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(54) SEAMLESS UNDERMOUNT STAINLESS STEEL SINK SYSTEM

Nahtloses untermontiertes Edelstahl-Spülbeckensystem

Système d'évier en acier inoxydable encastrable

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Description

BACKGROUND OF THE INVENTION

Field of the Invention

[0001] The present invention is directed to a system comprising a rimless stainless steel sink structured and disposed to be undermounted to a solid countertop, such as granite or marble, wherein an upper interface between the stainless steel sink and the solid countertop comprises an upper seal which prevents water, bacteria, or debris from entering between the rimless upper edge of the stainless steel sink and the top surface of the solid countertop. The present invention is further directed to a method for seamless undermount installation of a stainless steel sink to a solid countertop including but not limited to granite or marble.

DESCRIPTION OF THE RELATED ART

[0002] Stainless steel is the most popular sink style on the market today and provides a complementary match to many kitchen appliances, such as, refrigerators, stoves, dishwashers, water coolers, etc., which are also available in stainless steel or stainless steel finish. Sinks made of stainless steel offer numerous benefits including resistance to chipping, cracking or peeling. Furthermore, stainless steel sinks will not rust or fade, and they are easy to clean and maintain for long periods of time relative to other materials of construction.

[0003] There are different types and corresponding methods for mounting stainless steel sinks to countertops. The most common and traditional type is a topmount sink, such as is shown in Figure 1 - PRIOR ART Topmount Sink. As is readily seen from Figure 1, a wide flange extends completely around the topmount sink such that when the topmount sink is positioned through a cut-out in a solid material countertop, the flange rests on the top surface of the countertop and is secured thereto via adhesives and/or mechanical fasteners. As will be appreciated, however, the interface between the flange and the top surface of the countertop provides a place for water, moisture, bacteria, food, and other debris to accumulate thereby creating a visually unappealing and potentially unsanitary condition around the stainless steel sink.

[0004] Another common type of stainless steel sink for mounting to a countertop is an undermount sink. An example of a PRIOR ART Undermount Sink is illustrated in Figure 2. As shown in Figure 2, the undermount sink comprises a much narrower flange which is structured and disposed to enable the sink to be attached to the bottom surface of a solid countertop below a sink cut-out therethrough. More in particular, undermount sinks have flat rims or flanges around the edges which may be glued and/or mechanically mounted to the bottom surface of the countertop using mounting clips and screws. The lip

or sidewall of the sink cut out through the solid countertop must be finished to match the top surface, as it remains readily visible. Once again, however, an interface exists at the bottom of the sink cut out and the top of the undermount sink thereby allowing water, moisture, bacteria, food, and other debris to accumulate, once again, creating a visually unappealing and potentially unsanitary condition around the stainless steel sink.

[0005] More recently, a so-called "Flush-Mount" sink has been introduced to the market which has a much narrower and flatter rim or flange around the top. These flush mount sinks are structured to be mounted to a solid countertop through the top, wherein the narrow flat rim or flange rests in an equally narrow and thin recess cut into the solid countertop around the sink cut-out. As such, the combination of the narrow flat flange and the recess cut into the countertop serves to approximate a "flush-mount" appearance. As will be appreciated by those of skill in the art, however, considerable time, expense, expertise, and special equipment are required in order to cut a recess into granite or marble with the precision required to receive such a "flush-mount" stainless steel sink and approximate a "flush-mount" appearance.

[0006] As such, it would be beneficial to provide a seamless stainless steel sink system for installation to a solid material countertop including, but not limited to, granite or marble, which eliminates an interface where water, moisture, bacteria, food, and/or other debris can accumulate and create unsightly and unsanitary conditions. It would be further advantageous for such a seamless stainless steel sink system to utilize standard fabrication materials and techniques in order to provide an economical alternative to the aforementioned "flush-mount" stainless steel sinks systems. It would further be helpful for such a seamless stainless steel sink system to accommodate a variety of popular sink configurations including, but not limited to, rectangular, oval, kidney shaped, etc. Another benefit may be obtained by providing a stainless steel sink having a recessed divider between bowls to allow for seamless undermount installation of a stainless steel sink having more than one bowl.

[0007] EP 1 422 352 A2 describes sink systems, in which a sink, in particular rimless sinks made of glass, having a flange glued to the sink, is mounted to a countertop. Different flange arrangements are shown, which either allow a top mounting or a bottom mounting of the sink. FR 2 792 345 A1 relates to a rimless sink system, in which the sink is glued into a mounting aperture of a countertop. FR 2 757 031 A1 also relates to a sink system, showing in one embodiment a rimless sink, which is supported by inclined walls of a mounting aperture. Attention is also drawn to US 2 080 573 A, which relates to a sink and countertop construction. In one embodiment, the sink is specified as an enameled cast iron sink of the undermount type having a circumferentially extending horizontal mounting flange comprising a groove for housing a sealing material. The sink may also have an upwardly extending flange to extend into a cutout in the

countertop, in which case the sealing material in the groove is extending upwardly into a space formed between the upwardly extending flange and the cutout in the countertop.

SUMMARY OF THE INVENTION

[0008] The present invention is directed to a seamless undermount stainless steel sink system and a method for seamless undermount installation of a stainless steel sink, as set forth in claims 1 and 7, respectively. A seamless undermount stainless steel sink system in accordance with the present invention comprises a stainless steel sink and a solid countertop.

[0009] In at least one embodiment, the solid countertop comprises a stone material of construction such as, but not limited to granite or marble. The solid countertop has a top surface and a bottom surface, wherein the top surface and the bottom surface at least partially define a thickness therebetween, and in at least one embodiment, the thickness of the solid countertop remains substantially the same between the top surface and the bottom surface. A sink mounting aperture is disposed through the solid countertop, and the sink mounting aperture comprises an inner periphery.

[0010] As previously stated, the present system further comprises a stainless steel sink, and the stainless steel sink includes a sidewall which partially forms at least one bowl. In at least one embodiment, the stainless steel sink comprises a plurality of bowls separated from one another by a corresponding recessed divider, as discussed in further detail below. A stainless steel sink in accordance with the present invention further comprises a rimless upper edge along and around the sidewall, and an outer periphery is defined around the rimless upper edge.

[0011] The present seamless undermount stainless steel sink system also includes a mounting assembly which is structured to securely mount the stainless steel sink to the solid countertop. In one embodiment, the mounting assembly comprises at least one mounting bracket attached to a portion of the stainless steel sink at a predetermined mounting depth below the rimless upper end of the stainless steel sink, and in one further embodiment, the mounting assembly comprises a plurality of mounting brackets each being attached to a portion of the stainless steel sink, and each being positioned at a predetermined mounting depth below the rimless upper edge of the stainless steel sink.

[0012] A mounting bracket in accordance with the present invention includes a sink flange, which is utilized to attach the mounting flange to a portion of the stainless steel sink, and a countertop flange to secure the stainless steel sink to the solid countertop. In one embodiment, the countertop flange includes a countertop flange surface which, in at least one embodiment, is operatively disposed in a substantially perpendicular orientation relative to the sidewall of the stainless steel sink and is positioned at the predetermined mounting depth below

the rimless upper edge of the stainless steel sink.

[0013] An upper interface is formed between the outer periphery of the stainless steel sink and the inner periphery of the solid countertop and, in accordance with the present invention, an upper seal is disposed in the upper interface between the rimless upper edge of the stainless steel sink and the top surface of the solid countertop. More importantly, the upper seal prevents water, moisture, bacteria, food, or debris from entering between the rimless upper edge of the stainless steel sink and the top surface of the solid countertop.

[0014] The present invention is further directed to a method for seamless undermount installation of a stainless steel sink to a solid countertop, once again, including but not limited to granite or marble. The present method includes fabricating a stainless steel sink with a rimless upper edge defining an outer periphery therearound, such as may be accomplished by hand fabrication. Of course, as most stainless steel sinks manufactured today are drawn and comprise an upper flange or lip. As such, in one embodiment, the present method includes removing the mounting flange or lip from the stainless steel sink in order to obtain a rimless upper edge.

[0015] The present method further includes preparing a mounting template based on the outer periphery of the rimless upper edge of the stainless steel sink, and creating a sink mounting aperture through the solid countertop between a top surface and a bottom surface based on the mounting template, wherein the sink mounting aperture comprises an inner periphery configured to receive the outer periphery of the rimless upper edge of the stainless steel sink therethrough.

[0016] Next, one or more mounting brackets are positioned at a predetermined mounting depth below the rimless upper edge of the stainless steel sink, wherein each mounting bracket has a sink flange and a countertop flange. In at least one embodiment, the countertop flange comprises a countertop flange surface which is positioned at the predetermined mounting depth below the rimless upper edge of the stainless steel sink, and the present method further includes attaching one mounting bracket to the stainless steel sink.

[0017] Once the mounting bracket or plurality of mounting brackets are positioned, and in at least one embodiment, attached to the stainless steel sink, the rimless upper edge of the stainless steel sink is positioned through the sink mounting aperture of the solid countertop such that each countertop flange surface is adjacent to the bottom surface of the solid countertop, and the stainless steel sink is secured to the bottom surface of the solid countertop via the at least one mounting bracket.

[0018] Finally, the present method includes applying an upper seal along an upper interface between the outer periphery of the rimless upper edge of the stainless steel sink and the inner periphery of the sink mounting aperture through the solid countertop, wherein the upper seal prevents water, moisture, bacteria, and debris from entering between the rimless upper edge of the stainless steel

sink and the top surface of the solid countertop.

[0019] These and other objects, features and advantages of the present invention will become clearer when the drawings as well as the detailed description are taken into consideration.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] For a fuller understanding of the nature of the present invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

Figure 1 is a perspective view of a conventional PRIOR ART topmount sink.

Figure 2 is a perspective view of a conventional PRIOR ART undermount sink.

Figure 3 is a perspective view of one illustrative embodiment of a stainless steel sink and mounting assembly in accordance with the present invention for seamless undermount installation to a solid countertop.

Figure 4 is an exploded view of one illustrative embodiment of a stainless steel sink, mounting assembly, and solid countertop in accordance with at least one embodiment of the present invention.

