United States Patent [19]

Johnston

[11] **3,880,206**

[45] **Apr. 29, 1975**

[54] **WASHING, FILLING AND TAPPING VALVE ASSEMBLY**

[76] Inventor: **Mack S. Johnston**, 26 Hitching Post Dr., Rolling Hills, Calif. 90275

[22] Filed: **Aug. 7, 1973**

[21] Appl. No.: **386,475**

Related U.S. Application Data

[62] Division of Ser. No. 222,910, Feb. 2, 1972, Pat. No. 3,753,445.

[52] **U.S. Cl.** ..... **141/5**; 134/22 R

[51] **Int. Cl.** **B65b 3/04**

[58] **Field of Search** ..... 141/4–8, 1, 141/11, 85–92, 113; 137/315, 320, 321, 322, 317, 323, 212; 251/65, 318; 222/148, 399, 400.7; 134/DIG. 1, 22 R

[56] **References Cited**

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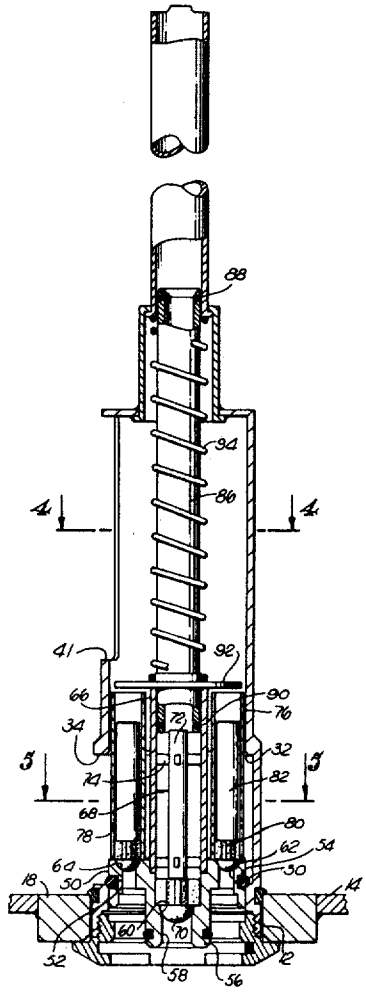
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Primary Examiner—Bell, Jr., Houston S.
Attorney, Agent, or Firm—Wills, Green & Mueth

[57] **ABSTRACT**

A method of washing and filling a keg which contains a valve assembly especially suitable for mounting in the bung opening in the side wall of a beer keg, and containing a skeletal tubular housing and a siphon tube which extends into said keg. A valve body is mounted in the tubular housing for movement between a closed position in which it is in closed, sealing engagement with the bung opening, and an open position in which it is spaced from the bung opening whereby cleaning liquid or beer can be caused to flow past the valve body and into the keg, said valve body being yieldably biased toward the closed position.

7 Claims, 8 Drawing Figures



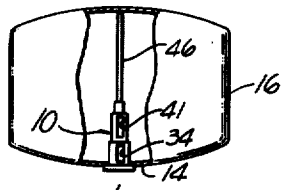


Fig.1.

Fig.2.

