

June 18, 1963

P. J. DANIELS
BEVERAGE DISPENSERS

3,094,154

Filed Sept. 16, 1960

2 Sheets-Sheet 1

Fig. 1.

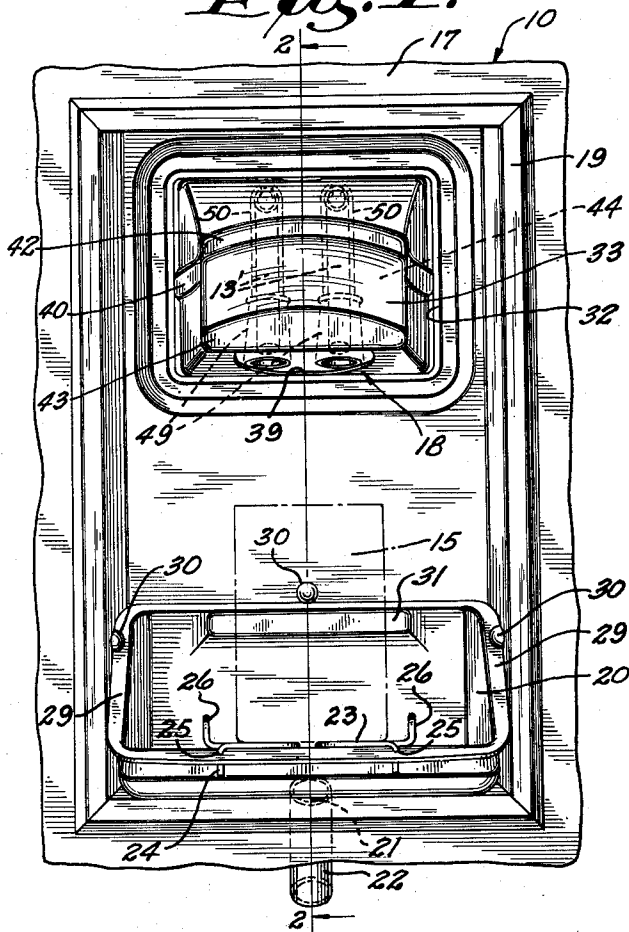


Fig. 2.

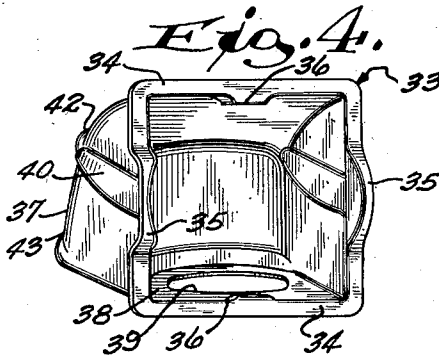
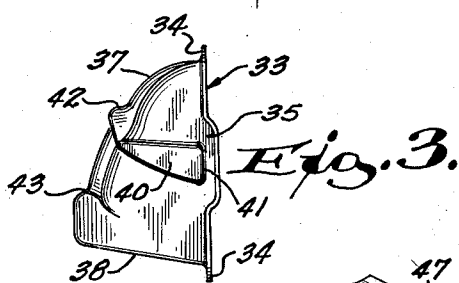
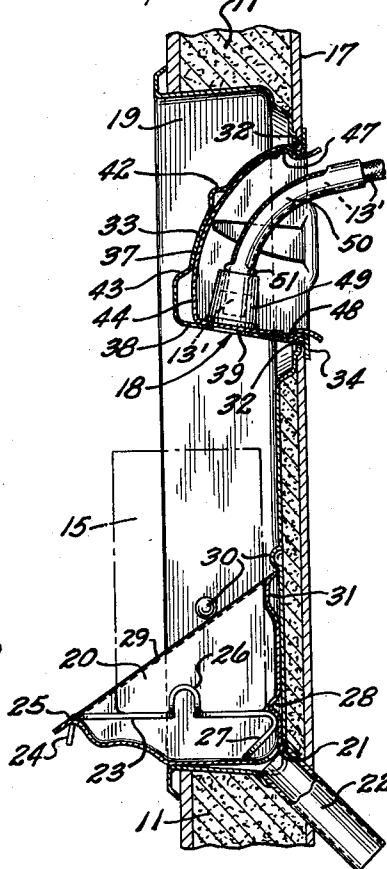
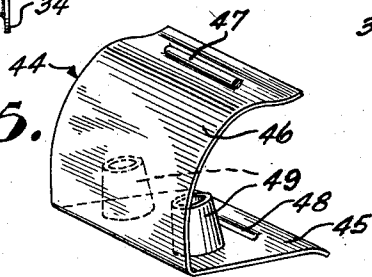


Fig. 5.