Figure 5 is a perspective view of one illustrative embodiment of a stainless steel sink mounted to a solid countertop in accordance with the present invention. Figure 6 is a partial cross-sectional view of one illustrative embodiment of a stainless steel sink mounted to a solid countertop in accordance with the present invention.

Figure 6A is a perspective view of one illustrative embodiment of a mounting bracket in accordance with the present invention.

Figure 7 is a side elevation view of one illustrative embodiment of a stainless steel sink in accordance with the present invention prior to removal of a countertop flange.

Figure 7A is a side elevation view of the stainless steel sink of Figure 5 after removal of the countertop flange.

Figure 8 is a block diagram illustrative of one method for seamless undermount installation of a stainless steel sink to a solid countertop in accordance with the present invention.

[0021] Like reference numerals refer to like parts throughout the several views of the drawings.

DETAILED DESCRIPTION

[0022] As stated above, the present invention is directed to a seamless undermount stainless steel sink system which is generally shown as 10 throughout the figures. More in particular, and with reference to Figure 5, the present system 10 comprises a solid countertop 20 and

a stainless steel sink 30. As is apparent from Figure 5, an upper seal 54 between the solid countertop 20 and the upper edge of the stainless steel sink 30 provides a virtually seamless interface between the solid countertop 20 and the stainless steel sink 30.

[0023] In at least one embodiment of the present system 10, a solid countertop 20 is constructed from a solid material including, but not limited to, granite, marble, limestone, quartz stone, engineered stone, for example, acrylic and polyester composite engineered stone, recycled glass, and hardwood.

[0024] As shown best in Figure 4, the solid countertop 20 in accordance with the present invention comprises a top surface 22 and a bottom surface 24. As Figure 4 further illustrates, the top surface 22 and bottom surface 24 at least partially define a thickness 25 therebetween, which is discussed in greater detail below with regard to the seamless interface between the solid countertop 20 and the stainless steel sink 30. Looking again to the illustrative embodiment of Figure 4, the solid countertop 20 includes a sink mounting aperture 26 disposed therethrough. As will be appreciated by those skilled in the art, the sink mounting aperture 26 may be created by cutting through the solid countertop 20 in accordance with a template or guide which is drawn, etched, or temporarily attached thereto. It will be further appreciated that the sink mounting aperture 26 may be formed via drilling and or sawing utilizing bits and/or blades which are specifically designed for cutting through stone materials, such as, once again, granite, marble, etc. Figure 4 further illustrates a solid countertop 20 in accordance with the present invention wherein the sink mounting aperture 26 at least partially defines an inner periphery 27 which extends along and around the entire inner edge of the sink mounting aperture 26.

[0025] As previously stated above, a seamless undermount stainless steel sink system 10 in accordance with the present invention further comprises a stainless steel sink 30. It is understood to be within the scope and intent of the present invention for a stainless steel sink 30 to be constructed of any of a variety of grades of stainless steel which are presently utilized for the formation of sinks including, but not limited to, Type 304 stainless steel, Type 302 stainless steel, and Type 316 stainless steel, as well as 200 series stainless steels, just to name a few.

[0026] It will be further appreciated by those skilled in the art, that the present seamless undermount stainless steel sink system 10 and installation methodology, which is discussed in greater detail below, may also be utilized to install sinks formed of other metal or metal alloy materials, and/or for undermount installation of a sink to a solid countertop 20 wherein the solid countertop 20 comprises a stone material of construction including, but not limited to, granite, marble, etc.

[0027] Figure 3 is illustrative of one embodiment of a stainless steel sink 30 in accordance with the present system 10. The stainless steel sink 30 shown in the embodiment of Figure 3 comprises a plurality of bowls 32

which are separated by a recessed divider 33. Figure 3 further illustrates that each bowl 32 comprises a drain 34 disposed through a bottom portion thereof. Figure 4 is illustrative of another embodiment of a stainless steel sink 30 in accordance with the present invention comprising a single bowl 32 having a single drain 34 disposed therein.

[0028] Looking again to Figures 3 and 4, a stainless steel sink 30 in accordance with the system 10 in accordance with present invention comprises a sidewall 36 which at least partially defines the bowl or bowls 32. As further illustrated in Figures 3 and 4, the sidewall 36 comprises an inner wall 36' and an outer wall 36". As may be seen best in Figures 3 and 4, a stainless steel sink 30 in accordance with the present system 10 further comprises a rimless upper edge 38 which extends around the entirety of the sidewall 36. Similar to the inner periphery 27 along sink mounting aperture 26 of the solid countertop 20, a stainless steel sink 30 in accordance with the present invention comprises an outer periphery 39 which extends along and around the entirety of the sidewall 36 of the stainless steel sink 30 proximate the rimless upper edge 38 thereof. As will be appreciated from the disclosure below, the rimless upper edge 38 of the stainless steel sink 30 is required in order to achieve the seamless undermount of the stainless steel sink 30 to the solid countertop 20 in accordance with the present system 10.

[0029] It will be understood and appreciated by those of skill in the art that a stainless steel sink 30 may be fabricated by hand with a rimless upper edge 38, however, mass production of stainless steel sinks 30 commonly employs a process wherein a single piece of stainless steel is drawn and formed into a sink 30 which includes a mounting flange 35 extending around and along the upper portion of a sidewall 36,, such as is shown in Figure 7. As such, and with reference to Figures 7 and 7A, a seamless undermount stainless steel sink system 10 in accordance with the present invention may require removal of a mounting flange 35 from the sidewall 36 of stainless steel sink 30 in order to obtain a rimless upper edge 38, such as is shown in Figure 7A.

[0030] As will be appreciated from Figures 7 and 7A, and with reference, by way of example, to the PRIOR ART sinks shown in Figures 1 and 2, removal of the mounting flange 35 as shown in Figures 7 and 7A from either of the PRIOR ART sinks shown in Figure 1 and 2 would result in the detachment of the separate bowls of the PRIOR ART sinks from one another. As such, and as previously disclosed with reference to Figure 3, a seamless undermount stainless steel sink system 10 in accordance with at least one embodiment of the present invention comprises a stainless steel sink 30 having a recessed divider 33, specifically to permit a mounting flange 35 from being removed such as is shown in Figures 7 and 7A, while maintaining a plurality of bowls 32 attached to one another, once again, as shown in Figure 3.

[0031] As shown throughout the figures, a seamless

undermount stainless steel sink system 10 in accordance with the present invention further comprises a mounting assembly generally shown as 40. A mounting assembly 40 comprises at least one mounting bracket 42, however, in at least one embodiment, a mounting assembly 40 in accordance with the present system 10 comprises a plurality of mounting brackets 42, such as is shown in the illustrative embodiments of Figures 3 and 4. In at least one embodiment (not shown), a single mounting bracket may be disposed around the entirety of the sidewall 36 of the stainless steel sink 30 in accordance with the present invention. By way of example, after removal of a mounting flange 35 from a stainless steel sink 30, the sink 30 is positioned through the top of the mounting flange 35 and the mounting flange 35 is secured to the sidewalls 36, thus providing a single mounting bracket 42 which extends along and around the entire sidewall 36 of the stainless steel sink 30.

[0032] Alternatively, and again as shown in Figures 3 and 4, a mounting assembly 40 comprises a plurality of mounting brackets 42 which are attached to an outer wall 36" of a sidewall 36 of a stainless steel sink 30. More in particular, the plurality of mounting brackets 42 are positioned in a spaced apart arrangement around the sidewall 36 of the stainless steel sink 30, and are attached thereto in order to provide a plurality of points for securing the stainless steel sink 30 to the underside of a solid countertop 20 along a bottom surface 24 thereof.

[0033] Figure 6A is illustrative of just one embodiment of a mounting bracket 42 in accordance with the present invention. As shown in the embodiment of Figure 6A, the mounting bracket 42 includes a sink flange 43 which is disposed at a substantially right angle to a countertop flange 44. Figure 6A further illustrates that a countertop flange 44 comprises a countertop flange surface 45 which, as discussed in greater detail below, is positioned adjacent to bottom surface 24 of the solid countertop 20 in order to secure the stainless steel sink 30 to the solid countertop 20. In addition, countertop flange 44, in at least one embodiment, includes one or more countertop flange apertures 46 such as shown again in Figure 6A. The countertop flange aperture(s) 46 facilitate securing the mounting bracket 42 to the bottom surface 24 of the solid countertop 20, as discussed in further detail below.

[0034] Figure 6 presents a partial cross-section view of one illustrative embodiment of a stainless steel sink 30 seamlessly mounted to a solid countertop 20 in accordance with the present invention. As may be seen from Figure 6, a mounting bracket 42 comprises a sink flange 43 and a countertop flange 44 as previously disclosed, wherein the sink flange 43 is attached to an outer wall 36" of the sidewall 36 via a sink interconnect 43'. It will be appreciated by those of skill in the art that a sink interconnect 43' may comprise any of a variety of means for securely attaching a sink flange 43 to the outer wall 36" of a stainless steel sink 30. As one example, the sink interconnect 43' comprises a weld between the sink flange 43 and the outer wall 36" of the sidewall 36. As

another example, an appropriate adhesive, such as, by way of example only, an epoxy or a polyester resin, is utilized as sink interconnect 43' in order to securely attach a sink flange 43 to the outer wall 36" of the sidewall 36. In yet another embodiment, the sink interconnect 43' comprises a mechanical fastener such as a screw, a bolt, a rivet, etc., in order to securely attach the sink flange 43 to the outer wall 36" of the stainless steel sink 30. It will further be appreciated that a combination of one or more sink interconnects 43' may be employed in order to further assure that the sink flange 43 is securely attached to the stainless steel sink 30.

