

Oct. 4, 1932.

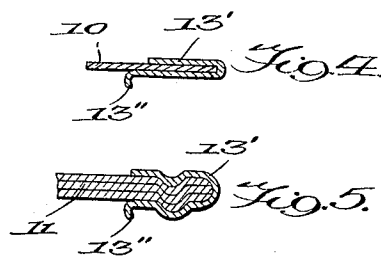
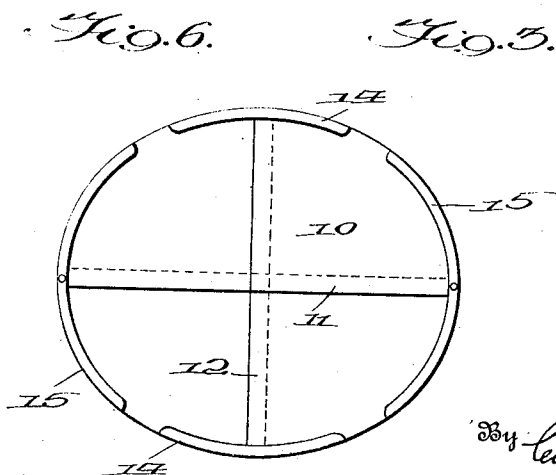
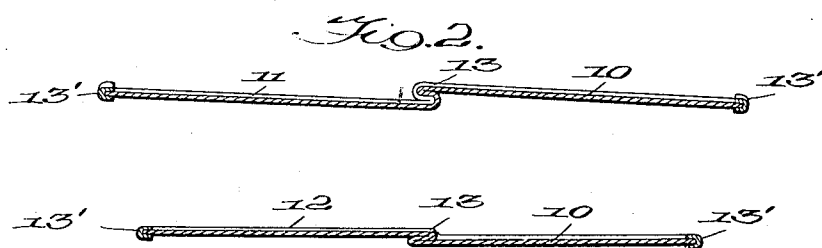
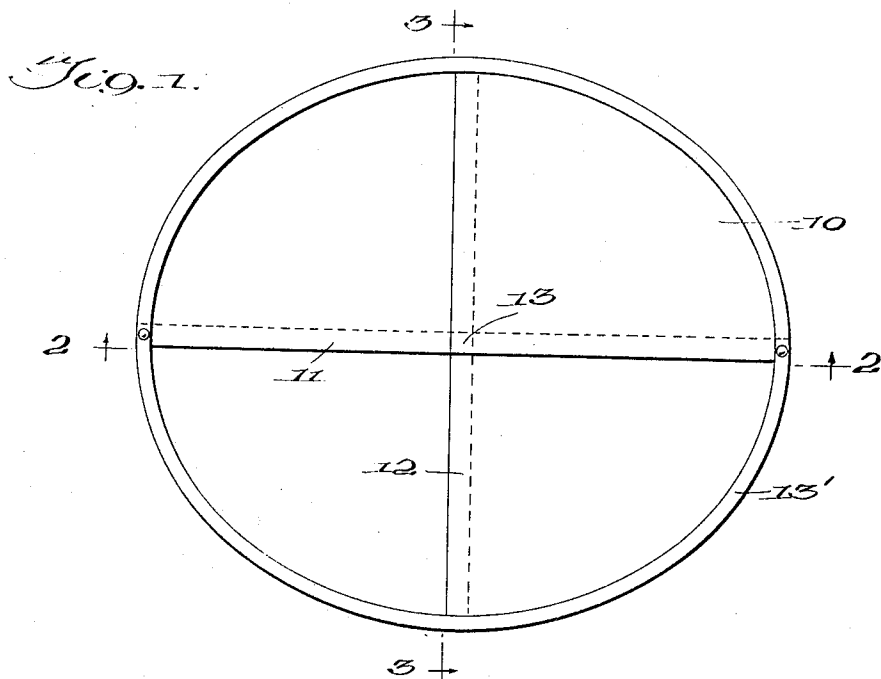
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1,881,010

SANITARY BASIN

Filed April 2, 1930

4 Sheets-Sheet 1



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4 Sheets-Sheet 2

Fig. 7.

