March 21, 1961 A. TURAK 2,975,802

DISPENSING VALVE

Filed Nov. 6, 1957 3 Sheets-Sheet 1

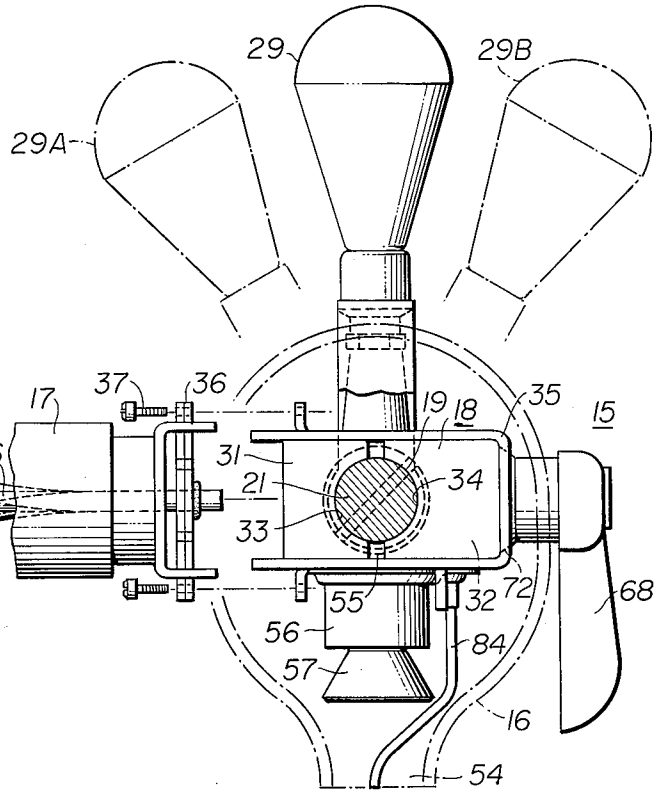


Fig. 1

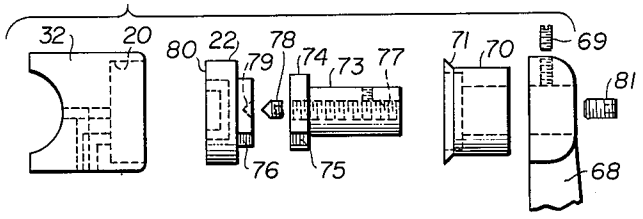


Fig. 2

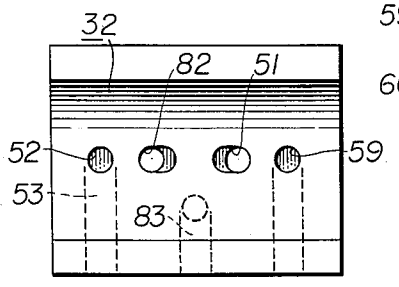


Fig. 3

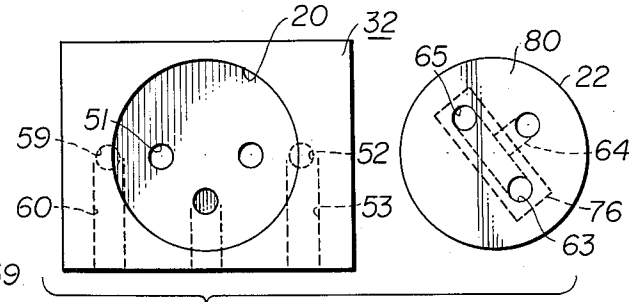


Fig. 4

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March 21, 1961 A. TURAK 2,975,802