[0035] Similarly, a countertop interconnect 44' is utilized to securely attach a countertop flange 44 to a portion of the bottom surface 24 of the solid countertop 20. As before, with regard to sink interconnect 43', the countertop interconnect 44' may comprise any of a variety of appropriate attachment means. In at least one embodiment, a countertop interconnect 44' comprises an epoxy resin in order to securely attach the countertop flange 44 to the bottom surface 24 of the solid countertop 20, and in one further embodiment, a two-part epoxy resin is utilized as a countertop interconnect 44'. In such an embodiment, the epoxy resin is permitted to flow through countertop flange aperture(s) 46 and onto the underside of the countertop flange 44 to further facilitate securely attaching the countertop flange 44 to the bottom surface 24 of the solid countertop 20. In another embodiment, a mechanical fastener such as a masonry screw may be utilized as a countertop interconnect 44' in order to securely attach countertop flange 44 to the bottom surface 24 of the solid countertop 20. As will be appreciated by those skilled in the art, a combination of an adhesive and a mechanical fastener may be utilized as a countertop interconnect 44' in order to further assure that the countertop flange 44 is securely attached to the bottom surface 24 of the solid countertop 20.

[0036] In at least one alternate embodiment, mounting assembly 40 may comprise a mounting clip 49 which is secured into the bottom surface 24 of the solid countertop 20 via fastener 49'. As shown in Figure 6, a portion of the mounting clip 49 extends over a portion of the countertop flange 44 in order to further assure that the countertop flange 44 remains securely attached to the bottom surface 24 of the solid countertop 20.

[0037] With reference once again to Figure 4, each mounting bracket 42 is securely attached to the outer wall 36" of the stainless steel sink 30 at a predetermined mounting depth 48. More in particular, and again as shown in Figure 4, the countertop flange surface 45 of each mounting bracket 42 is disposed at a predetermined mounting depth 48 from the rimless upper edge 38 of the stainless steel sink 30. More in particular, a predetermined mounting depth 48 corresponds to the thickness 25 of the solid countertop 20. Present industry standards dictate that solid granite or marble countertops are provided with a thickness of either two centimeters or three centimeters. In one embodiment, the countertop flange

surface 45 of the mounting bracket 42 is positioned at a predetermined depth 48 of eighteen millimeters below the rimless upper edge 38 of the stainless steel sink 30, for installation to a standard two centimeter thick solid countertop 20. In an embodiment of the present system 10 comprising a three centimeter thick solid countertop 20, the countertop flange surface 45 of the mounting bracket 42 is positioned at a predetermined depth 48 of twenty-eight millimeters below the rimless upper edge 38 of the stainless steel sink 30. The predetermined mounting depth 48 comprises a tolerance of plus or minus one millimeter relative to the thickness 25 of the solid countertop 20. That is to say, the predetermined mounting depth 48 at which the countertop flange surface 45 is positioned below the rimless upper edge 38 of the stainless steel sink 30 when the mounting flange is securely attached to the outer wall 36" of the stainless steel sink 30 must be no more nor no less than one millimeter of the thickness 25 of the solid countertop 20. As such, when the stainless steel sink 30 is mounted to the solid countertop 20 from below, the rimless upper edge 38 will be within one millimeter of the top surface 22 of the solid countertop 20 which, as will be appreciated, permits the seamless installation of stainless steel sink 30 in accordance with the present system 10.

[0038] Furthermore, when the rimless upper edge 38 of a stainless steel sink 30 is positioned through a sink mounting aperture 26 of the solid countertop 20, an upper interface 52 is formed between the inner periphery 27 of a sink mounting aperture 26 and the outer periphery 39 along the rimless upper edge 38. In at least one embodiment of the present invention, an upper interface tolerance 52' must be one millimeter or less. Stated otherwise, the distance between the inner periphery 27 of a sink mounting aperture 26 and outer periphery 39 along the rimless upper edge 38 is one millimeter or less when a stainless steel sink 30 is mounted through a sink mounting aperture 26 of a solid countertop 20 in accordance with the present system 10.

[0039] Looking again to Figure 6, the seamless undermount stainless steel sink system 10 in accordance with the present invention further comprises a sealing assembly 50. The sealing assembly 50 includes an upper seal 54 which is applied along and around the upper interface 52 between the inner periphery 27 of sink mounting aperture 26 and the outer periphery 39 of the outer wall 36" of the stainless steel sink 30. In one embodiment, the upper seal 54 comprises an epoxy glue or an epoxy resin which will securely bond to both the solid countertop 20 and the stainless steel sink 30, thereby providing an essential impervious seal over and along the upper interface 52. In an alternate embodiment, the upper seal 54 comprises a polyester resin to securely bond to both the solid countertop 20 and the stainless steel sink 30, once again, providing an essential impervious seal over and along the upper interface 52. In further embodiments, the upper seal 54 comprises a polyester resin, a polyurethane resin, an epoxy resin, an acrylic casting resin,

or combinations thereof.

[0040] As will be appreciated, the upper seal 54 will serve to prevent water, moisture, bacteria, food, and/or other debris such as may be encountered in a sink environment from entering into the area between the solid countertop 20 and the stainless steel sink 30, in particular, into and through the upper interface 52 therebetween. In at least one further embodiment, a top coat 55 is applied to the upper seal 54 wherein the top coat 55 is selected based on the color of the top surface 22 of the solid countertop 20 so as to camouflage the presence of the upper seal 54. The top coat 55, in at least one embodiment, comprises a color matching epoxy or polyester resin selected to simulate the color of the solid countertop. In yet one further embodiment, the upper seal 54 and/or top coat 55 may be further finished by sanding, buffing, etc., so as to further camouflage the presence of the upper seal 54, thereby enhancing the overall seamless appearance between stainless steel sink 30 and the solid countertop 20 along the upper seal 54, such as is shown best in Figure 5.

[0041] In at least one embodiment, a sealing assembly 50 in accordance with the present invention further comprises a lower seal 58, such as is shown in Figure 6. A lower seal 58 may comprise a waterproof silicone adhesive material which is utilized to seal a lower interface 56 between the outer wall 36 of the stainless steel sink 30 and the bottom surface 24 of the solid countertop 20.

[0042] As previously indicated, the present invention further comprises a method for seamless undermount installation of a stainless steel sink to a solid countertop, which is shown as 100 in Figure 8. As shown in Figure 8, the present method 100 includes fabricating a stainless steel sink with a rimless upper edge 110, wherein the rimless upper edge at least partially defines an outer periphery therearound. As previously stated, this may be accomplished via hand fabrication techniques, wherein the sink as fabricated is rimless. Alternatively, when a stainless steel sink is fabricated by drawing and/or forming via mass production techniques, a mounting flange must be removed from the top of the sink, such as via cutting via mechanical or laser cutter equipment.

[0043] In at least one embodiment, fabricating a stainless steel sink with a rimless upper edge 100 requires that the front and rear sidewalls of the sink be essentially straight, with deviations long the sidewalls of less than one-half millimeter inward or outward. In addition, the rimless upper edge must not have deviations of more than one millimeter along and around its entire length. That is to say, if the sink is placed upside down on a completely flat surface, there must not be more than a one millimeter gap between the rimless upper edge of the sink and the flat surface at any point between the upper edge and the surface.

[0044] The present method 100 further comprises preparing a mounting template 120 based on the outer periphery of the rimless upper edge of the stainless steel sink. The mounting template may be prepared 120 by

turning the sink upside down on a template medium, such as tracing paper, cardboard, etc. In at least one embodiment, the sink may be placed upside down directly on the solid countertop itself, and its outline traced directly thereon.

[0045] Once a mounting template has been applied to a surface of the solid countertop, the present invention further provides for creating a sink mounting aperture through the solid countertop 130, wherein the mounting aperture extends between a top surface and a bottom surface of the solid countertop based on the mounting template. As previously noted above, the sink mounting aperture comprises an inner periphery configured to receive the outer periphery of the rimless upper edge of the stainless steel sink therethrough.

[0046] After the sink mounting aperture is created through the solid countertop, the present method includes positioning at least one mounting bracket at a predetermined mounting depth 140 below the rimless upper edge of the stainless steel sink. The mounting bracket has a sink flange and a countertop flange, wherein the countertop flange comprises a countertop flange surface which is positioned at the predetermined mounting depth below the rimless upper edge of the stainless steel sink.

The present method 100 comprises attaching at least one mounting bracket to the stainless steel sink 150, and in one further embodiment, the present method comprises attaching a plurality of mounting brackets to the stainless steel sink 150, wherein each mounting bracket is positioned and attached to the stainless steel sink at the predetermined mounting depth below the rimless upper edge. A sink interconnect 43, such as disclosed above, is utilized to securely attach the mounting bracket (s) to the stainless steel sink, in accordance with one embodiment of the present invention.

[0047] Once the mounting bracket(s) are securely attached to the stainless steel sink at the predetermined mounting depth, the method 100 of the present invention further comprises positioning the rimless upper edge of the stainless steel sink through the sink mounting aperture of the solid countertop 160, such that the countertop flange surface is adjacent to the bottom surface of the solid countertop. The present method 100 further provides for securing the stainless steel sink to the bottom surface of the solid countertop via at least one mounting bracket 170. Of course, in one further embodiment of the present invention, the method 100 provides for securing the stainless steel sink to the bottom surface of the solid countertop via a plurality of mounting brackets 170. As before, a countertop interconnect 44, such as disclosed above, is utilized to secure the stainless steel sink to the solid countertop in accordance with at least one embodiment of the present invention.

[0048] The present method for seamless undermount installation of a stainless steel sink to a solid countertop 100 further comprises applying an upper seal along an upper interface 180 between the outer periphery of the rimless upper edge of the stainless steel sink and the

inner periphery of the sink mounting aperture through the solid countertop. As noted above, in at least one embodiment, the upper seal may comprise a polyester resin, and in one further embodiment, the upper seal may comprise a color matched polyester resin. In at least one embodiment, the upper seal prevents water, moisture, bacteria, and debris from entering between the rimless upper edge of the stainless steel sink and the top surface of the solid countertop.

[0049] The top surface of the solid countertop may be masked around the inner periphery of the sink mounting aperture prior to applying the upper seal, so as to avoid unwanted application of the resin to the countertop itself. In one further embodiment, a top coat is applied to the upper seal in order to camouflage its presence, and in one further embodiment, the upper seal may be finished, such as via sanding, buffing, and/or polishing, so as to even further conceal the presence of the upper seal at the seamless interface between the stainless steel sink and the solid countertop.

