

Jan. 16, 1968

C. E. SHOLTES

3,363,432

BOTTLE WATER COOLER

Filed Sept. 21, 1966

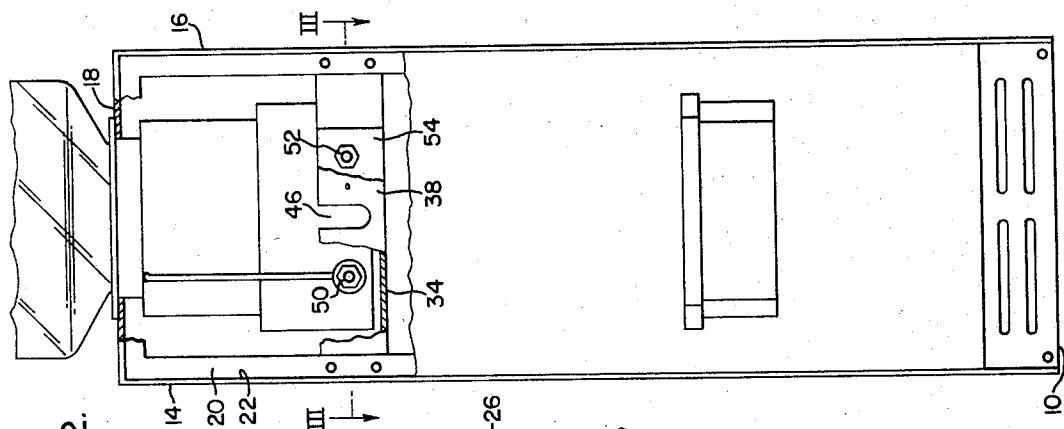


FIG.2.

