April 17, 1951 W. L. BONNELL 2,549,415

SINK FRAME AND MOUNTING THEREFOR

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FIG. 1.

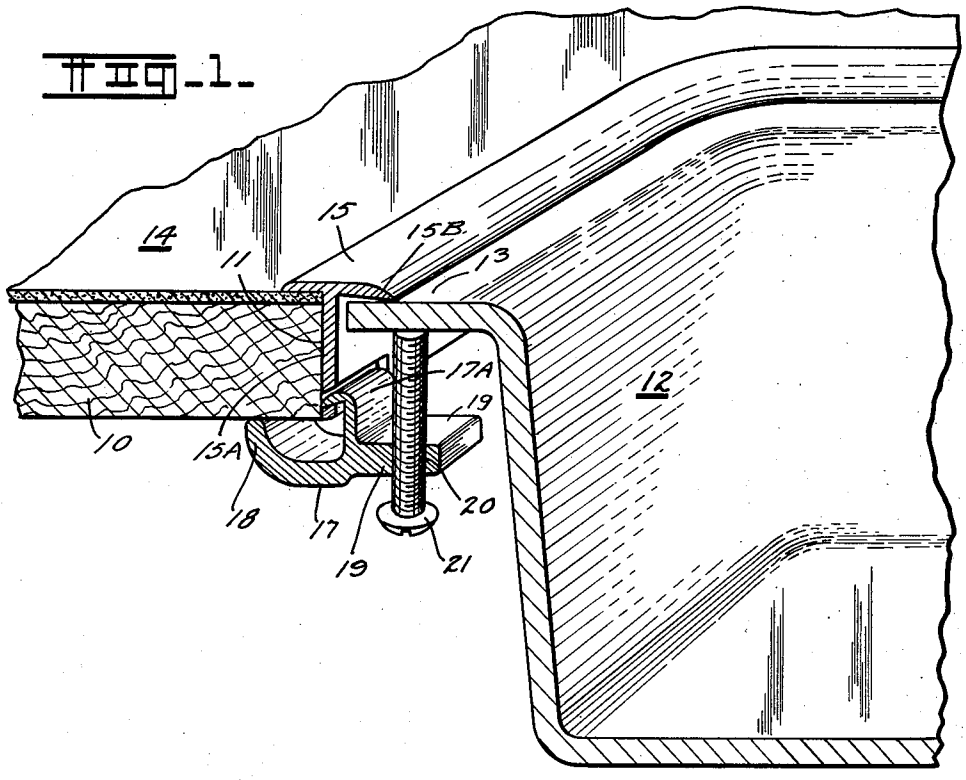
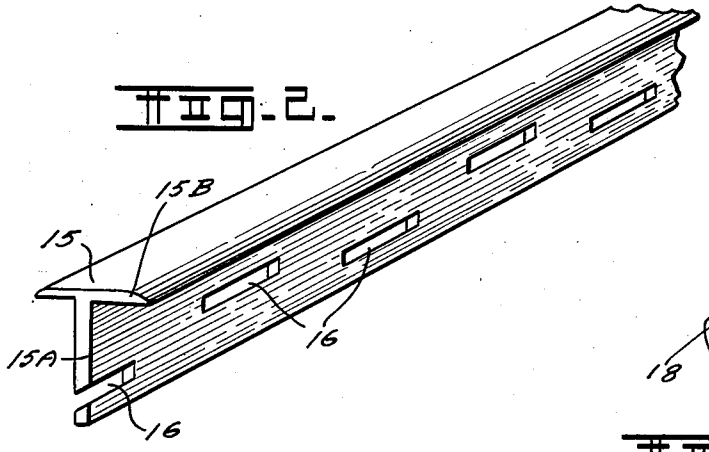


FIG. 2.



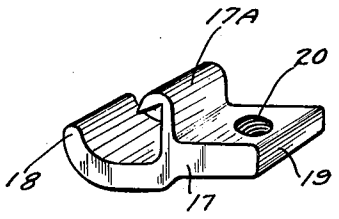


FIG. 3.

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SINK FRAME AND MOUNTING THEREFOR

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3 Claims. (Cl. 4—187)

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This invention relates to a sink frame and more particularly to a sink frame incorporating means for mounting a sink in engagement therewith.

The principal object of the invention is the provision of a sink frame and means for mounting a sink in engagement therewith.

A further object of the invention is the provision of a simple and inexpensive sink frame mounting which may be used in securing a sink in a cabinet construction.

A still further object of the invention is the provision of a sink frame and mounting which may be formed of extruded metal sections and applied to various cabinet constructions for the purpose of supporting sinks therein.

A still further object of the invention is the provision of a sink frame and mounting incorporating definite structural advantages over the sink frames and mountings heretofore known in the art.

