

April 24, 1934.

A. J. SCHOLL

1,955,837

METHOD OF MAKING A REFRIGERATOR ELEMENT

Filed Jan. 31, 1929

2 Sheets-Sheet 1

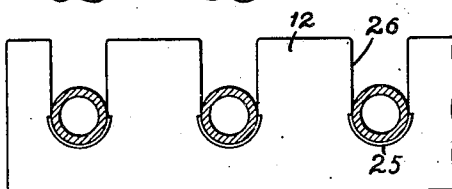
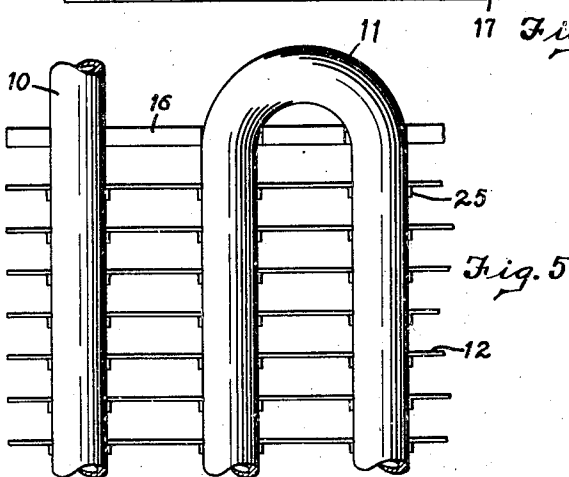
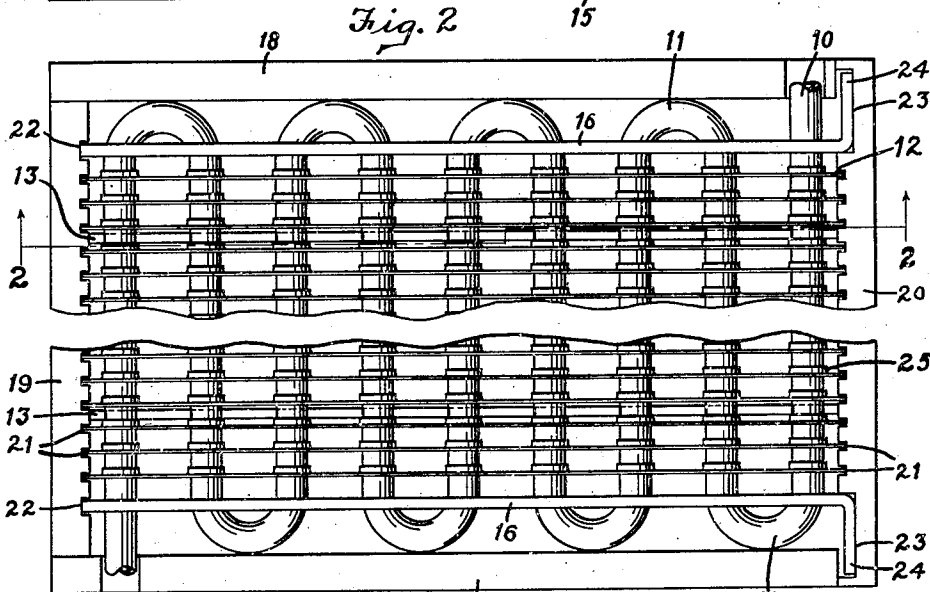
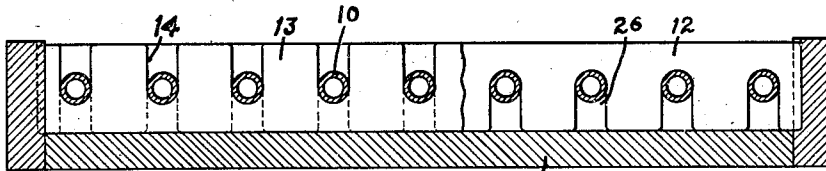


