

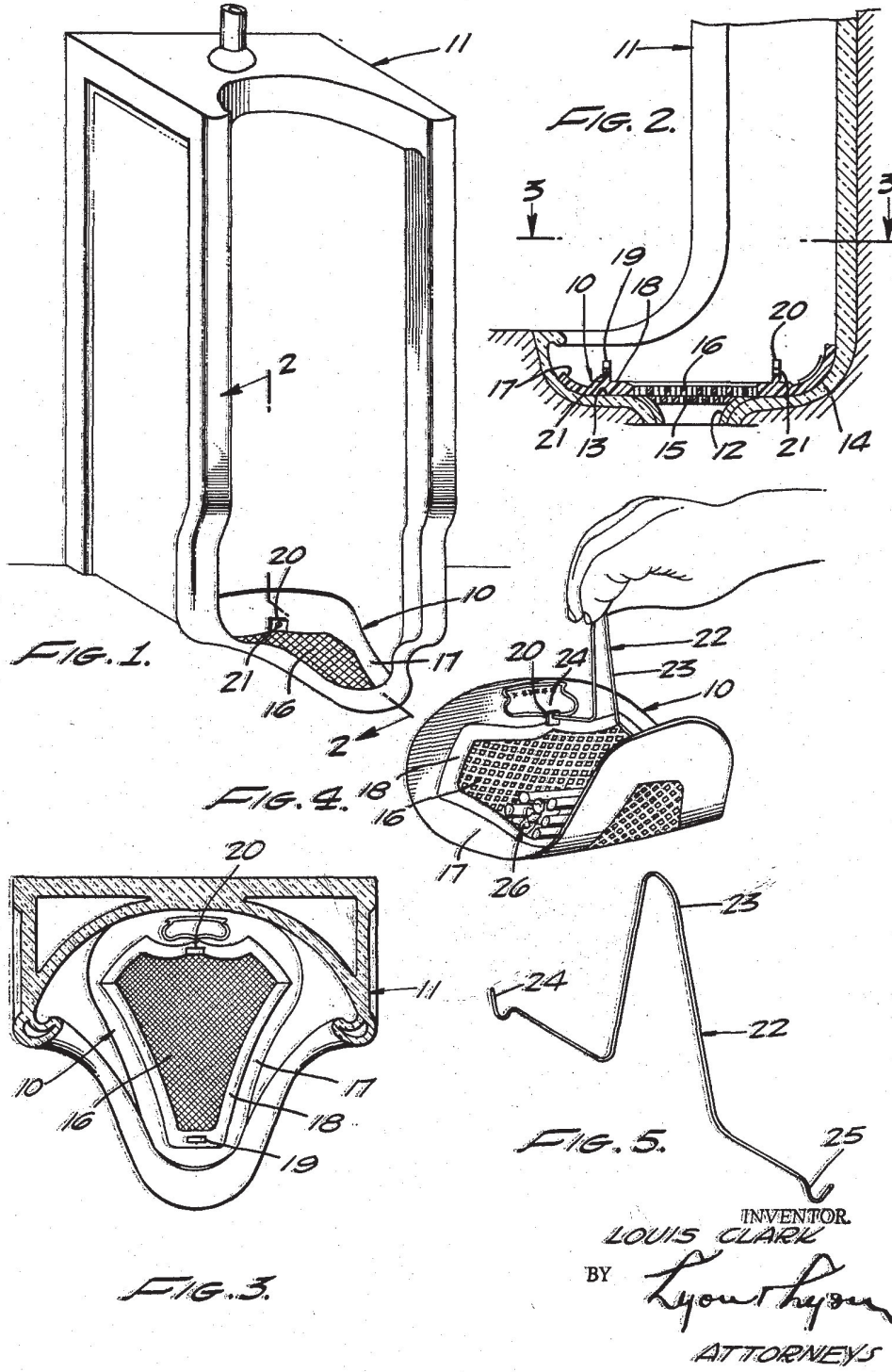
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URINAL SCREEN

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URINAL SCREEN

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This invention relates to perforate screen for use as a strainer over the drain of a urinal to prevent cigarette butts, paper or other foreign objects from proceeding into the urinal drain. In particular this invention relates to such a urinal screen which may be easily removed from the urinal by use of a specially provided tool and the cigarette butts, paper or other foreign objects are retained on the urinal screen during such removal.

In the past, numerous types of urinal screens or strainers have been used to prevent trash, such as cigarette butts and paper, which has been discarded in the urinal from passing into the drain line of the urinal. If this trash were permitted to pass into the drain, the drain would become clogged thereby requiring expensive and periodic maintenance. Although numerous heretofore available urinal screens have been found completely adequate for preventing trash from entering into the urinal drain, these screens have been found to be inadequate in other respects.

