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F. KESER

FLUSHING AND DISINFECTING APPARATUS FOR SPITTOONS

Filed Feb. 26, 1926

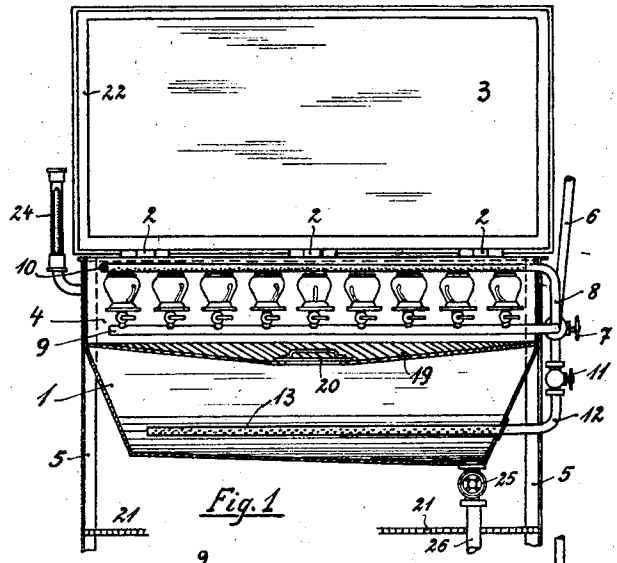


Fig. 1

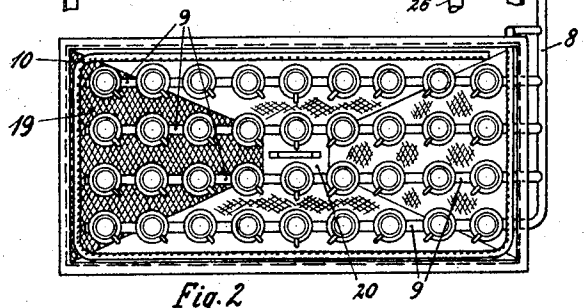


Fig. 2

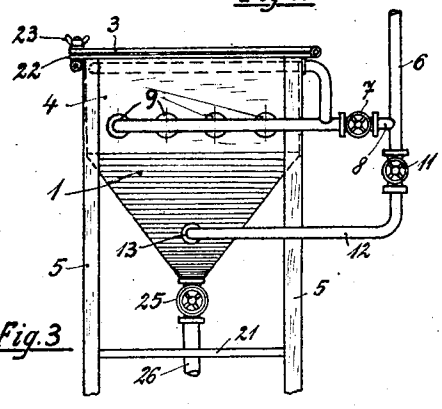


Fig. 3

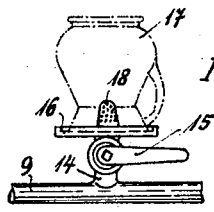


Fig. 5.

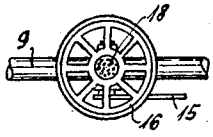


Fig. 4

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UNITED STATES PATENT OFFICE.

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FLUSHING AND DISINFECTING APPARATUS FOR SPITTOONS.

Application filed February 26, 1926, Serial No. 90,833, and in Germany December 1, 1924.

This invention relates to an apparatus for disinfecting and flushing spittoons and similar articles in, at the same time, rendering innocuous and removing the sputum.

The improved apparatus according to the invention differs from the apparatus which have hitherto been used for this purpose in that the spittoons or other vessels inserted into the apparatus can be emptied, disinfected and subsequently flushed with clean water, the sputum as well as the flushing water being at the same time disinfected and removed without the necessity to touch the sputum or the vessels. Hitherto separate apparatus were required for carrying out these different proceedings, the expectorating vessels having to be successively rinsed. Owing to the fact that, according to the invention, the emptying, disinfecting and rinsing with pure water can be carried out in one and the same apparatus, these disagreeable manipulations which are not at all free from danger are considerably simplified and require less time than at present, any infection by spilled bacillæ containing water being further prevented.

The new apparatus consists mainly of a box of enamelled sheet iron or the like. which can be tightly closed and is mounted, at the approximate height of a table, on a pedestal of convenient construction. For the bottom plate of the box a trough-shape receptacle of the same material as the box is substituted.

In the lower portion of the upper box a number of tubes are arranged parallel to one another which have vertical tubular sockets on the upper surface, each tubular socket having a shutting off valve and in the upper end narrow holes. On the inner surface of the wall of the box, closely under the upper edge of the same, is arranged a similar tube the squirting holes of which are directed towards the centre of the box.

The trough-shaped lower portion of the box is slightly inclined towards one end and has at the lowest point an outflow tube adapted to be shut off by a valve. In this trough-shaped bottom part a horizontal tube is arranged which has a great number of narrow squirting holes directed towards all sides.

The parallel tubes in the bottom portion of the box, the squirting tube under the upper edge of the box and the tube of the trough-shaped bottom part have each a separate shutting off valve at the outer side of the box, all said tubes being connected by a common pipe with a mixing battery.