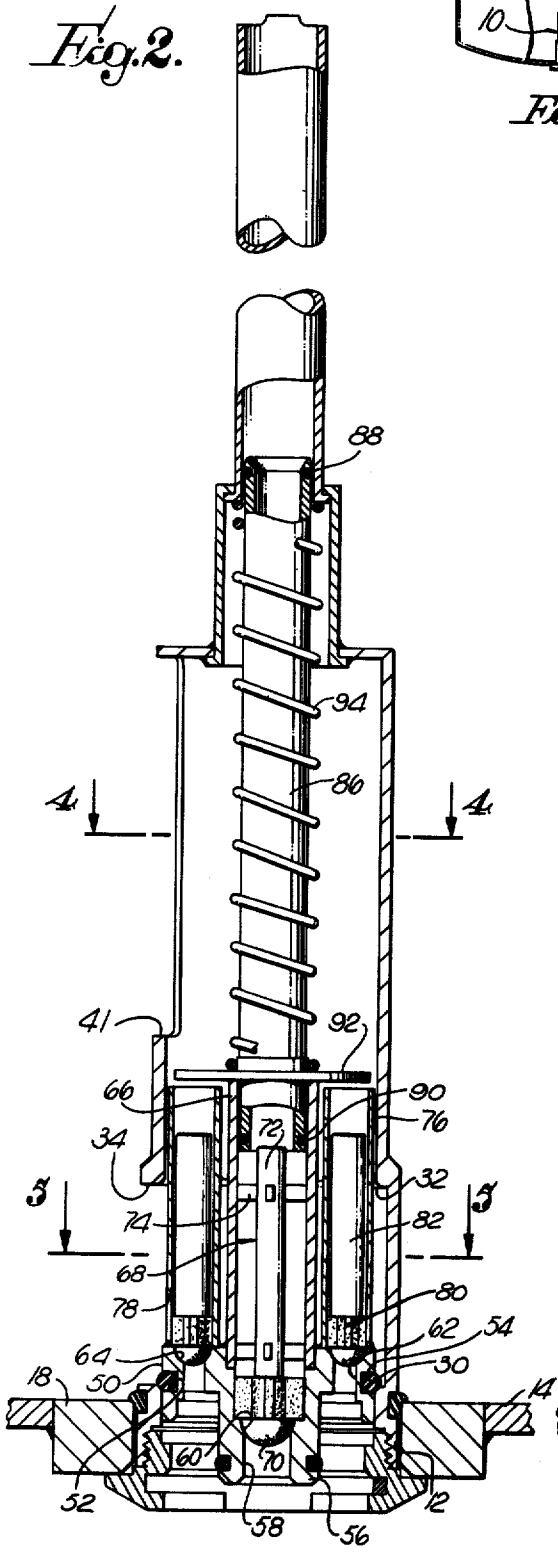


Fig.3.

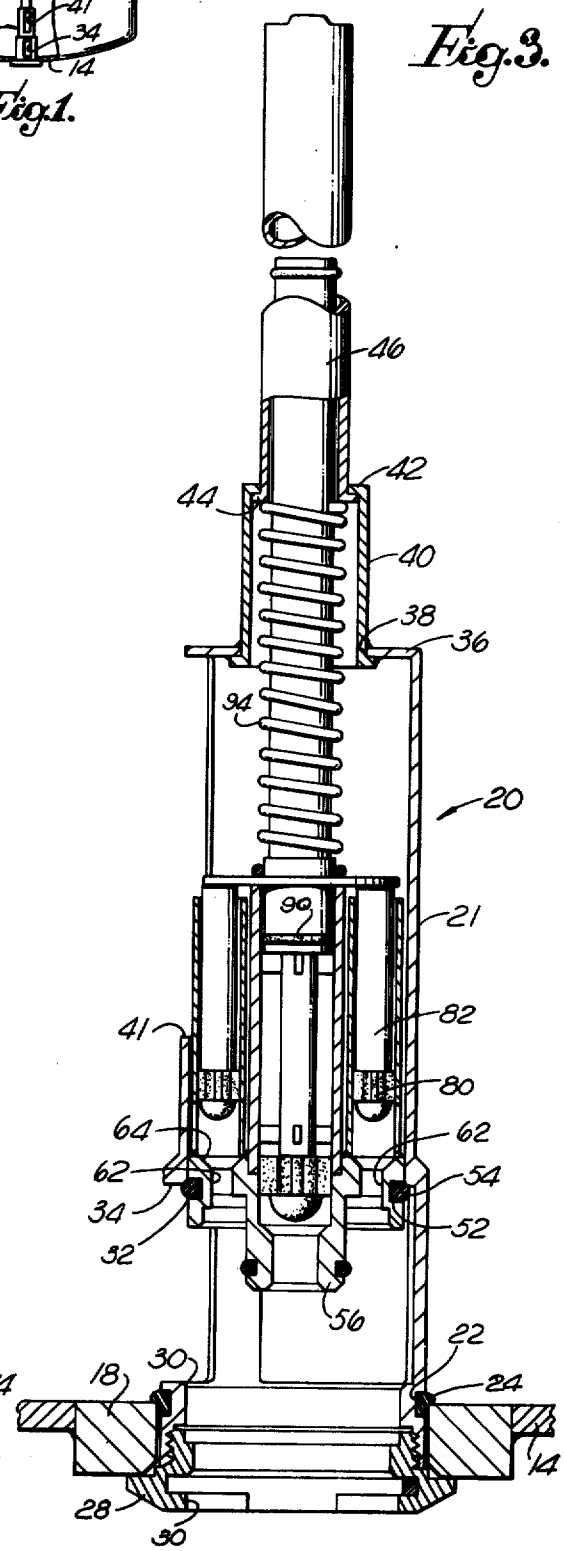


Fig. 4.

