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APPARATUS FOR PROVIDING HOT AND COLD BEVERAGES AND FOR SELECTIVELY DISPENSING SAME IN MOTOR VEHICLES

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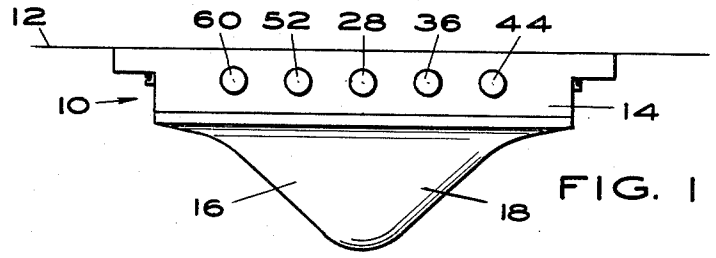

FIG. 1

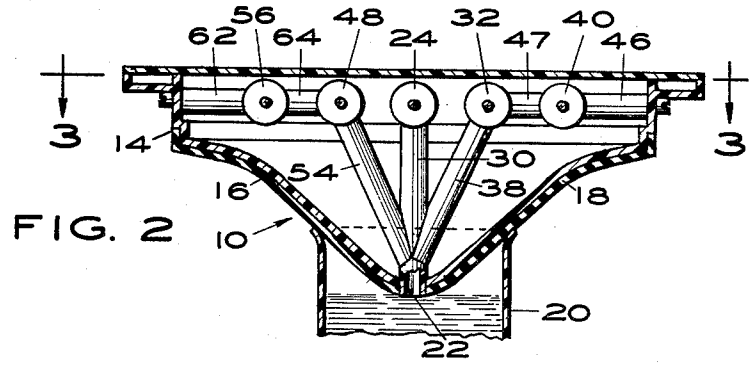

FIG. 2

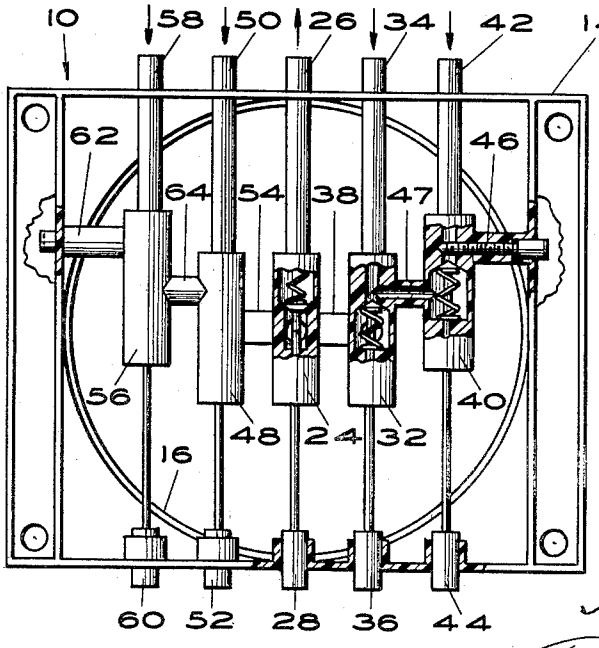

FIG. 3

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The present invention generally relates to an apparatus for providing hot and cold beverages in motor vehicles and more particularly to such an apparatus which employs the vacuum induced in the intake manifold of the vehicle to dispense the beverages.

The primary object of the present invention is to provide a beverage dispensing bar for installation under the dashboard of an automobile for easy access thereto.

Another object of the present invention is to provide an apparatus for dispensing hot or cold water together with flavor additives or the like, the materials being selectively dispensed by control valves.

A very important object of this invention is to provide a beverage dispenser for vehicles equipped with internal combustion engines in which the vacuum in the intake manifold is used to discharge the beverage and the glass serves as a connecting chamber to communicate with the supply of beverage whereby the beverage can only be dispensed when the glass is in proper orientation for receiving the beverage.

Yet another object of the present invention is to provide a beverage dispenser for automobiles which is simple in construction, easy to install, easy to operate, tamper-proof, adapted to dispense various liquids and relatively inexpensive to manufacture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a front elevation of the beverage dispenser of the present invention;

FIGURE 2 is a longitudinal sectional view of the device; and

FIGURE 3 is a top plan sectional view taken substantially upon a plane passing along section line 3—3 of FIGURE 2 illustrating the orientation of the control valves.

Referring now specifically to the drawings, numeral **10** generally designates the beverage dispenser of the present invention which is preferably mounted under the dashboard **12** of an automobile although it may be mounted in other places if desired.

