April 28, 1925. 1,535,787

J. RAGANY

MUFFLER

Filed Nov. 25, 1924 2 Sheets-Sheet 1

Fig. 1.

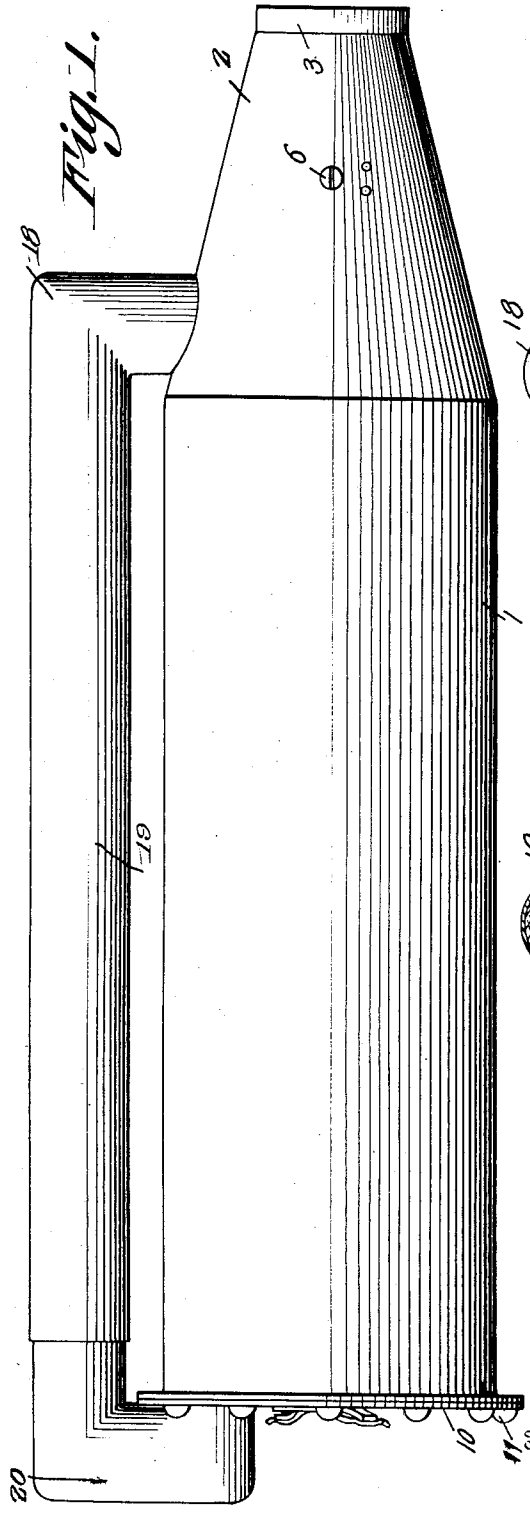


Fig. 6.

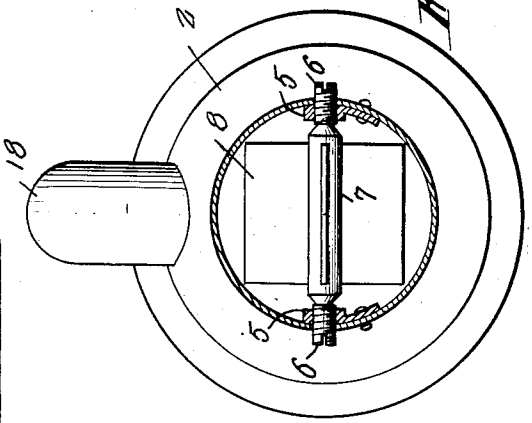
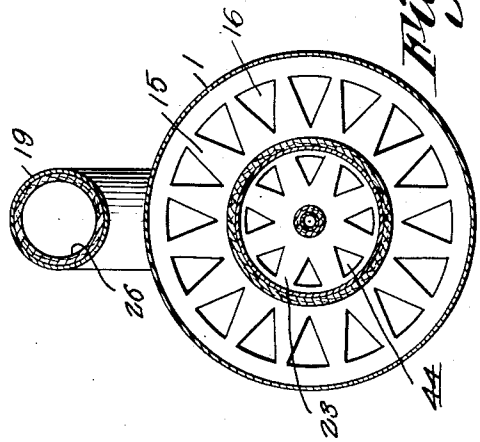


Fig. 5.



John Ragany
Inventor,

By C. A. Snow & Co.
Attorneys.

