March 15, 1960 M. R. GOLDSMITH 2,928,705

ROTATING BEVERAGE COOLER

Filed May 14, 1956 2 Sheets-Sheet 1

Fig. 1.

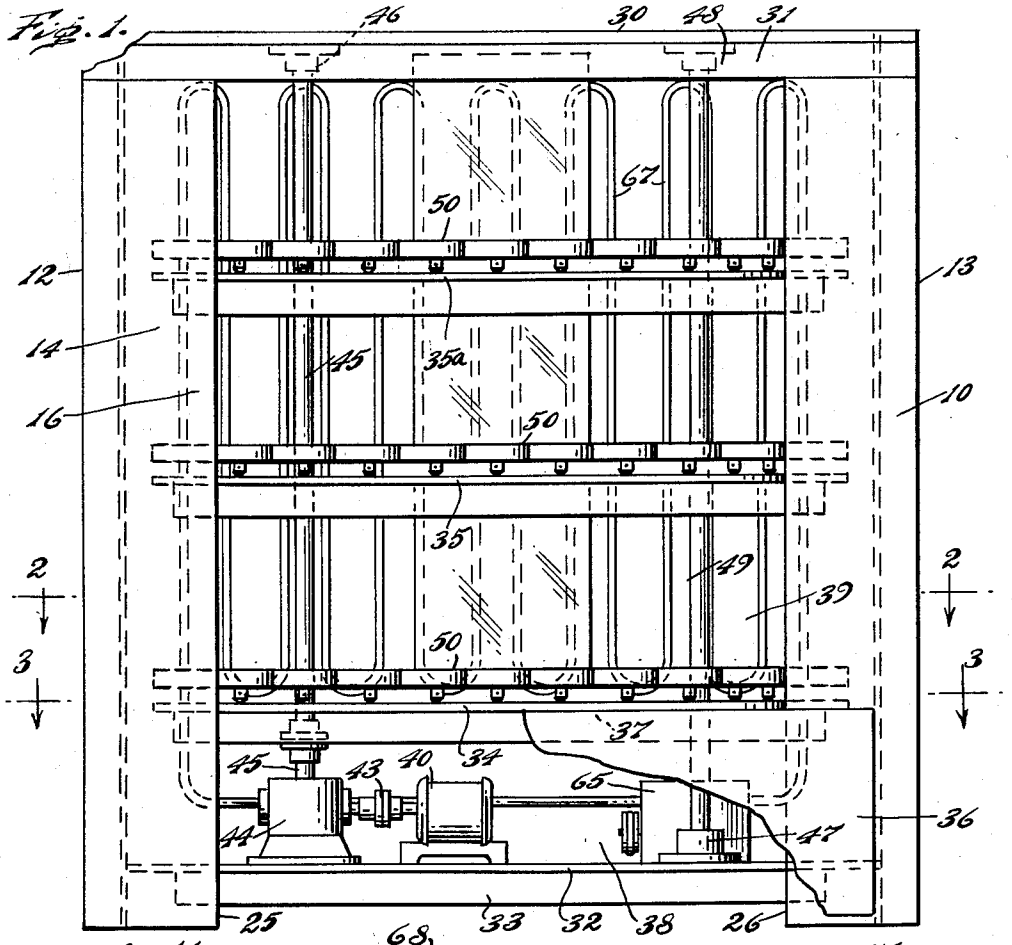
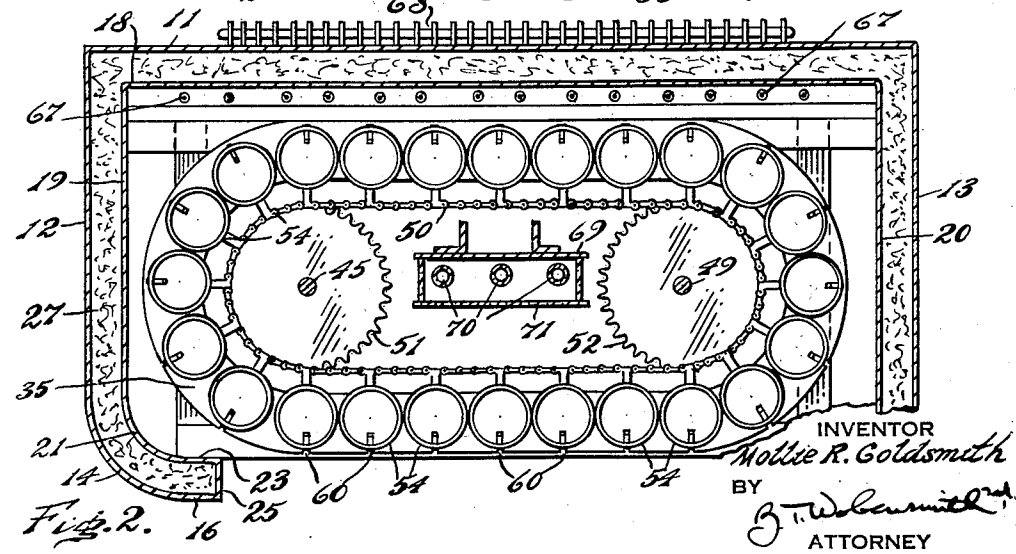


