Feb. 16, 1943. R. W. HASTINGS 2,311,540

CABINET CONSTRUCTION

Filed July 30, 1940 2 Sheets-Sheet 1

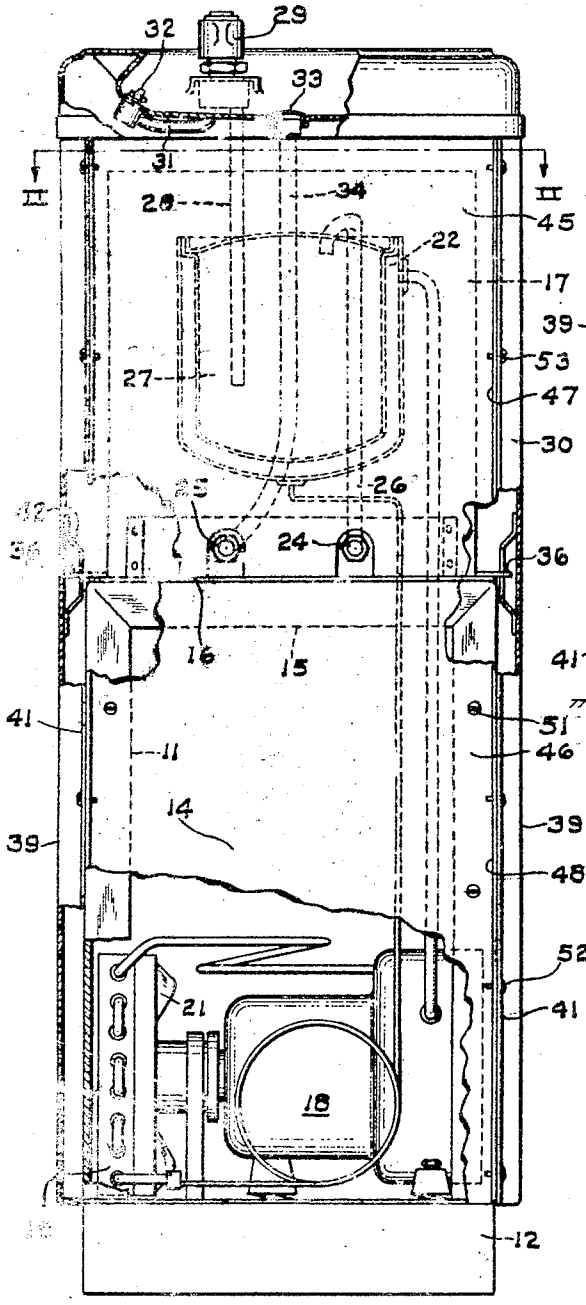


FIG. 1.

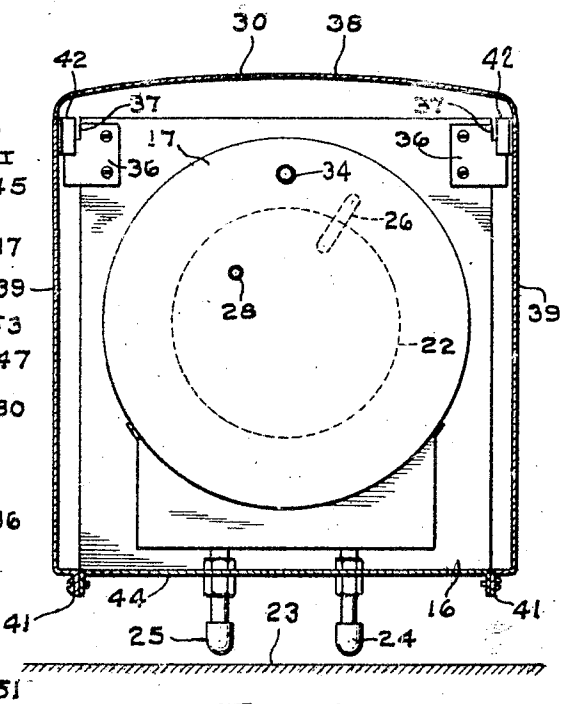


FIG. 2.

