Aug. 4, 1936. P. K. MADAN 2,049,851

DISPENSING DEVICE

Filed Feb. 15, 1936

Fig. 1.

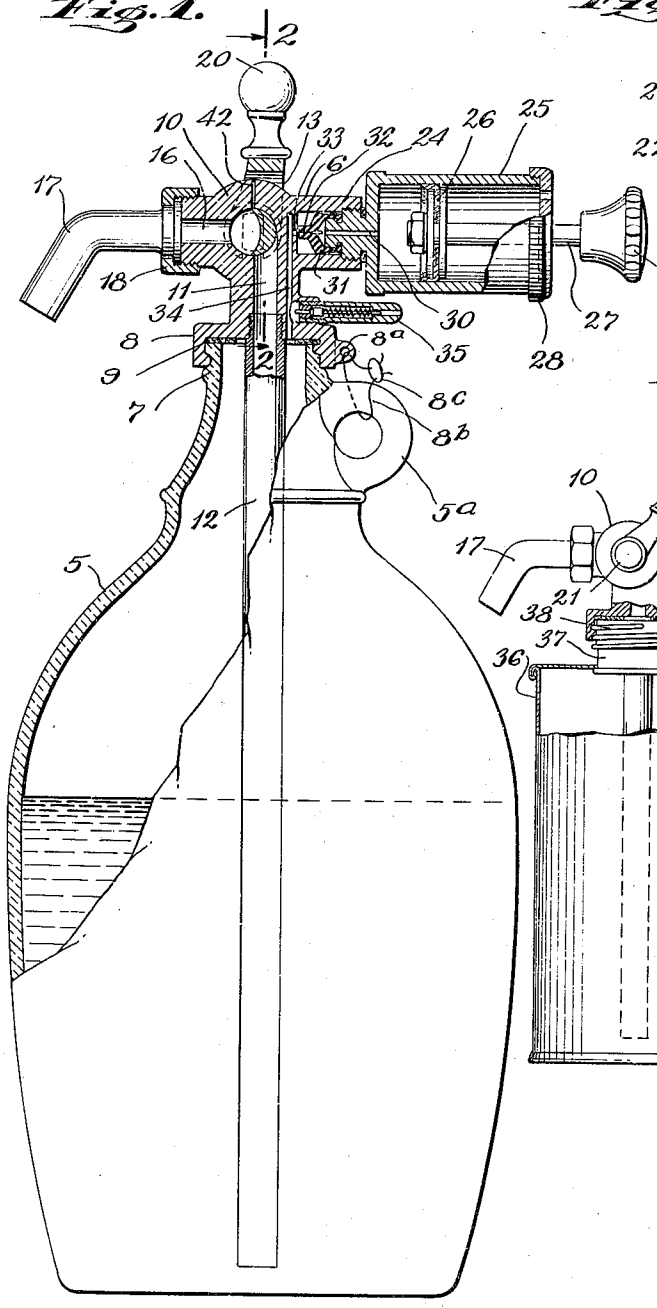


Fig. 2.

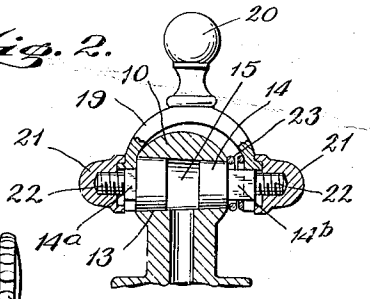
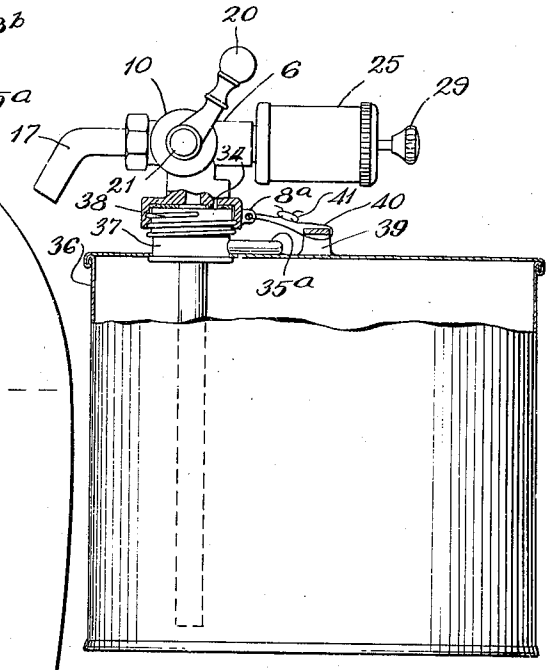