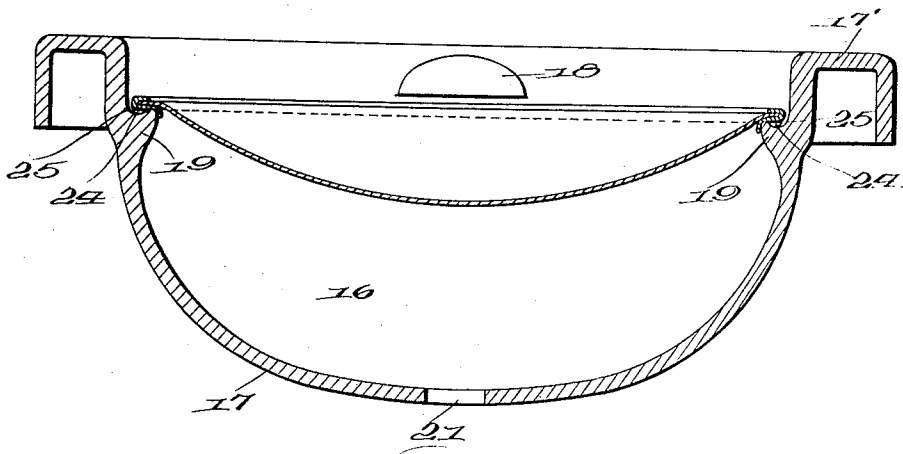
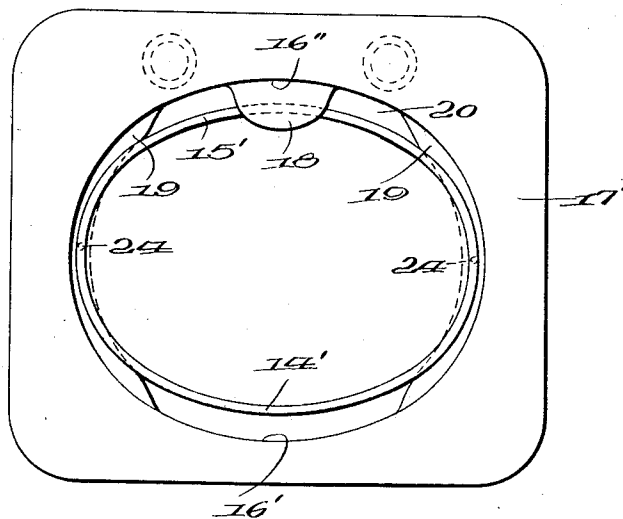


Fig. 8.



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4 Sheets-Sheet 3

Fig. 9.

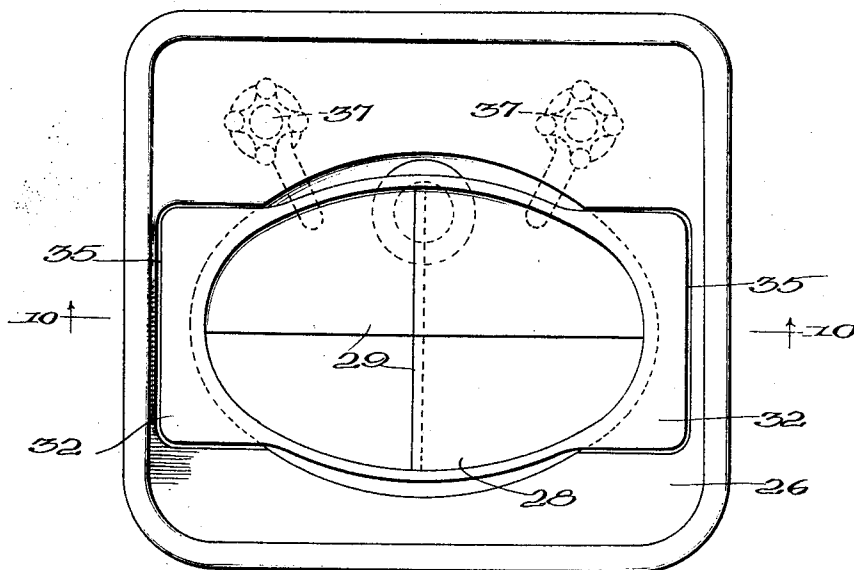


Fig. 10.