The dispenser **10** includes a hollow housing or casing **14** having a depending semi-spherical or rounded lower portion **16** provided with an external covering of rubber **18** or similar resilient material for sealing engagement with the mouth end of a drinking glass, cup or container **20** whereby the glass **20** will be effectively sealed to portion **16** in encircling relation to a discharge opening **22** therein.

The housing **14** has a central control valve **24** communicated with the intake manifold of an internal combustion engine (not shown) by a tube or pipe **26**. A control knob or handle **28** for valve **24** projects through the front of the housing for access by an operator. Also, a depending tube **30** is connected with the valve **24** and communicated wtih the opening **22**.

Alongside valve **24** is a cold water valve **32** having tube **34** communicated with a cold water source and an operating knob or handle **36**. A depending tube **38**

communicates with the tube **30** or discharge opening **22**. A ginger ale valve **40** is disposed alongside of valve **32** and a tube **42** extends to a ginger ale extract source. A control knob **44** is provided for valve **40** and a needle type regulating valve **46** is provided in tube **42** on the inlet side of valve **40** to regulate the quantity of ginger ale extract discharged into the tube **38** through tube **47** thereby providing a beverage of the desired portions of water and ginger ale.

Alongside the other side of valve **24** is a hot water valve **48** having a tube **50** communicating with a hot water supply and a control knob **52** for control thereof. The valve **48** has a depending tube **54** communicated with the discharge opening **22** and tube **30**. A coffee valve **56** is provided alongside valve **48** and has a tube **58** communicated with a coffee extract supply source. The valve **56** has a control knob **60** and a needle type regulating valve **62** on the intake side of the valve **56** thereby regulating the quantity of coffee extract mixed with the hot water through tube **64**.

Each control knob is connected to its respective valve by any suitable link or rod and the entire structure may be of plastic, metal or combinations thereof.

In using this invention, the glass controls the operation of the device since the glass closes the opening **22** thereby inducing a vacuum in tubes **38** and **54** and in the short tubes connecting valves **40** and **56** with valves **32** and **48** thus making it impossible to overflow the glass. The valves may be conventional push-pull type and the shape and size of the housing may vary and also the arrangement of the tubing.

The heat for the hot water may be provided by a suitable heat exchanger which may utilize the normally wasted heat in the exhaust products. A refrigerant system is provided for cold water and the various accessories may be positioned in the trunk or wherever desired. Various additional valves may be added if more beverages are desired. The foolproof construction of the invention prevents children from obtaining liquid therefrom unless the glass is held in place. The vacuum will retain the glass in place as long as the engine is running and the vacuum valve **24** open.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact constructon and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A beverage dispenser for use in the dispensing of beverages into a receptacle for use in an automobile having an internal combustion engine with an intake manifold, said automobile having a dashboard, said dispenser comprising; a generally flat, plate-like housing adapted to be mounted on said dashboard; a dependent substantially semi-spherical dispensing head extending from the lower side of said housing contoured to fit within and sealably engage an upper portion of a said receptacle, and having a discharge opening therein; discharge tube means extending upwardly from said opening; vacuum pipe means in said housing adapted to communicate between said head and said intake manifold; a plurality of valves in said housing, and comprising parallel drillings formed in the plane thereof, valve seats in said drillings, closures for said valve seats, and rods extending from said closures to the exterior of one side of said housing; a first said valve interconnecting said discharge tube means and said vacuum pipe means; a plurality of liquid supply pipes extending into said housing; second said valves for

each of said liquid supply pipes; a series of tubes interconnecting said second valves and said discharge tube means whereby, when a said receptacle is placed in sealing engagement with said head in registration with said opening, and said first valve is opened, a vacuum will be applied retaining said receptacle thereon and causing liquid flow therethrough as said second valves are selectively opened.

2. The structure as defined in claim 1 wherein each of said valves is provided with an operating handle projecting exteriorly of the housing for control thereof.

3. The structure as defined in claim 2 wherein said liquid valve means includes a water valve and a flavor extract valve, and a needle type regulating valve combined with the extract valve.

4. The device as claimed in claim 1 wherein said vacuum pipe means and said supply pipes comprise parallel drillings formed side by side in a common plane in said housing.

5. The device as claimed in claim 1 wherein said discharge tube means and said series of tubes comprise conduits extending between the plane of said housing and the lower portion of said dispensing head.

References Cited in the file of this patent

UNITED STATES PATENTS

1,374,436	Conway	Apr. 12, 1921
2,573,888	Benjamin	Nov. 6, 1951
2,675,951	Oriol	Apr. 20, 1954
2,722,658	Richards	Nov. 1, 1955
2,830,613	Mason	Apr. 15, 1958
2,982,447	Austin	May 2, 1961