Fig. 3.



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DISPENSING DEVICE

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14 Claims. (Cl. 225—16)

This invention relates to devices for dispensing fluids from various types of containers, and particularly in dispensing beer, malt and other beverages; and the object of the invention is to provide a device of the class described which is detachably mounted in connection with the container and which includes means for placing the fluid of the container under pressure to facilitate the discharge thereof from the container through a valve controlled discharge nozzle constituting part of the device; a further object being to provide a relief valve for relieving excessive pressure in the container in the use thereof or in handling or transportation thereof; a further object being to provide a device of the class described which may be used in connection with a container for a gallon or more of the fluid contents to facilitate the transportation of a beverage and the convenient serving thereof at picnics, outings and the like, or the direct service from the container at various clubs and in fact, at restaurants and other public places as well as in the home; and with these and other objects in view, the invention consists in a device of the class described in the form of a unit attachable and detachable with respect to a suitable container and which is constructed as more fully hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a side and sectional view of one form of container showing one of my improved dispensing devices mounted in connection therewith.

Fig. 2 is a partial section on the line 2—2 of Fig. 1; and,

Fig. 3 is a side and sectional view of another form of container illustrating the dispensing device mounted in connection therewith.

In Fig. 1 of the drawing, I have illustrated at 5 a relatively large container in the form of a jug, demijohn or the like, suitable as a container for a relatively large quantity of a beverage to be served. This container may be used as a container for the beverage in the wholesale or retail sale to the consumer with a conventional closure cap mounted thereon, which cap is removed in attaching the dispensing device 6 therewith.

The upper end of the container 5 is threaded as seen at 7 to receive an internally threaded cap portion 8 on the device 6. A suitable gasket 9 is arranged between the cap 8 and the upper end of the container to effect a seal. The cap 8 constitutes part of a body portion 10 which has a downwardly extending passage 11 which opens into and continues through a long tube 12 extending downwardly into the container 5 as clearly seen in Fig. 1 of the drawing. At one side of the cap 8 is an apertured ear 8a employed to receive a sealing wire 8b which also passes through a handle 5a of the container to retain the dispenser against unauthorized removal. The wire 8b has a lead seal 8c.

The upper end of the passage 11 opens into a transverse bore 13 which is preferably tapered as may be seen upon a consideration of Fig. 2 of the drawing. Mounted in this bore is a tapered valve pin 14 which is cut out centrally as indicated at 15 to form a port placing the passage 11 in communication with the discharge passage 16 which communicates with an opposite discharge nozzle 17 detachably mounted in connection with the body 10 by means of a cap 18. Mounted on the reduced, square or angular ends 14a, 14b of the valve pin 14 is a yoke-shaped member 19 having a centrally and outwardly projecting handle or knob 20 which provides means for manually rotating the valve pin 14 to open and close the valve controlling the discharge of the fluid contents of the container 5 from the nozzle 17. The member 19 is held in place by cup-shaped nuts 21 mounted on the threaded end portions 22 of the valve pin, and it is preferred that a spring 23 be arranged around the end portion 14b between the body 10 and one side portion of the member 19 to tensionally support the valve pin 14 in seated position.