Fig. 6

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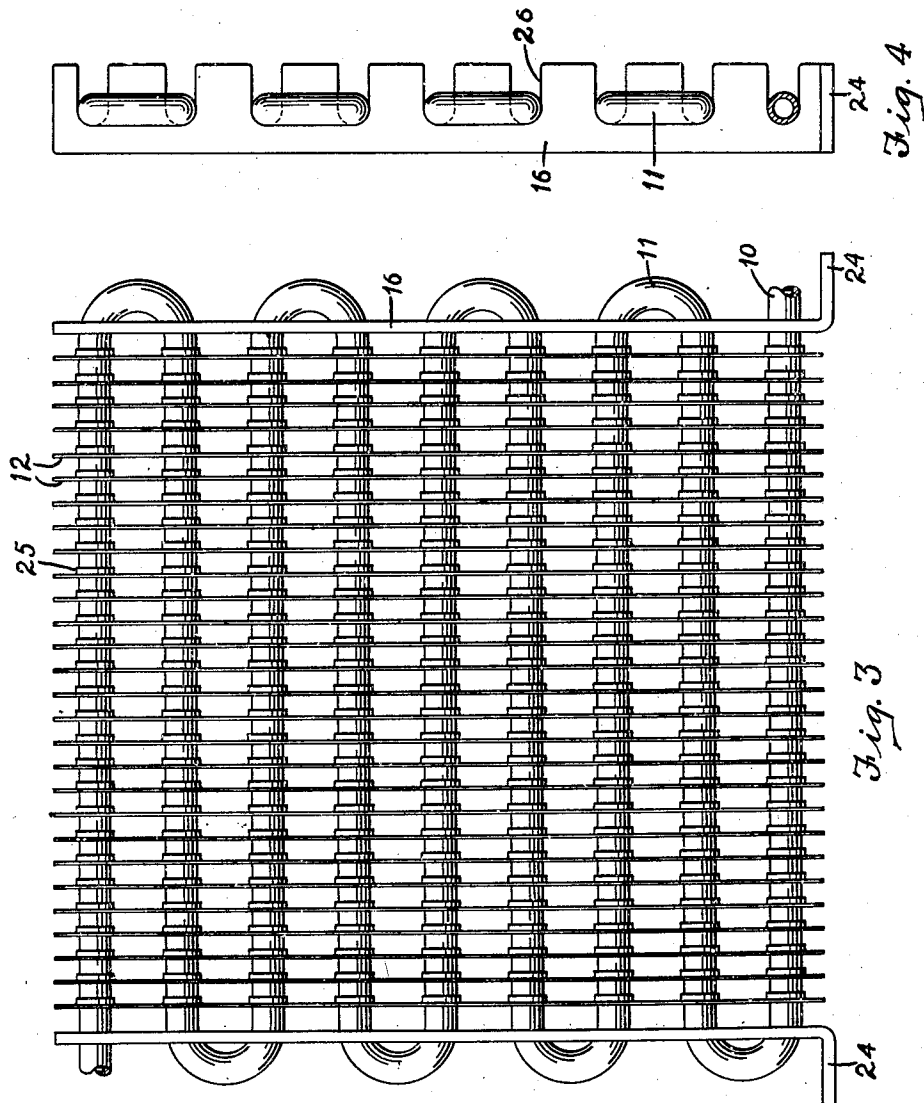
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METHOD OF MAKING A REFRIGERATOR ELEMENT

Filed Jan. 31, 1929

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

1,955,837

METHOD OF MAKING A REFRIGERATOR
ELEMENT

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Frigidaire Corporation, Dayton, Ohio, a cor-
poration of Delaware

Application January 31, 1929, Serial No. 336,435

3 Claims. (Cl. 29—157.3)

This invention relates to refrigerating apparatus and more particularly to an element and a method of manufacturing said element for said refrigerating apparatus.

5 An object of the invention is to provide a method of manufacturing a refrigerating element which element comprises a plurality of spaced fins placed on a serpentine coil.

Another object is to reduce manufacturing cost of condensers for refrigerating apparatus.