INVENTOR.
PAUL J. DANIELS

BY

Morsell + Morsell
ATTORNEYS.

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P. J. DANIELS

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2 Sheets-Sheet 2

Fig. 6.

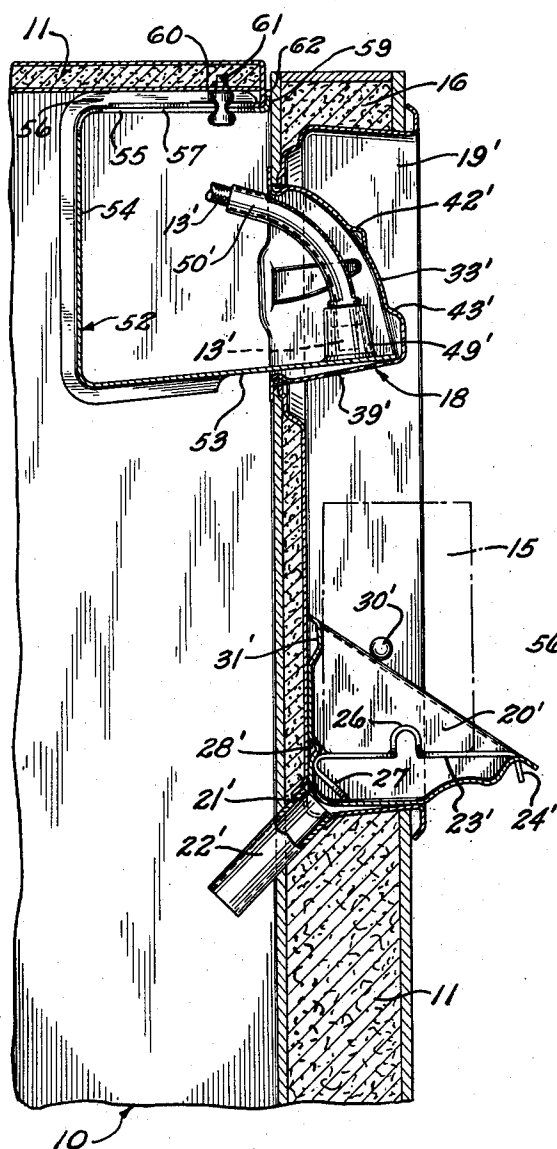


Fig. 8.

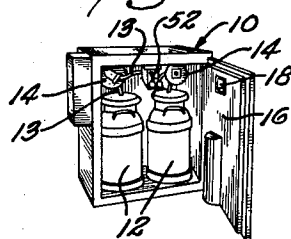
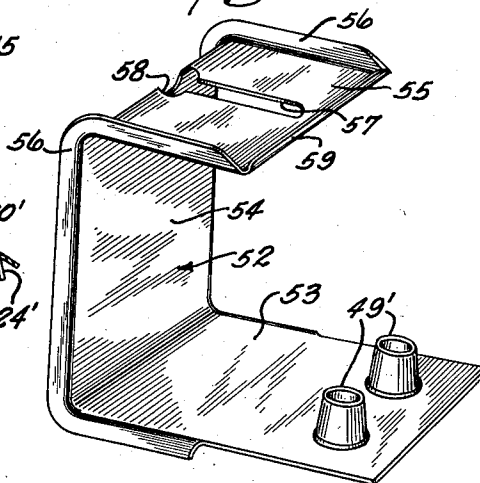


Fig. 7.



INVENTOR.
PAUL J. DANIELS

BY *Morsell + Morsell*
ATTORNEYS.

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3,094,154

BEVERAGE DISPENSERS

Paul J. Daniels, Niles, Mich., assignor to Meterflo Dispensers, Inc., Chicago, Ill., a corporation of Illinois
Filed Sept. 16, 1960, Ser. No. 56,405
7 Claims. (Cl. 141-88)

This invention relates to improvements in beverage dispensers, and more particularly to an improved cup station and discharge tube-holding spout unit for beverage dispenser cabinets.