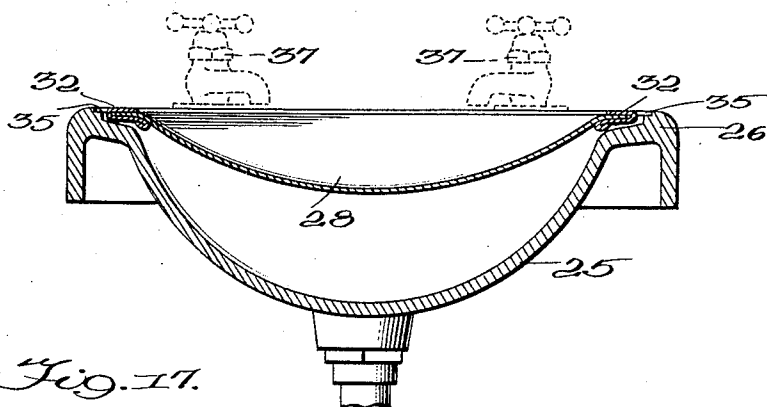
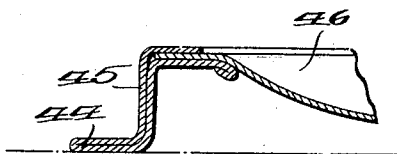


Fig. 11.



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Fig. 11.

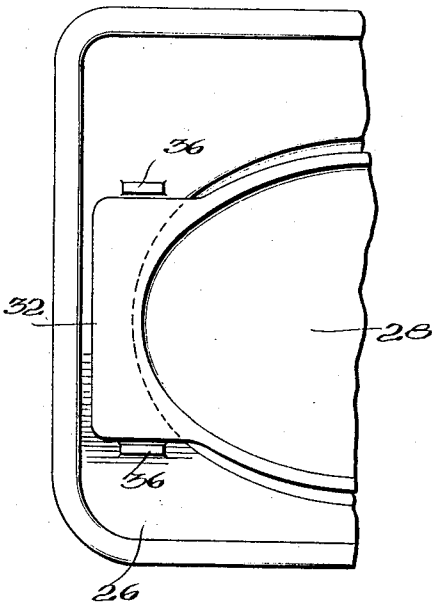


Fig. 12.

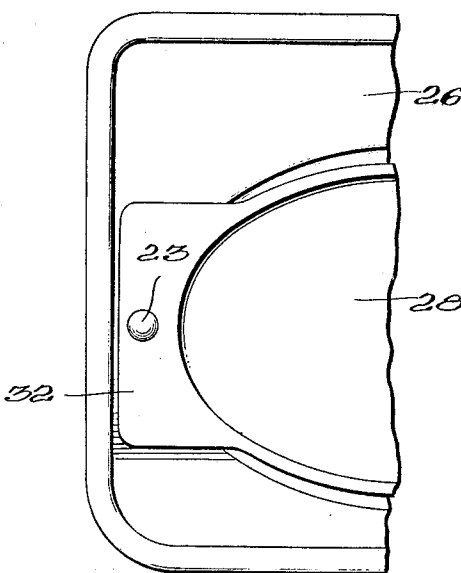


Fig. 13.

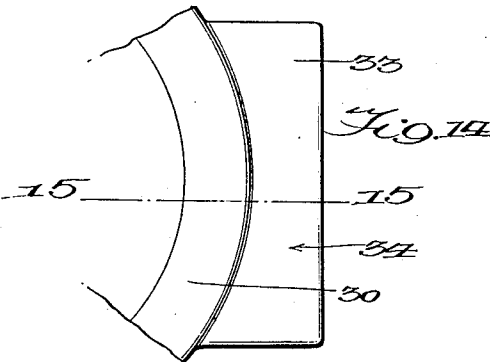
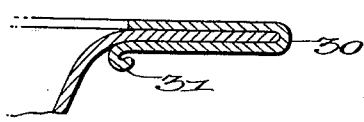


Fig. 16.

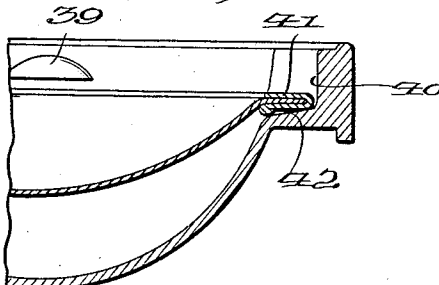
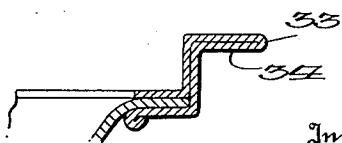


Fig. 15.



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UNITED STATES PATENT OFFICE

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SANITARY BASIN

Application filed April 2, 1930. Serial No. 441,078.

The present invention relates to sanitary basins designed for use in connection with wash bowls, and has for its purpose to provide a basin of such construction and so adapted to the usual wash bowl, that it can be made and dispensed at a price that will permit the single use and discarding of it, so as to ensure sanitary lavatory conditions in public toilet rooms.

