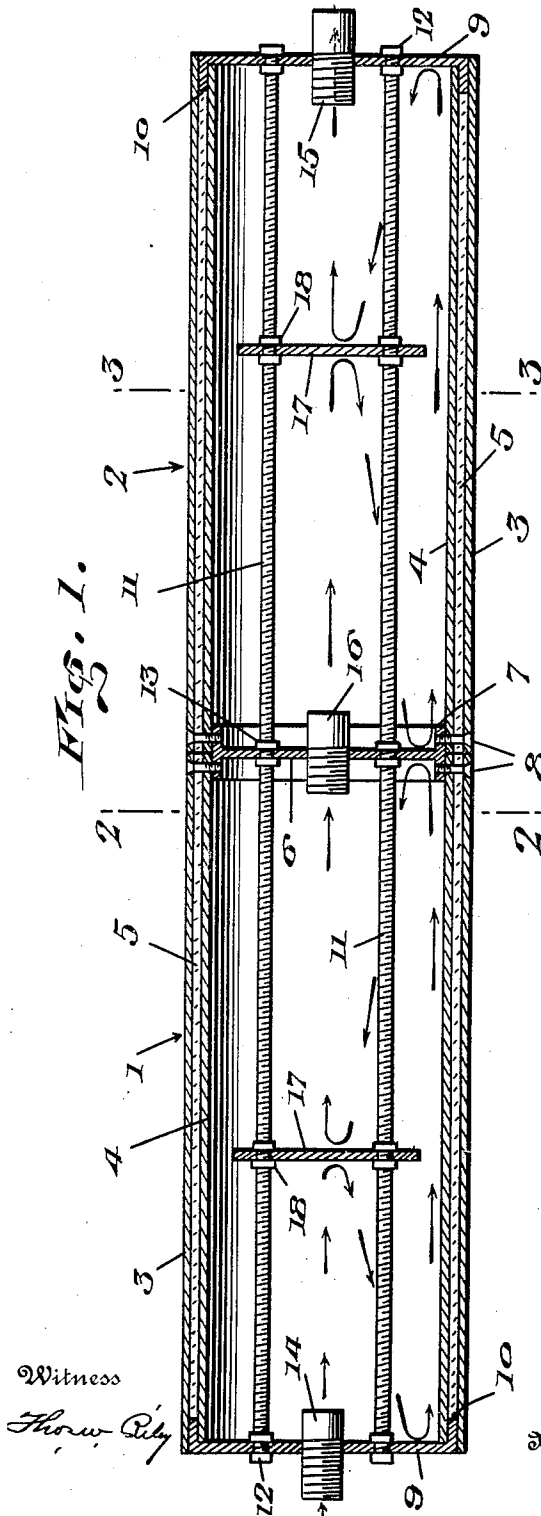
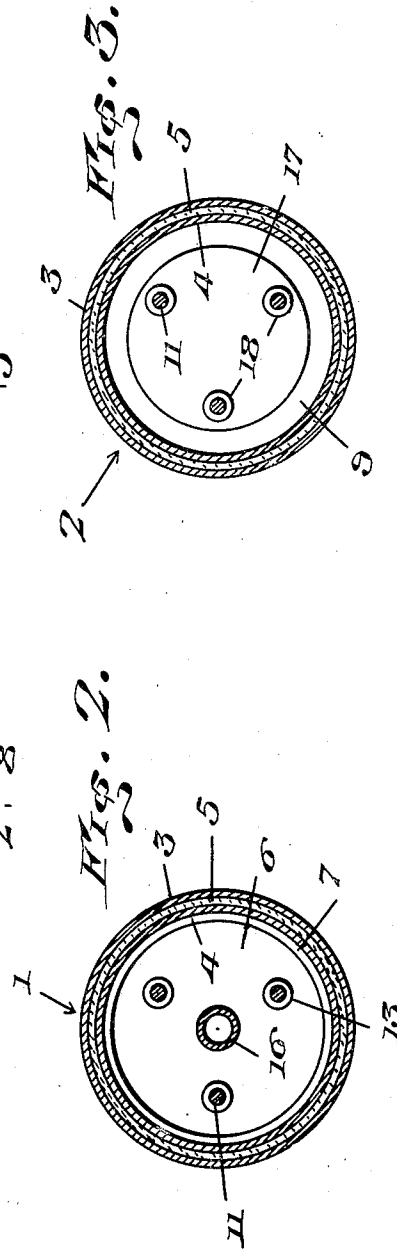


1,333,533.

Patented Mar. 9, 1920.



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UNITED STATES PATENT OFFICE.

LAUNIE C. BISPLINGHOFF, OF CHAFFEE, MISSOURI.

ENGINE-MUFFLER.

1,333,533.

Specification of Letters Patent.

