

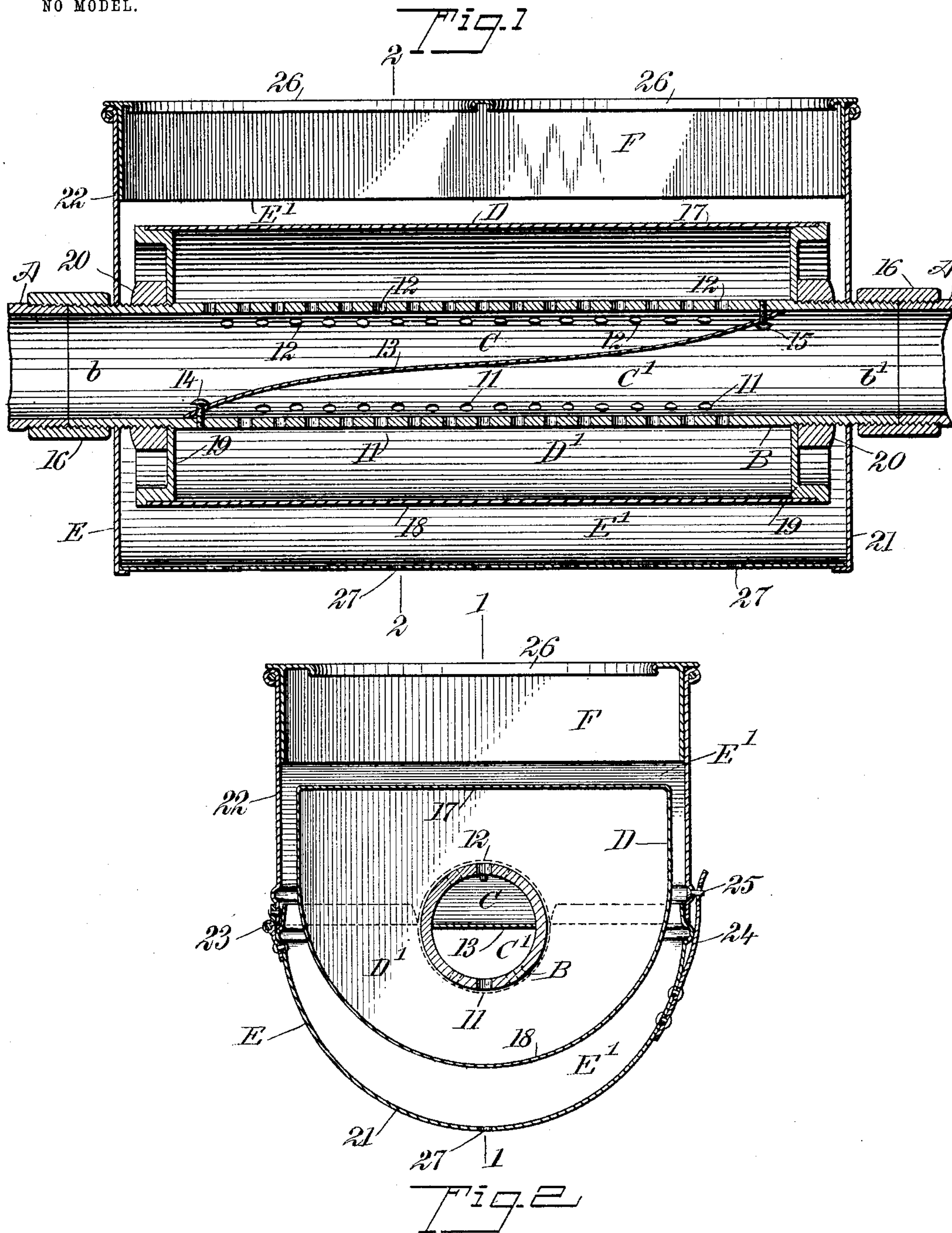
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J. H. FOX.
MUFFLER COOKING ATTACHMENT.

APPLICATION FILED MAR. 31, 1903.

NO MODEL.



WITNESSES:

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MUFFLER COOKING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 748,493, dated December 29, 1903.

Application filed March 31, 1903. Serial No. 150,408. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. FOX, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Muffler Cooking Attachment, of which the following is a full, clear, and exact description.

