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SELF-RIMMING SINK MOUNTING

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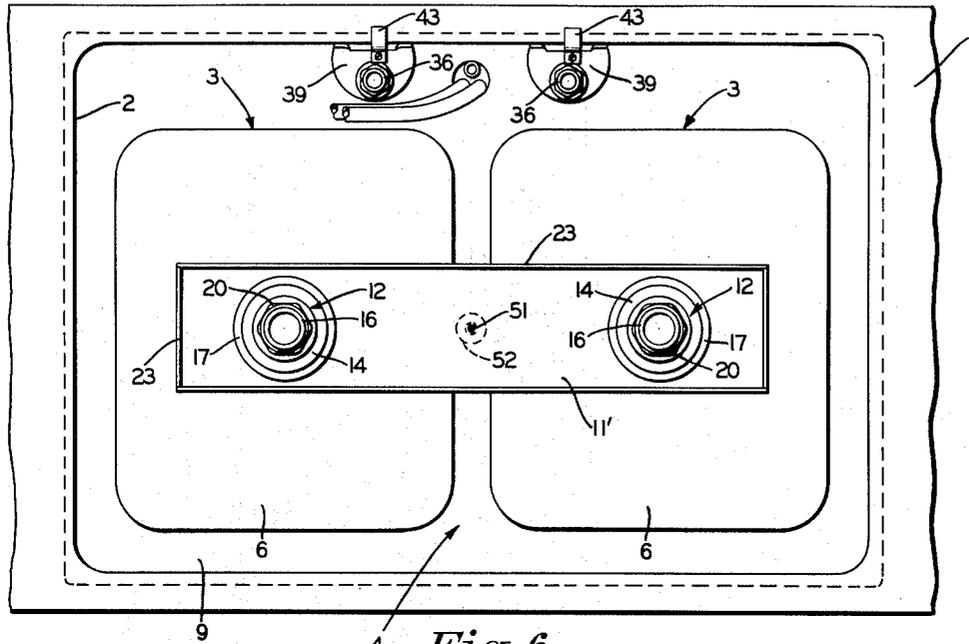


Fig. 6

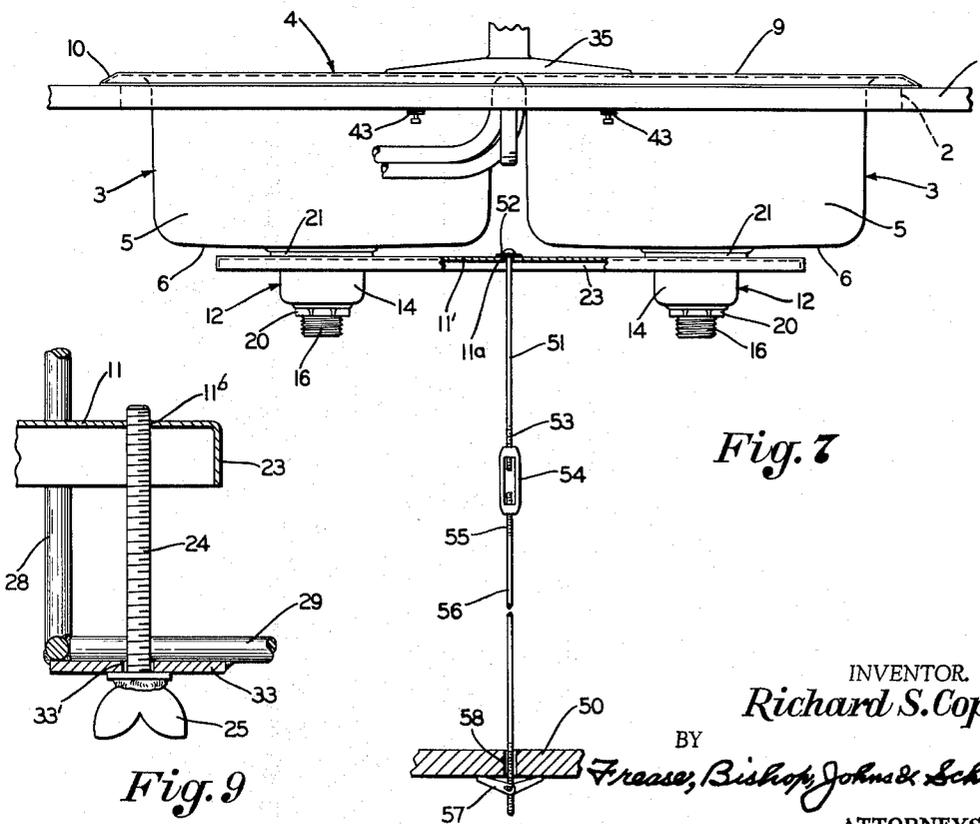


Fig. 7

Fig. 9

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1

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**SELF-RIMMING SINK MOUNTING**