Fig. 2.



INVENTOR
Mollie R. Goldsmith
BY
ATTORNEY

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Fig. 3.

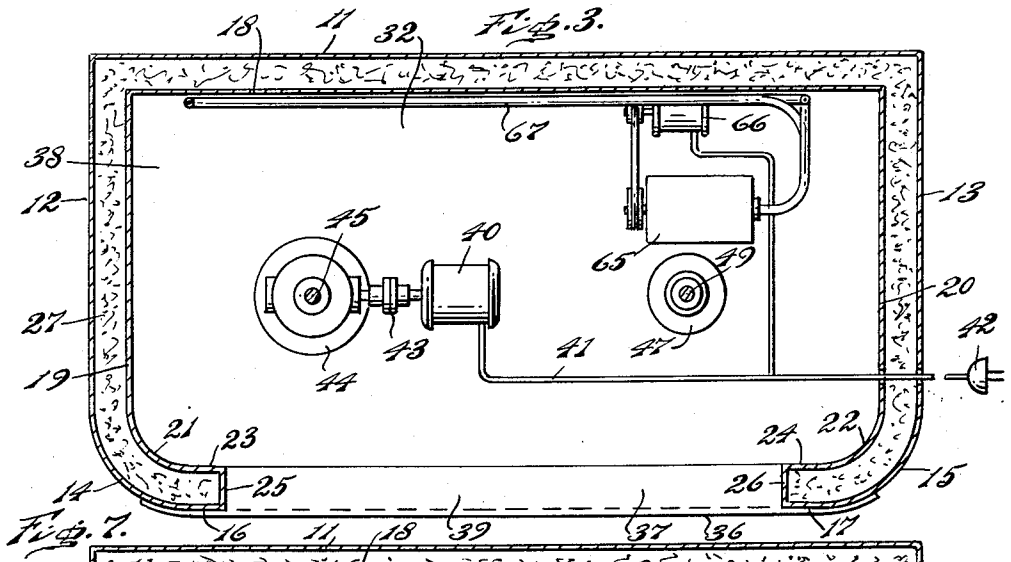
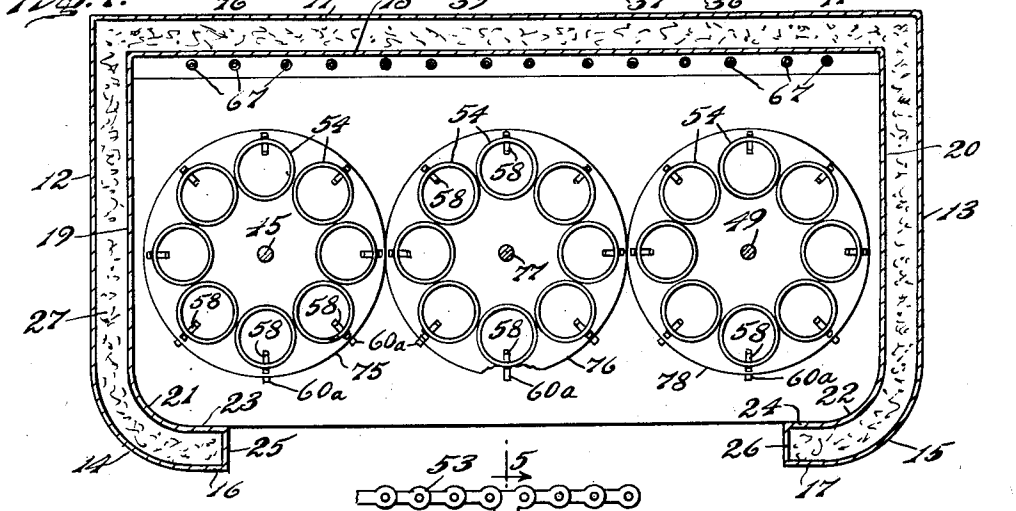