The present invention is concerned generally with beverage vending devices of the type used in cafeterias and the like for dispensing milk or other edible liquids, which dispensers are ordinarily of two different types or designs. In one type of dispenser the discharge spout and cup station are formed in the cabinet door, the machine ordinarily being positioned against a wall and access to the cabinet interior for the removal of the empty beverage containers being through the front of the cabinet, while in the other design and type of cabinet the discharge spout and cup station are formed in the wall of the cabinet opposite the door, and the door is in the opposite or rear face of the cabinet. With the latter type of cabinet the dispenser is usually positioned or in a counter such as is used in a cafeteria line or other location for continuous customer self service, and the loading and unloading of the beverage containers is from the rear of the machine. For the purpose of simplicity, the two common cabinet types will be hereinafter referred to as the "front loading" type, wherein the cup station and spout are formed in the cabinet door, and the "rear loading" style, wherein the cup station and spout are located in the wall opposite the cabinet door.

Heretofore, the different cabinet designs above described have necessitated two distinct forms of cup station and spout assemblages, inasmuch as each type of cabinet requires certain special tube and spout supporting means, and the cost of manufacturing and assembling such different units in the dispenser cabinets contributes substantially to the cost of the finished product. With this in mind, it is the principal object of the present invention to provide a basic cup station and spout unit adapted to be mounted in either type of dispenser cabinet and to receive, interchangeably, specially-formed tube and spout supporting members designed for either a "front loading" or "rear loading" cabinet, thereby simplifying the construction of the machine and minimizing the cost of manufacture and assembly.

A further object of the present invention is to provide a cup station and spout unit for beverage dispensers wherein the tube holder elements remain stationary in either assembly but can be easily and quickly separated from the assemblage for either door opening purposes or for cleaning and replacement of the tube holder assembly and/or dispensing tubing.

A further object is to provide a cup station and spout unit including portions formed of a non-conductive material adapted to retard the transfer of heat from the exterior, thereby insuring that the discharge spouts and tubes are maintained at a sufficiently cool temperature to keep the beverage in proper condition, and also minimizing the formation of condensation on the surface of the unit.

A further object of the invention is to provide a discharge spout and cup station unit having integral means adapted to prevent any condensation which should form thereon from finding its way into the drinking glass or cup.

With the above and other objects in view, the invention consists of the improved cup station and spout unit for beverage dispensers, and all of its parts and combinations

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as set forth in the claims, and all equivalents thereof.

In the accompanying drawings illustrating the preferred form of the invention, and showing both types of tube and spout supporting elements mounted therein, and wherein the same reference numerals designate the same parts in all of the views:

FIG. 1 is a fragmentary view of a "rear loading" dispenser cabinet showing, in elevation, the improved cup station and spout unit comprising the present invention;

FIG. 2 is a vertical sectional view taken along line 2-2 of FIG. 1;

FIG. 3 is a side elevational view of the removable spout cover employed in the form of the invention illustrated in FIGS. 1 and 2;

FIG. 4 is a perspective view of said removable spout cover;

FIG. 5 is a perspective view of the tube-supporting bracket employed in the form of the invention shown in FIGS. 1 and 2;

FIG. 6 is a fragmentary vertical sectional view showing the cup station and spout unit mounted in a "front loading" dispenser;

FIG. 7 is a perspective view of the tube-supporting bracket employed in the form of the invention illustrated in FIG. 6; and

FIG. 8 is a perspective view showing the interior of a "front loading" dispenser cabinet.

Generally, beverage dispensers of the type with which the present invention is concerned include a fabricated cabinet, usually a stainless steel cabinet 10 having an insulating lining 11, and whose interior is refrigerated. Such dispensers are intended primarily for vending milk in restaurants and/or mass feeding locations such as cafeterias in schools, factories, institutions, etc., but they may also be used for dispensing other liquids such as fruit juices, syrups, tea, or coffee. Ordinarily the dispensers are designed to hold one or two five or ten gallon beverage containers 12, as shown in FIG. 8, but it is possible of course to modify the size of the cabinet to accommodate any number of containers. After the containers of milk or other beverage have been positioned in the refrigerated cabinet, sanitary rubber delivery tubes 13, which lead from said containers, are operatively connected to motor-driven pumps or lifts 14, the design and operation of which tube and pump members is more fully described in my prior Patents Nos. 2,694,984, 2,695,117, 2,695,121, and 2,915,094. From said pumps, the tubes 13 lead to a discharge spout unit, which is designated generally by the numeral 18, positioned in either a wall 17 or the door 16 of the cabinet, depending upon the type of dispenser.

