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G. E. MITTINGER, JR.

METHOD OF CLEANSING PIPES.

(Application filed Dec. 10, 1900. Renewed Nov. 2, 1901.)

(No Model.)

Fig. 1.

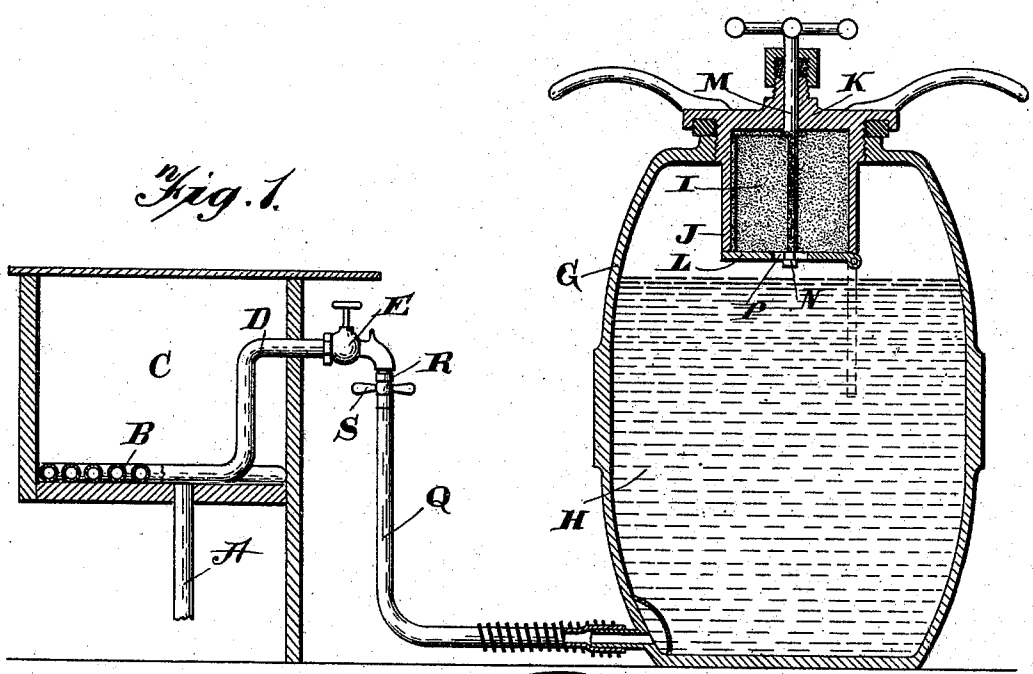


Fig. 2.

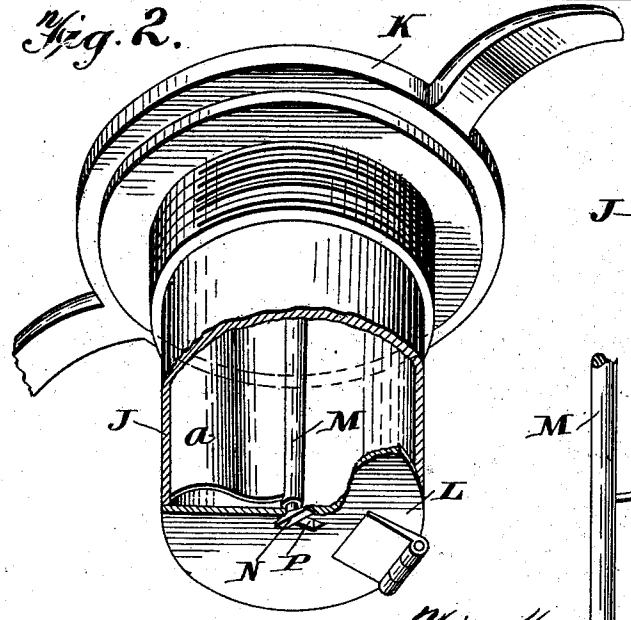


Fig. 3.

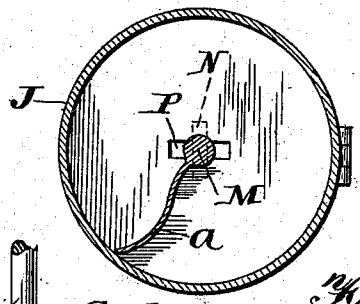


Fig. 4.

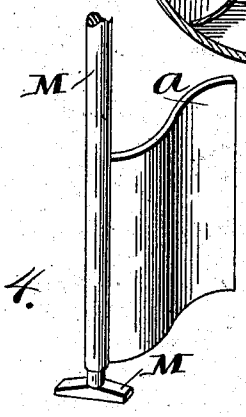
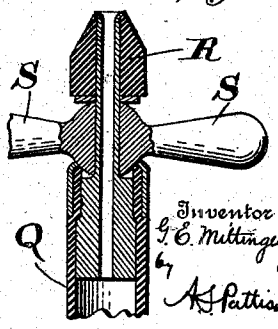


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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METHOD OF CLEANSING PIPES.

