Sept. 15, 1953 J. G. JOHNSTON 2,652,127

TAIL PIPE TERMINAL SILENCER

Filed Sept. 12, 1950

Fig. 1

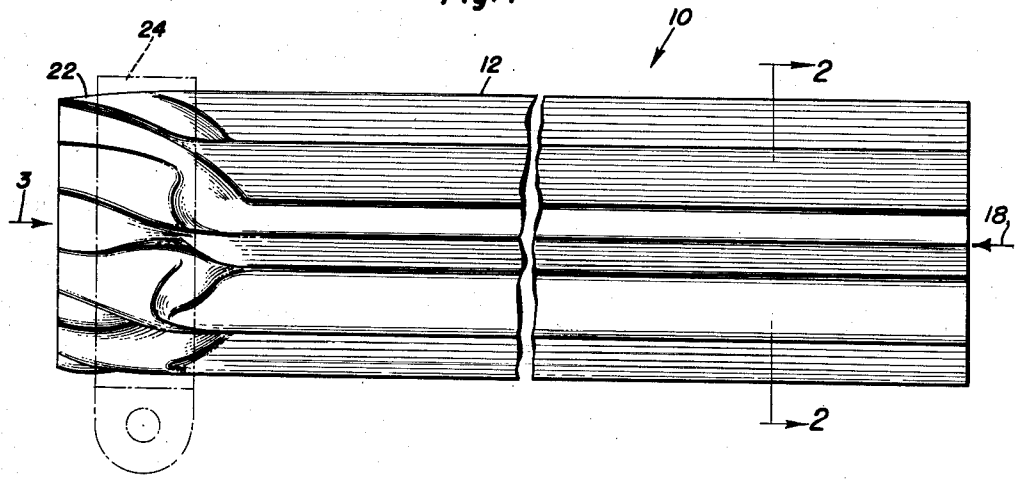



Fig. 2

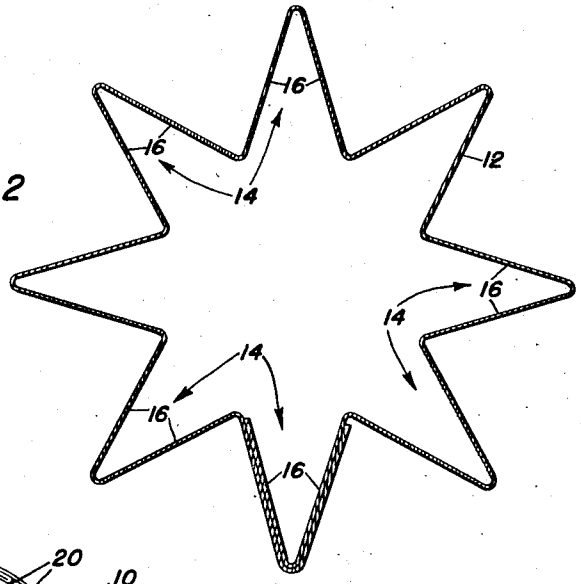
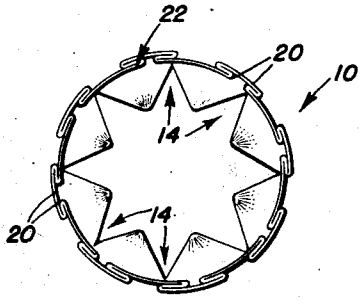



Fig. 3




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Patented Sept. 15, 1953

2,652,127

# UNITED STATES PATENT OFFICE

2,652,127

## TAIL PIPE TERMINAL SILENCER

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Application September 12, 1950, Serial No. 184,397

1 Claim. (Cl. 181—41)

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This invention relates to new and useful improvements and structural refinements in exhaust silencers for internal combustion engines such as automobiles, and the like, and the principal object of the invention is to supplement the usual muffler of the exhaust system so as to substantially reduce if not completely eliminate the noise incident to the combustion and discharge of the products thereof.

The above object is achieved by the provision of a silencer which, in the manner of an extension, may be attached to the terminal end of the muffler tail pipe, an important feature of the invention residing in the provision of a silencer which is of an elongated configuration having a star-shaped cross-section, so as to provide what may be called V-shaped channels for absorption and neutralization of sound waves incident to the outward passage of exhaust gases.

Some of the advantages of the invention reside in its simplicity of construction, in its efficient operation, in its pleasing appearance, and in its adaptability to economical manufacture.

With the above more important objects and features in view and such other objects and features as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is an elevational view of the invention,

Figure 2 is a transverse sectional view, taken substantially in the plane of the line 2—2 in Figure 1, and

Figure 3 is an end view, taken in the direction of the arrow 3 in Figure 1.

Like characters of reference are employed to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a tail pipe terminal silencer which is designated generally by the reference character 10 and embodies in its construction an elongated, hollow body 12 having a star-shaped cross-section, as is best illustrated in Figure 2.

By virtue of this sectional configuration, a plurality of longitudinally extending channels 14 are formed inside of the body 12, each of these channels being V-shaped in section and having outwardly convergent side walls 16, substantially as shown.

The channels 14 are open at the outlet end thereof, as indicated at 18 in Figure 1, but the opposite end portions of the side walls 16 are flattened and superposed in overlapped relation as shown at 20, so as to afford a substantially tubular adapter 22, whereby the entire device

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may be secured by a suitable clamp 24 to the terminal end of a tail pipe.

The adapter 22 is substantially equal in diameter to the outer diameter of the body 12 and when the invention is placed in use and exhaust gases enter the body 12 through the adapter 22, sound waves resulting from the outward passage of the gases through the body will travel in a lateral direction into the channels 14 and the convergent walls 16 of the channels will concentrate and neutralize the sound waves, thus achieving a substantial, if not a complete reduction of sound of the exhaust.

If desired, the entire device may be formed integrally from one piece of corrugated material, with overlapped edge portions as indicated at the bottom of Figure 2.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

Having described the invention, what is claimed as new is:

A tail pipe terminal silencer comprising an elongated hollow body having a star-shaped cross-section providing a plurality of longitudinally extending channels in the inside of the body, each channel being V-shaped and having outwardly convergent side walls, and the side walls of each channel at one end portion of said body being flattened and superposed in overlapping relation and constituting a substantially tubular adapter for securing said body to the end of said tail pipe.

JOHN GRAY JOHNSTON.

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