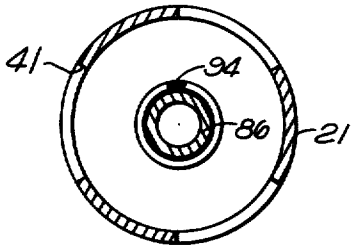


Fig. 5.

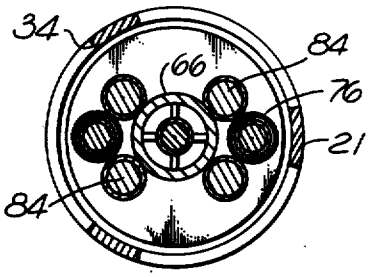


Fig. 6.

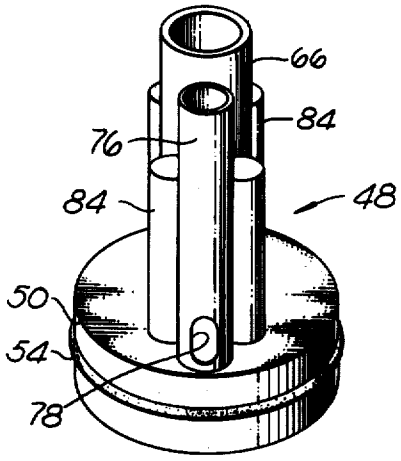


Fig. 7.

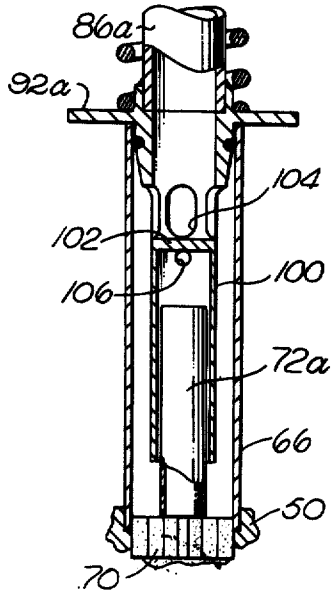
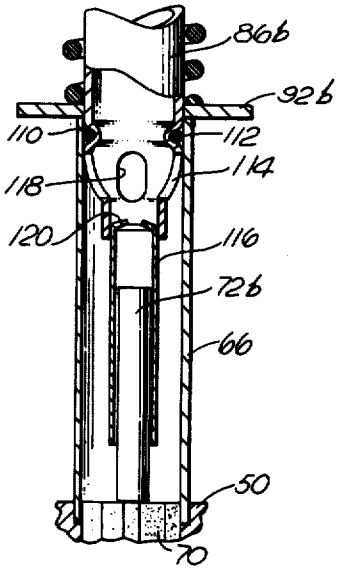


Fig. 8.



WASHING, FILLING AND TAPPING VALVE ASSEMBLY

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a division of application Ser. NO. 222,910, filed Feb. 2, 1972, now U.S. Pat. NO. 3,753,445:

BACKGROUND OF THE INVENTION

The present invention relates generally to the siphoning art, and more particularly to a novel washing, filling and tapping valve assembly especially suitable for beer kegs, and to a method of washing and filling a keg, whereby the same valve assembly can be used for admitting liquid into the keg for cleaning purposes, thereafter admitting beer into the keg which is to be subsequently dispensed therefrom, and for withdrawing the beer from the keg. of beer, unless and until a tapper was engaged with the adapter and actuated and 3,567,080 issued Mar. cause a tap rod to unseat the aforementioned valve and permit the beer to flow therefrom under pressure from a source of compressed air or carbon dioxide gas which was connected to the tapper. Various forms of my aforementioned adapter and tapper assembly are described in U.S. Pat. Nos. 3,231,154 issued Jan. 25, 1966, 3,353,724 issued Nov. 21, 1967, 3,410,458 issued Nov. 12, 1968, 3,435,997 issued Apr. 1, 1969, 3,497,114 issued Feb. 24, 1970, 3,563,424 issued Feb. 16, 1971, and 3,567,080 issued Mar. 2, 1971.

Although the various forms of adapter and tapper assemblies shown and described in the aforementioned patents constituted a considerable advance over prior beer tapping devices, they continued to present problems with regard to satisfactorily washing the keg adapter and the interior of the keg while the adapter remained fastened in the keg, and prior to the refilling of the keg with beer.

