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(54) **UNIVERSAL TILE ACCESSORY SYSTEM**

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(52) **U.S. Cl.** **248/201; 248/205.1; 211/88.04**

(57) **ABSTRACT**

(21) Appl. No.: **12/399,768**

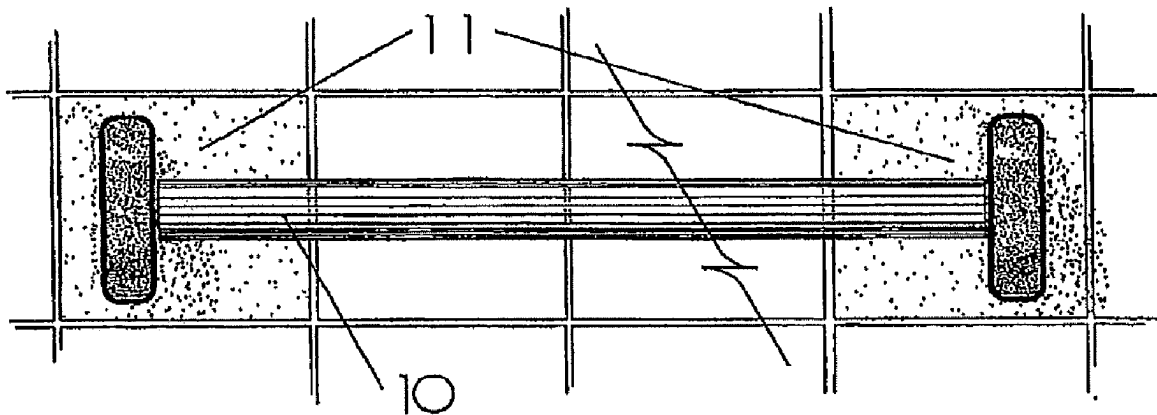
A universal unit is disclosed, for use singly or in pairs, to form a tile accessory system, such as for bathrooms. The universal unit has a back portion with a substantially flat front surface and a rear surface which is adapted for mounting on a wall. The universal unit has an upstanding projecting portion extending perpendicularly outward from the front surface. This projecting portion has two lateral and substantially parallel sides with at least one recess in one side for holding a separate accessory. The recess may be round, in which case the accessory may be a toilet tissue spindle, a towel bar or a grab bar, or it may be elongate in which case the accessory may be a shelf, a soap dish, a tumbler holder and/or toothbrush holder.

(22) Filed: **Mar. 6, 2009**

Related U.S. Application Data

(63) Continuation-in-part of application No. 11/348,181, filed on Feb. 6, 2006, now Pat. No. 7,503,534.

(60) Provisional application No. 60/650,203, filed on Feb. 4, 2005.



