

H. S. CASE.
HEATER OR MUFFLER ATTACHMENT.
APPLICATION FILED APR. 4, 1912.

Patented Mar. 11, 1913.

1,055,708.

Fig. 1.

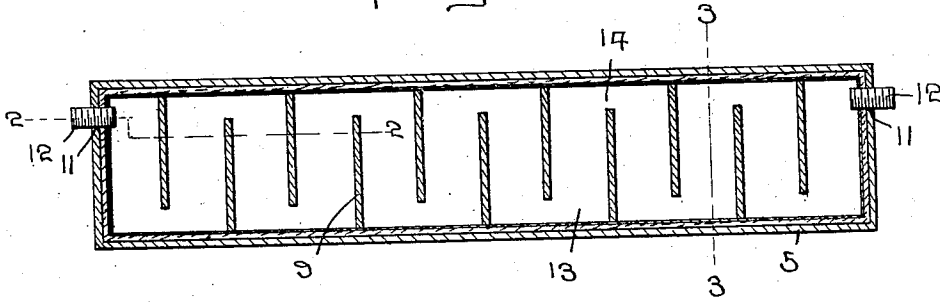


Fig. 2.

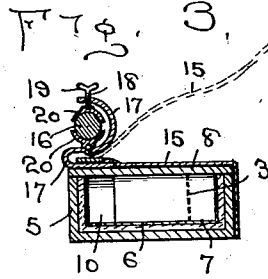
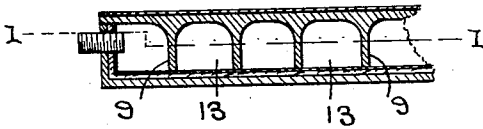
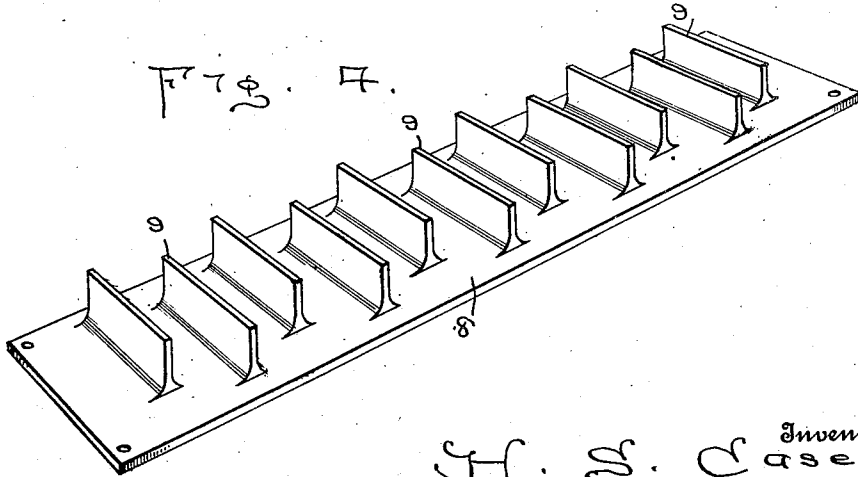


Fig. 4.



H. S. Case ^{Inventor}

Witnesses

Thos. W. Riley
M. Newcomb.

By W. D. F. Smith & Co. ^{Attorneys}

UNITED STATES PATENT OFFICE.

HAROLD S. CASE, OF STANDFORDVILLE, NEW YORK.

HEATER OR MUFFLER ATTACHMENT.

1,055,708.

Specification of Letters Patent.

Patented Mar. 11, 1913.

Application filed April 4, 1912. Serial No. 688,540.

To all whom it may concern:

Be it known that I, HAROLD S. CASE, a citizen of the United States, residing at Standfordville, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Heaters or Muffler Attachments; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to heaters, and it more particularly relates to a combined foot warmer and muffler, designed to be attached to the foot rail of an automobile or the like and to be heated by the exhaust from the engine thereof.

An object of the invention is to provide a device of this character, with appliances and accessories whereby it may be attached to either a cylindrical or non-cylindrical foot rail.

A further object of the invention is to provide a device of this character which absorbs heat from the engine exhaust and transmits the heat, by conduction, to the top surface of the foot warmer.

A still further object is to provide a device of this character, of such simple construction as to render it comparatively inexpensive and easily cleaned, when necessary, and withal, thoroughly efficient in operation.

Other objects and advantages may be recited hereinafter and in the claim.