DISPENSING VALVE

Filed Nov. 6, 1957 3 Sheets-Sheet 2

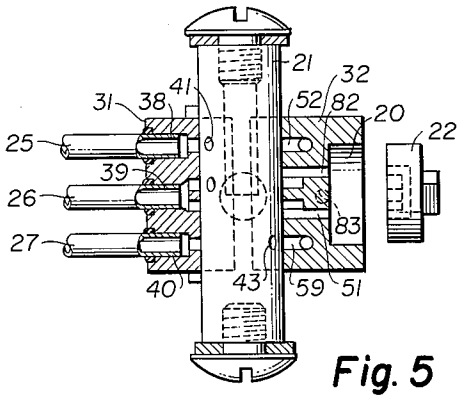


Fig. 5

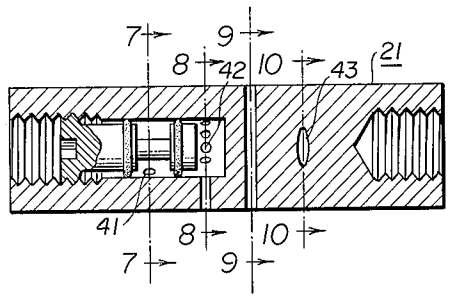


Fig. 6

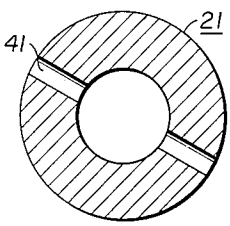


Fig. 7

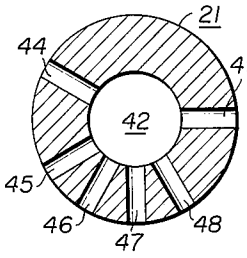


Fig. 8

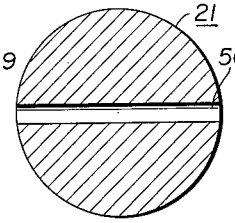


Fig. 9

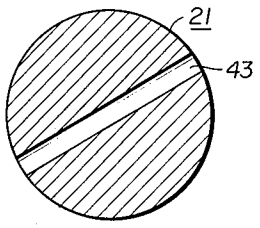


Fig. 10

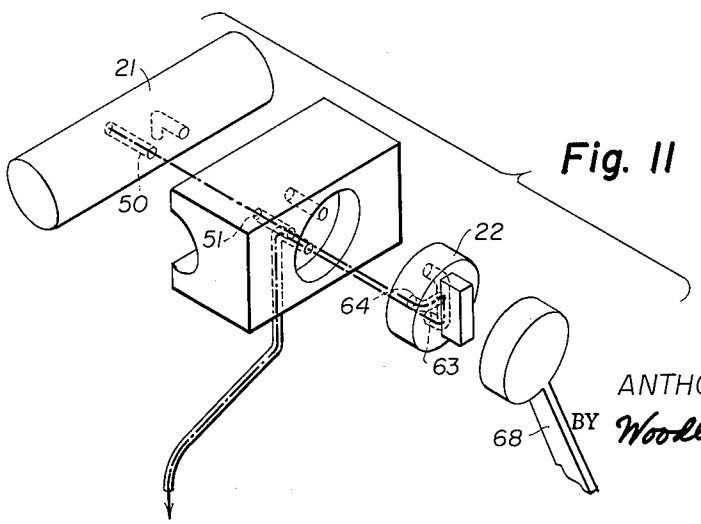


Fig. 11

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March 21, 1961 A. TURAK 2,975,802

