

J. M. WALTON.
MUFFLER.

APPLICATION FILED MAR. 19, 1909.

Patented Oct. 19, 1909.

937,665.

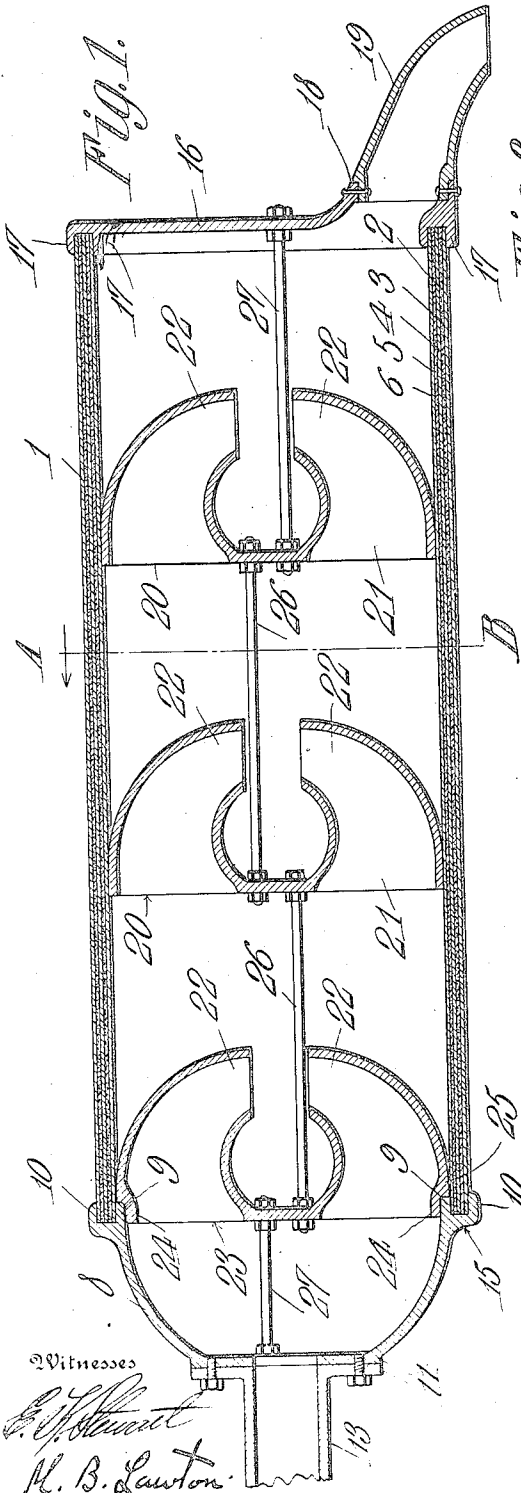


Fig. 1.

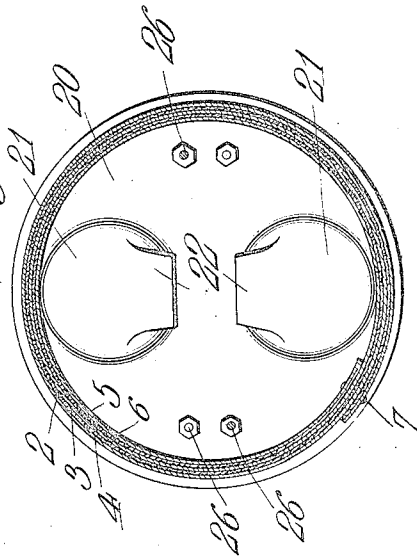


Fig. 2.

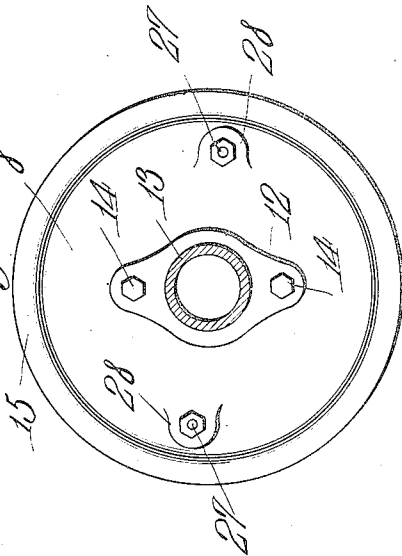


Fig. 3.

Witnesses
E. H. H. H.
M. B. Lawton.

