March 14, 1950 J. W. BARNES 2,500,510

EXHAUST PRESSURE REDUCING ATTACHMENT
FOR ENGINE EXHAUST PIPES
Filed April 5, 1948

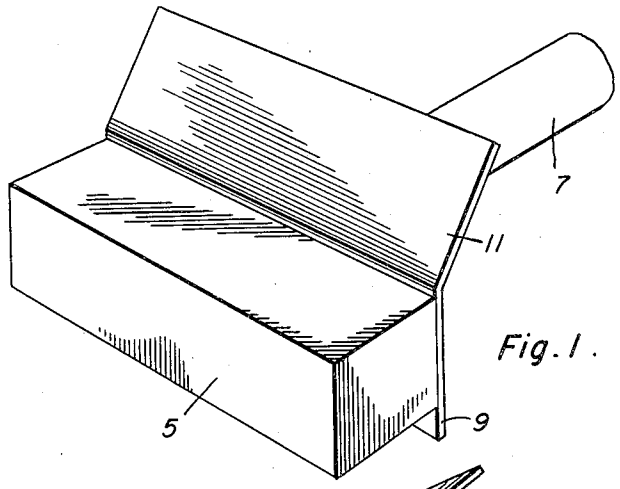


Fig. 1.

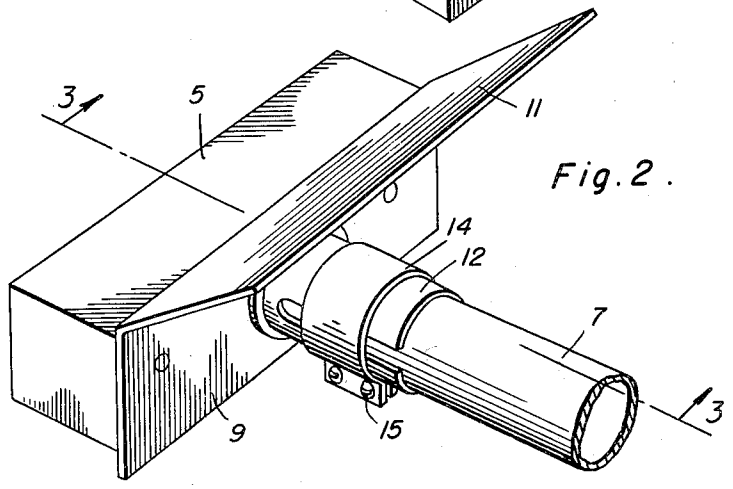


Fig. 2.

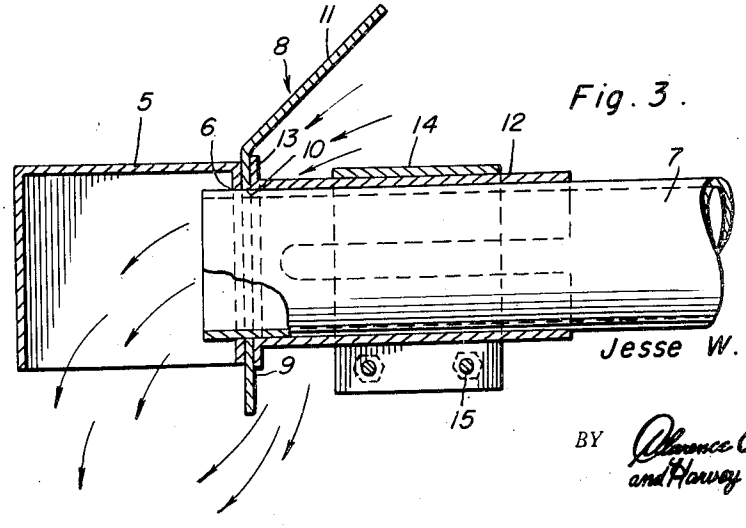


Fig. 3.

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EXHAUST PRESSURE REDUCING ATTACHMENT FOR ENGINE EXHAUST PIPES

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2 Claims. (Cl. 60—32)

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The present invention relates to new and useful improvements in attachments for engine exhaust pipes and more particularly to a device for reducing the exhaust pressure of the engine.