The use in hotels, public, and semi-public places of the same wash bowl by a large number of persons, is frequently the cause of the spread of skin and other diseases. Travelers have often experienced annoyance and discomfort because it is necessary to use a basin previously used by others and which obviously has not been thoroughly cleansed. Moreover, in many states, laws have been enacted forbidding the use in trains, public comfort stations, and the like, of the same basin by more than one person. In my Patent 1,538,016, granted May 19, 1925, there is shown a sanitary wash basin adapted for use with a suitable support adapted to clamp its margin as disclosed therein, a support of this type being disclosed in my Patent 1,499,495, granted July 1, 1924.

This application is a continuation in part of my allowed application Serial No. 311,790, filed October 11, 1928, and a continuation in part of my co-pending application Serial No. 405,193, filed November 6, 1929.

An object of the present invention is to provide a sanitary wash basin which, after use, may be discarded but which, if desirable, may be repeatedly used by the same person.

A further object of the invention is to provide a paper receptacle adapted for such use and which has a margin suitably stiffened to serve as a support for the receptacle when filled. The invention also contemplates the provision of a marginal stiffening means which serves to fasten permanently the ends of the pleat or pleats which open up inwardly from the margin to provide the necessary concaved or dishd formation.

The invention also contemplates the provision of rests formed on the receptacle margin, the rests or supports being adapted to be deflected or bent so as to support the receptacle

in such a way that a portion thereof is disposed beneath the inlet spout or spouts of the basin. Moreover, the rests are preferably disposed at the ends of the receptacle and of sufficient width to support the same throughout the greater portion of the width of the receptacle whereby to prevent tilting movement. If desired, the rests may be formed so as to engage a support in such a way as to prevent turning or sliding movement of the same.

The foregoing and other objects of the invention, which are more closely related to details of construction, will be made clearer as the description proceeds in connection with certain preferred embodiments shown in the accompanying drawings, wherein:

Figure 1 is a top plan view of a receptacle blank.

Figure 2 is a sectional view on the line 2—2 of Figure 1.

Figure 3 is a sectional view on the line 3—3 of Figure 1.

Figure 4 is a fragmentary sectional view.

Figure 5 is a fragmentary sectional view.

Figure 6 is a plan view of a receptacle blank of somewhat modified form.

Figure 7 is a vertical sectional view showing the receptacle supported within a bowl of improved construction.

Figure 8 is a top plan view of the combination illustrated in Figure 1.

Figure 9 is a plan view of so much of a wash bowl and fixtures, of conventional design, as are necessary to illustrate a modified form of the invention, with the individual basin in position.

Figure 10 is a view in vertical section of a wash bowl, with the individual basin in place, substantially on the line 10—10 of Figure 9.

Figure 11 is a fragmentary view in plan illustrating a slightly modified form of the invention.

Figure 12 is a fragmentary view in plan showing another slight modification.

Figure 13 is a detail sectional view of the individual basin of the form embodying a fibrous basin portion with a stiffened metal rim.

Figure 14 is a fragmentary view in plan showing a slightly modified form of basin suspension.

Figure 15 is a sectional view on substantially the line 15—15 of Figure 14.

Figure 16 is a vertical section showing the basin adapted to that type of bowl in which the water inlet is in the form of a spout projecting from the inner wall of the bowl.

Figure 17 is a detail view showing the marginal supports of the form shown in Figures 14 and 15 arranged in reverse position.

Referring to the drawings for a more detailed description, the receptacle or collapsible basin may be formed of any suitable material such as relatively thin parchmentized paper adapted to withstand water and which is comparatively inexpensive, so that the basin may be discarded after it has been used once. The drawings illustrate the hand basin or wash bowl type and the article shown is formed from a blank 10 of elliptical contour. The blank has a transversely extending fold or pleat 11 which is preferably continuous from edge to edge of the blank. The pleat in the present instance coincides with the major axis of the ellipse defined by the contour of the blank and is formed so that when pressure is applied to the blank while the same is supported along its margin, the pleat will open, permitting the central portion of the blank to be depressed, and thereby forming a dish-like receptacle.

The provision of a single pleat which opens freely will form a suitable receptacle. However, in the preferred embodiment of the invention, shown in the drawings, an additional pleat is provided. The additional pleat or fold 12 extends transversely of the blank at an angle to the first mentioned pleat which it intersects, preferably at substantially the center 13 of the blank. This pleat 12 coincides with the minor axis of the ellipse defined by the contour of the blank and at the point of intersection of the pleats is formed by folding over upon itself a portion of the pleat 11, as indicated in Figure 2.