Recognizing the aforementioned problems, I invented a novel tapping assembly in which the valves in the keg adapter are yieldably biased toward the closed position by actuators which include permanent magnets. Thus, while the permanent magnets have sufficient holding force to maintain the gas and liquid valves in the adapter in the closed position during the shipment of a beer-filled keg, the valves are readily unseated when the tapper is installed for withdrawing the beer from the keg, and they are also unseated when a water hose is connected to the adapter during the washing operation which precedes the filling of the keg with beer through the aforementioned bunghole in the side wall. The aforementioned novel tapping assembly is shown and described in my copending application, Ser. No. 189,281, filed Oct. 14, 1971.

From a commercial standpoint, at the present time, kegs continue to be filled with beer through an opening in the side wall, which opening is subsequently closed with a wooden bung or plug. This presents several problems. Prior to washing and refilling the keg with beer, the old wooden plug or bung is removed with a special screw augar which cuts into the bung and pulls it out of the opening. However, often times the bung will split into pieces and such pieces and chips will fall into the keg, thereby requiring special efforts to remove the pieces and chips and a further inspection to make certain that all have been removed.

The keg then passes to the washing rack where it is washed and inspected and then turned on its side with the bung hole directed downwardly, to permit all water and caustic cleaner to drain from the keg.

When the keg has been washed and is in transit to the racking room where the keg is to be filled with beer, the bunghole remains open, with the possibility that foreign matter might fall into the keg and contaminate the beer which is subsequently introduced into the keg.

At the filling station, it is again necessary to change the position of the keg in order to have the bunghole at the top, to permit the keg to be filled with beer.

After a keg has been filled with beer by means of a filling rod which is inserted through the aforementioned bunghole, the hole is closed with a wooden plug or bung which is usually manually driven into place with a sledge hammer. If the first bung does not effectly close the opening, it is not uncommon to place a second bung on top of the first one, and to drive the first bung into the keg. There might be dirt and bacteria on the outer face of the first bung where the sledge hammer struck it, and this could also contaminate the beer.

Obviously, the manual removal of a bung from an empty keg, with the accompanying inspection to make certain that all chips have been removed, the washing and draining of the keg, the turning of the keg and the filling of it with beer, and the manual driving of a bung into the hole after the keg has been filled with beer . . . are very time consuming operations and materially add to the cost of a keg of beer. At the present time, there are from eight to ten steps in debunging, cleaning, filling and sealing a keg of beer, with most modern breweries having a capacity of from about 160 to 130 kegs per hour.

Also, an additonal major problem occurs after the bung has been driven into the opening and the keg has been removed from the racking room, because it is expected that anywhere from 0.5 percent to 1.0 percent of the kegs will leak around the bung. If such "leakers" are detected in the storage room, it is necessary to remove and replace the old bung, but many such "leakers" are not detected in the storage room or they begin to leak during transit, with the result that they are rejected at the tavern, and must be returned to the brewery and the contents dumped.

With the aforementioned limitations and deficiencies of prior filling and tapping equipment and methods in mind, it is an object of the present invention to dispense with the filling of beer kegs through an opening which is subsequently closed with a wooden bung or plug and to dispense the beer from a separate and different opening. More particularly, it is an object to provide a novel valve assembly for insertion in an opening in a key, which valve assembly can be used for both filling the keg with beer and for withdrawing the beer therefrom. Specifically, it is an object to provide a method of washing and filling a keg and a novel valve assembly for use with the existing bunghole in the side wall of a keg, which provides means for introducing cleaning fluids into the keg prior to refilling the keg with beer, which provides means for filling the keg with beer, and which further provides means for subsequently admitting compressed air or gas into the keg and for the withdrawing of the beer therefrom at a restaurant or tavern.

A further object is to provide such a method and valve assembly which reduces the number of cleaning and filling stations in a brewery, from 8 or twelve to

about 4 with an accompanying reduction in operating and inspecting personnel. More particularly, it is an object to provide such a method and valve assembly whereby a keg can remain in the same relative position for washing, draining, inspecting, and filling, i.e., with the keg on its side and with the bunghole directed downwardly, whereby the draft beer producing capacity of the present brewery can be increased to well over 400 kegs per hour with less equipment than in use at the present time.

