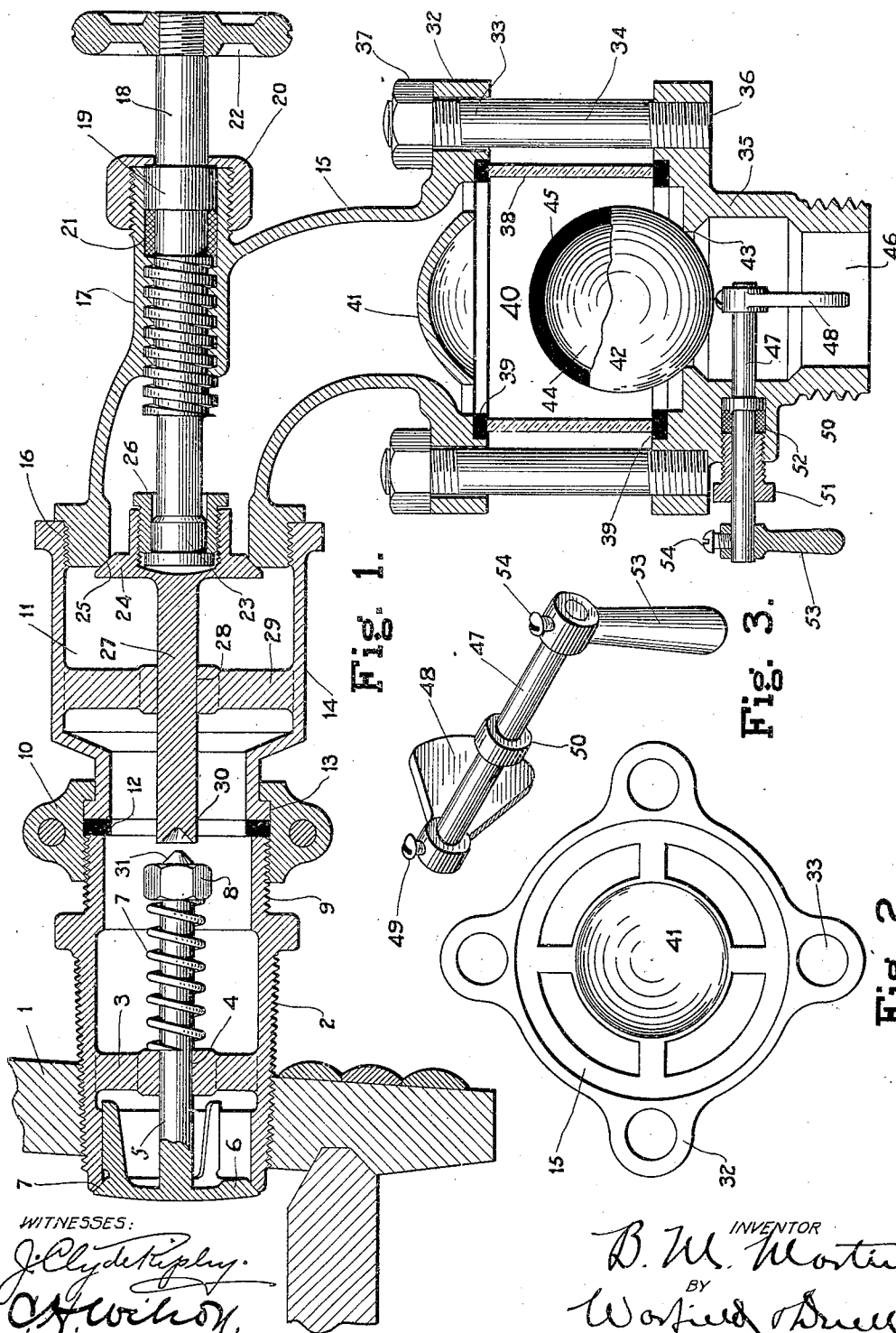


B. M. MARTIN.
DISPENSING APPARATUS.
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Patented Aug. 24, 1909.



WITNESSES:

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DISPENSING APPARATUS.

932,153.