[0050] In at least one further embodiment, the present method 100 includes applying a lower seal along a lower interface 190, wherein the lower seal comprises a substantially waterproof material, such as silicone, to prevent water or moisture from entering a lower interface between the outer wall of the stainless steel sink and the bottom surface of the solid countertop, as previously disclosed hereinabove.

[0051] As will be appreciated from the foregoing, the present method 100 comprises steps which may be performed by different parties at different locations. Specifically, steps 110 through 150 may be performed at a factory which manufactures stainless steel sinks in accordance with the present invention, while steps 160 through 180 may be performed by an individual or contractor who physically installs a stainless sink manufactured in accordance with the present invention in an end user's home or business.

[0052] Since many modifications, variations and changes in detail can be made to the described embodiments of the invention, it is intended that all matters in the foregoing description and shown in the accompanying drawings be interpreted as illustrative and not in a limiting sense. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents.

Claims

1. A seamless undermount stainless steel sink system (10) comprising:

a solid countertop (20) having a top surface (22) and a bottom surface (24), said top surface (22) and said bottom surface (24) defining a thickness (25) therebetween,
a sink mounting aperture (26) disposed through

said solid countertop (20), said sink mounting aperture (26) having an inner periphery (27),
a stainless steel sink (30) comprising a sidewall (36) which forms at least one bowl (32),
a rimless upper edge (38) along and around said sidewall (36) of said stainless steel sink (30), wherein an outer periphery (39) is defined around said rimless upper edge (38), said rimless upper edge (38) dimensioned to be inserted into said sink mounting aperture (26) through said bottom surface (24) of said solid countertop (20),
a mounting assembly (40) comprising at least one mounting bracket (42) attached to a portion of said stainless steel sink (30),
said mounting bracket (42) including a countertop flange (44) having a countertop flange surface (45), said mounting bracket (42) positioned a predetermined mounting depth (48) below said rimless upper edge (38) of said stainless steel sink (30), wherein said predetermined mounting depth (48) has a tolerance of plus or minus one millimeter relative to said thickness (25) of said solid countertop (20),
an upper interface (52) formed between said outer periphery (39) of said stainless steel sink (30) and said inner periphery (27) of said sink mounting aperture (26), wherein said upper interface measures less than one millimeter between said outer periphery (39) of said stainless steel sink (30) and said inner periphery (27) of said sink mounting aperture (26), and
an upper seal (54) disposed in said upper interface (52) between said rimless upper edge (38) of said stainless steel sink (30) and said top surface (22) of said solid countertop (20).

2. The system (10) as recited in claim 1 wherein said upper seal (54) comprises an epoxy resin and forms a moisture resistant barrier along said upper interface (52).
3. The system (10) as recited in claim 2 wherein said upper seal (54) prevents water, bacteria, or debris from entering between said rimless upper edge (38) of said stainless steel sink (30) and said top surface (22) of said solid countertop (20).
4. The system (10) as recited in claim 1 wherein said countertop flange (44) is secured to said bottom surface (24) of said solid countertop (20) via a countertop interconnect (44'); said countertop interconnect (44') comprising an epoxy glue.
5. The system (10) as recited in claim 1 wherein said solid countertop (20) comprises granite or marble.
6. The system (10) as recited in claim 1 wherein said mounting assembly (40) comprises a plurality of

mounting brackets (42) interconnected to a portion of said stainless steel sink (30), wherein each of said plurality of mounting brackets (42) includes a countertop flange (44) having a countertop flange surface (45) and a plurality of countertop flange apertures (46) disposed therethrough to facilitate securing each mounting bracket (42) to said bottom surface (24) of said countertop (20), each said countertop flange surface (45) positioned at said predetermined mounting depth (48) below said rimless upper edge (38) of said stainless steel sink (30).

7. A method for seamless undermount installation of a stainless steel sink (30) to a solid countertop (20), the method comprising:

fabricating (110) the stainless steel sink (30) with a rimless upper edge (38) defining an outer periphery (39) therearound, preparing (120) a mounting template based on the outer periphery (39) of the rimless upper edge (38) of the stainless steel sink (30), creating (130) a sink mounting aperture (26) through the solid countertop (20) between a top surface (22) and a bottom surface (24) based on the mounting template, wherein the sink mounting aperture (26) comprises an inner periphery (27) configured to receive the outer periphery (39) of the rimless upper edge (38) of the stainless steel sink (30) therethrough, positioning (140) at least one mounting bracket (42) at a predetermined mounting depth (48) below the rimless upper edge (38) of the stainless steel sink (30), wherein the mounting bracket (42) has a sink flange (43) and a countertop flange (44), the countertop flange (44) comprising a countertop flange surface (45) which is positioned at the predetermined mounting depth (48) below the rimless upper edge (38) of the stainless steel sink (30), and wherein the predetermined mounting depth (48) has a tolerance of plus or minus one millimeter relative to a thickness (25) of the solid countertop (20), attaching (150) the at least one mounting bracket (42) to the stainless steel sink (30) before positioning the rimless upper edge (38) of the stainless steel sink (30) into the sink mounting aperture (26) through the bottom surface (24) of the solid countertop (20), positioning (160) the rimless upper edge (38) of the stainless steel sink (30) into the sink mounting aperture (26) through the bottom surface (24) of the solid countertop (20) such that the countertop flange surface (45) is adjacent to the bottom surface (24) of the solid countertop (20), securing (170) the stainless steel sink (30) to the bottom surface (24) of the solid countertop (20) via the at least one mounting bracket (42),

and applying (180) an upper seal (54) along an upper interface (52) between the outer periphery (39) of the rimless upper edge (38) of the stainless steel sink (30) and the inner periphery (27) of the sink mounting aperture (26) through the solid countertop (20), wherein the upper seal (54) prevents water, moisture, bacteria, and debris from entering between the rimless upper edge (38) of the stainless steel sink (30) and the top surface (22) of the solid countertop (20).

8. The method as recited in claim 7 wherein fabricating the stainless steel sink (30) further comprises removing a mounting flange from the stainless steel sink (30) to form the rimless upper edge (38).
9. The method as recited in claim 7 wherein the step of attaching (150) at least one mounting bracket (42) comprises attaching a plurality of mounting brackets (42) each having a sink flange (43) and a countertop flange (44) comprising a countertop flange surface (45), and wherein each countertop flange surface (45) is positioned at the predetermined mounting depth (48) below the rimless upper edge (38) of the stainless steel sink (30).
10. The method as recited in claim 7 wherein the stainless steel sink (30) is secured to the bottom surface (24) of the solid countertop (20) via a countertop interconnect (44') comprising an epoxy glue.
11. The method as recited in claim 7 wherein the upper seal (54) comprises an epoxy resin.
12. The method as recited in claim 7 wherein an upper interface (52) between the outer periphery (39) of the stainless steel sink (30) and the inner periphery (27) of the solid countertop (20) measures less than one millimeter.

Patentansprüche

1. Nahtloses Unterbauspülbeckensystem (10) aus rostfreiem Stahl, welches Folgendes aufweist:
- eine feste Oberplatte (20) mit einer Oberseite (22) und einer Unterseite (24), wobei die Oberseite (22) und die Unterseite (24) eine Dicke (25) dazwischen definieren,
- eine Spülbeckenmontageöffnung (26), welche durch die feste Oberplatte (20) angeordnet ist, wobei die Spülbeckenmontageöffnung (26) einen Innenumfang (27) hat,
- ein Spülbecken (30) aus rostfreiem Stahl, welches eine Seitenwand (36) aufweist, die zumindest eine Wanne (32) bildet,

- eine randlose obere Kante (38) entlang der und um die Seitenwand (36) des Spülbeckens (30) aus rostfreiem Stahl, wobei ein Außenumfang (39) um die randlose obere Kante (38) definiert ist, wobei die randlose obere Kante (38) zum Einführen in die Spülbeckenmontageöffnung (26) durch die Unterseite (24) der festen Oberplatte (20) bemessen ist, 5
- eine Montageanordnung (40), welche zumindest eine Halteklammer (42) aufweist, die an einem Teil des Spülbeckens (30) aus rostfreiem Stahl angebracht ist, wobei die Halteklammer (42) einen Oberplattenflansch (44) mit einer Oberplattenflanschfläche (45) aufweist, wobei die Halteklammer (42) an einer vorbestimmten Montagetiefe (48) unter der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl positioniert ist, wobei die vorbestimmte Montagetiefe (48) eine Toleranz von plus oder minus einem Millimeter relativ zur Dicke der festen Oberplatte (20) hat, 10
- eine obere Schnittstelle (52), die zwischen dem Außenumfang (39) des Spülbeckens (30) aus rostfreiem Stahl und dem Innenumfang (27) der Spülbeckenmontageöffnung (26) gebildet ist, wobei die obere Schnittstelle weniger als einen Millimeter zwischen dem Außenumfang (39) des Spülbeckens (30) aus rostfreiem Stahl und dem Innenumfang (27) der Spülbeckenmontageöffnung (26) misst, und 20
- eine obere Dichtung (54), die in der oberen Schnittstelle (52) zwischen der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl und der Oberseite (22) der festen Oberplatte (20) angeordnet ist. 25
2. System (10) nach Anspruch 1, wobei die obere Dichtung (54) ein Epoxidharz aufweist und eine feuchtigkeitsbeständige Barriere entlang der oberen Schnittstelle (52) bildet. 30
 3. System (10) nach Anspruch 2, wobei die obere Dichtung (54) verhindert, dass Wasser, Bakterien oder Schmutz zwischen die randlose obere Kante (38) des Spülbeckens (30) aus rostfreiem Stahl und die Oberseite (22) der festen Oberplatte (20) eindringt. 35
 4. System (10) nach Anspruch 1, wobei der Oberplattenflansch (44) an der Unterseite (24) der festen Oberplatte (20) über eine Oberplattenverbindung (44') gesichert ist; wobei die Oberplattenverbindung (44') einen Epoxidkleber aufweist. 40
 5. System (10) nach Anspruch 1, wobei die feste Oberplatte (20) Granit oder Marmor aufweist. 45
 6. System (10) nach Anspruch 1, wobei die Montageanordnung (40) eine Vielzahl von Halteklammern (42) 50

aufweist, die mit einem Teil des Spülbeckens (30) aus rostfreiem Stahl verbunden sind, wobei jede der Vielzahl von Halteklammern (42) einen Oberplattenflansch (44) mit einer Oberplattenflanschfläche (45) und eine Vielzahl von Oberplattenflanschöffnungen (46) aufweist, die dort hindurch angeordnet sind, um eine Befestigung von jeder Halteklammer (42) an der Unterseite (24) der Oberplatte (20) zu ermöglichen, wobei jede Oberplattenflanschfläche (45) an der vorbestimmten Montagetiefe (48) unter der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl positioniert ist.