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3 Claims. (Cl. 4—187)

The invention relates to sink mountings and more particularly to a novel and useful means for mounting a sink in a countertop or drainboard.

With the advent of stainless steel sinks various means have been designed for providing self-rimming mountings for assembling the sink upon a countertop or drainboard. Such mountings usually comprise clamping devices contacting the under surface of the countertop or drainboard at spaced points around the opening therein, for urging the marginal flange of the sink toward the top surface of the countertop.

Although such devices have been used with a certain amount of success, they have the disadvantages and difficulty of requiring a considerable number of clamping devices being applied after the sink has been located in place through the usual opening provided therefor in the countertop or drainboard.

The attaching and adjusting of this multiplicity of clamping devices from beneath the sink is a difficult and tedious job for the workman installing the sink. Furthermore, these clamping devices only contact the under surface of the countertop, around said opening, at spaced points.

It is, therefore, an object of the invention to provide a self-rimming sink mounting which will overcome the above-noted disadvantages and difficulties.

It is also an object of the invention to provide such a self-rimming sink mounting in which a hold-down plate is attached to the drain strainer or strainers of the sink and means is provided for pulling down on said hold-down plate for clamping the marginal flange of the sink against the top surface of the countertop or drainboard.

A further object of the invention is to provide a self-rimming sink mounting of this type in which screw means is attached to the hold-down plate and to the floor or lower shelf of the cabinet in which the sink is mounted.

Another object of the invention is to provide a self-rimming sink mounting of the character referred to in which means is provided comprising a hold-down plate attached to the drain strainer or strainers of the sink, and U-shaped brace means connected to said hold-down plate and in clamping contact with the under surface of the countertop or drainboard.

A further object of the invention is to provide a self-rimming sink mounting of this type in which clamping means contacts the under surface of the countertop or drainboard entirely around the opening therein through which the sink is located.

A still further object of the invention is to provide such a self-rimming sink mounting in which the clamping brace is attached to the hold-down plate by means of an adjusting screw.

Another object of the invention is to provide a self-rimming sink mounting of the character referred to in which clamping means is provided in association with the usual threaded nipples on the faucet for preventing forward or backward movement or lateral movement of the sink relative to the countertop, and also to prevent distortion of the rim flange by downward pressure on the faucet.

A further object of the invention is to provide such a self-rimming sink mounting in which the last named clamping means includes faucet hold-down plates attached to the threaded nipples on the faucet by the usual

2

nuts and screw-operated clamping clips cooperating therewith.

The above and other objects, apparent from the drawings and following description, may be attained, the above described difficulties overcome and the advantages and results obtained, by the apparatus, construction, arrangements and combinations, subcombinations and parts which comprise the present invention, a preferred embodiment of which, illustrative of the best mode in which applicant has contemplated applying the principle, being set forth in detail in the following description and illustrated in the accompanying drawings, in which;

FIG. 1 is a bottom plan view of a double bowl sink assembled upon a countertop or drainboard by means of the self-rimming mounting to which the invention pertains;

FIG. 2 is a front elevation of the countertop and sink assembly shown in FIG. 1;

FIG. 3 is an end elevation of the same;

FIG. 4 is an enlarged vertical sectional view of the drain assembly of one of the sink bowls showing the manner in which the annular plate is attached thereto, taken as on the line 4—4, FIG. 2;

FIG. 5 is an enlarged sectional elevation of the clamping means associated with one of the threaded members of the faucet for preventing lateral movement of the sink relative to the countertop or drainboard, taken on the line 5—5, FIG. 1;

FIG. 6 is a bottom plan view of another embodiment of the invention;

FIG. 7 is a front elevation, with parts broken away, of the embodiment shown in FIG. 6;

FIG. 8 is an enlarged detail sectional elevation of one of the tubular sleeves providing adjustment for the rectangular brace frame of FIGS. 1 to 3; and

FIG. 9 is an enlarged fragmentary sectional elevation showing hold-down screws connecting the hold-down plate to the brace frame of FIGS. 1 to 3.