SPECIFICATION forming part of Letters Patent No. 695,323, dated March 11, 1902.

Application filed December 10, 1900. Renewed November 2, 1901. Serial No. 80,914. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE E. MITTINGER, Jr., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Methods of Cleansing Pipes, of which the following is a specification.

My invention relates to improvements in the method of cleansing pipes, and is especially intended for use in the cleaning and sweetening of beer-pipes in saloons.

In the accompanying drawings, Figure 1 shows a convenient form of apparatus for carrying out my method and showing the manner of putting it into practice. Fig. 2 is a detached perspective sectional view of the cover for the apparatus. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 is a detached perspective view of the rotatable rod. Fig. 5 is a detached longitudinal sectional view of the nozzle at the outer end of the hose which is connected with the apparatus.

In modern saloons the beer-barrels are located in the cellar and the beer is forced from these barrels through suitable pipes to the saloon above through the medium of an air pressure within the barrel which contains the beer.

In Fig. 1, A indicates the upper portion of a metal pipe which extends through the floor of the saloon to the cellar below and has its lower end suitably connected by detachable connections with the beer-barrel located there. The upper portion of this pipe is formed into a coil B, which is located within an ice-pit C, and the extremities D of the pipe extend outward to the rear side of the counter of the bar and contains a suitable faucet E, through which the beer is drawn. The beer in its passage through the said pipe is cooled when delivered through the faucet.

In practice it is found that sour beer collects upon the inner side of the pipe A and coil B and which must be removed or fresh beer delivered therethrough is injuriously affected. In order to prevent this undesirable and unsanitary condition of the pipe and coil through which the beer passes, it is necessary to frequently clean the said pipe. Great difficulty and annoyance are experienced by saloon-keepers in endeavoring to keep this pipe and coil sweet and clean. The means now used for this purpose is to pass steam through this pipe and coil after the lower end thereof has been disconnected from the beer barrel or keg, as the case may be. In cities there are persons engaged solely in this work by carrying around with them a portable steam apparatus which is connected with the faucet E and steam forced through the coil and pipe for the purpose of cleansing it. The lower end of the pipe A is connected with the keg or barrel in the cellar through the medium of a short rubber hose, which requires gaskets to make tight connection. It is found that steam is not effective for the purpose of cleansing the pipe. In the first place the heat bakes the sour beer within the pipe causing it to adhere more tenaciously, than before the application of steam thereto. This method of cleansing the pipes in addition to non-effectively doing so, for the reason that the steam does not have a cutting capacity in its passage through the pipe, it has many disadvantageous and undesirable results. Among these may be mentioned that the heating of the pipe and the coil causes a great waste of the ice within the ice-pit. It causes an injurious effect upon the rubber hose at the lower end of the pipe A and also upon the rubber or leather gaskets necessary to make the tight connections and requiring frequently the replacing of these rubber members, and, thirdly, it is found that after the application of this method to the pipe and coil there remains a baked disagreeable odor within the pipe. Owing to the nature of beer, this disagreeable baked odor is instantly absorbed by the beer passing through the pipe, and it is necessary to draw quite a considerable amount of beer through the pipe before a good natural draft is obtained, thus involving a considerable waste of beer. This modern method of taking the beer from the cellar, which has just been referred to, has many advantages and conveniences; but it is found to be a very difficult matter to keep the pipes and coils perfectly sweet and clean and to thus be enabled to deliver to the customer a good natural draft of beer which has not been previously tainted by its passage through the pipe and coil.

So far as I am aware there has not been any method devised by which the beer pipes and coils in saloons can be effectively and conveniently cleansed and sweetened.

It is the object of my present invention to provide a method whereby the saloon-keepers can in a very few minutes not only perfectly cleanse and sweeten his pipe and coil, but in a manner which does not involve any waste of beer or any waste of ice and in a manner which is many times cheaper than the method which is now used.

I have found that by inclosing a suitable quantity of water in which bicarbonate of soda has been dissolved, thus producing a bicarbonate-of-soda solution, and to then supply a suitable charge of bisulfate of soda to the bicarbonate-of-soda solution within the closed vessel, a gas is formed, creating instantly a great pressure within the closed vessel, which then forces the compound, which is the result of the mixture of bicarbonate of soda and bisulfate of soda in water, through the beer pipes and coils to which the closed vessel is connected through the medium of a suitable hose. The resulting compound is thus carried with great force through the pipe and the coil, and in addition to this great force the resultant compound has a cutting effect, owing to its chemical combination, in its passage through the pipe and coil, and I have discovered that this particular compound absolutely removes all of the sour beer and other foreign matter which collects upon the inner side of the pipe and coil and in addition serves to sweeten the pipe and coil. After the pipe and coil has been cleaned with this solution in the manner just described, there is no disagreeable odor left within the pipe and the beer which is then drawn through the pipe and coil is instantly ready to be served to a customer. The solution which is the result of the combination of the bicarbonate of soda, bisulfate of soda, and water is absolutely healthy, and the solution can be taken inwardly without any injurious effect.

