No. 810,542. PATENTED JAN. 23, 1906.

W. R. KAHLENBERG.

EXHAUST MUFFLER.

APPLICATION FILED SEPT. 9, 1905.

Fig. 1.

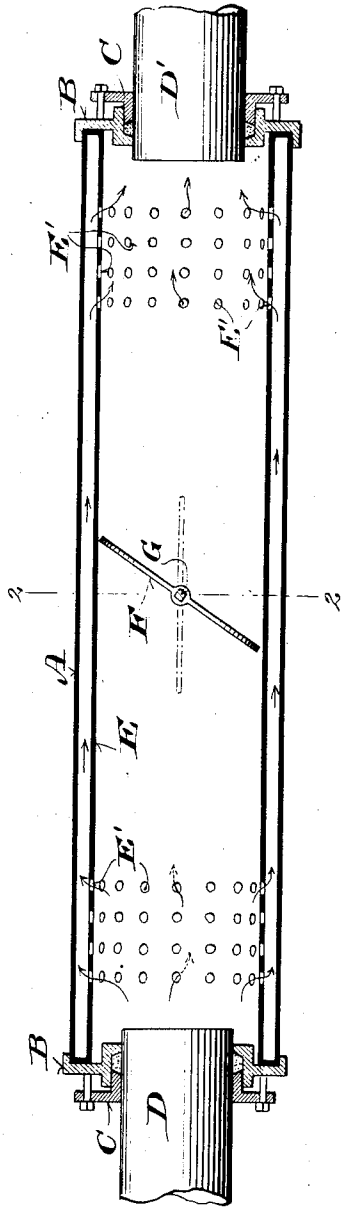


Fig. 2.

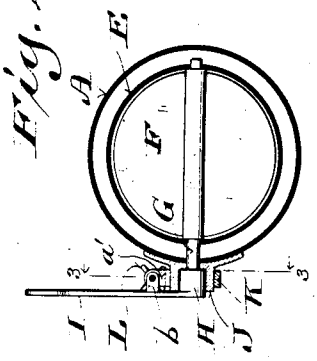
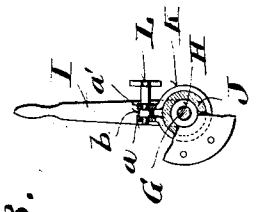


Fig. 3.



Witnesses:
George Teller.
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UNITED STATES PATENT OFFICE.

WILLIAM R. KAHLENBERG, OF TWO RIVERS, WISCONSIN.

EXHAUST-MUFFLER.

No. 810,542. Specification of Letters Patent. Patented Jan. 23, 1906.

Application filed September 9, 1905. Serial No. 277,775.

To all whom it may concern:

Be it known that I, WILLIAM R. KAHLENBERG, a citizen of the United States, and a resident of Two Rivers, in the county of Manitowoc and State of Wisconsin, have invented certain new and useful Improvements in Exhaust-Mufflers; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention consists in certain peculiarities of construction and combination of parts to be fully set forth hereinafter, with reference to the accompanying drawings, and subsequently claimed, its object being to provide a simple and effective muffler for engines in which the travel of the exhaust may be switched to the outside of the muffler-jacket or passed freely through the same at the will of the operator.

In the drawings, Figure 1 represents a longitudinal section of a muffler made in accordance with my invention; Fig. 2, a cross-section of the same in line 2 2 of Fig. 1, and Fig. 3 a detail section of the valve-handle connection as indicated by line 3 3 of Fig. 2.

Referring by letter to the drawings, A represents a drum, and B the heads thereof, which are provided with glands C for the reception of exhaust inlet and outlet pipes D D′, respectively. An internal jacket E is secured to the heads B, forming a space between the inner walls of the drum of an area equal to or greater than the exhaust-pipe area, and this jacket is provided at both ends with rows of perforations E′, which combined are also equal to the exhaust-pipe area. A butterfly-valve F, having its stem G provided with journals in the walls of the jacket E, is centrally located in the latter, and its stem projects through the drum and is secured to the hub H of a hand-lever I, said hub being loosely mounted in a hollow boss J, which is flanged and secured to the outer wall of said drum. Upon the face of the boss J is fitted a split friction-ring K, having ears *a a′*, which straddle a lug *b*, extending inward from the hand-lever. This lug together with the ears *a a′* of the ring are provided with openings, the ear *a* being threaded to receive the thread-spindle of a hand-wheel L, having a hub which is adapted to impinge against the face of the ear *a′* of the split ring and through its threaded connection with the lug *b* draws said ears together, thereby closing the ring upon the boss J sufficiently to exert a friction that will hold the butterfly-valve, through its connections, in a set position.

When the valve F is in the closed position, (shown in full lines of the drawings,) the exhaust is directed, as indicated by the arrows, through the forward perforations and between the walls of the drum and jacket until it reaches the rear set of perforations, where it escapes through the latter to the outlet-pipe.

If the handle is turned so as to open the valve, the exhaust has a clear passage directly through the jacket to the outlet and is not effected by the muffler.

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

1. A muffler consisting of a closed drum provided with heads at either end thereof, exhaust inlet or outlet openings in the heads, an inner jacket of less diameter than the drum in communication with the exhaust and inlet openings, peripheral openings in the jacket adjacent to its ends, and a valve fitted in said jacket between the peripheral openings.

2. A muffler consisting of a drum having an inner jacket of less diameter than said drum, inlet and outlet exhaust-openings therefor, two series of openings at either end of the jacket, a valve fitted therein between the series of openings, a stem for said valve, a lever mounted on the stem, a boss secured to the drum concentric with the valve-stem, and a friction-band mounted on said boss and connected to the handle.

3. A muffler consisting of a drum having an inner jacket of less diameter than the drum, inlet and outlet exhaust-openings therefor, two series of openings at either end of the jacket communicating with the space between the latter and said drum, a valve fitted in said jacket intermediate of the two series of openings, a stem for said valve, a boss secured to the outside of the aforesaid drum through which the valve-stem projects, a lever secured to the valve-stem adjacent to the boss and provided with a lug, a split ring

fitted over said boss having ears engaging the said lug, and a hand-wheel in threaded engagement with one of the ears, whereby the tension of the aforesaid split ring is adjusted upon the boss and the lever secured thereto.

In testimony that I claim the foregoing I have hereunto set my hand, at Two Rivers, in the county of Manitowoc and State of Wisconsin, in the presence of two witnesses.

WILLIAM R. KAHLENBERG.

Witnesses:

FRED W. DICKE,

AUGUST DRAEGER.