No. 710,145. Patented Sept. 30, 1902.

J. M. DIETERLE.

BEER COOLER.

(Application filed Feb. 13, 1902.)

(No Model.)

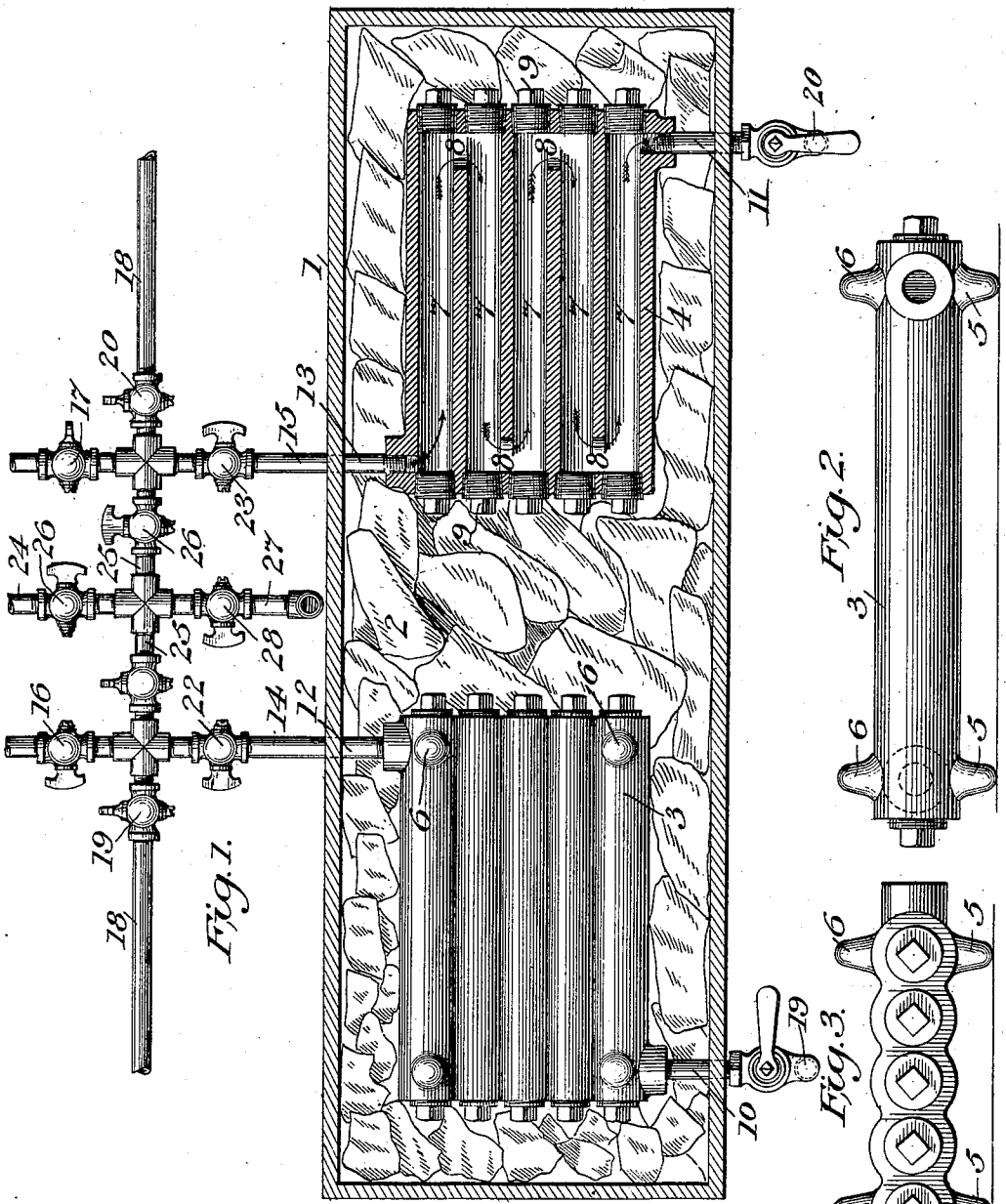

Fig. 1.

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN M. DIETERLE, OF ST. LOUIS, MISSOURI.

BEER-COOLER.

SPECIFICATION forming part of Letters Patent No. 710,145, dated September 30, 1902.

Application filed February 13, 1902. Serial No. 93,896. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. DIETERLE, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Beer-Coolers, of which the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in beer-coolers, the object of my invention being to provide a self-cleaning beer-cooler and one which will be more sanitary in its operation. It is equally useful for cooling other liquids besides beer. For instance, it may be used in soda-fountains.

As at present constructed beer-coolers consist of a number of parallel communicating tubes having pipes for the ingress and egress of the beer extending from the same side of the beer-cooler. The beer is admitted to the cooler and flows therethrough to the pipe leading to the faucet. The pipes through which the beer runs, composing the cooler, necessarily gather a sediment deposited by the beer and become lined with organic matter, which is deleterious and unwholesome in the beer. Heretofore beer-coolers have been constructed with end caps covering the ends of the several tubes, and an elongated brush has been separately inserted into each of these tubes for the purpose of removing foreign matter which accumulates therein. This means of cleaning the tubes is inconvenient because it is necessary to remove the end caps from the row of tubes, and, being inconvenient, this cleaning is likely to be neglected. Moreover, it is not as effectual as the means hereinafter described, for the use of which my improved beer-cooler is adapted.

