July 11, 1967 K. E. BOBBE 3,329,973

THROW-AWAY URINAL

Filed June 15, 1964

FIG. 1.

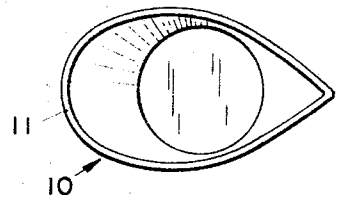


FIG. 4.

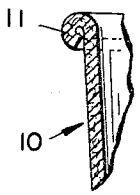


FIG. 2.

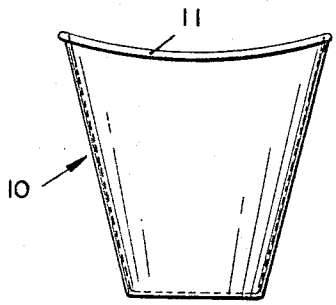


FIG. 3.

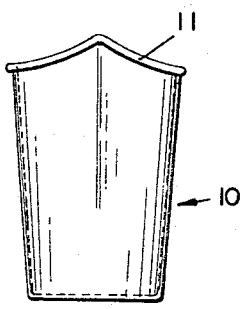


FIG. 5.

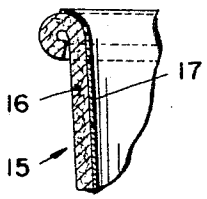
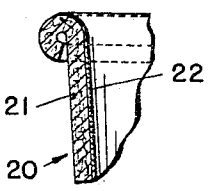


FIG. 6.



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THROW-AWAY URINAL

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This invention relates to urinals in general and more particularly to a single-use throw-away urinal of inexpensive construction adapted to be cast into a toilet bowl and flushed away owing to its loss of strength when its exterior comes in contact with water.

Women are hesitant and reluctant to use public restroom facilities and risk embarrassment and accident in attempts to use them without contact with the seat.

The present invention avoids this embarrassment and risk by providing an inexpensive, easily carried, throw-away urinal suitable for use while standing and which may be readily disposed of into any water-charged receptacle such as the bowl of a conventional flush toilet. The construction features a suitably shaped main body of semi-rigid material which readily absorbs water to become soft and limp when its exterior is brought into contact with water and the interior upper rim edges of which are provided with an impervious lining, coating or layer. This lining need not possess any substantial strength but does prevent liquids from penetrating to the main body of the receptacle. Desirably, the urinal side walls converge downwardly so as to nest readily within an identical receptacle and its upper edge is suitably reinforced and shaped to safeguard against moisture coming prematurely into contact with the absorbent main body layer.

Accordingly, it is a primary object of the present invention to provide a new and improved throw-away urinal.

Another object of the invention is the provision of a single-use urinal formed of an impervious inner layer and an initially stiff semi-rigid water-absorbent outer layer readily losing its shape and strength when wet.

Another object of the invention is the provision of a throw-away urinal having a laminated main body including a water-absorbent outer rigid layer and an inner lining of impervious but readily flexible material.

Another object of the invention is the provision of a disposable urinal having a rounded rim edge covered with impervious material and shaped to conform with the female body adjacent the urethra.

These and other more specific objects will appear upon reading the following specification and claims and upon considering in connection therewith the attached drawing to which they relate.

Referring now to the drawing in which preferred embodiments of the invention are illustrated.

FIGURE 1 is a top plan view of a disposable urinal constructed in accordance with the present invention;

FIGURE 2 is a side elevational view;

FIGURE 3 is an end view taken at right angles to the view of FIGURE 2;

FIGURE 4 is a fragmentary sectional view on an enlarged scale taken through the rim edge of the urinal;

FIGURE 5 is a view similar to FIGURE 4 through a second preferred embodiment; and

FIGURE 6 is a view similar to FIGURES 4 and 5 of a third preferred embodiment.

Referring more particularly to FIGURES 1 to 4, there is shown a first preferred embodiment of the invention having a cup-like main body designated generally **10** of generally elliptical shape in cross-section in its upper portion and tapering downwardly to merge with its circular bottom. Main body **10** is formed with an outwardly rolled reinforcing upper edge **11** contoured to conform

approximately with the portion of the female body adjacent the outer end of the urinary tract.

The urinal may vary in size but in one preferred construction it is approximately two inches in diameter at its lower end and approximately four inches hight. The major width of the upper end is approximately four inches and the minor width about two and one-half inches, it being understood that these dimensions as well as those stated previously are merely exemplary.