Referring now more particularly to the construction illustrated in the drawings, in which similar numerals refer to similar parts throughout, a portion of a countertop or drainboard is indicated at 1, provided with a cut-out opening 2 for the reception and positioning of the bowls 3 of the double bowl sink indicated generally at 4.

It should be understood of course that, although a double bowl sink is shown in the drawings for the purpose of illustrating the invention, that the improved self-rimming mounting is equally applicable to any other form of sink, such as a single bowl sink, triple bowl sink or the like.

The sink illustrated may be made as a single integral structure by drawing or pressing a sheet of corrosion-resistant alloy metal of relatively light gauge to form the bowls 3, each having side walls 5 and bottom wall 6, provided with the usual drain opening 7 which is shown surrounded by the downwardly and inwardly inclined annular portion 8.

A continuous, substantially horizontal, marginal flange 9 is formed integral with and surrounds the two sink bowls 3. The terminal portion of this marginal flange 9 is preferably inclined slightly downwardly and outwardly, as indicated at 10, in usual and well known manner.

The marginal flange 9 of the sink is of such dimensions that it will overlie the upper surface of the countertop or drainboard 1 at the framing of the opening 2 therein, to provide support for the sink bowls and effect means for clamping of the sink for rigid installation upon the countertop or drainboard, as illustrated in the drawings and hereinafter described in detail.

The self-rimming sink mounting to which the invention pertains includes an elongated hold-down plate 11, which is attached to the drain assemblies, indicated generally

3

at 12, of the two sink bowls. Each of these drain assemblies comprises the inner cup or basket strainer 13 and the outer cup 14.

The basket strainer, or inner cup 13, has the peripheral flange 15 at its upper open end which is received within the downwardly and inwardly inclined annular portion 8 surrounding the drain opening 7 in the bottom wall 6 of each sink bowl.

The basket strainer, or inner cup 13, has the depending threaded drain nipple 16 thereon. The outer cup 14 has the annular flange 17 at its upper open end and has the opening 18 in its bottom wall 19 to receive the threaded nipple 16.

A nut 20 upon the threaded drain nipple 16 engages the bottom of the outer cup 14 and normally clamps the rubber gasket 21 between the peripheral flange 17 of the outer cup 14 and the inclined annular portion 8 of the bottom of the sink bowl, surrounding the drain opening 7.

For the purpose of the present invention, the hold-down plate 11 has openings 22 therein located to receive the drain basket or inner cup 13 of the drain assembly of each sink bowl. As best shown in FIG. 4, this hold-down plate is located around each drain basket or inner cup 13 between the gasket 21 and the peripheral flange 17 of the outer cup.

Thus, when the nut 20 is tightened, as shown in FIG. 4, the hold-down plate 11 is attached to the drain assembly of each of the sink bowls by means of the nuts 20 which compress the gasket 21 to provide water-tight joints at these points.

The hold-down plate 11 has a downturned marginal flange 23 entirely around its edges in order to stiffen and reinforce the same. Suitable threaded openings 11b are provided near each end of the hold-down plate 11 to receive the hold-down screws 24, the heads 25 of which may be of wing-type as shown in the drawings.

The self-rimming mounting means also includes a brace frame comprising the substantially rectangular member 26 formed of metal rod or the like, having the angular corners 27, the U-shaped brace members 28 and the L-shaped brace members 29.

The brace members 28 and 29 are also formed of metal rod and each is welded at its upper ends to the brace member 26 at the points 30 and 31 respectively. The L-shaped members 29 are also welded at their lower inner extremities to the intermediate portions of the U-shaped members 28, as at 32. The corners of the U-shaped brace members 28 are reinforced and stiffened by gusset rods 28', and the corners of the L-shaped brace members in like manner reinforced by gusset rods 29'.

The substantially rectangular brace member 26 may be made of two parts adjustably connected together so as to compensate for slight variations in the length of the opening 2 in the drainboard. For this purpose, a tubular sleeve 26a may be welded to each end of one part of the rectangular brace 26, as shown in FIG. 8. The adjacent ends of the other part of the brace 26 are slidably received in the corresponding tubular sleeve 26a. The rectangular brace 26 is thus easily and readily adjusted longitudinally to compensate for variations in the length of the opening 2 cut in the drainboard.