In beer-coolers as heretofore constructed there has always been a comparatively long line of pipe intervening between the cooler and the faucet, and the beer while passing through this pipe, after having been cooled, again rises somewhat in temperature, due to the fact that while the beer-cooler is surrounded by ice or other suitable cold-producing media the conducting-pipe just referred to has not been similarly cooled.

The objects of my invention, therefore, are threefold—first, to increase the frequency of cleaning beer-coolers by making it easy to do so, thus increasing the sanitariness of the process; second, to construct a beer-cooler which is self-cleaning, and thereby more effectually to cleanse the same, and thus conduce to a more sanitary method of cooling beer, and, third, to provide a beer-cooler so constructed as to be located adjacent to the faucet or beer-tap without the intervention of a pump or long line of conducting-pipe.

Referring to the drawings, in which like numbers of reference refer to like parts wherever they occur, Figure 1 is a view showing an ice-box containing two sets of tubes or a pair of beer-coolers proper. The ice-box is shown in section with the blocks of ice therein, and one of the beer-coolers is shown in top plan view, while the other is shown by means of a central horizontal sectional view. Suitable pipe connections also appear in this view of the drawings. Fig. 2 is a side elevational view of one of these beer-coolers. Fig. 3 is an end elevation of the same.

In the drawings, 1 indicates the ice-box, containing the ice in the space 2 and having therein any desired number of beer-coolers, only two, however, being shown in the drawings, same being numbered 3 and 4. The coolers rest on feet 5 and are provided on the opposite side with feet 6, so that when desired they may be turned over and used either way.

The beer-cooler is preferably constructed of porcelain and is formed in one piece having a series of parallel longitudinal passages 7, which are in communication one with another through ports 8, which are located in the partitions between the longitudinal passages, alternately at opposite ends of said passages, so that a continuous tortuous passage is formed from the inlet to the outlet of the cooler, serving to retain the beer in the cooler for a greater length of time and affording a larger refrigerating-surface. The body is provided with plugs 9 at the ends of the passages, not for the purpose of cleaning them, as in the old constructions above described, but in order that they may be reamed or smoothed out when the body of the cooler is cast and afterward closed by these plugs. It is desirable that the interior surface of the passages should be as smooth as possible

in order that no unnecessary surface may be afforded on which foreign bodies contained in the beer can catch or to which they can attach themselves. When the cooler is made of iron, it is therefore desirable that the passages be lined with block-tin.

It will be understood that the coolers 3 and 4 are duplicates of each other and that the operation with regard to each is identical, with the exception that the pipe 10 communicates to a different faucet from the pipe 11. The object of this arrangement is to provide a cooler located adjacent to each of several faucets to prevent the reheating of beer after it has once been cooled, the pipe 10 communicating directly to a faucet located adjacent thereto and the pipe 11 similarly communicating with another faucet adjacent to the cooler from which the pipe 11 leads. In this connection it is obvious that separate ice-boxes may be provided for the separate coolers.

12 and 13 are the beer-inlets into the coolers, the beer flowing through the pipes 14 and 15. The admission of the beer into the coolers is controlled by the cocks 16 and 17, the cock 16 being shown open and the cock 17 closed. The pipes 18 may also be provided where additional coolers are used.

Assuming that the beer is entering through the pipe 14 and inlet 12, it flows through the passages 7 of the cooler 3 and out again through pipe 10 and faucet 19.

It will be observed that the auxiliary cocks 22 and 23 afford additional means for controlling the passage of the beer through the cooler.

A pipe 24, leading from a suitable source of water-supply, preferably under pressure, is connected by the branch pipe 25 with the beer-supply pipes 14 and 15. When it is desired to wash the coolers, the cock 17, for instance, is closed, which shuts off the flow of the beer into the cooler. The faucet 20 is then opened. The cock 23 remains open and the cocks 26 are opened. This allows the water to flow through pipe 24, past the cocks 26, and through the pipes 25 and 15, and thence through the passages 7 and out through the faucet 20. The passage of the water along this course under pressure and following the course of the passages by reason of gravity cleanses the passages of all foreign matter. When the passages have been sufficiently cleaned, the faucet 20 is closed and likewise the cocks 26, and the supply of water is thus cut off, after which the cock 17 may again be opened and the passage of the beer recommenced.

It may be found desirable to use some kind of chemical solution to cleanse the passages, such as a solution of potash and water or salt and water, and I have provided pipe 27, leading from a source of supply of such solution and controlled by cock 28, leading to the branch pipe 25, where the solution mingles with the water from pipe 24, from whence it is conducted through the tubes, as before described. It can be clearly seen, however, by the provision of cock 26 in pipe 24 and the cock 28 in pipe 27, that it is possible to use either water alone or the solution alone or to use both together for the purpose of cleansing the passages in the cooler.

I am aware that many minor changes may be made in my construction without departing from the nature and spirit of my invention

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

In a device of the type set forth, the combination with an ice-box, of an integral body entirely inclosed by said ice-box and having a plurality of horizontal cylindrical passages formed therein, with ports located adjacent the ends of the body portion and establishing communication between said cylindrical passages, the said ports being located alternately at opposite ends of the cylindrical passages, threaded plugs engaging in each of the ends of each of said cylindrical passages, feet extending above and below the body on the ends of said body, an inlet on one end of the body with a pipe connected thereto and extending through the ice-box, an exit located at the other end of the body diagonally opposite to said inlet, with a pipe connected to the said exit and extending without the ice-box, substantially as described.

In testimony whereof I have hereunto attached my signature, in the presence of two witnesses, this 23d day of January, 1902.

JOHN M. DIETERLE.

Witnesses:

EDWARD W. DIETERLE,

M. E. LETCHER.