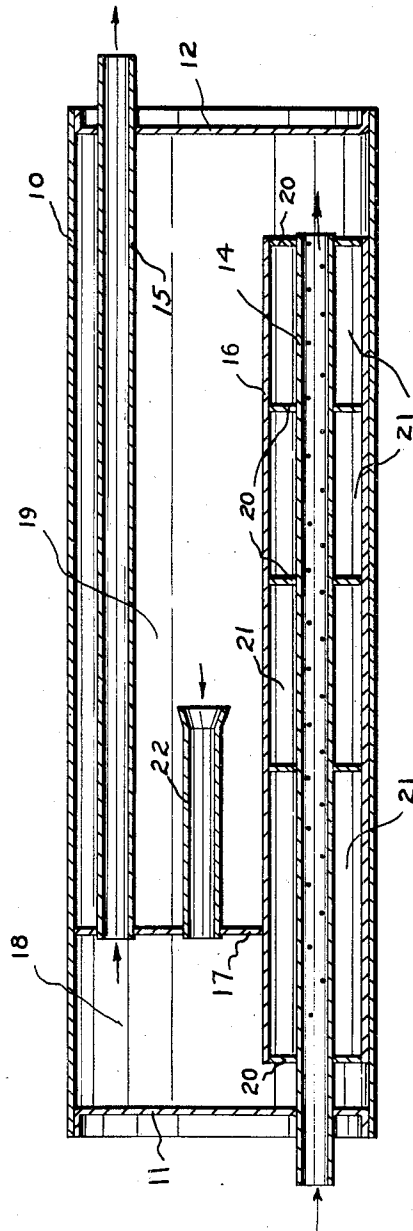


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SILENCER CONSTRUCTION
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SILENCER CONSTRUCTION

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1 Claim. (Cl. 181-54)

This application relates to silencer constructions.

The principal object of the present invention is to provide a silencer construction which is satisfactory of operation and economical of manufacture. The silencer of this application may be characterized by the fact that it provides a retroverted through-passage for the gas, with the through-passage including a resonator chamber operating to tune out low frequency sound waves, by its having no closed or blind or branch passages for the gas or for low frequency sound waves, and by other novel details of construction which will better be understood upon reference to the appended drawing, whose single figure is an elevational section of the silencer.

Referring to the drawing, it will be seen that the same shows a silencer comprising an outer casing 10 closed by end headers 11 and 12 through which pass respectively the first and third pass tubes 14 and 15 of the silencer, the first pass tube 14 being telescoped within an intermediate tube 16 which passes through an intermediate header 17 dividing the silencer into chambers 18 and 19, and the first and third pass tubes 14 and 15 serving to communicate chambers 19 and 18 respectively with the outside of the silencer at the forward and rear ends of the same, respectively.

For high frequency tuning, there are provided between the perforated first pass tube 14 and the intermediate tube 16, and between header 17 and the rear end of tube 14, a plurality of diaphragms 20 which divide the annular space between tubes 14 and 16 into a plurality of side chambers 21.

For low frequency tuning there is disposed in and passing through header 17 a tube 22 which communicates the interior of the chamber 19 with the interior of the chamber 18. The tube 22 not only serves as a means for low frequency tuning,

but also serves to provide the second pass of the silencer and is in the nature of a return tube.

It will readily be understood that for tuning purposes the length of the return tube 22, its extension to either side of header 17, and the position of the inner head 17 may be varied as desired.

The silencer hereof is characterized by the fact that the passage through the tuning tube is part of the main and only passage for the gas and sound waves and that neither of the chambers 18 and 19 is a branch chamber or a blind chamber. Gases entering the silencer course therethrough continuously, with retroversion or otherwise, with no branches or dead ends, and the passage from one chamber to another is accomplished through a tube 22 which functions as a tuning tube.

Now having described a silencer construction, reference will be had to the claim which follows for a determination of the monopoly sought to be covered herein.

I claim:

A silencer having a shell, end headers, and a transverse header dividing it into two chambers, a tube positioned in said header and communicating the chambers through the header, an inlet tube passing through one of the chambers and the header and inletting into the other of the chambers and an outlet tube passing through such other chamber and the header and outletting out of the first mentioned chamber, the two chambers and the communicating tube constituting the main and only passage for the gases and sound waves of the silencer between the ends of the inlet and outlet tubes, the communicating tube serving as a tuning means for low frequency sound waves as well as a communicating means between the chambers, and means providing side chambers for the inlet tube for tuning high frequency waves.

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