DISPENSING VALVE

Filed Nov. 6, 1957 3 Sheets-Sheet 3

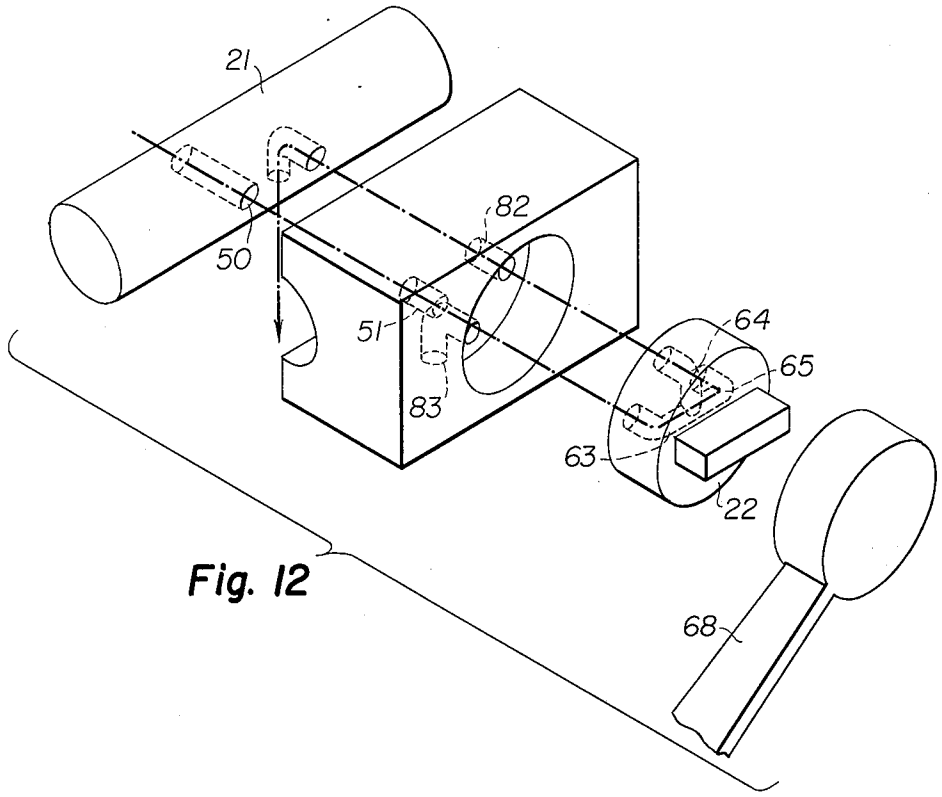


Fig. 12

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United States Patent Office 2,975,802 Patented Mar. 21, 1961

2,975,802

DISPENSING VALVE

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Filed Nov. 6, 1957, Ser. No. 694,830

14 Claims. (Cl. 137—599)

The invention relates in general to fluid dispensing valves and more particularly to multiple position dispensing valves having multiple discharge conditions.

Fluid dispensing valves such as may be used on soda fountains have heretofore been designed and used, such as in my copending application Serial No. 363,619, for Gang Dispensing Valve With By-Pass, filed June 23, 1953, now Patent No. 2,850,040. The use of dispensing valves with multiple discharge conditions permits mixing a common fluid such as pressurized soda water with various other syrups or flavoring extracts to make various soft drinks, for example. There is often limited space in soda fountains for dispensing valves and it is highly desirable to combine as many functions as possible in one valve. Also, this minimizes the maintenance and cleaning problems since only one valve needs to be kept in repair for a plurality of flavored beverages and only one valve need be periodically cleaned for sanitation.

Separately, soda alone may be desired to be dispensed, and in many cases such as in mixing ice cream sodas, both a hard or concentrated stream soda discharge and a soft or flowing soda discharge condition is desired.

Accordingly, an object of the invention is to provide a plural discharge condition dispensing valve to mix fluid from a common line with fluids from other lines and to separately control flow of fluid from the common line.

Another object of the invention is to provide a four-in-one dispensing valve which selectively will mix soda with either of two flavoring syrups or extracts and additionally will provide a hard or soft soda discharge condition.

Still another object of the invention is to provide a dispensing valve which contains a diffuser wherein soda water may be dispensed by one valve plug through the diffuser or may be dispensed by passage through first and second valve plugs in series and by-passing the diffuser.

Still another object of the invention is to provide a dispensing valve with first and second valve plugs which may selectively be connected in series for a first discharge condition, and for a second discharge condition may be connected in series plus a re-entrant passageway through the first valve plug with each valve plug controlling the fluid flow.

Another object of the invention is to provide a dispensing valve with first and second handles each having a neutral position and each having first and second alternative positions for selective control of fluid discharge.

Still another object of the invention is to provide a dispensing valve with a diffuser which may be used with a first valve plug in either of two positions and which also may be used in one selective condition only of a second valve plug in the same dispensing valve.

Other objects and a fuller understanding of this invention may be had by referring to the following description and claims, taken in conjunction with the accompanying drawings, in which:

Figure 1 is a sectional elevational view of the dispensing valve of the invention;

Figure 2 is an exploded elevational view of parts of the valve of Figure 1;

Figure 3 is an elevational view of one of the valve bodies with the valve plug removed;

Figure 4 is a front elevational view of one of the valve bodies and showing the second valve plug removed;

Figure 5 is a plan sectional view through a part of the valve;

Figure 6 is a plan sectional view through the first valve plug;

Figures 7, 8, 9, and 10 are elevational sectional views through the valve plug of Figure 6; and

Figures 11 and 12 are exploded isometric views of the valve in two different dispensing conditions.

