July 1, 1930. W. E. LACEY 1,768,614

REFRIGERATING APPARATUS

Filed Sept. 2, 1926 2 Sheets-Sheet 1

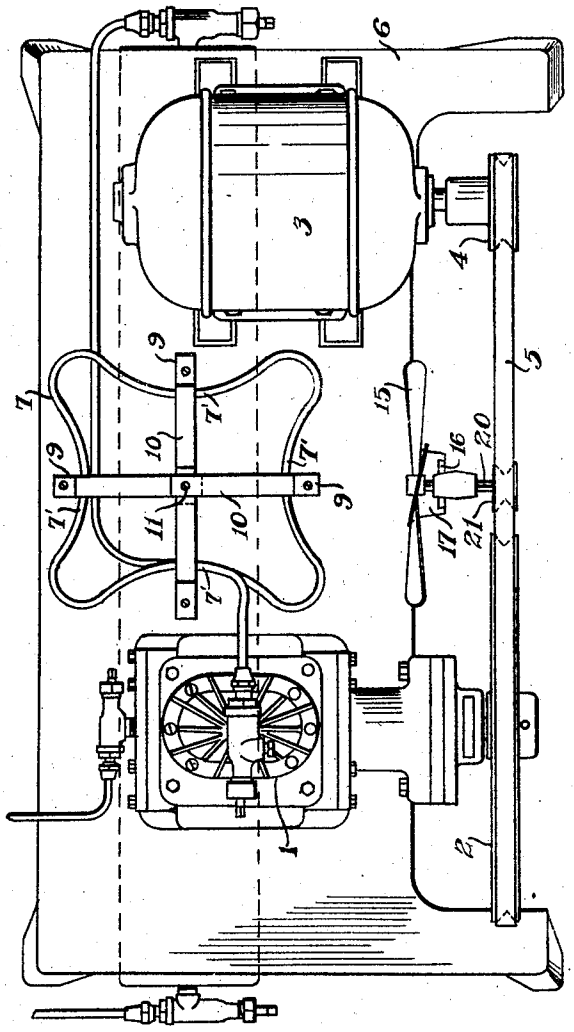

Fig. 1.

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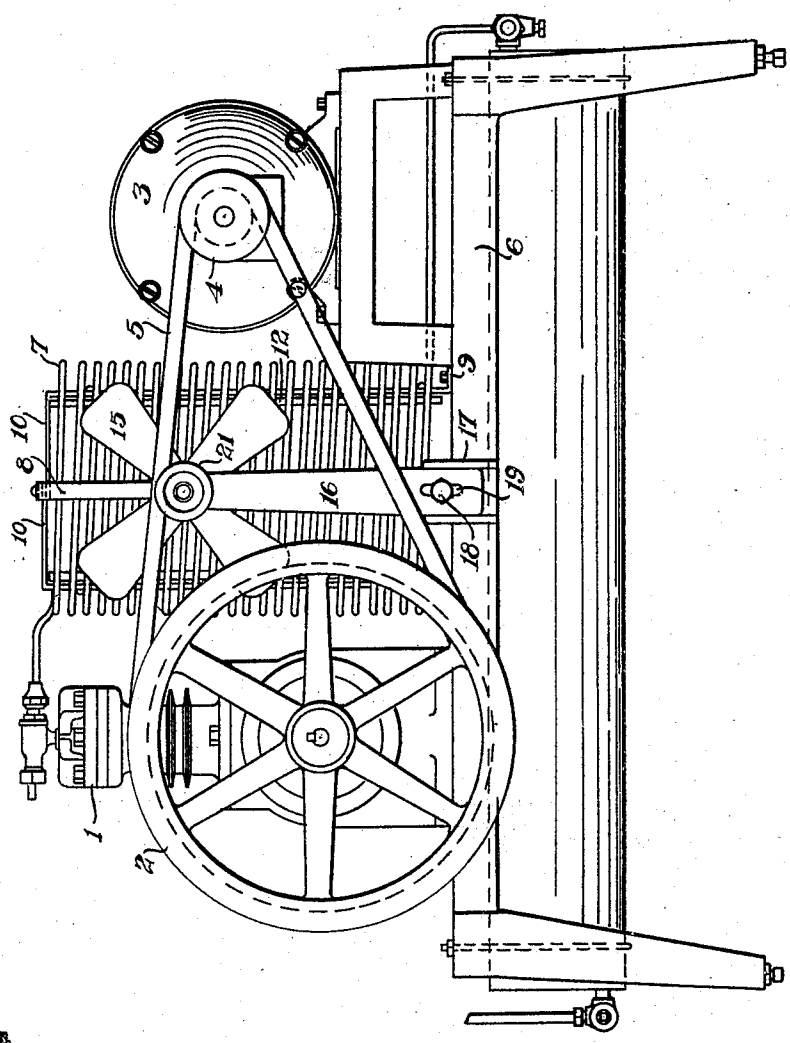

Fig. 2.