A disc 33 is welded to the undersides of each U-shaped member 28 and corresponding L-shaped member 29, at the intersection thereof, and provided with a suitable opening 33' to receive the corresponding hold-down screw 24, as best shown in FIG. 9.

Thus, the hold-down screws 25 attach the brace frame 26-28-29 to the hold-down plate 11, and pull the same downward, so that the rectangular frame portion 26 will be clamped tightly against the under surface of the countertop or drainboard 1 entirely surrounding the opening 2 therein, so as to tightly draw the downwardly and outwardly inclined terminal portion 10 of the sink flange into contact with the top surface of the countertop or drainboard 1.

4

As best shown in FIG. 5, clamping means is provided, in association with the threaded members of the faucet, for preventing lateral movement of the sink relative to the countertop or drainboard.

The base portion of a conventional mixer faucet is indicated at 35, and the usual threaded nipples depending therefrom are indicated at 36. Each of these nipples is located through a suitable opening 37 in the marginal flange 9 of the sink.

A nut 38 is provided upon each threaded nipple 36 for contact with the under surface of the flange 9 of the sink for attaching the faucet to the sink.

For the purpose of the present invention, a faucet hold-down plate 39 is provided having an opening 40 which receives the corresponding threaded nipple 36 so that the nut 38 thereon may clamp the faucet hold-down plate 39 against the under surface of the marginal flange 9 of the sink, as shown in FIG. 5.

The hold-down plate 39 has an angular flange 41 extending downwardly through the opening 2 in the countertop 1, and provided with the upturned hook 42 at its lower end. A clamping clip 43 is provided with a downturned hook 44 engaging the upturned hook 42 of the depending flange 41. A clamping screw 45 is threaded through the portion 46 of the clip 43 and contacts the underside of the faucet hold-down plate 39.

The outwardly disposed leg 47 of the clamping clip 43 is thus clamped against the underside of the countertop, beneath the brace frame 26. The sink is thus held against shifting forwardly and backwardly, or laterally relative to the countertop, and the rear portion of the marginal flange 9 is prevented from distortion by downward pressure upon the spout of the faucet.

Reference is now made to FIGS. 6 and 7 showing another embodiment of the invention, in which a simpler and more inexpensive means is provided for pulling down on the hold-down-plate. In this form of the invention also the self-rimming sink mounting means is illustrated as applied to a two bowl sink although it should be understood that the invention is equally applicable to a single bowl sink or one with three or more bowls.

The countertop 1, with opening 2 therein, may be identical to that shown in FIGS. 1 to 5, and the double bowl sink 4, provided with bowls 3, may be the same as shown and described above. The same reference numerals are applied to these parts as in FIGS. 1 to 5 and each sink bowl 3 is shown having side walls 5 and bottom wall 6. The sink is provided with the same marginal flange 9 having the downwardly and outwardly inclined terminal portion 10.

In this embodiment of the invention, a hold-down plate 11' is provided, which is substantially identical with the hold-down plate 11 shown in FIGS. 1 to 5, excepting that instead of having openings near each side to receive the clamping and adjusting bolts 24, the plate 11' is shown having a single opening 11a located centrally of the plate.

The hold-down plate 11' has openings such as shown at 22 in FIG. 4 for receiving the inner cup or basket strainer of the drain assembly 12 for each sink bowl. In like manner, the hold-down plate 11' is adapted to be clamped against the gasket 21 by means of the nut 20 on the threaded drain nipple 16 engaging the outer cup 14, in the manner described in detail above with reference to FIG. 4.

For the purpose of pulling down on the hold-down plate 11', in order to clamp the terminal edge of the marginal rim 9 of the sink against the top surface of the drainboard or countertop 1, screw means is provided for attachment to the hold-down plate at the opening 11a and for attachment to the floor 50, or bottom of the cabinet in which the sink is mounted.

By way of example, this means is shown in FIG. 7 as comprising a rod 51, located through the opening 11a,

with head 52 engaging the top of the hold-down plate 11'. The lower end of the rod 51 is screw threaded, as at 53, and engaged in a turn buckle 54, in which is received the upper threaded end 55 of a rod 56. The rod 56 may be attached to the floor or cabinet bottom 50 by any suitable means.