The drawing shows the dispensing valve **15** of the invention which includes generally a housing **16**, a supporting shell **17**, a body **18**, first and second valve chambers **19** and **20**, and first and second valve plugs **21** and **22**. The supporting shell **17** may be cylindrical in shape and is designed to be mounted on a soda fountain or the like for support of the entire valve **15**. The shell **17** is hollow and surrounds first, second, and third inlet lines **25**, **26**, and **27**. The dispensing valve **15** of the invention may be used with various fluids; and one particular use is in soda fountains or the like wherein the second inlet line **26** may carry pressurized soda water and the first and third lines **25** and **27** may carry flavored syrups or extracts of different kinds, for example, cola and ginger ale syrups. The dispensing valve **15** is designed to mix fluids from the first and second lines **25** and **26** to provide a flavored beverage such as a cola drink, and selectively to mix fluids from the second and third lines to provide another flavored beverage such as a ginger ale drink.

This intermixing of fluids is accomplished primarily by the first valve plug **21** in the first chamber **19** by means of a first handle **29** which has a neutral or intermediate position shown in Figure 1 and also has first and second operative positions shown in phantom in the drawing as positions **29A** and **29B**, respectively.

The valve body **18** is preferably formed of first and second body halves **31** and **32** having semi-cylindrical inner surfaces **33** and **34**, respectively, defining the first valve chamber **19** in which the cylindrical first valve plug **21** is rotatable. The body halves **31** and **32** are mounted in a frame **35** which is connected to a bracket **36** on the shell **17** by means of bolts **37**. The proper tightening of the bolts **37** squeezes the body halves **31** and **32** together to make a fluid-tight seal between the body **18** and the valve plug **21**.

As best shown in Figure 5, the inlet lines **25**, **26**, and **27** are connected to the body half **31** at conduits **38**, **39**, and **40**, respectively. As shown in Figures 5 to 10, the valve plug **21** has a plurality of bore means which selectively may register with the conduits **38**, **39**, and **40**. A first bore **41** may selectively mesh with the first conduit **38**. A second bore means **42** may selectively mesh with the second conduit **39**, and a third bore **43** may selectively mesh with the third conduit **40**. The second bore means **42** includes six bores **44** to **49**, inclusive, generally radially disposed in the valve plug **21**. A by-pass passageway **50** may also selectively register with the second conduit **39**.

The Figures 1 and 5 to 10 are shown with the handle **29** in the neutral or intermediate position. The Figures 7, 8, and 10 show that in such case the bore means **41**, **42**, and **43** are closed to communication from the conduits **38**, **39**, and **40**. In this position only the by-pass passageway **50** is in communication with any of the inlet lines, and it is in communication with the inlet line **26** through the conduit **39**, and passes fluid to a soda inlet **51** in the second body half **32**.

With the handle 29 in the position 29A, which may be considered a first operative position, the first bore 41 meshes with or is in fluid communication with the first fluid conduit 38 to pass fluid to a conduit 52 in the second body half 32 which conduit 52 has a lower opening 53, Figure 4, to empty into the housing 16 and thus pass to the discharge opening 54 of this housing 16. Concurrently, the bore means 42 is so positioned that the bore 44 is in communication with the conduit 39; hence, fluid in the second inlet line 26, which, for example, may be soda water, passes through bores 44 and 46 to pass out a body outlet 55 formed by the spaced body halves 31 and 32 to a hollow cylindrical chamber 56 and over a diffuser 57 to the discharge opening 54 of the housing 16. In so doing the soda water washes the inner walls of the housing 16 to thoroughly cleanse same of any syrup or extract discharging from the lines 25 or 27 and also the soda water in passing through the diffuser has a chance to release the carbon dioxide gas therein so that it has a soft foaming type of discharge.

When the handle 29 is moved to the alternative operative position shown at 29B, the bore 43 is placed in communication with the conduit 40 to pass a second flavoring syrup or extract to a conduit 59 in the second body half 32. Conduit 59 has a lower opening 60 which passes this fluid to the discharge opening 54 of the housing 16. Concurrently, the second fluid, such as soda water, passes through the second bore means 42 which in this case includes the bores 45 and 48, and passes through the body outlet 55 and the diffuser 57 to the discharge opening 54.

