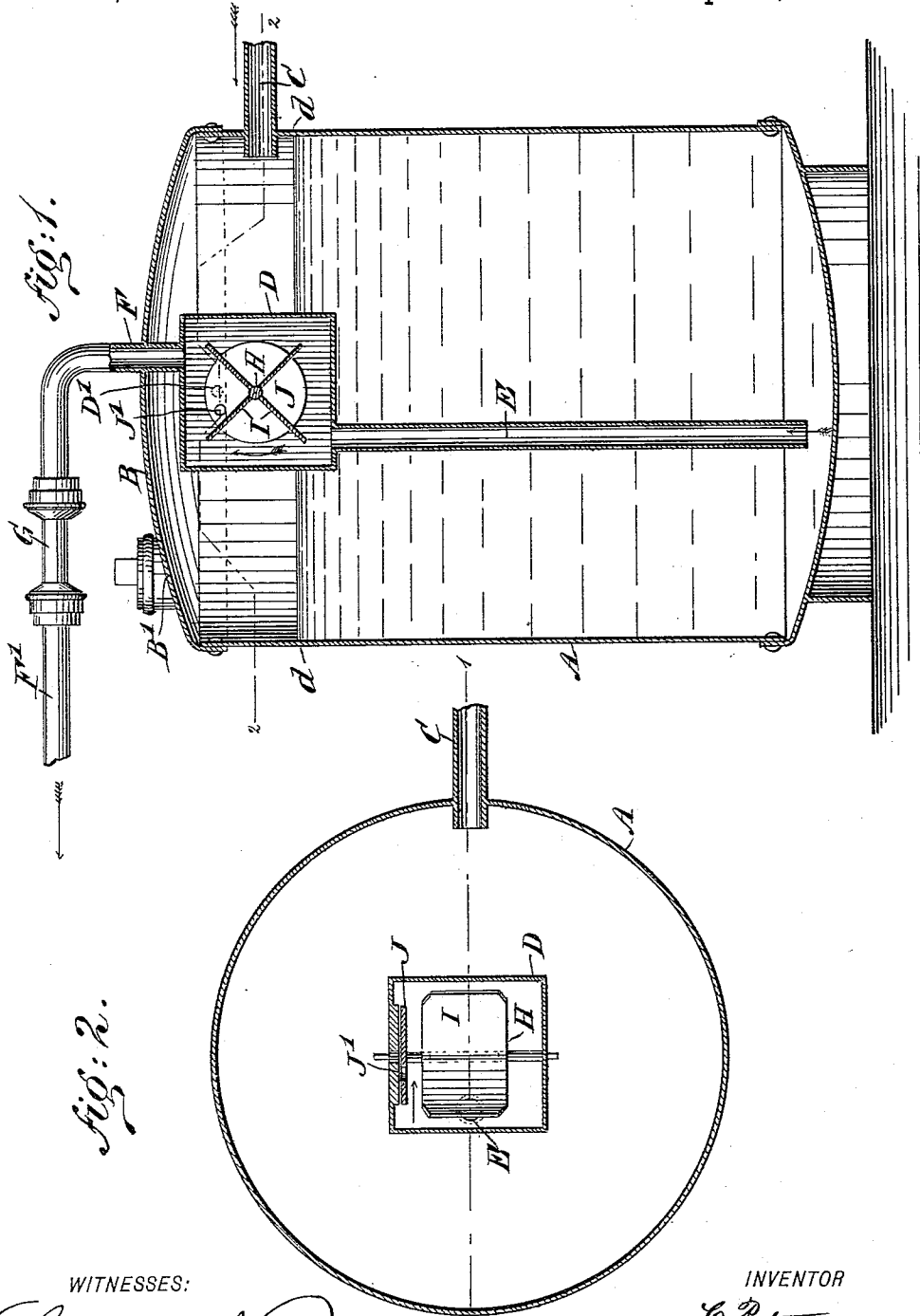


(No Model.)

C. PETERS.
APPARATUS FOR CLEANING PIPES.

No. 557,874.

Patented Apr. 7, 1896.



WITNESSES:

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APPARATUS FOR CLEANING PIPES.

SPECIFICATION forming part of Letters Patent No. 557,874, dated April 7, 1896.

Application filed August 6, 1895. Serial No. 558,400. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PETERS, of Brooklyn, in the county of Kings and State of New York, have invented new and useful
5 Improvements in Apparatus for Cleaning Pipes, of which the following is a full, clear, and exact description.

The invention relates to apparatus for forcing a cleaning liquid through pipes and cocks
10 used in apparatus for dispensing beer.

The object of the invention is to obtain a better cleaning action, and this object I seek to attain by forcing through the pipes to be cleaned a column of liquid which, instead of
15 being driven at a constant speed, is periodically arrested or checked in its motion, so as to produce a shaking action in the pipes.

The particular construction whereby the above result is secured will be described specifically with reference to the accompanying
20 drawings, and the features of novelty will then be pointed out in the claims.

