Oct. 26, 1937. H. S. POWELL 2,097,041

TAIL PIPE SPOUT

Filed Oct. 15, 1936

Fig. 1.

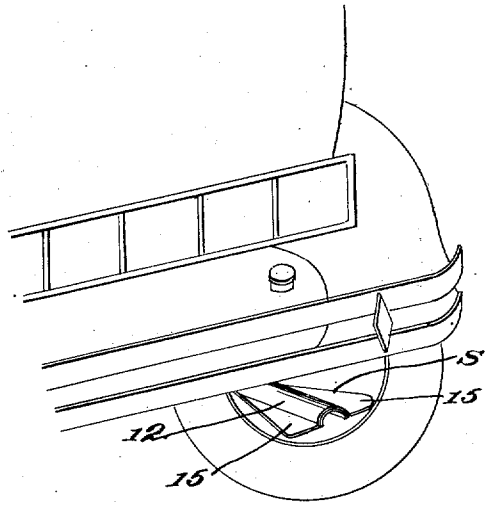


Fig. 2.

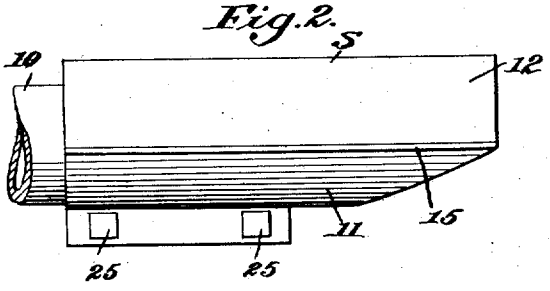


Fig. 4.

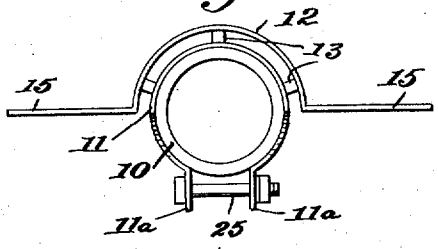


Fig. 3.

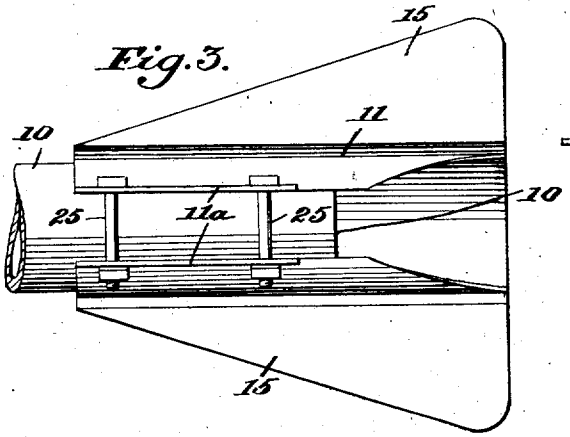
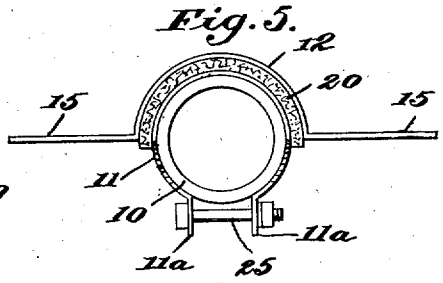


Fig. 5.



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UNITED STATES PATENT OFFICE

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TAIL PIPE SPOUT

Herbert S. Powell, Utica, N. Y.

Application October 15, 1936, Serial No. 105,773

5 Claims. (Cl. 138—25)

This invention relates to a tail pipe spout for use on the discharge pipes of mufflers and similar appliances, and is particularly advantageous at the rear end of the discharge pipe of an automobile muffler.

One of the features of the present invention is the provision of a clamping and gas-deflecting structure, together with an external wall which may be finished with the surface not adapted for withstanding the relatively high temperatures of the discharge gases, and protected from the influence of such temperatures by a heat insulator.

Another feature of the present invention is the provision of a structure which constitutes a tail pipe spout of finished appearance.

Illustrative forms of practicing the invention are shown on the accompanying drawing, in which:

Fig. 1 is a general view showing the application of the structure to the discharge pipe of an automobile muffler.

Fig. 2 is a side elevation, on a much larger scale.

Fig. 3 is a bottom view.

Fig. 4 is a rear end view.

Fig. 5 is a view corresponding to Fig. 4, but showing a modified type of construction.

In this drawing, an automobile is illustrated as having a discharge pipe 10 leading from its muffler in the usual way. The end of this discharge pipe is surmounted by a spout S, which is utilized for improving the finish of the machine. It will be understood that the normal sheet iron pipe is alternately heated and cooled as the machine is operated and while it is at a standstill, and that it is often exposed to the severe action of moisture, so that it soon becomes rusty and unsightly. Hence, the spout S is so constructed and arranged as to provide a neat appearance, in keeping with the rest of the automobile, from the ordinary angles of vision.

