May 23, 1950 R. D. MAY 2,508,463

FLUID MINGLING MUFFLER WITH FIBROUS WALLED SIDE BRANCH CHAMBERS

Filed Nov. 23, 1948

FIG. 1.

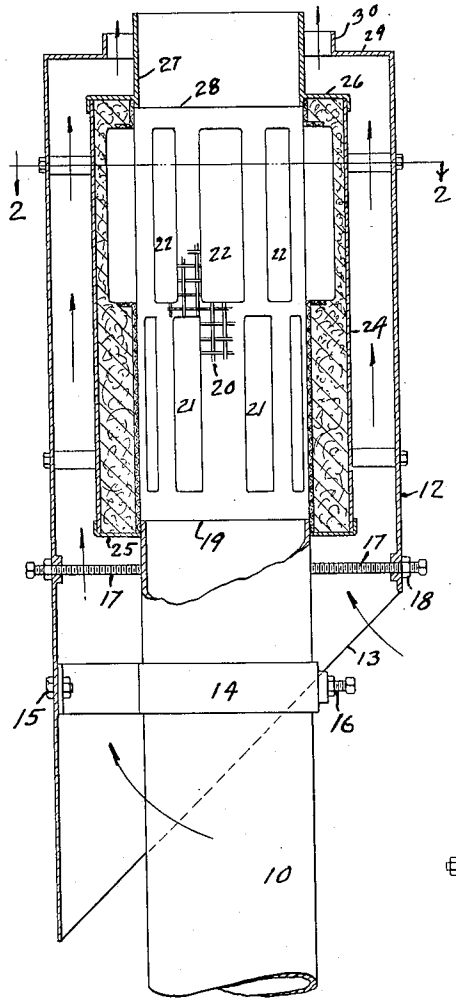


FIG. 3.

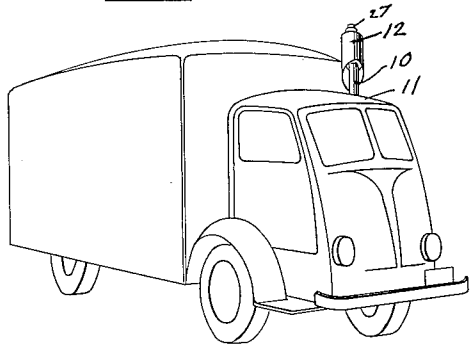


FIG. 2.

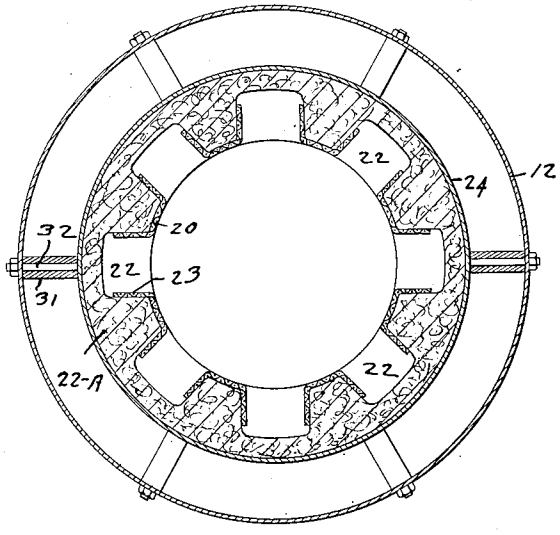
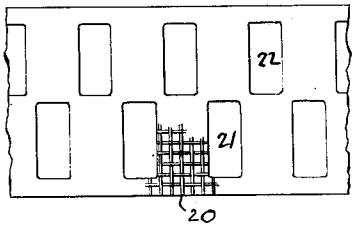


FIG. 4.



INVENTOR
RAY D. MAY

BY E. B. Richenberg

ATTORNEY

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FLUID MINGLING MUFFLER WITH FIBROUS WALLED SIDE BRANCH CHAMBERS

Ray D. May, Seaside, Oreg.