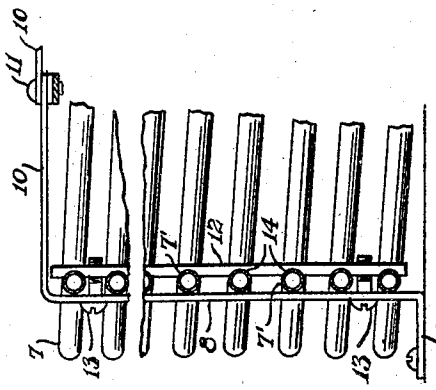

Fig. 3.

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UNITED STATES PATENT OFFICE

WALTER E. LACEY, OF SPRINGFIELD, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO FRIGIDAIRE CORPORATION, OF DAYTON, OHIO, A CORPORATION OF DELAWARE

REFRIGERATING APPARATUS

Application filed September 2, 1926. Serial No. 133,197.

This invention relates to refrigerating apparatus of the compressor type, it more particularly relating to the condenser for the refrigerant and the cooling means for the same.

One of the objects of the invention is to improve the construction of the condenser coil to provide a coil which will have an increased capacity over other coils occupying the same space.

A further object of the invention is to provide a condensing coil so constructed and arranged in connection with a cooling fan to provide for an effective cooling of the coils.

Other objects will appear from the accompanying description and claims.

Referring to the drawings:

Fig. 1 is a plan view of an apparatus embodying my improvements.

Fig. 2 is a side elevation of the same.

Fig. 3 is a vertical section through a portion of the condensing coil.

Referring to the drawings, 1 represents a compressor, 2 a pulley on the end of the shaft thereof, 3 an electric motor, 4 a pulley on the end of the shaft of the motor, and 5 a belt running from the pulley 4 to the pulley 2, all of these parts being mounted upon a suitable supporting base 6 and being of any well known construction.

The improved condenser is supported on the base 6 between the motor and compressor and consists of a coiled pipe the turns 7 of which are projected inwardly on four sides preferably on a curve as indicated at 7′ so that each coil turn will present somewhat of a star shape. The condenser coil is supported in the following manner: Four equally spaced metallic straps 8 are provided, the lower ends of which are bent at right angles to form feet 9 secured to the base 6, while the upper ends thereof are likewise bent at right angles as indicated at 10, and extend to the center of the coil where they are united by a bolt or screw 11. Referring more particularly to Fig. 3, there is also associated with each strap 8 a clamping bar 12 secured to the strap by screws 13 and having rounded recesses 14 to receive the bent portions 7′ of the coil turns so that the coil may be firmly clamped to the straps.

A cooling fan 15 has its shaft mounted in a bearing at the upper end of the standard 16, the lower end of which is adjustably mounted on a dovetail groove formed in a bracket 17 on the base 6 and adjustably held thereon by a screw 18 which extends through a slotted opening 19 in the standard so that the standard may be adjusted as to height. The shaft 20 of the fan has a pulley 21 over which passes the belt 5, the adjustment described permitting the pulley to be adjusted in proper relation to the belt.

By having the coil of the condenser formed as described, it will be seen that a greater capacity for the refrigerant is secured over a coil of usual form occupying the same space. Further, by so forming the coils it will be seen that all sides of each coil will be placed in the path of the air current from the fan so as to secure a greater cooling effect.

Having thus described my invention, I claim:

1. In refrigerating apparatus a condenser including a plurality of substantially square loops spaced apart vertically and arranged in a stack, a plurality of said loops having adjacent sides bent inwardly to present convex surfaces to the longitudinal axis of the condenser, and means for supporting the loops in said vertically spaced relation.

2. In refrigerating apparatus, a condenser including a plurality of substantially square loops spaced apart vertically and arranged in a stack, a plurality of said loops having all four sides curved inwardly to present convex surfaces to the vertical axis of the condenser and means for supporting the loops in said spaced relation substantially as described.

3. In refrigerating apparatus, an air cooled condenser including a single continuous conduit bent to form a plurality of substantially square loops, vertically spaced and arranged in a stack each loop having all four sides curved inwardly to present

convex surfaces to the vertical axis of the condenser, means for supporting the loops in said vertical spaced relation and means for forcing air over the said loops.

In testimony whereof, I have hereunto set my hand this 30th day of August, 1926.

WALTER E. LACEY.