

June 26, 1923.

J. MOHN

1,460,209

BEVERAGE DISPENSING APPARATUS

Filed Nov. 7, 1921

2 Sheets-Sheet 1

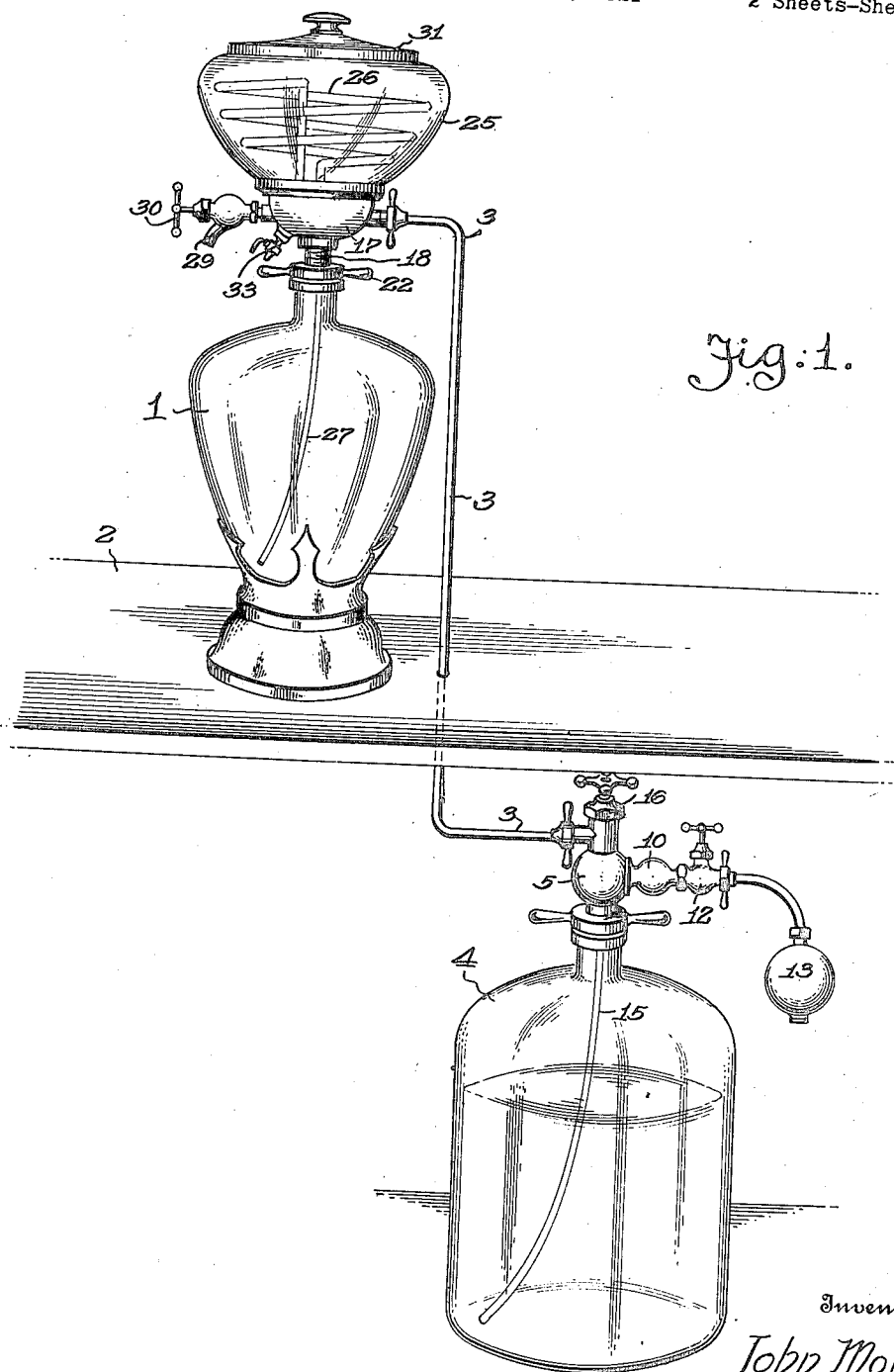


Fig. 1.