7. Verfahren zur nahtlosen Unterbauinstallation eines Spülbeckens (30) aus rostfreiem Stahl an einer festen Oberplatte (20), wobei das Verfahren Folgendes aufweist: 55

Herstellen (110) des Spülbeckens (30) aus rostfreiem Stahl mit einer randlosen oberen Kante (38), die einen Außenumfang (39) dort herum definiert,

Vorbereiten (120) einer Montageschablone basierend auf dem Außenumfang (39) der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl,

Erzeugen (130) einer Spülbeckenmontageöffnung (26) durch die feste Oberplatte (20) zwischen einer Oberseite (22) und einer Unterseite (24) basierend auf der Montageschablone, wobei die Spülbeckenmontageöffnung (26) einen Innenumfang (27) aufweist, der konfiguriert ist zum Aufnehmen des Außenumfangs (39) der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl dort hindurch,

Positionieren (140) von mindestens einer Halteklammer (42) an einer vorbestimmten Montagetiefe (48) unter der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl, wobei die Halteklammer (42) einen Spülbeckenflansch (43) und einen Oberplattenflansch (44) hat, wobei der Oberplattenflansch (44) eine Oberplattenflanschfläche (45) aufweist, die an der vorbestimmten Montagetiefe (48) unter der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl positioniert ist, und wobei die vorbestimmte Montagetiefe (48) eine Toleranz von plus oder minus einem Millimeter relativ zu einer Dicke (25) der festen Oberplatte (20) hat,

Anbringen (150) der mindestens einen Halteklammer (42) an dem Spülbecken (30) aus rostfreiem Stahl bevor die randlose obere Kante (38) des Spülbeckens (30) aus rostfreiem Stahl in der Spülbeckenmontageöffnung (26) durch die Unterseite (24) der festen Oberplatte (20) positioniert wird, Positionieren (160) der randlosen oberen Kante (38) des Spülbeckens (30) aus 60

- rostfreiem Stahl in der Spülbeckenmontageöffnung (26) durch die Unterseite (24) der festen Oberplatte (20), so dass die Oberplattenflanschfläche (45) benachbart zur Unterseite (24) der festen Oberplatte (20) ist, Befestigen (170) des Spülbeckens (30) aus rostfreiem Stahl an der Unterseite (24) der festen Oberplatte (20) mittels der mindestens einen Halteklammer (42) und Anbringen (180) einer oberen Dichtung (54) entlang einer oberen Schnittstelle (52) zwischen dem Außenumfang (39) der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl und dem Innenumfang (27) der Spülbeckenmontageöffnung (26) durch die feste Oberplatte (20), wobei die obere Dichtung (54) verhindert, dass Wasser, Feuchtigkeit, Bakterien und Schmutz zwischen der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl und der Oberseite (22) der festen Oberplatte (20) eindringen.
8. Verfahren nach Anspruch 7, wobei das Herstellen des Spülbeckens (30) aus rostfreiem Stahl weiter aufweist, einen Montageflansch von dem Spülbecken (30) aus rostfreiem Stahl zu entfernen, um die randlose obere Kante (38) zu formen.
9. Verfahren nach Anspruch 7, wobei der Schritt des Anbringens (150) von mindestens einer Halteklammer (42) aufweist, eine Vielzahl von Halteklammern (42) anzubringen, die jeweils einen Spülbeckenflansch (43) und einen Oberplattenflansch (44) haben, welcher eine Oberplattenflanschfläche (45) aufweist, und wobei jede Oberplattenflanschfläche (45) an der vorbestimmten Montagetiefe (48) unter der randlosen oberen Kante (38) des Spülbeckens (30) aus rostfreiem Stahl positioniert ist.
10. Verfahren nach Anspruch 7, wobei das Spülbecken (30) aus rostfreiem Stahl an der Unterseite (24) der festen Oberplatte (20) mittels einer Oberplattenverbindung (44') befestigt wird, die einen Epoxidkleber aufweist.
11. Verfahren nach Anspruch 7, wobei die obere Dichtung (54) ein Epoxidharz aufweist.
12. Verfahren nach Anspruch 7, wobei die obere Schnittstelle (52) zwischen dem Außenumfang (39) des Spülbeckens (30) aus rostfreiem Stahl und dem Innenumfang (27) der festen Oberplatte (20) weniger als einen Millimeter misst.

Revendications

1. Système d'évier en acier inoxydable encastrable

(10) comprenant :

un comptoir solide (20) ayant une surface supérieure (22) et une surface inférieure (24), ladite surface supérieure (22) et ladite surface inférieure (24) définissant une épaisseur (25) entre elles,

une ouverture de montage de l'évier (26) agencée à travers ledit comptoir solide (20), ladite ouverture de montage de l'évier (26) ayant une périphérie interne (27),

un évier en acier inoxydable (30) comprenant une paroi latérale (36) qui forme au moins une vasque (32),

une extrémité supérieure sans rebord (38) le long et autour de ladite paroi latérale (36) dudit évier en acier inoxydable (30), dans lequel une périphérie externe (39) est définie autour de ladite extrémité supérieure sans rebord (38), ladite extrémité supérieure sans rebord (38) étant dimensionnée pour être insérée dans ladite ouverture de montage de l'évier (26) à travers ladite surface inférieure (24) dudit comptoir solide (20),

un ensemble de montage (40) comprenant au moins un support de montage (42) fixé à une partie dudit évier en acier inoxydable (30), ledit support de montage (42) comportant une bride de comptoir (44) ayant une surface de bride de comptoir (45), ledit support de montage (42) étant placé à une profondeur de montage prédéterminée (48) en-dessous de ladite extrémité supérieure sans rebord (38) dudit évier en acier inoxydable (30), dans lequel ladite profondeur de montage prédéterminée (48) a une tolérance de plus ou moins un millimètre par rapport à ladite épaisseur (25) dudit comptoir solide (20),

une interface supérieure (52) formée entre ladite périphérie externe (39) dudit évier en acier inoxydable (30) et ladite périphérie interne (27) de ladite ouverture de montage de l'évier (26), dans lequel ladite interface supérieure mesure moins d'un millimètre entre ladite périphérie externe (39) dudit évier en acier inoxydable (30) et ladite périphérie interne (27) de ladite ouverture de montage de l'évier (26), et

un joint supérieur (54) agencé dans ladite interface supérieure (52) entre ladite extrémité supérieure sans rebord (38) dudit évier en acier inoxydable (30) et ladite surface supérieure (22) dudit comptoir solide (20).

2. Système (10) selon la revendication 1, dans lequel ledit joint supérieur (54) comprend une résine époxy et forme une barrière résistant à l'humidité le long de ladite interface supérieure (52).

3. Système (10) selon la revendication 2, dans lequel ledit joint supérieur (54) évite que l'eau, des bactéries, ou des débris pénètrent entre ladite extrémité supérieure sans rebord (38) dudit évier en acier inoxydable (30) et ladite surface supérieure (22) du dit comptoir solide (20). 5
4. Système (10) selon la revendication 1, dans lequel ladite bride de comptoir (44) est fixée à ladite surface inférieure (24) dudit comptoir solide (20) via une interconnexion de comptoir (44') ; ladite interconnexion de comptoir (44') comprenant une colle époxy. 10
5. Système (10) selon la revendication 1, dans lequel ledit comptoir solide (20) comprend du granit ou du marbre. 15
6. Système (10) selon la revendication 1, dans lequel ledit ensemble de montage (40) comprend une pluralité de supports de montage (42) interconnectés à une partie dudit évier en acier inoxydable (30), dans lequel chaque support de la pluralité de supports de montage (42) comporte une bride de comptoir (44) ayant une surface de bride de comptoir (45) et une pluralité d'ouvertures de bride de comptoir (46) agencées à travers celle-ci pour faciliter la fixation de chaque support de montage (42) à ladite surface inférieure (24) dudit comptoir (20), chacune desdites surfaces de bride de comptoir (45) étant placée au niveau de ladite profondeur de montage prédéterminée (48) sous ladite extrémité supérieure sans rebord (38) dudit évier en acier inoxydable (30). 20 25 30
7. Procédé d'installation encastrable d'un évier en acier inoxydable (30) à un comptoir solide (20), le procédé comprenant les étapes suivantes : 35
 - la fabrication (110) de l'évier en acier inoxydable (30) ayant une extrémité supérieure sans rebord (38) définissant une périphérie externe (39) autour de celui-ci, 40
 - la préparation (120) d'un profil de montage sur la base de la périphérie externe (39) de l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30), 45
 - la création (130) d'une ouverture de montage d'évier (26) à travers le comptoir solide (20) entre une surface supérieure (22) et une surface inférieure (24) sur la base du profil de montage, dans lequel l'ouverture de montage d'évier (26) comprend une périphérie interne (27) configurée pour recevoir la périphérie externe (39) de l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30) à travers celle-ci, 50
 - la mise en place (140) d'au moins un support de montage (42) au niveau d'une profondeur de montage prédéterminée (48) sous l'extrémité 55
- supérieure sans rebord (38) de l'évier en acier inoxydable (30), dans lequel le support de montage (42) a une bride d'évier (43) et une bride de comptoir (44), la bride de comptoir (44) comprenant une surface de bride de comptoir (45) qui est placée au niveau de la profondeur de montage prédéterminée (48) sous l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30), et dans lequel la profondeur de montage prédéterminée (48) a une tolérance de plus ou moins un millimètre par rapport à une épaisseur (25) du comptoir solide (20), la fixation (150) dudit au moins un support de montage (42) à l'évier en acier inoxydable (30) avant de mettre en place l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30) dans l'ouverture de montage de l'évier (26) à travers la surface inférieure (24) du comptoir solide (20), la mise en place (160) de l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30) dans l'ouverture de montage de l'évier (26) à travers la surface inférieure (24) du comptoir solide (20) de sorte que la surface de bride de comptoir (45) soit adjacente à la surface inférieure (24) du comptoir solide (20), la fixation (170) de l'évier en acier inoxydable (30) à la surface inférieure (24) du comptoir solide (20) via ledit au moins un support de montage (42), et l'application (180) d'un joint supérieur (54) le long d'une interface supérieure (52) entre la périphérie externe (39) de l'évier en acier inoxydable (30) et la périphérie interne (27) de l'ouverture de montage de l'évier (26) à travers le comptoir solide (20), dans lequel le joint supérieur (54) évite que l'eau, l'humidité, des bactéries, et des débris pénètrent entre l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30) et la surface supérieure (22) du comptoir solide (20) .
8. Procédé selon la revendication 7, dans lequel la fabrication de l'évier en acier inoxydable (30) comprend en outre le retrait d'une bride de montage de l'évier en acier inoxydable (30) pour former l'extrémité supérieure sans rebord (38).
9. Procédé selon la revendication 7, dans lequel l'étape de fixation (150) d'au moins un support de montage (42) comprend la fixation d'une pluralité de supports de montage (42) ayant chacun une bride d'évier (43) et une bride de comptoir (44) comprenant une surface de bride de comptoir (45), et dans lequel chaque surface de bride de comptoir (45) est placée au niveau de la profondeur de montage prédéterminée (48) sous l'extrémité supérieure sans rebord (38) de l'évier en acier inoxydable (30).