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To all whom it may concern:

Be it known that I, BENAJAH M. MARTIN, residing at Greenwich, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Dispensing Apparatus, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to dispensing apparatus, and more especially to devices employed in racking beer.

It has for one of its objects the provision of means designed to control the flow of beer from a storage tank or cask to another receptacle, in the present instance the filtering apparatus.

Another object is to provide valve mechanism in an apparatus of the above type such that the conducting conduit will be closed automatically in the event of the storage tank or cask becoming empty.

Another object is to provide means for unseating the valve, with the further provision of means adapted to prevent the flow of liquid from reseating the valve when the same is in an open condition.

Another object is a provision of valve mechanism adapted to prevent the flow of liquid out of the conduit when the device is being transferred from an empty cask to a full one.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the apparatus hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing, wherein is illustrated one of the various possible embodiments of my invention,—Figure 1 is a sectional view of the same showing a portion of the cask. Fig. 2 is a bottom plan view of the deflector. Fig. 3 is a view in perspective of a cam device for unseating the valve.

Similar reference characters refer to similar parts throughout the several figures of the drawing.

Preliminary to a description of the specific features of my invention, and in order to render clearer of understanding certain of

the important objects thereof, it may here be noted that in apparatus of this type employed to conduct beer or other liquid from a storage tank or cask to other devices employed in the manufacture of beer, it is of prime necessity that the valve mechanism be closed upon the exhaustion of the liquid-supply to prevent air, which has a deleterious effect upon the beer, from passing therethrough. As is generally the case, one attendant is employed to oversee the operation of several delivery devices, and it is important, therefore, that controlling means be provided such that the valve mechanism will be closed automatically upon the termination of the flow of liquid through the conducting conduit. In accomplishing, among others, the advantageous results above specified, I have found it desirable to provide automatic valve mechanism certain and accurate in operation and yet of such construction that the flow of liquid cannot by any possibility reseal the valve before the supply in the cask is exhausted. I have also found it desirable to provide means to close the conducting conduit when the same is being transferred to a new cask, thereby preventing the escape of beer and the entrance of air therein. The above and other advantages are secured in constructions of the nature of that hereinafter described.

Referring now to the drawings, 1 denotes the storage receptacle herein designated "cask", into which a connection 2 is threadedly secured. By the term "cask", as herein used in the specification and claims, is meant any vessel or receptacle capable of containing and storing a liquid. Connection 2 is provided with a transversely-extending web 3 carrying, by means of a centrally arranged opening 4, a reciprocating valve-stem 5, which is provided with a ground valve 6 adapted normally to rest in a ground seat 7 to close connection 2, valve 6 being maintained in a closed condition by means of a coiled spring 7 encircling valve-stem 5 and extending between web 3 and a nut 8 carried by stem 5. Connection 2 as thus described comprises a permanent fixture which is provided for each cask.

Connection 2 is threaded as at 9, to accommodate a threaded coupling 10 mounted upon conduit 11, coupling 10 being employed to secure conduit 11 to connection 2 and maintain the same in position against

a washer 12 interposed therebetween. Conduit 11 is provided with a shoulder 13 which is engaged by a co-acting shoulder upon coupling 10.

5 Conduit 11 in the present instance comprises two members 14 and 15 threadedly connected, as at 16, member 15 being in the present instance turned so that the lower end thereof is at right angles to member 14.
10 Member 15, as shown, is in a vertical position and carries at the lower end thereof the automatic valve mechanism hereinafter to be described.

Threaded through an extension 17 of conduit 11 is a valve-stem 18 provided with a loose collar 19 coöperating, by means of cap 20 threaded upon extension 17, with a gland 21, cap 20 being capable of adjustment on extension 17 to regulate the pressure of collar 19 upon the gland. Valve-stem 18 is
20 provided at its outer end with an operating handle 22, and at its opposite end with a head 23, upon which is loosely mounted valve 24 adapted normally to rest upon seat 25, and which is held in position upon stem 18 by means of bushing 26 threadedly mounted in valve 24. Projecting from valve 24 and integrally mounted thereon is a stem 27 extending through a guide opening 28
30 in a web 29 arranged transversely of conduit 11, said stem extending into proximity with the end of stem 5 and being hollowed out at 30 to receive the end of stem 5, which is preferably pointed, as at 31.

