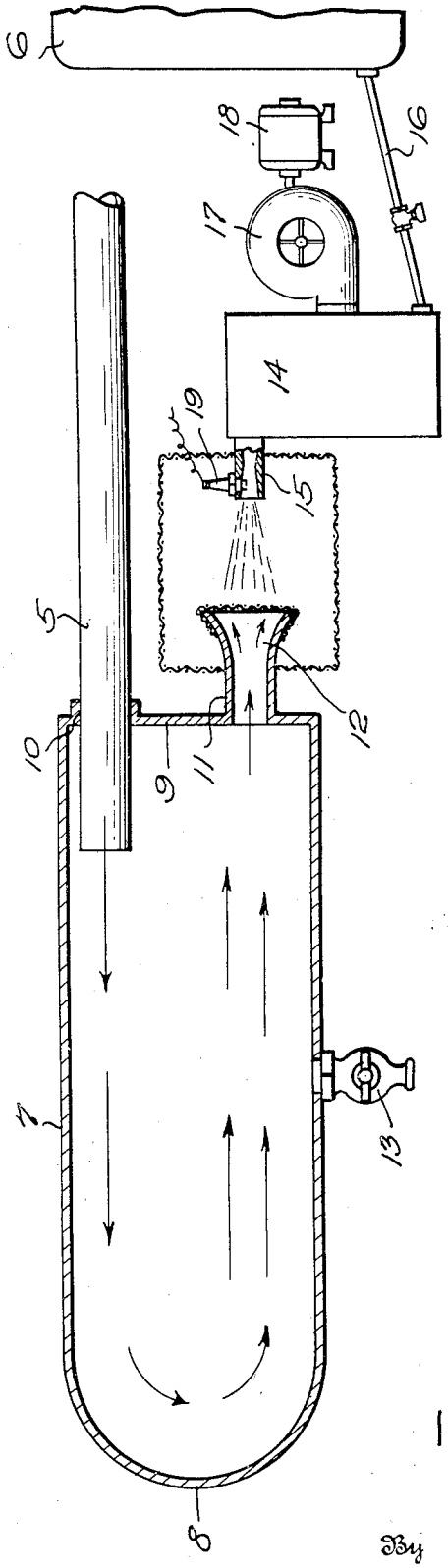
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CARBON MONOXIDE ELIMINATOR

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CARBON MONOXIDE ELIMINATOR

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4 Claims. (Cl. 183—6)

This invention relates to means and apparatus for destroying or otherwise rendering harmless the poisonous carbon monoxide gases commonly present in the exhaust gases of internal combustion engines.

Attempts have been made heretofore to provide some means for combating the danger incident to the operation of internal combustion engines in places having little or no ventilation. Such attempts have proven more or less unsatisfactory, due primarily to size and cost of installation.

It is the object of the present invention to provide a simple apparatus, preferably, although not necessarily associated with the exhaust pipe, that will subject the exhaust gases to a flame prior to their escape to the atmosphere, thus effectually destroying the carbon monoxide and rendering the exhaust gases harmless.

A further and very important object is the provision of extremely simple and inexpensive means for carrying out the invention, such means being applicable to motor vehicles or the like with relatively small expense while at the same time insuring of a maximum efficiency.

In the drawing,

The figure is a partly diagrammatic illustration of the essential parts of a motor vehicle with which the invention is associated.

Referring specifically to the drawing the numeral 5 indicates the discharge end of a motor vehicle exhaust pipe and 6 the conventional fuel or gasoline tank. A relatively large tubular member 7 having a closed rounded end 8 and a flat closed end 9 is adapted to be positioned over the end of the pipe 5 with a portion of the pipe extending thereinto. The end 9 is provided with an opening 10 to one side thereof for the passage of the pipe 5. Any convenient means may be employed to hold the member 7 rigid with respect to the pipe 5.

The end 9 is further provided with a discharge nozzle 11 having a flaring end 12. The end 12 is covered by a web of screen material, preferably of a number thirty mesh. A drain cock 13 is positioned at any suitable point in the bottom wall of the member 7 and serves to permit drainage of any accumulated products of condensation.