With the handle 29 in the neutral or intermediate position, only the by-pass passageway 50 is in communication with the line 26, and this permits the second valve chamber 20 to become operative. This second valve chamber 20 is in the forward end of the second body half 32 and contains the second valve plug 22. The second valve plug 22 has passageways 63, 64, and 65. These passageways make the valve plug 22 a two-way valve. The second handle 68 may be attached to the second valve plug 22, and this may be done by the set screw 69. A sleeve 70 has a tapered shoulder 71 which fits on the inside of the frame 35 at an aperture 72. A valve stem 73 is journalled inside the sleeve 70 and in turn has a cylindrical shoulder 74 with a diametrical slot 75 which is at a forty-five degree angle relative to the vertical when the handle 68 is vertically disposed in a neutral position, as shown in Figures 2 and 4. The valve plug 22 has a bar 76 to interfit with the slot 75 so that turning of the handle 68 provides turning of the valve plug 22. The interior of the sleeve 73 is threaded at 77 to receive a cone point set screw 78 which engages a cone point recess 79 in the valve plug 22. This forces the valve plug 22 axially into the second valve chamber 20 so that the flat front face 80 of the valve plug 22 is in fluid sealing engagement with the valve chamber 20. A locking set screw 81 may engage the rear of the cone point set screw 78 to lock the screw 78 in place.

The Figure 4 shows the front of a valve body half 32 and it also shows the valve plug 22 removed therefrom and turned one hundred eighty degrees so that Figure 4 shows the front face 80 of this valve plug 22. This valve plug 22 is in the neutral position as shown in Figures 1, 2, 4 and 5, whereat the handle 68 is vertical, and the bar 76 and slot 75 are at a 45° angle to the vertical. In Figure 4, comparing the position of the valve plug 22 and the ports 63—65 therein, it will be noted they are not in registration with the ports 51, 82, 83 in body portion 32; hence this second valve plug is in a closed condition. The Figures 11 and 12 show two alternative operative positions of the handle 68 with Figure 12 showing the handle 68 in the first operative position whereat the passageways 63 and 65 are horizontally disposed, assuming Figure 1 to be a vertical elevation. In this condition, soda water or fluid from the second inlet line 26 passes through the by-pass passageway 50 of the first valve plug to the soda inlet 51, from there through the passageways 63 and 65 of the second valve plug 22 to return through a conduit 82 to re-enter the first valve plug 21 at the second bore means 42. In this case, the second bore means 42 includes the bores 47 and 49 so that the soda water passes through the body outlet 55 and through the diffuser 57 to the discharge opening 54. This provides a soft soda discharge condition of the valve 15. The Figure 11 shows the alternative or second operative position of the handle 68 wherein soda water again passes through the by-pass passageway 50, the soda inlet 51 to the valve plug 22, whereat it passes through the passageways 64 and 63 to a conduit 83 to which a tube 84 is connected. This tube 84 delivers the soda water directly to the discharge opening 54 without re-entrant passageway through the first valve plug 21 and without passage through the diffuser 57. Since the diffuser is by-passed in this condition, the soda water is delivered in a fine, hard, and concentrated stream suitable for mixing ice cream sodas and the like.

This dispensing valve 15 thus has four different conditions effected by the two two-way valve plugs 21 and 22. With the handle 29 in either of the two operative positions, a soft soda discharge condition is effected through the diffuser 57 which in such case aids mixing of the soda water with whatever syrups or extracts are also passed to the discharge opening 54 from the inlet lines 25 and 27. With the handle 29 in the neutral position, then the handle 68 becomes operative to provide either a soft soda discharge condition by passing the soda through the diffuser 57 as shown in Figure 12 or to have a hard soda discharge condition as shown in Figure 11 wherein the diffuser is by-passed. In the position of the valves as shown in Figure 12, it is noted that the fluid communication is first through the first valve plug 21, next through the second valve plug 22, and then re-entry through the first valve plug 21 so that the fluid may pass through the diffuser 57 by passing through the body outlet 55. This permits the dispensing valve 15 to be very compact because only one diffuser is needed even though a soft soda discharge condition is controlled by the second valve plug 22. Since the diffuser 57 and its associated cylindrical chamber 56 is rather bulky compared to the rest of the valve, there is a saving in space, weight, and complexity of the valve 15 and it also promotes ease of cleaning since only one diffuser need be cleaned for a total of four different types of fluid dispensed.

The diffuser 57 has a triple purpose; namely, it permits the soda water stream to be broken up so that it is a soft flowing condition, it permits a great bulk of the carbon dioxide gas to be released from the soda water so that the liquid as dispensed is not so foaming and bubbling as to fill the glass principally with bubbles, and third it permits a diffusion and dispersing of the soda water so as to wash down the inner walls of the housing 16 to thoroughly cleanse these walls of all syrup or extract from the lines 25 and 27 so that successively different flavored beverages may be dispensed with no intermingling of flavor.

