Dec. 9, 1969 C. T. REEVE 3,482,648

MOTORCYCLE MUFFLER

Filed Oct. 9, 1968

FIG. 1

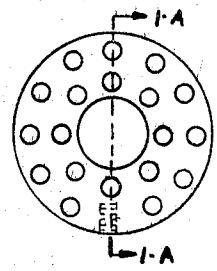


FIG. 1-A

FIG. 2

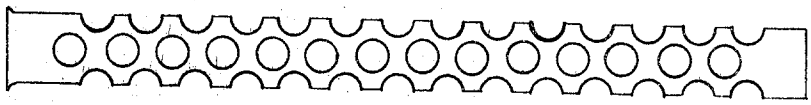
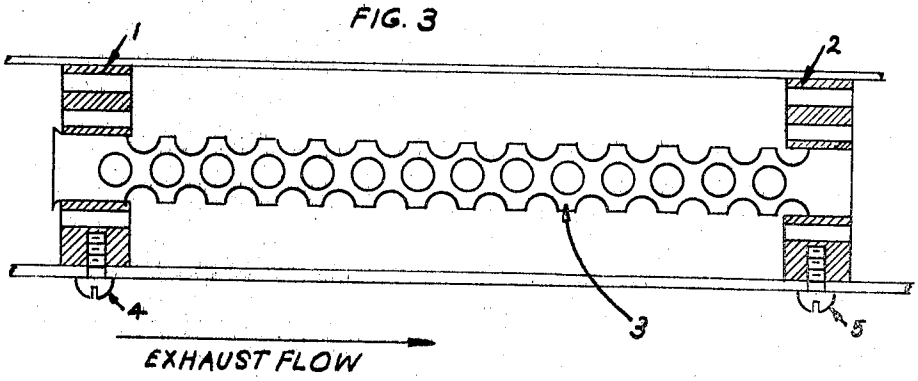


FIG. 3



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MOTORCYCLE MUFFLER

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U.S. Cl. 181—36 1 Claim

ABSTRACT OF THE DISCLOSURE

A simplified three-piece muffler for insertion into a conventional motorcycle exhaust pipe. Two disc-like perforated members centrally support a perforated central tube within the exhaust pipe.

The present invention relates generally to the improvement in motorcycle mufflers by streamlining and simplifying their design and thus allowing them to be manufactured more easily and at a greatly reduced cost.

Heretofore, construction of motorcycle mufflers has been complicated and made more expensive by the fact that the outer shells first must be stamped, then baffles added and the two shell halves joined together, usually by welding or brazing.

It is the object of this invention to simplify construction of mufflers by eliminating the stamping dies and stamping process currently used to make motorcycle muffler shells.

It is also the object of this invention to simplify the muffler construction process by using stock materials already available, eliminating the need for cutting dies.

It is also the object of this invention to streamline the construction of motorcycle mufflers by eliminating the welding process now used.

With the foregoing in mind, it is an object of the present invention to provide a greatly simplified motorcycle muffler, while at the same time maintaining an even improving the degree of muffler efficiency.

A brief description of my invention is as follows. The invention is designed to fit into, and toward the end of, the current motorcycle exhaust pipe. It consists of two cylindrical pieces which fit onto each end of a piece of aluminum tubing. The cylindrical pieces are drilled front to rear and the length of the aluminum tubing is also drilled. Packed around the tubing inside the exhaust pipe is an insulation of spun glass and two metal screws are used to hold the muffler in place.

In the drawing FIGURE 1 shows the cylindrical piece as shown from the front. FIGURE 1A shows the same cylindrical piece from the side and sectioned. The two cylindrical pieces are identical. FIGURE 2 is a side view of the aluminum tubing and shows the location of the holes and the flare on the end. FIGURE 3 is an overall section of the apparatus, as seen from the side, installed in the motorcycle exhaust system.

The following is a detailed description of my invention. Parts **1** and **2** are cylindrical sections of aluminum, one-half inch thick with holes drilled in circular patterns through, front to rear. The center hole is one-half inch in diameter to accommodate part **3**, described later. The

first row of smaller holes, measuring from the center-point of the center hole, are drilled on a circular centerline ⅜ inch from the center and are drilled 45 degrees apart. These holes are of ⅛ inch diameter. The second row of holes, drilled 30 degrees apart, are located on a centerline ⅛ inch from the outside edge of the piece and are also ⅛ inch in diameter. Another hole is drilled and tapped on a plane parallel to the faces of the piece. The hole is ⅛ inch in diameter, ¼ inch deep and tapped with a standard thread bottoming tap. The hole is drilled from the outside edge toward the center and is for the purpose of securing the piece in the exhaust pipe by means of a machine screw.

Part **3** is a piece of aluminum tubing with an outside diameter of ½ inch and six inches long, although the length may vary according to the use of the device. The front of the tubing is flared on a 1/16 inch radius. The tubing is drilled with 56 holes, 14 holes for every 90 degrees around the circumference of the tubing. The holes are ¼ inch in diameter and the centerlines of the top and bottom rows are staggered between the centerline of the right and left side rows. The centerline for the first hole in the side rows is ½ inch from the front of the tubing, while the centerline for the first hole in the top and bottom rows is 11/16 of an inch from the front of the tube. The tube is designed to be a press fit into parts **1** and **2**.

Installation of the device requires two holes be drilled through the exhaust pipe so that the machine screws **4** and **5** can secure the device inside the pipe. The tubing flare on part **3** faces the engine.

I claim:

1. A three-piece muffler for motorcycles and the like which fits inside a conventional exhaust pipe, comprised of:

(a) a pair of disc-like sections each having a center hole from front to back and a series of two rows of smaller holes around the larger center hole,

(b) a piece of tubing with rows of holes along the length thereof, said rows being ninety degrees part around the circumference of the tubing with the holes in each row being staggered with respect to the holes in each adjacent row, an outward flare on the inlet end of said tubing, said disc-like sections being mounted in the exhaust pipe with the center hole in each disc-like section supporting an end of said tubing.

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U.S. Cl. X.R.

181—44, 56, 61