The main body is formed of suitable water-absorbent material having the requisite strength and stiffness when dry such as soft-finished paper or other fibrous material. The exterior preferably has a rough finish with the voids between fibers open and receptive to water or other liquid in contact therewith. The interior surface of the main body, however, has a lining, layer, coating or surface suitably treated to render it substantially impervious to moisture except after contact of at least one minute. Various coatings are known to those skilled in the manufacture of paper and fibrous materials meeting these requirements.

Referring now to FIGURE 5, there is shown a second preferred embodiment identical with the first described construction except in particulars to be described. The urinal comprises a semi-rigid receptacle **15** having a main body formed of suitable water-absorbent material, as paper or other cellular material, and possessing the requisite rigidity when dry to retain its shape for handling and for emptying while filled with liquid. The interior surface of the main body is in direct supporting contact with a thin, flexible, impervious liner **17**, it being understood that this liner may be either bonded to or merely in loose contact with the interior surface of the main body. It is also to be understood that the liner may be molded, vacuum-formed or otherwise formed to shape from suitable flexible film-like plastic material. This liner may be simply supported against the main body, thermally fuse-bonded thereto, or adhesively bonded in place either throughout the contacting surface areas or only at spaced points, as desired.

Referring now to a third preferred embodiment illustrated in FIGURE 6 and indicated generally by reference **20**, the urinal will be understood as comprising a self-sustaining, semi-rigid main body **21** of the same water-absorbent material used in the first described embodiments or, alternatively, of numerous commercial water-absorbent starch and sugar compounds. The interior surface of this water-absorbent body is coated with an inpervious coating of wax, paraffin, plastic, lacquer or other sealing agent preventing the passage of liquids from the urinal into the main body. These coatings are also suitable for use as the impervious inner layer of the previously described embodiments.

From the foregoing it will be apparent that the invention devices are readily and compactly nestable together and are of a size such that a small number may be easily stowed away in a conventional handbag or the like. In use, a single one of the receptacles is pressed directly against the body while standing, the capacity being entirely adequate for a single use. After use, the receptacle and its contents are readily discarded simply by dropping into a container of water or directly into a toilet bowl. Once the water comes in contact with the highly absorbent main body of the urinal, it quickly softens and collapses along with the readily flexible thin lining with the result that no difficulty is experienced in flushing it along with the bowl contents to a sewer or other point of disposal. For these reasons it will be recognized that there is no risk of the very soft, pliant, limp walls clogging the plumbing passages since the slightest fluid head is sufficient to crush and collapse the water-logged main body material.

While the particular throw-away urinal herein shown and disclosed in detail is fully capable of attaining the objects and providing the advantages hereinbefore stated, it is to be understood that it is merely illustrative of the presently preferred embodiments of the invention and that no limitations are intended to the details of construction or design herein shown other than as defined in the appended claims.

I claim:

1. A single-use throw-away urinal adapted to soften and collapse when cast into a toilet bowl or the like for disposal along with the flushing water, said urinal having a semi-rigid generally noncircular main body of water-absorbent material shaped to nest readily into an identical urinal, an impervious flexible lining on the inner surface thereof and the rim edge of said main body, and said urinal having a rim edge shaped to seat against the female body adjacent the discharge end of the urethra.

2. A throw-away single-use urinal having a semi-rigid generally noncircular main body formed of water-absorbent material which softens and collapses quickly when cast into a water-charged flush toilet, said urinal being lined on its inner surface with thin flexible impervious material, and the rim edge of said urinal being shaped to reinforce and sustain the shape of the side walls and to fit against the female body adjacent the urethra while receiving urine therefrom.

3. A generally cup-shaped throw-away urinal shaped to nest compactly with an identical urinal, said urinal being formed in one piece and having a semi-rigid main body of laminated material including an exterior layer of relatively stiff material when dry but having the capability of absorbing water quickly and then becoming a soft, pliant, shapeless mass, an inner film of relatively thin flexible impervious material supported by the inner surface of said layer of stiff material, the rim edge of said urinal being shaped to conform generally to the female body adjacent the urethra while receiving urine, and the main body of said urinal collapsing quickly into a shapeless mass as said stiff outer layer absorbs water following disposal of the urinal into a body of water.

4. A urinal as defined in claim 3 characterized in that said rim edge is rolled over away from the interior surface thereof to reinforce said rim and to extend said impervious inner layer over the top edge of said urinal.

5. A urinal as defined in claim 3 characterized in that the upper end thereof is of generally elliptical shape in cross section.

6. A urinal as defined in claim 2 characterized in that the inner lining is adherent to the inner surface of said water-absorbent material.

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