Although this invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. A valve comprising, in combination, a body, an inlet line and a discharge opening in said body, first and second valve plugs in said valve body each having a first operative position and a neutral position and said second valve plug additionally having a second operative position,

a fluid diffuser in said valve, first conduit means in said valve body and said first valve plug connecting said inlet line through said diffuser to said discharge opening with said first valve plug in said first position, said neutral position of said first valve plug closing off said first conduit means, second conduit means in said valve body and said first and second valve plugs connecting said first and second valve plugs in series reentrantly with said valve plug and with said fluid diffuser for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said neutral and first positions, respectively, and third conduit means in said valve body and said second valve plug connecting in series said first and second valve plugs for fluid communication therethrough from said inlet line to said discharge opening and by-passing said diffuser with said first and second valve plugs in said neutral and second positions, respectively.

2. A valve comprising, in combination, a body, an inlet line and a discharge opening in said body, first and second valve plugs in said valve body each having first and second operative positions and an intermediate position, a fluid diffuser in said valve, first conduit means in said valve body and said first valve plug connecting said inlet line through said diffuser to said discharge opening with said first valve plug in either of said first and second positions, said intermediate position of said first valve plug closing off said first conduit means, second conduit means in said valve body and said first and second valve plugs connecting said first and second valve plugs in series reentrantly with said first valve plug and with said fluid diffuser for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said intermediate and first positions, respectively, third conduit means in said valve body and said second valve plug connecting in series said first and second valve plugs for fluid communication therethrough from said inlet line to said discharge opening and by-passing said diffuser with said first and second valve plugs in said intermediate and second positions, respectively, and said intermediate position of said second valve plug closing off fluid communication therethrough.

3. A valve comprising, in combination, a body, an inlet line and a discharge opening in said body, first and second valve plugs in said valve body each having a first operative position and a neutral position and said second valve plug additionally having a second operative position, first conduit means in said valve body and said first valve plug connecting said inlet line to said discharge opening with said first plug in said operative position, said neutral position of said first valve plug closing off said first conduit means, second conduit means in said valve body and said first and second valve plugs connecting in series said first and second valve plugs and again said first valve plug for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said neutral and first positions, respectively, third conduit means in said valve body and said second valve plug connecting in series said first and second valve plugs for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said neutral and second positions, respectively, and said neutral position of said second valve plug closing off fluid communication therethrough.

4. A valve comprising, in combination, a body, an inlet line and a discharge opening in said body, first and second valve plugs in said valve body each having first and second operative positions and an intermediate position, first conduit means in said valve body and said first valve plug connecting said inlet line to said discharge opening with said first valve plug in either of said first and second positions, said intermediate position of said first valve plug closing off said first conduit means, second conduit means in said valve body and in said first and second

valve plugs connecting in series said first and second valve plugs and again said first valve plug for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said intermediate and first positions, respectively, third conduit means in said valve body and said second valve plug connecting in series said first and second valve plugs for fluid communication therethrough from said inlet line to said discharge opening with said first and second valve plugs in said intermediate and second positions, a respectively, and said intermediate position of said second valve plug closing off fluid communication therethrough.

5. A dispensing valve, comprising, in combination, a valve body having an inlet line and an outlet, a first valve plug in said body having an operative and a neutral position, a second valve plug in said valve body having first and second positions and an intermediate off position, first conduit means in said valve body and said first valve plug providing discharge of fluid from said inlet line with said first valve plug in said operative position, second conduit means in said valve body and said first and second valve plugs directing re-entrant fluid flow from said inlet line through said first valve plug and through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first position and said first valve plug in said neutral position, and third conduit means in said valve body and said second valve plug directing fluid flow in series from said inlet line through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second position and said first valve plug in said neutral position.

6. A dispensing valve, comprising, in combination, a valve body having an outlet and first and second inlet lines, first and second valve plugs in said valve body each having an operative position and a neutral position and said second valve plug having a second operative position, first conduit means in said valve body and said first valve plug providing intermixed discharge of fluid from said first and second inlet lines with said first valve plug in said operative position, second conduit means in said valve body and said first and second valve plugs directing re-entrant fluid flow from said first valve plug through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first position and said first valve plug in said neutral position, and third conduit means in said valve body and said second valve plug directing fluid flow in series through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second position and said first valve plug in said neutral position.