Inventor
John M. Walton

By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN M. WALTON, OF NEW ORLEANS, LOUISIANA.

MUFFLER.

937,665.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed March 19, 1909. Serial No. 484,520.

To all whom it may concern:

Be it known that I, JOHN M. WALTON, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented a new and useful Muffler, of which the following is a specification.

The objects of the invention are, generally, the provision, in a merchantable form, of a device of the above mentioned class which shall be inexpensive to manufacture, facile in operation and devoid of complicated parts; specifically, the provision of a muffler which shall divide the exhaust into opposing streams; the provision of a housing of novel and improved construction; the provision of a cap for the housing, designed to receive the exhaust before it passes into the housing proper; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings and particularly pointed out in that portion of this instrument wherein patentable novelty is claimed for certain distinctive and peculiar features of the device, it being understood that within the scope of what is thus hereinafter claimed, divers changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings:—Figure 1 shows my invention in vertical longitudinal section; Fig. 2 is an end elevation thereof; Fig. 3 is a vertical transverse section on the line A—B of Fig. 1.

In carrying out my invention, I provide, primarily, a housing 1, which may be of any form. In fashioning this housing 1 I superpose upon a sheet of iron or other metal, a sheet of asbestos or other heat-insulating medium. The strip thus formed I roll into cylindrical form, the edges thereof being assembled by means of rivets 7.

The housing is not fashioned from a single convolute of material, but the strip is wound upon itself several times, the metal portion thereof being of sufficient length to

extend beyond the asbestos portion, so that the casing may be lined within and inclosed without by metal.

In the accompanying drawings, the heat insulating portions of the housing 1 are denoted by the numerals 3 and 5, the metal portions thereof being denoted by the numerals 2, 4 and 6. The cap 8 is preferably hemi-spherical in form, its edges being broadened as denoted by the numeral 15. This broadened edge 15 is slotted peripherally to form flanges 9 and 10, adapted to receive, terminally, the housing 1. The end of this cap 8 is rendered slightly oblate, to form a base 11, adapted to receive the flange 12 of the inlet pipe 13, the said flange 12 being assembled with the base 4 by means of bolts 14. The opposite end of the housing 1 is closed by means of a flat cap 16, having flanges 17 arranged to receive the terminal of the housing 1. This cap 16 is provided with a tubular off-set 18, arranged to receive a tube 19, whereby the exhaust finally leaves the device. I further provide a plurality of baffle plates 20, conforming to the interior of the housing 1. These baffle-plates 20 are provided with nozzles 21, preferably disposed in the diameter of the plate and having reduced terminals 22. The mouths of these reduced terminals are disposed exactly opposite to each other, so that the stream from one of the nozzles will be projected fairly against the stream proceeding from the opposite nozzle. As shown in Fig. 1, these nozzles 21 are made to curve toward each other, and are gradually reduced in diameter as the curvature takes place.

The baffle-plates 20 which are mounted in the interior of the housing 1 differ slightly from the end baffle-plate 23. This end baffle-plate 23 is thickened at its edge, as denoted by the numeral 24, the exterior of this thickened portion 24 being cut away to form a shoulder 25, adapted to be received in abutment by the shoulder 9 of the cap 8. The several baffle-plates 20 which are disposed in the interior of the housing 1 may be connected together by bolts 26, the said bolts 26 likewise connecting the baffle-plates which are disposed within the housing with the terminal baffle-plate 23. Another series of bolts 27 unite the baffle-plates with the caps 8 and 16. The cap 8 is provided upon its exterior surface with a seat 28, adapted to receive the heads of the bolts 27.

The cap 8 and the baffle-plates 20 and 23

are fashioned from cast iron or other metal. It will be seen that when the exhaust enters the device by means of the inlet pipe 13 it is received into a solid chamber formed by the cap 8 and the end baffle-plate 23. These members constitute a chamber of peculiar strength and well adapted to receive the first force of the exhaust. The tapering form of the nozzles tends to muffle the exhaust and this muffling function is further promoted by the fact that the said nozzles are provided with curved walls against which the exhaust must impinge as it passes through each baffle-plate. The effectiveness of the device however rests principally in the fact that the exhaust is, by means of the nozzles carried by each of the baffle-plates, divided into two opposing streams, which, leaving the said nozzles, conflict with each other.

I have shown and described my invention as provided with three baffle-plates, but it is obvious that any number, from 1 upward, may be employed. Likewise I have shown each of the baffle-plates as being provided with two nozzles; but a greater number may be used, if desired.

