lower ends of the tubes when thus arranged communicate with the upper portion of the space below the baffle plate, while their upper ends communicate with the space above said plate.

Arranged on one side of the receptacle 1 and connected thereto near its lower end and below the lower end of the baffle plate 6 is a gas and smoke inlet pipe 9. With the upper end of the inlet pipe 9 is connected a smoke and gas conducting pipe 10 which leads to and is connected at its opposite end with the exhaust port of the motor (not shown). The pipe 9 is firmly secured to the receptacle 1 by a brace 11 as shown. Arranged in the removable top or cover 2 of the receptacle adjacent to the upper end of the baffle plate 6 is a deodorized gas discharge port 12 with which is connected a discharge pipe 13 through which the deodorized gas is discharged from the apparatus. In order to prevent any of the deodorizing fluid from being drawn up to and discharged through the pipe 13, I provide the discharge port 12 with a funnel or inverted cone-shaped nipple 14 which is formed with the cover 2 and projects a suitable distance downwardly into the upper portion of the receptacle. Arranged below and spaced a suitable distance from the open lower end of the funnel 14 is an inverted cone-shaped deflecting plate 15, said plate being secured in position beneath the lower end of the funnel 14 by straps 16 or other suitable fastening devices.

Any suitable deodorizing fluid may be employed in the receptacle 1 and in order to indicate and maintain said liquid at the proper level, I provide a gage glass 17 which is connected at its upper and lower ends by valved nipples 18 to the lower portion of the receptacle as shown.

In the operation of the device the exhaust gases and smoke from the motor are conducted by the pipes 10 and 9 into the lower portion of the receptacle and pass up through the deodorizing fluid contained in said lower portion of the receptacle, whereby all odors are removed from the gases while the smoke is condensed. The gases when thus purified by the deodorizing liquid pass through the tubes 8 into the upper por-

tion of the apparatus and from thence are discharged through the funnel 14 and outlet or discharge pipe 13.

I consider the use of a large inlet pipe 9 advisable, because it does not retard the exhaust from the engine, and furthermore if the exhaust gases are driven into and through the deodorizing fluid before they are broken up by the tubes 8 there is as little resistance as possible with a device of this character. Said tubes are as many in number as necessary to carry off the gases admitted through the inlet 9, and by preference I direct them obliquely upward from the baffle plate 6 and away from the outlet so that if any particles of soot or scale bubbling up through the fluid should be driven through said tubes they would be more likely to fall back into the fluid above the baffle plate than to pass out the outlet—even if the deflecting plate 15 were not employed, and the use of this additional safeguard gives the device spark-arresting features which it might not otherwise possess.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from or exceeding the scope of the invention as defined and claimed.

I claim as my invention.

1. The herein described gas deodorizing apparatus consisting of an upright cylindrical receptacle adapted to contain deodorizing liquid, an inclined baffle plate secured across its interior and having a passage through it near its lower edge and below

the liquid level, a gas inlet pipe opening through one side of said receptacle below the lower edge of the plate, a discharge pipe opening through the top of the receptacle above the upper edge of the plate, and a transverse row of tubes seated in and opening through said plate with their bodies standing at right angles to it and their bores directing the gases obliquely across the interior of said receptacle from a point beneath the upper portion of the plate to a point above it remote from said discharge pipe.

2. The herein described gas deodorizing apparatus consisting of an upright receptacle adapted to contain a deodorizing liquid, a baffle plate secured obliquely across its interior and dividing the latter into upper and lower compartments, said plate having a passage through it at its lowest point and below the liquid level, a relatively large gas inlet pipe opening into the lower compartment below the lower end of said partition, a discharge pipe opening out of the other compartment above the higher end of said partition, a deflecting plate suspended within this compartment below the inner end of the discharge pipe, and a series of relatively small tubes having their lower ends opening through said baffle plate and their upper ends directed toward that portion of the upper compartment which is above the lower end of said plate and remote from the discharge pipe.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHARLES H. PHILLIPS.

Witnesses:

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C. W. H. ARNOLD.