

J. A. CARRICK.

MUFFLER.

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980,064.

Patented Dec. 27, 1910.

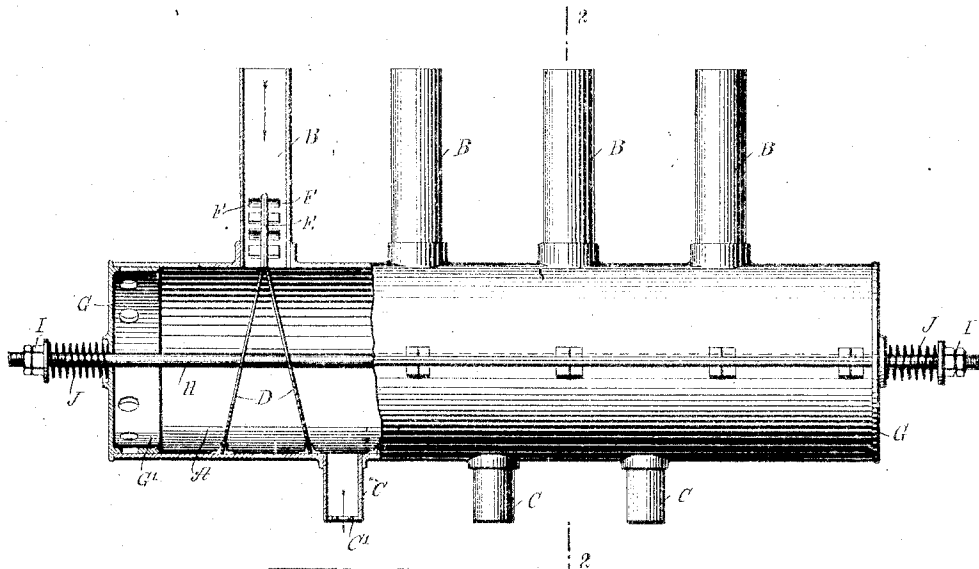


Fig. 1

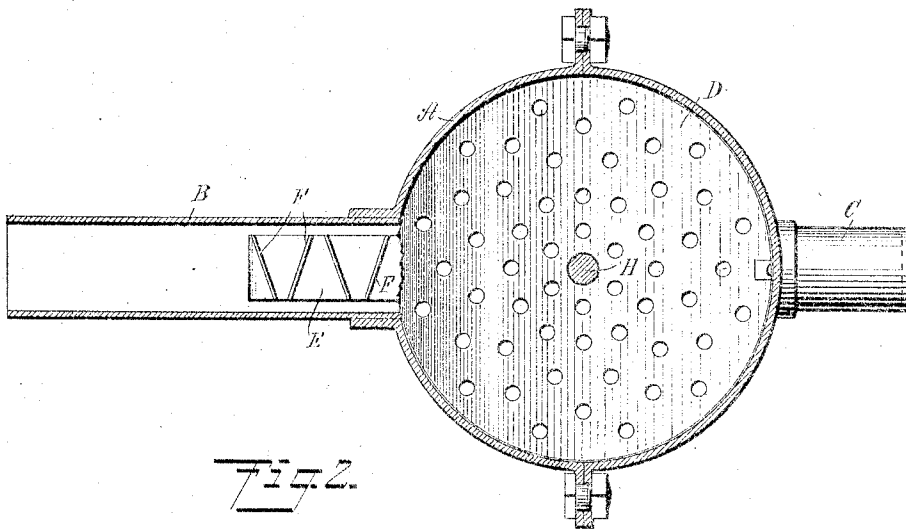


Fig. 2

WITNESSES:

David J. [Signature]
Wm. H. [Signature]

INVENTOR

John A. Carrick

BY

Miner Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN ARCHIBALD CARRICK, OF GEORGETOWN, KENTUCKY.

MUFFLER.

980,064.

Specification of Letters Patent.

Patented Dec. 27, 1910.

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To all whom it may concern:

Be it known that I, JOHN A. CARRICK, a citizen of the United States, and a resident of Georgetown, in the county of Scott and State of Kentucky, have invented a new and Improved Muffler, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved muffler, for use in connection with steam engines, internal combustion engines and the like, and arranged to effectively muffle the exhaust without producing back pressure in the engine cylinder, and to prevent injury to or destruction of the muffler in case of accidental explosion in the muffler.

In order to accomplish the desired result, use is made of a shell provided with an inlet and an outlet, a breaker extending into the inlet, and a perforate baffle in the shell opposite the inlet. Use is also made of means for automatically relieving the shell of excessive pressure, such as is produced by explosion within the muffler.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views.