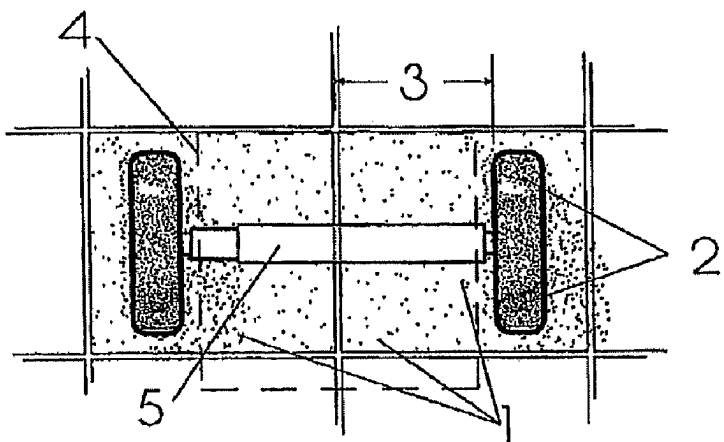


FIG. 1

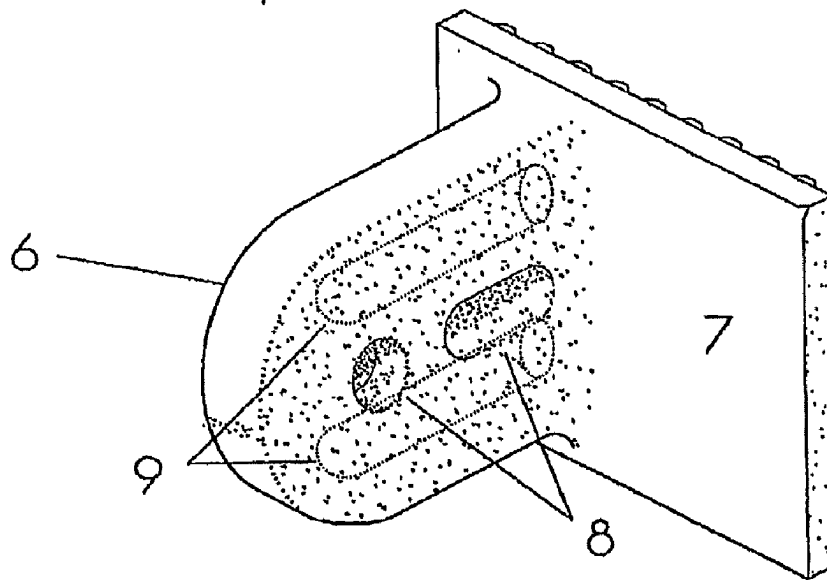


FIG. 2

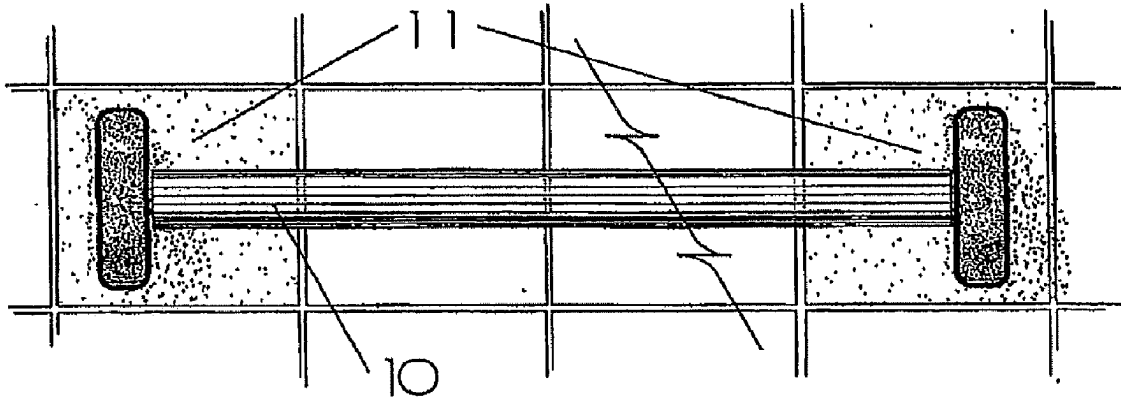


FIG. 3

