May 30, 1933. E. B. CARPENTER 1,911,804

MOTOR COMPRESSOR MOUNTING

Filed Nov. 19, 1930

Fig. 1.

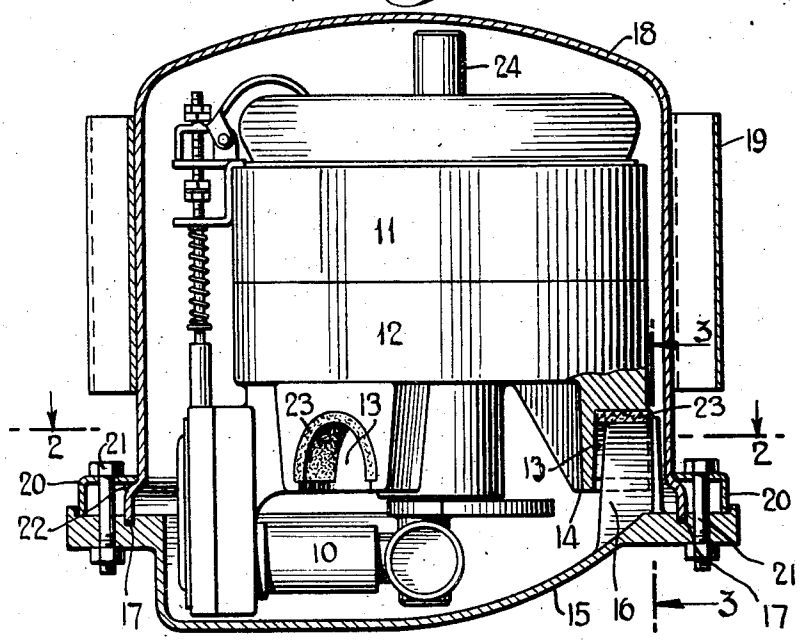


Fig. 2.

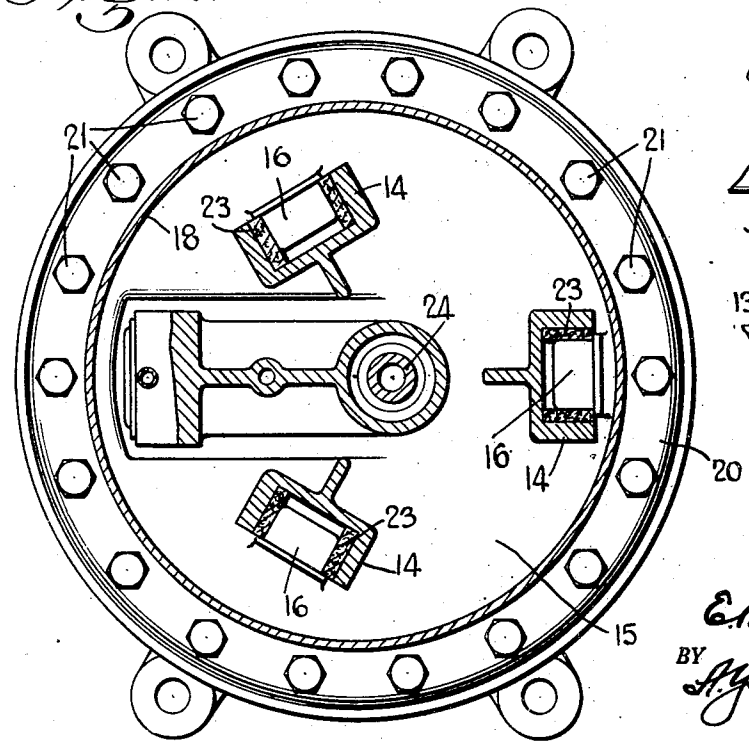
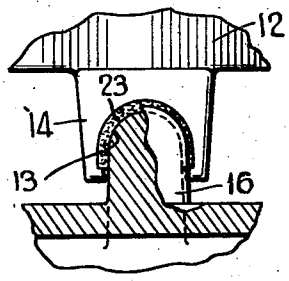


Fig. 3.



INVENTOR.
E. B. Carpenter
BY H. Yates Dowell
ATTORNEY

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UNITED STATES PATENT OFFICE

ELKANN B. CARPENTER, OF EVANSVILLE, INDIANA, ASSIGNOR TO SERVEL INC., OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

MOTOR COMPRESSOR MOUNTING

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This invention relates to refrigerating apparatus of the compression type, and more particularly to the mounting of a motor-compressor unit.