The box proper has a horizontal partition inclined from all sides towards the centre and consisting of wide meshed wire gauze or the like. At the centre of which partition an opening is arranged which is adapted to be closed by a lid.

On the box a manometer, a thermometer and a safety valve may be preferably arranged.

The expectorating vessels filled with sputum and stored in a box of sheet iron are successively emptied into the box of the apparatus the lower trough-shaped part of which has previously been filled with clean water up to the height of the tube in said bottom part, the expectorating vessels being then placed, upside down, onto the tubular sockets in the box, the shutting off valves for said tubular sockets having been previously opened.

The lid of the box is then tightly closed by means of screws and the expectorating vessels are well cleaned on the inside and outside by means of fresh water squirting out through the tubular sockets, the flushing water being collected in the lower trough-shaped bottom part of the apparatus.

The supply pipe for fresh water is then shut off and hot steam is made to flow out through the upper tube in the box, the tubular sockets in said box and the tube in the trough-shaped bottom part of the apparatus. The liquid in the trough-shaped bottom part begins to boil after a short time until the entire contents of the box are heated at uniform boiling temperature. The steam in excess escapes through the safety valve. This process is terminated after about 10 minutes, all the noxious germs in the sputum in the flushing water and in the vessels being killed by the high temperature and by the action of the steam. After the steam supply has been interrupted, the flushing water can be removed by opening the valve underneath the bottom part of the apparatus.

The vessels in the apparatus are then rinsed with hot water and subsequently with cold water, whereupon they are ready for use.

The boxes for transporting the expecto-

rating vessels are preferably of such size that they can be cleaned and sterilized in the apparatus in the same manner as the vessels.

An embodiment of the invention is shown, by way of example, in the accompanying drawings in which:—

Fig. 1 shows a central vertical section of the open apparatus.

Fig. 2 is a plan view of Fig. 1.

Fig. 3 is an end elevation of the closed apparatus seen from the right end of Fig. 1.

Fig. 4 shows on a larger scale one of the tubular flushing sockets in plan view.

Fig. 5 is a side elevation of Fig. 4.

The box 4, having a lid 3 fixed by means of hinges 2 and a trough-shaped lower part 1, is mounted on the pedestal 5 of convenient construction.

From the mixing battery not shown on the drawing the different media are supplied, through a pipe 6 to a branch pipe 8 having a shutting off valve 7, to a system of four parallel tubes 9 arranged in the bottom portion of the box 4, and to a flushing tube 10 arranged underneath the upper edge of the box along the entire inner surface of the walls of said box. A branch tube 12 fitted with a shutting off valve 11 connects the pipe 6 with a flushing tube 13 arranged in the trough-shaped lower part 21, of the box. On the upper surfaces of the tubes 9 tubular sockets 14 are mounted at convenient distances apart, each tubular socket having a shutting off valve 15.

As can be seen from Fig. 4 a plate 16, having a number of apertures, is fixed on each tubular socket 14 above the valve 15 said plate being designed to serve as support for the expectorating vessel 17 turned upside down. The upper end 18 of each tubular socket 14, projecting into the expectorating vessel 17, has narrow holes so that it is similar to the rose of a shower bath.

The box 4 has a horizontal partition 19 which is inclined from all sides towards the centre and has at the centre an opening adapted to be closed by a lid.

In the lower portion of the pedestal 5 a perforated bottom plate 21 may be arranged on which the cleaned and sterilized vessels are to be placed.

The lid 3 has a packing 22 of asbestos or similar material. The lid 3 is tightly fixed on the box 4 by means of screw bolts 23.

A thermometer 24 arranged at the outer side of the apparatus serves to indicate the temperature in the apparatus. Apparatus of larger size are preferably fitted with a manometer and safety valve.

For removing the flushing water mixed with the sputum and the like, an outflow pipe 26 having a shutting off valve 25 is preferably arranged at the lowest point of the trough-shaped lower part 1 of the box, said outflow pipe ending in the drain pipe.

The apparatus shown in the drawing serves for holding 36 expectorating vessels, but it may be of larger or of smaller size.

I claim:—

An apparatus for cleaning and disinfecting expectorating vessels and the like, comprising in combination a box of enamelled sheet metal, a pedestal on which said box is mounted, a lid for airtightly closing said box, a squirting tube underneath the upper edge of said box around the inner surfaces of the walls of said box, a number of parallel tubes in the lower portion of said box connected with said upper squirting tube, vertical tubular sockets on said horizontal tubes, a shutting off valve in each of said vertical tubular sockets the upper portion of said sockets being perforated like a rose of a shower bath, a plate on each of said tubular sockets and designed to serve as support for an expectorating vessel turned upside down, a horizontal partition in the lower end of said box inclined from all sides towards the centre consisting of a wide meshed wire gauze and having an opening at the centre, a lid for closing said opening, a lower trough-shaped part underneath said horizontal partition, an outflow tube at the lowest point of said trough-shaped part, a shutting off valve between said trough-part and said outflow tube.

In testimony whereof I affix my signature.

FRITZ KESER.