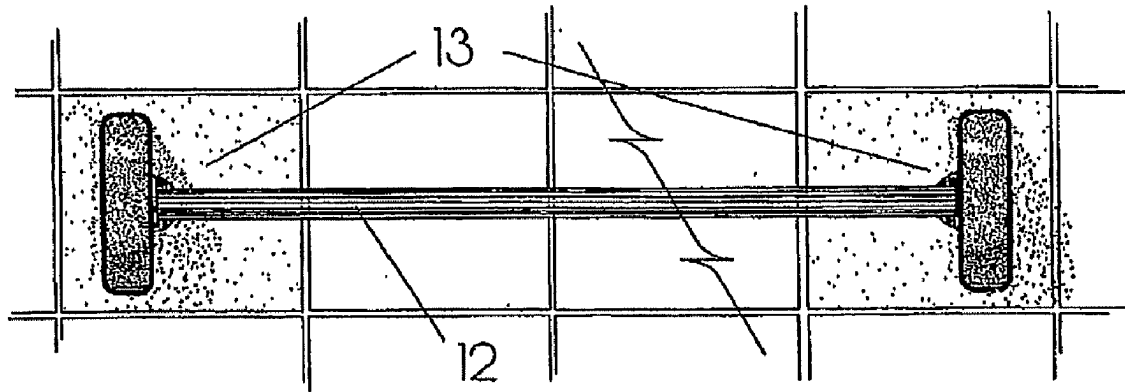


FIG. 4

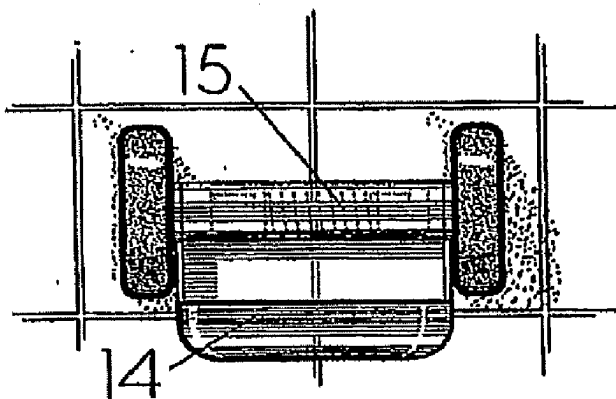


FIG. 5

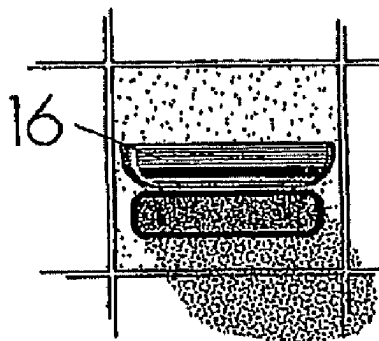


FIG. 6

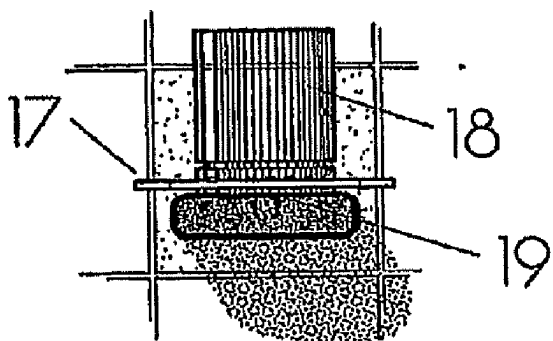


