Oct. 15, 1935. O. J. LEINS 2,017,664

DISPENSER FOR BEVERAGES

Filed Oct. 1, 1934

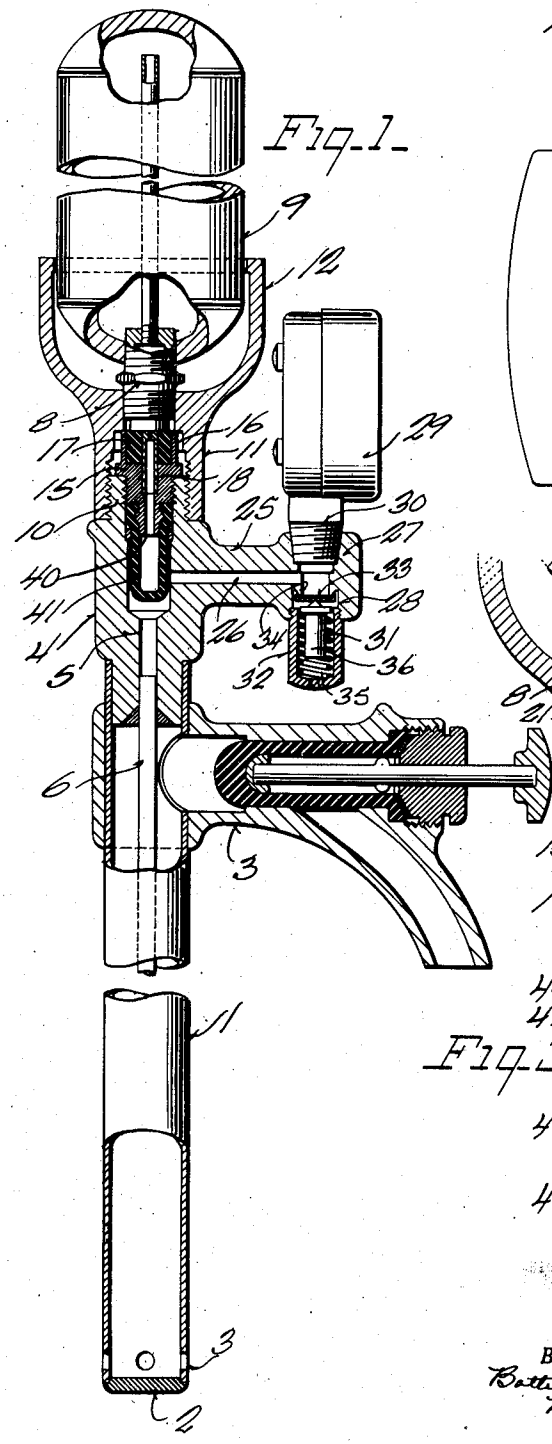


Fig. 1.

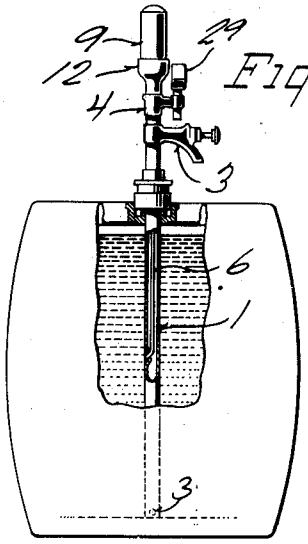


Fig. 2.