Positioned adjacent the discharge nozzle 11 is a pressure fuel tank 14 having a relatively small discharge nozzle 15 that is located in alignment with the nozzle 11 and spaced therefrom a distance of approximately three inches. Leading from the gasoline tank 6 is a feed line 16, serving to direct gasoline to the tank 14, preferably by gravity. A suitable air pump 17 has connection with the tank 14 for imparting air pressure therein, such compressed air to be mixed with the gasoline. The pump 17 may be driven by an electric motor 18 through suitable gearing. An igniting device 19 such as the conventional spark plug, is adapted to be positioned adjacent the discharge end of the nozzle 15 for igniting the discharging fuel under pressure from the tank 14.

It is found desirable to enclose the ends of the nozzles 11 and 15 with some type of foraminous material as a safety element.

The operation of the invention is as follows:

Assuming the parts to be assembled as shown, exhausting gases passing from the pipe 5 will travel as indicated by the arrows, the rounded end 8 serving to impart a return movement thereto. The passage of the gases through the member 7 serves to materially cool them prior to their discharge from the nozzle 11. It is intended that all the parts shall be placed in operation when the engine is started. As the fuel under pressure passes from the nozzle 15, it is ignited by the plug 19 and a flame of relatively high velocity is directed into the discharging exhaust gases from the nozzle 11. The flaring of the nozzle 11 causes the exhaust gases to pass outwardly in a more or less spherical ball where they are engaged by the flame from the nozzle 15. Combustion of the gases thus occurs, during which the carbon monoxide is effectually burned and destroyed. After combustion, the spent gases pass outwardly through the foraminous material to the atmosphere. As before pointed out, the operation of the device is continuous with the operation of the engine. The amount of gasoline consumed is relatively small, while the electricity for the motor 18 and plug 19 is naturally received from the conventional storage battery of the car.

It will be obvious from the foregoing that an extremely simple and efficient means has been provided for rendering exhaust gases harmless. The parts are all of such nature that they can be easily installed with a minimum of expense.

It is to be understood that the invention is not limited to the precise construction shown, but that it includes within its purview whatever changes fairly come within either the terms or the spirit of the appended claims.

Having described the invention what is claimed is:

1. A device of the character described comprising an exhaust gas receiver associated with an exhaust pipe, a discharge nozzle carried by said receiver, a pressure fuel tank having a burner noz-

zle, said burner nozzle and said discharge nozzle arranged in spaced opposed relation to each other, igniting means carried by said burner for igniting said fuel under pressure, said ignited fuel directed into the exhausting gases from the first named nozzle.

2. In combination a motor vehicle exhaust pipe, of an exhaust gas receiver connected to said pipe and provided with a discharge nozzle, a burner positioned adjacent to said nozzle, said burner and said nozzle arranged in spaced opposed relation to each other, a fuel tank for supplying said burner, means for imparting pressure to said tank, igniting means for said burner and a perforated shield for said nozzle and burner.

3. A device of the character described comprising a tubular exhaust gas receiver for connection with an exhaust pipe, a discharge nozzle for said receiver, a burner positioned adjacent said nozzle and in spaced concentric alignment therewith, a fuel tank for said burner, means for supplying fuel to said tank, means for imparting pressure to said tank, igniting means carried by said burner, said burner so positioned as to direct a high velocity flame into the gases discharging from said nozzle in a direction directly opposite to the travel of the discharging gases.

4. In combination an exhaust pipe of an internal combustion engine and an elongated tubular exhaust gas receiver connected thereto, said receiver entirely closed with one end flat and the other rounded, a discharge nozzle carried by the flat end and provided with a flaring mouth, a web of wire mesh positioned over said flaring end, a burner and a fuel supply tank therefor, said burner positioned in alignment with but spaced from said nozzle, igniting means carried by said burner, a pump for supplying air under pressure to said tank, means for feeding a volatile fuel to said tank, said burner adapted to direct a high velocity flame into the exhausting gases from said nozzle and a foraminous casing for said nozzle and burner.

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