FIG. 7

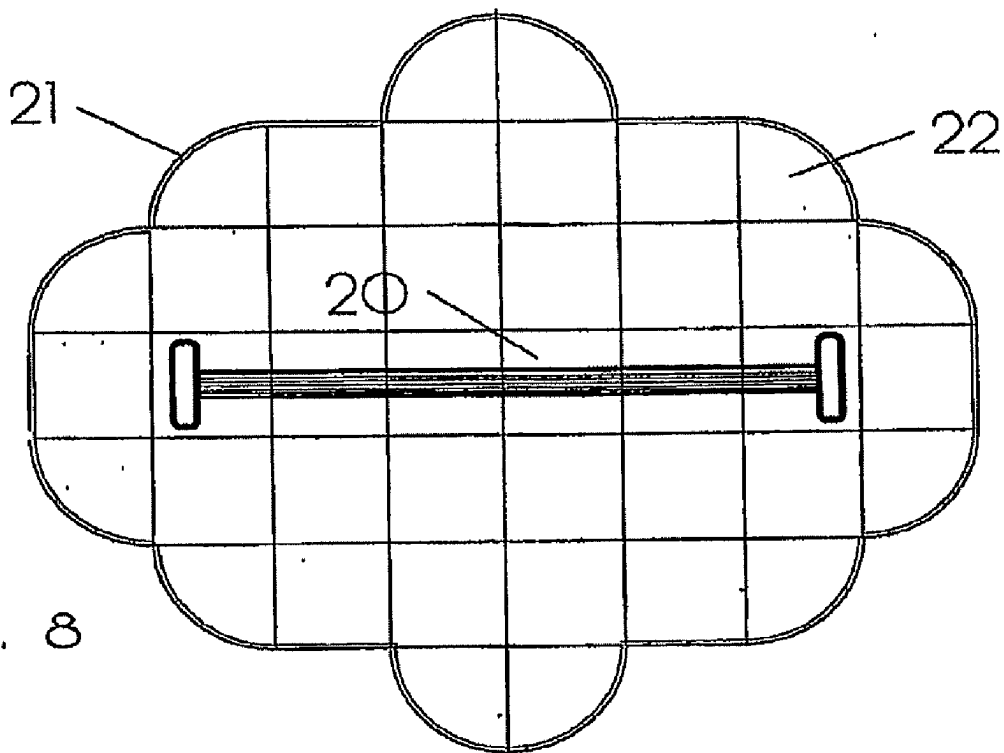


FIG. 8

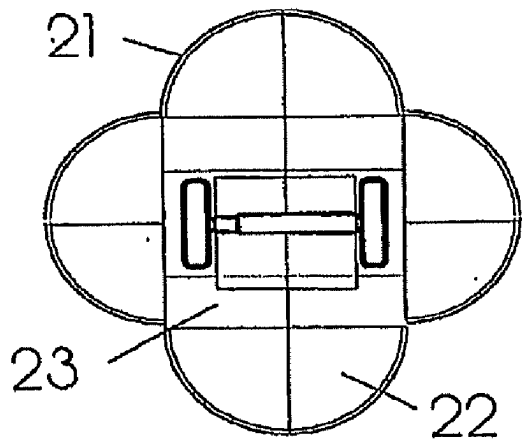


FIG. 9

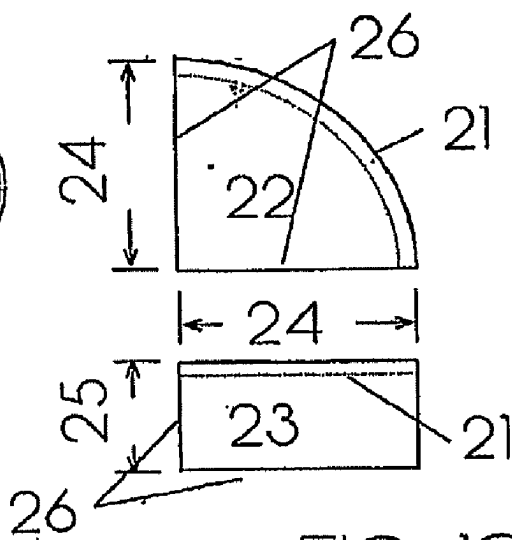