Extending radially from the body 10 is a tubular portion 24 with which is detachably coupled a suitable pressure element or pressure generating element which in the construction shown is in the form of a pump cylinder 25 having a piston or plunger 26 operated by a rod 27 passing through a detachable cap 28 at one end of the cylinder 25 and having at its outer end a handle or operating knob 29. The inner end portion of the cylinder 25 has a small discharge passage 30 which opens into the tubular extension 24 or into a check valve device 31 in the form of a rubber cap having a normally closed discharge slit or opening 32 centrally thereof. The air from the pump cylinder 25 is adapted to be passed through the check valve 31 and then through a port 33 into a ver-

tical passage 34 which extends downwardly and opens through the cap 8 into the container 5 so that the air under pressure is permitted to pass into the container to facilitate the discharge of the fluid therefrom. A pressure relief valve device 35 also communicates with the passage 34 to permit the automatic discharge of excess pressure that may prevail in the container 5 at any time, and this relief valve is especially desirable in the transfer of beverages which have a tendency to build up pressure in transit, due to agitation and varying temperatures. The pressure relief valve device 35 will be regulated to operate at predetermined pressures.

In Fig. 3 of the drawing, I have shown another method of using my improved dispensing device. In this figure, I have shown at 36 a container, one end wall of which is provided with a tubular discharge 37 which is threaded as seen at 38 to receive a closure cap, not shown, and to receive the dispensing device when the cap is removed as is indicated in the drawing. At 39, I have indicated a handle by means of which the can may be carried and in practice, a wire 40 is passed through the apertured ear 8a and around the handle and is provided with a seal 41 to retain the dispensing attachment against unauthorized displacement from the container, especially when the container is sold and delivered with the attachment. Aside from eliminating the pressure element 35 shown in Fig. 1, the dispensing device 6 shown in Fig. 3 is identical with the device shown in Fig. 1, and like references will indicate like parts in the two figures.

With the construction shown in Fig. 3 of the drawing, I preferably arrange the pressure relief valve 35a in the tube 37 and resting upon the top wall of the cam and secured thereto to prevent accidental displacement from the can. The purpose of this construction is to relieve the pressure in a container of relatively light sheet metal or other suitable sheet material which is used as a means for selling the beverage directly to the consumer in relatively large containers of a half gallon, a gallon or more, and at the same time, provide the consumer with a container with which a dispensing device may be attached to facilitate periodical discharge of relatively small quantities of the beverage from the container.

For example, with the construction shown in Fig. 3, beer, malt, and other beverages may be sold through the various retail stores directly to the consumer in a can or other container such as the container 36. The purchaser will remove the closure cap and attach one of the dispensing devices 6 thereon, and the container may be left or stored in an ice box or refrigerator and the beverage discharged from time to time as required. In mentioning "beer", it will also be apparent that this arrangement may also be applied to the sale and dispensing of ginger ale, various kinds and classes of soda water and similar beverages. The beverages may be sold in the same manner with containers such as shown in Figs. 1 and 3 of the drawing, regardless of any particular design or contour thereof, and likewise, may be stored in ice boxes or refrigerators, and the beverages dispensed in the same manner. On the other hand, the entire device may be carried from place to place and served at outings, picnics and the like.

It is also preferred that a vent passage 42 be employed in the body 10, and this passage will be open when the valve 14 is in its fully closed position so as to admit air into the discharge nozzle 17 and passage 16 to permit the discharge of the beverage therefrom. In this connection, it will be understood that the position of the valve shown in Fig. 1 of the drawing indicates the valve as it assumes the closed position, and when fully closed, the handle 20 is swung to the right a greater degree, whereas in opening the valve, the handle 20 is swung to the left.

In the use of the device, the pump or other pressure generating element will be actuated from time to time to provide the required pressure in the container to discharge the beverage therefrom while maintaining the valve 14 in closed position. On the other hand, the valve may be actuated a number of times to fill several glasses with beverage without the necessity of increasing the pressure within the container.