To operate the dispenser, the customer places a cup 15 in the cup station at the front of the machine, directly under the discharge spout 18, and in the automatic type of machine, starts the electric motor in operation. This may be accomplished either by way of a push button switch on the front of the cabinet, or starting may be responsive to the insertion of a coin. The motor drives one or the other of the pumps 14, and the beverage is withdrawn thereby and delivered through the tubes 13 to the dispensing outlet and into the waiting cup. By use of a suitable timing mechanism, the motor may be made to shut off after a predetermined interval, thereby supplying a metered amount of liquid. After one of the containers 12 has been emptied it is removed and replaced, of course, and in dispensers of the type described the sanitary delivery tube 13 attached thereto must also be replaced each time a new container is installed in the cabinet, for reasons of sanitation.

As hereinbefore mentioned, there are two types of styles of dispenser cabinets in common use. One type, which is referred to herein as a "front loading" dispenser

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comprises a cabinet which is adapted to be mounted against a wall, and wherein the door is located in the front face of the cabinet and the discharge spout and cup station are formed in said door. The other common cabinet style, or so-called "rear loading" type, is that which is ordinarily used in cafeterias and the like, the cabinet being mounted on or in a counter with the cup station and spout in the front wall thereof facing the moving line of customers, and the door being in the opposite or rear wall to permit employees to remove and replace the empty containers without interfering with the customer in the line, continuing to dispense liquid in the container.

As will be readily appreciated, the difference in cabinet styles presents some problems in the design of the cup station and discharge spout units employed therein. In a "front loading" cabinet, for example, it is necessary that the delivery tubes 13 be connected to the spout unit in the door in a manner whereby said tubes will not prevent or interfere with the opening of the door, while in a "rear loading" cabinet this requirement is not present. Moreover, in both types of units it is necessary that the individual components be readily detachable for cleaning. In the latter respect, good sanitation practices require that the spout members be removed and cleaned at least once a day, and even more frequently where the dispenser is subjected to heavy use.

Heretofore, it was not believed possible to employ the same cup station and spout unit in both common types of dispenser cabinets, because of the different tube-mounting problems, and as a result completely dissimilar, relatively expensive assemblages have been used in each type of cabinet. With this in mind, it is the principal object of the present invention to provide a basic discharge spout and cup station unit which is adapted to be mounted in either a "front loading" or a "rear loading" dispenser cabinet, and which unit is designed to receive, interchangeably, special tube and spout supporting elements adapted for each particular cabinet style. Further, it is intended to provide a structure as described wherein all of the individual components can be quickly and easily detached and removed from the dispenser for cleaning.

With respect, first, to the assemblage employed in a "rear loading" cabinet, illustrated in FIGS. 1 through 5, it will be seen that the cup station and spout unit is mounted in a housing 19 which may be formed of metal or plastic. The housing, in turn, is fitted with a recess in the front wall 17 of the dispenser cabinet. The cup station portion of the unit may include a molded tray 20 having a relatively high back wall and oblique side walls merging with the front edge of tray bottom. The bottom of said tray is inclined downwardly toward the back wall and has an opening 21 in the rear thereof communicating with a conduit 22 which is designed to carry any liquid spilled or overflowing the cup to a container (not shown) conveniently located in the cabinet interior. In the event the beverage being dispensed is milk, the overflow collected in said container can be used for cooking or other purposes.

Removably mounted in and adjacent the bottom of the tray 20 is a cup-supporting stand 23 formed of a single steel wire bent to provide spaced, horizontal wires having downturned forward ends 24 adapted to be removably projected through apertures 25 in the front portion of the tray, and transverse central arms having upturned ends 26, to insure the proper positioning of the cup 15. The inner or rear portion 27 of said stand is bent downwardly and forwardly and is adapted to be snapped under a shoulder 28 formed in the tray back wall, thereby permitting said wire cup stand to be easily removed from the tray for cleaning. In addition, the tray itself can be removed from the metal housing 19. As shown in FIGS. 1 and 2, the tray side walls have outwardly projecting flanges 29 along their upper margins and the metal housing 19 within which said tray fits is provided with inwardly projecting studs 30 designed to engage above said

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flanges to maintain the tray in position. Because of the slightly resilient nature of the plastic tray, said flanges 29 can be deflected slightly and snapped into and out of position beneath said retaining studs 30, thereby permitting the removal of the tray for the purpose of cleaning.

As will be seen in FIG. 2, the back wall of the plastic tray 20 has a lateral protrusion or ridge 31 formed on and projecting forwardly therefrom. The function of said protrusion is to provide a stop against which the cup 15 will abut, thereby preventing the upper drinking edge of said cup from contacting the back wall of the housing 19 and possibly collecting impurities therefrom. Moreover, of course, said ridge 31 is so designed that when a cup is rested thereagainst it is in perfect position to receive the beverage emitted from either discharge outlet 18.