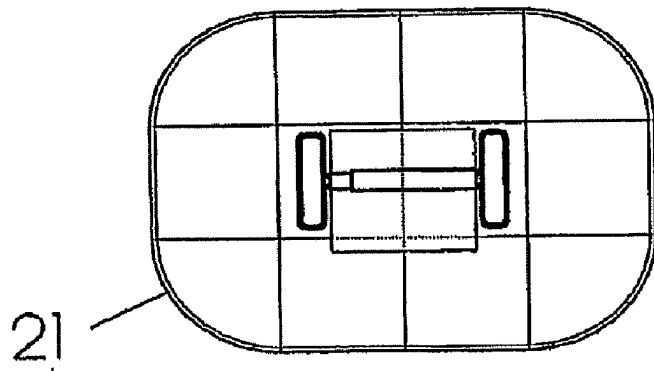
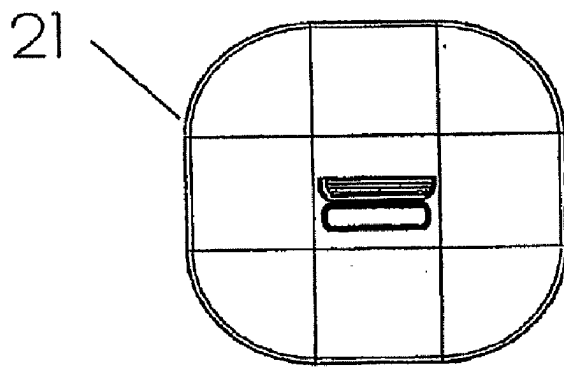
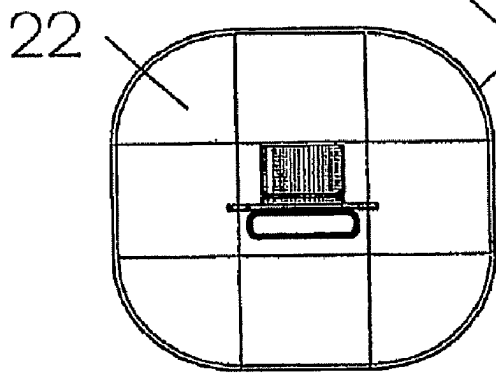
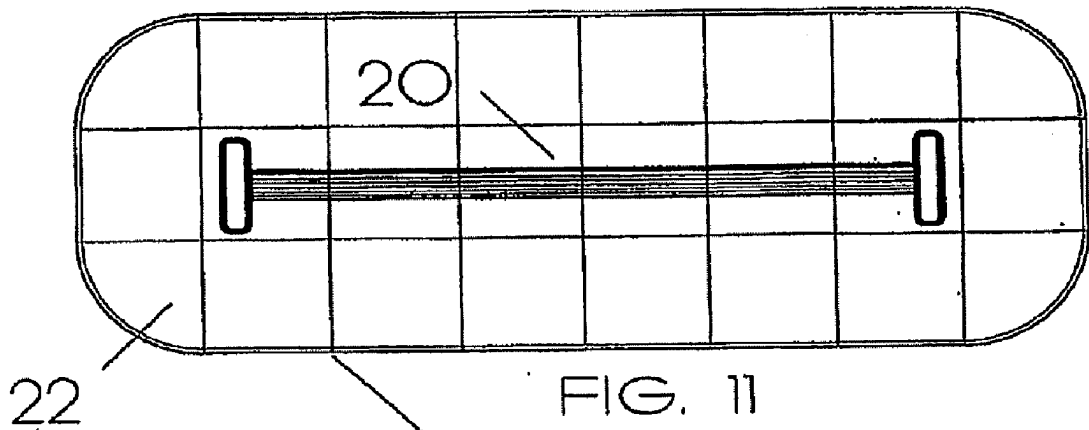