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Application filed July 21, 1919. Serial No. 312,232.

To all whom it may concern:

Be it known that I, LAUNIE C. BISPLINGHOFF, a citizen of the United States, residing at Chaffee, in the county of Scott and State of Missouri, have invented certain new and useful Improvements in Engine-Mufflers; 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.

The present invention relates to mufflers for internal combustion engines, and aims to provide a device of that character embodying a novel and improved construction and assemblage of the component elements.

A further object is the provision of a muffler of simple and inexpensive construction, which is also practical and efficient in use, and the various parts of which can be furnished at small cost and without special machinery.

A still further object is the provision of a muffler embodying sections inclosing chambers and held together by rods extending longitudinally through the chambers, and on which baffles are mounted between the passages leading into and out of the successive chambers.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a longitudinal section of the muffler, portions being shown in elevation.

Figs. 2 and 3 are cross sections on the respective lines 2—2 and 3—3 of Fig. 1.

In carrying out the invention there is provided a pair of cylindrical sections 1 and 2 disposed end to end in longitudinal alignment, and forming the casing of the muffler. Each of the sections comprises the outer and inner concentric tubular shells 3 and 4, respectively, with a filler 5 between them of heat insulating and compressive shock absorbing material. Disposed between the two sections within the adjacent ends thereof is a circular partition or disk 6 provided with annular flanges 7 at its margin fitting within

the sections 1 and 2, and the adjacent ends of said sections are secured to said flanges 7 by means of the screws 8 or the like, thus forming a secure joint between the sections. Caps or end plates 9 are provided for the opposite ends of the sections 1 and 2, and they bear against the ends of the inner shells 4, and have marginal flanges 10 extending between the outer and inner shells.

In order to firmly unite the parts of the sections, longitudinal stay rods 10 extend through the sections parallel with the axis and extend through the partition 6 and caps 9, and nuts 12 are threaded on said rods, which are screw threaded from end to end, and said nuts bear against the inner and outer sides of the caps 9 to hold them in place. Similar nuts 15 are threaded on the rods and bear against the opposite sides of the partition 6, so that said rods hold the caps or ends 9 in place which in turn hold the shells or sections together, thereby providing a firm construction.

A tubular inlet member 14 is screw threaded through the end or cap 9 of the section 1, for connection with the exhaust pipe of the engine, and a tubular member 15 is screw threaded through the other cap 9 for the outlet of the exhaust gases from the muffler, while a tubular member 16 is screw threaded through the partition 6 for the flow of the gases from the section 1 into the section 2. Baffles 17 in the form of disks are mounted on the rods 11 between the member 16 and the members 14 and 15, and are held in their adjusted position by nuts 18 on said rods, it being noted that when said nuts are adjusted, the baffles 17 can be adjusted to different longitudinal positions as desired.

The exhaust gases in passing into the muffler through the member 14 will impinge against the first baffle 17, which will reflect the gases rearwardly, and they will rebound from the corresponding cap 9 and pass along the wall of the section 1 past the first baffle 17, and will be reflected back by the partition 6 toward said baffle, from which the gases again flow forwardly through the member 16 into the second section 2 in which the flow of the gas is repeated as in the first section due to the presence of the baffle or disk 17 therein. By the provision of the baffles 17 on the rods 11 between the inlet and outlet members of the chambers, this will restrict or impede the flow of gases so

as to muffle the explosive effects of the exhaust, which will pass to the atmosphere through the member 16 noiselessly.

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

1. A muffler comprising a pair of chambers having a communicating passage between them and an inlet and an outlet at their opposite ends, longitudinal rods extending through said chambers, and baffles mounted for adjustment on said rods between said passage and the inlet and outlet.

2. A muffler comprising sections disposed end to end, a partition within the adjacent ends of the sections, caps fitting the opposite ends of the sections, said partition having a passage and said caps having an inlet and an outlet, longitudinal rods extending through said partition and caps for holding the parts assembled, and baffles mounted for adjustment on said rods and located between said passage and the inlet and outlet.

3. A muffler embodying a casing having a pair of chambers and a partition between them provided with a passage between said chambers, the ends of the chamber having

an inlet and an outlet, longitudinal rods connecting the ends of the chamber and extending through the partition, and baffles mounted on said rods between said passage and the inlet and outlet.

4. A muffler embodying a pair of tubular sections disposed end to end, a partition fitting within the adjacent ends of said sections to which said ends are secured, caps fitting the opposite ends of the sections, tubular members extending through said partition and caps for the flow of gases into and out of the sections in succession, longitudinal rods extending through said caps and partition, baffles mounted on said rods, and means on the rods engaging said partition, caps and baffles for holding the parts in place.

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

LAUNIE C. BISPLINGHOFF.

Witnesses:

EUGENE BURGESS,
C. A. JAMES.