With respect now to the spout apparatus, it will be seen in FIGS. 1 and 2 that the upper portion of the back wall of the housing 19 has a rectangular opening 32 therethrough, communicating with the cabinet interior, and removably mounted in and projecting forwardly through said opening is a spout cover 33, preferably formed of an inexpensive, plastic material, or other material which is a poor heat conductor. Said plastic cover has a straight, open back side having a flange or rim 34 formed therearound (FIGS. 3 and 4) and abutting the back surface of the cabinet wall. Said rim 34 has raised portions or finger grips 35 on opposite sides thereof and the upper and lower margins of said rim are provided with projections 36 extending into the cover back opening, the function of which will be hereinafter described.

The forward portion of the cover 33 is generally convex in form, having trianguloid side walls and an arcuate front wall 37 which merges at its top with the aforementioned rim 34, and which front wall merges along its lower edge with a bottom 38 having an elongated oval opening 39 therethrough. Formed on the exterior of each of the side walls is an outwardly raised protrusion 40 (FIG. 3) which terminates just short of the cover back rim 34, providing a shoulder 41 adjacent said rim. As mentioned, the plastic nature of said cover 33 permits the same to yield slightly. Thus to removably install the same in the metal housing 19 it is merely necessary to force said cover into the opening 32 until the shoulders 41 thereon snap past the edge of said housing. The removal of said cover is accomplished by squeezing the finger grips 35 together and forcibly withdrawing it until the shoulders 41 snap outwardly past the housing edge.

As mentioned, the spout cover 33 is preferably formed of a plastic or similar material which is a relatively poor heat conductor. The purpose in using such a material is to retard the entrance of heat from the exterior to the cabinet interior, where it might cause spoilage, and, in addition, the use of such a material minimizes the amount of condensate forming on the unit. With respect to condensation, it will be noted that the cover front wall 37 is provided with an upper curved ridge 42 and a lower ridge 43 which are designed to direct any condensate which might form on the cover to the sides thereof, where it cannot drip into the drinking cup 15. As will be appreciated, most of the condensate forming on said cover 33 and flowing down the front wall 37 will travel laterally along the upper ridge 42, but even if some condensate should overflow said upper ridge it will be caught and directed harmlessly away by the lower ridge 43.

Referring now to FIG. 5, illustrated therein is the tube-holding element or bracket 44 employed in the form of the invention used in a "rear loading" dispenser cabinet. Said tube-holding bracket is preferably formed of stainless steel and is generally L-shaped in design, having a horizontal base 45 and a forwardly curved upstanding wall 46. Said wall 46 is provided with an exterior protrusion 47 adjacent its upper edge, and the base 45 has a similar protrusion 48, which protrusions are designed to snap under the aforementioned rim projections 36 on

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the plastic spout cover, when said bracket is flexed slightly, to removably secure said tube-holding bracket in position within the cover. A pair of apertures is formed in the bracket base 45, and bonded on said base and communicating with said apertures is a pair of bushings 49 of nylon or other material which is a poor heat conductor. When the tube-holding bracket is installed in the plastic spout cover 33 as described, said bushings 49 register with the oval opening 39 in the bottom of said cover, and are in alignment with a drinking cup 15 seated in the cup station therebelow.

As illustrated in FIG. 2, the dispensing end portions 13' of the beverage delivery tubes 13 are removably carried in metal fittings 50, which are similar to those described in my prior Patent No. 2,915,094. Said fittings 50 are arcuate in form and the lower ends thereof are of a diameter to be removably inserted into the aforementioned bushings 49, there being shoulders 51 thereon which limit the downward movement of said fittings. The lower ends of the tubes 13 normally project below the ends of the fittings 50, but not so far that said tube ends depend below the nylon bushings 49 when said fittings are inserted therein. Thus the tube ends are protected against accidental manual contact during use of the dispenser. Said tubes are so supported by the arcuate fittings 50 that kinking is impossible, as described in my said prior patent, and, in addition, said fittings may be swivelled in the bushings 49 to take up any slack in the tubes.