10. Procédé selon la revendication 7, dans lequel l'évier en acier inoxydable (30) est fixé à la surface inférieure (24) du comptoir solide (20) via une interconnexion de comptoir (44') ; ladite interconnexion de comptoir (44') comprenant une colle époxy. 5
11. Procédé selon la revendication 7, dans lequel le joint supérieur (54) comprend une résine époxy.
12. Procédé selon la revendication 7, dans lequel une interface supérieure (52) entre la périphérie externe (39) de l'évier en acier inoxydable (30) et la périphérie interne (27) du comptoir solide (20) mesure moins d'un millimètre. 10

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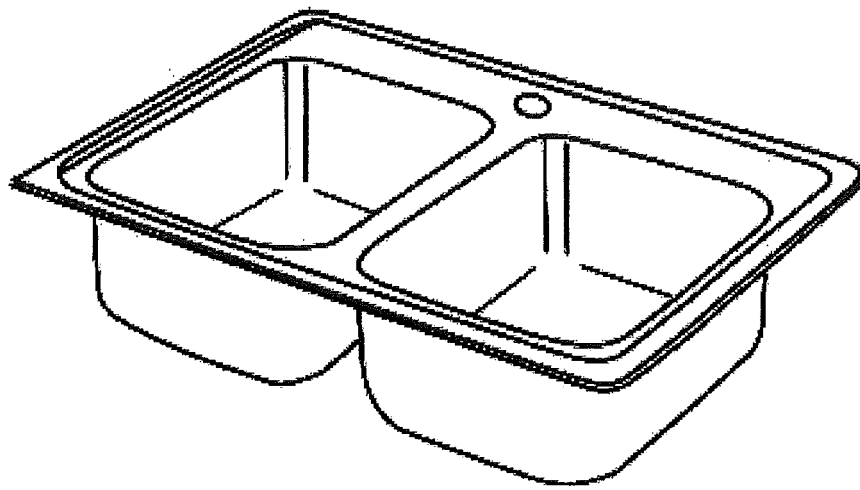


FIGURE 1 – PRIOR ART Topmount Sink

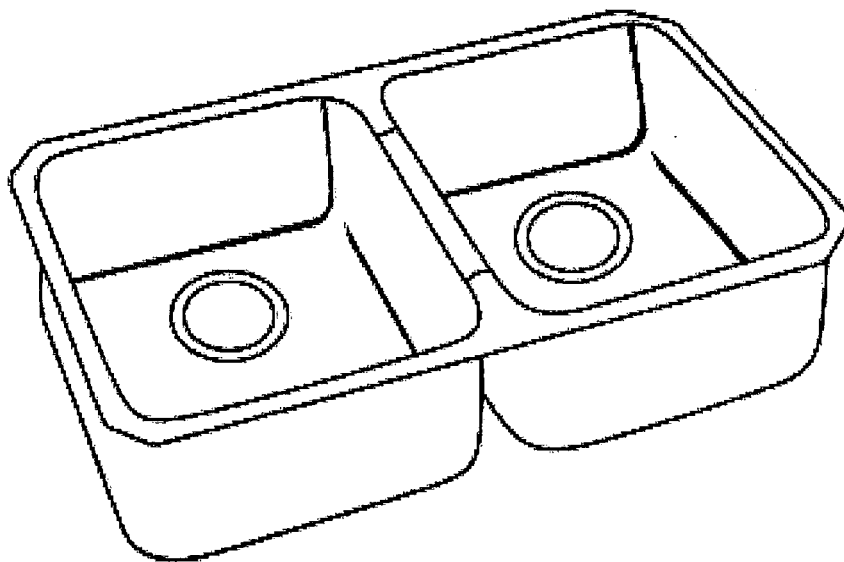


FIGURE 2 – PRIOR ART Undermount Sink

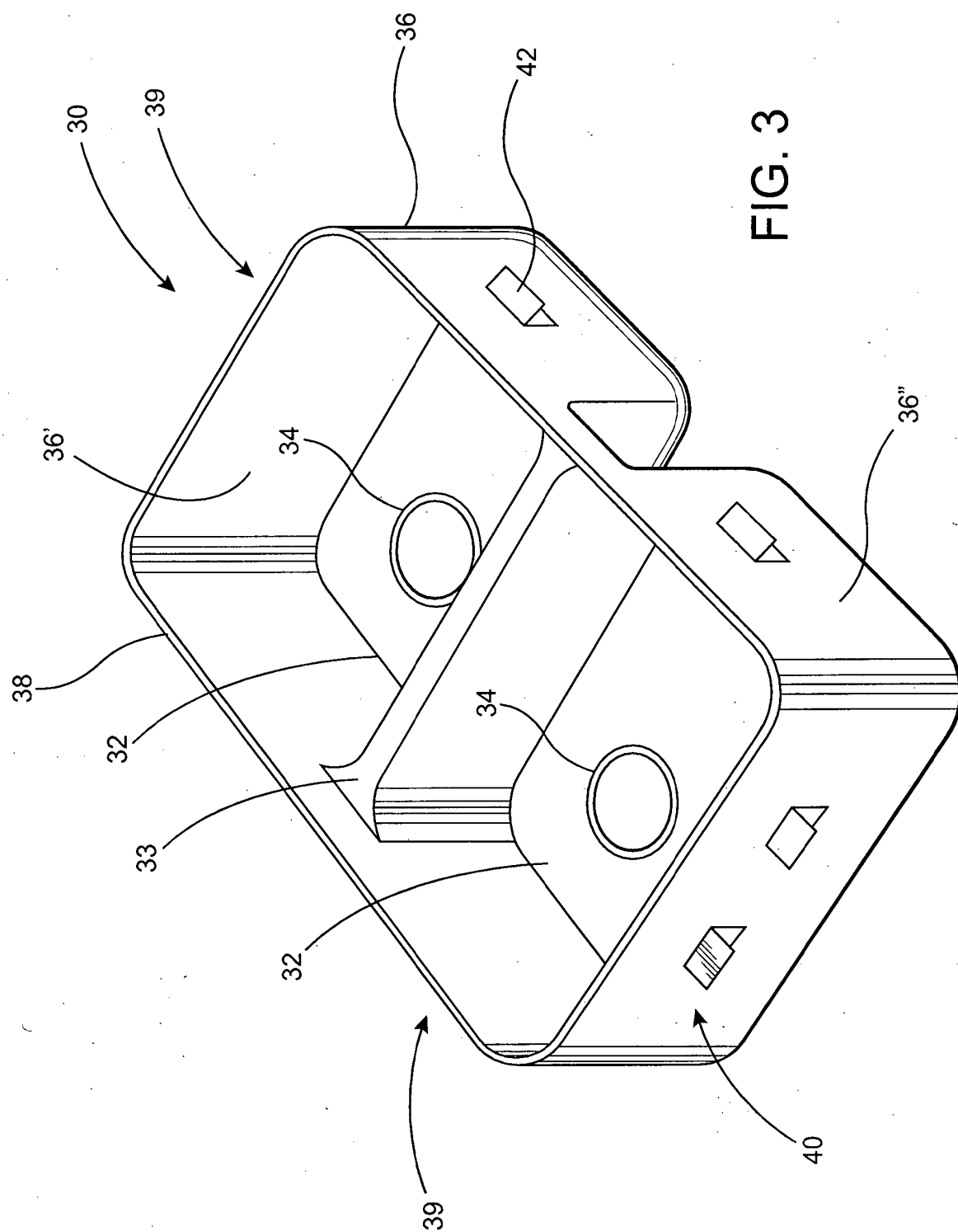
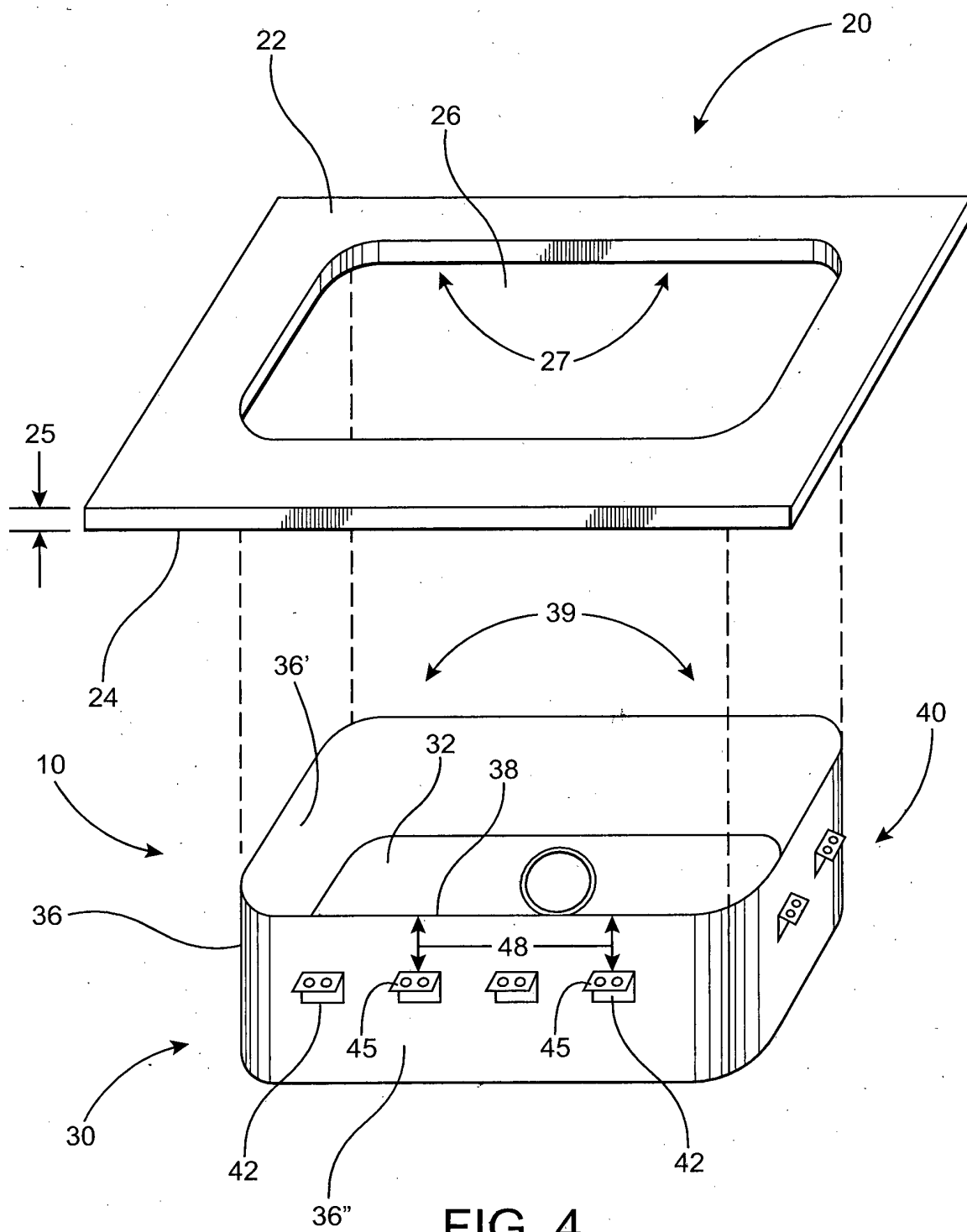