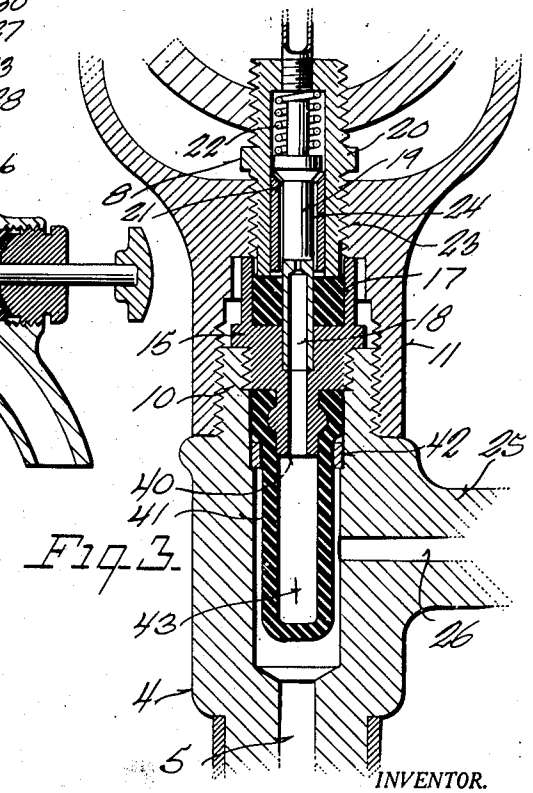


Fig. 3.

INVENTOR.

Oscar J. Leins

BY

Bottum, Hudnall, Lesher, McNamara & Michael

ATTORNEYS

Patented Oct. 15, 1935

2,017,664

UNITED STATES PATENT OFFICE

2,017,664

DISPENSER FOR BEVERAGES

Oscar J. Leins, Milwaukee, Wis., assignor to Milwaukee Gas Specialty Company, Milwaukee, Wis., a corporation of Wisconsin

Application October 1, 1934, Serial No. 746,382

11 Claims. (Cl. 225—3)

This invention relates in general to dispensers for liquid, particularly carbonated beverages such as beer.

One of the objects of the invention is to provide a dispenser of this character which makes it practical, convenient, economical and safe to utilize carbon dioxide for maintaining the proper carbonation of and the proper head of pressure on the beer. These advantages are realized to such an extent as to render the device available for household use or for use at picnics.

In carrying out the present invention a tap rod is provided and is equipped with a dispensing faucet. Surmounting the faucet and connected with the tap rod is a fitting which provides for the mounting of a gage and for the support and connection to the tap rod of a cartridge or holder for a supply of gas under pressure. In the releasable connection provided between the discharge nipple of the cartridge and the fitting, novel features are embodied which provide for hermetic sealing of the connection and also for the automatic undersetting of the valve in the discharge nipple of the cartridge. The discharge nipple of the cartridge and the associated parts are protected against breakage or the application of excessive strain by a suitable guard which takes the form of a tubular structure telescoped over the adjacent end of the cartridge, interconnecting with the fitting and straddling the connection and the nipple.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts, which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawing, forming a part of this specification, and in which:

Figure 1 is a view partly in transverse vertical section and partly in side elevation showing a dispenser embodying the present invention;

Figure 2 is a similar view on a reduced scale showing the dispenser in use; and

Figure 3 is a fragmentary sectional view on an enlarged scale showing details of the construction of the connection between the discharge nipple and the fitting.

Referring to the drawing, the numeral 1 designates a tap rod in the form of a metal tube closed at its lower end as at 2 and provided with openings 3 adjacent its closed lower end.

To the upper portion of the tap rod a faucet 3 is provided and preferably embodies substantially the construction shown in my pending application filed January 12, 1934, Serial No. 706,347.

Into the upper end of the tube 1, a fitting 4 is secured. This fitting has an opening 5 extending longitudinally therethrough. The lower end of the opening 5 is connected with the upper end of a gas tube 6 which extends down through the tap rod for a portion of its length and then extends laterally out through the wall of the tap rod as indicated at 7. The upper end of the fitting 4 and the parts associated therewith provides a connection between the fitting and the discharge nipple 8 of a holder or cartridge 9 for carbon dioxide gas. In the structure shown, the fitting 4 has a reduced extension 10 threaded into the lower end of a guard designated at 11. The upper portion of this guard is enlarged as at 12 and telescopes over the lower end of the cartridge 9 to provide a positive connection between the holder 9 and the fitting 4, which positive protective connection is independent of the nipple 8 and of the means associated therewith to provide a hermetic seal. For instance, if the cartridge 9 is struck or pushed forcibly the strain will be taken by the guard 12 and the fitting 4, the nipple 8 being relieved of strain.