It will be seen that the device is in the form of a unit, the body portion of which includes angularly arranged tubular extensions with which the discharge spout, the pressure medium and the feed tube are respectively coupled, the valve controlling the discharge of material from the container transversing said body forming a simple and compact arrangement of parts.

With my improved device, a means is provided for not only preserving a beverage, but means is also provided for periodically serving beverages in a simple, attractive, efficient and sanitary manner. It is understood that the several parts of my improved dispensing device may be readily detached for cleaning as well as for replacement or renewal of parts whenever desired.

In some instances, it may be desirable to sell to the public the beverage container including the dispensing device, in which case, the device will be sealed to the container in any suitable manner, the purchaser paying one charge covering the cost of the dispenser which would not be recharged in the purchase of an additional container of the beverage, provided that the first container is returned in making the new purchase. In this manner, the manufacturer of the beverage will care for the cleansing of the container and the dispensing device prior to refilling the same. In other words, two distinct methods of sale and use of the device including the container may be practiced.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination with a beverage container having a threaded discharge, of a dispensing device detachably coupled with said container, said device having a threaded cap portion engaging the threaded discharge of the container in coupling said device therewith, said device including an elongated tube projecting into the container, a discharge spout, a valve movably mounted in said device controlling the communication between said tube and spout, another passage independent of said tube adapted to open into the container and outwardly through one side wall of said device, means detachably coupled with said device for introducing a pressure producing medium into said passage and the container to discharge the beverage therefrom when said valve is in open position, said last named means comprising a pump cylinder and a manually actuated plunger in said pump cylinder, the valve of said device comprising a tapered pin filling a tapered bore in said device, and tensional means for supporting said pin in seated position.

2. The combination with a beverage container having a threaded discharge, of a dispensing device detachably coupled with said container, said device having a threaded cap portion engaging the threaded discharge of the container in coupling said device therewith, said device including an elongated tube projecting into the container, a discharge spout, a valve movably mounted in said device controlling the communication between said tube and spout, another passage independent of said tube adapted to open into the container and outwardly through one side wall of said device, means detachably coupled with said device for introducing a pressure producing medium into said passage and the container to discharge the beverage therefrom when said valve is in open position, said last named means comprising a pump cylinder and a manually actuated plunger in said pump cylinder, the valve of said device comprising a tapered pin filling a tapered bore in said device and tensional means for supporting said pin in seated position, and a yoke-shaped handle member coupled with the end portions of said valve pin and by means of which the same is operated.

3. The combination with a beverage container having a threaded discharge, of a dispensing device detachably coupled with said container, said device having a threaded cap portion engaging the threaded discharge of the container in coupling said device therewith, said device including an elongated tube projecting into the container, a discharge spout, a valve movably mounted in said device controlling the communication between said tube and spout, another passage independent of said tube adapted to open into the container and outwardly through one side wall of said device, means detachably coupled with said device for introducing a pressure producing medium into said passage and the container to discharge the beverage therefrom when said valve is in open position, said last named means comprising a pump cylinder and a manually actuated plunger in said pump cylinder, the valve of said device comprising a tapered pin filling a tapered bore in said device and tensional means for supporting said pin in seated position, a yoke-shaped handle member coupled with the end portions of said valve pin and by means of which the same is operated, and a pressure relief valve device in communication with the interior of said container to relieve excessive pressure therein.

4. A dispensing device for containers, said device comprising a substantially T-shaped body, the crosshead of which comprises non-communicating laterally projecting tubular portions, said body having another extension arranged at right angles to said first named extensions and including non-communicating passages, one communicating with one of said first named tubular extensions and the other with the other of said extensions, a valve arranged centrally and transversely of said body and controlling the communication between two of the angularly arranged extensions, a discharge nozzle detachably and adjustably coupled with the tubular extension controlled by said valve, means for introducing a pressure medium into the other of said first named tubular extensions for transmission through the passage communicating therewith, and means on the third mentioned extension for coupling said body to a suitable container into which the passages of said extension open.