In the accompanying drawings which form a part of this application, Figure 1 is a horizontal sectional view along the line 1—1 of Fig. 2. Fig. 2 is a vertical sectional view along the line 2—2 of Fig. 1. Fig. 3 is a transverse vertical sectional view on the line 3—3 of Fig. 1, and, Fig. 4 is a perspective view showing the top of the heater inverted.

Referring to the drawings, in which similar reference characters designate corresponding parts throughout the several views, the body 5 of the heater consists of an elongated rectangular box, which may be made of cast iron or of any proper material. The bottom and sides of the box 5 are preferably lined with thick sheets of asbestos 6 and with an inner lining 7 of suitable non-corrosive metal having slight heat conducting properties. This box is provided with a cover 8, having a series of de-

pending parallel flanges 9 formed integrally therewith, said flanges being arranged in staggered relation; that is, each alternate flange extends nearer to one edge of the cover than the other flanges, while said other flanges extend nearer to the opposite edge of the cover than the first said flanges. It will be seen, therefore, that when the cover is fitted onto the box, certain of the flanges fit closely against the inner lining 7 of one side and are spaced apart, as at 10, from the opposite side wall, while the alternate flanges are spaced apart from the first said side wall, as shown in Fig. 1 and by the dotted line in Fig. 3. Each end of the box 5 is apertured at 11 for the reception of pipe connections 12, adapted to be connected with the exhaust pipe of an engine.

By referring to Fig. 1, it will be seen that the flanges 9 constitute a series of partitions in the box 5, said partitions forming a series of chambers 13 which are connected by passages 14. It is also seen that the partitions 9 diverge at their top portions, their bottom portions being relatively thin and seated upon the bottom linings.

In operation, exhaust from the engine may enter one of the pipe connections 12 and, after passing in a tortuous direction, around the partitions, through the passages and chambers, will pass out through the other pipe connection 12. It will be seen that the exhaust is considerably retarded in its tortuous passage through the heater, also that but little, if any, of the exhaust escapes from the heater without having first come into direct contact with one of the partitions or flanges 9 and imparted its heat to said partitions. The exhaust also comes into contact with the portions of the cover 8 between the partitions, and with the side and bottom linings 7; but, the latter having slight heat conducting properties, absorbs but little of the heat, so that the top and its flanges absorb the major portion of the heat from the exhaust. As the heat is given out from the top cover 8, more heat is conducted thereto by the flanges 9, the enlarged or diverging junctions of the flanges with the cover serving to more thoroughly distribute the heat throughout the top of the cover.

The cover 8 may be secured on the box by any proper means, but preferably by means rendering the cover easily removable.

In order to regulate the degree of heat imparted to the feet of the user, I provide a

carpet 15, secured to the cover 8, at its forward edge, its rear edge being free to fall loosely against the rear side of the box, so that when the weather is moderate, said carpet protects the user's feet from an undesirable degree of heat; while, when the weather is excessively cold, the carpet may be raised, as shown in broken lines, Fig. 3, and the shoes of the user come into direct contact with the top of the cover 8, while the carpet 15 acts as a covering for said shoes and thereby protecting the wearers' feet from cold drafts, in an obvious manner.

In Fig. 3, this improved heater is shown attached to a cylindrical foot rod 16, by means of a clamping device which consists of a curved bracket 17, apertured at 18 for the reception of the thumb screw 19, arcuate clamping jaws 20 coact with the bracket 17 and the screw 19 for securing the heater to the foot rod. It is seen that the lower edges of the upper member 20 and the upper edges of the lower member 20 are on horizontal and parallel planes, and are therefore adapted to receive a flat foot rail therebetween, instead of the round foot rail 16. It is also obvious, that I may substitute other clamping jaws than the jaws 20, in connection with the bracket 17, for attaching the heater to the foot rails of different shapes and sizes.

It is seen that I have provided a device

which is fully capable of attaining the foregoing objects and in a thoroughly practical and efficient manner.

I do not limit my invention to the exact details of construction, combination and arrangement of parts, as described and illustrated, but my invention may only be limited by a reasonable interpretation of the following claim.

What I claim is:

A heater and muffler attachment comprising a box having an inlet and an outlet at opposite ends thereof, and adapted to have heated gases passed therethrough, and a cover for the box composed of heat conducting material and formed with two series of integral depending partitions extending from opposite sides of the box, the partitions of one series alternating with those of the other series, said partitions being heat-insulated from the sides and bottom of the box and forming a tortuous passage for the heated gases.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HAROLD S. CASE.

Witnesses:

W. H. MONTGOMERY,
JOHN CONROY.