FIG. 10



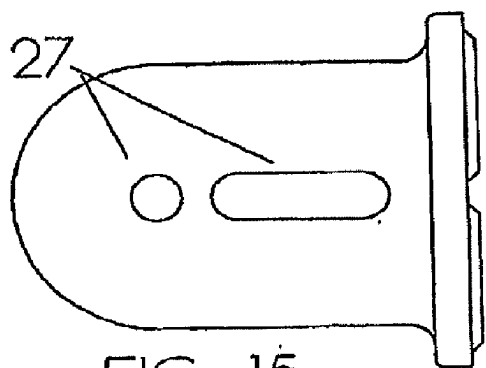


FIG. 15

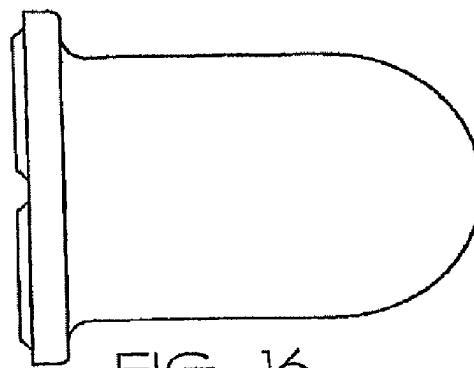


FIG. 16

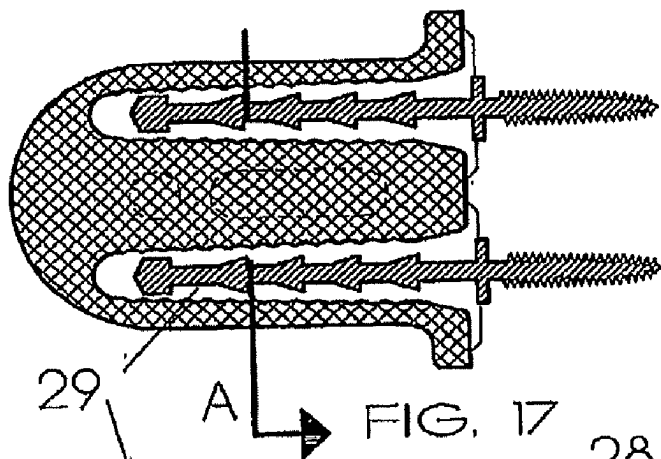


FIG. 17

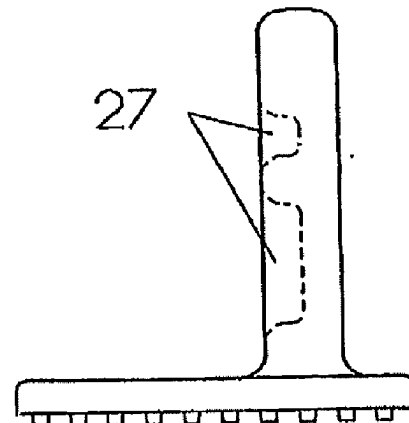