5. A dispensing device for containers, said device comprising a substantially T-shaped body, the crosshead of which comprises non-communicating laterally projecting tubular portions, said body having another extension arranged at right angles to said first named extensions and including non-communicating passages, one communicating with one of said first named tubular extensions and the other with the other of said extensions, a valve arranged centrally and transversely of said body and controlling the communication between two of the angularly arranged extensions, a discharge nozzle detachably and adjustably coupled with the tubular extension controlled by said valve, means for introducing a pressure medium into the other of said first named tubular extensions for transmission through the passage communicating therewith, means on the third mentioned extension for coupling said body to a suitable container into which the passages of said extension open, and a check valve for controlling the introduction of the pressure medium into said container.

6. A dispensing device for containers, said device comprising a substantially T-shaped body, the crosshead of which comprises non-communicating laterally projecting tubular portions, said body having another extension arranged at right angles to said first named extensions and including non-communicating passages, one communicating with one of said first named tubular extensions and the other with the other of said extensions, a valve arranged centrally and transversely of said body and controlling the communication between two of the angularly arranged extensions, a discharge nozzle detachably and adjustably coupled with the tubular extension controlled by said valve, means for introducing a pressure medium into the other of said first named tubular extensions for transmission through the passage communicating therewith, means on the third mentioned extension for coupling said body to a suitable container into which the passages of said extension open, a check valve for controlling the introduction of the pressure medium into said container, and means on said body communicating with the last mentioned passage thereof for automatically relieving the excessive pressure prevailing in said passage and the container with which said passage communicated.

7. A dispensing device for containers, said device comprising a substantially T-shaped body, the crosshead of which comprises non-communicating laterally projecting tubular portions, said body having another extension arranged at right angles to said first named extensions and including non-communicating passages, one communicating with one of said first named tubular extensions and the other with the other of said extensions, a valve arranged centrally and transversely of said body and controlling the communication between two of the angularly arranged extensions, a discharge nozzle detachably and adjustably coupled with the tubular extension controlled by said valve, means for introducing a pressure medium into the other of said first named tubular extensions for transmission through the passage communicating therewith, means on the third mentioned extension for coupling said body to a suitable container into which the passages of said extension open, a check valve for controlling the introduction of the pressure medium into said container, means

on said body communicating with the last mentioned passage thereof for automatically relieving excessive pressure prevailing in said passage and the container with which said passage communicates, said first mentioned valve projecting through opposite sides of said body, and a yoke-shaped handle mounted on the protruding ends of said valve for actuating the same.

8. The combination with a container, of a dispensing device, said device comprising a body, a discharge spout detachably secured thereto at one side thereof and a valve transversing said body and controlling the discharge of material from the container through said spout, means detachably mounted on said body for introducing a pressure medium into the container through a passage in said body to discharge the contents of said container therefrom periodically in the operation of said valve, and means on said body and communicating with the interior of the container to which the device is attached for automatically relieving excessive pressure that may prevail in said container.

9. The combination with a container, of a dispensing device, said device comprising a body, a discharge spout detachably secured thereto at one side thereof and a valve transversing said body and controlling the discharge of material from the container through said spout, means detachably mounted on said body for introducing a pressure medium into the container through a passage in said body to discharge the contents of said container therefrom periodically in the operation of said valve, means on said body and communicating with the interior of the container to which the device is attached for automatically relieving excessive pressure that may prevail in said container, and said first named means including a check valve controlling admission of the pressure medium into said device and container.