Fig. 7.



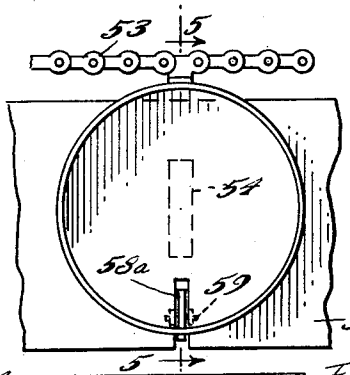


Fig. 4.

Fig. 5.

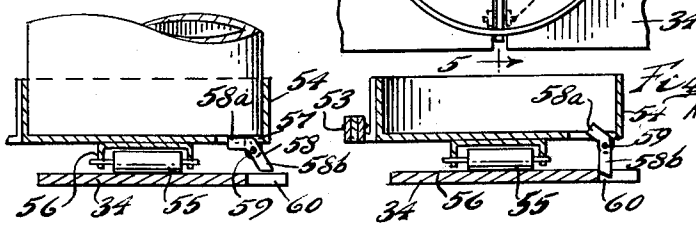
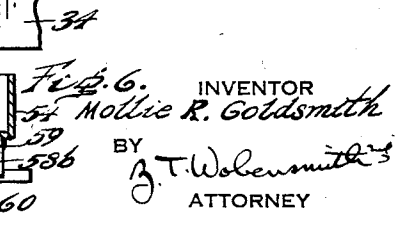


Fig. 6.



INVENTOR
Mollie R. Goldsmith
BY
T. Wolcensmith
ATTORNEY

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ROTATING BEVERAGE COOLER

Mollie R. Goldsmith, Philadelphia, Pa.

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2 Claims. (Cl. 312—223)

This invention relates to beverage coolers.

It is the principal object of the present invention to provide a beverage cooler in which the beverage bottles or containers are continuously moved for purposes of cooling and display.

It is a further object of the present invention to provide a beverage cooler in which a plurality of beverage bottles are simultaneously exhibited in a changing display while being cooled.

It is a further object of the present invention to provide a beverage cooler which is suitable for use on a counter, shelf or the like, which is complete and self contained, and which merely requires the connection thereof to a conventional electric power supply.

It is a further object of the present invention to provide a beverage cooler for a plurality of beverage bottles which are simultaneously exhibited in a changing display on a movable platform and in which the removal of a bottle therefrom will cause the platform to stop until the bottle is replaced.

It is a further object of the present invention to provide a beverage cooler which is relatively simple in construction and which will be an effective merchandise display.

It is a further object of the present invention to provide a beverage cooler in which interior illumination is provided which enhances the appearance of the cooler but without interference with the cooling action.

Other objects and advantageous features of the invention will be apparent from the specification and claims.

