

W. C. STRANG.
COMBINED MUFFLER AND STOVE.

APPLICATION FILED DEC. 11, 1905.

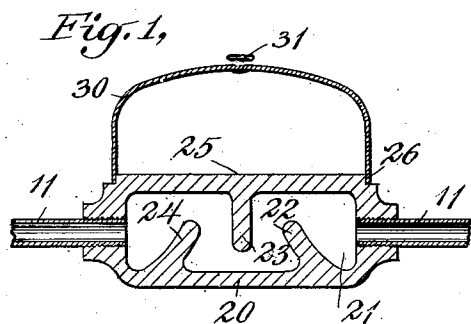
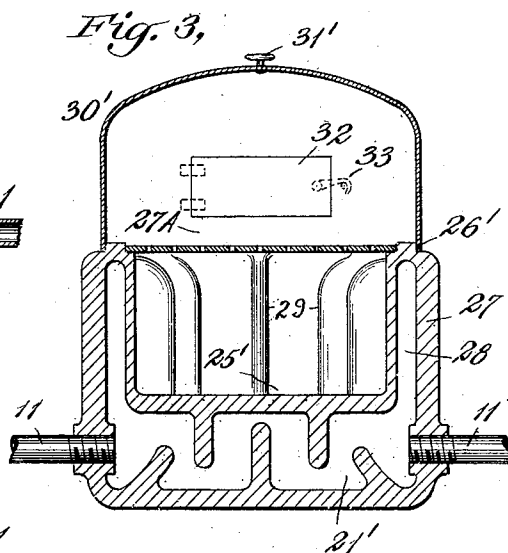
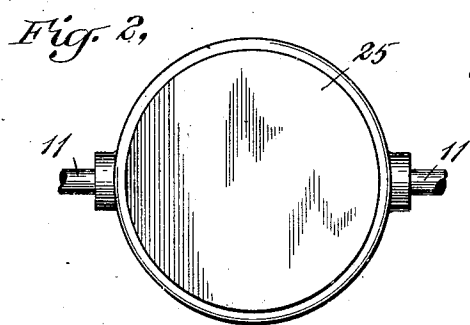
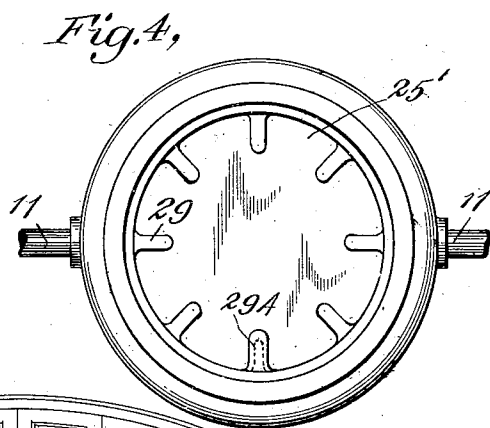
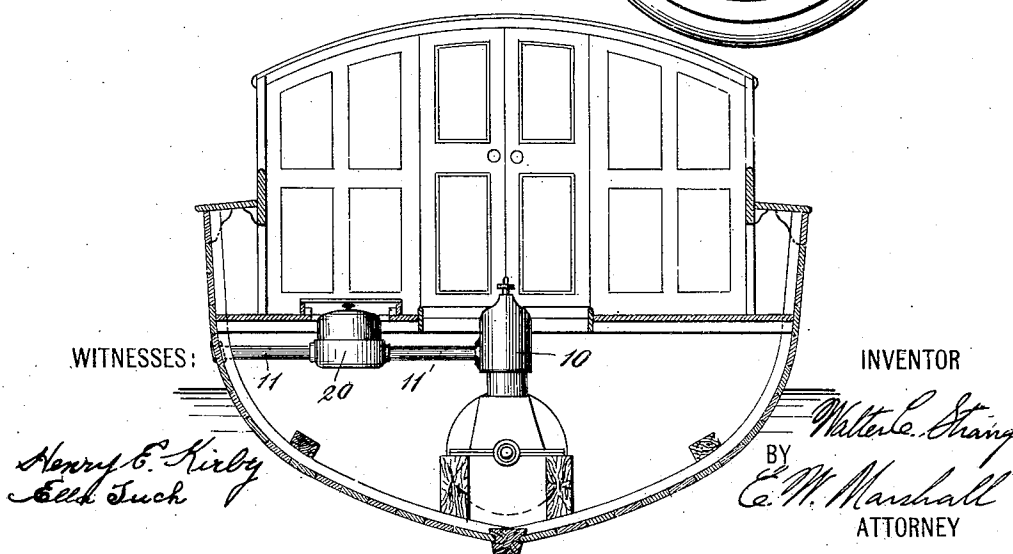


