

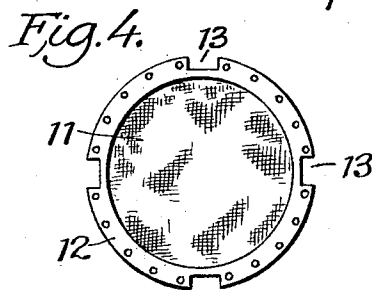
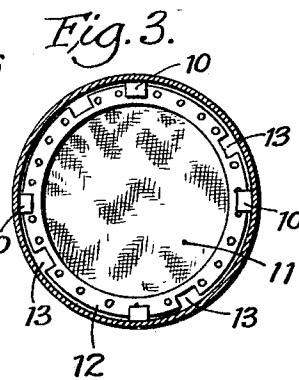
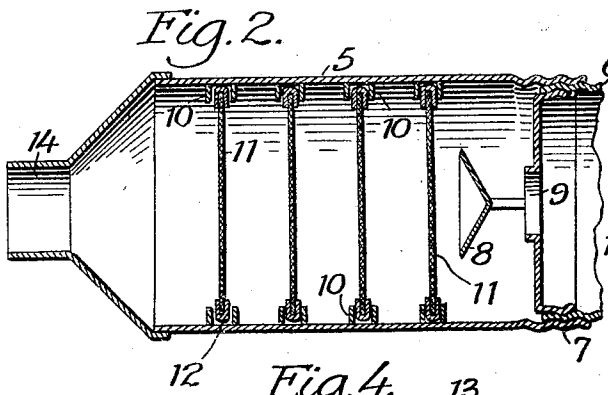
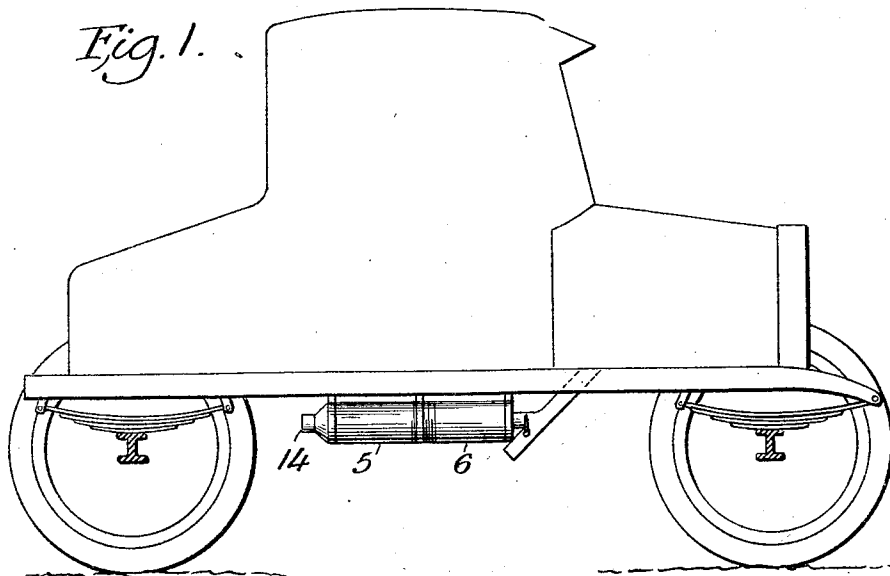
April 7, 1925.

1,532,730

E. CHALUPA ET AL
SMOKE AND GAS STRAINER AND FILTER

Filed Jan. 7, 1924

2 Sheets-Sheet 1



Inventor

*Emil Chalupa,
Thomas F. O'Rourke,*

By *James P. Duhamel,*

Attorney

April 7, 1925.

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2 Sheets-Sheet 2

Fig. 5.

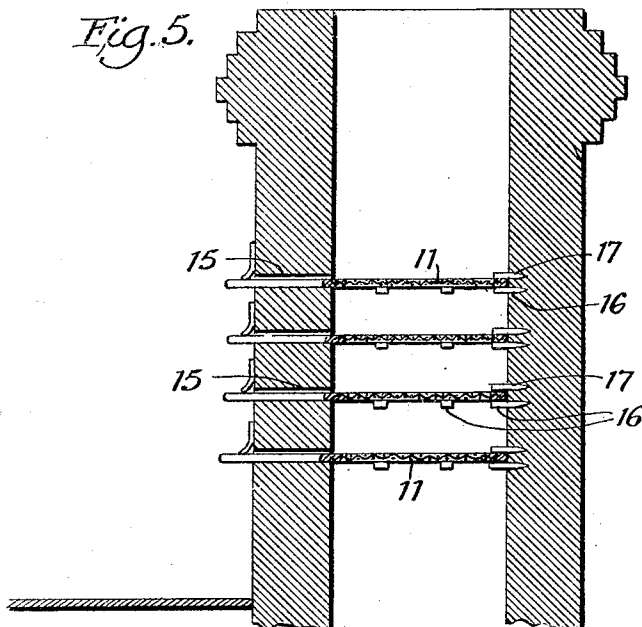
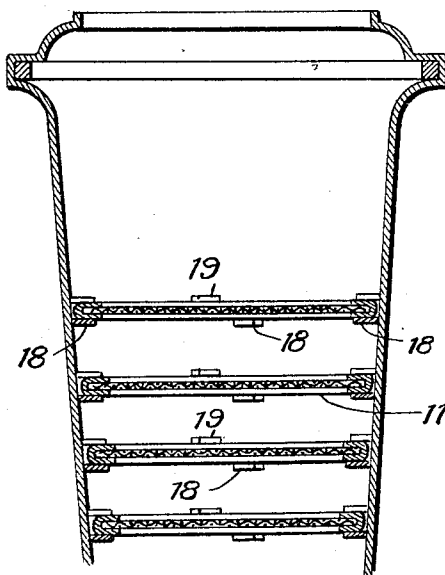


Fig. 6.