7. A four-way dispensing valve, comprising, in combination, a valve body having an outlet and first, second, and third inlet lines, first and second two-way valve plugs in said valve body each having first and second positions and a neutral position, first conduit means in said valve body and said first valve plug providing intermixed discharge of fluid from said first and second inlet lines with said first valve plug in said first position, second conduit means in said valve body and first valve plug providing intermixed discharge of fluid from said second and third inlet lines to said body outlet with said first valve plug in said second position, third conduit means in said valve body and first and second valve plugs directing re-entrant fluid flow from said first valve plug through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first position and said first valve plug in said neutral position, and fourth conduit means in said valve body and said second valve plug directing fluid flow in series through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second position and said first valve plug in said neutral position.

8. A dispensing valve, comprising, in combination, a

valve body having an outlet and an inlet line, first and second valve plugs in said valve body each having an operative and a neutral position and with said second valve plug also having a second operative position, first conduit means in said valve body and said first valve plug providing discharge of fluid from said inlet line with said first valve plug in said operative position, second conduit means connecting in series said first and second valve plugs with said first valve plug in said neutral position, third conduit means in said valve body and second valve plug and including said second conduit means and directing re-entrant fluid flow from said first valve plug through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first operative position, and fourth conduit means in said valve body and said second valve plug and including said second conduit means and directing fluid flow in series through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second operative position.

9. A dispensing valve, comprising, in combination, a valve body having an outlet and first and second inlet lines, first and second valve plugs in said valve body each having an operative and a neutral position and with said second valve plug having a second operative position, first conduit means in said valve body and said first valve plug providing intermixed discharge of fluid from said first and second inlet lines to said body outlet with said first valve plug in said operative position, second conduit means connecting in series said first and second valve plugs with said first valve plug in said neutral position, third conduit means in said valve body and second valve plug and including said second conduit means and directing re-entrant fluid flow from said first valve plug through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first operative position, and fourth conduit means in said valve body and said second valve plug and including said second conduit means and directing fluid flow in series through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second operative position.

10. A four-way dispensing valve, comprising, in combination, a valve body having an outlet and first, second, and third inlet lines, first and second two-way valve plugs in said valve body each having first and second operative positions and an intermediate position, first conduit means in said valve body and said first valve plug providing intermixed discharge of fluid from said first and second inlet lines to said body outlet with said first valve plug in said first position, second conduit means in said valve body and first valve plug providing intermixed discharge of fluid from said second and third inlet lines to said body outlet with said first valve plug in said second position, third conduit means connecting in series said first and second valve plugs with said first valve plug in said intermediate position, fourth conduit means in said valve body and second valve plug and including said third conduit means and directing re-entrant fluid flow from said first valve plug through said second valve plug and re-entrantly through said first valve plug with said second valve plug in said first position, and fifth conduit means in said valve body and said second valve plug and including said third conduit means and directing fluid flow in series through said first and second valve plugs without re-entrant passage through said first valve plug with said second valve plug in said second position.

11. A dispensing valve, comprising, in combination, a valve body having an inlet line and having first and second valve chambers, first and second valve plugs in said first and second chambers, respectively, a first conduit connecting said line to said first chamber, first bore means in said first valve plug for selective communication with said first conduit, first and second positions for said first valve plug and first and second operative positions and an intermediate off position for said second valve plug, a discharge opening for said dispensing valve, a diffuser in said dispensing valve, a body outlet from said valve body, said first bore means communicating with said body outlet, said first position of said first valve plug providing discharge of fluid from said inlet line through said first conduit and said first bore means to said discharge opening through said body outlet and said diffuser, said second position of said first valve plug closing communication between said first conduit and said first bore means, a by-pass passageway in said first valve plug providing fluid communication from said first conduit to said second valve plug with said first valve plug in said second position, first passageway means in said second valve plug providing re-entrant fluid flow from said inlet line and said by-pass passageway through said second valve plug to re-enter said first bore means in said first valve plug to pass through said body outlet and said diffuser to said discharge opening with said second valve plug in said first position, and second passageway means in said second valve plug to pass fluid from said inlet line and said by-pass passageway to said discharge opening without re-entrant communication through said first valve plug with said second valve plug in said second position, said intermediate off position of said second valve plug shutting off fluid flow therethrough.