The apparatus here shown for carrying out this method consists of a suitable small closed vessel G, in which is placed a suitable quantity of water H. This water H has stirred into it a suitable quantity of bicarbonate of soda, and a charge of bisulfate of soda is placed within a box or receptacle J, which is connected with the screw-cover K. The lower end of this box or receptacle J is closed by means of a hinged bottom L, and this hinged bottom L is held in its closed position through the medium of the lower end of a rotatable rod M, which has on its lower end a button N, which is adapted to pass through a suitably-shaped opening P and when turned transverse the said opening to lock the bottom closed. By turning the rod M to bring the button N in line with the slot or opening P the hinged bottom will drop, as shown in dotted lines, Fig. 1, and deliver the charge of bisulfate of soda to the solution H within the closed vessel. Immediately a gas is formed within this closed chamber, and the liquid or solution which is the resultant product of the bisulfate of soda, bicarbonate of soda, and water is forced through a suitable hose Q, carrying at its outer end a suitable rubber nozzle R, which is adapted to be placed in the end of the faucet, as shown in Fig. 1, and to be held there by the hands of the operator through the medium of a swivel crosshead S. The gas which is formed within the receptacle then forces the liquid with great rapidity through the coil and pipe, and, in addition to the force given to the liquid, the liquid or solution has, as before stated, a cutting effect which is found to absolutely remove all of the sour beer and foreign matter on the inner side of the pipe and coil and to leave the pipe and coil perfectly sweet and clean. When the beer is drawn through the pipe after being cleansed with this method, a sparkling draft is the result of the first glass drawn therefrom.

By means of this method the saloon-keeper can in a few minutes cleanse his pipes and coils and is thus relieved of a great difficulty and annoyance, which is now found to exist in the use of the modern manner of forcing the beer from the cellar below through a pipe and coil to the saloon above.

It is found that the bisulfate of soda which is contained within the receptacle or box J sometimes has a tendency to cling to the sides of the box. In order to remove absolutely all of this compound from the box J, the rotatable rod M is provided with a wing *a*, which fits closely against the side of the box, as clearly shown in Fig. 3, so that when the rod is turned slowly to unlock the bottom L to permit it to drop a continued rotation of the rod will remove absolutely all of the compound in the box and cause it to be deposited within the solution below. In this way the same movement or operation which unlocks the bottom to deposit the charge of bisulfate of soda also serves as a means to remove all of the compound from the box or receptacle.

The chemicals here used in this improved method are exceedingly cheap, and for a few cents the pipes and coils of a saloon can be absolutely cleansed and sweetened, which is a great saving over the cost of the use of steam, and it effects a still further saving in that there is no loss of ice, (for the solution is forced through the pipe cold,) and there is no loss of beer when it is being drawn through the cleansed pipe, which is true when steam is being used.

While I have described this method as especially intended for and adapted to cleaning of beer-pipes in saloons, it is also useful in cleaning the pipes of houses which are connected with sewers. For instance, by the use of additional stoppers of a proper size to receive the nozzle of the hose of the apparatus here described to carry out my method

my method can be used in connection with washstands, sinks, and other places where it is desirable to have the pipes clean and sweet.

Wherever my method is used for cleaning pipes, the pipes are left in an absolutely clean and sanitary condition, which is not, so far as I am aware, the result of any method which is capable of individual use.

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

1. The method of cleansing and sweetening pipes, consisting in providing a solution of bicarbonate of soda and water within a closed vessel, subjecting said solution to a charge of bisulfate of soda and creating a cleansing and sweetening solution and charging the closed vessel with a gaseous pressure, and finally forcing the said solution from the closed vessel through a pipe by said created gaseous pressure.

2. The method of cleansing and sweetening pipes, consisting in providing a solution of bicarbonate of soda and water and a separate charge of bisulfate of soda in a closed vessel, suddenly subjecting the said solution to said charge creating a sweetening solution and a gaseous pressure in said vessel, then forcing said solution from the vessel through the pipe to cleanse and sweeten it by said created gaseous pressure.

3. The method of cleansing and sweetening pipes consisting in providing a solution of bicarbonate of soda and water and a separate charge of powdered bisulfate of soda within a closed vessel, subjecting said solution to said powdered charge creating a cleansing and sweetening solution and a gaseous pressure in the said vessel, then forcing the said solution from the vessel through a pipe for cleansing and sweetening it by the said gaseous pressure.

4. The method of cleansing and sweetening pipes consisting in providing a solution within a closed vessel, subjecting the solution to a chemical charge which produces a cleansing and sweetening solution and creates a gaseous pressure within the closed vessel, and finally forcing the said solution from the vessel through a pipe by the gaseous pressure created thereby within the said closed vessel.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE E. MITTINGER, JR.

Witnesses:
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GEO. E. FRECH.