Since cigarette butts, paper or other foreign objects are retained upon or around (depending on the type of screen used) the conventional urinal screen, this trash will accumulate over a period of time. As a result, periodic maintenance must be performed for removing this accumulated trash for sanitary reasons and for proper functioning of the screen. In the past it has been conventional to remove this trash from on or around the screen by manually removing each piece of trash. This method of trash removal may be personally objectionable to the person performing the maintenance or at least considered unsanitary. Moreover, this method may not be entirely effective in that certain types of trash such as cigarette butts will fall apart when picked up and therefore the trash will not be completely removed.

Various types of flat wire urinal screens have been used which retain the trash on top of the screen and the screen may be removed for disposing of the trash. However, it has often been found that due to the configuration of the urinal and/or the manipulation of the screen which is necessary to remove same from the urinal results in some or all of the trash being dumped from the screen into the urinal. As a result the trash may become lodged in the urinal drain thereby defeating the exact function of the screen.

Accordingly it is a principal object of this invention to provide a novel form of urinal screen adapted to catch and retain trash thereon and which may be easily removed from the urinal without dislodging the trash from the screen.

Another object of this invention is to provide a novel form of flexible urinal screen and a novel tool for flexing such screen to a position which retains the trash on the screen for removing the screen and trash from the urinal by means of such tool.

A more specific object of this invention is to provide a flexible urinal screen that has apertured tabs thereon which may be engaged by hooks provided on a special tool for lifting and removing the screen from the urinal.

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Other and more detailed objects and advantages of this

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invention will appear from the following description and the accompanying drawings.

In the drawings:

FIGURE 1 is a perspective view of a stall type urinal with the urinal screen of this invention positioned therein.

FIGURE 2 is a sectional elevation view of the urinal and urinal screen taken substantially on line 2-2 as shown in FIGURE 1.

FIGURE 3 is a sectional plan view taken substantially on the line 3-3 as shown in FIGURE 2.

FIGURE 4 is a perspective view illustrating the urinal screen of this invention as it is removed from the urinal by use of the specially provided tool of this invention.

FIGURE 5 is a perspective view of the tool for removing the urinal screen from the urinal.

Referring now to the drawings, the urinal screen, generally designated 10, of this invention is shown as being positioned in a "stall type" urinal 11 although it is to be understood and will be readily apparent to those skilled in the art that urinal screen 10 may be used in pedestal, oval wall, square wall, trough, or other type urinals.

The urinal 11 is typical of various types of urinals in that a drain line 12 is provided in the lower most portion of the urinal and the bottom 13 and lower portions of 14 of the sides of the urinal are tapered downwardly toward the drain 12. This configuration of the lower portion of the urinal 11 is to provide adequate drainage of the urinal. A metal screen 15 may be provided and permanently installed over the drain 12.

The urinal screen 10 is relatively flat and includes a perforate central portion 16 for permitting liquid to pass through the screen and to prevent any trash from entering drain 12. The urinal screen 10 has a peripheral portion 17 for sealably engaging the contoured bottom portion of the urinal 11.

The urinal screen 10 may be comprised of any convenient material which is relatively flexible and impervious to liquids. It is desirable that the material used for urinal screen 10 be capable of resisting the effects of acids, caustics, cleaning compounds, and the chemicals used in deodorants. Vinyl plastic has been found to be highly satisfactory although other less expensive materials may be used which economically would permit periodic disposal of the urinal screen. In the drawings, the urinal screen 10 is illustrated as being comprised of a molded vinyl plastic and with such material it is preferred that a framed portion 18 be molded to encircle the perforate portion 16. Although it is not essential to the invention, it is preferred that the frame portion 18 be thicker than the peripheral portion 17 so that the frame portion 18 provides the desired amount of rigidity for the screen while the peripheral portion 17 is highly flexible in order to properly engage the bottom portion of the urinal.

Means are provided on the urinal screen 10 for use in removing the screen from the urinal, and as shown in the drawings these means may include a pair of tabs 19 and 20 projecting from one side of the urinal screen. Tabs 19 and 20 are spaced across the perforate portion 16 from each other and are preferably relatively near or on the peripheral portion 17. The tabs 19 and 20 each have an aperture 21 therethrough.

Means are provided for engaging the urinal screen 10 to remove the screen from the urinal 11 and as shown in the drawings, these means may comprise the removal tool generally designated 22. The tool 22 has a handle portion 23 and a pair of end portions 24 and 25. The end portions 24 and 25 are adapted to be inserted through apertures 21 in the tabs 19 and 20. End portions 24 and 25 are spaced closer together than the spacing between tabs 19 and 20 so that when each end portion engages the tabs, the urinal screen 10 is urged into a trough-shaped configuration as shown in FIGURE 4. Forming

the urinal screen 10 into this trough-shaped configuration serves to urge the trash, generally designated 26, toward the center of the perforate portion 16 and retained the trash on the screen while the screen is being removed from the urinal. The end portions 24 and 25 of the removal tool 22 are preferably hook-shaped so that the end portions will not become inadvertently dislodged from the tabs 19 and 20 during removal or replacement of the urinal screen. Although the drawings illustrate the removal tool 22 as being constructed of a formed wire, it is to be understood that other materials or configurations may be used which will provide end portions such as 24 and 25 that are spaced closer together than the tabs 19 and 20 of the particular urinal screen to be removed and that are adapted to engage the tabs.