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

Figure 1 is a central vertical section of the apparatus on the line 1 1 of Fig. 2, and Fig. 2 is a horizontal section thereof on the line
30 2 2 of Fig. 1.

The apparatus consists of a vessel A, adapted to be closed in an air-tight manner by means of a cover B or by any suitable equivalent construction.

35 B' indicates an aperture whereby the vessel A may be filled with the cleaning liquid, said aperture being normally closed by a plug.

C is a pipe adapted for connection with a source of compressed air, such as an air-compressor or a reservoir containing air under pressure. The pipe C leads into the receptacle A, preferably near the top thereof. Within the receptacle is arranged a box D, which is closed except at the points herein-
40 after mentioned. Into the bottom of the said box leads the inlet-pipe E for the cleaning liquid, said pipe reaching down into the receptacle A nearly to the bottom thereof.

From the upper end of the box B projects
50 the outlet-pipe F, which extends through the cover B and is adapted for connection, by

means of a flexible hose, to the pipes or apparatus to be cleaned.

A short piece of glass tube G may be inserted between the pipe F and its continuation F', so that the peculiar intermittent or
55 pulsating flow of the cleaning liquid may be watched.

In the box D is also journaled a small wheel H, having vanes I, which are so located relatively to the inner ends of the pipes E and F that the liquid flowing through the box will cause the wheel H to rotate. At one end of its shaft the said wheel is provided with a disk J, mounted to rotate therewith, said disk
60 being apertured eccentrically, as shown at J', and in the wall of the box D is provided an opening D' at such a distance from the center of the wheel H that during the revolution of the latter the apertures J' and D' will periodically register.
70

It will be understood that the disk J is located so close to the wall of the box D that a substantially air-tight engagement will result and that no communication will exist
75 between the outside of the box and the inside except when the apertures J' and D' register.

The cleaning liquid is filled into the receptacle A to such a height that its surface, as
80 indicated by the letters *dd*, will be below the aperture D' of the box D.

The operation of the device is as follows: The receptacle A being filled and closed as described, compressed air is admitted through
85 the pipe C. The pressure of the air will drive the cleaning liquid up and out through the pipe E, box D, and pipes F & F'. The liquid by flowing through the box will operate the wheel H. By the revolution of the wheel the
90 opening J' will periodically be brought into registry with the opening D' in the box D. Whenever the said openings register, compressed air will pass directly from the receptacle A through the openings D' and J' into
95 the box D, and thereby momentarily arrest or check the flow of the liquid therein. The liquid, therefore, instead of flowing at a constant speed, will flow at a certain rate of speed corresponding to the pressure of the air as
100 long as the apertures J' and D' do not register and will flow at a considerably-reduced

speed at the moment the air has direct access to the interior of the box D, or it may even be that at such a moment the direction of the flow will be reversed.

5 It will be obvious that the current of liquid flowing at an irregular rate of speed, as described, will have a much more powerful cleaning action than one whose speed remains unchanged.

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

1. The combination with a receptacle adapted for connection with a supply of compressed
15 air, of a box connected with the said receptacle to receive a liquid therefrom, the box being provided with an outlet adapted for connection with the pipes to be cleaned, and the box being further provided with an aperture, whereby its interior may communicate
20 directly with a supply of compressed air, and means located within the box and operated by the flow of the liquid therethrough for periodically opening and closing the aperture
25 by means of which the interior of the box may communicate with the supply of compressed air, substantially as described.

2. The combination of a receptacle for a cleaning liquid, a box located within the said
30 receptacle and provided with inlet and outlet pipes, and further provided with an aperture leading into the upper part of the box, and a wheel located within the box to be rotated by the flow of the liquid, said wheel being con-

structed to open and close the opening in the
box, substantially as described. 35

3. The combination of a receptacle for a cleaning liquid said receptacle being adapted for connection with a supply of compressed air, a box having an inlet-tube connected with
40 the said receptacle, an outlet-tube adapted for connection with the pipe to be cleaned, and an aperture connected with a supply of compressed air, a wheel journaled in the box and adapted to be rotated by the flow of liquid
45 therethrough, and means for periodically covering and uncovering the opening in the box by the rotation of the wheel, substantially as described.

4. The combination of a receptacle for the
50 cleaning liquid, said receptacle being adapted for connection with a supply of compressed air, a box having an inlet-tube connected with the said receptacle, an outlet-tube adapted for connection with the pipe to be cleaned
55 and an aperture connected to the supply of compressed air, a wheel journaled in the box and adapted to be rotated by the flow of the liquid therethrough, and a disk mounted to rotate with the wheel and adapted to engage
60 the walls of the box, said disk being provided with an aperture arranged to periodically register with the opening in the box, substantially as and for the purpose set forth.

CHARLES PETERS.

Witnesses:

FRANK HARMS,
BERNHARD MERTEN.