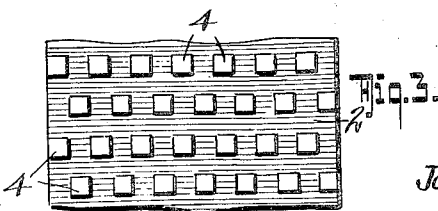
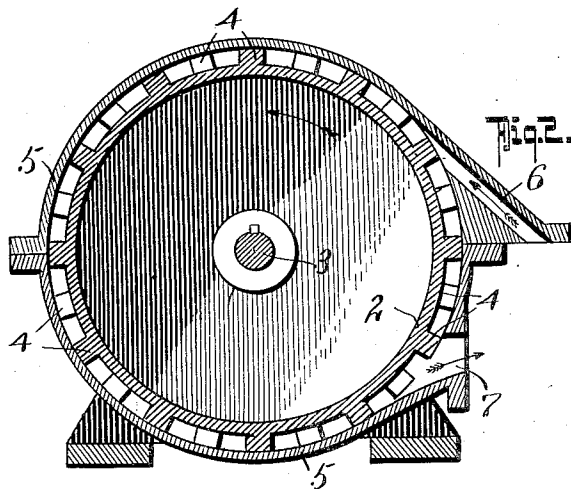
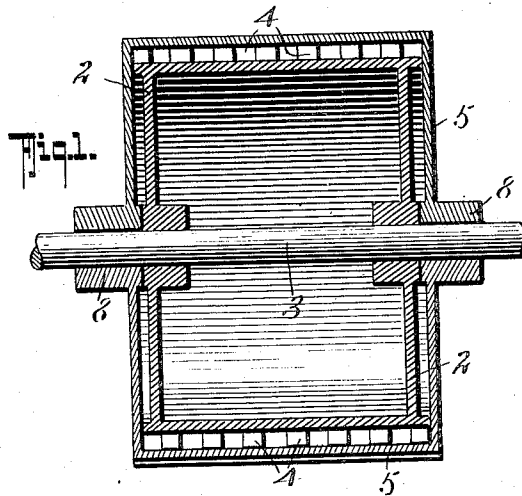


J. KELLINGTON.
GAS ENGINE MUFFLER.
APPLICATION FILED APR. 22, 1909.

951,080.

Patented Mar. 1, 1910.



WITNESSES:

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JOHN KELLINGTON, OF NEW WESTMINSTER, BRITISH COLUMBIA, CANADA.

GAS-ENGINE MUFFLER.

951,080.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed April 22, 1909. Serial No. 491,432.

To all whom it may concern:

Be it known that I, JOHN KELLINGTON, citizen of the Dominion of Canada, residing at New Westminster, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Gas-Engine Mufflers, of which the following is a specification.

This invention relates to a muffler for a high pressure steam or for an internal combustion engine which is designed to effectually soften the noise of the exhaust without materially lessening the efficiency of the engine.

As at present designed, mufflers so seriously interfere with a gas engine efficiency that they are seldom made use of. This reduction of efficiency is due to the obstruction which they cause to a free exhaust and the consequent back pressure in the cylinder. I overcome these objections in the invention which is the subject of this application by delivering the exhaust into an annular space in which annular space are projections which interfere with the direct passage of the escaping gases, but the obstructions are rotated in the direction of escape so that they do not interfere with the free escape of the exhaust to an extent that will cause a back pressure in the cylinder. The means by which I attain this result are fully explained in the following specification reference being made to the drawings by which it is accompanied in which;

Figure 1. is a longitudinal section through the muffler. Fig. 2. a vertical cross section of the same, and Fig. 3. a developed plan of a section of the muffling surface.

In these drawings 2 represents a cylinder or drum rotatable on its axis either on the driving shaft of the engine or on a supplementary shaft 3 driven therefrom. This cylinder 2 is provided on its exterior surface with a series of projections 4 which are preferably rectangular and placed in rows parallel to the axis of rotation, those of each row being staggered or placed opposite to the intervals of the adjacent rows. Inclosing this rotatable cylinder 2 and its projections and closely fitting the same is a casing 5 secured to the base or foundation plate of the engine and may appropriately carry the bearings 8 in which the shaft 3 of the cylinder 2 rotates. An annular space filled with staggered projections is thus provided into which is delivered at an angle toward the

direction of rotation the exhaust 6 of the high pressure steam or gas engine which exhaust thus impinges on the projections as the cylinder 2 rotates and thus prevents the muffling obstructions from interfering with the freedom of the exhaust to an extent that will cause any considerable back pressure in the cylinder.

The exhaust delivery 7 may be taken from the periphery of the casing adjacent to the inlet so that the exhaust travels very nearly around the complete circle, or may be withdrawn from any convenient part of the inclosing casing.

The device is particularly applicable to a rotary engine of particular design which is the subject of a separate patent application in which engine is a rotatable cylinder which may be provided with the projections 4 and casing 5 to form a muffler but the invention is also applicable to any engine.

The device is simple and inexpensive and will not only effectually muffle a sharp exhaust but does so without causing a back pressure in the cylinder as the obstructions are moved in the direction of the flow of the exhaust. Although provision will be made for rotating the muffling cylinder such will absorb little or no power as the impact of the incoming exhaust on the projections will assist rotation.

Having now particularly described my invention and the manner of its operation I hereby declare that what I claim as new and desire to be protected in by Letters Patent is;

1. A gas engine muffler comprising a rotatable cylinder having a plurality of projections on its outer surface arranged in rows parallel to the axis of rotation, said projections of each row being spaced apart from one another a distance equal to the width of a projection, and said rows of projections being spaced one row from the other a distance equal to the length of a projection, said rows being arranged in staggered relation with one another to form spaces around the periphery of the cylinder, a casing inclosing said cylinder and its projections, an entrant port through said casing the full width thereof and arranged tangentially to said cylinder, said casing having an exhaust port arranged tangentially to said cylinder, the full width of the casing, substantially as shown and described.

2. A muffler for gas engines comprising a rotatable cylinder having a plurality of rows

of projections on its peripheral surface, said
rows being arranged parallel to the axis of
rotation of the cylinder, and the projections
of one row being staggered with relation to
5 those of the next adjacent row, a casing in-
closing the cylinder and its projections, said
casing having an inlet port the full width of
the casing and having an exhaust port in
close juxtaposition to the inlet port also
10 extending the full width of the casing, all

being arranged substantially as shown and
for the purposes specified.

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

JOHN KELLINGTON.

Witnesses:

M. SINCLAIR,
ROWLAND BRITAIN.