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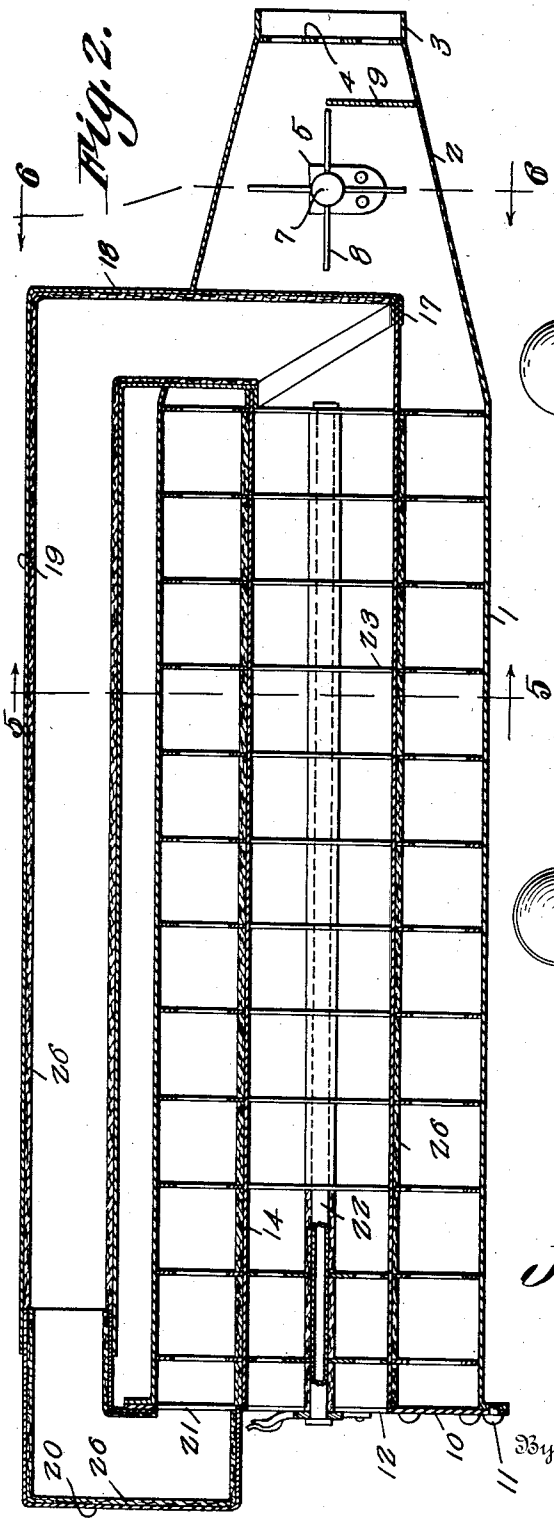


Fig. 2.

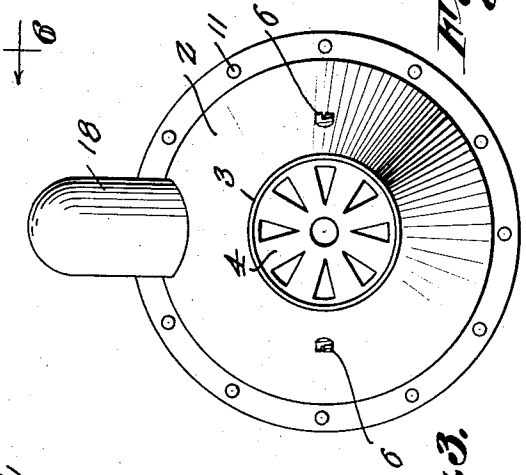


Fig. 4.

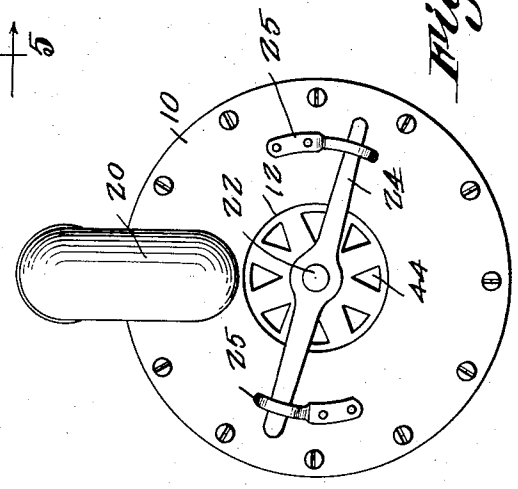


Fig. 3.

John Ragany
Inventor

By Cashow & Co.
Attorneys.

Patented Apr. 28, 1925. 1,535,787

UNITED STATES PATENT OFFICE.

JOHN RAGANY, OF CANTON, OHIO.

MUFFLER.

Application filed November 25, 1924. Serial No. 752,179.

To all whom it may concern:

Be it known that I, JOHN RAGANY, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Muffler, of which the following is a specification.

The device forming the subject matter of this application is a muffler adapted to be used on motor propelled vehicles, or anywhere else, to muffle the products of combustion, and, to a large extent, to remove from the products of combustion, unconsumed carbon which may be carried thereby.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

Although a preferred form has been shown in the drawings, it will be understood that a mechanic, working within the scope of what is claimed, may make changes and alterations without departing from the spirit of the invention.