Figure 1 is a plan view of the muffler, parts being shown in section; and Fig. 2 is an enlarged cross section of the same on the line 2-2 of Fig. 1.

The shell A of the muffler is preferably made cylindrical and in sections bolted together, and on one side of the shell are arranged spaced inlets B connected with the exhaust, and on the opposite side of the shell are arranged outlets C having perforated ends or caps C', as plainly indicated in Fig. 1, the outlets C being out of register with the inlets B, as will be readily understood by reference to Fig. 1. Within the shell A and opposite each inlet B is arranged a baffle D in the form of two perforate plates standing oblique one to the other, with the apex of the plates approximately at the middle of the corresponding inlet B. The baffle D is provided with a breaker extending into the corresponding inlet B, and this breaker is formed of a plate E extending centrally within the inlet B and provided at opposite faces with deflectors F, arranged in zigzag fashion, as plainly indicated in Figs. 1 and 2. Now, by the arrangement described, the exhaust pass-

ing from the engine through the inlet B, first encounters the breaker and then the perforate baffle D, so that the exhaust is split up and silenced or deadened and finally passes through the outlet C into the air, without producing undue noise.

It is understood that the obliquely-disposed baffles D readily distribute the exhaust within the shell A, so as to prevent back pressure in the cylinder of the engine. The heads G at the ends of the cylinder A are provided with perforated rims G', slidably engaging the shell A at the inside thereof; and through the shell A, the baffles D and the heads G extends centrally a rod H, provided at its outer ends with nuts I, on which bear the outer ends of springs J, pressing with their inner ends on the outer faces of the heads G, as plainly indicated in Fig. 1. The springs J normally hold the heads G in a closed position, as shown in Fig. 1, but in case an accidental explosion takes place within the shell A, then the pressure incident to the explosion moves the heads G outwardly, so that the perforations of the rims G' open into the air, thus allowing the products of combustion incident to the explosion to pass into the air, thereby relieving the shell A of undue pressure, and thus preventing the shell from being injured or destroyed.

It is understood that the springs J yieldingly hold the heads G in place, but allow outward movement thereof in case of excessive pressure within the shell A, to relieve the latter of such excessive pressure as above described. By adjusting the nuts I, the tension of the springs J may be increased or diminished to suit existing conditions.

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

1. A muffler, comprising a shell, a tubular inlet opening into the shell, an outlet leading from the shell, a breaker within the tubular inlet, and a transverse perforate baffle in the shell opposite said inlet.

2. A muffler, comprising a shell, an inlet entering the shell at one side, an outlet leading from the shell at the opposite side and out of register with the said inlet, and a baffle in the form of oblique perforate plates extending transversely within the shell and having their apex approximately at the middle of the said inlet.

3. A muffler, comprising a shell, an inlet

07 entering the shell at one side, an outlet lead-
 ing from the shell at the opposite side and
 out of register with the said inlet, a baffle
 in the form of oblique perforate plates ex-
 tending transversely within the shell and
 91 having their apex approximately at the mid-
 dle of the said inlet, and a breaker extend-
 ing from the said baffle into the inlet.

4. A muffler, comprising a shell, an inlet
 entering the shell at one side, an outlet lead-
 01 ing from the shell at the opposite side and
 out of register with the said inlet, a baffle in
 the form of oblique perforate plates extend-
 ing transversely within the shell and having
 their apex approximately at the middle of
 9 the said inlet, and a breaker extending from
 the said baffle into the inlet, each breaker
 having a plate, and deflecting flanges ex-
 tending obliquely on the plate.

5. A muffler, comprising a shell, an inlet
 entering the shell at one side, an outlet lead-
 ing from the shell at the opposite side and

out of register with the said inlet, a baffle
 in the form of oblique perforate plates ex-
 tending transversely within the shell and 25
 having their apex approximately at the
 middle of the said inlet, and a breaker ex-
 tending from the said baffle into the inlet,
 each breaker having a plate, and deflectors
 arranged zigzag on each face of the plate. 30

6. A muffler, comprising a shell, heads
 having perforate rims slidable on the ends
 of the shell, a rod extending through the
 shell and heads, and springs on the rods
 outside of the heads and pressing the latter 35
 into closed position.

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

JOHN ARCHIBALD CARRICK.

Witnesses:

JOHN C. NICHOLS,
 W. H. COTTRELL.