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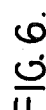
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SINK CONSTRUCTION

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SINK CONSTRUCTION

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11 Claims. (Cl. 4-166)

This invention relates generally to lavatory fixtures, and is particularly directed to improvements in sink construction and incident plumbing.

As is well known to those versed in the art, the manufacture of conventional type sinks requires extremely expensive and highly specialized production facilities, and involves many time consuming and costly labor operations, all of which add to the cost of the finished product. Further, prior sink constructions are inherently bulky in proportions, so that variety of design and particularly lightness of appearance, as is presently popular, are impossible to achieve. The necessary bulk and weight of conventional sinks are also disadvantageous in storage, shipment, installation and other handling procedures.

Accordingly, it is a general object of the present invention to provide a highly improved sink construction which overcomes the above mentioned difficulties, permits of economical manufacture by mass production techniques, and is capable of great variety in styling, including the use of light appearing, clean and simple lines. Moreover, the instant invention provides a sink construction which is of substantially reduced bulk and weight, so as to occupy a minimum of space and greatly simplify handling operations.

It is another object of the present invention to provide a sink construction having the advantageous characteristics mentioned in the foregoing paragraph, which facilitates personal grooming and toilet processes, such as washing the hair, face and hands, and minimizes splashing and dripping of liquid from the sink to maintain the surrounding area neat and clean.

It is a further object of the present invention to provide an improved sink of the type described which is simple and durable in construction and use, neat and attractive in appearance, and which can be manufactured, installed and maintained at a minimum of cost.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

In the drawings:

Figure 1 is a top perspective view showing a sink constructed in accordance with the present invention, as mounted on a supporting wall, with concealed parts being shown in dashed lines for clarity of understanding;

Fig. 2 is a vertical sectional view showing the installed sink of the instant invention, and taken substantially along the line 2-2 of Fig. 5;

Fig. 3 is a partial, vertical sectional view taken substantially along the line 3-3 of Fig. 2;

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Fig. 4 is a perspective, exploded view showing the elements of the instant sink in spaced apart relation;

Fig. 5 is a top plan view showing the installed sink of Fig. 1, with parts broken away for purposes of illustration; and

Fig. 6 is a partial, horizontal sectional view taken substantially along the line 6-6 of Fig. 2.

Referring now more particularly to the drawings, and specifically to Figs. 1 and 2 thereof, 10 designates a vertical, supporting wall, to which is secured a sink, generally designated 11.

In order to insure rigid securement of the sink 11 to the wall 10, a mounting plate 12 is fixed to the wall, preferably interiorly thereof, see Fig. 5. It will there be seen that the mounting plate is disposed generally vertically and extends laterally between a pair of wall studs 13 and 14. On opposite ends of mounting plate 12 are inwardly extending flanges 15 and 16 fixedly secured to the studs 13 and 14, respectively, by fasteners 17 and 18.

In Fig. 4 it is seen that the plate 12 is formed with one pair of vertical slots 21, 21 disposed in vertically spaced, aligned relation adjacent to but spaced from the flange 15, and a second pair of vertically spaced and aligned slots 22 disposed adjacent to but spaced from the flange 16. Intermediate the upper one of the slots 21 and the flange 15, the plate 12 is formed with a conduit opening 23; and, a similar conduit opening 24 is formed in the mounting plate intermediate the upper slot 22 and the flange 16. An additional conduit opening 25, preferably larger than the openings 23 and 24, is formed in the plate 12 intermediate the lower slot 21 and the flange 15. With the plate 12 secured in position between the studs 13 and 14, the wall 10 may be plastered or otherwise finished, as at 28, preferably without closing the slots 21 and 22, and openings 23, 24 and 25.

The sink 11, as best seen in Fig. 4, includes a pair of generally horizontally extending, vertical side plates 31 and 32, disposed in laterally spaced, facing parallelism with respect to each other. The side plates 31 and 32 may be of congruent configuration, each converging forwards from its rear end and terminating in a smoothly curved front end.