It will be noted that both pleats are of substantially uniform width from edge to edge of the blank, which is desirable, although not necessary, and that the pleats are continuous, their ends being at the margin of the blank.

The structure thus far described is similar to that disclosed in my patent above mentioned. However, it will be noted that the margin of the blank is not bent, but is disposed in substantially the same plane with the remainder of the blank before the same is depressed by opening the pleats. The present invention contemplates the treatment of the blank margin in such a way that the ends of the pleats are permanently fastened in the formation of the blank, whereby it is not neces-

sary to employ a support adapted to retain the ends of the pleats against opening when the remainder of the pleats are opened to depress the bowl inwardly from its margin. Moreover, the invention contemplates a fastening means for the pleat ends which will impart stiffness to the margin of the blank for a sufficient distance to enable the margin when rested upon a support, to sustain the filled receptacle, thus eliminating the necessity for using a support which clamps the margin of the blank.

Any suitable pleat-fastening and margin-stiffening means may be employed. For example, the embodiment of the invention illustrated includes a channel element 13' which receives the edge of the blank at the ends of the pleats and is adapted to hold the ends of the pleats against opening when the blank inwardly from its margin is depressed. If desired, the bottom web of the channel element 13' may be somewhat wider than the top web (Fig. 4) and may terminate in a downwardly curled edge 13'', which provides a rounded portion for engagement with the paper of the basin when the latter is flexed downwardly as indicated in Fig. 7, thereby minimizing the danger of tearing the paper of the basin when filled with water. The channel element may be formed from any suitable metallic or fibrous material, and preferably is extended around the blank from each pleat sufficiently to impart to the margin of the blank suitable stiffness to permit the margin to serve as a support for the receptacle when filled. Although the channel element illustrated extends entirely around the blank, it will be understood that it is simply desirable that the means employed should extend a sufficient distance to impart to the margin the rigidity necessary to support the filled receptacle formed from the blank.

The blank with its means for permanently fastening the ends of the pleat and stiffening the margin to provide a support may be positioned upon any suitable device adapted to provide a rest for the blank margin and to permit the central portion of the blank to be depressed to open those portions of the pleats disposed inwardly from the margin of the blank. When the blank center is depressed, as shown in Figure 6, there is provided a receptacle, the surface of which is smooth and devoid of interstices which would tend to collect sediment and other impurities. The pleats are comparatively loose inwardly from the blank margin so that upon application of the pressure to the central portion of the blank the pleats will open freely throughout substantially their entire length except, of course, immediately adjacent the margin where they are gripped by the channel element.

Obviously, the depth of the basin depends upon the width of the pleats and by forming

the pleats of greater or less width the capacity of the basin may be varied. Moreover, the extent and character of the stiffening means may vary in accordance with variation in the size of the receptacle since the weight of the filled receptacle will vary directly in proportion to its size or capacity.

Referring to Figure 6, there is shown a blank of the same general construction as that above described, but provided with a plurality of independent pleat fastening means, such as channels 14, 15, the channels 15 being disposed at the ends of the major axis and being of somewhat greater extent than the other channels since they serve as the sustaining means for the blank when positioned upon a support of the character hereinafter described.

The receptacle is intended to be inserted within the bowl 16 of a basin 17 having a marginal portion 17' surrounding the top of the bowl and an inlet spout 18 of conventional construction. In the present instance, the spout 18 is of the type formed integral with the bowl although it will be understood that the invention contemplates association of the receptacle with a basin having inlet spouts of other conventional forms, such as the separate faucet spouts.

In vertical planes offset from the bowl wall, and in the present instance projecting into the bowl area at each end of the bowl, is arranged a shelf or rest 19, the rests being confined to substantially the ends of the bowl whereby the inner surfaces of the bowl at the front 16' and rear 16'' thereof are unobstructed. These shelves are adapted to receive the stiffened margin of the receptacle blank, as illustrated in Figure 6, and to support the same so that a portion of the receptacle is disposed beneath the spout 18. For this purpose the shelves, as will be observed, are arranged in a horizontal plane below the outlet or mouth of the spout. Moreover, as is apparent from Figure 7, the supporting bowl is so formed relative to the receptacle and the rests are so arranged within the bowl that the opposite marginal portions 14', 15', of the receptacle intermediate the rest and at the front and rear of the bowl, are spaced inwardly from the bowl wall whereby to provide the spaces 20 through which an overflow from the receptacle may pass downwardly into the bowl and be discharged therefrom from the usual drain opening 21. As will be observed, the rests or supports, although of less extent than the bowl circumference, are nevertheless of sufficient width to engage the collapsible basin margin throughout the greater portion of the width of the basin, thereby effectively resisting tilting movement and also preventing bending of the basin when filled with water.