When the contents of one of the cans of milk or other beverage has been consumed, the empty can, together with the used tubing, must be removed. With the present invention this can be quickly accomplished by withdrawing the arcuate fitting 50 from its position within the bushing 49, and removing the tube from said fitting. Before replacing the can and tubing, the tube-holding bracket 46, and even the plastic spout cover 33 can be easily removed from the cabinet for cleaning, as hereinbefore described, thereby permitting a thorough sanitization of the complete assemblage.

With reference now to the form of the invention employed in a "front loading" dispenser, and referring more particularly to FIGS. 6 and 7 of the drawings, it will be seen that the basic construction of the cup station and spout unit is like that used in a "rear loading" cabinet and hereinabove described. Specifically, the cup station is identical to that described above, comprising a molded plastic tray 20', which is removably mounted in the bottom of the metal housing 19', an overflow conduit 22', and a removable cup-supporting stand 23'. Moreover, the convex plastic spout covers 33 and 33' are also identical in both forms of the invention. What is different in the "front loading" dispenser unit, and which will now be described in detail, is the spout-supporting bracket 52 employed in the latter cabinet style.

As mentioned, "front loading" dispensers are those wherein the cup station and spout unit are mounted in the door of the cabinet. Consequently, the unit must be so designed that the attachment between the dispensing end 13' of the rubber tubing and the spout assemblage in the door be such that it will not prevent or interfere with the opening of the door. In the form of the invention shown in FIGS. 1 through 5, this is not a consideration, and the tube-holding bracket 44 is removably supported in and by the plastic spout cover 33 which, in turn, is mounted in the cabinet wall, the tubes in effect being attached to the cabinet wall. In a "front loading" cabinet, on the other hand, the tubes cannot be permanently attached to the cabinet door or it would be impossible to open said door.

As shown in FIG. 7, the "front loading" dispenser bracket 52 has an elongated, generally horizontal base portion 53, a vertical back 54, and a horizontal top wall 55 which is of substantially shorter length than the base 53. Formed along the edges of said bracket are

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flanges 56 which project above the top member, terminating just short of the front edge of said top member, and an upturned flange 59 is formed on said top member front edge, the function of which flanges will be seen. An elongated keyhole slot 57 is provided in the bracket top wall 55, said slot having its enlarged portion 58 at the junction of said top and back walls, and on the forward end of the base 53 is a pair of apertures over which and communicating with are permanently mounted a pair of nylon, tube-receiving bushings 49' similar to the bushings 49 employed in the "rear loading" bracket.

One or more hour-glass shaped studs 60 (FIG. 6) are secured to and depend from the top of the dispenser cabinet 10 a short distance from the front edge thereof, each of said studs having an upwardly projecting threaded stem and being secured to said cabinet top by a nut 61. To mount the "front loading" bracket 52 in the dispenser cabinet it is merely necessary to insert the enlarged lower portion of said stud or studs 60 through the enlarged slot opening 58 in the bracket top, the slot itself being just wide enough to slidably receive the narrow central portion of the stud, and to manually push the bracket inwardly until said stud abuts the forward end of the slot. When the bracket has been installed as described, the aforementioned flange 59 on the forward end thereof abuts a depending flange 62 on the front face of the cabinet and insures the proper positioning of said bracket. As the bracket is moved inwardly during installation the aforementioned flanges 56 on the bracket top pressurably engage the underside of the cabinet top wall, thereby clamping said bracket tightly against the cabinet top and preventing the same from shifting about during the operation of the machine.

As mentioned, the base portion 53 of said tube-supporting bracket 52 is longer than the top portion 55 thereof, and when the bracket is attached to the cabinet as described, and the cabinet door is closed, said bracket base is designed to project forwardly into the plastic cover 33', abutting the forward end thereof, with the nylon bushings 49' on said bracket positioned directly over and registering with the bottom opening 39' of the cover. Just as in the form of the invention adapted for "rear loading" cabinets, the delivery tube end portions 13' are carried in arcuate metal fittings 50' which are removably inserted into said bushings 49', and the dispensing operation is the same.

As will be appreciated, the advantage of the modified form of the present invention illustrated in FIG. 6 for a "front loading" type of dispenser is that the cabinet door 16 may be opened and closed without interference from the tubes 13. The door may be opened in a conventional manner to the position of FIG. 8, and as said door is opened the spout cover 33' therein is withdrawn from its position covering the forward end of the bracket 52. Said bracket, of course, does not move. When the door is closed again the spout cover 33' is returned to its original position and the dispensing ends 13' of the beverage delivery tubes are again in registration with the bottom opening 39' of the cover, and the machine is ready for operation.