The purpose of the invention is to provide a muffler cooking attachment especially designed for use in connection with the exhaust of hot-air engines, gasoline-engines, or engines of like type and to so construct the device that it will be simple, durable, economic and effective, and readily applied to any hot-air or steam-exhaust pipe.

Another purpose of the invention is to so construct the muffler cooking attachment that it will have a flat surface upon which the cooking vessels may rest and a removable guide for the vessels above such surface and to provide a casing loosely surrounding the muffler of which the guide forms a part, which casing is provided with air-vents at its bottom surface, so that the muffler is practically jacketed in air heated by the radiant heat from the muffler, thus preventing the muffler from being chilled by direct contact with the outside atmosphere, enabling all of the radiant heat from the muffler to be conducted to the vessels to be heated.

A further purpose of the invention is to so construct the muffler that while it has a quick discharge-passage the incoming hot air is held for a maximum of time at the surface to be heated, and such surface is uniformly heated throughout its length and breadth.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal vertical section through the improved muffler heating attachment and a section through a portion of the exhaust-pipe with which it is connected, the section being taken practically on the line 1 1

of Fig. 2; and Fig. 2 is a transverse section taken practically on the line 2 2 of Fig. 1.

A represents sections of an exhaust-pipe, and B represents a central pipe for the muffler, which pipe is provided at its bottom with series of apertures 11 and at the top with corresponding series of apertures 12. These apertures extend from a point near one end of the said pipe B to a point near its opposite end. The pipe B is divided into an upper chamber C and a lower chamber C' by a partition-plate 13, more or less curved in direction of its length, and one end of this partition-plate 13 is secured to the bottom portion of the center pipe B of the muffler at the inlet end *b* of the said pipe by means of screws or rivets 14, the attachment being made at a point beyond what may be termed the "inner" aperture of the series 11, as is shown in Fig. 1, and this partition-plate is carried upward and in direction of the outlet end *b'* of the center pipe B of the muffler and is attached by rivets or screws 15 to the upper wall of the said center pipe B of the muffler at a point beyond the aperture 12 nearest the outlet end *b'* of the said pipe. Thus it will be observed that the upper chamber C includes the upper apertured portion of the pipe B and is in direct communication with the inlet end *b* of the said center pipe, while the lower chamber C' includes the lower apertures 11 and is in direct communication with the outlet end *b'* of the said pipe B. The center pipe B of the muffler is secured to the sections of the exhaust-pipe A by means of unions 16 or other fittings.

In completing the construction of the muffler a jacket D is employed, which jacket is of much greater diameter than the center pipe B, as is particularly shown in Fig. 2. The upper surface 17 of this jacket D is flat, and the vessels to be heated rest upon this upper flat surface. The side walls are practically straight, and the bottom portion 18 of the jacket is segmental, as is also shown in Fig. 2.

The jacket is open at its ends; but these ends are closed by means of suitable caps or heads 19, which are screwed upon the end portions of the center pipe B of the muffler

and are held in position by nuts 20 or like devices, as is shown in Fig. 1. The muffler thus formed is inclosed within a casing E. This casing E consists of a lower segmental section 21 and an upper preferably rectangular section 22, both sections being closed at their ends. The lower section is likewise closed at its bottom; but the upper section is open at top and bottom. These two sections 21 and 22 of the casing E are connected by suitable hinges 23, and at the ends of the casing openings are made partially in one section and partially in the other, whereby to receive the outer end portions of the center pipe B of the muffler, as is shown in Fig. 2, and the casing is held in position on the said center pipe B and around the jacket D of the muffler by locking devices of any suitable or approved construction. For example, spring-latches 24 are attached to the bottom section 21 of the casing, receiving keepers 25, which are secured to the upper section 22 of the casing.

In connection with the casing A a flanged guide-plate F is employed, removably fitted in the top of the upper section 22 of the casing E, and this flanged guide-plate is provided with openings 26 in its upper surface, through which openings the vessels to be heated are introduced until they rest upon the upper flat surface 17 of the jacket of the muffler.