35 Member 15 of conduit 11 is provided with flanges 32, having apertures 33 to accommodate suspending bolts 34 extending there-through and supporting valve-seat member 35 by means of screw-threaded connections
40 36. Nuts 37 threaded on bolts 34 are capable of being manipulated to cause said bolts to draw valve-seat member 35 against a translucent tube 38, in the present instance of glass, interposed in the conduit between washers 39, said tube forming a valve-chamber 40. Arranged in member 15 of conduit 11 and connected thereto by integral spiders is a dome-shaped deflector 41, the function of which is to divert the flow of liquid
50 through the conduit about valve 42 resting normally upon valve-seat 43.

In order that valve 42 may rise automatically upon the entrance of liquid into valve-chamber 40, the core 44 of the same is constructed of a buoyant material, in the present instance cork; and to insure a tight seal upon valve-seat 43, core 44 is provided with an inclosing shell 45, preferably of rubber.

Extending transversely through a depending delivery connection 46 of valve-seat member 35 is a stem 47, upon which is mounted a cam 48, said cam being mounted adjustably thereon and maintained in adjustment by means of set-screw 49. Stem
65 47 is provided with an integral collar 50

between which and a bushing 51 threaded into valve-seat member 35 a gland 52 is provided, said stem being also provided with an operating handle 53 fixed thereon by means of set-screw 54. Delivery connection 46 is designed to be connected by a flexible hose with the filtering devices or other apparatus not herein shown, as the same comprises no essential part of my present invention.

Having thus described my invention, the operation thereof, which should be to a large extent obvious, is substantially as follows: Having attached conduit 11 to connection 2 by means of coupling 10, the device is ready for operation. Valve 24 being forced from its seat by means of stem 18 operated by handle 22 causes stem 27 to engage stem 5 to carry valve 6 from seat 7, allowing liquid to flow from cask 1 through conduit 11 to enter valve-chamber 40. Deflector 41 diverts the liquid so that the same flows about the sides of valve 42, causing the valve by its buoyancy to rise from valve-seat 43 and allowing the liquid to flow out of the conduit to the filtering apparatus or other receptacle. Should valve 42 by adhesion, suction, or other cause be held fast upon seat 43, cam 48 may be manipulated by stem 47 to unseat the same. At this point it may be noted that valve 42, by reason of its buoyant properties, will, when valve-chamber 40 is filled with liquid, be lifted into the dome of deflector 41, so that the flow of liquid will not tend to force the same to its seat. When the supply of liquid in cask 1 becomes exhausted, the fall of the level thereof in chamber 40 will allow valve 42 to fall by gravity to its seat, providing a tight seat and preventing the entrance of air to the filtering apparatus. In detaching the device from an empty cask for the purpose of connecting it to a full one, valve 24 may be closed by means of handle 22, which operation will allow spring 7 to force the valve 6 to seat 7. The position of valve 42 may at all times be observed through the translucent casing constituting its valve-chamber.

It will, accordingly, be seen that I have provided apparatus well adapted to achieve the objects of my invention characterized by increased simplicity and efficiency. The provision of the automatically operated valve coupled with the translucent valve-chamber renders it possible for one attendant to observe and operate a battery comprising a plurality of similar devices. The deflector prevents the flow of liquid from forcing the buoyant valve to its seat before the flow of liquid in the cask is exhausted and said valve, being constructed of a relatively rigid material, will not be distorted or sucked into the discharge opening.

While I have shown and described my invention in the above relation, it is obvious

that I am not limited to this nor to any other specific employment, as the same is capable of use in a variety of other relations.

As many changes could be made in the above construction and many apparently widely different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense. I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein-described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

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

1. The combination with a cask, of a delivery conduit therefor, a valve seat, a buoyant valve resting thereon adapted automatically to be opened by a flow of liquid through said delivery conduit, and means for positively preventing the flow of liquid through said conduit from reseating said valve.

2. The combination with a cask, of a delivery conduit therefor, a valve seat, a buoyant valve resting thereon adapted automatically to be opened by a flow of liquid through said delivery conduit, and means co-acting with said valve when in its open position for preventing the flow of liquid through said conduit from reseating said valve.