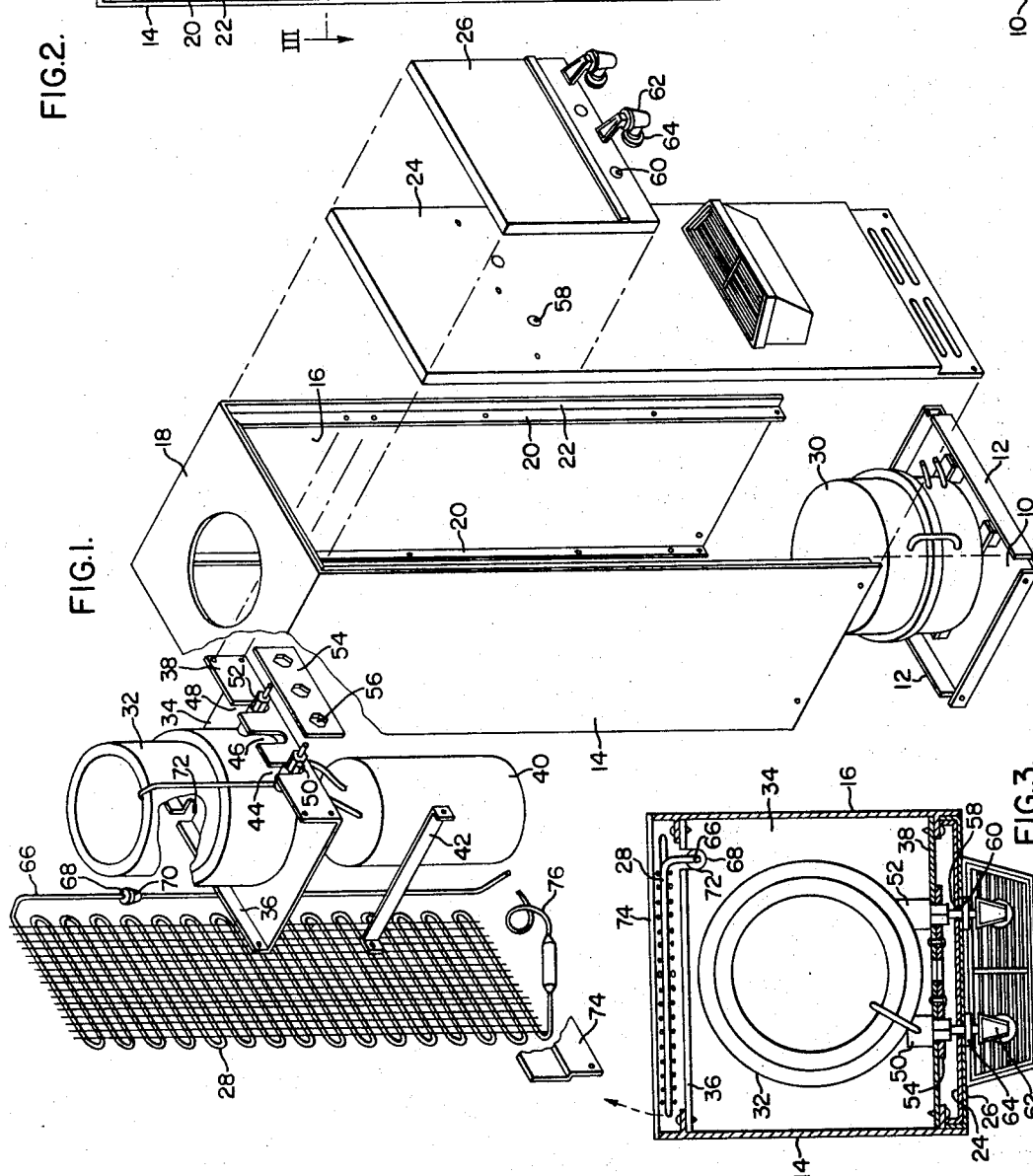


Fig. 1.

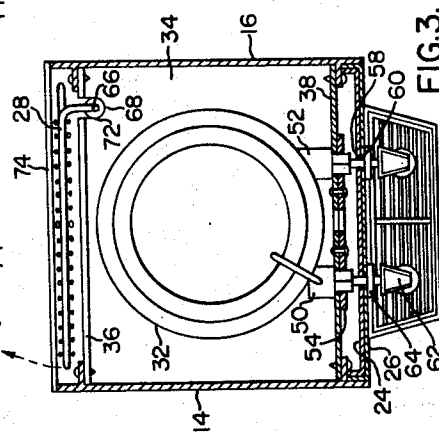


FIG. 3.

1

3,363,432

BOTTLE WATER COOLER

Carl E. Sholtés, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 21, 1966, Ser. No. 581,028
5 Claims. (Cl. 62-397)

This invention relates to an improved bottle water cooler construction.

Of the characteristics which a bottle water cooler should possess, many relate to the general construction of the cooler as distinguished from its operating characteristics. The cooler cabinets should be sufficiently sturdy and rigid to stand normal abuse, while also presenting a pleasing appearance either standing alone or as part of an assembly including accessory cabinet units such as small refrigerators or food storage cabinets. The cooler should accommodate the inclusion of means for supplying hot water as well as cold water with a minimum disturbance to the structural arrangement. The general structure of the cooler should lend itself to efficient production since it is sold in a competitive market, and accordingly should include relatively inexpensive components to the extent possible.

Since the coolers are used primarily in offices and homes under conditions where servicing can create a major annoyance to the customer, it is also highly desirable to provide a construction which facilitates service access and parts replacements.

Accordingly, the general object of this invention is to provide a bottle water cooler construction which largely possesses the above desirable characteristics.