I have discovered that the foregoing objects and advantages are achieved by using a novel valve assembly which is especially suitable for mounting in the present bung opening contained in the side wall of a keg, and which includes an elongated skeletal tubular housing with an associated siphon tube which extends into the interior of a keg. A valve body is mounted in the housing for limited axial movement between a closed position in which it is in closed, sealing engagement with the bung opening, and an open position in which it is positioned away from the opening. The valve body is yieldably biased toward the closed position, as for example, by a coiled spring. The housing adjacent to the bung opening is of a size to slidably receive the valve body and contains large apertures in the side wall thereof, whereby when the valve body is in the open position, cleaning liquid or beer can freely flow into the interior of the keg. Gas and liquid passageways with associated valve means are provided in the valve body, and a siphon tube is provided in the keg in communication with the liquid passageway in the valve body, whereby when the valve body is in the closed position, gas under pressure can be admitted to the interior of the keg and liquid can be withdrawn therefrom through the siphon tube. In the preferred construction, the valve body is made of a magnetic material such as stainless steel, and the valve means associated with the liquid and gas passageways are biased toward the closed position by permanent magnets, whereby said passageways will be opened by the flow of liquid into the tubular housing.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a side elevational view of a beer keg with a valve assembly constructed in accordance with the teachings of the present invention mounted in the existing bung opening, the side wall of the keg being cutaway to illustrate the position of the valve assembly within the keg,

FIG. 2 is an enlarged, vertical, sectional view of a novel washing, filling and tapping valve assembly of the type shown in FIG. 1, with the valve body in the closed position,

FIG. 3 is a vertical, sectional view similar to FIG. 2, but with the valve body in the fully open position, as during the washing or beer filling operation,

FIG. 4 is a horizontal, sectional view taken on the line 4—4 in FIG. 2,

FIG. 5 is a horizontal, sectional view taken on the line 5—5 in FIG. 2,

FIG. 6 is a perspective view of the valve body as shown in FIGS. 2 and 3, with the liquid and gas valve members removed therefrom.

FIG. 7 is an enlarged, fragmentary, vertical sectional view of a first modified form of beer valve housing and associated parts, and

FIG. 8 is an enlarged, fragmentary, vertical sectional view of a second modified form of beer valve housing and associated parts.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Although the novel washing, filling and tapping valve assembly of the present invention can be used with numerous types of containers which store and dispense various types of liquids, it is especially suitable for use with kegs which contain draft beer, because of the requirements for ease of cleaning and rapid washing and filling which is necessary with present brewery demands, and accordingly, the valve assembly and method will be so described.

Referring to the drawings more particularly by reference numerals, the numeral **10** indicates a novel washing, filling and tapping valve assembly embodying the teachings of the present invention, shown installed in a conventional bung opening **12** in the side wall **14** of a beer keg **16**, the keg being devoid of any other opening. Although the aforementioned valve assembly can be installed in an opening in an end wall of the keg, an important advantage of the subject valve assembly is that it is especially suitable for use with all present cooperage which contain the common bung opening in the side wall thereof.

As shown in FIGS. **2** and **3**, the bung opening **12** is usually surrounded by an annular flange **18** which can be fastened in the side wall **14** of the keg, as by welding.

Positioned in the bung opening **12** is one end of an elongated tubular valve housing **20** having a side wall **21**, which contains an external groove **22** for receiving an **0**-ring **24** which provides a seal between said housing and the bung opening **12**. Internal threads **26** are provided in said one end of the valve housing for threadedly receiving a retaining ring **28** which contains an internal annular groove **29** for receiving a tapper of the type described in my co-pending application Ser. No. 189,281.

Adjacent to said one end of the valve housing are opposed, inner annular shoulder **30** and **32** which function as seats for receiving an **0**-ring sealing member to be more fully described hereinafter. The wall of the housing between said opposed shoulders **30** and **32** contains a plurality of large, rectangular openings **34** to provide for the flow of liquid therethrough.

The outer end of the valve housing **20** has an end wall **36** containing an opening **38** which receives one end of a tubular adapter **40** which is fastened thereto, as by welding.

The side wall **21** of the valve housing adjacent to said end wall **36**, is also provided with a plurality of relatively large, rectangular openings **41** to provide for the free flow of liquid into and out of said housing.

The other end of the adapter **40** contains an internal flange **42** for receiving an interlocking external flange **44** on the inner end of a siphon tube **46** which extends to adjacent the side wall of the keg, opposite from the bung opening **12**.

Mounted within the valve housing **20**, is a valve body **48** (FIGS. **2**, **3** and **8**), preferably made of a magnetic material such as stainless steel, and which includes a cylindrical disc-like end portion **50** containing an external annular groove **52** which receives an **0**-ring **54**, said **0**-ring being adapted to engage the shoulders **30** and **32** previously described.

Extending from the outer face of the end portion **50** is a bayonet portion **56** (FIGS. **2** and **3**) which forms the outer end of an axially extending liquid passageway **58** which contains a valve seat **60**. The end of the bayonet portion is provided with an external groove and an **0**-ring for receiving a tapper to dispense beer from the keg, as described in my co-pending application Ser. No. 189,281.