When the receptacle is disposed within the bowl with its stiffened margin bearing upon

the rests 19 a pressure upon the central portion of the blank will depress and dish the blank by opening the pleats. Thereafter water may be introduced into the receptacle thus formed, through the spout 18 and, as explained, any overflow during the filling of the receptacle, or as the same is used, will pass downwardly into the bowl through spaces 20 at the front and rear of the bowl. In order to resist sliding movement of the receptacle upon the rests 19, the latter and the receptacle margins may be formed with suitable means adapted to interengage. For example, the channel member 13, may be stamped out to provide tits 24 to project into cups or sockets 25 in the top surfaces of the rests.

Since the receptacle is formed with a stiffened margin which will support the same as described, it is unnecessary to provide a rest which will clamp the margin of the receptacle or hold the pleats against opening. Moreover, since the blank is flat as distinguished from the blank having the angularly deflected margin of my patent, the same may be more conveniently packed in transportation and readily stacked for dispensing.

Furthermore, it will be understood that although the blank shown in the drawing is of elliptical contour, this is not an essential feature of the invention since it may be made round or rectangular, or of any other design.

Referring to Figures 9 and 10, 25 indicates a bowl of any preferred design having the slab 26 and the usual fixtures 37 conventionally illustrated.

The individual basin is indicated at 28, and, as shown, will preferably follow generally the contour of the bowl 25, although of smaller diameter than the bowl, so as to leave an overflow area between the wall of the bowl 25 and the edge of the basin 28 at the front and rear of the basin between its ends.

The basin 28 will be formed of a thin light material, here shown of fibrous material, such as, paper, and where the material used, such as paper, can be readily folded, the blank forming the basin may be folded along the lines 29, so that, as produced, ready for use, it will be flat and capable of being distended to basin-like form by pressing it centrally to cause the folds or creases 29 to open and distend the material into a rounded basin shape. Such a construction is described in detail in my Patent No. 1,538,016, granted May 19, 1925. In order to give the basin stability and make it self-supporting, its edge may be stiffened in various ways, one convenient form of providing the stiffened edge, where the basin is made of fibrous material, such as paper, being to secure to that edge a thin metal rim 30 formed of folded and properly crimped material such as metal, as shown in the detail views, Figures 13 and 14. Preferably, the lower ply of the metal rim 30

will be wider than the upper ply and have its edge bent slightly, as at 31, so as to form a rounded contact surface for the paper basin 28 when in distended position, thus eliminating any danger of cutting or tearing the paper against the edge of the lower ply of the rim 30.

The basin 28 will be provided at suitable points in its periphery with projections or offsets 32, two diametrically opposed offsets being here shown for purposes of illustration, although such offsets may be greater in number and differently disposed if desired. Where the form of the invention embodies a paper basin and the metal rim is adopted, these projections 32 will extend outwardly from the rim, and will preferably be formed integrally with the rim for the purposes of convenience in manufacture. These offsets should cover a considerable area, as shown, or in other words, be of considerable width so as to prevent forward or rearward tilting of the paper basin, which would be possible if the projections were narrow or pintle-like in design. Preferably these projections should be substantially greater than one-half the width of the paper basin, as illustrated.

The purpose of the projections or offsets 32 is to support the basin, as shown in Figures 9 and 10, upon the slab 26, and in the usual fixture the basin will be so disposed when in place that it will lie below the level of the outlets of the fixtures 27 and extend beneath them far enough to receive water therefrom. Where it is necessary to drop the individual basin deeper in the bowl in order to bring it below the level of the water outlets, which might be the case where the outlet is formed in the wall of the basin, the projections on the rim of the basin may be formed as shown in Figures 14 and 15, where the projections 33 are bent upwardly and then outwardly from the rim so as to give a supporting lip 34 to rest upon the slab, thereby dropping the basin deeper into the bowl and bringing it below the level of the water outlets.

With an individual basin of this character, which is, of course, very light, but sufficiently strong to serve the needs of an individual user, it is desirable to prevent accidental shifting or movement of the basin on the slab while in use. This may be accomplished in various ways, as, for example, by providing seats 35, as shown in Figures 9 and 10, in the top of the slab at the proper points to receive the projections 32 or 34 on the basin, and these seats 35 may be readily formed in the slab and of such design and character as not to affect in any way the appearance of the slab or produce unsightly or unsanitary crevices. Their bottoms 20' may be inclined downwardly toward the bowl in order to cause water to drain therefrom.