The general construction of the water cooler, according to the invention, includes an outer shell comprising a single sheet formed into a downwardly open U-shape defining the opposite sidewalls and top wall of the cabinet. The front and rear edges of the sheet are bent to provide inset, inside corners which stiffen the shell and also provide flange structure so that interior components may be supported directly from the shell. The open front face of the shell is adapted to be covered by detachable front panels means seating in the inside corners of the shell. The rear face of the shell accommodates a wire and tube refrigerant condenser which is preferably secured along one vertical edge for pivotal movement to facilitate access to the rear of the cooler. One of the refrigerant connecting lines between the refrigerant compressor and condenser extends up for the height of the condenser and may conveniently serve as the hinge pin for the condenser pivotal movement since the substantial length of the connecting line will adequately stand the torsional strain.

The platform means in the cabinet for supporting a cooling tank includes an upright front flange provided with upwardly open slot means to receive each water outlet pipe which is to project forwardly through the front panel means. The slot means, coupled with apertured plate means attached in facing relation to the upright flange, position the water outlets relative to the cabinet shell structure. This aids in the installation of the front panel means since the water outlets are positively held in alignment and correctly located with respect to the front panel means.

The invention will be described in somewhat more detail in connection with the accompanying drawing illustrating a water cooler embodying the invention by way of example, and wherein:

FIGURE 1 is an exploded isometric view of the main parts of one particular model of a water cooler according to the invention;

FIG. 2 is a partly broken front elevational view of the water cooler; and

2

FIG. 3 is a horizontal sectional view corresponding to one taken along the line III—III of FIG. 2.

Referring to the drawing, the basic cabinet construction of the water cooler includes a base 10 of generally rectangular shape and having each edge portion 12 flanged upwardly. The main shell portion of the cabinet comprises a single sheet formed into the shape of an inverted U to form the opposite sidewalls 14 and 16, and the top wall 18. Each of the opposite longitudinal edges of the sheet is turned back upon itself and then provided with a right angle flange 20 before forming the sheet into its U shape. Thus, the three sides of the shell, along both the front and rear edges, have inset (i.e., recessed) inside corners 22 along both the open front and open rear faces.

The open front face of the shell is adapted to be covered by a pair of detachable front panels having their top and opposite edges received by the inside corners 22. The inner front panel 24 extends for substantially the height of the shell. The outer front panel 26 overlies the upper portion of the inner panel and provides a decorative effect. The rear face of the shell is substantially open except for the coverage provided by the wire and tube refrigerant condenser 28.

The main parts enclosed by the cabinet include: a refrigerant compressor 30 mounted on the base 10; a foam styrene encased water cooling tank 32 supported on an intermediate height platform 34, the platform having an upwardly-projecting rear flange 36 and an upwardly-projecting front flange 38; an insulated hot water tank 40 in an upright disposition below the platform and attached to a horizontally extending strap 42; and a number of water lines and refrigerant lines which connect the various components.

The platform 34 supporting the cooling tank is secured to the opposite sides 14 and 16 of the shell by fasteners which secure the ends of the upright flanges 36 and 38 of the platform to the inwardly-directed flanges 20 of the shell sides. The hot water tank 40 is supported by the single horizontal strap 42 having its ends secured in turn to the inwardly-directed flanges 20 of the one side 14 of the shell. The shell itself is secured to the base 10 by fasteners turned through the bottom edges of the opposite sides 14 and 16 into a pair of opposite upturned flanges 12 of the base. It will be appreciated that with the construction shown that the shell and panels are essentially self-framing. That is, posts and braces are not required since the shell and panels and other connected parts cooperate to stiffen each other and thereby avoid the necessity of any independent framing.

The upright front flange 38 of the platform 34 has three side-by-side upwardly-open slots 44, 46 and 48. The hot water outlet fitting 50 seats in slot 44, and the cold water outlet fitting 52 seats in slot 48. The unoccupied center slot 46 is provided to accommodate models which have only a single fitting. Each fitting 50 and 52 is provided with an annular groove which cooperates with the slot when the fitting is seated to prevent front-to-rear movement of the fitting. To secure the fittings with respect to vertical movement, a plate 54 with three hexagonal apertures 56 is fastened to the front face of platform flange 38. The apertures register with the slots so that the fittings can project through the apertures and forwardly through the openings 58 and 60 in the detachable front panels 24 and 26, respectively. The faucets 62 may then be simply slipped onto the forward ends of the fittings with the water seal and securement being provided by the resilient grommets 64 on the faucets. It will be appreciated from the foregoing description of the relationship of the outlet fittings to the cooperating members that the fittings are positively located and firmly held so that alignment problems which have been previously experienced in other constructions are avoided, and the

3

assembly of fittings, faucets and related parts is facilitated.