It will be observed that an uninterrupted chamber D' is formed in the muffler between the jacket and the center pipe B, and, further, that an uninterrupted chamber E' is formed between the inner walls of the casing E and the outer surface of the muffler. Apertures 27 are made in the bottom of the lower section 21 of the casing E for the admission of air.

In operation the hot air, for example, enters the chamber C of the muffler at the inlet b of the center pipe B and passes the length of the partition 13, finding a gradual exit out through the upper openings 12 in the said center pipe and into the chamber D' around the pipe. The outlet of the hot air is so slow through the apertures 12 that the hot air is held for a maximum of time in uniform contact with the flat surface 17 of the jacket E throughout the length and width of said jacket, thus heating its surface to a maximum degree. The hot air after it has escaped into the chamber D' of the muffler travels to the bottom of its chamber and enters the lower chamber C' in the center pipe B through the bottom apertures 11 in the said pipe and finds an exit from the muffler through the discharge end b'.

The cold air entering the chamber E' between the jacket of the muffler and the casing E becomes heated by engagement with the heated walls of the jacket D, and this heated air serves to prevent the muffler from being chilled. The heated air likewise in finding its way upward and out through the

openings 26 in the flanged guide-plate F serves to promote the heating of the vessels placed directly upon the muffler.

This device is exceedingly simple. It is practical and, as stated, can be readily applied or adapted to the exhaust-pipe of any hot-air or similar engine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a muffler for heating purposes, a tube, an imperforate partition in the tube, extending longitudinally thereof, dividing the same into two chambers, said tube being provided with perforations at opposite sides of the partition, for the purpose described.

2. In a muffler for heating purposes, a tube, a jacket for the tube spaced therefrom to form a continuous surrounding chamber, an imperforate partition in the tube, which partition at opposite ends is secured to the tube at diametrically opposite points, said tube being provided with perforations at opposite sides of the partition, the chambers thus formed in the tube being in direct communication one with the inlet and the other with the outlet end of the tube, as set forth.

3. A muffler cooking attachment, comprising a pipe, a jacket surrounding the pipe, the pipe within the jacket being provided with upper and lower series of apertures, and a partition secured at one end to the bottom of the pipe at one end of the lower series of apertures, and at its opposite end to the upper wall of the pipe at the opposite end of the upper series of apertures, thereby forming two chambers in communication with each end of the pipe, both chambers being in communication with the space between the jacket and the pipe inclosed thereby.

4. A muffler cooking attachment, consisting of a jacket, a pipe extending through the said jacket, having apertures at the top and at the bottom, and a partition secured at its end respectively to the top and bottom of the pipe, dividing the pipe into two compartments both compartments being in communication with the space between the jacket and the pipe, one compartment being in connection with the inlet end of the pipe and the other with the outlet end of the pipe, a casing surrounding the said jacket and spaced therefrom, having its upper portion adapted to receive vessels, the lower portion of the casing being apertured, for the purpose described.

5. A muffler cooking attachment, consisting of a jacket, a pipe passed through the said jacket, provided with upper and lower series of apertures, an inclined partition secured at one end to the bottom of the pipe and at the opposite end to the upper portion of the pipe, each end of the partition being beyond one end aperture of a series, the upper portion of the said jacket being flat, a casing surrounding the said jacket, and a

guide-plate at the upper portion of the jacket, apertured to receive vessels, which vessels are adapted to rest on the upper flat surface of the jacket, as set forth.

5 6. A muffler cooking attachment, consisting of a jacket, a pipe passed through the said jacket, provided with upper and lower series of apertures, an inclined partition secured at one end to the bottom of the pipe
10 and at the opposite end to the upper portion of the pipe, each end of the partition being beyond one end aperture of a series, the upper portion of the said jacket being flat, a casing encircling the said jacket, being spaced
15 therefrom, which casing is constructed in hinged sections having openings at their ends to receive the extremities of the pipe within

the jacket, the bottom section being open at the top and closed at the bottom with the exception of the air-vents therein, the upper 20 section of the casing being open at top and bottom, locking devices for the two sections of the casing, and a flanged guide-plate fitted in the upper portion of the upper section of the casing and provided with openings adapted 25 to receive vessels to be heated, as set forth.

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

JOHN H. FOX.

Witnesses:

J. FRED ACKER,
JNO. M. RITTER.