May 22, 1945. R. D. MAY 2,376,550

ATTACHMENT FOR EXHAUST PIPE

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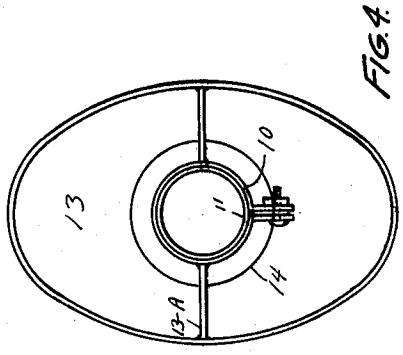


FIG. 4.

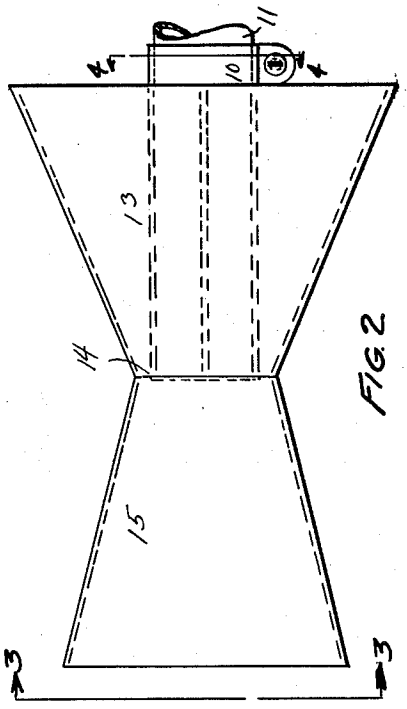


FIG. 2

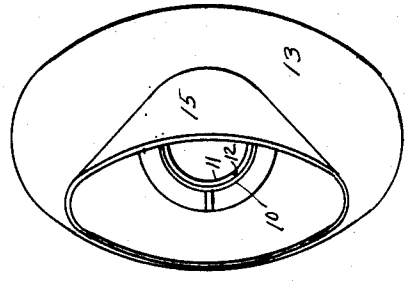


FIG. 3

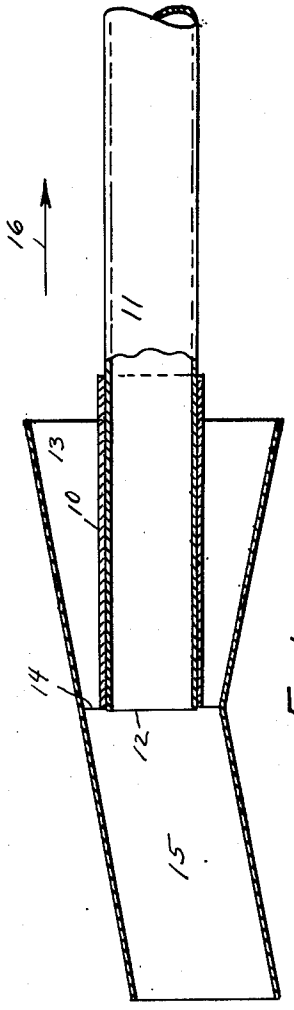


FIG 1

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ATTACHMENT FOR EXHAUST PIPES

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1 Claim. (Cl. 138—46.5)

This invention relates generally to internal combustion engines, and particularly to an attachment for exhaust pipes therefore.

The main object of this invention is to provide a means for reducing the back pressure on exhaust pipes of internal combustion engines.

The second object is to provide a means of diluting the exhaust gases from an internal combustion engine for the purpose of reducing the injurious and unpleasant effects thereof.

The third object is to provide a means for better protecting the occupants of an automobile from exhaust gases and at the same time to better protect the exposed parts at the rear of the car from the corrosive effects of said gases.

I accomplish these and other objects in the manner set forth in the following specification as illustrated in the accompanying drawing, in which:

Fig. 1 is a vertical longitudinal section through the device.

Fig. 2 is a plan of Fig. 1.

Fig. 3 is an end elevation taken along the line 3—3 in Fig. 2.

Fig. 4 is a section taken along the line 4—4 in Fig. 2.

Similar numerals refer to similar parts throughout the several views.

Referring in detail to the drawing, there is shown a tubular member 10, which is adapted to be clamped on an exhaust pipe 11 of an internal combustion engine (not shown).

The tubular member 10 extends to the tip 12 of the exhaust pipe 11. Surrounding the tubular member 10 is a conical section 13 of a Venturi tube 14, whose section 15 may be conical or any other desired shape without departing from the spirit of this invention, it being essential, however, that the tip 12 extends to or into the section 15 in order to produce the desired results. The section 13 may be attached to the tubular member 10 in any convenient manner, preferably by the spokes 13a.

The operation of the device is as follows: Assuming that the automobile is moving in the direction indicated by the arrow 16 it follows that air is picked up by the section 13, forcing it through the space around the tip 12. As the motor is being operated, exhaust gases are being driven from the tip 12 through the Venturi tube 14 causing it to entrain still more air and this effect is still further increased by the area of reduced pressure immediately behind the section 15.

The net result of these actions is: First, to reduce the amount of back pressure on the exhaust pipe 11, offsetting partially the back pressure produced by the muffler. Secondly, it so greatly dilutes the exhaust gases as to minimize their harmful effects on human beings as well as on the parts of the automobile and air borne vehicles, and very importantly, by greatly increasing the velocity of the exhaust gases better disperses it into the atmosphere before it has had an opportunity to do damage to anything.

Owing to the fact that the temperature of the parts is greatly reduced, it is less necessary to employ high grade materials, it being possible to employ plastics for this purpose with highly satisfactory results.

While I have thus illustrated and described my invention it must be understood that I do not intend to be limited to the precise form illustrated herein, but intend to cover all forms and modifications of the device as fall fairly within the appended claim.

I claim:

In a device of the class described, the combination of a tubular member adapted to be clamped on the end of an exhaust pipe, a funnel shaped air collector concentrically supported by said tubular member having its larger end foremost and having its smaller end encircling the tip of the exhaust pipe and spaced therefrom and an oppositely turned funnel connected to the air collector in a manner to form a Venturi tube whereby the velocity of the gases issuing from said exhaust pipe will be increased by the air picked up by the forwardly pointed funnel and further increased by the area of reduced pressure set up behind the rearwardly pointed funnel, one side of said oppositely turned funnel being in substantial alignment with the same side of said first funnel, the rearmost end of said tubular member being the rearmost end of the exhaust pipe.

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