May 5, 1953 J. R. MUMMA 2,637,819

WATER DISPENSER

Filed Dec. 28, 1945 2 SHEETS—SHEET 1

FIG. 1

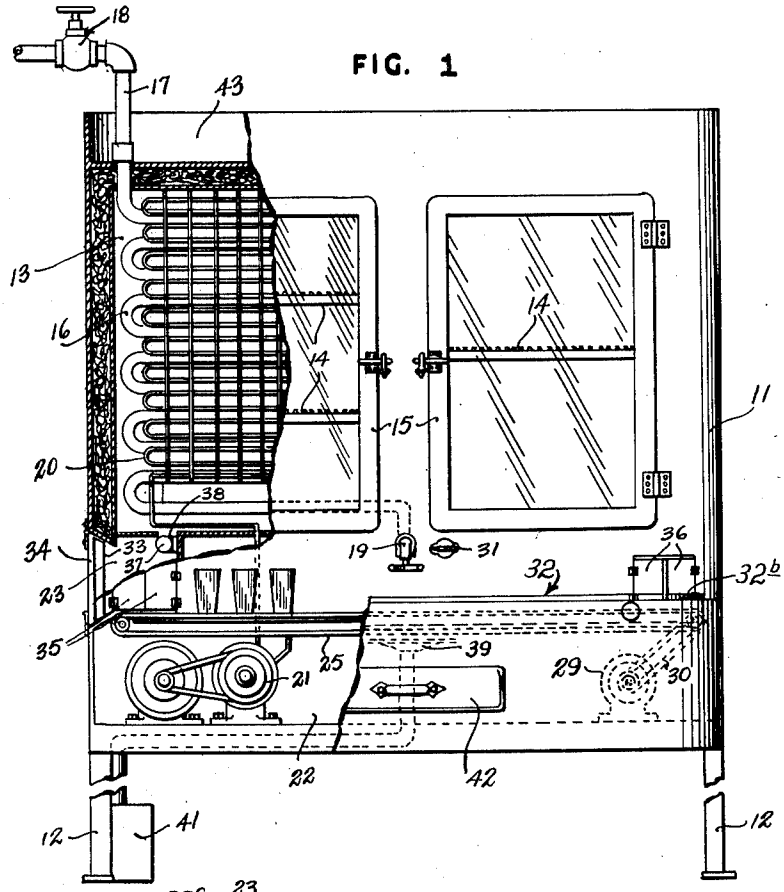
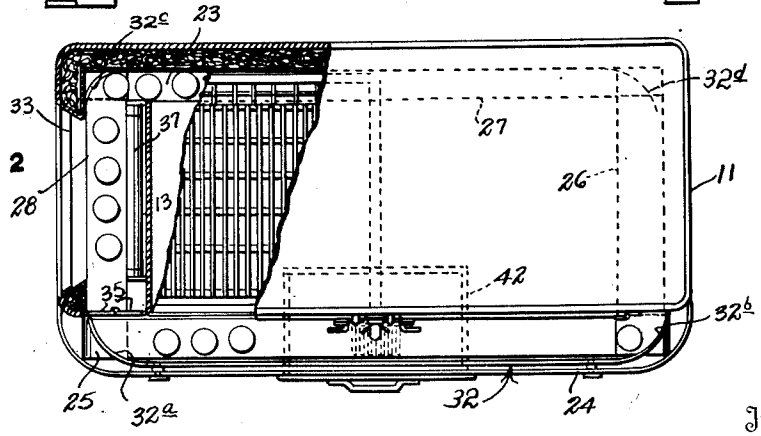