Two, diametrically opposed gas passageways **62** are provided in the end portion **50**, radially outwardly of the liquid passageway **58**, each of which gas passageways contains a valve seat **64**.

Fastened to the inner face of the end portion **50** in alignment with said liquid passageway **58**, is a tubular liquid valve housing **66** (FIG. **6**) also of magnetic material such as stainless steel, which receives a liquid valve member **68** comprising a valve element **70** and a permanent magnet valve actuator **72**, the latter being provided with radially extending projections **74** for centering the valve member in the valve housing. As shown in FIG. **2**, the valve element **70** is adapted to engage the valve seat **60**.

Also fastened to the inner face of the end portion **50**, but in alignment with the gas passageways **62**, are two tubular gas valve housings **76** of stainless steel, which are slightly shorter in length than the liquid valve housing, for a purpose to appear. The free ends of the housings **76** are open, and each housing also contains an aperture **78** (FIG. **6**) adjacent to the valve seat **64**.

Slidably mounted in each gas valve housing **76** is a gas valve member which comprises a valve element **80** and a permanent magnet actuator **82**, each valve element **80** being adapted to engage its adjacent valve seat **64**. In the preferred construction, each valve actuator is a permanent magnet of cylindrical shape, which is rolled in "Teflon" material or a similar plastic meterial which has a very low coefficient of friction.

Also fastened to the inner of the end portion are four permanent magnets **84** (FIGS. **5** and **6**) which are positioned in close proximity with the gas valve housings **76** and the liquid valve housing **66**, whereby the respective valve member are yieldably maintained in the closed position shown in FIG. **2**.

Fastened in the free end of the liquid valve housing **66**, as by a friction fit, is the outer end of a tubular connector **86** (FIGS. **2** and **3**), the inner end of which is received in the outer end of the siphon tube **46** with an **0**-ring **88** therebetween to provide a sliding, sealing engagement, for a purpose to appear. The outer end of the tubular connector **86** is preferably provided with an **0**-ring **90** for sealing engagement with the liquid valve housing **66**, although this is not necessary if there is a close friction fit between these two members.

A flange member **92** is fastened on the tubular connector **86** a short distance from the outer end thereof, to provide a stop for engagement with the free end of the liquid valve housing **66**. As will be described more fully hereinafter, the flange member **92** also limits the movement of the gas valve actuators **82** within the gas valve housings **76** (FIG. **3**).

A coiled spring **94** is positioned about the tubular connector **86**, with one end thereof in engagement with the flange member **92** and the other end in engagement with the flange **44** of the siphon tube **46**.

FIGS. **7** and **8** show alternative constructions for removably fastening a tubular connector (similar in construction to connector **86**) to the liquid valve housing **66**, and also show alternative constructions for the liquid valve actuators. FIG. **7** modified parts have the same numbers as in FIGS. **2** and **3**, followed with the letter *a*, and in FIG. **8**, the modified part numbers are followed by the letter *b*.

Referring first to FIG. **7**, the flange member **92***a* is fastened to the end of a tubular connector **86***a* as by welding, and includes a tubular extension **100** of reduced diameter, such that it is spaced from the inner surface of the liquid valve housing **66**, and also includes a transversely extending wall **102**, liquid passage ports **104**, and a small escape port **106**. An **0**-ring **108** is provided to effect a seal with the liquid valve housing **66**.

The construction of the valve element **70** is the same as previously described, but the valve actuator **72***a* comprises a permanent magnet of cylindrical shape, which has been rolled in Teflon material or a similar plastic material having a low coefficient of friction. This type of construction obviates the radially extending projections **74** shown in FIGS. **2** and **3**, and appreciably reduces the cost of the valve actuator.

Referring to FIG. **8**, the outer end of a modified tubular connector **86***b* is provided with a similar flange member **92***b*, but the end of the connector is rolled at **110** to provide a groove for receiving an **0**-ring **112**, and terminates in a portion **114** of reduced diameter which receives one end of a small tubular member **116**. The portion **114** contains relatively large liquid passage ports **118**.

As in the contruction shown in FIG. **7**, the valve element **70** in FIG. **8** is similar in construction to the valve elements shown in FIGS. **2** and **3**, but the valve actuator **72***b* is a permanent magnet of cylindrical shape, rolled in Teflon material or the like.

The inner end of the tubular member **116** is cut to provide projections **120** which are bent inwardly to provide stop members to limit the inward movement of the valve actuator **72***b*.

