No. 873,785. PATENTED DEC. 17, 1907.

A. REICHEL.

APPARATUS FOR DEODORIZING THE EXHAUST GASES OF MOTORS.

APPLICATION FILED APR. 24, 1906.

Fig. 1

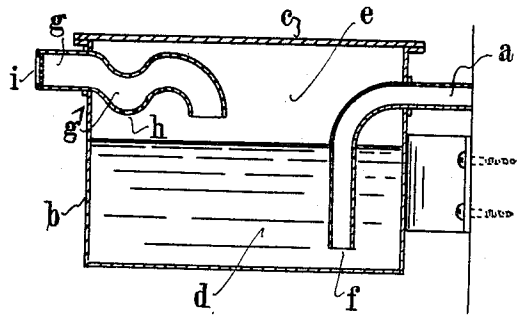


Fig. 2

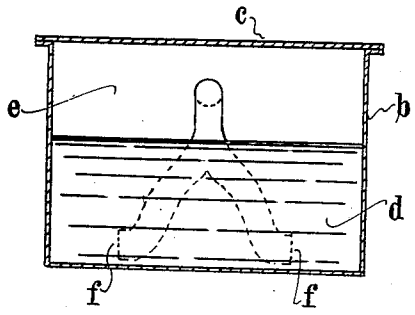


Fig. 3

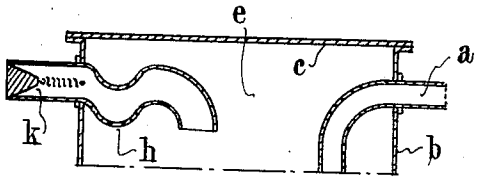
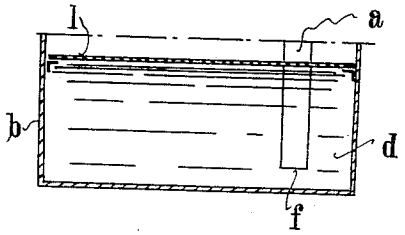


Fig. 4



Witnesses:—
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UNITED STATES PATENT OFFICE.

ALFRED REICHEL, OF DRESDEN-LOSCHWITZ, GERMANY.

APPARATUS FOR DEODORIZING THE EXHAUST-GASES OF MOTORS.

No. 873,785. Specification of Letters Patent. Patented Dec. 17, 1907.

Application filed April 24, 1906. Serial No. 313,463.

To all whom it may concern:

Be it known that I, ALFRED REICHEL, a citizen of the United States, temporarily residing at Dresden-Loschwitz, Germany, have invented certain new and useful Improvements in Apparatus for Deodorizing the Exhaust-Gases of Motors, of which the following is a specification.

My invention relates to an apparatus for deodorizing the exhaust gases of motors, more particularly the gases escaping from automobiles and the like.

The invention is illustrated in the accompanying drawing, Figure 1 of which represents a vertical section of the apparatus applied to a motor car. Fig. 2 is a vertical section taken at right angles to Fig. 1, of a modification of the apparatus, with bifurcated exhaust gas pipe. Fig. 3 is a vertical sectional view of a second modification, in which the gas outlet pipe is provided with a valve. Fig. 4 is a vertical section through a third modification, the tank of which is furnished with a perforated partition.

Referring more particularly to Fig. 1, *a* is the exhaust-gas pipe from the motor. This pipe, instead of conducting direct to the atmosphere as generally, is led into a tank *b*. The latter may be of any suitable shape and material, such as a rectangular iron tank with a removable cover *c* bolted to it. The tank should be about half filled with a liquid *d*, the upper half *e* remaining empty. The mouth *f* of pipe *a* lies near the bottom of the tank *b*. At the opposite side of the tank a pipe *g* conducts from the space *e*. The pipe *g* has a bend at *g'*, perforated at *h*. Should any of the liquid *d* enter the pipe *g* owing to shaking of the tank, it will thus collect at *g'* and escape at *h* into the tank again. The exit of the pipe *g* may be protected by a single or double sieve *i*, to prevent the entrance of dust or other foreign particles such as may, for instance, be blown toward the pipe *g* by the wind.

In the modification shown in Fig. 2, the pipe *a* is bifurcated so as to present two mouths *f*. If desired, a pipe having three or four or more mouths might naturally be employed.

In Fig. 3 a pipe *g* is shown provided with a back-pressure valve *k*. This valve may be employed either without or in conjunction with a sieve.

The tank *b* of the apparatus illustrated in Fig. 4 is provided with a perforated partition *l*, for the purpose of preventing the liquid *d* from being thrown about to an undue extent.

In use, the exhaust gases will enter the liquid *d* through the pipe *a*, *f*, and will rise through it and enter the space *e* in deodorized condition. Here they will collect and the odorless gas will flow out through pipe *g*.

The advantage of the bifurcated pipe *a*, shown in Fig. 2, is that the gas is better distributed, since it does not all have to pass through the same single passage.

I do not desire to restrict myself to any particular liquid, since various kinds may be employed. I have found any oil which is not too thick, and which emits an agreeable, aromatic odor, to be particularly suitable. Any other oil however may be employed; or instead of an oil, any other appropriate liquid, among which water, it would appear, may be classed, particularly if some deodorant is added to it. The liquid may be run off at intervals and a fresh supply let into the tank. Or the spent liquid may be filtered and re-used in the tank.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

Apparatus for deodorizing the exhaust gases of motors, comprising a tank partially filled with a suitable liquid, means for conducting the exhaust gases from the motor into the said tank close to the bottom thereof, outlet means for the deodorized gases communicating with the tank above the liquid level, comprising a double knee piece having perforations at the lower bend and means for preventing entrance of foreign matter into the outer end of said knee piece, and means for preventing the liquid from being violently thrown about within said tank, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED REICHEL.

Witnesses:

PAUL E. SCHILLING,

PAUL ARRAS.