The nature and characteristic features of the present invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a front elevational view of the beverage cooler in accordance with the invention, parts being broken away to show the details of construction;

Fig. 2 is a horizontal sectional view taken approximately on the line 2—2 of Fig. 1;

Fig. 3 is a horizontal sectional view taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is a fragmentary plan view showing one form of holding structure;

Fig. 5 is a fragmentary vertical sectional view taken approximately on the line 5—5 of Fig. 4;

Fig. 6 is a view similar to Fig. 5 showing the action when a bottle has been removed; and

Fig. 7 is a view similar to Fig. 2, showing a modified form of the invention.

It should, of course, be understood that the description and drawings herein are illustrative merely, and that various modifications and changes may be made in the structure disclosed without departing from the spirit of the invention.

Referring now more particularly to the drawings, in which a preferred form of beverage cooler in accordance with the invention is illustrated, a housing forming part thereof is shown generally at 10.

The housing 10 is preferably formed of sheet metal or other suitable material and includes an outer housing portion with a vertical rear wall 11, and spaced parallel vertical side walls 12 and 13. The side walls 12 and 13 have, connected thereto by curved walls 14 and 15, outer front walls 16 and 17.

The housing 10 also preferably includes an inner housing portion with a vertical rear wall 18 inwardly disposed in spaced relation to the rear wall 11, and spaced parallel vertical side walls 19 and 20 inwardly disposed in spaced relation to the side walls 12 and 13. The side walls 19 and 20 have, connected thereto by curved walls 21 and 22, inner front walls 23 and 24.

The outer front walls 16 and 17 are respectively connected to the inner front walls 23 and 24 by vertical walls 25 and 26.

The space between the rear walls 11 and 18, the side walls 12 and 19 and 13 and 20, and the front walls 16 and 23 and 17 and 24, is preferably filled with suitable insulating material 27, compressed fiber glass being suitable.

A horizontal top wall or cover 30 is provided and has a downwardly extending rim 31 for aiding in retaining it in place.

The housing 10 is provided with a horizontal bottom wall or floor 32 supported in any desired manner upon frame pieces 33, and spaced upwardly therefrom an intermediate horizontal wall 34 is provided.

Additional interior horizontal walls 35 and 35*a* are also provided and supported in any desired manner.

Extending downwardly from the wall 34, a lower front wall plate 36 is provided which closes the space between the vertical walls 25 and 26 and has an upper rearwardly extending rim portion 37.

An enclosed compartment or space 38 is thus provided between the floor 32 and the wall 34 within which the operating mechanism is housed, and an access opening 39 to the interior of the housing 10 is provided thereabove.

An electric motor 40 is provided, carried on the floor 32, to which electric energy is supplied by a conductor 41 connected to a pronged plug 42. The pronged plug 42 is adapted for insertion into any conventional power supply such, for example, as 110 volt alternating current.

The motor 40 has the shaft thereof connected through an overload or slip clutch 43, carried on the floor 34 to a speed reducer 44 having a vertical shaft 45 extending upwardly therefrom. The shaft 45 extends upwardly through the horizontal walls 34, 35 and 35*a*, and is journalled in a bearing 46 carried by the cover 30.

A bearing 47 carried by the floor 32 and a bearing 48 carried by the cover 30 support a vertical shaft 49 disposed parallel to the shaft 45 and likewise extending through the horizontal walls 34, 35 and 35*a*.

Each of the horizontal walls 34, 35 and 35*a* has mounted thereabove a conveyor 50 and as the conveyors 50 are the same a description of one should suffice. The conveyors 50 operate at a relatively slow speed which can be such as to provide one complete cycle of revolution per minute of the shaft 45.

Each of the conveyors 50 includes a sprocket 51 secured to the shaft 45 for rotation thereby and a sprocket 52 freely rotatable on the shaft 49. The sprockets 51 and 52 are connected by an endless chain 53 to which bottle carrying receptacles 54 are connected.

The receptacles 54 are shown as cups, with supporting rollers 55 mounted therebelow in brackets 56 to ride upon the upper faces of the respective walls 34, 35 and 35*a*.

Any desired locking or holding mechanism 57 can be employed, if desired, controlled by the presence or absence of a bottle in each of the receptacles 54.