In the upper end of the longitudinal opening of the fitting 4 a sealing cup or bushing 15 is threaded and is provided with an annular flange 16, which flange with the cup 15 affords a seat for a sealing disc or washer 17 of rubber. A valve trip 18 has one end secured in the opening of the bushing 15 and projects up through the opening in the disc 17. This valve trip pin has a restricted opening therethrough and the opening is even further restricted at its upper end. The purpose of the pin 18 is to lift the valve 19 provided in the discharge nipple 20 away from its seat 21 and against the action of its spring 22 thereby allowing fluid under pressure to escape from the nipple 8.

From the foregoing, it will be obvious that when the nipple 8 is threaded down into the internally threaded portion 23 of the guard the lower end of the nipple will be brought against the top surface of the sealing disc 17 and pressing the same within the flange 16 and effecting sealing engagement between the sealing disc and flange and pin 18. When the nipple is screwed down sufficiently the pin 18 engages the lower end of the valve 19 and presses it upwardly and away from its seat so that pressure may flow past the valve through the annular space 24 to the interstice between the engaged metal surfaces of the valve 19 and pin 18. These surfaces while engaged are not so constituted or machined as to prevent the pressure from flowing in between

them and then in through the pin 18 down through the opening 5 of the fitting to the gas tube 6. The fitting 4 also has a lateral extension 25 provided with an opening 26 communicating with the opening 5. At the outer end of the extension the opening 26 communicates with oppositely extending transverse openings 27 and 28. A gage 29 has its connecting member 30 threaded into the opening 27. A relief valve 31 is connected to the opening 27, the valve comprising a vented housing 32, a valve 33 normally engaged with the valve seat 34 under the influence of the action of a spring 35 exerted through a follower 36.

The bushing 15 has a depending nipple 40 thereon which receives the open end 41 of a rubber check valve, the rubber check valve being clamped on the nipple by a ferrule 42 and having a longitudinal slit 43 therein designed to permit of passage of the gas under pressure outwardly therethrough but to prevent inward passage of pressure.

While I have shown and described one construction in which the invention may be embodied, it is to be understood that the construction shown has been selected merely for the purpose of illustration or example and that various changes in the size, shape and arrangement of the parts may be made without departing from the spirit of the invention or the scope of the subjoined claims.

The invention claimed is:

1. A dispenser for carbonated beverages comprising a tap rod, a gas holder having a discharge nipple provided with a valve biased to closed position, means for establishing a sealed connection between the discharge nipple and the tap rod including a sealing cup connected to the tap rod, a valve trip pin connected with the sealing cup, a sealing washer within the cup and surrounding the trip pin, said sealing washer being engageable with the discharge nipple with the pin and its cup to establish a sealed connection between the nipple and the pin, and means for providing a mechanical connection between the nipple and the tap rod, said pin unseating the valve in the assembly and having a passage therethrough to provide for communication between the nipple and the tap rod, said means establishing a mechanical connection between the holder and the tap rod, also embracing the body of the holder and straddling the nipple to relieve the nipple and weaker portions of the holder of mechanical strains.

2. A device of the character described comprising a conduit for conveying gas under pressure to a point of use, a container containing a source of supply of gas under pressure, a threaded connection between said container and said conduit and a guard member engaged with the body of the container and connected to the conduit and straddling the threaded connection to protect the parts against breakage.

3. In combination with a container for gas under pressure having one end reduced and provided with a discharge nipple, of a tubular guard telescoped over the body of the container and straddling the nipple to protect the latter and the adjacent parts.

4. A beer dispenser comprising a tap rod, a faucet connected thereto, a gas tube having one end leading out through said tap rod intermediate the ends of the latter, a coupling carried by the upper end of the tap rod and connected to the upper end of the gas tube, a bushing in said coupling, a valve pin carried by said bushing at one end thereof, said bushing having a flanged sheet surrounding said pin, a washer disposed against said seat and within said flange, a container for gas having a valve controlled outlet, said container being interconnected with said coupling and having its outlet engaged with and sealed by said washer and its valve opened by said pin when so interconnected.

