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R. G. OSBORN

1,818,740

COUNTER EVAPORATOR

Filed May 31, 1930

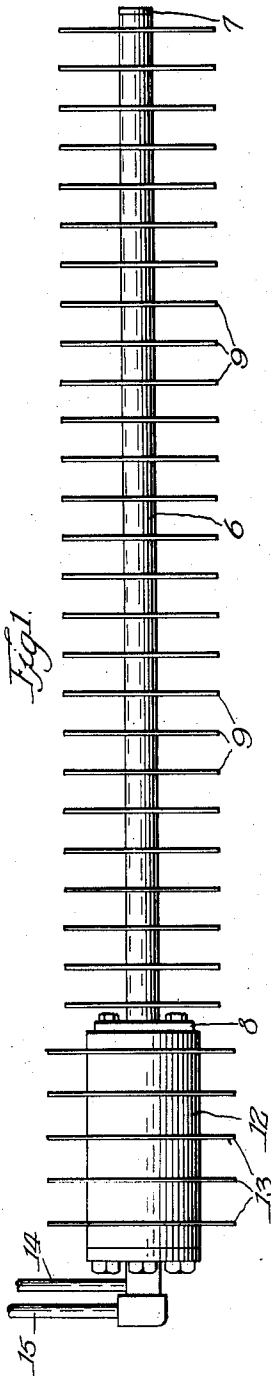


Fig. 1.

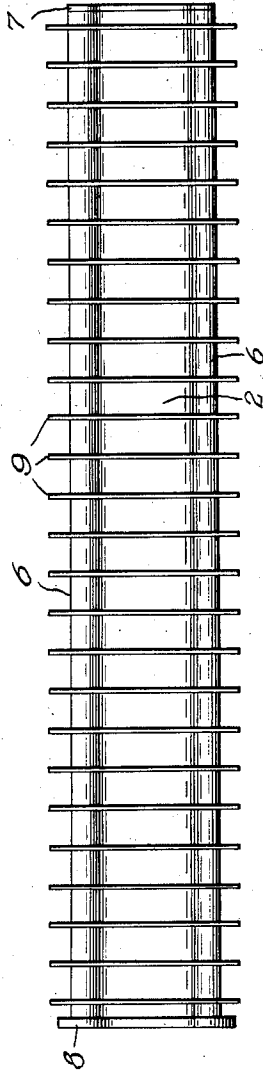


Fig. 2.

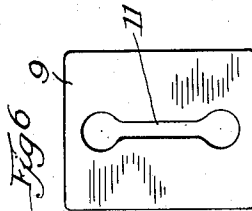


Fig. 6.

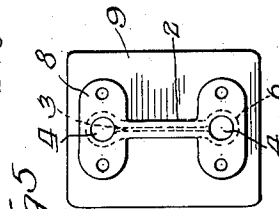


Fig. 5.

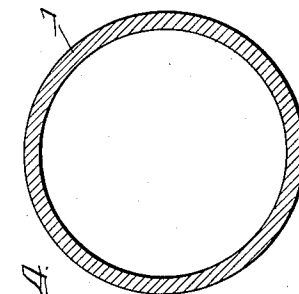


Fig. 4.

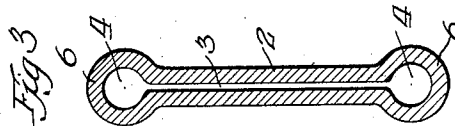


Fig. 3.

Witness

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COUNTER-EVAPORATOR

Application filed May 31, 1930. Serial No. 458,848.

This invention relates to the construction of an evaporator and more particularly to an evaporator that is well adapted for installation in counter-cabinets.

Heretofore it has been very difficult from a practical viewpoint to cool a counter-cabinet by means of an evaporator and particularly by one utilizing ammonia. One of the reasons for the difficulty being the inability to provide sufficient evaporator surface within the space requirements.

It is the purpose of this invention therefore to provide an evaporator which has the required amount of surface to produce the desired cooling effect within an elongated chamber such as a counter-cabinet and to further provide such an evaporator which will permit the use of ammonia as a refrigerant therein.

A thorough understanding of this invention will be had from the following description given in connection with the drawings in which:

Fig. 1 is a plan view of an evaporator and supply therefore constructed in accordance with this invention.

Fig. 2 is a front elevation of the evaporator portion.

Fig. 3 is a vertical transverse section through the evaporator without the fins thereon.

Fig. 4 is a section of a tube from which the evaporator conducting portion is made.

Fig. 5 is an end elevation of the connecting end of the evaporator, and

Fig. 6 is an elevation of a fin element.

The evaporator through which the refrigerant is circulated may be supplied from any suitable source and can best be described by the method of making the same.

Referring particularly to Figs. 3 and 4, it will be seen that the evaporator is formed from a piece of tubing 1 having two sides thereof pressed together to provide a flat center section 2 having a restricted practically closed thin web-like passage 3 therebetween terminating in longitudinal passages 4 at each end thereof formed by the end portions 6 of the tubing 1. The evaporator may conveniently be made by squashing any

suitable length of tubing as shown in Fig. 4 into the shape illustrated in Fig. 3. The tubing thus formed is sealed at one end 7 and provided with a connecting flange 8 at the other end, the passage 3 at the connecting end being sealed by the flange. The evaporator formed in this manner provides a pair of spaced parallel refrigerant chambers 4 connected throughout their lengths by a thin web-like passage 3.

Any suitable number of fins 9 may be slid over the evaporator the fins of course being provided with a central aperture 11 of proper shape to fit over the evaporator.

The evaporator may be secured to any source of supply such as a reservoir 12, preferably a liquid ammonia receptacle of the flooded type which will supply liquid ammonia to the evaporating member. Preferably the lower channel 4 is connected to the reservoir below the liquid level and the upper channel above the liquid level. As shown, the reservoir 12 may also be provided with fins 13 to give additional surface area to the entire unit. The reservoir 12 may be supplied from a liquid line and discharged through a suction line 15.

The construction just described provides an evaporator which has a relatively large surface area and yet which occupies very little physical space in a cabinet. It has been found that such an evaporator when installed in a counter-cabinet and supplied with liquid ammonia as a refrigerant will maintain the compartment at practically any desired temperature.

It is obvious that one or more evaporating units may be supplied from a single source and that changes may be made in the details of construction without departing from the spirit and scope of this invention as defined in the claims appended hereto.

I claim:

1. An evaporator comprising a pair of substantially parallel spaced longitudinal refrigerant chambers connected substantially throughout their lengths by a relatively thin web-like passage.

2. An evaporator comprising a pair of substantially parallel spaced longitudinal re-

frigerant chambers connected substantially throughout their lengths by a relatively thin web-like passage and radiating fins arranged on said member.

5 3. An evaporator comprising a pair of substantially parallel spaced longitudinal refrigerant chambers connected substantially throughout their lengths by a relatively thin web-like passage, said chambers being closed
10 at one end, said passage being closed at both ends, the open ends of said chambers being adapted to be connected to a liquid refrigerant reservoir.

15 4. An evaporator comprising a length of tubing having the walls thereof mashed together at the center to provide a pair of parallel spaced chambers connected throughout their length by a relatively thin passage
20 between the walls of the mashed portion of said tubing.

In witness of the foregoing I affix my signature.

R. GLENN OSBORN.

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