In use, when a beer keg provided with the subject washing, filling and tapping valve assembly is returned to the brewery, any beer remaining in the keg is in the liquid state inasmuch as the keg is sealed as illustrated in FIG. **2**, whereby the remaining beer can be easily and quickly flushed from the keg. This materially reduces the amount of caustic cleaning materials which are normally required to remove the caked residue in open kegs.

In preparing the keg for cleaning and refilling, it is placed in the position illustrated in FIG. **1**, i.e. with the bung opening **12** directed downwardly. A wash hose with an actuating arm or fixture (not shown) is connected to the flange **28** utilizing the groove **29**, and water and cleansing materials are introduced into the keg under pressure. The actuating arm engages the bayonet portion **56** and forces the valve body **48** to the position illustrated in FIG. **3**, with the coiled spring **94** being compressed by the flange **92** and with the tubular connector **86** telescoping into the siphon tube **46**. The movement of the valve body **48** is stopped when the **0**-ring **54** engages the shoulder **32**.

As shown in FIG. **3**, the water and cleansing materials pass into the valve housing **20** through the opening in the flange **28**, and thence through the large openings **34** and into the interior of the keg. The cleansing water also passes through the large openings **41** and around the tubular connector **86** and spring **94**, thereby cleansing these portions of the device.

The cleansing water passing through the gas passageways **62** force the gas valve members **80–82** to the open position illustrated in FIG. **3**, with the ends of the permanent magnet actuators **82** engaging the flange **92**. In this open position, cleansing water passes through the gas passageways **62**, around the valve elements **80**, through the ports **78** and also around the cylindrical permanent magnet actuators **82**, thereby cleansing all of these portions of the device.

In addition, the water entering the liquid passageway **58**, forces the liquid valve member **72** to the open position with the one set of projections **74** engaging the outer end of the tubular connector **86**, whereby the cleansing water passes through the liquid passageway **58**, around the permanent magnet actuator **72**, through the tubular connector **86**, through the siphon tube **46** and into the interior of the keg, thereby cleansing all of these parts of the assembly.

It will be readily apparent that with the skeletal-type valve housing **20** with all of the internal parts exposed to the cleansing water, it is relatively easy to fully cleanse all of the working parts of the assembly.

In one system of operation, the wash hose is disconnected but the actuating arm remains in position, whereby the cleansing water is permitted to drain from the keg.

In another system, after the keg **16** has been filled with water and cleansing materials, the aforementioned water hose and actuating arm are disconnected. The coiled spring **94** moves the valve body **48** to the closed position illustrated in FIG. **2**, and the permanent magnets **84** cause the permanent magnet actuators **72** and **82** to move their respective valve elements to the closed position.

The keg **16** then moves to the next station where the valve body **48** and the individual elements are moved to the open position by mechanical means, thereby permitting the water and cleansing materials to drain from the keg **16**. If desired, heated air or steam can be blown into the keg through the opening in the flange **28**, thereby completing the drying operation.

If desired, the interior of the keg can be inspected at this station, as by inserting a light and a conventional viewing assembly.

The keg **16** then moves to the beer filling station, where it continues to remain in the same relative position with the bung opening **12** in the downward direction.

The auxiliary equipment at this station differs from the equipment at the washing station in that the arm or fixture which engages the bayonet portion **56** includes a vent tube (not shown) which opens the liquid valve **60–70** and fits over the bayonet portion, whereby gas and/or air is vented from the keg through the siphon tube **46** during the filling operation.

In some breweries, a charge of carbon dioxide gas would be introduced into the keg to purge all air and bacteria therefrom, immediately prior to filling the keg with beer.

After the keg is filled with beer, the auxiliary filling equipment is removed, thereby permitting the spring **94** to move the valve body **48** to the closed position illustrated in FIG. **2**, with the **0**-ring **54** engaging the shoulder **30**, and with the permanent magnet actuators **72** and **82** moving their respective valve elements **70** and **80** to the closed position.

Thus, the beer-filled keg **16** is completely sealed and the normal residual gas pressure in the keg, which is from about 9 pounds per square inch to about 34 pounds per square inch, further aids in maintaining the valve body and the various valves in the closed position.

Accordingly, the keg can then be transported to a restaurant or tavern, in a clean and beer-filled condition, and without any concern regarding "leakers."

