

United States Patent

Goings

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[54] **UNDER DASH HOT AND COLD DRINK DISPENSER**

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[51] Int. Cl. **B67d 5/52**

[58] Field of Search 222/129, 129.1, 129.4, 132, 222/135, 136, 144.5, 145, 146, 176, 178; 251/289, 295; 137/334, 337, 339, 340, 353; 141/59, 377; 219/302, 208, 311; 165/41, 42, 43

[56] **References Cited**

UNITED STATES PATENTS

3,168,914 2/1965 Brown.....137/353 X

2,805,313 9/1957 Lumb219/311
3,242,952 3/1966 Austin.....137/353 X
2,830,613 4/1958 Mason.....137/353

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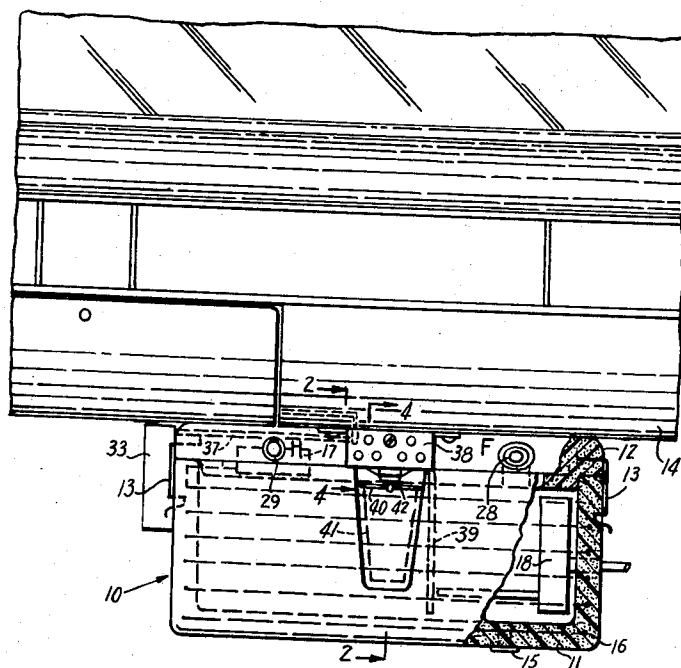
Attorney—Alexander B. Blair

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ABSTRACT

A hot and cold drink dispenser for under dash mounting in motor vehicles includes a refrigeration unit for cooling water in an insulated container, a heat exchanger associated with the radiator water for heating water and a plurality of flavor concentrates mounted on the side of the container. Vacuum from the vehicle engine provides the force for moving water and flavors in the apparatus and a dispenser head is provided for dispensing hot water, cold water, and one or more flavors as desired.

