

UNITED STATES PATENT OFFICE.

EDWARD DEFOREST CASE, OF FLINT, MICHIGAN.

PIPE-CLEANING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 709,302, dated September 16, 1902.

Application filed November 7, 1901. Serial No. 81,374. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DEFOREST CASE, a citizen of the United States, and a resident of Flint, in the county of Genesee and State of Michigan, have invented a new and Improved Pipe-Cleaning Apparatus, of which the following is a full, clear, and exact description.

This invention relates to improvements in means for cleaning beer-distributing pipes or the like; and the object is to provide a device for this purpose by means of which the cleaning solution may be at all times ready for instant use and in which the solution is forced through the pipe or pipes by its own pressure, thus obviating the use of pumps, heating devices, or water-pressure.

I will describe a pipe-cleaning apparatus embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both figures.

Figure 1 is a partial elevation and partial section showing a distributing system with a cleaning apparatus embodying my invention applied thereto, and Fig. 2 is a detail showing one of a number of valves employed.

It may be here stated that the beer-distributing system illustrated is similar to that shown in my Patent No. 593,080, dated November 2, 1897; but it is to be understood that my present invention may be used in connection with any other system of pipe or pipes.

Referring first to the distributing system, 1 designates an ice-chest designed to be located at a convenient place underneath a bar, and extended downward from this ice-chest and communicating with its interior is a water-chamber 2. This water-chamber will extend through the floor and down into the cooling-room to a point a short distance above the several barrels or kegs. Extended from the ice-chest 1 and through the water-chamber 2 is a series of pipes 3, 4, 5, 6, and 7. The pipes are shown, respectively, in connection with barrels 8, 9, 10, 11, and 12. The upper ends of the pipes are provided with discharge-faucets 13, and below these discharge-faucets the several pipes are connected one with another by transverse pipes 14, each having a

valve 15. At a point below the water-chamber 2 the several pipes are connected one with another by transverse pipes 16, each having a valve 17, and below the pipe 16 each distributing-pipe is provided with a valve 18. Each valve 17 and 18 has a cord or wire 19 extended from the crank-arm on its spindle upward to a point underneath the bar. The upper ends of said cords or wires are connected to suitable turning devices 20, mounted on a keyboard 21. The several cords or wires 19 are guided over rollers 22 and 23.

Referring now to my present invention, 24 indicates a tank for containing a cleaning medium in solution, such, for instance, as a solution of potash or the like. This tank is raised a suitable distance above the outlets of the distributing-pipes to cause the cleaning solution to pass into and fill the several distributing-pipes under the pressure of the solution, as it will be seen that the tank has a pipe connection 25 with the pipe or pipes 16, connecting the lower ends of the several distributing-pipes. This pipe 25 is provided with a valve 26 near its lower end, from which a cord or wire 27 extends to a turning device on the board 21. Also communicating with the pipe or pipes 16 is a water-pipe 28, leading from any suitable source of supply and having a valve 29, from the arm on the stem of which a cord or wire 30 extends to a turning device on the keyboard.

The several valves 17, 18, 26, and 29 are provided with devices for moving them to a closed position upon releasing the cords or wires. As shown in Fig. 2, these closing devices consist of a spring 31, secured at one end to the valve-stem and at the other end to the casing of the valve.

As before stated, the tank 24 is to be kept filled or partly filled with the cleaning solution, so as to be ready for instant use, and this solution may be of any required strength. In cleaning the pipes, the beer is to be drawn off therefrom and the outlet-valves opened, so as to permit the escape of air; but where the several pipes are connected, as indicated in the drawings, one of said outlet-valves only need be opened, provided the valves in the pipes 14 are open. Upon opening the valve 26 the solution will be forced by its pressure into the several pipes, the valves 17

being open and the valves 18 closed. When the cleaning solution flows out of one of the spigots, it will indicate that the pipes are filled. Now the spigot or spigots may be closed at the outlet ends of the distributing-pipes, and the solution should be permitted to stand for a short time, after which it is to be forced out and the pipes cleansed by pure water admitted through the pipe 28. Of course when the water through the pipe 28 is admitted the valve 26 must be closed and the several faucets or spigots 13 opened.

By my apparatus the cleansing material being in solution will enter and act upon all parts of the pipe or pipes equally, while in other devices where the cleaning material is forced in chunks by water-pressure or pump-pressure into the pipes the said chunks are not equally distributed. Therefore certain parts of the pipes will not be cleaned. Further, it is evident that by employing my device the floor around the distributing apparatus will not be soiled or covered with water, as is sometimes the case when other devices are employed.

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

1. In a pipe-cleaning apparatus, the combination with a pipe to be cleaned, of a tank for cleansing solution arranged above the outlet of the pipe, a downwardly-extending valve-controlled pipe leading from said tank, a valve-controlled water-inlet pipe connected with the pipe leading from the tank, the said pipes having a common communication with the pipe to be cleaned, cords or wires extending from the valve of the water-inlet pipe and the valve of the pipe leading from said tank, and a keyboard provided with turning devices to which said cords or wires are connected, substantially as specified.

2. The combination with a distributing apparatus comprising a series of upwardly-extending pipes, a pipe connecting the lower parts of said series of pipes, a water-inlet pipe having direct connection with one end of said connecting-pipe, a tank for cleaning solution arranged above the upper or outlet ends of the distributing-pipes, and a pipe leading downward from said tank to a connection with the water-inlet pipe at or near its point of connection with the said connecting-pipe, a valve in said pipe leading from the tank, a valve in the water-inlet pipe, the said valves being located near the junction of said pipes, and valves in the connecting-pipe between the distributing-pipes, substantially as specified.

3. In a beer-distributing apparatus, a series of distributing-pipes, horizontally-extending pipe connections, between the upper portion of said pipes, valves arranged in said connecting-pipes between the distributing-pipes, horizontally-extending pipe connections between the lower portions of said distributing-pipes, valves in said connecting-pipes between the distributing-pipes, a water-inlet pipe connected direct with the lower connecting-pipes, a tank for cleaning solution supported above the outlet ends of the distributing-pipes, and a downwardly-extending valve-controlled pipe connecting said tank with the water-inlet pipe near its junction with the said connecting-pipes, substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD DEFOREST CASE.

Witnesses:

EDGAR D. CASE,
KARL MILLARD.