Although it might be customary to set a keg on end in order to utilize the tapping equipment at the restaurant or tavern, the present keg **16** is positioned on its side with the flange **28** and bung opening **12** directed upwardly. This does not cause any problem whatsoever from a space standpoint because the length of substantially all of the beer kegs in use at the present time, is only a few inches greater than the diameter thereof. In short, even where the kegs are positioned under a counter for dispensing purposes, as differentiated from being positioned in a remote celler, tapping the keg through the side bung opening presents no space problem whatsoever.

Turning to a consideration of the first modified construction shown in FIG. **7**, it illustrates a simpler and a less expensive form of permanent magnet actuator **72***a* and a somewhat less restricted flow path for liquid through the liquid valve housing **66**. Thus, the liquid flowing through the valve housing **66** and the siphon tube **86***a* passes through the ports **104** and around the tubular member **100**. The small escape port **106** permits the passage of any liquid or air which is trapped in the tubular member **100**, as the permanent magnet actuator **72***a* moves from the closed to the open position and contacts the transversely extending wall portion **102**.

In the second modified construction illustrated in FIG. **8**, the liquid also flows through ports **118** and around the tubular member **116**, with the permanent magnet actuator **72***b* being of similar simple construction and with the inward movement thereof limited by the tabs **120**.

I claim:

1. The method of washing a keg, which keg contains an opening in a wall thereof; a generally tubular valve housing having one end thereof supported in said opening and an internal shoulder adjacent said one end; a valve body having an end portion mounted in said housing for limited axial movement between a closed position in which said end portion is in sealing engagement with said shoulder, and an open position in which it is spaced therefrom; and openings in said valve housing adjacent said one end to provide communication with the interior of the keg and which are unobstructed when the valve body is in the open position, which includes the steps of:

positioning the keg with the opening in the wall thereof directed downwardly;

moving the valve body to the open position;

introducing cleansing fluid under pressure into the keg through said keg opening and the openings in the valve housing.

2. The method according to claim **1**, in which the valve body contains a liquid passageway therethrough in communication with a siphon tube which extends into the interior of the keg;

and liquid valve means in said liquid passageway movable between an open position and a closed position

and yieldably biased toward the closed position; and the cleansing fluid is introduced into the keg under sufficient pressure to move the liquid valve means to the open position, whereby said fluid flows through the liquid passageway and the siphon tube and into the interior of the keg.

3. The method according to claim 1, in which the valve body contains a gas passageway therethrough in communication with the interior of the keg; and gas valve means in the gas passageway movable between an open position and a closed position and yieldably biased toward the closed position; and the cleansing fluid is introduced into the keg under sufficient pressure to move the gas valve means to the open position, whereby said fluid flows through the gas passageway and into the interior of the keg.

4. The method according to claim 1, in which the valve body contains a liquid passageway therethrough in communication with a siphon tube which extends into the interior of the keg; and a gas passageway therethrough in communication with the interior of the keg; a valve seat in each passageway; and a valve element in each passageway associated with its respective valve seat and yieldably biased toward said seat; and the cleansing fluid is introduced into the keg under sufficient pressure to move each valve element away from its seat, whereby said fluid flows through the passageways and around the valve elements and into the interior of the keg.

5. The method of filling a keg with a liquid, which keg contains an opening in a wall thereof; a generally tubular valve housing having one end thereof supported in said opening and an internal shoulder adjacent said one end; a valve body having an end portion mounted in said housing for limited axial movement between a closed position in which said end portion is in sealing engagement with said shoulder and an open position in which it is spaced therefrom; openings in said valve housing adjacent said one end to provide communication with the interior of the keg and which are unobstructed when the valve body is in the open position; a liquid passageway through the valve body with an outer end and an inner end, with said inner end in communication with a siphon tube which extends into the interior of the keg; and liquid valve means in said passageway movable between an open position and a closed position and yieldably biased toward the closed position, which includes the steps of: positioning the keg with the opening in the wall thereof directed downwardly;

moving the valve body to the open position;

interconnecting a tubular member with the outer end of the liquid passageway; and

introducing liquid under pressure into the keg through the keg opening and the openings in the valve housing and simultaneously removing any residual gases in the keg through the siphon tube, the liquid passageway, and the tubular member.

6. The method according to claim 5, in which the valve body is moved to the closed position and the tubular member is disconnected after the keg is filled with the liquid.

7. The method according to claim 5, in which the valve body contains a gas passageway therethrough in communication with the interior of the keg; and gas valve means in the gas passageway movable between an open position and a closed position and yieldably biased toward the closed position; and the filling liquid is introduced into the keg under sufficient pressure to move the gas valve means to the open position, whereby said filling fluid also flows through the gas passageway and into the interior of the keg.

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