FIG. 2



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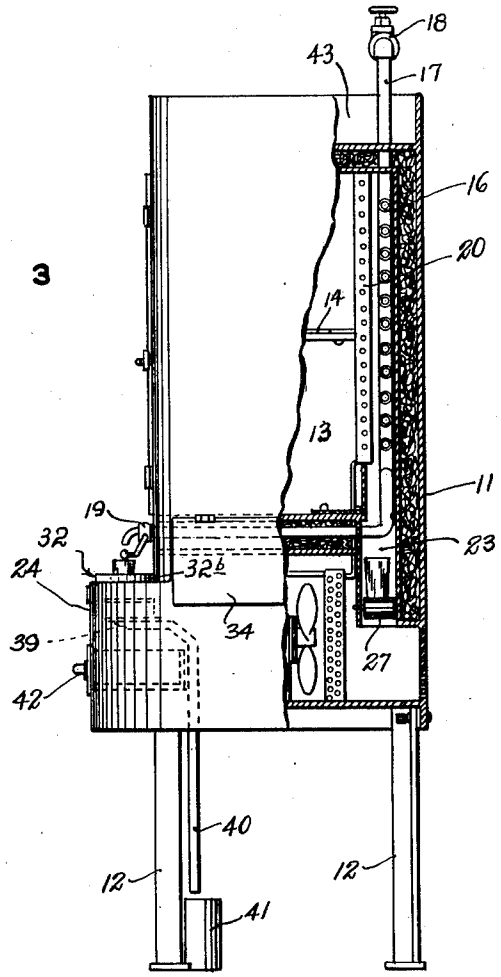
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FIG. 3



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WATER DISPENSER

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3 Claims. (Cl. 250—52)

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This invention relates to dispensing devices and more particularly to a device for dispensing glasses of cold drinking water for use in dining rooms, cafeterias and similar establishments.

A main object of the invention is to provide a novel and improved water dispensing device of relatively simple construction wherein means is provided for supplying chilled and sterilized glasses to a location adjacent the water outlet whereby a minimum of effort is required to fill the glasses with water.

A further object of the invention is to provide an improved water dispensing device embodying a refrigerated cabinet which may be employed for storing additional articles such as saucers, butter, cream and the like, as are likely to be required in dining rooms, restaurants, cafeterias and similar establishments, said cabinet including a controllable conveyor device for feeding glasses to the user as required, said glasses being previously chilled and sterilized in the cabinet.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawing, wherein:

Figure 1 is a front elevational view partly in cross-section of a drinking water dispensing device constructed in accordance with the present invention.

Figure 2 is a top plan view of the dispensing device of Figure 1, partly broken away to show interior details of construction.

Figure 3 is a side elevational view partly in cross-section of the dispensing device of Figure 1.

Referring to the drawings, 11 designates a cabinet which is substantially rectangular in shape and is adapted to be supported on detachable legs 12 provided at each corner of the cabinet. Cabinet 11 is formed with thermally insulated top, bottom, rear and side walls defining a storage compartment 13 of substantial size containing a plurality of shelves 14 adapted to receive cafeteria articles such as sauces, mayonnaise, catsup, butter, cream and the like. The front wall of cabinet 11 is also thermally insulated and is provided with a pair of glazed doors 15, 15. Positioned in a vertical plane closely adjacent to and parallel to the rear wall of cabinet 11 is a water cooling unit 16 comprising a bank of looped piping whose inlet end is connected at 17 through a valve 18 to the municipal water supply main and whose outlet end is connected to a conventional dispensing valve 19 mounted in the lower central portion of the front wall of cabinet 11. Valve 19 is of the conventional type which is actuated

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by the pressure of a glass thereagainst, said glass being positioned under the outlet spout of the valve.

Positioned in effective heat transfer relationship with cooling coil 16 is a freezing unit 20 containing refrigerant, said freezing unit 20 being connected to a motor driven compressor 21 mounted in a compartment 22 provided at the bottom of cabinet 11.