In accordance with another feature of the invention, and as shown in FIGS. 1 and 3, the wire and tube condenser is adapted to be supported for pivotal movement about its one vertical edge. To this end, the vertical feed line 66, which extends for the height of the condenser, has a rubber bushing 68 provided with an annular groove 70 therein, slipped onto the connecting line before the line is connected to the compressor outlet. The rear edge of the tank supporting platform 34 is provided with a rearwardly-open slot 72 into which the bushing is fitted when the condenser is mounted to the shell. To hold the bottom part of the condenser in place, a back panel 74 is located to extend across the lower portion of the rear of the shell and is secured at its ends to the inwardly-directed flanges 20. This back panel also supports certain controls (not shown) dealing with the functioning of the operating components of the cooler.

When complete access from the rear of the cabinet is desired, the back panel 74 is removed and the condenser 28 may then be swung about an axis generally corresponding with the axis of the connecting line 66. The substantial height of the connecting line permits the swinging movement of the condenser without undue torsional strain being imposed upon the line 66. It is noted that the outlet end of the condenser is connected through a capillary line 76 which preferably is looped to provide sufficient give to permit the swinging movement. It is also noted that the open-work structure of the condenser 28 permits the insertion of a screwdriver between the wires and tubes to adjust the hot water temperature control (not shown) conveniently positioned on the rear face of the hot water tank 40.

I claim as my invention:

1. A bottle water cooler construction, comprising:
 - a cabinet for said cooler including a base, a wrap-over integral sheet forming a top and a pair of opposite sidewalls, and detachable front panel means for covering the open front face of said cabinet;
 - a water cooling tank supported from said opposite sidewalls, said tank being adapted to receive water from an inverted bottle supported from said top wall;
 - a mechanical refrigerating system for said cooler including a wire and tube condenser disposed to cover the open rear face of said cabinet; and

4

means securing said condenser to said cabinet to permit swinging movement of said condenser about one rear vertical corner of said cabinet to provide substantially unobstructed access to the interior of said cabinet through said open rear face.

2. A water cooler construction according to claim 1 wherein:

said condenser includes one connecting line extending along one vertical edge of said condenser and serving as the axis for said swinging movement.

3. A water cooler construction according to claim 1 wherein:

said integral sheet includes front and rear edge portions flanged back upon itself and inwardly to provide insert, inside corners to accommodate said condenser in the plane of said rear face, and to accommodate said detachable front panel means in the plane of said front face.

4. A water cooler construction according to claim 1 including:

platform means supporting said cooling tank, said platform means including an upright front flange provided with upwardly-open slot means for receiving at least one water outlet fitting; and

- 25 apertured plate means secured to the front face of said upright flange and having said water outlet fitting projecting forwardly therethrough, said upright flange and plate means cooperating to properly position and secure said fitting relative to the remainder of said cabinet structure.

- 30 5. A water cooler construction according to claim 4 wherein:

said detachable front panel means includes openings through which said water outlet fittings project; and said cooler includes faucet and resilient seal means adapted to be received on said fittings.

References Cited

UNITED STATES PATENTS

2,105,751	1/1938	Money	165—77
2,687,625	8/1954	Nadler	62—453 X
3,060,703	10/1962	Benua et al.	62—397 X
3,297,080	1/1967	Williams et al.	165—77

LLOYD L. KING, *Primary Examiner*.