

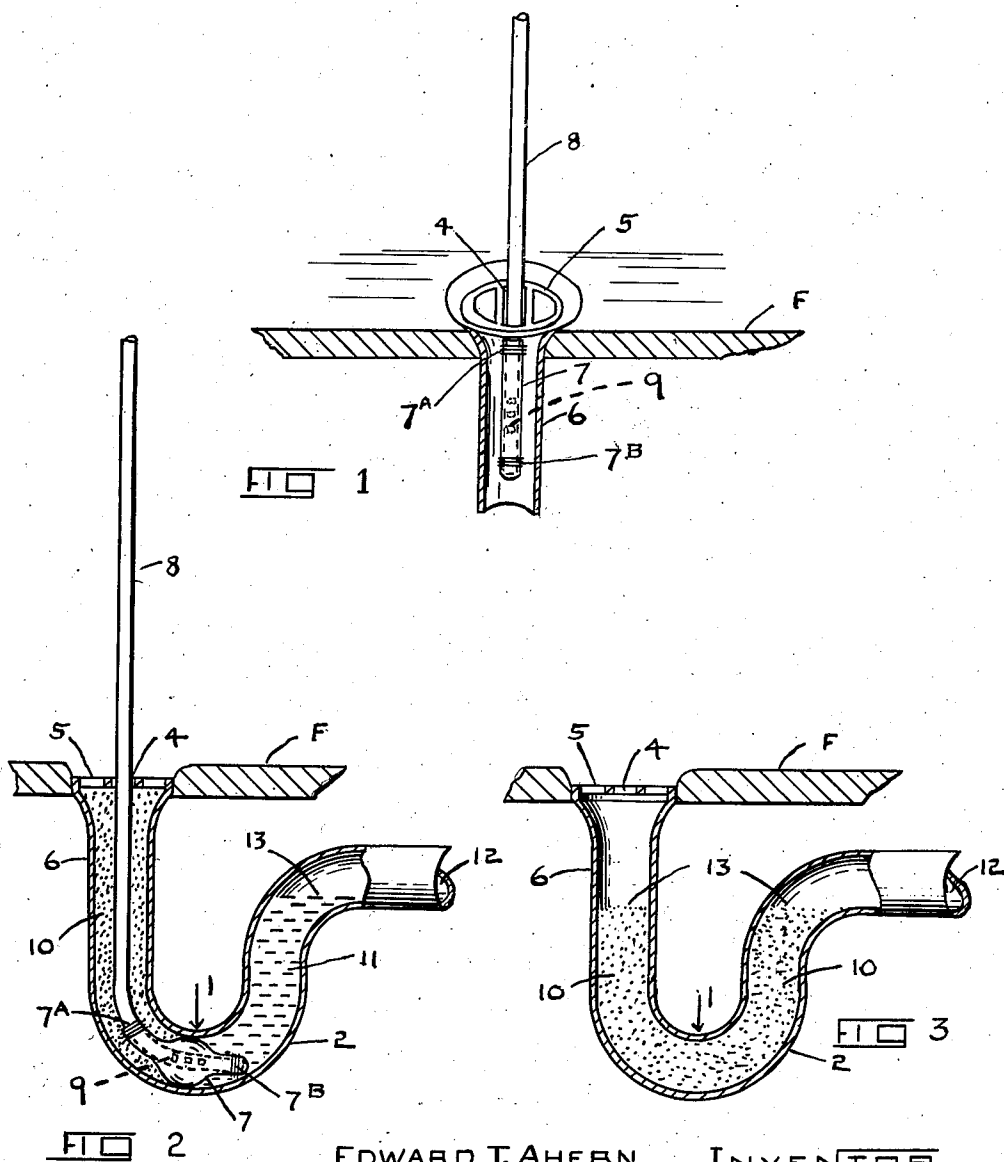
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CLEANING PROCESS FOR URINAL METAL TRAPS

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CLEANING PROCESS FOR URINAL METAL TRAPS

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2 Claims. (Cl. 141-1)

This invention relates to a cleaning process for the removal of extraneous matter from the interior of a urinal metal trap and pipe connection with a constricted inlet.

The objects of this invention therefore are to provide a process whereby the interior of a urinal metal trap and its pipe connection may be cleaned by means of an acid solution standing therein without injury to the metal; to provide such a process adapted for use at intervals between, or spaced following, periods of a more thorough cleaning of a urinal metal trap by the process described in a co-pending application filed by your petitioner February 28, 1941, Serial Number 381,162; and to provide such a process allowing a more economical use of the cleaning solution than that required by the process set forth in the said co-pending application.

Solvent acid solution commonly used for cleaning porcelain outer and interior surfaces of toilet and like fixtures has never been employed, so far as your petitioner is aware, in connection with the interior of urinal metal traps; for the reason that an acid solution is known to be injurious to metal when left standing in contact therewith during a necessary cleaning period. Therefore, to your petitioner's knowledge and belief, no process, other than that disclosed herein and in said co-pending application, has ever been employed for cleaning the interior of urinal metal traps within which a cleaning solution must be left standing during the cleaning period.

