March 28, 1939. W. A. MORRISON 2,152,205

MUFFLER

Filed March 18, 1937

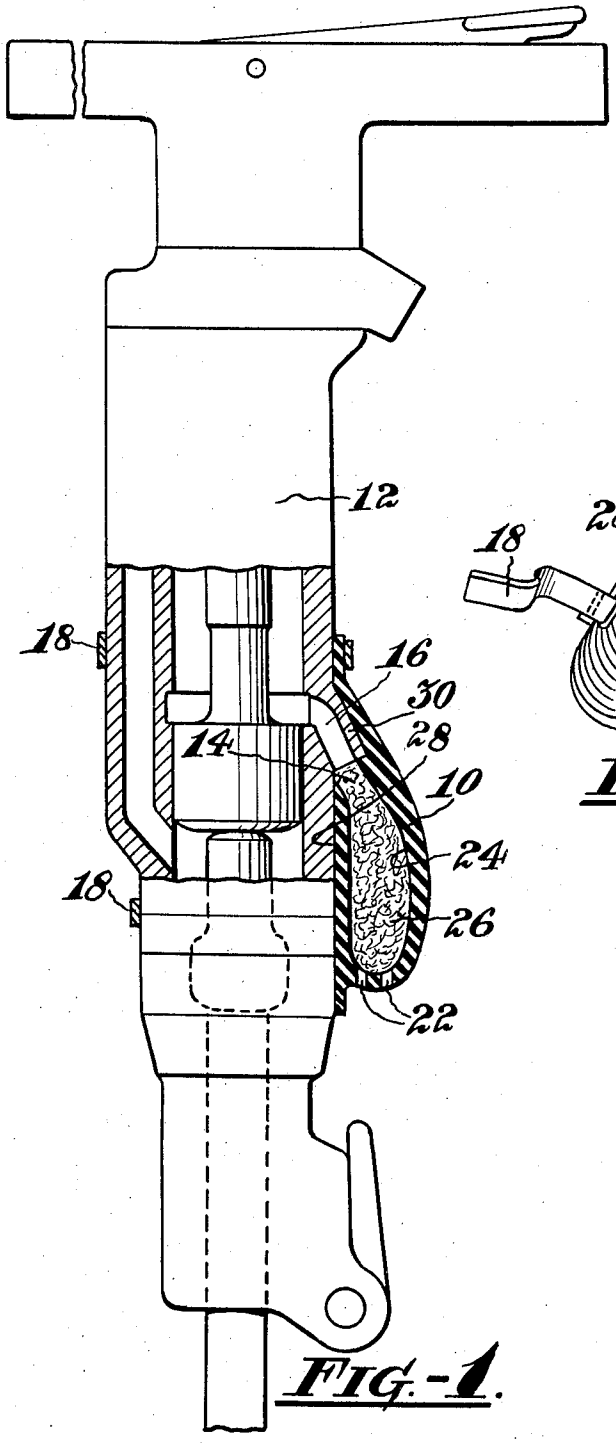


FIG.-1.

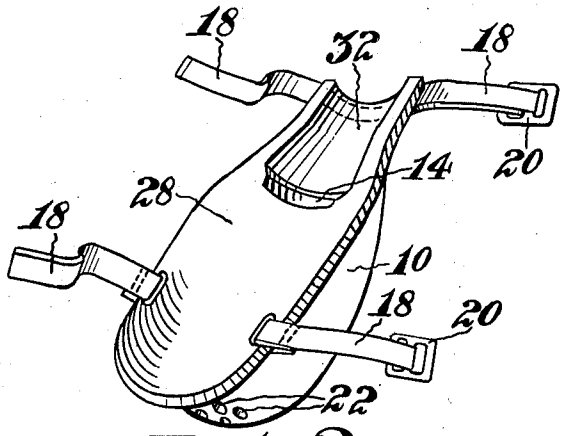


FIG.-2.

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MUFFLER

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1 Claim. (Cl. 181—50)

This invention relates to mufflers, and more particularly to a detachable exhaust silencer for fluid actuated tools.

The exhaust noise of a percussion tool like a pneumatic riveter or paving breaker is probably less than the noise made by the blows of the hammer element upon the anvil block or working implement, but it is more easily suppressed, and to the extent that it is eliminated the operation of the tool is made less noisy.

It is an object of this invention to provide a simple and inexpensive muffler to suppress the exhaust sounds from fluid pressure operated tools.

A further object is to make the device readily attachable to tools already in service, and to make it detachable so that it may be removed if and when the reduced noise is of no importance.

In the accompanying drawing, Figure 1 shows a longitudinal section of a practical embodiment of the invention applied to a fluid actuated tool of conventional design, and

Figure 2 is a view of the muffler from the rear.

Referring to the drawing a casing 10, preferably made of a moulded resilient and impervious material such as soft rubber, is attached to the side of a pneumatic paving breaker 12, so that an entrance opening 14 near an end of the casing is in registry with an exhaust port 16 of the paving breaker.

The muffler, in this instance, is clamped or attached to the paving breaker 12 by straps or bands 18 fastened in any convenient manner to the muffler and equipped with suitable buckles or grips 20. At the lower end of the muffler the resilient wall is pierced with a number of outlet ports 22 through which the exhaust fluid may escape.

An expansion chamber 24 is formed in the inside of the muffler, and baffling means may fill the chamber 24 and overlies the outlet 22 to prevent a direct rush of the fluid from the inlet 14 to the outlet 22. Rock wool, metal wool, sponge, or other fibrous material, designated generally as 26 makes a suitable baffle.

For best results the muffler should be made to fit snugly, without distortion, against the outer wall of the tool, and consequently it is preferable that different models of mufflers be provided for corresponding models of tools.

In the case illustrated the tool has a protruding lip or guide 30 defining one wall of the exhaust passage 16, and the back 28 of the muffler 10 is shaped to conform with the contour of the paving breaker and has a depression 32 to accommodate the lip.

In practice when the piston of the tool uncovers the exhaust port 16 pressure fluid passes into the muffler through the opening 14, expands in the baffled chamber 24 and escapes through the exit ports 22 with pulsations of reduced intensity and with consequent reduction in noise.

I claim:

An exhaust muffler for fluid pressure operated machines, comprising a casing of resilient material, a wall on the casing shaped to conform with the contour of the machine and having an opening at one end adapted to overlie the exhaust outlet of the machine, an expansion chamber in the casing, an exit passageway from the chamber located at the other end of the casing, baffling means in the chamber overlying the exit passageway, and straps on the casing to attach the casing to the machine.

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