Fig. 5,



UNITED STATES PATENT OFFICE.

WALTER C. STRANG, OF YONKERS, NEW YORK.

COMBINED MUFFLER AND STOVE.

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No. 861,550.

Specification of Letters Patent.

Patented July 30, 1907.

Application filed December 11, 1905. Serial No. 291,219.

To all whom it may concern:

Be it known that I, WALTER C. STRANG, a citizen of the United States, and a resident of Yonkers, in the county of Westchester and State of New York, United States of America, have invented certain new and useful Improvements in a Combined Muffler and Stove, of which the following is a specification.

My invention relates to a combined muffler and stove and its object is to make use of the exhaust gases of an engine.

I will describe my invention in the following specification and point out the novel features thereof in claims.

Referring to the drawing, Figure 1 is a sectional side elevation of a simple form of my invention. Fig. 2 is a plan view of the device illustrated in Fig. 1 with the cover removed. Fig. 3 is a sectional side elevation of a modified form of my invention, and Fig. 4 is a plan view of the parts shown in Fig. 3 with the cover removed. Fig. 5 is a sectional elevation of a boat showing diagrammatically an engine and my invention combined therewith.

Like characters of reference designate corresponding parts in all of the figures.

10 designates an engine. This may be of any desired type which has exhaust gases passing from it while it is running, such as a steam or internal combustion engine. 11 designates the exhaust pipe leading from the engine.

20 designates my improved muffler which is connected in the exhaust pipe 11 in a well known manner.

I will now describe the form of muffler which is illustrated in Figs. 1 and 2. In this case the muffler is provided with an internal chamber 21, having a tortuous passage for the gases. Projecting ribs such as 22, 23 and 24 may be placed within this chamber for the purpose of forming such tortuous passages. The form of this exhaust chamber and the passages for the gases, however, is an unimportant part of my invention and they may be made of any desired design or according to any desired method, many of which are well known in the art. The top 25 of the muffler, however, is made with a flat surface, in this case circular in form, with a depression 26 around its outer rim. A cover 30 may be provided and arranged to fit closely around this rim 26, and the cover may be further provided, if desired, with a lifting handle 31. It is preferable to make this handle of material which is a non-conductor of heat. It is desirable to have the form of the muffler and its internal chamber 21 so designed as to cause the surface 25 to radiate the heat from the gases readily. To accomplish this purpose I arranged the passages for the gases so that the hot gases will be blown directly against the inside of the portion of the muffler of which the surface 25 forms the outside.

In the form of muffler shown in Figs. 3 and 4 the internal chamber 21' for the exhaust gases may be

made, as before described, in any desired form or according to any desired method. In this case the flat surface 25' is provided as before described, but a portion 27 of the muffler itself is carried up around and above this flat surface 25'. This portion may be made hollow and this hollow portion 28 may be a part of the internal chamber 21'. I sometimes arrange the inside of the portion 27 with projecting ribs 29, which, if desired, may also be made hollow as shown at 29^A, and the hollow portion of these ribs may communicate with the chamber 28. The cover 30' may be arranged to fit around a rim 26' which is provided on the top of the portion 27, and this cover may be provided with a handle 31' as before. I sometimes also add a hinged door 32 in the side of cover 30' and this door, if desired, may be provided with a latch or lock 33. 27^A designates a grating which may be placed on the top of the portion 27 if desired.