When it is desired to disassemble the "front loading" type of spout assemblage, the bracket 52 can be removed merely by manually urging the same forwardly until the supporting stud 60 in the top of the cabinet can be withdrawn through the slot enlargement 58. In addition, of course, the accurate tube-holding fittings 50' and the plastic spout cover 33', as well as the cup station, can be detached and removed as hereinbefore described, resulting in a unit which can be completely disassembled for cleaning.

From the foregoing, it will be seen that the present invention provides a novel cup station and spout assemblage for use in either a "rear loading" or a "front loading" type of beverage dispenser. The improved structure comprises a basic unit which can be mounted in either type

of dispenser cabinet, and which is designed to receive, interchangeably, special tube-supporting brackets adapted for each particular cabinet style. The result is that the construction of the dispenser is greatly simplified, and the cost of manufacture and assembly reduced.

A further advantage of the invention is that the cup station and spout unit is so constructed that all of the individual components thereof can be quickly and easily detached and removed from the cabinet for cleaning, and without the use of special tools or equipment. In addition, the present unit is designed not only to minimize the formation of condensation, but said unit is provided with means for preventing such condensate as does form thereon from finding its way into the drinking cup.

It is to be understood, of course, that the individual components of the present invention are not to be limited or confined to the exact design or construction illustrated and described. It is contemplated, for example, that more or even all of the members, including the housing 19, might be formed of plastic, or that the housing and spout cover might be advantageously formed as a single unit. Moreover, while the illustrated dispenser is designed to accommodate two beverage containers, and is equipped with dual tube and spout members, the unit comprising the present invention is equally well adapted for a smaller, single container dispenser, or a dispenser designed for three or more containers, and the invention is not to be limited in this respect. Furthermore the cup stations and spouts may be attached to any cabinet wall. In other words, numerous changes and modifications may be made in the design and construction of the cup station and spout unit described herein without departing from the spirit of the invention, and all of such changes and modifications are contemplated as may come within the scope of the following claims.

What I claim is:

1. In a beverage dispenser cabinet having a rear wall, a top, and a front wall with a door therein, and having a disposable beverage delivery tube with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet door, said housing having an open front communicating with the exterior and having a back wall with an opening through its upper portion communicating with the cabinet interior; cup-supporting means in the lower portion of said housing; a spout cover removably mounted in and projecting forwardly through said housing back wall opening, said cover having a bottom dispensing opening and having an open back; a tube-holding bracket removably supported by and depending from said cabinet top in a position to project into said spout cover when the cabinet door is closed; and means on said bracket adapted to removably support the dispensing end of said disposable beverage delivery tube in a position adjacent said dispensing opening for discharge directly through said dispensing opening of the spout cover when the door is closed.

2. In a beverage dispenser having a cabinet, and having a flexible beverage delivery tube with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet wall, said housing having an open front and having a back wall with an opening through its upper portion communicating with the cabinet interior; a tray removably mounted in the lower portion of said housing; cup-supporting means removably mounted in said tray; a spout cover of yieldable material removably and wedgingly mounted in and projecting forwardly through said back wall opening of the housing, said cover having an open back, having a convex front wall, having a pair of side walls, and having a bottom with an opening therethrough; a C-shaped tube-holding bracket separable from but projecting into the open back of said spout cover, said bracket having portions which are yieldable to fit within the cover and hold the bracket yieldingly in position in the cover and said bracket having a base with an aperture therethrough communicating with said cover bottom

opening; and means on said bracket removably supporting the dispensing end of said beverage delivery tube in registration with said aperture.

3. In a beverage dispenser having a cabinet with a rear wall, with a top, and with a front door, and said dispenser having a disposable flexible beverage delivery tube therein with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet door, said housing having an open front and having a back wall with an opening through its upper portion communicating with the cabinet interior; a spout cover removably mounted in and projecting forwardly through said back wall opening of the housing, said cover having an open back, having side walls removably wedgingly engaged within said housing back wall opening, having a convex front wall, and said cover having a bottom with an opening therethrough; a tube-holding bracket removably attached to and depending from said cabinet top, said bracket having a base which projects into said spout cover when the cabinet door is closed, there being an aperture through said base communicating with said cover bottom opening; and means on said bracket adapted to removably support the dispensing end of said disposable beverage delivery tube in registration with said aperture and cover opening for discharge directly therethrough.