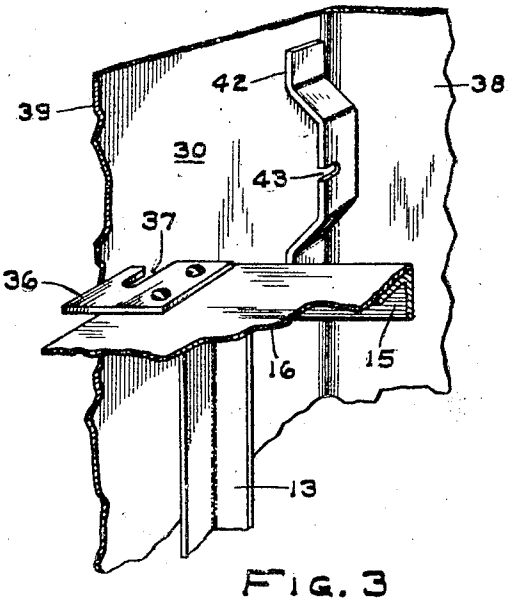


FIG. 3

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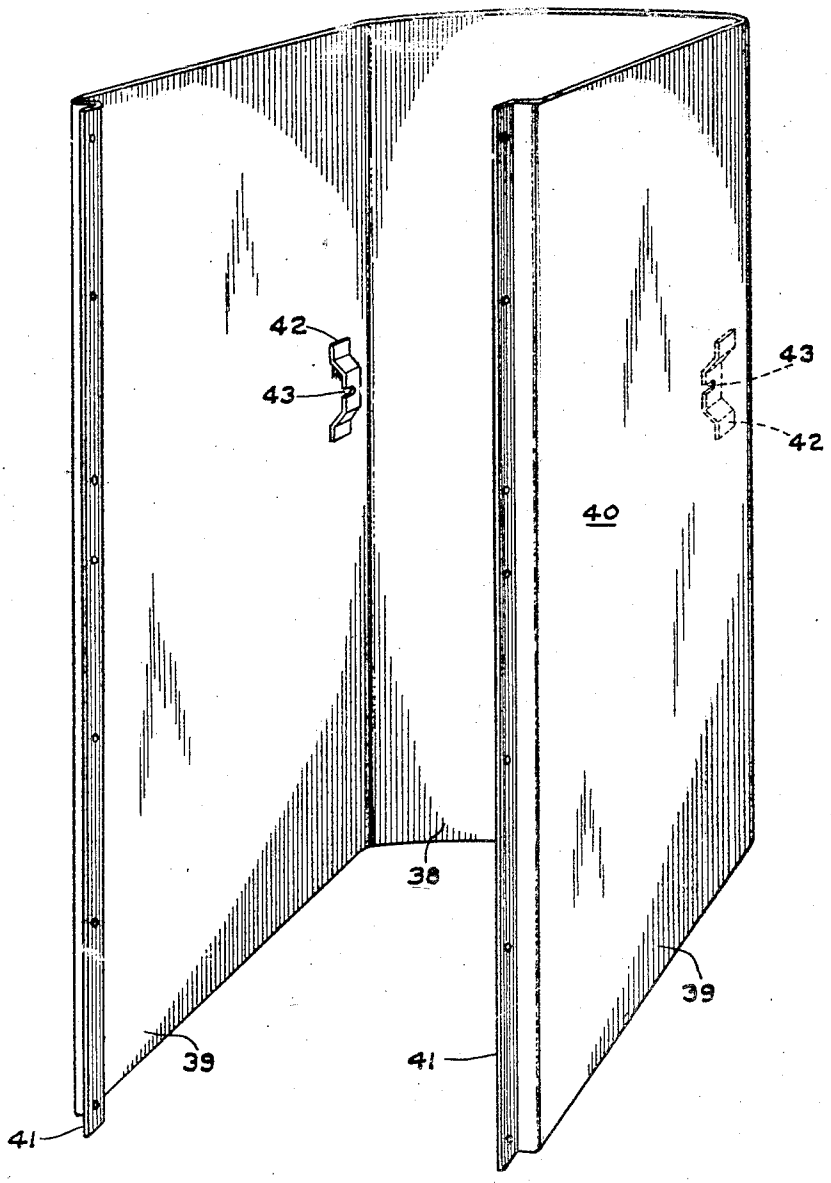


FIG. 4.