Another object is to form a condenser without the use of expensive apparatus.

Another object is to form a new condenser.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred form of the invention is clearly shown.

In the drawings:

20 Fig. 1 is a top plan view of the condenser in the casing in which it is first formed.

Fig. 2 is a cross section on line 2—2 of Fig. 1.

Fig. 3 is a side view of the condenser removed from the casing in which it is formed.

25 Fig. 4 is an end view of the condenser in Fig. 3.

Fig. 5 is an enlarged bottom view of the lower left hand portion of the condenser in Fig. 1.

Fig. 6 is an end view of Fig. 5.

It has hitherto been customary in the manufacture of a finned serpentine condenser to use expensive dies in placing the fins upon the tubing of such a condenser. Sometimes the condenser has been built up in sections with the result that labor costs have increased due both to the additional assembly and to the necessary close inspection for leaks at the places where the tubes are joined. An object of this invention is to do away with expensive dies used in the manufacture of condensers while still maintaining an efficient integrally formed tube for the refrigerant. A preferred form of apparatus for carrying out the method of the invention is disclosed in Fig. 1. A seamless coiled tube forming preferably a serpentine coil 10, preferably formed from a straight tube by making the bends or loops 11 alternating with parallel straight runs of tubing, is placed upon one or more supports or standards 13 having slots 14 for the reception of the coil 10. The coil and the supports are placed within the casing 15 having the front 17, rear 18 and the sides 19 and 20. The sides 19 and 20 have slots 21 on the inner side for guiding the fins into position. These slots or guides may take any other form but of course are most easily formed in the manner shown. A wider slot 22 or guide is formed

on either side of the slots 21 in the side 19. A still wider slot 23 is formed in the side 20 at either end of the slots 21. The fins 12 are preferably formed as a thin rectangular sheet of metal stamped from any suitable sheet material. These fins 12 have slots 26 in one side for the reception of the tube or coil 10. About the central circular portion of the slot is formed the semi-cylindrical flanges 25 to make an extensive surface contact of the fins and coil. These fins are placed in the slots 21 with their slots 26 faced downward and then are pushed downward in any convenient manner over the serpentine coil 10 and into tight frictional engagement therewith. This may be done by a machine such as a press or by a hand implement as desired. End supports 16 having the base angles 24 are placed on the coil 10 at the same time and in similar manner as the fins 12. The coil 10 with its fins 12 and supports 16 is then removed from the casing or box 15. It is then preferred to fasten the fins and supports more securely upon the tube 10 preferably by providing an unbroken metallic bond between them. This can be done more conveniently by soldering and more quickly by dipping the structure disclosed in Fig. 3 into suitable fluxes and a solder bath. The result is therefore a finned serpentine condenser quickly and easily formed without the use of expensive dies for forcing the fins upon the serpentine coils of the tube. It is obvious that the guides and supports and shape of the casing in Fig. 1 may be varied without departing from the spirit of the invention.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows.

1. The method of manufacturing a refrigerator element which comprises forming a seamless tube into a seamless serpentine coil having more than one bend, supporting said coil on one or more slotted standards, spacing a plurality of fins having slotted edges and causing simultaneous relatively sideward movement between said coil and fins to cause a frictional jointure of said coil and fins and soldering said coil and fins.

2. The method of manufacturing a refrigerator element which comprises forming a tube into a continuous serpentine coil without transverse seams and having more than one bend and alternate straight runs, spacing a plurality of fins having slotted edges, and simultaneously forcing the slots of all of said fins and the runs of the coil to-

gether by pressure applied in opposite directions to the fins and coil to cause a frictional jointure of said coil and fins.

3. The method of manufacturing a refrigerator element which comprises forming a tube into a continuous serpentine coil without transverse seams and having more than one bend and alternate straight runs, spacing a plurality of fins

having slotted edges, and simultaneously forcing the slots of all of said fins and the runs of the coil together by pressure applied in opposite directions to the fins and coil to cause a frictional jointure of said coil and fins and soldering said coil and fins.

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