The laminated construction of the housing serves to prevent the device from presenting a heated exterior, and, since the first impulse of the exhaust is received in the chamber formed by the cap and the first baffle-plate, is amply strong to withstand the explosive force of any gas engine exhaust.

Having thus described my invention, what I claim as new, and desire to protect, by Letters Patent, is:—

1. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat insulating medium, and provided with an inlet port and an exhaust port; and a baffle plate disposed transversely of the housing between the inlet port and the exhaust port, the said plate being provided with nozzles arranged to discharge conflicting exhaust streams.

2. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat-insulating medium, and having an inlet port adjacent one end and an exhaust port adjacent the other end; and a baffle-plate disposed transversely of the housing between the inlet port and the exhaust port, the said plate being provided with nozzles arranged to discharge conflicting exhaust streams.

3. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat-insulating medium, and having an inlet port adjacent one end and an exhaust port adjacent the other end; and a baffle-plate disposed transversely of the housing between the inlet port and the exhaust port, the said baffle-plate being pro-

vided with tapering nozzles arranged to discharge conflicting exhaust streams.

4. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat-insulating medium, and having an inlet port adjacent one end and an exhaust port adjacent the other end; and a baffle-plate disposed transversely of the housing between the inlet port and the exhaust port, the said baffle-plate being provided with tapering nozzles curved toward each other and having opposed outlets.

5. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat insulating material, and having an inlet port and an exhaust port; and a baffle plate disposed transversely of the housing between the inlet port and the exhaust port, the said baffle plate being provided with tapering nozzles arranged to discharge conflicting exhaust streams.

6. In a device of the class described, a tubular laminated housing consisting of alternate laps of metal and of heat-insulating medium; an integral cap projecting from one end of the housing; a baffle-plate disposed in the mouth of the cap; and other baffle-plates disposed within the housing, said baffle-plates being provided with nozzles arranged to discharge conflicting exhaust streams.

7. In a device of the class described, a tubular laminated housing consisting of alternate laps of metal and of heat-insulating medium; an integral cap projecting from one end of the housing; a baffle-plate disposed in the mouth of the cap; and other baffle-plates disposed within the housing, the said baffle-plates being provided with tapering nozzles arranged to discharge conflicting exhaust streams.

8. In a device of the class described, a tubular laminated housing consisting of alternate laps of metal and of heat-insulating medium; an integral cap projecting from one end of the housing; a baffle-plate disposed in the mouth of the cap; and other baffle-plates disposed within the housing the said baffle-plates being provided with tapering nozzles curved toward each other and having opposed outlets.

9. In a device of the class described, a laminated housing consisting of alternate laps of metal and of heat insulating medium, and having an inlet port and an exhaust port; and a baffle plate disposed transversely of the housing between the inlet port and the exhaust port, the said baffle plate being provided with tapering nozzles curved toward each other and having opposed outlets.

10. In a device of the class described, a housing provided with an inlet port and an

exhaust port; and a baffle plate disposed transversely of the housing between the inlet port and the exhaust port, the said plate being provided with nozzles arranged to discharge conflicting exhaust streams.

11. In a device of the class described, a housing provided with an inlet port and an exhaust port; and a baffle plate disposed transversely of the housing between the inlet and the exhaust port, the said baffle plate being provided with tapering nozzles arranged to discharge conflicting exhaust streams.

12. In a device of the class described, a housing provided with an inlet port and an exhaust port; and a baffle plate disposed transversely of the housing between the inlet port and the exhaust port, the said baffle plate being provided with tapering nozzles curved toward each other and having opposed outlets.

13. In a device of the class described, a tubular housing; an integral cap projecting from one end of the housing; a baffle plate disposed in the mouth of the cap and being provided with nozzles arranged to discharge

conflicting exhaust streams; and other baffle plates located within the housing.

14. In a device of the class described, a tubular housing; an integral cap projecting from one end of the housing; a baffle plate disposed in the mouth of the cap, the said baffle plate being provided with tapering nozzles arranged to discharge conflicting exhaust streams; and other baffle plates located within the housing.

15. In a device of the class described, a tubular housing; an integral cap projecting from one end of the housing; a baffle plate disposed in the mouth of the cap, said baffle plate being provided with tapering nozzles curved toward each other and having opposed outlets; and other baffle plates located within the housing.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN M. WALTON.

Witnesses:

WM. C. McGAUGHEY,
HARRY O. COOPER.