Inventor

John Mohn,

By

Barthelme & Co.

Attorneys

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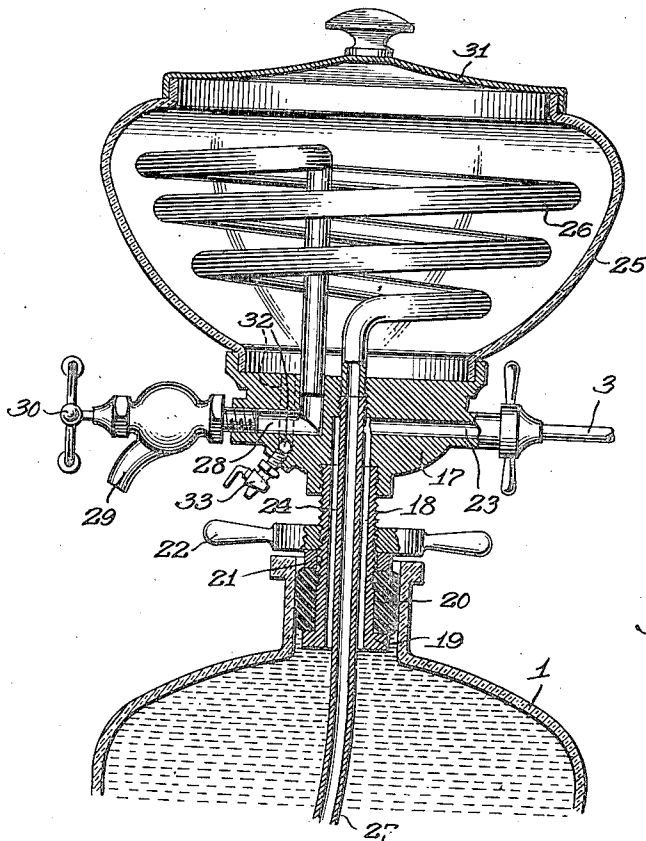


Fig. 2.

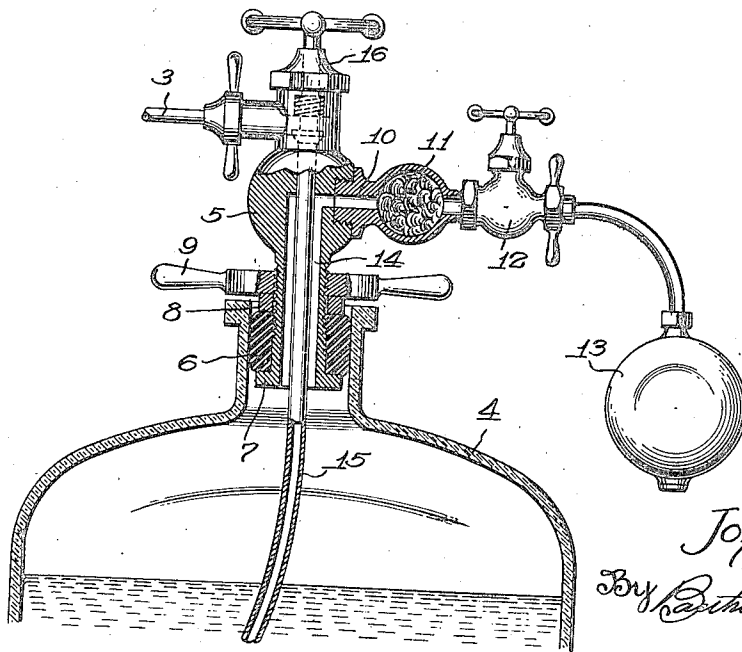


Fig. 3.