The invention contemplates a refrigerating unit including a motor driven compressor mounted within a casing comprising a base or crankcase and an upper shell or cover detachably fastened to the base.

An object of the invention is to provide a unit which is quiet in operation, simple in construction, and one which may be quickly and easily disassembled and assembled for purposes of repair.

Further objects and advantages will be apparent from the following description taken in connection with the accompanying drawing wherein

Fig. 1 is a side elevation partly in vertical section of a motor-compressor unit constructed in accordance with this invention;

Fig. 2, a horizontal section on line 2—2 of Fig. 1; and

Fig. 3, a section on line 3—3 of Fig. 1.

Referring to the drawing a compressor 10 and a motor 11 for driving the compressor are mounted as a unit on a frame member 12. A plurality of recesses 13 shown substantially U-shaped are provided in the frame member 12 or in projections 14 extending downwardly therefrom.

A base or crankcase 15 is provided with a plurality of upwardly extending lugs 16 shown substantially U-shaped adapted to fit in the recesses 13 in the frame 12. A groove 17 in the base 15 is adapted to receive the lower edge of a dome or upper casing 18 which may be provided with heat radiating fins 19 as usual. A retaining ring 20, clamped to the crankcase by some means such as bolts 21, coacts with a shoulder 22 around the dome 18 to hold the latter in position.

The compressor 10 and its vertical driving motor 11, mounted on frame 12 are supported as a unit within the casing by the lugs 16 which fit in the recesses 13. Members 23 of any desired sound deadening material, for example fabric or the like, line the recesses 13.

With this construction the motor-compressor unit is restrained in every direction except upwardly. It is, of course, not necessary that the lugs be on the case and the downwardly open recesses be in the frame, but the same object may be accomplished by providing the frame with downwardly extending lugs and the case with upwardly open recesses. To prevent the upward movement of the motor-compressor unit within the casing, shaft 24 of the vertical motor 11 is extended upwardly so that there is a very slight clearance between the end of this shaft and the top of the casing 18 when the unit is completely assembled. Since this unit will only be operated when in a vertical position, the clearance space insures freedom of operation, but at the same time allows only a very limited movement of the motor-compressor unit within the casing when the apparatus is shifted from its vertical position as in shipping.

With this arrangement if repair or inspection becomes necessary it can be accomplished by releasing the retaining ring 20, removing the dome or upper casing 18, and the motor-compressor unit may be lifted directly from its mounting to be repaired or replaced by a new unit.

It will be obvious to those skilled in the art that various other changes may be made in the construction and arrangement without departing from the spirit of the invention and therefore, the invention is not limited to what is shown in the drawing and described in the specification but only as indicated in the appended claims.

I claim:

1. In combination, a motor-compressor unit including a frame member having a plurality of recesses open downwardly, a casing enclosing said motor-compressor unit which casing comprises a base portion and a cover portion, and a plurality of lugs extended upwardly from the base portion and adapted to fit within said recesses to support the unit within the casing so that the clearance space between the top of the unit and the cover is less than the depth of said recesses.

2. An hermetically sealed refrigerating apparatus including a motor-compressor unit mounted on a frame having downwardly open, substantially U-shaped recesses, sound deadening material lining said recesses, and a fluid tight casing enclosing said motor-compressor unit, which casing has a plurality of substantially U-shaped projections extending upwardly from the bottom thereof and adapted to fit within said recesses to support the unit within the casing so that the clearance space between the top of the unit and the cover is less than the depth of said recesses.

3. In combination, a motor-compressor unit, a frame on which the unit is mounted, a fluid tight casing enclosing the unit and provided with lugs extended upwardly from the bottom thereof, and extensions from said frame provided with downwardly open recesses lined with sound deadening material and adapted to fit over said lugs to support the unit within the casing so that the clearance space between the top of the unit and the cover is less than the depth of said recesses.

4. A fluid-tight casing, a motor compressor unit in said casing, a shaft driven by said motor, a support for said motor compressor unit arranged to maintain said motor compressor unit in definite relation to said casing but providing free upward movement, the upward movement of said motor compressor unit being limited by said casing.

5. A fluid-tight casing, a motor compressor unit in said casing, a shaft driven by said motor, a support for said motor compressor unit arranged to maintain said motor compressor unit in definite relation to said casing but providing free upward movement, the upward movement of said motor compressor unit being limited by the upward end of said shaft contacting said casing.

In testimony whereof I affix my signature.

ELKANN B. CARPENTER.