Another way in which this result may be

accomplished is by providing projections 36 on the surface of the slab, as shown in Figure 11, between which projections 32 or 34 on the basin will rest.

Still another way of accomplishing this result is to provide the projections 37 on the surface of the slab which will be engaged by apertures 23 formed in the projections on the basin, as shown in Figure 12.

It will be observed that the form of the invention shown in Figures 14 and 15 provides for dropping the basin by means of the dropped hanger supports down into the bowl, so that it would be adapted to take care of that type of fixture in which the water inlet is in the form of a spout projecting from the inner wall of the bowl, as distinguished from the old type of fixtures shown in Figures 9 and 10.

While this is a convenient and practical form of the device, there is shown in Figure 16 a construction which lends itself to use with that form of basin in which the projections on the basin are not offset, but are of the form shown in Figures 9 and 10. In this form of the invention, where there is provided a basin spout 39, below the top of the slab on the inner wall of the bowl, the seats 40 will be made deep enough to permit the supporting projections 41 to drop down to the inclined bottom 42 which is at a level bringing the basin below the inlet spout 39, so that whichever form of wash bowl is provided, the straight-edge type basin may be used.

As shown in Figure 17, that form of the invention in which the supporting projections 44 are offset may be used, if desired, by simply reversing it, as shown, so that the offset projections 44 form supporting feet, and the basin reversed in this way can be used as an ordinary standing basin, as distinguished from its use in connection with a wash bowl. It is obvious that the perpendicular members 45 of the offset supports 44 may be made of sufficient length to maintain a relatively shallow bowl 46 in reversed position for use as a hand basin, without interfering with its use in connection with a wash bowl. Although the contour of the projections shown in Figures 16 and 17 is not illustrated, it will be understood that they are of the same relatively wide design as the projections 32 of Figures 9 and 11, so as to avoid tilting of the basin.

It will be seen that by forming the basin projections integral with the folded rim and compressing the folded metal, a very rigid and stable offset is provided which will not sag or give under ordinary use. Moreover, it will be observed that in all of the several forms, the supporting projections on the tapered base are disposed entirely at the ends which permits unobstructed spaces for overflow from the tapered base intermediate its

ends, when the basin is arranged in the bowl, as illustrated in Figure 9. Although the projections are described as being of considerable width, it will be understood that the underlying idea is to arrange them so that they support the basin throughout a considerable area at its ends, as distinguished from a relatively narrow or trunnion-like support, which would permit the basin to tilt as the water contained therein is agitated. Therefore, it is simply necessary that the projections or supports be of sufficient extent to prevent tilting of the basin.

Furthermore, it will be understood that each basin may be made substantially flat, as shown in Figures 1 and 9, so that the end extensions or supports may be deflected, as desired, either to the shape shown in Figure 15 or to the shape shown in Figure 17 or to any other shape which may be preferable for the purpose of adapting the basin rests to the particular support for which they are to be employed.

The advantages of the invention disclosed are that an individual wash basin is provided which may be dispensed at small cost to the public and provide each user with a sanitary device, which, after once being used, may be thrown away, although it will be understood that the make-up of the individual basin is such that it is capable, in the hands of the individual user, of a very considerable use without deterioration. It is intended, however, that where such basins are dispensed, either by attendants in toilet rooms, or through vending machines, by which the basin may be very readily handled, there shall be no common use of the basin by the public, and thus the danger of contamination by promiscuous use of wash bowls in public places is eliminated. The construction lends itself to rapid and cheap production, so that the basin may be turned out in large numbers and sold to the public at reasonable cost.

Although I have referred throughout the specification and claims to the basin as being formed of paper, it will be understood that this term is used in a broad sense to cover any paper-like material of flexible character requiring a stiffening supporting medium along its edge.

As stated, the disclosure here is illustrative, and such variations from the particular disclosure as are within the skill of the mechanic may be made without departing from the range of my invention.

I claim:

1. As an article of manufacture, a blank for a paper receptacle having a continuous pleat extending entirely thereacross, the ends of the pleat being adapted to be held folded and substantially its remainder being adapted to be opened to depress the blank inwardly of its margin, and means permanently fastening the ends of the pleat and extending

around the blank sufficiently to provide a stiffened margin, thereby forming a marginal support for the blank.