The primary object of the present invention is to provide an automatic vacuum controlled unit applicable for engines and the like for reducing the exhaust pressure of the engine and which is responsive to the speed of the engine for increasing or decreasing the vacuum therein.

An important object of the invention is to provide an attachment of this character for creating a suction at the outlet end of an exhaust pipe of a motor vehicle whereby to improve the operation of the engine, reduce fuel consumption and reduce carbon deposits in the motor.

A further object of the invention is to provide an attachment of this character which may be easily and quickly placed in position on an exhaust pipe without necessitating any changes or alterations in the construction thereof and which at the same time is efficient and reliable in operation, relatively inexpensive to manufacture and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view;

Figure 2 is a similar view of the front end of the attachment; and

Figure 3 is a longitudinal sectional view taken substantially on a line 3—3 in Figure 2.

Referring now to the drawing in detail wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates a box-like vacuum chamber which is open at its bottom and provided with an opening 6 in its front wall to receive the rear end of an engine exhaust pipe 7 to position the chamber transversely at the rear end of the exhaust pipe.

A baffle plate designated generally at 8 of angular construction includes a vertical flange 9 which is suitably secured in confronting relation against the front wall of chamber 5 and also includes an opening 10 to receive the exhaust pipe 7. The lower end of the flange 9 projects downwardly below the lower edge of the chamber 5. A forwardly inclined flange 11 is formed at the upper edge of vertical flange 9

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and extends throughout the length of the chamber 5.

A longitudinally split sleeve 12 is slipped over the exhaust pipe 7 and is formed with a flange 13 at its rear end welded or otherwise suitably secured to the vertical flange 9 of the baffle plate 8. A split clamping collar 14 surrounds the sleeve 12 and is tightened by bolts and nuts 15 to tightly hold the sleeve on the exhaust pipe and to hold the chamber 5 and baffle plate 8 in assembled relation at the rear end of the exhaust pipe.

In the operation of the device with the chamber 5 and baffle plate 8 secured in position on the exhaust pipe 7 in the manner as shown in the drawing the exhaust from the engine will pass through the exhaust pipe into the chamber 5 and out through the bottom thereof. The forward motion of the motor vehicle will deflect air downwardly by the forwardly inclined flange 11 of the baffle plate 8 as shown by the arrows in Figure 3 of the drawing, the deflected air passing rearwardly under the open bottom of chamber 5 to create a suction therein and thereby aid in pulling the exhaust gases through the exhaust pipe to reduce exhaust pressure therein and to more effectively scavenge the engine.

The device also deflects the exhaust gases downwardly toward the ground at the rear end of the motor vehicle.

In view of the foregoing description taken in conjunction with the accompanying drawing it is believed that a clear understanding of the device will be quite apparent to those skilled in this art. A more detailed description is accordingly deemed unnecessary.

It is to be understood, however, that even though there is herein shown and described a preferred embodiment of the invention the same is susceptible to certain changes fully comprehended by the spirit of the invention as herein described and the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. An engine exhaust pipe attachment for motor vehicles comprising a vacuum chamber having an open bottom, means securing the chamber to an exhaust pipe, and means forming a suction under the chamber by a forward motion of a vehicle, said last named means comprising a baffle plate carried at the front of the chamber and including a forwardly inclined flange rising from the chamber, and a downwardly extending flange projecting below the front edge of the chamber, said vacuum chamber being re-

sponsive to the engine speed of a vehicle on which the same is applied.

2. An engine exhaust pipe attachment for motor vehicles comprising an elongated substantially rectangular casing having an open bottom and a forward wall, an attaching sleeve projecting laterally from the forward wall of said casing and yieldingly embracing an exhaust pipe, means clamping said sleeve to an exhaust pipe, a baffle plate secured to said forward wall and having a forwardly inclined upper portion extending throughout the length of said casing and rising from the casing.

JESSE W. BARNES.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,161,895	Brenner	June 13, 1939
2,252,228	Koch	Aug. 12, 1941
2,355,674	Peters	Aug. 15, 1944

FOREIGN PATENTS

Number	Country	Date
119,301	Switzerland	Mar. 1, 1927
476,931	Great Britain	Dec. 20, 1937