Inventors,

*Emil Chalupa,
Thomas F. O'Rourke,*

By

James P. Duhamel,

Attorney

Patented Apr. 7, 1925.

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UNITED STATES PATENT OFFICE.

EMIL CHALUPA AND THOMAS F. O'ROURKE, OF NEW YORK, N. Y., ASSIGNORS TO C. AND O'R. CORPORATION, A CORPORATION OF NEW YORK.

SMOKE AND GAS STRAINER AND FILTER.

Application filed January 7, 1924. Serial No. 684,829.

To all whom it may concern:

Be it known that we, EMIL CHALUPA and THOMAS F. O'ROURKE, residents of the city, county, and State of New York, and citizens of the United States, have invented certain new and useful Improvements in Smoke and Gas Strainers and Filters, of which the following is a specification.

This invention relates to smoke and gas strainers and filters to be attached to the exhaust of internal combustion engines and its object is to collect and prevent the passage into the outside atmosphere of abnormal products of combustion in the shape of smoke particles that are not only objectionable in crowded streets but fill the air with filth and obscure traffic.

With this end in view the present invention consists of a shell to be secured on the outer end of a muffler to receive its discharge, the said shell to have several removable partitions of some non-inflammable material such as asbestos cloth of a coarse texture, through which the vapor may pass, but by which the dust and smoke particles are arrested.

These and other objects and details of the invention are more fully described in the following specification, set forth in the appended claims and illustrated in the accompanying drawings, wherein:

Figure 1 shows the device applied to the muffler of an automobile.

Fig. 2 is a longitudinal sectional view of the same secured to the end of a muffler.

Fig. 3 is a transverse section of the filter.

Fig. 4 is a detail showing a strainer removed.

Figs. 5 and 6 are vertical sectional views of the device applied to a chimney or smoke stack.

The strainer and filter may comprise a shell 5 of any desired size and shape to be secured to the exhaust of an engine but preferably to the outer end of the muffler 6 either by screw threads 7 or any desired means that will permit of ready removal to dispose of the dust collected or to make repairs. The muffler 6 carries at its outer end a baffle 8, directly opposite the outlet 9, to break the force of the blast of the discharged gases.

Within the shell 5 is a series of cleats 10 adapted to carry the strainers 11 and as

will be seen, these cleats are arranged in groups of about four each equi-distant around the interior of the shell while the strainer consists of a disc of non-inflammable fabric or fire proof porous material enclosed in a ring 12 that has notches 13 cut in its edge to pass the cleats.

When being placed in position the notches 13 are passed over the first row of cleats and given a turn so that said notches will not register with the cooperating row of cleats around the shell and the ring will now be held between the two rows. In removing the strainers to clean the shell this same course may be followed and the work quickly accomplished.

The strainer may be composed of the rings 12 that are U-shaped in cross section and the edges of the asbestos sheets are clinched and riveted between the members thereof so they will withstand the force of the exhaust gases. The texture of the asbestos will be such that the dust and smoke particles will be arrested and held in the shell but the cleaned gas may readily pass out of the opening 14.

It is obvious that the device may be otherwise arranged and modified to provide for various conditions by which it is to function without departing from the essential features above described or from the scope of the appended claims.

The use and application of this improved strainer need not be confined to gas engines alone but it may be placed in flues or smoke stacks where smoke or gas will be kept from going in or out of any device pertaining to gas or gas engines or gas discharged into the air, the object of this device being to master the gases going in or out of any place where same are dangerous to the public health.

Fig. 5 shows the strainer 11 inserted in a chimney through slots 15 in one side thereof and supported by the studs 16. While one end of each strainer may be held in place against the force of the draft by the slot, the other end is inserted under the stud 17. The dust that has been checked by these screens will drop back into the ash pit of the stove or furnace.

In Fig. 6 a smoke stack is shown in which the strainers are held as previously described, the screens being made as shown in Figs. 3 and 4 and located between the

staggered cleats 18 and 19. When located on the lower cleats 18 the screens are turned slightly to lock them beneath the cleats 19 to prevent the draft from blowing them out of the stack.

The mesh of the wire of the screens may be varied, the finest mesh being in the outermost screen so that all of the dust is not collected by the first screen.

What we claim as new is:

1. A smoke and gas strainer comprising a shell having an inlet at one end and an outlet at the other, in combination with cleats alined in series around the interior of the shell at desired intervals, wire mesh strainers, rings enveloping the edges of the strainers and having notches to pass one of the series of alined cleats and adapted

to be turned on their axis to be arrested by the next series of alined cleats, and a baffle at the inlet end of the shell.

2. A smoke and gas strainer, comprising a shell having an inlet and an outlet at its extremities, a plurality of series of cleats alined around the interior of the shell at desired intervals, porous strainers, frames carrying the strainers and having notches to pass a series of cleats and be turned to engage and be held by the next series of cleats, and a baffle adapted to protect the strainers.

In testimony whereof we hereunto affix our signatures.

EMIL CHALUPA.
THOMAS F. O'ROURKE.