FIG. 18

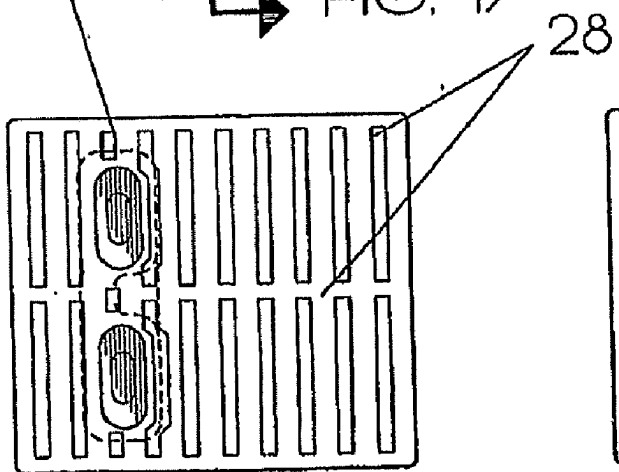


FIG. 19

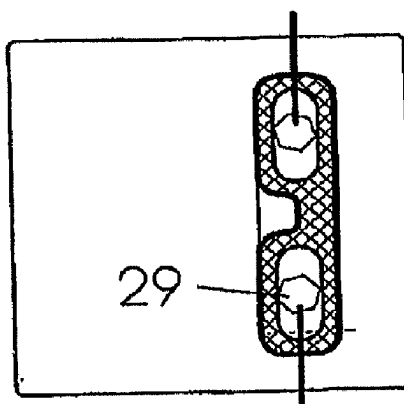


FIG. 20



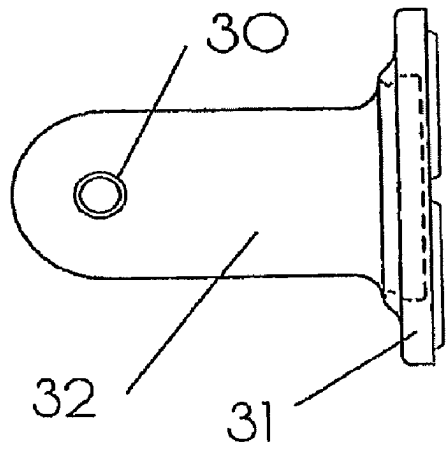


FIG. 21

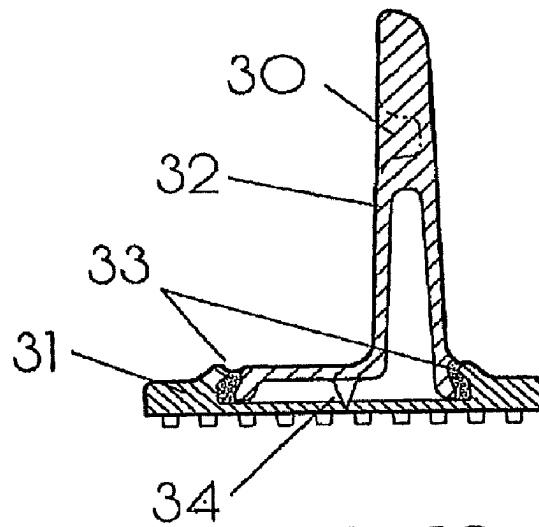