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1 Claim. (Cl. 181—42)

1

This invention relates generally to internal combustion engines and particularly to a muffler tip for exhaust pipes on motor vehicles.

The main object of this invention is to provide a tip for the exhaust pipe of a truck or other gas motor driven vehicle which will send the exhaust gases upwardly and at the same time dilute these gases with air by entraining air from the lower or ground level and elevating it to a point where it can be carried off by the wind or distributed in the atmosphere.

A further object is to produce a tip which will not only serve to muffle the sound of the expanding gas but will also materially reduce the vibration of the tail pipe.

Another object is to utilize the speed of travel to increase the action of the tip.

A still further object is to secure an improved muffling action.

These and other objects are accomplished in the manner set forth in the following specification as illustrated in the accompanying drawings, in which:

Fig. 1 is a vertical section through the tip showing its relation to a tail pipe.

Fig. 2 is a section taken along the line 2—2 in Fig. 1.

Fig. 3 is a perspective view of a truck showing the tip mounted thereon.

Fig. 4 is a fragmentary expanded view of the pocket section of the tip.

Like numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawing, there is shown an exhaust or tail pipe 10 of the vertical type such as are commonly used on motor trucks 11.

My muffler tip is formed within a cylindrical outer shell 12 whose lower end 13 is cut at an angle of about 45° in order to present an open front to pick up air when the vehicle 11 is moving forward.

The shell 12 is supported on the upper end of the pipe 10 by a clamp 14 which is attached to the shell 10 by means of the bolts 15. A set-screw 16 is provided in the clamp 14 in order to securely fasten the device to the pipe 10.

Four centering screws 17 are provided around the shell 12 and their points bear against the pipe 10 and locknuts 18 hold the screws 17 in place just above the upper end 19 of the pipe 10.

Disposed directly above the pipe 10 is a sleeve 20 of wire cloth in which are formed the pockets 21 and 22 by merely bending the sides 23 outwardly as shown in Fig. 2. Surrounding the sleeve 20 is a muffler case 24 which is cylindrical

2

and provided with a lower cover 25 which extends to the pipe 10 and with an upper cover 26 which extends to the tip 27 whose lower end 28 extends into the upper end of the sleeve 20.

The shell 12 is provided with a partial cover 29 whose upturned central flange 30 is spaced from the tip 27. The space between the sleeve 20 and case 24 outside of the pockets 21 and 22 is filled with steel wool or other fibrous material, 22A.

The shell 12 and case 24 are held in concentric relationship by means of the tubular spacers 31 and bolts 32.

In actual use, the device has numerous advantages which do not appear from a casual inspection.

The pocket formation within the fibrous liner provides a remarkable dampening of the noises from the exhaust and also a lessening of the vibrations in the exhaust pipe itself. The tip also sends the gas upwardly at an accelerated speed due to the air entrained by the gas itself and by the addition of a volume of air picked up by the forward travel of the vehicle, thereby sending the exhaust gases high into the air where they will be diluted by the air to an extent which will make them harmless. Also, by the use of this construction, the tip can be easily installed and actually forms an extension for the exhaust pipe itself.

I claim:

An exhaust tip consisting of an outer shell, an inner sleeve of wire cloth and an intermediate muffler casing, the two latter members being disposed within the outer shell and concentric therewith, said sleeve having outwardly flanged pockets formed therein, a steel wool filler between said screen and casing around said pockets, upper and lower covers for the space between said sleeve and casing, the lower cover receiving the upper end of an exhaust pipe an exhaust tip extending upwardly from the upper cover, the lower end of said outer shell having an inclined edge, means for holding said shell and its enclosed parts upon the upper end of an exhaust pipe and spaced from said exhaust tip.

RAY D. MAY.

REFERENCES CITED

The following references are of record in the file of this patent:

FOREIGN PATENTS

Number	Country	Date
449,507	Great Britain	June 29, 1936
471,431	Great Britain	Sept. 3, 1937