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Patented Feb. 16, 1943 2,311,540

UNITED STATES PATENT OFFICE

2,311,540

CABINET CONSTRUCTION

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Application July 30, 1940, Serial No. 348,337

2 Claims. (Cl. 312—172)

My invention relates to cabinet constructions for liquid-cooling apparatus, such as, for example, water coolers of the type utilizing electrical refrigeration equipment.

Liquid coolers are usually enclosed at their front and sides for appearance and are set with their back close to a wall. Connections to a source of liquid to be cooled extend between the back of the cooler and the walls. Such connections are usually rigid and, when once completed, make it impossible to move the cooler away from the wall without breaking the liquid connections, which is obviously undesirable every time inspection or repair of the cooler is required. Since, as stated, liquid coolers are normally enclosed at their front and sides, the problem which arises is to quickly and easily remove the front and side walls for inspection and repair of the mechanical parts without moving the cooler and to accomplish this result without increasing manufacturing expense, while retaining a pleasing and ornamental appearance.

It is, therefore, an object of my invention to provide a liquid cooler of pleasing and ornamental appearance which may be readily disassembled for inspection, repair or replacement of parts without moving the cooler or breaking the liquid connections thereto.

This and other objects are effected by my invention as will be apparent from the following description and claims taken in connection with the accompanying drawings, forming a part of this application, in which:

Fig. 1 is an elevational view of the rear of a liquid cooler illustrating my invention;

Fig. 2 is a sectional view taken on line II—II of Fig. 1;

Fig. 3 is a detailed perspective view of the bracket arrangement for supporting the outer shell of the liquid cooler cabinet; and

Fig. 4 is a perspective view taken from the rear of the outer shell of the liquid cooler cabinet.

Referring specifically to the drawings for a detailed description of my invention, I have shown my invention as applied to an electrically refrigerated water cooler. The water cooler comprises a frame generally indicated by the numeral 11 embodying a base 12 on which are supported front and rear corner uprights 13 and 14, respectively, formed of angle irons. The uprights 13 and 14 support cross angle members 15 to which is attached an intermediate platform 16 on which an insulated chamber 17 is mounted.

The base 12 also supports a hermetically-sealed motor-compressor unit 18, a condenser 19 and a fan 21 for cooling the motor compressor unit and condenser. An evaporator 22 is contained within the insulated chamber 17. The evaporator 22, condenser 19 and motor-compressor unit are connected together by conduits to provide an operative compression refrigerating system of conventional design, and further description thereof is believed unnecessary.

As shown in Fig. 2, the water cooler is placed with its back close to a wall 23, and a source of liquid supply 24 and a drain 25 are disposed between the wall 23 and the water cooler, to conceal the former. As shown in Fig. 1, the supply water pipe 24 is connected to a pipe 26 which opens into a reservoir 27 interiorly of the evaporator 22, where it is cooled by the refrigeration apparatus. Water from the reservoir 27 is withdrawn through a pipe 28 when a valve 29 is opened and passes through a pipe 31 and a bubbler 32 for consumption. A drain fitting 33 conveys drain water to a pipe 34 and thence to drain 25. The valve 29, bubbler 32 and drain fitting 33 are included in a unitary top 35 which is preferably supported from the insulated chamber 17. A cabinet, generally indicated at 30, completely surrounds the frame and refrigeration apparatus. It is clear that after the connections have been made to the water supply and drain and the refrigeration apparatus enclosed by cabinet 30, it is desirable that access be available to the interior of the cabinet 30 without moving the cooler or disrupting the connections thereto.