4 Claims, 5 Drawing Figures



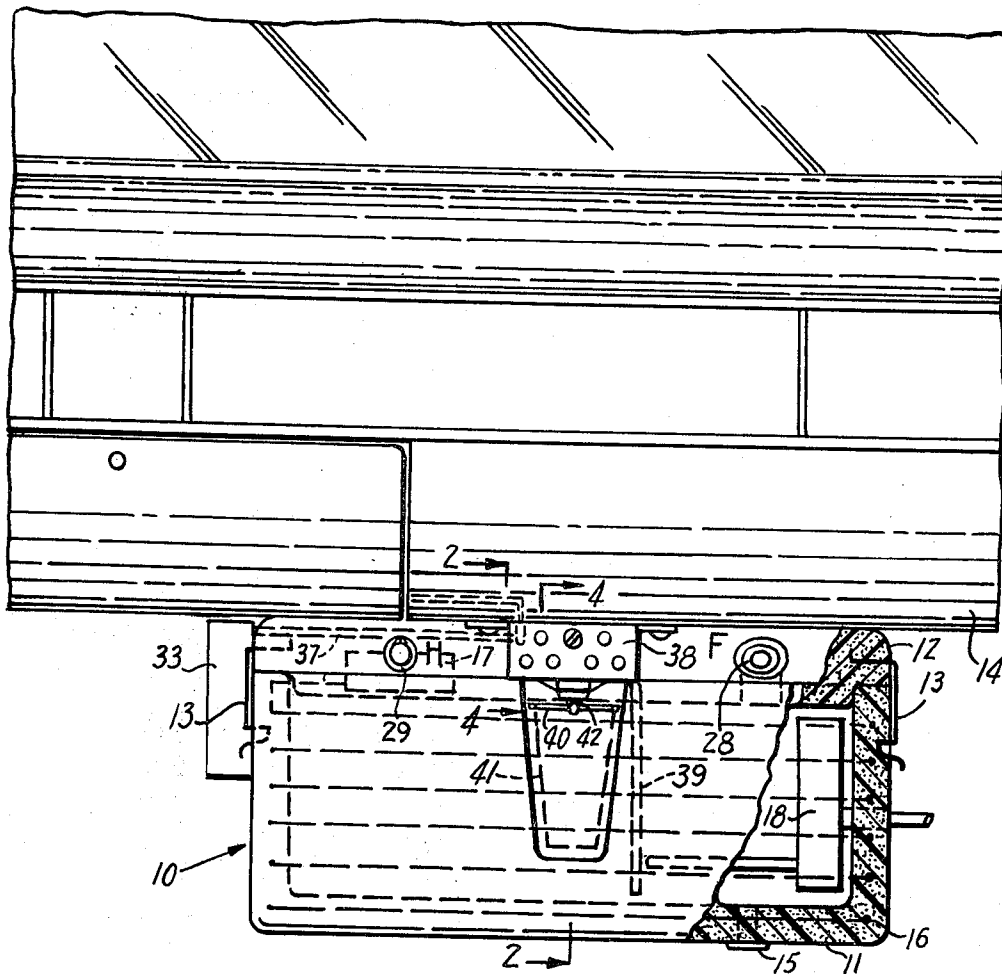


FIG. 1

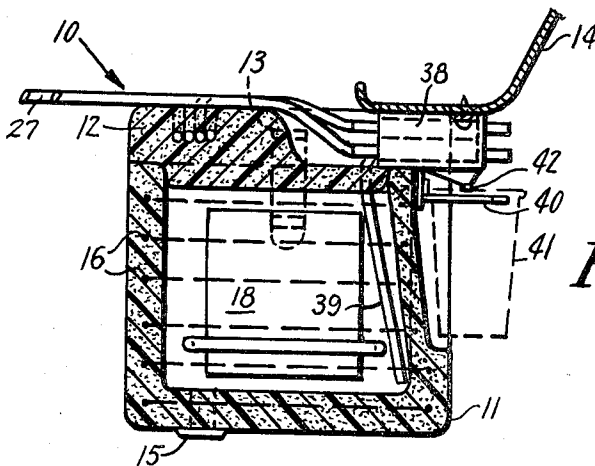


FIG. 2

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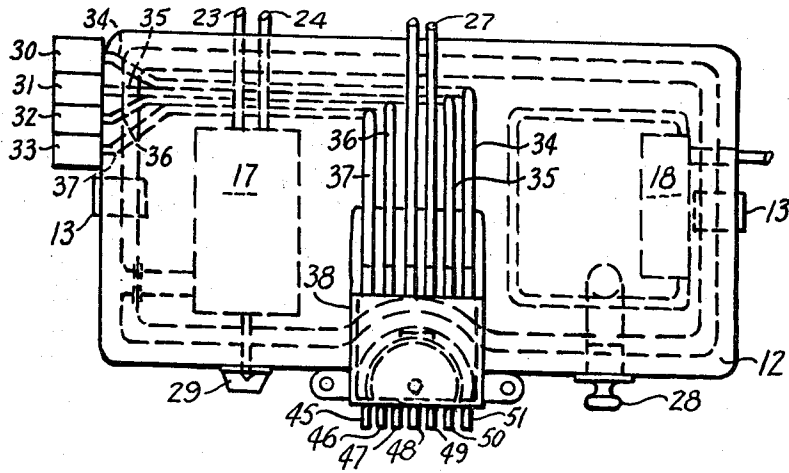