5. A beverage dispenser comprising a tap rod, a gas tube extending through said rod, one end of said tube leading laterally through said rod intermediate the ends thereof, a fitting connected to the upper end of said rod and having a passage therethrough and to one end of which said gas tube is connected, a flanged bushing secured in the other end of said opening, a hollow valve pin secured in said bushing and projecting into the flange thereof, a sealing disk within said flange and surrounding said pin, a sleeve connected to said fitting and surrounding said flanged bushing, and a gas holder having a discharge nipple threaded into said sleeve and engageable with said disk to compress the same into sealing engagement therewith and with said pin and bushing, and a valve in said nipple engaged and opened by said pin in the assembly.

6. In combination with a conduit and a gas holder having a threaded nipple adapted to be hermetically coupled to the conduit, a tubular guard member having a portion positively connected to the conduit and a portion telescoped over the body of the gas holder, said tubular member providing a rigid bridge between said conduit and the body of the gas holder to prevent destructive strains being set up in said nipple or in the portion of the gas holder to which it is connected.

7. In combination with a stationary part and a gas holder having a nipple adapted to be hermetically coupled to said stationary part, a rigid guard member having a portion positively secured to the stationary part and having a portion telescopically embracing the body of the gas holder and providing a rigid bridge between the stationary part and the body of the gas holder to prevent the setting up of destructive strains in the nipple or in the portion of the gas holder to which the nipple is connected.

8. In combination with a stationary part and a gas holder having a nipple adapted to be hermetically coupled to said stationary part, a rigid guard member having a sleeve-like portion positively secured to the stationary part and having an enlarged tubular portion telescopically embracing the body of the gas holder and providing a rigid bridge between the stationary part and the body of the gas holder to prevent the setting up of destructive strains in the nipple or in the portion of the gas holder to which the nipple is connected.

9. In combination with a conduit and a gas holder having a threaded nipple adapted to be hermetically coupled to the conduit, of a combined coupling and guard member having an internally threaded sleeve-like portion adapted to threadedly interengage the conduit and also threadedly engaged with said nipple, said guard member having an enlarged tubular portion integral with said sleeve-like portion and telescopically fitted over the body of the gas holder to relieve the nipple and the portion of the gas holder to which the nipple is connected of excessive strains.

10. A beer dispenser comprising a tap rod, a faucet connected thereto, a fitting connected to

the upper end of said rod and having a passage therethrough, a gas tube having one end connected to the lower end of the fitting and extending down through the tap rod and laterally therethrough at a point intermediate the ends thereof, a bushing connected with the other end of said passage and having a nipple extending into said passage, a check valve mounted on said nipple, said bushing having an apertured valve trip pin at its upper end, a washer surrounding said pin and a coupling between the fixture and a source of supply of gas under pressure comprising a tubular member threadedly connected with the fixture and surrounding said washer and valve trip pin and a valved nipple threaded into said tubular member and engageable with said washer to establish a sealed connection, said valve trip pin engaging the valve of said nipple to unseat the same.

11. A beer dispenser comprising a tap rod, a faucet connected thereto, a fitting connected to the upper end of said rod and having a passage therethrough, a gas tube having one end connected to the lower end of the fitting and extending down through the tap rod and laterally therethrough at a point intermediate the ends thereof, a bushing connected with the other end of said passage and having a nipple extending into said passage, a check valve mounted on said nipple, said bushing having an apertured valve trip pin at its upper end, a washer surrounding said pin and a coupling between the fixture and a source of supply of gas under pressure comprising a tubular member threadedly connected with the fixture and surrounding said washer and valve trip pin and a valved nipple threaded into said tubular member and engageable with said washer to establish a sealed connection, said valve trip pin engaging the valve of said nipple to unseat the same, there being an annular metallic member surrounding said washer to maintain the same in place.

OSCAR J. LEINS.

CERTIFICATE OF CORRECTION.

Patent No. 2,017,664. October 15, 1935.

OSCAR J. LEINS.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, second column, line 2, claim 4, for "sheet" read seat; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 19th day of November, A. D. 1935.

Leslie Frazer

(Seal) Acting Commissioner of Patents.