

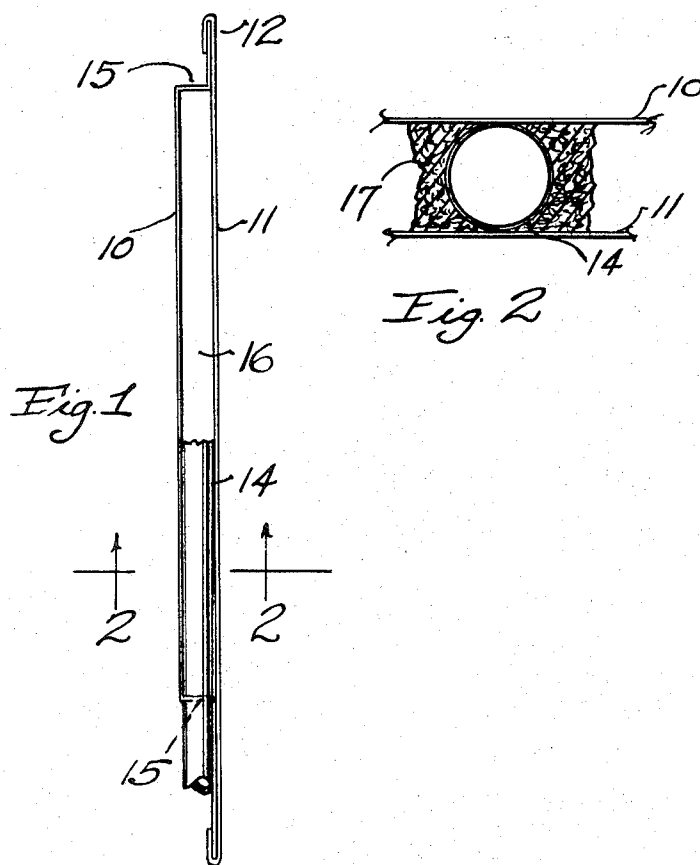
Nov. 1, 1949

D. L. CAMERON

2,486,822

FREEZER PLATE

Filed Dec. 23, 1946



INVENTOR.

BY *Duncan L. Cameron*
Daniel G. Cullen
Attorney

UNITED STATES PATENT OFFICE

2,486,822

FREEZER PLATE

Duncan L. Cameron, Detroit, Mich., assignor to
George Orley, Detroit, Mich.

Application December 23, 1946, Serial No. 717,999

2 Claims. (Cl. 62—126)

1

This application relates to hollow freezer units. The freezer unit hereon is characterized by the fact that the hollow unit, containing a coil of tubing through which refrigerant courses, is packed with a plastic mass containing a dispersion of fine metal particles for promoting heat transfer between the tubing and the walls of the unit.

An embodiment is shown in the appended drawing. In this drawing,

Fig. 1 diagrammatically illustrates a typical freezer unit and

Fig. 2 is an enlarged fragmentary cross-sectional view on line 2—2 of Fig. 1.

In the appended drawing, Fig. 1 shows a freezer unit comprising two sheet metal plates 10 and 11 joined at their edges by the flanging of plate 11 around plate 10 as illustrated at 12. Between plates 10 and 11 is a space within which is a coil of tubing, 14, through which refrigerant courses. Opposite ends of the tubing 14 pass through the side walls 15 of the unit, formed by the flanging of plate 10, and the protruding ends of the tubing are connected by suitable couplers to a refrigerant line.

Packed into the space 16 between plates 10 and 11, to fill all of that space except for that which is occupied by the tubing itself, is a plastic mass 17 in which is a dispersion of fine metal particles. The plastic is of such a nature as to remain unhardened even at temperatures below freezing. One such product is known on the market as "Prestite," manufactured by Prestite Engineering Company of St. Louis, Missouri. So far as I am able to determine, this mass is of a special form of asphalt, guaranteed to remain unhardened at -40° F. In the plastic mass is a dispersion of bronze powder.

The plastic mass, packed into space 16, is in intimate contact with both the tubing and the plates, and functions as a heat transfer medium between them.

The use of the plastic mass makes it unnecessary to solder or braze the tubing 14 to the plates 10 and 11. Wherever the tubing is in direct and intimate contact with the plates 10 and 11, heat transfer will take place even without the use of the plastic mass. However, since, at many

2

points, there is an appreciable gap between the tubing and the plates, the plastic mass which fills such gaps promotes heat transfer. In addition, the plastic mass serves to equalize the distribution of heat flow from tubing 14 to the plates 10 and 11. Such distribution is so effective, I have observed, that in units which have made, there is no frost line at the tubing but rather the frosting is spread quite evenly over the entire surface of the plates 10 and 11, indicating that portions of such plates remote from the tubing are cooled by the tubing almost as effectively as portions of the plates most directly in contact with the tubing.

Now having described the hollow freezer unit herein disclosed, reference should be had to the claims which follow:

I claim:

1. A hollow freezer unit comprising two spaced metal plates joined at their edges, a coil of tubing between them, and a filling or packing for the space between said plates and around said coil, comprising an asphaltic plastic mass in which is a dispersion of fine metal particles, the plastic being unhardened even at below freezing temperatures.

2. A hollow freezer unit comprising two spaced metal plates joined at their edges, a coil of tubing between them, and a filling or packing for the space between said plates and around said coil, comprising an asphaltic plastic mass in which is a dispersion of fine metal particles, the plastic being unhardened even at below freezing temperatures, the plastic being in intimate contact with both the tubing and the plates to function as a heat transfer medium between them.

DUNCAN L. CAMERON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,932,184	Knapp	Oct. 24, 1933
2,405,432	Kleist	Aug. 6, 1946
2,446,895	Weiss	Aug. 10, 1948