12. A four-way dispensing valve, comprising, in combination, a valve body having first, second, and third inlet lines and having first and second valve chambers, first and second valve plugs in said first and second chambers, respectively, first, second, and third conduits connecting said first, second, and third lines, respectively, to said first chamber, first, second, and third bore means in said first valve plug for selective communication with said first, second, and third conduits, respectively, first and second operative positions and an intermediate position for each of said valve plugs, a discharge opening for said dispensing valve, a diffuser in said dispensing valve, a body outlet from said valve body, said second bore means communicating with said body outlet, said first position of said first valve plug providing intermixed discharge of fluid from said first and second lines through said first and second conduits and said first and second bore means to said discharge opening with fluid from said second line passing through said body outlet and said diffuser, said second operative position of said first valve plug providing intermixed discharge of fluid from said second and third lines through said second and third conduits and said second and third bore means to said discharge opening with fluid from said second line passing through said body outlet and said diffuser, a by-pass passageway in said first valve plug providing fluid communication from said second conduit to said second valve plug with said first valve plug in said intermediate position, first passageway means in said second valve plug providing re-entrant fluid flow from said second line and said by-pass passageway through said second valve plug to re-enter said second bore means in said first valve plug to pass through said body outlet and said diffuser to said discharge opening with said second valve plug in said first position, and second passageway means in said second valve plug to pass fluid from said second line and said by-pass passageway to said discharge opening without re-entrant communication through said first valve plug with said second valve plug in said second position, said intermediate position of said second valve plug shutting off fluid flow therethrough.

13. A dispensing valve, comprising, in combination, a housing having a discharge opening, valve body means in said housing and having first and second valve chambers, first and second valve plugs in said first and second valve chambers, respectively, first and second syrup lines and a central soda line connected to said valve body means, first and second handles connected to said first and second valve plugs, respectively, and each having first and second operative positions and a central position, soda

outlet means in said first valve plug, a soda diffuser connected between said soda outlet means and said housing discharge opening, first conduit means in said valve body means and said first valve plug, said conduit means in said first position of said first handle effecting communication of said first syrup line to said discharge opening and by-passing said diffuser and effecting communication of said soda line to said housing discharge opening through said soda outlet means and said diffuser, said conduit means in said second position of said first handle effecting communication of said second syrup line to said housing discharge opening and by-passing said diffuser and effecting communication of said soda line to said housing discharge opening through said soda outlet means and said diffuser, said conduit means in said central position of said first handle closing said first and second syrup lines and effecting communication of said soda line to said second valve chamber at a soda inlet, second conduit means in said valve body means and said second valve plug, said second conduit means in said first position of said second handle effecting communication of said soda inlet re-entrantly through said first conduit means in said first valve plug and through said soda outlet means and diffuser to said housing discharge opening for a soft soda discharge condition, and said second conduit means in said second position of said second handle effecting communication of said soda inlet to said housing discharge opening and by-passing said diffuser for a hard stream soda discharge condition.

14. A four in one dispenser valve, comprising, in combination, a housing, first and second syrup lines and a central soda line, first and second valve bodies in said housing forming a first chamber and embracing a first cylindrical valve plug, a main handle attached to said plug for first and second positions and a central position thereof, conduits in said valve bodies effecting communication of said lines to said plug, bores in said valve plug capable of selective meshing with said conduits, a discharge opening in said housing for selective communication with said bores and conduits, said handle in said first position establishing selective meshing of said bores and conduits for passage of a first syrup and soda from said first syrup line and said soda line to said discharge opening of said housing, said handle in said second position establishing selective meshing of said bores and conduits for passage of a second syrup and soda from said second syrup line and said soda line to said discharge opening in said housing, a second valve chamber in said second valve body, said handle in said central position establishing selective meshing of said bores and conduits for passage of soda only to said second valve chamber at a soda inlet, a second cylindrical valve plug in said second chamber, first and second outlets from said second valve chamber, a soda diffuser carried by said valve bodies, passageway means communicating said first outlet through said soda diffuser to said housing discharge opening passageway means communicating said second outlet to said discharge opening and by-passing said diffuser, a second handle connected to said second valve plug and having first and second operative positions and a central off position, channels in said second valve plug to direct flow of soda from said soda inlet selectively to said first and second outlets of said second valve chamber, said second handle in said first position causing selective meshing of said soda inlet and said first outlet to direct soda through said first valve plug to said diffuser for a soft soda discharge condition, and said second handle in said second position causing selective meshing of said soda inlet and said second outlet to direct soda directly to said housing discharge opening and by-passing said diffuser for a concentrated stream soda discharge condition.

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