2. As an article of manufacture, a blank for a paper receptacle having a continuous pleat extending entirely thereacross, the ends of the pleat being adapted to be held folded and substantially its remainder being adapted to be opened to depress the blank inwardly of its margin, and an edge binding for said blank serving to fasten permanently the ends of the pleat, said binding extending circumferentially beyond the pleats whereby to stiffen the blank margin, and form a marginal support for the blank.

3. As an article of manufacture, a blank for a paper receptacle having two transversely extending intersecting pleats, and means permanently fastening the ends of the pleats, said means extending circumferentially beyond the pleats whereby to stiffen the blank margin and form a support for the blank, substantially the remainder of the pleats being adapted to be opened to depress the blank inwardly of its margin.

4. In combination, a blank for a paper receptacle having at least two transversely extending intersecting pleats, and means permanently fastening the ends of the pleats and extending along the margin sufficiently to stiffen the same into a marginal support, substantially the remainder of the pleats being adapted to be opened to depress the blank inwardly of its margin.

5. A flexible paper basin having a metal stiffening rim secured to its edge and its portion inwardly from the rim freely depressible from the plane of the rim, one of the plies of said rim being bent to form a rounded inner edge to engage and support the flexible material of the portion of said basin inwardly from the rim when said portion is depressed to bring the flexible material into supporting engagement with the inner edge.

6. A paper basin comprising an integral bottom and side wall, the side wall having a stiffened rim, and basin supporting projections extending horizontally outwardly from said rim.

7. A paper basin comprising an integral bottom and side wall, the side wall having a stiffened rim, and basin supporting projections extending perpendicularly and horizontally outwardly from said rim.

8. A basin formed of flexible material having an integral bottom and side wall, the side wall having a stiffening rim of sheet metal clamped to its edge, the metal of said rim being extended outwardly to form basin supporting projections.

9. A basin formed of flexible material having an integral bottom and side wall, the side wall having a stiffening rim of sheet metal clamped to its edge, the metal of said rim being extended perpendicularly and outwardly

from said rim to form offset basin supporting projections.

10. A paper basin comprising an integral bottom and side wall, the latter having a stiffening rim of sheet metal clamped to its edge, the metal of the rim being extended to form substantially L-shaped basin supporting projections.

11. A paper basin comprising an integral bottom and side wall, the latter having a stiffening rim of sheet metal clamped to its edge, the metal of the rim being extended and compressed to form substantially L-shaped rigid basin supporting projections.

12. A paper basin comprising an integral bottom and side wall, the latter having a stiffening rim of sheet metal clamped to its edge, the metal of the rim being extended and compressed to form rigid horizontal projections, said rim having its inner edge curled to a rounded form to provide a curved inner supporting edge.

13. A basin formed of flexible material and having a stiffening rim clamped to its edge, said rim at the ends of the basin extending outwardly a substantial distance from the basin margin to provide a rim extension adapted to support the basin, each extension being substantially greater in width than one-half the width of the basin whereby to prevent tilting movement of the basin when supported thereby.

14. A basin formed of flexible material comprising an integral bottom and side wall, the latter having a stiffening rim of metal clamped to its edge at the ends of the basin, the metal of the rim being extended outwardly at each end to form a basin supporting extension, each extension being of substantial length whereby the extension may be transversely folded to provide basin supports of substantially L-shaped form.

15. A basin formed of flexible material having a stiffening rim of sheet metal clamped to its edge at the ends of the basin, the metal of the rim being extended outwardly at each end to form a basin supporting extension, each extension being of substantial length whereby the extension may be transversely folded to provide basin supports of substantially L-shaped form and being in width substantially greater than one-half the width of the basin at its ends.

16. A basin formed of flexible material comprising an integral bottom and side wall, the latter having a stiffening rim secured to its edge, said stiffening rim at the ends of the basin being substantially wider than throughout the remainder of the basin margin whereby to provide rim extensions adapted to support the basin, said rim being formed of metallic material adapted to be transversely bent to provide extensions of angular form.

17. A basin formed of flexible material comprising an integral bottom and side wall,

the latter having a stiffening rim secured to its edge, said stiffening rim at the ends of the basin being substantially wider than throughout the remainder of the basin margin whereby to provide rim extensions adapted to support the basin, said rim being formed of metallic material adapted to be transversely bent to provide extensions of angular form, the rim beneath the basin having a rounded inner edge to engage and support the flexible material of the basin.

In testimony whereof I have hereunto set my hand.

CHARLES H. WINDSOR.

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