10. A dispensing device of the class described comprising a unitary body portion having a transverse bore, angularly arranged tubular extensions on said body communicating with said bore, one of said extensions including an integral cap portion, the other extension having a discharge spout detachably coupled therewith, another tubular extension on said body, said body having a passage of relatively small bore communicating with the bore of the last named tubular extension and in non-communicative relation to the bore of said other tubular extensions and opening through the inner surface of said cap, a pressure supply medium detachably coupled with the last named tubular extension, and a manually actuated valve pin seated in the transverse bore of said body and controlling the communication between the first named angular tubular extensions to control the discharge through said discharge spout.

11. A dispensing device of the class described comprising a unitary body portion having a transverse bore, angularly arranged tubular extensions on said body communicating with said bore, one of said extensions including an integral cap portion, the other extension having a discharge spout detachably coupled therewith, another tubular extension on said body, said body having a passage of relatively small bore communicating with the bore of the last named tubular extension and in non-communicative relation to the bore of said other tubular extensions and opening through the inner surface of said cap, a pressure supply medium detachably coupled with the last named tubular extension, a manually actuated valve pin seated in the transverse bore of said body and controlling the communication between the first named angular tubular extensions to control the discharge through said discharge spout, an elongated tube detachably coupled with the first named tubular extension and extending from the inner surface of said cap centrally thereof, and a pressure relief valve coupled with said body and communicating with the small bore passage therein.

12. A dispensing device of the class described comprising a unitary body portion having a transverse bore, angularly arranged tubular extensions on said body communicating with said bore, one of said extensions including an integral cap portion, the other extension having a discharge spout detachably coupled therewith, another tubular extension on said body, said body having a passage of relatively small bore communicating with the bore of the last named tubular extension and in non-communicative relation to the bore of said other tubular extensions and opening through the inner surface of said cap, a pressure supply medium detachably coupled with the last named tubular extension, a manually actuated valve pin seated in the transverse bore of said body and controlling the communication between the first named angular tubular extensions to control the discharge through said discharge spout, an elongated tube detachably coupled with the first named tubular extension and extending from the inner surface of said cap centrally thereof, a pressure relief valve coupled with said body and communicating with the small bore passage therein, said valve pin and transverse bore having interengaging tapered surfaces, and a check valve on said pressure supply medium.

13. The combination with a container having a threaded discharge, of a dispensing unit including means detachably securing same to the container, said unit comprising a unitary body having a transverse valve bore centrally thereof, three tubular extensions extending radially from said bore and arranged at circumferentially spaced intervals with respect to the axis of said bore, one of said extensions including an enlarged internally threaded cap portion forming part of said first named means, another of said extensions having a discharge spout and being in communication with the first named extension through said transverse bore, a rotatable valve in said bore controlling the communication between said extensions, the third of said extensions having means for detachably coupling a pressure supply medium therewith, a pressure medium attached to and carried by said extension, means placing the last named extension in communication with the inner surface of said cap but out of communication with said first named extensions to connect the pressure producing medium to the upper end portion of the container, and a tube detachably coupled with the first named extension and projecting below the lower surface of said cap into the container a predetermined distance.

14. The combination with a container having a threaded discharge, of a dispensing unit including means detachably securing same to the container, said unit comprising a unitary body having a transverse valve bore centrally thereof, three tubular extensions extending radially from said bore and arranged at circumferentially spaced intervals with respect to the axis

of said bore, one of said extensions including an enlarged internally threaded cap portion forming part of said first named means, another of said extensions having a discharge spout and being in communication with the first named extension through said transverse bore, a rotatable valve in said bore controlling the communication between said extensions, the third of said extensions having means for detachably coupling a pressure supply medium therewith, a pressure medium attached to and carried by said extension, means placing the last named extension in communication with the inner surface of said cap but out of communication with said first named extensions to connect the pressure producing medium to the upper end portion of the container, a tube detachably coupled with the first named extension and projecting below the lower surface of said cap into the container a predetermined distance, a check valve controlling the communication of the pressure medium with the last named passage in said container, and a pressure relief valve on said first named tubular extension and communicating with said passage.

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