For purpose of illustration, an expansion nut 57 is shown upon the lower end of the rod 56, which is received through the opening 58 in the floor or cabinet bottom 50. Thus, by adjusting the turn buckle 54 a downward pull may be exerted upon the hold-down plate 11' pulling the terminal edge of the marginal flange of the sink tightly down upon the top surface of the drainboard 1 in the manner above described with reference to FIGS. 1 to 5.

In order to prevent lateral or forward and backward shifting of the sink relative to the drainboard, as well as to prevent distortion of the rear portion of the marginal flange 9, by downward pressure upon the spout of the faucet, the sink faucet hold-down plates 39 and clamping members 43, as shown in FIG. 5, and described in detail above, may be applied to the threaded nipples 36 of the faucet.

From the above it will be obvious that a simple and effective means is provided for clamping the marginal flange of a sink tightly against the top surface of the drainboard.

It will also be seen that this means may be easily and readily applied to the sink and drainboard assembly, thus avoiding the tedious work of applying the prior art clamping devices for self-rimming sink mountings.

In the foregoing description certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiments of the improved construction illustrated and described herein are by way of example, and the scope of the present invention is not limited to the exact details of construction.

Having now described the invention or discovery, the construction, the operation, and use of preferred embodiments thereof, and the advantageous new and useful results obtained thereby; the new and useful construction, and reasonable mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claims.

I claim:

1. A sink and drainboard assembly comprising a sink having integral bowl means, the drainboard being provided with an opening conforming to and slightly larger than the body of the bowl means to receive the bowl means positioned within said opening, said bowl means being formed with an integral continuous marginal flange projecting outwardly from its upper edge and overlying the marginal edge surface defining the drainboard opening, drain assembly means at the bottom of the sink bowl means, a hold-down plate attached to the drain assembly means, U-shape brace means located around the sink bowl means and contacting the under surface

of the drainboard on opposite sides of the sink bowl means, a portion of said U-shape brace means being located below said hold-down plate, and screw means connecting said hold-down plate to said portion of said U-shape brace means for exerting a downward pull upon said hold-down plate for clamping the terminal edges of the marginal flange of the sink tightly down against the top surface of the drainboard.

2. A sink and drainboard assembly comprising a sink having integral bowl means, the drainboard being provided with an opening conforming to and slightly larger than the body of the bowl means to receive the bowl means positioned within said opening, said bowl means being formed with an integral continuous marginal flange projecting outwardly from its upper edge and overlying the marginal edge surface defining the drainboard opening, drain assembly means at the bottom of the sink bowl means, a hold-down plate attached to the drain assembly means, U-shape brace means and L-shape brace means located around the sink bowl means and contacting the under surface of the drainboard on opposite sides of the sink bowl means, portions of said U-shape brace means and L-shape brace means being located below said hold-down plate, and screw means connecting said hold-down plate to said portions of said U-shape brace means and L-shape brace means for exerting a downward pull upon said hold-down plate for clamping the terminal edges of the marginal flange of the sink tightly down against the top surface of the drainboard.

3. A sink and drainboard assembly comprising a sink having integral bowl means, the drainboard being provided with an opening conforming to and slightly larger than the body of the bowl means to receive the bowl means positioned within said opening, said bowl means being formed with an integral continuous marginal flange projecting outwardly from its upper edge and overlying the marginal edge surface defining the drainboard opening, drain assembly means at the bottom of the sink bowl means, a hold-down plate attached to the drain assembly means, a brace frame surrounding said sink bowl means and contacting the under surface of the drainboard entirely around said opening therein, a portion of the brace frame being located below said hold-down plate and screw means connecting said hold-down plate to said portion of said brace frame for exerting a downward pull on said hold-down plate for clamping the terminal edges of the marginal flange of the sink tightly down against the top surface of the drainboard.

References Cited by the Examiner

UNITED STATES PATENTS

2,278,566	4/1942	Schaible.	
3,007,179	11/1961	Bertulli	4-287
3,034,141	5/1962	Lyon	4-187
3,104,400	9/1963	Lantz et al.	4-287

FOREIGN PATENTS

546,254 7/1956 Italy.

LAVERNE D. GEIGER, Primary Examiner.

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