Inventor

John Mohn,

By *Richard D. Smith*
Attorneys

UNITED STATES PATENT OFFICE.

JOHN MOHN, OF DETROIT, MICHIGAN.

BEVERAGE-DISPENSING APPARATUS.

Application filed November 7, 1921. Serial No. 513,294.

To all whom it may concern:

Be it known that I, JOHN MOHN, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Beverage-Dispensing Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to an apparatus for dispensing beverages, in which the liquid is displayed in a manner to render it attractive to the public.

It has for its object the provision of means whereby the receptacle in which the liquid is displayed may be kept at substantially a constant level, even though considerable quantities are withdrawn.

A further object of the invention is to provide means whereby the liquid may be cooled immediately adjacent to the point of delivery.

Further objects of the invention will appear as the description proceeds, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a preferred form of the invention:

Fig. 2 is a vertical section of the upper portion of the display apparatus shown in Fig. 1, and

Fig. 3 is a vertical section through the upper portion of the lower storage tank shown in Fig. 1.

It has become common practice to display certain beverages, such as lemonade and especially orangeade and other colored drinks in various styles of glass containers set upon the counter. There is a distinct advertising value in the sight of the drink, but in the ordinary form of container, as the beverage is withdrawn, the container is no longer filled with liquid and there is an inevitable suggestion of staleness, the fact that the container is no longer filled conveying the suggestion that the beverage has been prepared for a considerable time and that it is therefore no longer fresh.

In the present device, an attractive transparent container is set upon the counter and connected by a delivery pipe with a main supply or storage tank which may be beneath the counter or in the basement.

Upon the upper portion of the display receptacle is mounted a cooling tank in which ice is placed in contact with a coil

through which the liquid passes on its way to the delivery faucet. An air pump is used to compress the air in the upper part of the storage chamber and this compressed air causes the beverage to flow from the storage tank through the supply pipe into the secondary supply tank or display receptacle upon the counter.

Whenever beverage is withdrawn from the delivery faucet, an equal quantity of the beverage is forced from the storage tank into the display receptacle. In this manner, the liquid remains at a substantially constant level, thus conveying the impression to the public that the receptacle has just been filled with a fresh liquid. So long as any beverage remains in the storage tank, the display tank will be filled and the customers will not receive the suggestion that the beverage being dispensed is the dregs of a liquid prepared long before.

In Fig. 1, the display container 1 rests upon the counter 2 and is connected by the supply pipe 3 with a storage or main supply tank 4 shown as beneath the counter.

The storage tank 4 is provided with a closure comprising a body 5 upon the lower portion of which is mounted a rubber sleeve 6, the lower end of which rests upon a flange 7 and the upper end of which receives a washer 8 against which a handled nut 9 may be forced to expand the rubber sleeve within the neck of the storage tank to form a tight closure. Secured to one side of the body 5 is a filter chamber 10 adapted to receive cotton or similar fiber 11 adapted to act as a filter for air introduced through the valve 12 by means of a compression pump 13 or other suitable form of air pump. The body 5 has a central perforation 14 communicating with the filter chamber 10 and arranged centrally of the perforation 14 is a delivery tube 15 which extends to the bottom of the tank 4. A valve 16 at the lower end of the delivery pipe 3 controls the flow of liquid from the tube 15 into the pipe 3 and this valve 16 will be closed when it is necessary to refill the storage tank or substitute another therefor. In the absence of the valve 16, the tube 3 would act as a siphon to withdraw the liquid from the display tank 1.

Upon the display or secondary supply tank 1 is mounted a head 17 in the bottom of which is secured a threaded connection 18, having a flange 19 at its lower end to form an abutment for the lower end of a rubber

sleeve 20. A washer 21 rests upon the upper end of the sleeve 20 and is engaged by a handled nut 22 engaging the threaded connection 18 and acting to compress the sleeve 20 to form a tight closure for the neck of the display tank 1. Within the head 17 is a passage 23 communicating at its outer end with the delivery pipe 3 and at its inner end with a passage 24 formed within the threaded connection 18.