In the accompanying drawings;—

Figure 1 shows, in side elevation, a device constructed in accordance with the invention; Figure 2 is a longitudinal section; Figure 3 is an elevation showing one end of the device; Figure 4 is an elevation showing the opposite end of the device; Figure 5 is a cross section on the line 5—5 of Figure 2; Figure 6 is a cross section on the line 6—6 of Figure 2.

In carrying out the invention, there is provided a tubular casing 1 having a tapered end 2 terminating in a collar 3, a perforated plate 4 being located in the tapered end 2 at a point closely adjacent to the collar 3. Supports 5 are mounted in the end 2 of the casing 1. Adjustable bearings 6 are threaded into the supports 5. A shaft 7 is journaled for rotation in the bearings 6 and is provided with blades 8 the parts 7 and 8 forming a rotor. A barrier 9 extends across the end 2 of the casing 1 and serves to direct the products of combustion in such a way that they will cause the rotor to turn. The rotor serves to distribute the products of combustion as they enter the casing 1 through the end 2 of the casing.

An end plate 10 is detachably secured at 11 to that extremity of the casing 1 which is remote from the tapered end 2. The end plate 10 has a central opening 12 communicating with a tube 14 which is secured to the end plate 10, the tube 14 being disposed coaxially with respect to the tubular casing 1. First baffles 15 are disposed about the tube 14 and are secured thereto, the said baffles fitting closely but slidably within the casing 1. The baffles 15 have openings 16.

The inner end of the tube 14 cooperates with the socket 17 of the inner end of an outwardly extended elbow 18 which is prolonged to form a pipe 19 extended longitudinally of the casing 1 toward the front end thereof. In the pipe 19 is received one end of an elbow 20, the other end of the elbow being secured to the detachable end plate 10 of the tubular casing 1, the elbow 20 opening through the plate 10, as shown at 21.

The numeral 22 marks a support, which may be a pipe or rod, located within the tube 14. The support 22 carries a plurality of second baffles 23 which fit closely but removably within the tube 14. The baffles 23 have openings 44. A latch 24 is mounted to swing on the outer end of the support 22 and cooperates with keepers 25 on the outer surface of the end plate 10 of the casing 1. Asbestos may be used wherever desired, as shown at 26, to line or cover any portions of the device.

In practical operation, the smoke, entering the end 2 of the casing 1, moves along the casing, to the left in Figure 2, through the openings 16 in the first baffles 15. The smoke passes through the elbow 20, and moves rearwardly through the pipe 19, the smoke passing inwardly, by way of the elbow 18, and, finally, moving forwardly, through the tube 14, the smoke passing through the openings 44 of the second baffles 23, and leaving the casing 1 by way of the opening 12 in the end plate 10.

When it is desired to clean the device, the latch 24 may be swung out of engagement with the keepers 25, whereupon the support 22 may be removed, together with the second baffles 23 which are secured to the support. The end plate 10 may be removed, carrying with it the elbow 20 and the first baffles 15. The general construction of the device, therefore, is such that it may be taken down readily for cleaning off or repairs.

Among other combinations, the device in-

cludes a tubular casing 1, provided at one extremity with an end member 10, a conduit 20—19—18—14 opening through the end member 10, the said conduit being extended backwardly along the casing, and into the casing at a point adjacent to the other extremity of the casing, the conduit comprising a part 14 disposed within the casing, and opening through the end plate 10, first baffles 15 in the space between said part 14 of the conduit and the casing 1, and second baffles 23 in said part 14 of the conduit.

Having thus described the invention, what is claimed is;—

1. In a device of the class described, a tubular casing provided at one extremity with an end member, a conduit opening through the end member, the conduit being extended backwardly along the casing, and into the casing at a point adjacent to the other extremity of and spaced from the casing, the conduit comprising a part disposed within the casing and opening through the end member, first baffles in the space between said part of the conduit and the casing, and second baffles in said part of the conduit.

2. In a device of the class described, a tubular casing provided at one extremity with an end member, a conduit comprising detachably connected parts, one of which is carried by the end member and opens through the end member, the other of which extends backwardly along the casing and into the casing at a point adjacent to the other extremity of the casing, a tube spaced from the casing and detachably assembled with the last-specified part of the conduit, the tube being secured to the end member and opening through the end member, first baffles in the space between the tube and the casing, and second baffles in the tube.

3. A device of the class described, constructed as set forth in claim 2, and further characterized by the provision of a support whereon the second baffles are mounted, and means for connecting the support detachably and removably with the end member.

4. In a device of the class described, a tubular casing provided at one extremity with an end member, a conduit opening through the end member, the conduit being extended backwardly along the casing, and into the casing at a point adjacent to the other extremity of the casing, the conduit comprising a tube disposed within and spaced from the casing, the tube opening through the end member, first baffles in the space between the tube and the casing, a support within the tube, second baffles carried by the support and located within the tube, and means for connecting the support detachably with the end member.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

JOHN RAGANY.