FIG. 3



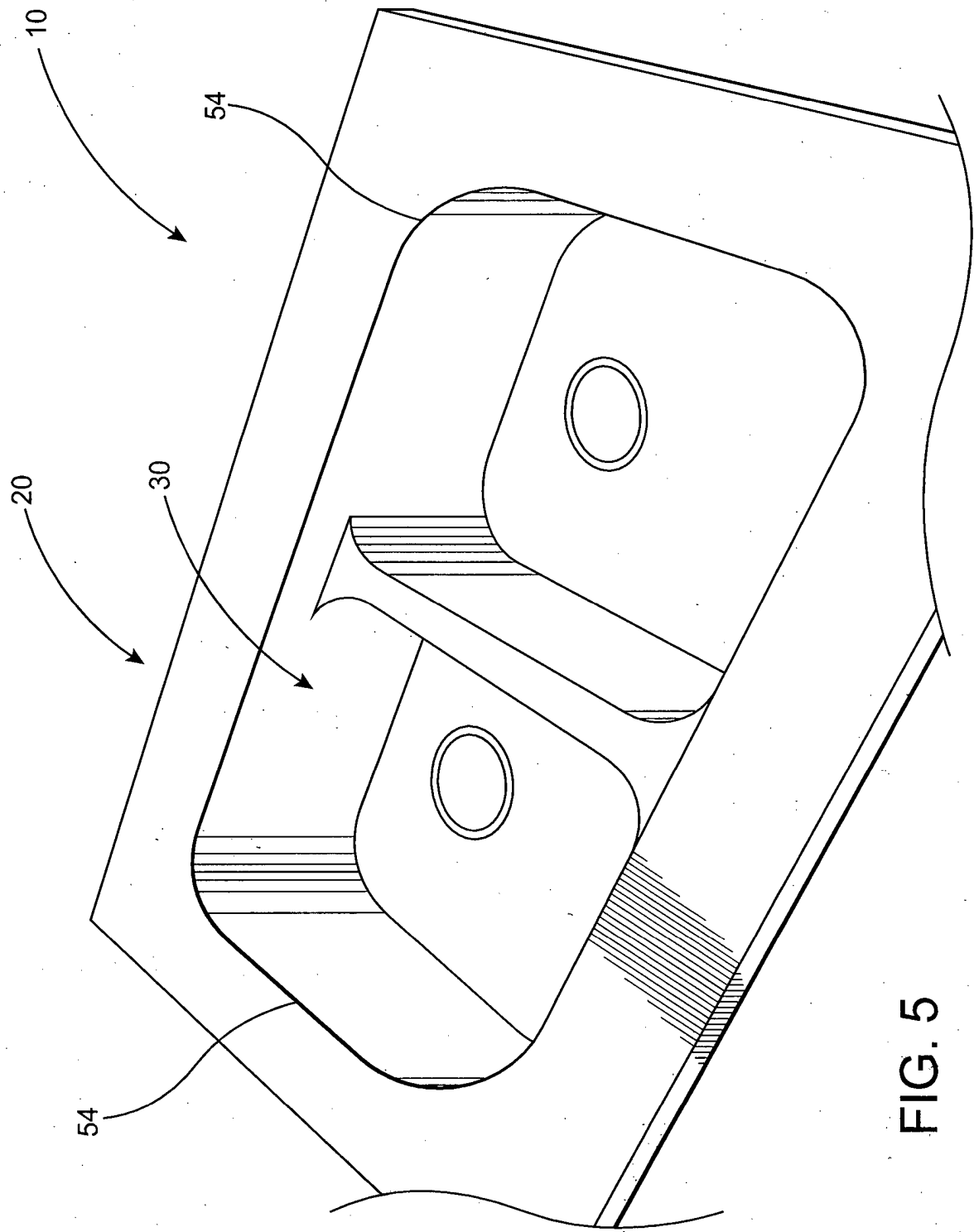
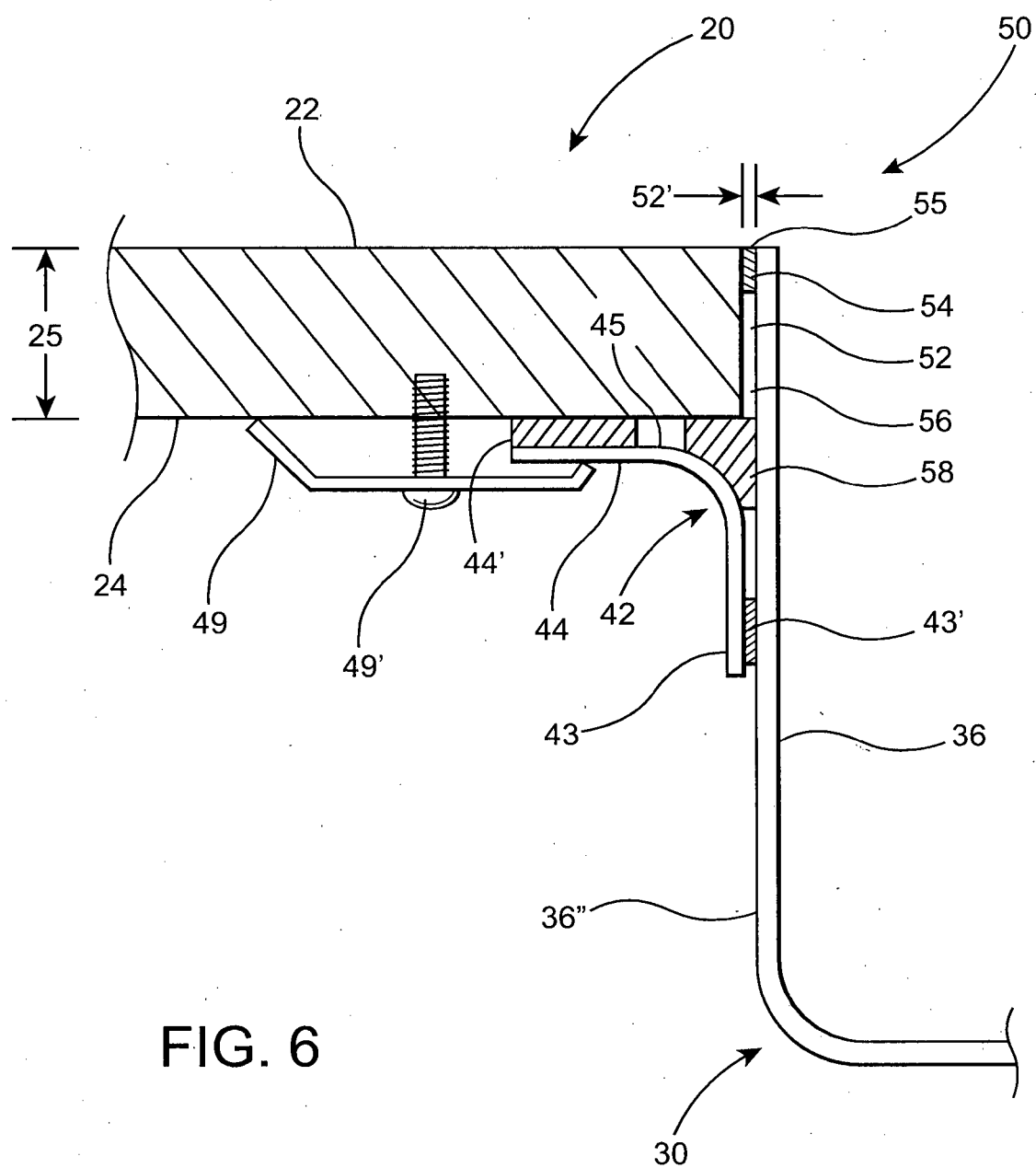