Mounted within the upper end of the head 17 is a refrigerator chamber 25 within which is mounted a spiral coil 26, one end of which is in communication with a delivery tube 27 which extends to the bottom of the display tank 1. The other end of the coil is in communication with an outlet passage 28 in the head 17, the outer end of the passage 28 receiving the dispensing faucet 29 controlled by the gas tight valve 30. The refrigerator chamber 25 has a lid 31 and the lower end of the chamber has a drainage passage 32 controlled by a petcock 33.

Ice will be placed in the refrigerator chamber 25 about the coil 26 so that the liquid immediately adjacent to the dispensing faucet 29 will be cold and the remaining liquid withdrawn from the display tank will pass through a slender tube completely surrounded by an ice cold liquid, so that by the time it has reached the outlet, it will have lost the greater part of its heat.

The dispensing faucet 29 has a valve 30 forming a gas tight closure and the valve 12 also forms a gas tight closure. The sleeves 6 and 20 when compressed within the necks of the respective containers also prevent the entrance of air or escape of gas.

After a receptacle containing a carbonated beverage is opened and a part of the contents has been withdrawn, the remainder of the beverage is likely to become "flat" unless the closure is kept absolutely tight and unless a sufficient pressure is maintained upon the liquid to prevent the escape of the carbon dioxide from solution. By the provision of gas tight closures as in the present device, the liquid may be kept sparkling. Other beverages prepared with fruit juices, as for example grape juice, which beverages are usually not carbonated, will deteriorate if kept in a container to which air has access. For this reason, large containers have hitherto not been in common use for grape juice. By the use of my device which maintains an air tight seal, grape juice may be kept without loss of quality for extended periods after the first portion has been withdrawn, and the use of large containers is therefore practicable.

By placing the refrigerator chamber immediately adjacent to the dispensing faucet,

a beverage is cooled down only as it is ready to be dispensed so that the minimum quantity of refrigerant is required and furthermore the temperature of the beverage is lowered only at the outlet end of the system instead of being first lowered and then raised as in some other forms of apparatus. With some beverages, this alteration of temperatures should be avoided.

It will be apparent that there is thus provided a device possessing the particular features of advantage before enumerated, but which obviously is susceptible of modification in its form, proportion, details of construction and arrangement of parts without departure from the principle involved or sacrificing any of its advantages.

The invention is therefore claimed in any of its forms or modifications within the legitimate and valid scope of the appended claims.

I claim:

1. A dispensing device for beverages, comprising a receptacle having a transparent portion adapted to display a beverage contained therein, means for withdrawing beverage from the receptacle, including a dispensing faucet, and means for automatically supplying additional beverage to the display receptacle so as to maintain the liquid therein at a substantially uniform level, a refrigerator chamber and a conduit leading from the receptacle through the refrigerator chamber to the dispensing faucet, whereby the temperature of the liquid is lowered only in that portion of the apparatus immediately adjacent to the point of withdrawal.

2. A dispensing apparatus for beverages comprising a main supply tank, a secondary supply tank in communication therewith, and having a portion thereof transparent to display a beverage contained therein, a refrigerator chamber, a dispensing faucet, a conduit leading from the secondary supply tank through the refrigerator chamber to the dispensing faucet, and a pump to force air or other gas into the main supply tank, whereby when liquid is withdrawn from the dispensing faucet, a fresh supply of liquid will be forced from the main supply tank into the display tank to maintain the beverage at substantially the same level therein, and whereby the temperature of the beverage will be lowered only at a point adjacent to the dispensing faucet.

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

JOHN MOHN.

Witnesses:

OTTO F. BARTHEL,
ANNA M. DORR.