J. HARRIS.

COMBINATION HEATER AND MUFFLER.

APPLICATION FILED FEB. 26, 1917.

1,266,255. Patented May 14, 1918.

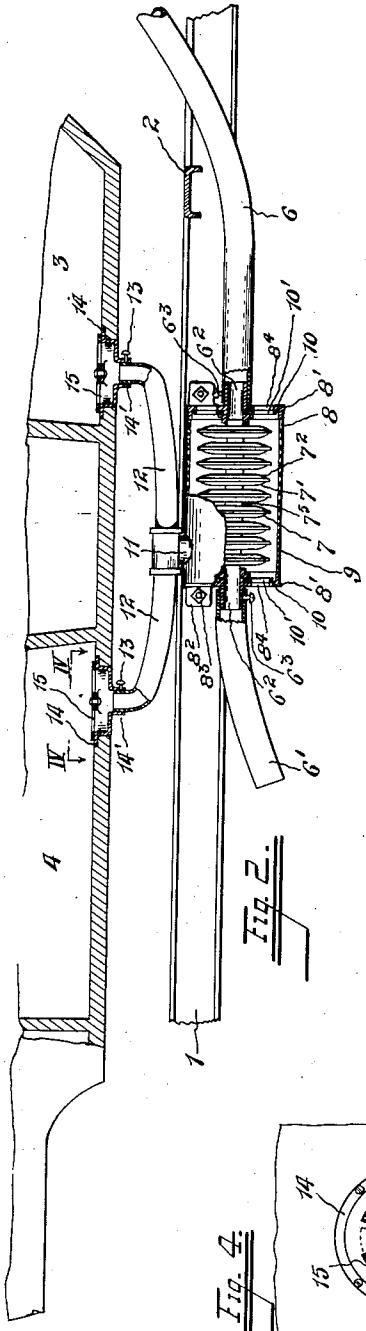


Fig. 2.

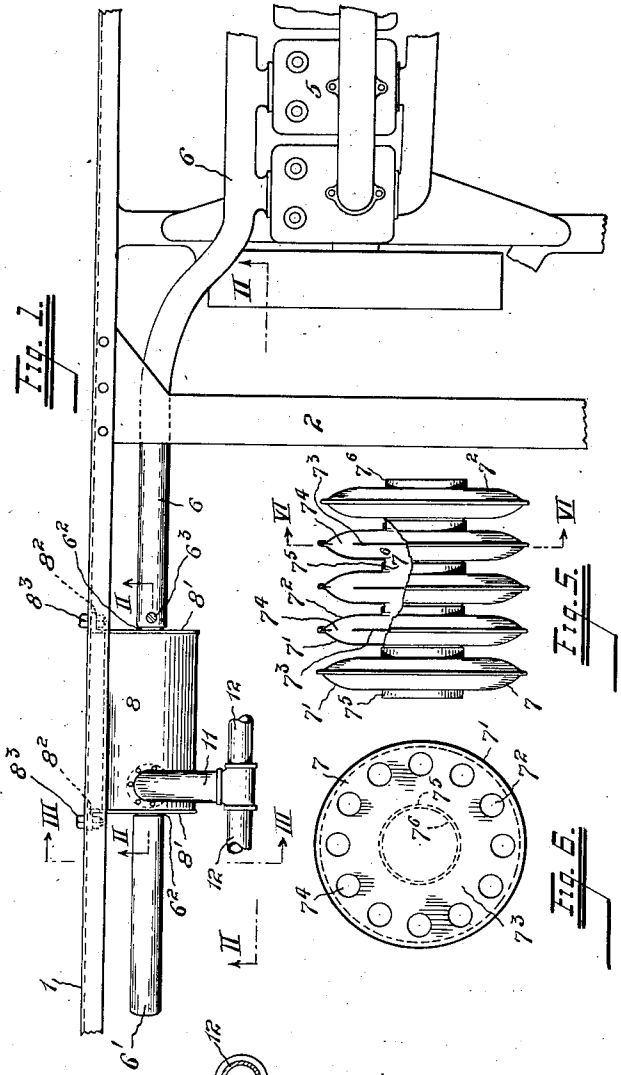


Fig. 1.

Fig. 5.

Fig. 6.

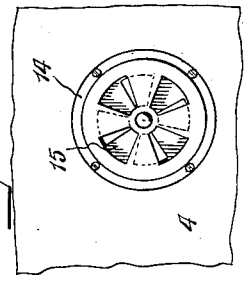


Fig. 4.

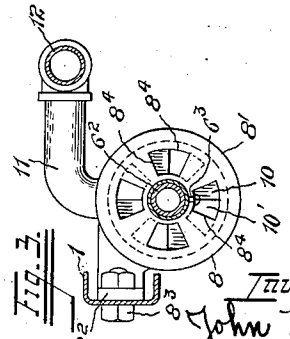


Fig. 3.

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UNITED STATES PATENT OFFICE.

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COMBINATION HEATER AND MUFFLER.