Extending peripherally around cabinet 11 between storage compartment 13 and compressor compartment 22 is a space 23, the front portion thereof being closed, cabinet 11 being formed with a lower forwardly projecting vertical wall portion 24. Mounted in the bottom plane of peripheral space 23 are four conveyor belts, there being a front conveyor belt 25, a right side conveyor belt 26, a rear conveyor belt 27 and a left side conveyor belt 28. The belts 26, 27 and 28 comprise the floor of the space 23 inwardly of the cabinet while the belt 25 comprises a floor forwardly of the front wall of the cabinet and inwardly of the wall 24. The conveyor belts are mechanically coupled together so that they are simultaneously driven by their driving shafts to provide a continuous moving endless surface travelling in a counterclockwise direction around the periphery of cabinet 11, as viewed in Figure 2. It is to be noted that the wall portion 24 extends above the belt 25. The driving mechanism for the belts may be shafts which are coupled together by flexible shafting, bevel gears, or other suitable power transmission means, the mechanism being actuated by a motor 29 mounted in motor compartment 22 and connected to the conveyor mechanism by a belt 30. The belts may be of any suitable flexible material such as leather, chain links, or wire mesh. Motor 29 is controlled by a switch 31 which is located adjacent dispensing valve 19.

Positioned inwardly of and conformably shaped to the vertical wall portion 24 is a guide plate 32 which is fixedly attached to the wall portion 24. The guide plate 32 has at one corner a curved portion 32*a* which serves to guide glasses from the long course or belt 25 onto the short course or belt 28, and another curved portion 32*b* at the opposite corner which serves to guide glasses from the short course or belt 26 onto the long course or belt 25 in a well known manner, as said glasses are moved forwardly on the belt. At one end of the belt 27 there is a guide 32*c* which serves to guide the glasses from the short course or belt 28 onto the long course or belt 27, and at the other end of the belt 27 there is also a guide 32*d* which

serves to guide the glasses from the long course or belt 27 onto the short course or belt 26. Each side wall of cabinet 11 is formed with an opening 33 through which glasses may be positioned in space 23, each opening 33 being provided with a hinged door 34. Provided at the left front corner of space 23 are a pair of vertically hinged swinging doors 35, 35 which are biased by light springs to a normally closed position but which are adapted to open outwardly by contact of a glass thereagainst as said glass is moved forwardly by belt 28 to thereby allow said glass to be moved onto front belt 25. A similar pair of spring biased normally closed swinging doors 36, 36 are provided adjacent the left end of belt 25 adapted to open inwardly to allow unused glasses to be returned into peripheral compartment 23 by right side belt 26.

Positioned in the left side portion of peripheral compartment 23 is an ultra-violet ray sterilizing lamp 37 which extends substantially the entire length of said left side portion. Lamp 37 is continuously energized and emits antiseptic radiation, not only into peripheral compartment 23 but into storage compartment 13 through an opening 38 in the bottom wall of the storage compartment.

The partition wall between peripheral compartment 23 and storage compartment 13 is perforated at additional locations other than opening 38 to maintain compartment 23 at substantially the same low temperature as storage compartment 13.

Positioned beneath conveyor belt 25 and underlying valve 19 is a funnel-shaped drain member 39 which is connected by a drain pipe 40 to a drain receptacle 41. Drain pipe 40 is rearwardly offset to provide clearance for a drawer 42 in which tableware such as knives, forks, spoons and the like will be stored.

The top of cabinet 11 is formed with a shelf 43 for storing extra glasses, pitchers, or other articles when not in use.

In operation glasses are placed in peripheral space 23 through the side door openings 34, said glasses being deposited on the side conveyor belts. When glasses of water are desired, the diners turn switch 31 on causing the belts to operate. This causes the desired number of glasses to emerge through doors 35, 35 and to move toward the location of valve 19. When as many glasses as are needed are available switch 31 is opened, causing the conveyor to stop. Unused glasses will return to peripheral space 23 through right swinging doors 36, 36 during subsequent operations of the conveyor belts.

The cabinet may be mounted on any suitable support instead of on legs 12 if so desired. Legs 12 may be readily detached for this purpose.

While a specific embodiment of a drinking water dispenser has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore it is intended that no limitations be placed on the invention other than as defined by the scope of the appended claims.