4. In a beverage dispenser having a cabinet with a wall and having a flexible beverage delivery tube therein with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet front wall, said housing having an open front and having a back wall with an opening through its upper portion communicating with the cabinet interior; a plastic spout cover removably wedgingly mounted in and projecting forwardly through said back wall opening of the housing, said cover having an open back with a rim therearound, and said rim having projections extending into said back opening of the cover, said cover also having side walls with external shoulders thereon adjacent said rim resiliently engaged with said housing back wall to removably retain said cover within said housing, and said cover having a convex front wall and a bottom with an opening therethrough; means on said cover front wall positioned to direct condensate forming thereon to the sides of said cover; a yieldable tube-holding bracket removably positioned in said spout cover, said bracket having a base with an aperture therethrough communicating with said bottom opening of the cover and having upstanding, rearwardly curved front wall, and said base and front wall portions having protrusions snapped under said cover rim projections to removably secure said yieldable bracket within said spout cover; and means on said bracket removably supporting the dispensing end of said beverage delivery tube in registration with said aperture.

5. In a beverage dispenser having a cabinet with a rear wall, with a top, and with a front, and said dispenser having a flexible beverage delivery tube therein with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet door, said housing having an open front and having a back wall with an opening through its upper portion communicating with the cabinet interior; a spout cover of yieldable material removably wedgingly mounted in and projecting forwardly through said back wall opening of the housing, said cover having an open back with a rim therearound, and said rim having projections extending into said cover back opening, said cover also having side walls with external shoulders adjacent said rim and positioned to snap past said housing back wall to removably retain said cover within said housing, and said cover having a convex front wall and a bottom with an opening therethrough; means on said cover front wall positioned to direct condensate forming thereon to the sides of said cover; a tube-holding bracket depending from said cabinet top, said bracket having a base which projects into said spout cover adjacent the bottom of the latter when the cabinet door is closed, there being an aper-

ture through said base communicating with said bottom opening of the cover, and said bracket having an upstanding back wall and having a top with an elongated keyhole slot, said top being shorter than said base; a stud secured to and depending from said cabinet top, said stud being 5 removably engaged with said keyhole slot to removably secure said bracket to said cabinet top; and means on said bracket removably supporting the dispensing end of said beverage delivery tube in registration with said base aperture.

6. In a beverage dispenser having a cabinet, and having 10 a flexible beverage delivery tube with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet wall and having an open front face and a back wall with an opening through its upper portion communicating with the cabinet interior; a tray removably 15 mounted in the lower portion of said housing, said tray having a back wall with a protrusion on its inner surface and having a rearwardly downwardly inclined bottom with an overflow discharge opening and having a pair of spaced apertures therethrough adjacent its forward edge; a wire cup stand in said tray adjacent the bottom thereof, said cup stand having a pair of spaced, downturned forward ends inserted through said tray bottom apertures and 20 having a rear portion removably retained under said tray back wall protrusion; a spout cover removably mounted in and projecting forwardly through said back wall opening of the housing, said cover having an open back face, having a convex front wall, having a pair of side walls, and having a bottom with an opening therethrough; means 30 on the cover front wall positioned to direct condensate forming thereon to the sides of said cover; a tube-holding bracket separable from but projecting into the open back face of said spout cover, said bracket having a base with an aperture therethrough in registration with said cover 35

bottom opening; cooperating means on said cover and bracket for detachably holding the bracket in position in the cover; a bushing mounted on and projecting upwardly from said bracket base and communicating with said aperture; and an arcuate tube holder removably carried in and projecting upwardly and rearwardly from said bushing, said fitting removably holding the dispensing end of said beverage delivery tube.

7. In a beverage dispenser having a cabinet with a hinged door and having a disposable beverage delivery tube with a dispensing end, a cup station and spout unit comprising: a housing mounted in the cabinet door and having an open front communicating with the exterior and having a back wall, cup supporting means in a lower portion of said housing, a spout cover projecting forwardly from said back wall in an upper portion of the housing and having a bottom dispensing opening and having an open back communicating with the interior of the cabinet, a tube holding bracket projecting from the interior of the cabinet into the open back of said spout cover when said cabinet door is closed, means on the cabinet supporting said bracket in a predetermined position for entrance into said spout cover whenever the door is closed, and means on said bracket removably supporting the dispensing end of said disposable beverage delivery tube in a position adjacent said dispensing opening for discharge directly through said dispensing opening of the spout cover when the door is closed.

References Cited in the file of this patent

UNITED STATES PATENTS

2,572,541	Thompson et al. -----	Oct. 23, 1951
2,648,274	Bendfelt -----	Aug. 11, 1953
2,835,410	Arnett et al. -----	May 20, 1958