It is a well known fact that mufflers, through which the exhaust gases from engines pass, become heated sometimes to a high degree by the exhaust gases. This is especially true of internal combustion engines such as gas or gasoline engines.

The devices above mentioned are provided for the purpose of reducing the noise caused by the operation of such engines and the heat produced in the mufflers is entirely wasted. It is the purpose of this invention to provide means for reducing the noise of such engines in many of the ways well known in the art and to construct such a device in such a form that the heat which is produced in them may be used for heating or cooking purposes. The flat portions 25 and 25' on the top of my improved muffler and stove are suitable for holding dishes or articles to be cooked, and when the covers 30 or 30' are provided, the heat above the surfaces 25 or 25' will be radiated thereby and the cooking effect of this arrangement increased.

In the form of my invention which is illustrated in Figs. 3 and 4 the solid ribs 29 or hollow ribs 29^A serve to increase the efficiency of this arrangement as they radiate the heat into the portion of this device immediately above the flat surface 25'. In this arrangement it is also possible to cook a number of articles at once as sufficient heat is generated from an ordinary engine to heat a large surface. The grating 27^A makes it possible to utilize more of the available space, and the door 32 in the cover 30' provides a convenient means of access to the portion of this device above the grating 27^A.

This invention may be used, as stated before, in conjunction with steam engines. It is particularly adaptable, however, for use in conjunction with internal combustion engines such as are in common use on boats and automobiles. Its use is particularly advantageous when installed on a boat which is used for cruising, or on one where cooking is often done.

What I claim is.—

1. A device for muffling the exhaust gases from an internal combustion engine, said device being constructed to form a chamber having tortuous passages for said gases, a flat radiating surface, a cover for said radiating surface, and a door in said cover.
2. A device for muffling the exhaust gases from an internal combustion engine, said device comprising walls arranged to form a chamber for said exhaust gases, one of said walls forming a flat radiating surface above said chamber, and other walls forming radiating surfaces above and surrounding said flat surface.
3. A device for muffling the exhaust gases from an internal combustion engine, said device comprising walls arranged to form a flat radiating surface, and other radiating surfaces above and surrounding said flat surface, the walls being constructed to form a chamber for the exhaust gases within all of said radiating surfaces.
4. A device for muffling the exhaust gases from an internal combustion engine, said device comprising a flat wall forming a radiating surface, hollow portions forming radiating surfaces above and surrounding said flat surface, said hollow portions being provided with hollow inwardly projecting ribs, the device being constructed to form a chamber for the exhaust gases within all of said radiating surfaces.
5. A device for muffling the exhaust gases from an internal combustion engine, said device comprising a flat wall forming a radiating surface, hollow portions forming

radiating surfaces above and surrounding said flat surface, said hollow portions provided with inwardly projecting ribs, the device being constructed to form a chamber for the exhaust gases within all of said radiating surfaces, a grating above the radiating surfaces, and a removable cover for the radiating surface above the grating.

6. A device for muffling the exhaust gases from an internal combustion engine, said device comprising a flat wall forming a radiating surface, hollow portions forming other radiating surfaces above and surrounding the flat surface, said hollow portions provided with hollow inwardly projecting ribs, the device being constructed to form a chamber for the exhaust gases within all of said radiating surfaces and ribs, a grating above the radiating surfaces, and a removable cover for the radiating surface above the grating and a door in the cover.

7. A device for muffling the exhaust gases from an internal combustion engine, said device being constructed of walls arranged to form a chamber, with ribs alternately projecting from opposite sides of the inner surfaces of said walls to form tortuous passages for the gases, and a flat wall forming a radiating surface above a portion of said chamber and surrounded by other portions of the chamber walls.

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

WALTER C. STRANG.

Witnesses:

HENRY E. KIRBY,
PAUL DE MONTCALEM.