Thus, the side plate 31 has an upper edge 33 which curves forwardly and downwardly, and a lower edge 34 which curves forwardly and upwardly, the upper and lower edges merging smoothly at the front end of the side plate. The side plate 32 is similarly formed with a forwardly and downwardly curving upper edge 35, and a forwardly and upwardly curving lower edge (obscured in the drawings), which upper and lower edges merge smoothly at the front end of the latter side plate. On the rear end of the side plate 31, extending rearwardly therefrom, are a pair of vertically spaced, downwardly facing hooks 36 adapted for bayonet-like engagement, respectively, in the vertically spaced slots 21. A similar pair of rearwardly extending, vertically spaced, downwardly facing hooks 37 are provided on the rear end of the side plate 32 and adapted for bayonet type engagement in the slots 22, respectively. In this manner, the side plates 31 and 32 are firmly supported by the mounting plate 12 to project outwards from the wall 10.

Formed in the side plate 31, intermediate its ends and adjacent to its upper edge 33, are a pair of vertically spaced apertures 40 and 41, and a vertical slot 42. Directly below the slot 42, the side plate 31 is provided, adjacent to its lower edge, with one or more through openings 43, see Fig. 2. The opposite side plate 32 is provided with a single opening 44 disposed in alignment with the opening 40, for purposes appearing presently.

Extending between the side plates 31 and 32, along the lower edge portions of the latter and secured thereto, is a bottom sheet 47. That is, the bottom sheet 47 is bent to substantially conform to the lower edges of the side plates 31 and 32, and has its opposite side edges fixedly secured to the respective side plates, as by welding or other suitable means.

In Fig. 2 it will be observed that the lowermost portion of the bottom sheet 47 is disposed adjacent to the openings 43; and, if preferred, the bottom sheet may be slightly inclined laterally away from the latter openings. It will also be seen that a front extension 48 is provided on the bottom sheet 47 curving smoothly upwards and rearwards along the curved front end edges of the side plates 31 and 32 so as to spacedly overlie the front portion of the bottom sheet. In particular, the front extension 48 has its opposite side edges welded or otherwise fixedly secured to the side plates 31 and 32 and may be formed integrally with the bottom sheet, as illustrated. The rearward portion of the bottom sheet 47 is spaced forwardly from the wall 10, and provided with an extension 49 which curves smoothly upwards and slightly forwards, being spaced from the wall 10, and terminates in an upper edge 50 adjacent to and spaced below the upper side plate edges 33 and 35. The rear extension 49 also has its opposite side edges fixedly secured, as by welding or the like, to the plates 31 and 32, respectively, and may be formed integrally with the bottom sheet 47, if desired. Thus, the bottom sheet 47, front extension 48 and rear extension 49 may all be fabricated of a single piece of sheet material bent to the desired configuration and welded or otherwise secured along its opposite side edges to respective side plates.

A faucet assembly, generally designated 52, extends between the side plates 31 and 32 and seats on the upper edge 50 of the rear extension 49. The faucet assembly includes an elongate, bar-like body 53 formed interiorly thereof with a longitudinal passageway 54 opening through opposite ends of the body. A faucet 55 projects forwardly from the body 53, medially thereof, and opens interiorly into the passageway 54 to communicate between the latter and the exterior of the faucet.

On opposite sides of the faucet 55, the elongate body 53 is formed with a pair of internal bores 56, one being shown in detail in Fig. 6, which intersect the passageway or bore 54 and extend transversely through and beyond the passageway. In addition, each of the bores 56 is formed on one side thereof adjacent to the faucet 55 with a longitudinally coextensive slot 57 which opens into the passageway 54. A pair of generally cylindrical valve bodies or gates 58 are each slidably disposed in a respective bore 56 and shiftable therein to any desired position between the passageway closing condition illustrated in Fig. 6, and a passageway opening condition shifted substantially out of the passageway 54. Each of the gates 58 is formed with an annular, circumferential groove 59 for receiving a pin or lug 60 fixed to a rotary stem 61. The stems 61 are each rotatably mounted in the body 53, and recesses 62 are formed in the body permitting rotation of the pins 60. A handle or arm 63 is fixed to each stem 61, exteriorly of the body 53, to permit of independent manual actuation of the valve bodies or gates 58 to any selected position between their passageway closing and opening conditions. As both of the gate valves in the body 53 are identical, the above detailed description of one will suffice.