As shown in Figs. 2 to 4, the device comprises an inner wall structure 11 which extends around and is clamped tightly in contact with the end of the tail or discharge pipe 10. At the forward end, the inner wall structure 11 extends through an angle of about 330 degrees, around the axis of the tail pipe, and has two downwardly turned flanges 11a which are located opposite one another. At the rear end, this inner wall structure 11 is cut away substantially to its midheight (Figs. 2 and 3) and thereby tends to cause the exhaust gases to be discharged relatively downwardly with respect to the axis of the structure.

Extending in arched form over the inner wall structure 11 is an outer wall structure 12 which is spaced away from the inner wall structure, and is held rigidly with respect thereto as by the spacing rivets 13. This arched wall structure 12 is preferably concentric with the inner wall structure 11, so that air space is left between the two structures for operation as a heat insulation.

The arch provided by the outer wall structure 12 is illustrated as extending to the midheight, and as being continued by the laterally extending wings 15 which are shown as having a greater width at the rear end than at the front end, as this shape is in keeping with the usual general present-day design of an automobile. Since the discharge pipe is usually directed in a relatively downward direction toward its end, these wings or fins 15 serve to cause air to move relatively downwardly, and to be discharged at the trailing edge thereof, substantially in a transverse line with the rear end of the structure as a whole.

Further, the air pressures existing at and along the structure occasion a movement of air through the aforesaid insulating space, to maintain the structures relatively cool and thereby protect the surface treatment which has been given to the upper surfaces of the arch structure 12 and the fins or wings 15. Thus, it is possible to cover the exposed surfaces of this arch portion and the wings with enameling, nickel or chromium plate, etc., and without the difficulty that this plating is burned off the surface.

In the form of construction shown in Fig. 5, the space is indicated as closed and filled with an asbestos packing material 20, or other non-conductor of heat, with the same purpose of protecting the outer wall structure.

The device is applied by slipping it onto the end of the tail or discharge pipe 10, so that this pipe extends into the inner wall structure 11; and the parts are then clamped in position by threading the tightening bolts 25 to secure the parts together.

It is obvious that the invention may be practiced in other ways, without departing from the scope of the appended claims.

I claim:

1. A tail pipe spout comprising an inner wall structure and means for securing the same to a tail pipe, and an outer wall structure separated by a heat insulation from the inner wall structure, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

2. A tail pipe spout comprising an inner wall structure and means for securing the same to a

tail pipe, and an outer wall structure fixedly supported in spaced relation to the inner wall structure for providing an air space through which air moves for maintaining a heat insulation between and for cooling the structures, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

3. A tail pipe spout comprising an inner wall structure and means for securing the same to a tail pipe, an outer wall structure spaced from the inner wall structure, and a solid material of low heat conductivity in the said space, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

4. A tail pipe spout comprising an inner wall structure for embracing the end of a tail pipe, means for securing said inner wall structure to the tail pipe, an outer wall structure, and means for supporting said outer wall structure in open spaced relation to said inner wall structure whereby to provide an air space therebetween, said outer wall structure extending over the inner wall structure and having side wings extending substantially in a plane through the axis of the end of the tail pipe.

5. A tail pipe spout comprising an inner wall structure adapted to extend beyond the tail pipe and having a cut-away portion to deflect the discharged gases, an outer wall structure separated from said inner wall structure by heat insulation and extending over and concealing the said inner wall structure to provide a finished exposed surface, and means for securing the spout to the tail pipe.

HERBERT S. POWELL.

DISCLAIMER

2,097,041.—*Herbert S. Powell*, Utica, N. Y. TAIL PIPE SPOUT. Patent dated October 26, 1937. Disclaimer filed May 13, 1940, by the assignee, *Louis A. Koch*.

Hereby enters this disclaimer to that part of the claims in said specification as follows:

So much of claim 1 as is in excess of the following—

A tail pipe spout comprising an inner wall structure and means for securing the same to a tail pipe, and an outer wall structure separated from the inner wall structure by an air space providing a heat insulation, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

The whole of claim 3:

So much of claim 5 as is in excess of the following—

A tail pipe spout comprising an inner wall structure adapted to extend beyond the tail pipe and having a cutaway portion to deflect the discharged gases, an outer wall structure separated from said inner wall structure by an air space providing a heat insulation and extending over and concealing the said inner wall structure to provide a finished exposed surface, and means for securing the spout to the tail pipe.

[*Official Gazette June 4, 1940.*]

tail pipe, and an outer wall structure fixedly supported in spaced relation to the inner wall structure for providing an air space through which air moves for maintaining a heat insulation between and for cooling the structures, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

3. A tail pipe spout comprising an inner wall structure and means for securing the same to a tail pipe, an outer wall structure spaced from the inner wall structure, and a solid material of low heat conductivity in the said space, said outer wall structure extending over and concealing the inner wall structure and providing a finished exposed surface.

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So much of claim 5 as is in excess of the following—

A tail pipe spout comprising an inner wall structure adapted to extend beyond the tail pipe and having a cutaway portion to deflect the discharged gases, an outer wall structure separated from said inner wall structure by an air space providing a heat insulation and extending over and concealing the said inner wall structure to provide a finished exposed surface, and means for securing the spout to the tail pipe.

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