3. In combination, a cask, a delivery conduit for said cask, a valve seat located in said conduit, a buoyant valve resting thereon adapted to be opened by the flow of the liquid through said conduit, means for unseating said valve, and means for deflecting the flow of liquid about the same.

4. In combination, a cask, a delivery conduit for said cask, a valve seat located in said conduit, a buoyant valve resting upon said seat adapted to be opened by the flow of liquid through said conduit, means for unseating said valve, and means for preventing the liquid flowing through said conduit from reseating said valve.

5. In combination, a cask, a delivery conduit for said cask, a valve seat within said conduit, a buoyant valve resting thereon adapted to be raised by the liquid flowing through said conduit, means for unseating said valve, and means for limiting the upward movement of said valve, and for deflecting the flow of liquid about the same when in its raised position.

6. The combination with a cask, of a delivery conduit therefor, a valve seat, a buoyant valve resting thereon adapted automatic-

ally to be opened by a flow of liquid through said delivery conduit, and means for deflecting the flow of liquid about said valve.

7. The combination with a cask, of a delivery conduit leading therefrom, a translucent valve chamber forming a portion of said conduit, said valve chamber being provided with a valve seat, a buoyant valve resting upon said seat, and a deflector interposed in the avenue of flow of liquid through said conduit adapted to deflect the flow of liquid about said buoyant valve.

8. In combination with a cask, a conduit leading therefrom, said conduit being provided with a valve seat, a buoyant valve resting upon said seat adapted automatically to be opened upon the passage of liquid through said conduit, and deflecting means for preventing the reseating of said valve by the flow of liquid through said conduit.

9. In combination with a cask, a conduit provided with entrance and delivery connections leading therefrom, a valve seat within said conduit, a buoyant valve adapted to rest thereon, said valve being adapted to open communication between said cask and the delivery connection of said conduit when liquid is admitted into said conduit and to close communication between said cask and said delivery connection when the flow of liquid through said conduit terminates, and deflecting means for preventing the flow of liquid through said conduit from forcing said valve against its seat.

10. The combination with a cask, of a conduit provided with entrance and delivery connections leading therefrom, a valve seat within said conduit, a buoyant valve adapted to rest thereon and control the communication between the cask and the delivery connection, a deflector arranged above said valve adapted to divert the flow of liquid about the same, and means adapted to unseat said valve.

11. The combination with a cask, of a conduit provided with entrance and delivery connections leading therefrom, a translucent valve chamber interposed in the flow of liquid through said conduit, a valve seat, a buoyant valve located in said valve chamber adapted to rest upon said valve seat and control the communication between the cask and the delivery connection, a deflector arranged above said valve chamber providing passageways for the liquid about the edges thereof, and a cam adapted to unseat said valve.

12. The combination with a cask, of a conduit provided with entrance and delivery connections leading from said cask, a valve seat in said conduit, a valve resting upon said seat, a cam for unseating said valve, and means for preventing the flow of liquid from coming directly into contact with said valve but directing the flow of the same about said valve so that the same by its buoyancy will

be unseated to allow the flow of liquid through said conduit, said valve being adapted by gravity to be re-seated to prevent the passage of air into said delivery connection upon the termination of flow of liquid through said conduit.

13. In combination, a conduit leading from a source of liquid supply, a valve seat in said conduit, a valve comprised by a core of cork incased by a rubber shell adapted to rest upon said valve seat, a deflector arranged within said conduit above said valve seat, and a cam adapted to unseat said valve.

14. In combination with a conduit, a valve for controlling the flow of liquid into said

conduit, a valve located in said conduit, means interposed between said valves whereby the operation of the first-mentioned valve will be determined by the operation of the second thereof, a second valve located in said conduit adapted to be opened by the liquid flowing through said conduit, and means within said conduit for deflecting the flow of liquid about said last-mentioned valve.

In testimony whereof I affix my signature, in the presence of two witnesses.

BENAJAH M. MARTIN.

Witnesses:

C. H. WILSON,

J. CLYDE RIPLEY.