FIG. 3

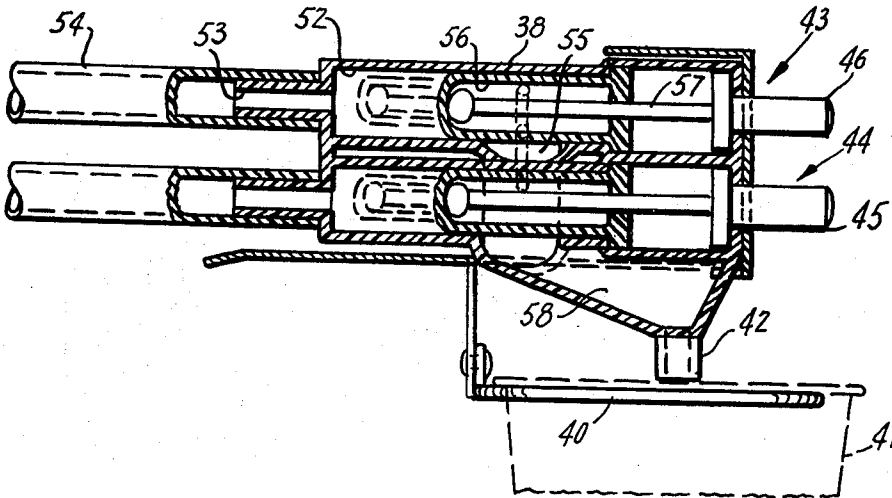


FIG. 4

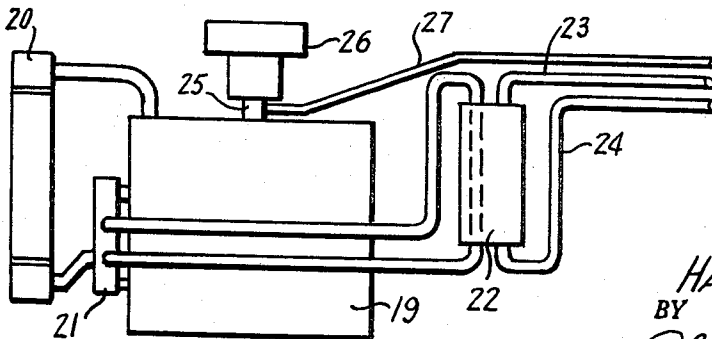


FIG. 5

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UNDER DASH HOT AND COLD DRINK DISPENSER

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to drink dispensers for mounting under the dashboard of a motor vehicle.

2. Summary of the Invention

An insulated water container is mounted under the dashboard of a motor vehicle and has associated therewith a refrigerator unit for cooling the water in the container. A heat exchanger is also provided for heating water dispensed from the chamber when such is desired. The liquid is dispensed by vacuum drive off the intake manifold of the engine and a dispenser is provided for dispensing anyone of a plurality of flavors along with either hot or cold water to produce the desired drink.

The insulated container is provided with electric heating coils in its wall controlled by a thermostat so as to prevent the water in the container from freezing should the ambient temperatures drop below freezing.

The primary object of the invention is to provide a dash mounted drink dispenser which will dispense hot or cold water along with a concentrated flavor to produce a desired hot or cold drink.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevation of the invention shown partially broken away and in section for convenience of illustration;

FIG. 2 is a vertical cross-section taken along the line 2—2 of FIG. 1 looking in the direction of the arrows;

FIG. 3 is a top plan of the invention;

FIG. 4 is an enlarged fragmentary vertical cross-section taken along the line 4—4 of FIG. 1 looking in the direction of the arrows; and

FIG. 5 is a semi-diagrammatic view of the vacuum line and water heating system.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures the reference numeral 10 indicates generally an under dash drink dispenser for motor vehicles.

The drink dispenser 10 includes a generally rectangular liquid reservoir 11 having a top 12 secured thereto by a pair of oppositely disposed spring clips 13.

The cover 12 is secured to the underside of a motor vehicle dash 14 and supports the reservoir 11 therebeneath. A drain plug 15 in the bottom of the reservoir 11 provides means for draining the reservoir 11 when this is required. The walls of the reservoir 11 are formed of insulating material and have a heating wire 16 imbedded therein and energized by a thermostat control 17 when the ambient temperature drops below freezing.

A refrigerator unit 18 is mounted in the reservoir 11 to cool the water therein. In FIG. 5 the conventional internal combustion engine 19 is cooled by a radiator 20 with the cooling water being circulated by a pump 21. A heat exchanger 22 is coupled to the pump 21 and hot water from the radiator 20 is circulated through the heat exchanger 22. Pipes 23, 24 are connected to the heat exchanger 22 and extend to the unit 10 for reasons to be assigned. The engine 19 has an intake manifold 25 with a carburetor 26 mounted thereon. A vacuum line 27 extends from the intake manifold 25 to the unit 10 for reasons to be assigned.

