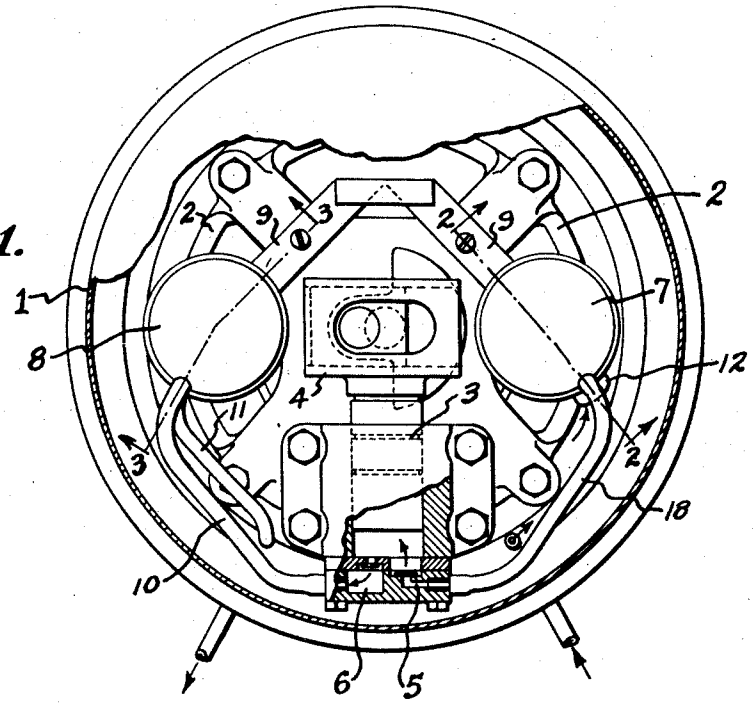
March 23, 1937. W. R. MITTENDORF ET AL 2,074,932

REFRIGERATOR COMPRESSOR MUFFLER

Filed Feb. 1, 1936

FIG. 1.



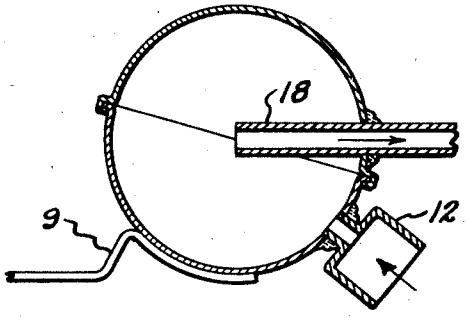


FIG. 2.

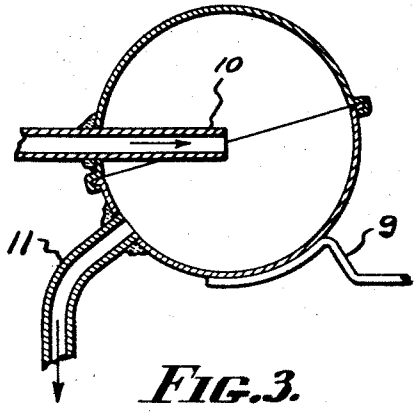


FIG. 3.

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REFRIGERATOR COMPRESSOR MUFFLER

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Application February 1, 1936, Serial No. 61,968

4 Claims. (Cl. 181—57)

Our invention relates to compressors for use in domestic refrigeration in which there is a necessity for very complete elimination of sound, and deals with mufflers for use in connection with sealed in reciprocatory compressors.

It is our object to muffle the sound of both the intake and exhaust of the compressor, and to do so in a simple way with a minimum of interference with the efficiency of the compressor itself, and in as small a space as possible.

We accomplish our object by that certain construction and arrangement of parts of which an example will be illustrated and described, and the novelty inherent wherein, will be set forth in the claims that follow, to which reference is hereby made.

In the drawing:—

Fig. 1 is a top plan view of a typical compressor showing the use of my mufflers.

Fig. 2 is a detail section of one of the mufflers shown in Fig. 1.

Fig. 3 is a like view of the other muffler.

The compressor illustrated in the drawing is housed and sealed into a casing indicated at 1, and includes a motor indicated at 2, and a reciprocatory pump 3, driven from a Scotch yoke 4. The intake of the pump is shown at 5 and the outlet at 6.

It is evident that the pump in this instance is located on top of the motor, and that the motor fills the housing or dome except at the top, where the dome will customarily be rounded off.

The mufflers which we have provided are in the form of small hollow spheres 7 and 8 mounted on brackets 9 secured on a frame supported on the motor. Referring first to the outlet muffler, it has a pipe 10 extending into the center of the sphere and coming from the exhaust or outlet 6 of the pump. From the side of the sphere, communicating with its inner periphery, is the muffler outlet pipe 11 which extends to the outlet fitting of the main housing.

The gases forced into the muffler under compression are quite adequately muffled by this device, the entire contents of the hollow spherical shell acting as a damper to the hammer which would otherwise be evident from the operation of the pump.

It is desirable that the outlet be located at the lower half of the spherical shell somewhat below its horizontal axis, so that no large quantity of oil can accumulate in the shell. We prefer not to have the outlet at the exact bottom of the sphere, however, for best results.

The inlet muffler has a fitting 12 inserted into its spherical shell and ending at its inner periphery. It has an outlet pipe 18 extending to about the center of the spherical shell. The fitting is formed of a cup of substantial diameter, terminating in a smaller tubular portion which is set into the shell, as shown. The reason for this is that oil which is entrained in the gases being drawn into the muffler, on their way to the pump, will deposit on the sides of the cup portion and drip away, without getting into the muffler in excessive quantities. This fitting is located below the horizontal axis of the spherical shell and opens downwardly, thus serving to keep the oil in the muffler at a low level, and being in a position where the oil drip will be operative, in accordance with the above description.

We find these mufflers to be fully operative and successful in eleminating noise from the ingoing and outgoing gases from the pump. They are inexpensive, small, and of a shape which permits them to be fitted into very compact relationship with the other parts of the compressor.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:—

1. A muffler device for use with a reciprocatory pump for a domestic refrigerator comprising a spherical shell having a tube extending from substantially its center out through the shell for flow of gases into or from the shell, and another port for said shell opening substantially at its periphery below the horizontal axis thereof, but somewhat removed from the exact bottom of said shell.

2. A pair of muffler devices for the inlet and outlet of gases from the pump of a domestic refrigerator comprising spherical shells, there being two ports for each shell, one in the form of a tube extending through the shell and opening into it at substantially the center of the shell, and the other located in the periphery of the shell, and means for connecting a port of one of said devices to the inlet, and a port of the other of said devices to the outlet, respectively, of the pump.

3. A muffler for the intake to the pump of a domestic refrigerator, comprising a spherical shell, a tube extending from substantially the center of the shell to the inlet of the pump, and a fitting extending only into the shell at its periphery, and having a widened portion in the form of a cup to catch excess lubricant said cup being open downwardly to permit such excess oil to drip away without getting into the muffler.

4. A muffler device for the exhaust of a reciprocatory pump for a domestic refrigerator, comprising a spherical shell, a tube extending from substantially the center of the shell to the exhaust of the pump, and a port in said shell below the horizontal axis thereof, but somewhat removed from the exact bottom of said shell.

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