Since end portions 24 and 25 are spaced closer together than tabs 19 and 20, the actual engagement of these ends with the tabs is accomplished by inserting one end portion into the aperture in one tab, such as 20, lifting that tab to flex the urinal screen into a trough shape and engaging the other end portion of the removal tool in the aperture in the other tab 19. The urinal screen may then be lifted out of the urinal and the trash dumped off of the upper surface of the screen 10. Replacement of the urinal screen is accomplished by performing the above steps in reverse order.

Thus it may be seen that this invention provides a urinal screen that may be removed with a special tool, that it is unnecessary for a person to touch the screen during removal or replacement, and that the trash present on the screen is not dislodged during removal of the screen. Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth or to the details illustrated in the drawings, but my invention is of the full scope of the appended claims.

I claim:

1. A removable urinal screen comprising a flexible flat body having a perforate portion, a pair of upwardly projecting tabs on one side of said body, said tabs being spaced across said body from each other a distance equal to a substantial portion of the distance across said body in that direction for lifting said body by said pair of tabs and causing said body to flex and form a trough for retaining objects present on said body.

2. A removable urinal screen comprising a flexible flat body having a perforate portion, said body having a pair of apertures, each said aperture being spaced across said body from the other said aperture a distance equal to a substantial portion of the distance across said body in that direction, and means having end portions for inserting through and engaging each of said apertures for removing said body from the urinal, said end portions being spaced closer together than said pair of apertures.

3. A removable urinal screen comprising a relatively flat and flexible body having a perforate central portion, said body having a peripheral portion for engaging the contour of the urinal, said body having a pair of apertures, each said aperture being positioned near said peripheral portion and spaced across said body from the other aperture a distance equal to a substantial portion of the total distance across said body in that direction, and means for removing said screen from the urinal, said means having a pair of end portions for inserting through and engaging each of said apertures, said end portions being spaced closer together than the spacing of said apertures for causing the said body to be flexed to a trough shape.

4. A removable urinal screen comprising a flexible flat body having a perforate portion, a pair of upwardly projecting tabs on one side of said body, said tabs being spaced across from said body from each other a distance equal to a substantial portion of the total distance across said body in that direction, said tabs having apertures therethrough, and means having end portions for inserting through each of said apertures and engaging said tabs to remove said body from the urinal, said end portions being spaced closer together than said pair of tabs.

5. A removable urinal screen comprising a relatively flat and flexible body having a perforate central portion, said body having a peripheral portion for engaging the contour of the urinal, a pair of upwardly projecting tabs on one side of said body, said tabs being spaced across said body from each other a distance equal to a substantial portion of the total distance across said body in that direction and positioned near said peripheral portion, each of said tabs having an aperture therethrough, and means having end portions for inserting through each of said apertures and engaging said tabs to remove said body from the urinal, said end portions being spaced closer together than said pair of tabs.

6. A removable urinal screen comprising a relatively flat and flexible body having a perforate central portion, said body having a peripheral portion for engaging the contour of the urinal and a frame portion encircling said central portion between said peripheral portion and said central portion, said peripheral portion being thinner and more flexible than said frame portion, a pair of upwardly projecting tabs on one side of said body, said tabs being spaced across said body from each other a distance equal to a substantial portion of the total distance across said body in that direction and positioned near said peripheral portion, each of said tabs having an aperture therethrough, and means having end portions for inserting through each of said apertures and engaging said tabs to remove said body from the urinal, said end portions being spaced closer together than said pair of tabs.

7. A removable urinal screen comprising a flexible flat body having a perforate portion, said body having a pair of apertures, each said aperture being spaced across said body from the other said aperture a distance equal to a substantial portion of the total distance across said body in that direction, and means for removably inserting in said apertures for lifting of said body by said means and causing the body to form a trough for retaining objects on the body during lifting.

8. A removable urinal screen comprising a flexible flat body having a perforate portion, said body having a plurality of apertures, at least one of said apertures spaced across said body from at least another of said apertures a distance equal to a substantial portion of the total distance across said body in that direction, and means for inserting through and engaging at least said spaced apertures for lifting of said body through the engagement of said means with said apertures and for causing said body to flex and form a trough for retaining objects present on said body.

References Cited in the file of this patent

UNITED STATES PATENTS

2,443,649	Behre	June 22, 1948
2,806,227	Arbeter	Sept. 17, 1957
2,813,631	Odman	Nov. 19, 1957