A filler plug 28 is mounted on the front of the reservoir 11 to permit water to be added thereto. A control knob 29 is also mounted on the front of the reservoir 11 to actuate the thermostat 17 when this is desired.

A plurality of flavor containers 30, 31, 32, and 33 are plugged into conduits 34, 35, 36 and 37 respectively to supply

concentrated flavor to a dispensing head 38 mounted on the reservoir 11. A cold water line 39 extends from the dispensing head 38 downwardly into the reservoir 11 terminating adjacent the bottom thereof. A cup supporting bracket 40 is positioned beneath the dispensing head 38 to support a cup 41 in a position to be filled. The dispensing head 38 includes a discharge spout 42 which is positioned to centrally overlie the cup 41 when supported on the bracket 40. The dispensing head 38 has a dispensing valve generally indicated at 43 for dispensing hot water and a dispensing valve generally indicated at 44 for dispensing flavor from the flavor container 33. The dispensing head 38 has a push button 45 mounted thereon for controlling the flow of flavor from the flavor container 33. A push button 46 is provided for controlling the flow of hot water. A push button 47 is provided for controlling the flow of flavor from the flavor container 32. A push button 48 is provided for controlling the vacuum in the system. A push button 49 controls the flow of flavor from the flavor container 31. A push button 50 controls the flow of cold water in the system and a push button 51 controls the flow of flavor from the flavor container 30.

Each of the valves controlled by the push buttons 45, 46, 47, 48, 49, 50 and 51 are identical and include a cylindrical chamber 52 having an inlet port 53 connected to a pipe 54. An outlet port 55 is formed in the cylindrical chamber 52 in the bottom thereof spaced well apart from the inlet port 53. A closed flexible tube 56 completely fills the cylindrical chamber 52 when relaxed sealing the outlet port 55. A shaft 57 is connected to the push button 46 and extends completely through the flexible tube 56 and is adapted to stretch the tube 56 when pressed inwardly as shown in dotted lines in FIG. 4 to reduce in diameter and open the port 55 to permit the flow of fluid from the pipe 54 through the port 55 into the chamber 58 to which the outlet spout 42 is connected. The vacuum valve 48 permits a flow of vacuum in the system to cause the liquid concentrated flavors in the containers 30, 31, 32 and 33 to flow when the respective button associated therewith is pressed. The vacuum also causes the water to flow from the reservoir 11 to the discharge spout 42 either cool or heated depending upon whether the button 46 or the button 50 is pressed.

Water from reservoir 11 for supplying either the hot or cold dispensing valves 46, 50, respectively, flows upwardly through pipe 39, and then for hot water, flows through pipe 24 to heat exchanger 22 and back through pipe 23 to valve 46 for dispensing through spout 42, and for cold water the flow is directly from pipe 39 to valve 50 and then out spout 42.

The flavors contained in the flavor containers 30, 31, 32 and 33 are concentrated liquid flavors such as concentrated liquid coffee, concentrated liquid hot chocolate, concentrated liquid lemonade, concentrated liquid orange juice, and any other flavor for forming any hot or cold drink desired.

Having thus described the preferred embodiment of the invention it should be understood that numerous structural modifications and adaptations may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A drink dispenser for under dash mounting in a motor vehicle comprising a water reservoir, means mounting said reservoir beneath the dash of a motor vehicle including a removable top cover for said reservoir secured to the underside of the dashboard and means including oppositely disposed spring clips detachably securing said reservoir to said cover, a water cooling refrigerator unit immersed in the water in said reservoir, a water warming electric heating wire embedded in the wall of said reservoir for maintaining the water in the reservoir above freezing, a vacuum actuated dispensing head mounted on said reservoir and having a plurality of control valves mounted therein for controlling the flow of liquids therethrough, means for heating water dispensed through said dispensing head and means for supporting a cup beneath said dispensing head for receiving fluid dispensed therefrom.

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2. A device as claimed in claim 1 wherein the means for heating water dispensed from said dispensing head includes a heat exchanger heated by the water from the cooling system of an internal combustion engine on the vehicle.

3. A device as claimed in claim 1 wherein a plurality of concentrated liquid flavor containers are mounted on said reser-

voir and communicated with said dispensing head.

4. A device as claimed in claim 1 wherein vacuum means in said dispensing head causes the flow of water from said reservoir out of said dispensing head.

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