In accordance with my invention, as best shown in Figs. 2, 3 and 4, bracket members 36 having forward opening slots 37 formed therein are attached preferably to the front of the platform 16 and extend outwardly from the sides thereof. As shown in Fig. 4, the front 38 and sides 39 of the water cooler cabinet are formed of a unitary generally U-shaped shell 40 having marginal vertically-extending flanges 41. Cooperating bracket members 42 having inwardly-opening slots 43 are attached to the sides 39 of the shell 40 near the front 38 thereof. A back wall 44 completes the cabinet and comprises an upper portion 45 and a lower portion 46 having vertical marginal flanges 47 and 48, respectively.

In order to obtain access to the refrigeration apparatus without moving the cooler or breaking the supply and drain connections, the cabinet 30 is assembled as follows, it being obvious that in disassembling the cabinet the procedure is reversed.

First, the lower portion 46 of the back plate 44 is attached by screws 51 to the rear uprights 14 of the frame 11. The portion 46 is not again removed from the frame under normal circumstances. Secondly, the shell 40 is moved into position so that slots 37 and 43 engage brackets 42 and 36, respectively. When the brackets 36 and 42 are in their assembled interlocking relationship, the brackets support a substantial portion of the weight of the shell 40. The flanges 41 of the shell 40 are then attached to the flange 48 of the lower rear wall portion 46 by sheet metal screws 52, it being noted that the heads of screws 52 extend toward the sides of the cabinet and are readily accessible therefrom. The remainder of the weight of the shell 40 not supported by brackets 42 and 36 is supported by this connection. Thereafter the upper back wall portion 45 is dropped into position and sheet metal screws 53, likewise accessible from the sides of the cabinet, connect flanges 41 and 47 to retain the upper wall portion 45 in position.

From the foregoing it will be apparent that I have provided a cabinet for a liquid cooler which is inexpensive and ornamental and which may be readily assembled and disassembled without moving the cooler or breaking the supply and drain connections thereto. It will also be apparent that, when the shell 40 is removed, all of the parts of the refrigerating apparatus on the open frame 11 are accessible from the front or sides of the cooler for inspection, repair or replacement and further that the cabinet may be readily disassembled and assembled for these purposes in the field.

While I have shown my invention in but one form, it will be obvious to those skilled in the art that it is not so limited, but is susceptible of various changes and modifications without departing from the spirit thereof, and I desire, therefore, that only such limitations shall be placed thereupon as are specifically set forth in the appended claims.

What I claim is:

1. In a cabinet construction for enclosing and supporting a cooling mechanism, the combination of a rectangular internal frame member including vertical uprights at the four corners thereof defining front, sides and rear of said frame member, said frame member adapted to support said cooling mechanism and said cooling mechanism having substantially permanent liquid connections thereto from a source outside said cabinet, a readily removable unitary casing forming front and side walls of said cabinet construction, means for readily detachably supporting said unitary casing from said frame, and means for retaining said unitary casing in position on said frame, said frame being so constructed that the cooling mechanism is accessible from sides and front of said frame when said casing is removed, said supporting means and retaining means being so constructed and arranged that the unitary casing is readily removable from the frame without disturbing said liquid connections.

2. In a cabinet construction for enclosing and supporting a cooling mechanism having substantially permanent liquid connections thereto from a source outside of said cabinet, the combination of a rectangular frame member including vertical uprights at the four corners thereof defining a front, sides, top and rear of said frame member, a platform disposed at the top of said frame member for supporting a portion of the cooling mechanism, the remainder of the cooling mechanism being supported below said platform, bracket means on said frame member adjacent the top thereof, a readily removable unitary casing extending above and below said platform and forming front and side walls of said cabinet construction, bracket means on said unitary casing detachably engaging with the bracket means on said frame member for readily detachably supporting said casing from the frame member, the rear edges of said casing being bent toward each other and then rearwardly of the casing to form parallel rearwardly-extending flanges, and means for detachably connecting said rearwardly-extending flanges to other portions of the cabinet, said last means being so positioned as to be accessible from the sides of the cabinet but not visible from the front of the cabinet, whereby the casing is readily removable from the frame member without disturbing said permanent connections.

ROGER W. HASTINGS.