The sink frame and mounting therefor disclosed herein comprises an improvement in the art of mounting sinks and more particularly sink bowls in counters or sink tops such as is customary in the art wherein a water-tight seal is desired between the sink bowl and the surface material of the counter or sink top and wherein the sink bowl is supported by the counter or sink top. It is known that various constructions have been proposed for mounting sink bowls in openings in the sink tops or counters and it is also known that a majority of these proposed constructions have been unsatisfactory in use primarily due to the mechanical difficulties encountered in mounting sinks with the proposed constructions and a further disadvantage of the failure of the constructions once the sink bowl is mounted therein.

The present invention comprises an improvement in this art and particularly with respect to my co-pending application Serial No. 95,183 on Sink Frame and Mounting and in which a sink frame and mounting is disclosed wherein the bolts having key-shaped heads are engaged in a dovetailed slot in the sink frame and the sink bowl suspended therefrom and which construction in actual practice has been found to be objectionable in that undue mechanical pressure applied to the bolt and nut results in pulling the same from its normal positioning in the frame. Additionally, a sink frame of heavy cross section is necessary to provide the dovetailed channel for the reception of the key-headed bolts. These objections are overcome and eliminated in

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the construction as disclosed herein wherein the sink frame is a relatively lightweight cross sectionally T-shaped section and provided with longitudinally spaced slots in which cut sections of another extruded shape may be engaged so as to be suspended therefrom and usable in supporting a threaded bolt which in turn engages the sink bowl and supports the same against the frame. The construction in this application is, therefore, simpler in formation and incapable of being rendered inoperable.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein—

Figure 1 is a perspective view with parts in cross section and parts broken away illustrating the sink frame and mounting holding a sink bowl in a counter top.

Figure 2 is a perspective view of a section of the sink frame shown in Figure 1.

Figure 3 is a perspective view of one of the levers used with the sink frame and mounting shown in Figure 1.

By referring to the drawings and Figure 1 in particular it will be seen that a counter top 10 has an opening 11 therein for the reception of a sink bowl 12 which is outwardly flanged and the flange indicated by the numeral 13. The top 10 is provided with desirable surfacing material 14 such as linoleum. In order that the sink bowl 12 may be positioned in the opening 11 in the top 10 and in approximately flush registry with the top thereof, a sink frame 15 is positioned in the opening 11 and around the outer edge of the flange 13 of the sink bowl 12.

The frame 15 comprises a horizontal flange overlying the surfacing material 14 on the top 10 and overlying the flange 13 of the sink bowl 12 and also includes a depending flange 15A which is provided at intervals therealong with a plurality of longitudinally spaced staggered slots 16—16. The staggered slots 16—16 are formed on two different vertical planes with respect to the normally vertical depending flange 15A of the frame 15. The lowermost row of slots 16—16 lies near the lower portion of the

flange 15A and the upper row lies approximately midway between the upper and lower edges of the flange 15A. Both rows of the slots 16—16 are formed on a transverse angle in the depending flange 15A as best shown in Figures 1 and 2 of the drawings, the transverse angle of their formation being upwardly and inwardly toward the portion of the frame 15 that normally overlies the flange 13 of the sink 12. This portion of the frame 15 is slightly thicker than the corresponding or oppositely disposed portion and is indicated in the drawings by the numeral 15B. It will be observed that it is slightly undercut so that a feather edge is formed with respect to the upper surface of the flange 13 on the sink bowl 12 where the same is engaged by the frame 15.

The plurality of longitudinally spaced slots 16—16 enables cut sections 17 of an extruded shape to be engaged on the frame 15 and, as illustrated in Figure 1 of the drawings, these cut sections 17 form levers, each of which has an upstanding hook-like section 17A which is engaged in one of the slots 16 as heretofore described. Each of the cut sections 17 also has an outwardly extending and upturned end 18 which is adapted to engage beneath the top 10, as best shown in Figure 1 of the drawings, and each of the cut sections 17 has an oppositely disposed outwardly extending section 19 which has a vertical drilled and tapped opening 20 therein. A bolt 21 is threadably engaged in the opening 20 in inverted position so that the head of the bolt is below the extension 19 and the end of the bolt 21 is above the extension 19 and capable of being moved upwardly when the bolt 21 is rotated into engagement beneath the flange 13 of the sink 12 at a point corresponding approximately with the outer edge of the portion 15B of the frame 15.

It will thus be seen that the sink frame and mounting comprises two metal shapes as shown in Figures 2 and 3 of the drawings and that both of these shapes may be easily formed as extrusions of desirable metal such a aluminum. The extrusion comprising the frame 15 has the plurality of longitudinally spaced angularly disposed slots 16 formed therein and the cut sections 17 comprising a relatively short section of an extrusion of the indicated cross section with the opening 20 drilled and tapped in the extension 19 thereof. The bolts 21 are ordinary bolts having heads either squared for engagement with a wrench or with a transverse slot as shown in Figure 1 in which a screwdriver may be engaged for rotating the same.