For this purpose, bell crank levers **58** are pivotally mounted on each of the receptacles **54** by pivot pins **59** and have an arm **58***a* held by a bottle in a receptacle **54** to horizontal position with another arm **58***b* in inclined or out of holding position, as shown in Fig. 5 of the drawings.

The bell crank levers **58** are adapted, upon removal of the bottle from the receptacles **54**, and as illustrated in Fig. 6 of the drawings, to pivot by their weight to a vertical downward position for engagement in one of the notches **60** provided along the front margins of the walls **34**, **35** and **35***a*.

The overload or slip clutch **43** permits of the holding of the conveyors **50** at a stopped position without injury to the motor **40**.

The housing **10** is also provided with a suitable cooling or refrigeration system for cooling the bottles carried by the receptacles **54** and for this purpose a compressor **65** can be mounted on the floor **32** in the compartment **38**, driven by an electric motor **66**. The motor **66** can be connected to the conductor **41**.

The cooling system preferably includes a refrigerant expansion pipe **67** which is mounted on the interior of the rear wall **18**, and is connected to the compressor **65**, and an externally disposed condenser or refrigerant cooler **68** mounted on the exterior of the wall **11**. An expansion valve (not shown) can be provided in the refrigerant system in the usual manner.

Within the housing **10** and above the wall **34**, and preferably centrally therein a vertical light box **69** is provided. The light box **69** preferably has mounted therein a relatively cold source of light such as tubes **70** of a fluorescent or neon type with a front plastic shield **71** of white or colored material.

The electric energy for the light box **69** can be supplied from the conductor **41**.

In the form of the invention illustrated in Fig. 7, in place of the sprockets **51** and **52** and the chain **53**, discs **75** are provided above the walls **34**, **35** and **35***a* connected to and driven by the shaft **45**, each with its peripheral edge in engagement with the edge of a disc **76**, mounted on a vertical shaft **77**. The discs **76** each has its peripheral edge in engagement with the peripheral edge of a disc **78** freely rotatable on the shaft **49**.

The discs **75**, **76** and **78** can have receptacles **54** mounted thereon with bell crank levers **58**, as before, for engagement in notches **60***a* in the plates **34**, **35** and **35***a*.

The mode of operation will now be pointed out.

With bottles mounted in the receptacles **54** the bell crank levers **58** will be in position to permit movement of the receptacles **54** by the chain **53** upon rotation of the shaft **45** and the sprocket **51**.

Rotation of the shaft **45** is effected through the speed reducer **44** and the overload or slip clutch **43** upon rotation of the motor **40**.

At the same time, the bottles carried by the receptacles **54** are cooled by the effect in the interior of the housing **10** of the cooling system and particularly the pipe **67**.

If it is desired to use any one of the bottles, the contents of which have been cooled, the specific bottle is removed from the receptacle **54** whereupon the bell crank **58** will swing into a notch **60** or **60***a* and stop the further movement of all the receptacles **54** until the bottle or another to take its place is inserted into the empty receptacle **54**.

The access opening **39** permits of the ready insertion or removal of bottles carried by the receptacles **54**.

The continuous movement of the receptacles **54** and the bottles carried thereby not only aids in the cooling but enhances the interest and attractiveness of the display. Light for the light box **69** further enhances the attractiveness of the display without materially increasing the problems of cooling.

I claim:

1. A beverage cooler comprising a heat insulated housing having vertical wall portions, said housing being closed at the rear and sides and having an opening in the front thereof for access to the interior, horizontal walls in said housing extending to said vertical wall portions and providing in said housing a lower compartment and article receiving compartments thereabove, beverage container conveyor members in each of said article receiving compartments, each of said conveyor members including a plurality of separate container receptacles, driving members for actuating said conveyor members including a motor connected thereto through a slip connection, and braking members responsive to the presence of beverage containers in each of said receptacles for controlling the movement of said conveyor members.

2. A beverage cooler as defined in claim 1 having a light source around which said conveyor members are movable for illuminating the containers carried by said receptacles.

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