1,266,255. Specification of Letters Patent. Patented May 14, 1918.

Application filed February 26, 1917. Serial No. 151,089.

To all whom it may concern:

Be it known that I, JOHN HARRIS, a citizen of the United States, resident of Lakewood, county of Cuyahoga, and State of Ohio, have invented new and useful Improvements in Combination Heaters and Mufflers, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle, so as to distinguish it from other inventions.

My invention relates to combination heaters and mufflers and particularly to that class of such devices as is best adapted for heating the passenger compartments of automobiles. More particularly, my invention relates to the use in automobile heaters and mufflers of the particular form of heater units described and claimed in my pending application for U. S. Letters Patent Serial No. 142,823, and to the incidental arrangements with, and relation of, said form of heating units to the body and engine of an automobile.

The annexed drawing and the following description set forth in detail certain means embodying my invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be applied.

In said annexed drawing:—

Figure 1 represents a broken plan view of an automobile body and engine and my improved heater and muffler secured thereto; Fig. 2 represents a broken vertical longitudinal section in the plane indicated by the lines II—II, Fig. 1; Fig. 3 represents a vertical elevation and section taken in the plane indicated by the lines III—III, Fig. 1; Fig. 4 represents a broken plan view taken in the plane indicated by the lines IV—IV, Fig. 2; Figs. 5 and 6 represent, respectively, a broken elevation of a plurality of units described and claimed in my said pending application Serial No. 142,823, and an end elevation of said units utilized, as hereinbefore stated, as an element of this invention.

In the annexed drawing, there is a suggestion of an automobile chassis with the lateral longitudinal channel 1 and the transverse channel 2, also the front and rear seating compartments 3 and 4, respectively, and the engine 5. There is shown an exhaust pipe 6 from the engine, the same being in two sections 6 and 6′, and disposed intermediately of said sections the heating and muffling arrangement now to be described. Said arrangement is in effect a baffling device 7 to the passage of the hot exhaust gases from the engine to the atmosphere, resulting in obtaining, as effective heat for the passenger compartments, the warmth of said gases and then discharging the same comparatively cold into the atmosphere. Said baffling device 7 comprises a plurality of units, each consisting of complementary casings 7′ and 7^2 between each pair of which casings is disposed a plate 7^3, said plate being formed with an annular series of perforations 7^4, and the casing members 7′ and 7^2 being provided with annular interlocking collars 7^5 surrounding central apertures 7^6, so that a devious path is provided for the passage of a heating medium from one end of said set of units to the other end, the casing members 7′ and 7^2 being also heat radiating members, whereby the effective heat of the gas is obtained for use, all as described in my said pending application Serial No. 142,823. Said baffling device 7 is contained within a casing 8 provided with an asbestos lining 9, as plainly shown in Fig. 2. The ends 8′ of said casing 8 are provided with apertures 8^4 adapted to be opened or closed by suitable dampers 10 provided with apertures 10′, as plainly shown in Figs. 2 and 3. Said casing 8 is carried upon the channel 1 by the ears 8^2 secured to the channel 1 by the bolts 8^3, all as plainly shown in Fig. 1. Connecting the baffling device 7 to the adjacent ends of the two sections 6 and 6′ of the exhaust pipe are two short pipe sections 6^2 upon the outer surfaces of which the respective exhaust pipe sections 6 and 6′ are retained by means of suitable screws 6^3, 6^3.

Intersecting the top of the casing 8 is a pipe 11 provided with two branches 12, as plainly shown in Fig. 1 leading, respectively, to the front and rear passenger compartments of the automobile, the outer respective ends of said branch pipes 12 being retained by screws 13 to downwardly projecting collars 14′ of casings 14 provided for registers 15 in the floor of the passenger compartments, as plainly shown in Fig. 2.

It will be evident from the above descrip-

tion that the effective heat escaping with the exhaust gases from the automobile engine by way of the pipe 6 can be taken from said gases within the baffling device 7 and distributed throughout the passenger compartments of the automobile, as desired, an effective muffling device being also provided, and the exhaust gases, of course, passing off through the baffling device and the outer section 6′ of the exhaust pipe to the atmosphere. When for any reason, as in the summertime, it is desired not to utilize the effective heat of the exhaust gases within the passenger compartments of the automobile, the registers 15 can be accordingly closed and the registers 10 can be opened to allow the heat to escape from the casing 8 and to provide circulation of cool air through said casing and about and around the baffling device 7.

What I claim is:—

In automobile heaters and mufflers, the combination with the automobile body and engine and an exhaust pipe from the latter; of a casing supported upon said body, a baffle member disposed in said casing, an entirely free space being provided between the inner wall of the latter and the outer edge of said baffle member, said exhaust pipe intersecting the ends of said casing and being intersected by said baffle member, damper-controlled air openings formed in the ends of said casing and surrounding said exhaust pipe, and a damper-controlled passage for heated air connecting said free space and the interior of the automobile body.

Signed by me, this 19th day of February, 1917.

JOHN HARRIS.