In its assembled relation, the body 53 is disposed extending between the side plates 31 and 32, having its opposite ends fixedly secured thereto, and with opposite ends of the passageway 54 opening through the apertures 40 and 44, respectively. The body 53 is further arranged to seat on the upper edge 50 of the rear extension 49, preferably being fixedly secured thereto, and extending forwardly therefrom.

Suitable pipes or conduits, as at 66 and 67 are connected through the apertures 40 and 44 to opposite ends of the passageway 54, and pass respectively through the plate apertures 23 and 24 for connecting the passageway with sources of fluid supply, such as hot and cold water. The valves 58 of course control the relative quantities of hot and cold water entering to the faucet 55.

It will now be appreciated that the facing spaced side plates 31 and 32, combine with the bottom sheet 47, front extension 48 and rear extension 49 to define a basin for receiving fluid from the faucet 55. The faucet assembly 52 provides a convenient shelf overhanging the basin for supporting soap or the like in a recess 68 and affording ample hand room under the faucet to facilitate washing. A tumbler and tooth brush holding bracket 69, which may be fabricated of sheet material, as by stamping or the like, may be secured interiorly of the side plate 31 rearwards of the faucet assembly. That is, adequate room is afforded the tumbler and tooth brush holder in a convenient and unobstructing position in the space between the faucet assembly and supporting wall.

Secured exteriorly of the side plate 31, in the region of the openings 41 and 43, is an open top housing or drain box 73. The housing combines with the associated side plate to define a receptacle for receiving liquid from the openings 41 and 43, and is provided with an outlet drain pipe 74 passing through the plate aperture 25 interiorly of the wall 10 to a suitable sewerage system. A removable access plug 75 is provided in the drain pipe 74 exteriorly of the wall 10, permitting the drainpipe to be conveniently cleaned and repaired without damage to the wall.

Disposed within the housing 73, see Fig. 3, is a stopper or closure 76 adapted to open and close openings 43. More specifically, the stopper 76 is pivoted, as at 77 to a bracket 78 fixed on the side plate 31 for swinging movement into and out of closing relation with respect to the openings 43. An angulated arm 79, fixed to the stopper 76 for rotation therewith about the pin 77, is pivoted, as at 80, to one end of a yieldably retractable link 81. The other end of the yieldably retractable link 81 is pivoted at 82 to the outer wall of the housing 73 and combines with the arm 79 to define a toggle linkage. A coil compression spring 83 is contained within the retractable link 82 to resiliently urge the latter to extended condition, and thus yieldably maintain the toggle linkage 79 and 81 in either of its extreme positions of movement. This of course yieldably maintains the stopper 76 in either its fully open or fully closed position. An actuating knob 84, disposed interiorly of the side plate 31, is vertically slidable in the slot 42, and extends exteriorly of the latter side plate for pivotal connection, by a link 85 to the pivot 80 for operating the toggle linkage. That is, upon manual vertical shifting of the actuating knob 84, the toggle linkage, and hence the stopper 76 will be shifted between their extreme limiting positions.

Of course, with the stopper 76 closed, as illustrated in Fig. 3, the basin will retain liquid up to the level of the aperture 41, whereupon additional liquid will pass through the latter aperture into the housing or drain box 73 and out through the drain pipe 74.

In order to conceal and protect the water inlet connections 66 and 67, as well as the housing 73 and its contents, a pair of hollow casing sections 88 and 89, of complementary configuration and shaped conformably to the side plates 31 and 32, respectively, are detachably secured exteriorly of their respective side plates. While any suitable securing means may be employed to secure the casing sections 88 and 89 in position, the use of interengageable, upstanding brackets 90 on the side plates, and depending tongues or tabs 91 on the casings has been found satisfactory.

From the foregoing, it is seen that the present inven-

tion provides a sink construction which fully accomplishes its intended objects, and which is well adapted to meet practical conditions of manufacture, maintenance and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claims.

What is claimed is:

1. A lavatory sink comprising a pair of facing, laterally spaced side plates having their rear ends adapted for connection to a supporting wall, a bottom sheet extending between and fixedly secured to said side plates in the lower regions thereof, the rear of said bottom sheet being spaced from said supporting wall, an upward extension on the front of said bottom sheet and fixedly secured to said side plates, and an upward extension on the rear of said bottom sheet spaced from said supporting wall and fixedly secured to said plates, said bottom sheet, side plates and front and rear extensions thus combining to define a basin.