FIG. 5



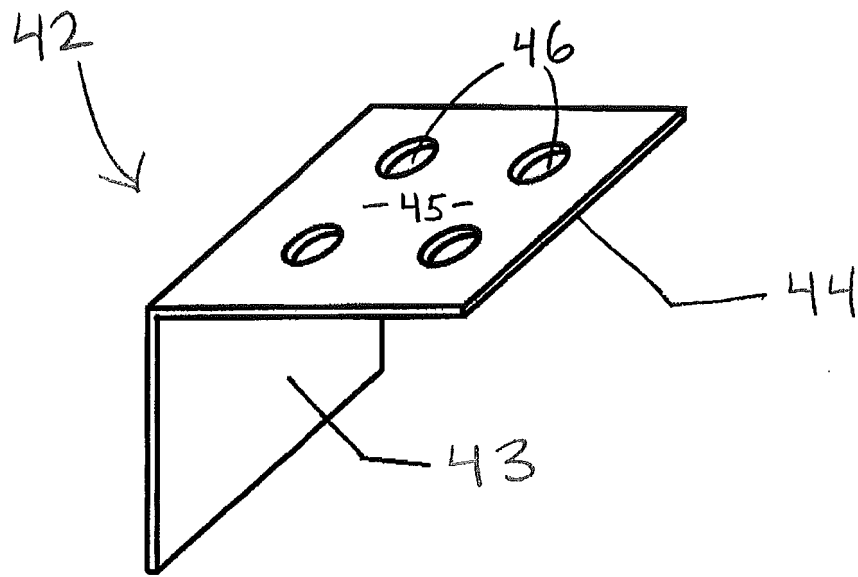


FIGURE 6A

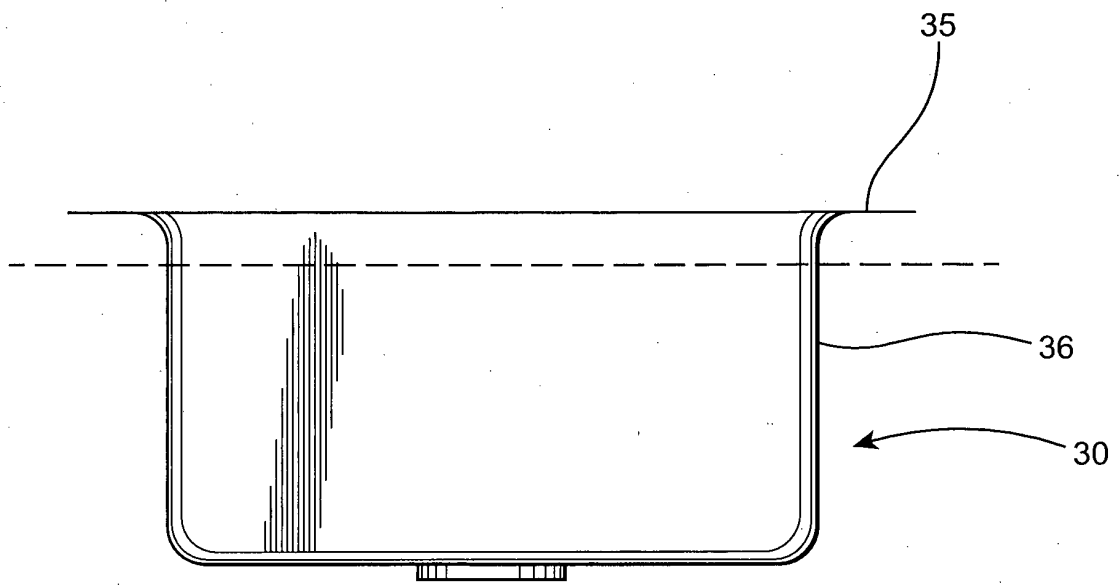


FIG. 7

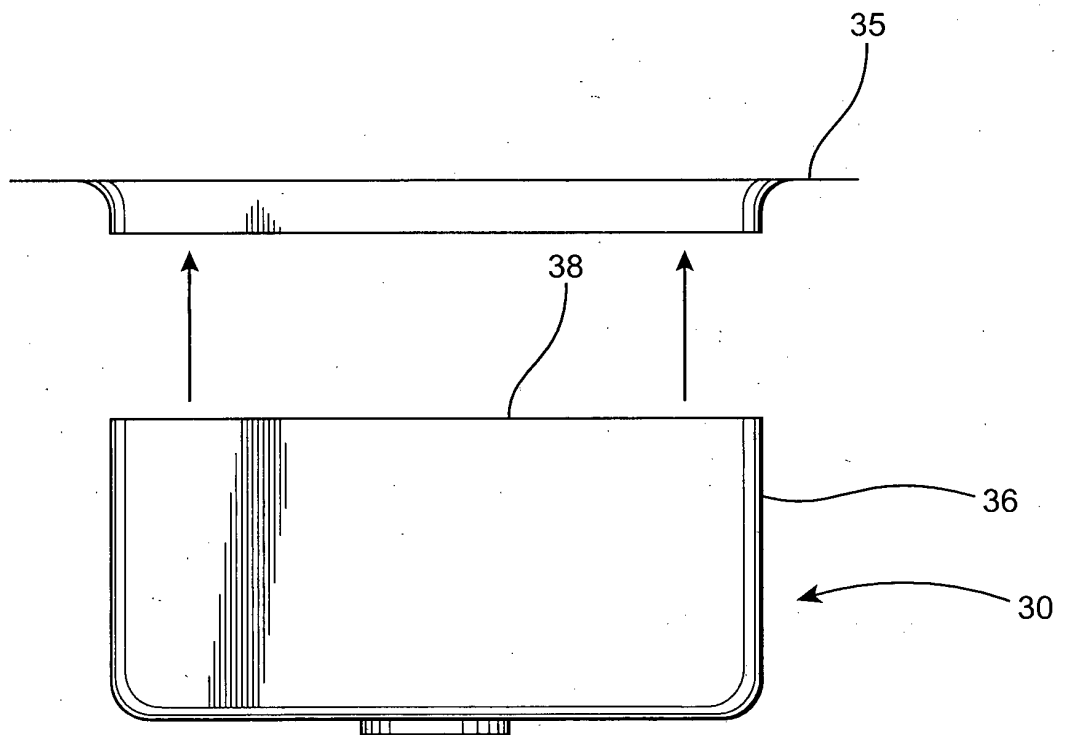
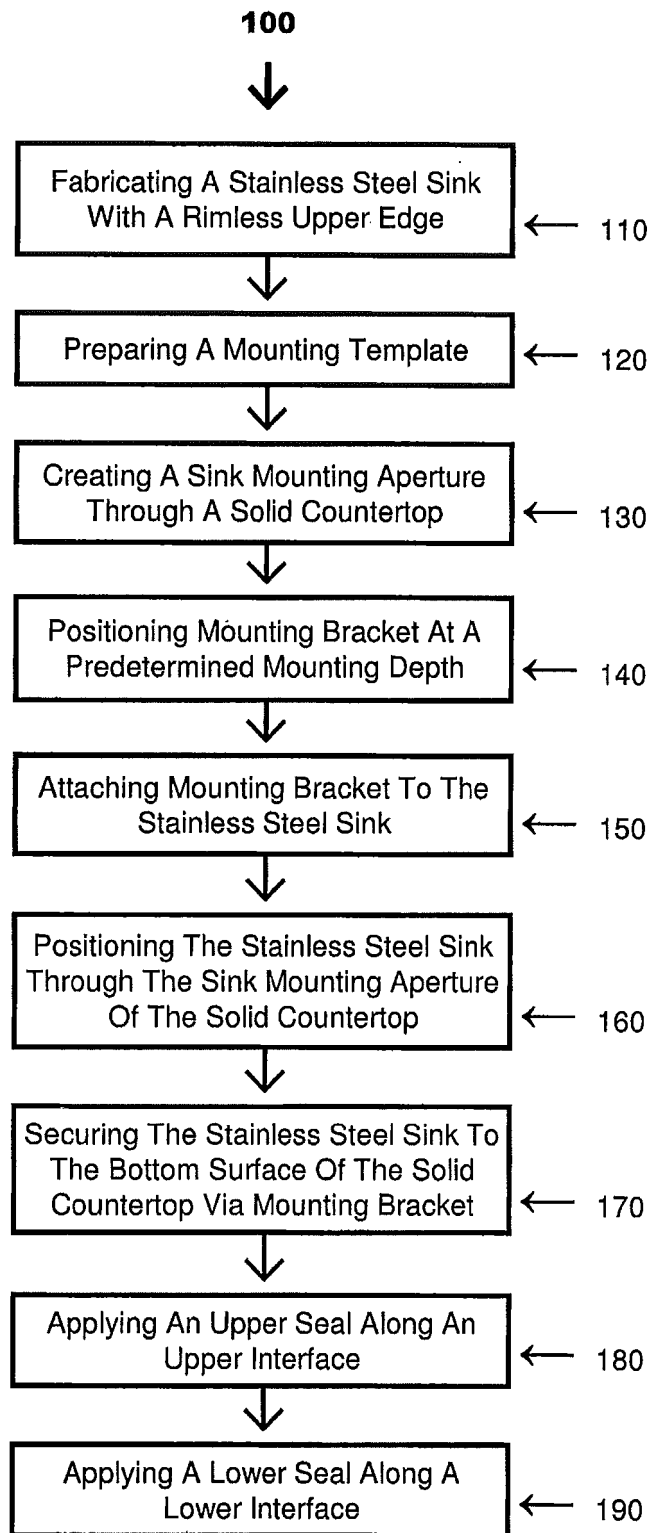


FIG. 7A



REFERENCES CITED IN THE DESCRIPTION

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