Jan. 4, 1944. C. T. ASHBY 2,338,277

EVAPORATOR

Filed Sept. 20, 1941

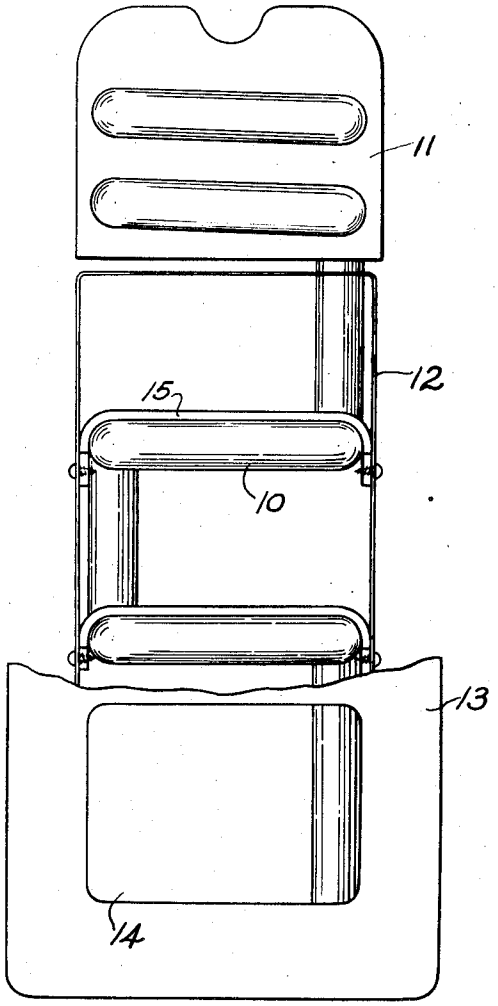


FIG. 1

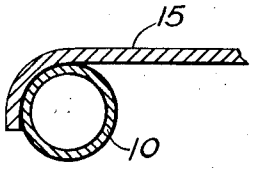


FIG. 2

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Patented Jan. 4, 1944 2,338,277

UNITED STATES PATENT OFFICE

2,338,277

EVAPORATOR

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Application September 20, 1941, Serial No. 411,625

3 Claims. (Cl. 62—126)

My invention relates to refrigeration and more particularly to an evaporator, particularly for diffusion type absorption refrigeration apparatus.

It is an object of the invention to provide an evaporator formed of steel tubing and having shelves in good thermal contact with the tubing.

The drawing shows in Fig. 1 a front elevation of an evaporator embodying the invention, a part of the front being broken away to better show the structure; and in Fig. 2, a fragmentary vertical view, in section, of the evaporator in Fig. 1 to illustrate more clearly the evaporator construction.

The evaporator comprises tubing including a plurality of generally horizontal U-shape sections 10 connected by vertical bends. This type of evaporator is shown and described, for instance, in Patent 2,008,343 to A. R. Thomas.

The two upper bends are provided with heat transfer fins 11. The lower bends are enclosed in a sheet metal casing 12. The casing 12 is provided with a front plate 13 having openings 14 which provide access to the interior to the casing 12 for inserting and removing ice freezing trays or the like.

On each of the U-bends within the casing 12 there is secured a shelf forming plate 15. Each plate 15 is substantially flat and has its side edges turned downward over the tubing 10 as probably best seen in Fig. 2. In accordance with my invention, the steel tubing 10 is coated with aluminum. The shelf plates 15, and if desired, the fins 11 are of aluminum. In fabrication of the evaporator, the tubing 10 is first formed into the described shape and coated with aluminum. Then the aluminum shelf plates 15 are placed in position and the whole placed in a welding furnace in which fusion of the aluminum coating and shelf plate takes place, providing an improved thermal bond between the shelf and the tubing.

Various changes and modifications may be made within the scope of the invention as set forth in the following claims.

What is claimed is:

1. An evaporator for refrigeration apparatus comprising an iron conduit coated on the outside with aluminum, and a shelf plate having an aluminum surface attached to said conduit by fusion of said aluminum coating and surface.

2. An evaporator for refrigeration apparatus comprising a substantially horizontal loop of iron tubing, a coating of aluminum on the outside of said tubing, and a shelf plate having an aluminum surface resting on said loop and thermally bonded thereto by fusion of said aluminum coating and surface.

3. An evaporator for refrigeration apparatus comprising an iron pipe, a coating of aluminum on the outside of said pipe, and an aluminum plate secured to said pipe by fusion of said aluminum coating and plate.

CARL T. ASHBY.