2. A lavatory sink according to claim 1, said front extension curving smoothly upwards and rearwards to spacedly overlie the front portion of said bottom sheet, said front extension thus serving to substantially reduce forward splashing of liquid from said basin.

3. A lavatory sink according to claim 1, in combination with an elongate body formed interiorly with a longitudinal open ended passageway and disposed adjacent to the top of said rear extension with its opposite ends each fixedly secured to and opening through a respective one of said side plates, opposite ends of said passageway being adapted for communication with sources of fluid supply, and a faucet projecting forwards from said body and communicating with said passageway to deliver fluid from said passageway to said basin.

4. A lavatory sink according to claim 3, in combination with a pair of gate valves mounted in said body on opposite sides of said faucet for selectively opening and closing said passageway, said valves thus affording control over the rate of fluid flow from said sources to said faucet.

5. A lavatory sink according to claim 1, in combination with a housing fixed to the exterior of one of said side plates and communicating through an outlet opening in the latter with the interior of said basin for receiving fluid therefrom, said housing being adapted for connection to a drain pipe, a stopper mounted in said housing for swinging movement into and out closing relation with respect to said outlet opening, and means for manually operating said stopper.

6. A lavatory sink according to claim 5, said stopper operating means comprising a toggle linkage connected to said stopper and resiliently biased toward opposite limiting positions of movement to yieldably maintain said stopper in open and closed relation with respect to said outlet opening, and a hand actuable member disposed interiorly of said basin and connected to said linkage for moving the latter between its limiting positions.

7. A lavatory sink according to claim 6, in combination with an elongate body formed interiorly with a longitudinal open ended passageway and disposed adjacent to the top of said rear extension having its opposite ends each fixedly secured to and opening through a respective one of said side plates, opposite ends of said body being adapted for connection to sources of fluid supply to communicate the latter with said passageway, a hollow casing secured exteriorly of each of said side plates enclosing said fluid supply connections and housing, and a faucet projecting forwards from said body and communicating with said passageway to deliver fluid from said passageway to said basin.

8. A lavatory sink comprising a pair of facing, laterally spaced side plates having their rear ends adapted for connection to a supporting wall, a bottom sheet extending between and having its opposite edges fixedly secured to said plates along the lower edge portions of the latter, the rear of said bottom sheet being spaced forwards of said supporting wall, an extension on the front of said bottom sheet curving smoothly upwards and rearwards to spacedly overlie the front portion of said bottom sheet and having its opposite side edges fixedly secured to said side plates, and an extension on the rear of said bottom sheet curving smoothly upwards spaced from said supporting wall and having its opposite side edges fixedly secured to said plates, said side plates, bottom sheet and front and rear extensions thus combining to define a basin.

9. A lavatory sink according to claim 8, wherein said bottom sheet, front and rear extensions are integrally formed of a single piece.

10. A lavatory sink according to claim 8 in combination with an elongate body formed interiorly with a longitudinal open ended passageway and disposed adjacent to the top of said rear extension having its opposite ends each fixedly secured to and opening through a respective one of said side plates, opposite ends of said passageway being adapted for communication with sources of fluid supply, a faucet projecting forwards from said body and communicating with said passageway to deliver fluid from said passageway to said basin, and a pair of gate valves mounted in said body on opposite sides of said faucet for selectively opening and closing said passageway, whereby the rate of flow of fluid from said sources to said faucet may be selectively varied by operation of said valves.

11. A lavatory sink according to claim 8, in combination with a housing fixed to the exterior of one of said side plates and communicating through an outlet opening in the latter with the interior of said basin for receiving fluid therefrom, said housing being adapted for connection to a drain pipe, a stopper mounted in said housing for swinging movement between opening and closing relation with respect to said outlet opening, a toggle linkage connected to said stopper and resiliently biased toward opposite limiting positions of movement to yieldably maintain said stopper in said opening and closing relations, and a hand actuable member disposed interiorly of said basin and connected to said linkage for moving the latter between its limiting positions.

No references cited.