While a process for the cleaning of a porcelain trap interior of a water-closet is shown in the prior art wherein an acid solution is poured into an open water-closet bowl following the plugging the wide-inside-diameter of the trap interior at its outlet, yet no such attempt has been made or disclosed in the prior art with regard to the plugging of the low-inside-diameter of the interior of the urinal metal trap, save that disclosed by your petitioner in the said co-pending application therein referring to the patent issued to your petitioner December 2, 1941, and numbered 2,264,822, setting forth a means by which urinal metal traps of low-inside-diameter and with a constricted inlet may be interiorly plugged.

Referring to the accompanying drawing, the Figure 1 illustrates in perspective a cross-section of a fragmentary portion of a pipe connection of a urinal metal trap with its constricted inlet having inserted therein a collapsed plugging device; the Figure 2 illustrates a urinal metal trap and pipe connection in cross-section located below

floor level and having inserted therein, through its constricted inlet, a plugging device expanded to plugging dimension at an intermediate location within the trap with inserted inhibited acid solution standing upon one side of the plugged location and extending up to the inlet and with a water content upon the opposite side of said location; and the Figure 3 illustrates the same trap in cross-section, but with the plugged condition eliminated and the inserted inhibited acid solution standing at normal water level within the trap.

With more particular reference to the accompanying drawing, the cleaning process set forth in the appended claims includes a plugged condition at an intermediate location within the trap such as, for instance, the plugged location 1 illustrated by the Figures 2 and 3.

While the particular structure of a plugging means is no part of the process, yet the structure disclosed by the Letters Patent Number 2,264,822, above referred to, presents a means which, in collapsed condition as illustrated by the Figures 1 and 2 in the accompanying drawing, assumes an outside diameter over all of less than one-quarter of an inch and is capable therefore of insertion within and through a one-quarter of an inch in diameter constricted inlet 4. The cap 5 depressed in the floor F, in which the inlet is provided, partially encloses the vertical pipe connection 6 of the metal trap 2. The inflatable rubber covering 7 of the plugging means is fitted closely over the flexible tubular member 8 and secured thereto at both rubber ends, as at 7A and 7B, the perforations 9 in the rubber covered portion of the flexible tubular member 8 permitting any inflating element, such as air for instance, to be forced by any convenient means through and from the tubular member 8 and through the perforations 9 into the inflatable covering 7 to expand the same, as illustrated by the Figure 2.

The process, together with a plugged location such as, for instance as at 1, within the trap interior, includes an inhibited acid solution inserted within the trap and, as illustrated by the Figure 2, at 10, standing upon one side of the plugged location 1, with water standing upon the opposite side of said location, as at 11. Nowhere in the prior art, previous to the co-pending application, is there disclosed, so far as your petitioner is aware, the use of inhibited acid solution inserted within a urinal metal trap up to the inlet of the trap's pipe connection to stand therein during a cleaning period. Further, there having

been disclosed no method by which a urinal metal trap might be provided with a removable plugged condition, owing to the fact that a urinal metal trap has such a low-inside-diameter with a considerably constricted inlet, any acid solution inserted within the constricted inlet 4 of one-quarter of an inch diameter, the trap not having a plugged condition, the inserted solution would be maintained only at a normal water level, the surplus running off through the trap outlet 12 and leaving no solution standing within the pipe connection 6 above normal water level 13.

The process herein described and claimed may include if desired the removal of water standing upon the near side of the plugged location before inserting the inhibited acid solution, but it is necessary to include plugging the trap at an intermediate location therein; inserting a quantity of inhibited acid solution to substantially fill the trap and its pipe connection up to the inlet so that the inserted solution stands only upon one side of the plugged location; retaining the inserted solution for a proper cleaning period; eliminating the plugged condition to permit the inserted solution to recede to normal water level within the trap. The process may also include, if desired, retaining the receded solution for an additional cleaning period before flushing the trap with water to remove the extraneous matter therefrom.

It should be noted that the co-pending application provides for a thorough cleaning of a urinal metal trap in its entirety and more particularly adapts that process for initial cleaning of a urinal metal trap in a foul condition. In contrast thereto, the process herein disclosed will be found exceedingly useful for a more frequent application to urinal metal traps, following the thorough cleaning by the initial process, for the maintenance of better sanitary conditions.

I claim:

1. A cleaning process for the removal of extraneous matter from the interior of a standard low-inside-diameter of a urinal metal trap, having an arcuate portion adapted to hold water at a normal water level, with pipe connection to an inlet, the process including plugging the trap at an intermediate location within the arcuate portion; inserting a sufficient quantity of inhibited acid solution to substantially fill up to the inlet the accessible interior of the plugged trap so that the inserted solution stands only upon one side of the plugged location; retaining the inserted solution for a sufficient cleaning period; eliminating the plugged condition of the trap to permit the cleaning solution to recede therein to normal water level; retaining the receded solution for an additional cleaning period and flushing the trap interior with water to remove the extraneous matter therefrom.

2. A cleaning process for the removal of extraneous matter from the interior surface of a standard low-inside-diameter of a urinal metal trap having an arcuate portion, adapted to retain water at a normal water level, and a pipe connection with a constricted inlet, the process including plugging the trap at an intermediate location within the arcuate portion; removing water found upon the near side of the plugged location; inserting a sufficient quantity of inhibited acid solution to substantially fill up to the constricted inlet said near side of the plugged location; retaining the inserted solution for a sufficient cleaning period; eliminating the plugged condition of the trap to permit the cleaning solution to recede therein to normal water level; and flushing the trap interior with water to remove the extraneous matter therefrom.

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