What is claimed is:

1. In a liquid dispensing device, a cabinet including a bottom, front and rear walls arranged in parallel spaced relation and carried by said bottom, and a pair of side walls arranged in parallel spaced relation carried by said bottom and connecting said front and rear walls together, a horizontally disposed endless conveyor positioned within said cabinet and spaced above the cabinet bottom and mounted for movement in a horizontal plane, a vertical wall portion positioned exteriorly of and spaced from the cabinet front wall and extending from the cabinet bottom to and spaced above said conveyor, said conveyor including a pair of long courses interconnected by a pair of short courses for the support of articles thereon and having one of the long courses within the space between the cabinet front wall and said vertical wall portion and having the other of the long courses within the cabinet and along the cabinet rear wall, a first pair of doors arranged in vertical end to end relation position in the cabinet front wall above and spaced from said conveyor adjacent one of the cabinet side walls and connected to the cabinet front wall for swinging movement inwardly of the latter wall, a second pair of doors arranged in vertical end to end relation positioned in the cabinet front wall above and spaced from said conveyor adjacent the other of the cabinet side walls and connected to the cabinet front wall for swinging movement outwardly of the latter wall, each of said short courses having one end within the cabinet and having the other end extending through the adjacent one of said pairs of doors, and drive means within said cabinet and operatively connected to said conveyor for effecting the movement of the latter.

2. In a liquid dispensing device, a cabinet including a bottom, front and rear walls arranged in parallel spaced relation carried by said bottom and a pair of side walls arranged in parallel spaced relation carried by said bottom and connecting said front and rear walls together, a horizontally disposed endless conveyor positioned within said cabinet and spaced above the cabinet bottom and mounted for movement in a horizontal plane, a vertical wall portion positioned exteriorly of and spaced from the cabinet front wall and extending from the cabinet bottom to and spaced above said conveyor, said conveyor including a pair of long courses interconnected by a pair of short courses for the support of articles thereon and having one of the long courses within the space between the cabinet front wall and said vertical wall portion and having the other of the long courses within the cabinet and along the cabinet rear wall, a first pair of doors arranged in vertical end to end relation positioned in the cabinet front wall above and spaced from said conveyor adjacent one of the cabinet side walls and connected to the cabinet front wall for swinging movement inwardly of the latter wall, a second pair of doors arranged in vertical end to end relation positioned in the cabient front wall above and spaced from said conveyor adjacent the other of the cabinet side walls and connected to the cabinet front wall for swinging movement outwardly of the latter wall, each of said short courses having one end within the cabinet and having the other end extending through the adjacent one of said pairs of doors, drive means within said cabinet and operatively connected to said conveyor for effecting the movement of the latter, and manually actuable means arranged exteriorly of said cabinet and operatively connected to said drive means for intermittently actuating the latter.

3. In a liquid dispensing device, a cabinet including a bottom, front and rear walls arranged in parallel spaced relation and carried by said bottom, and a pair of side walls arranged in parallel spaced relation carried by said bottom and

connecting said front and rear walls together, a horizontally disposed endless conveyor positioned within said cabinet and spaced above the cabinet bottom and mounted for movement in a horizontal plane, a vertical wall portion positioned exteriorly of and spaced from the cabinet front wall and extending from the cabinet bottom to and spaced above said conveyor, said conveyor including a pair of long courses interconnected by a pair of short courses for the support of articles thereon and having one of the long courses within the space between the cabinet front wall and said vertical wall portion and having the other of the long courses within the cabinet and along the cabinet rear wall, a first pair of doors arranged in vertical end to end relation positioned in the cabinet front wall above and spaced from said conveyor adjacent one of the cabinet side walls and connected to the cabinet front wall for swinging movement inwardly of the latter wall, a second pair of doors arranged in vertical end to end relation positioned in the cabinet front wall above and spaced from said conveyor adjacent the other of the cabinet side walls and connected to the cabinet front wall for swinging movement outwardly of the latter wall, each of said short courses having one end within the cabinet and

having the other end extending through the adjacent one of said pairs of doors, drive means within said cabinet and operatively connected to said conveyor for effecting the movement of the latter, manually actuable means arranged exteriorly of said cabinet and operatively connected to said drive means for intermittently actuating the latter, an ultra-violet means positioned within said cabinet and above said conveyor for emitting antiseptic radiation to the articles supported on said conveyor.

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