In operation the opening 11 in the counter top 10 is formed to be slightly larger than the over-all size of the flanged sink bowl 12 and the frame 15 is positioned in the opening so that the outer edge of the top flange thereof registers over the counter top 10 and the surfacing material 14 thereon. The sink bowl 12 is then positioned in the opening by moving the same upwardly therein into engagement with the flange 15B of the frame and a plurality of the cut sections 17 are engaged in the slots 16—16 at spaced intervals along the frame 15 and the bolts 21 positioned in the openings 20 therein and moved upwardly into engagement beneath the flange 13 of the sink bowl 12. This action serves to tilt the cut section 17 slightly, which section forms a supporting bracket and causes the outwardly and upwardly curved end 18 thereof to engage beneath the counter top 10 as the cut sections

17 fulcrum on the upwardly formed hook section 17A.

When the bolts 21 are rotated to bring them into tight engagement with the flange 13, the same is moved upwardly against the portion 15B of the frame 15 and a tight and structurally strong sink mounting is realized. It will occur to those skilled in the art that water-proof cements may be applied beneath the frame 15 to insure a water-tight seal if desired. It will also occur to those skilled in the art that considerable tension is created between the sink flange 13 and the frame 15 and particularly the flange 15B thereof so that a desirable seal is obtained. It will also occur to those skilled in the art that the staggered slots 16—16 enable the device to be used with sink tops of varying thicknesses, as in the case of a relatively thinner sink top 10 the hooks 17 may be engaged in one of the slots 16 lying closer to the top of the frame 15. The sink flange and framing mounting is thus capable of being used with any thickness of counter top or cabinet construction as well as with any thickness of flange on the sink bowl. The weight of the sink bowl is carried on the heavy vertical depending flange 15A of the frame 15 which easily carries the weight and is incapable of being broken by too great tension exerted by the bolt 21.

The construction overcomes the principal disadvantages of the several constructions heretofore known in the art and at the same time provides an extremely simple and inexpensive sink frame mounting meeting the several objects of the invention.

Having thus described my invention, what I claim is:

1. Means for mounting a flanged sink in an opening in a supporting structure and comprising a frame of extruded metal of cross sectional T shape, the vertical section of which is adapted to be positioned between the edge of the opening in the supporting structure and the edge of the flanged sink and with the horizontal portion of the said frame overlying the adjacent edges of the said supporting structure and the flanged sink respectively, the vertical section of the said frame having a plurality of longitudinally spaced, vertically staggered slots therein, a plurality of levers of extruded metal of substantially T-shape, each of which has one end thereof formed in an outwardly and upwardly curved arm and the other end formed in an outward extension having a vertically disposed drilled and tapped opening therein and each of the levers having an upstanding integral flange midway between its ends, the upper end of which is outturned for registry with one of the said slots, bolts positioned in each of the vertically disposed drilled and tapped openings and movable upwardly for engagement with the flanged sink at points immediately beneath the edge of the horizontal portion of the frame overlying the said flanged sink, the outwardly and upwardly curved arm of each of the said levers extending in under the said supporting structure and engaged thereagainst whereby upward movement of the said bolts spaces the said flanged sink with respect to the said levers and moves the same into engagement with the said frame.

2. Means for mounting a flanged sink in an opening in a supporting structure as set forth in claim 1 wherein each of the longitudinally spaced slots in the vertical portion of the said frame are formed on a transverse angle from vertical and

wherein the registering portions of the said levers are formed at an angle from vertical for self-retention therein.

3. Means for mounting a flanged sink in an opening in a supporting structure comprising a frame of extruded metal of T-shape in cross-section, the horizontal section adapted to overlie the adjacent edges of the supporting structure and the flanged sink, the portion overlying the flange of the sink being thicker in cross-section and undercut providing a feather edge with respect to the upper surface of the flange, the vertical section of the frame extending downwardly between the supporting structure and the flanged sink and having a plurality of horizontally spaced, vertically staggered slots therein, the slots being at least in two planes, the slots being cut into the vertical section at an acute angle to the vertical axis thereof, a clamping member cut from a bar of extruded metal having one end formed of an outwardly and upwardly curved arm adapted to engage the under side of the supporting structure, the other end of the clamping member being substantially straight and having a vertically disposed drilled and tapped opening therein, an upwardly extending and integral flange approximately medially of the clamping member having

at its upper end an outturned portion, the under side of which is at a complementary angle to the angle of the slots for direct connection with the vertical section of the frame, a bolt positioned in the drilled and tapped opening and movable upwardly into engagement with the underside of the sink flange at a point immediately beneath the horizontal section of the frame overlying the sink flange, whereby engagement of the outturned portion of the integral flange with a slot of the frame and the engagement of the upwardly curved arm of the clamping member with the supporting structure turning of the bolt causes the horizontal section to be drawn downwardly into tight contact with the adjacent supporting structure and sink flange.

WILLIAM L. BONNELL.

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