FIG. 22

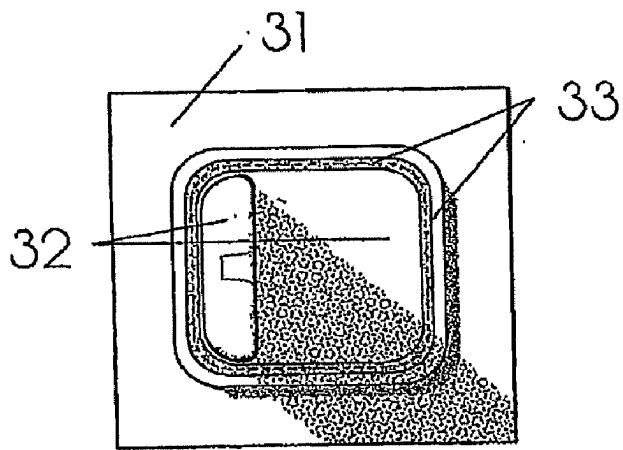


FIG. 23

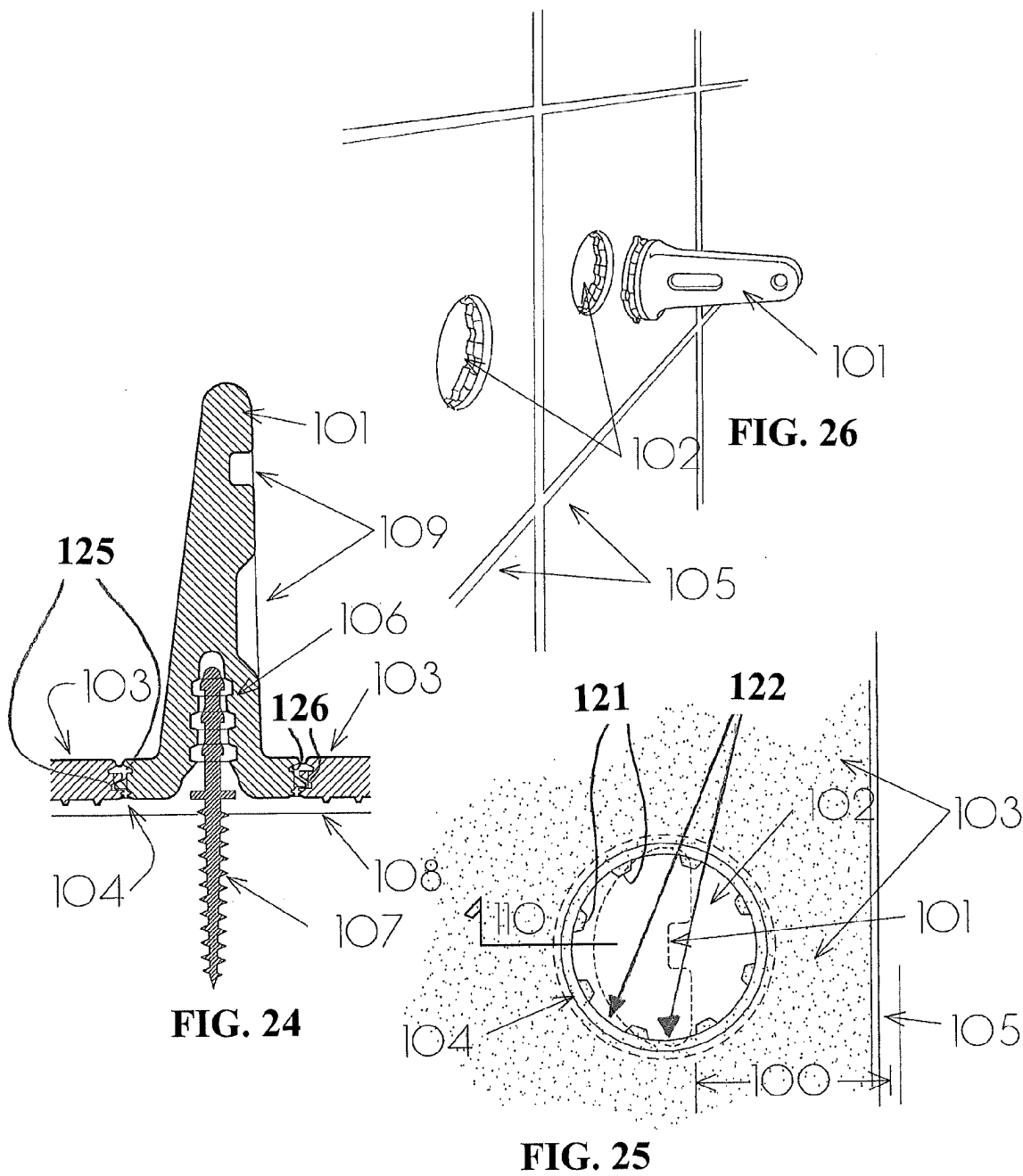


FIG. 24

FIG. 25

FIG. 26

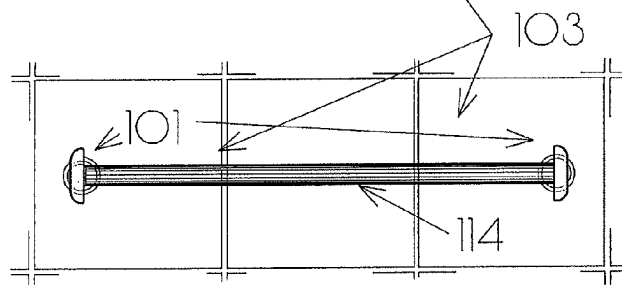
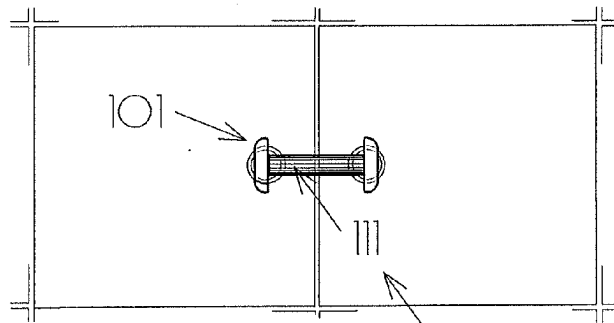
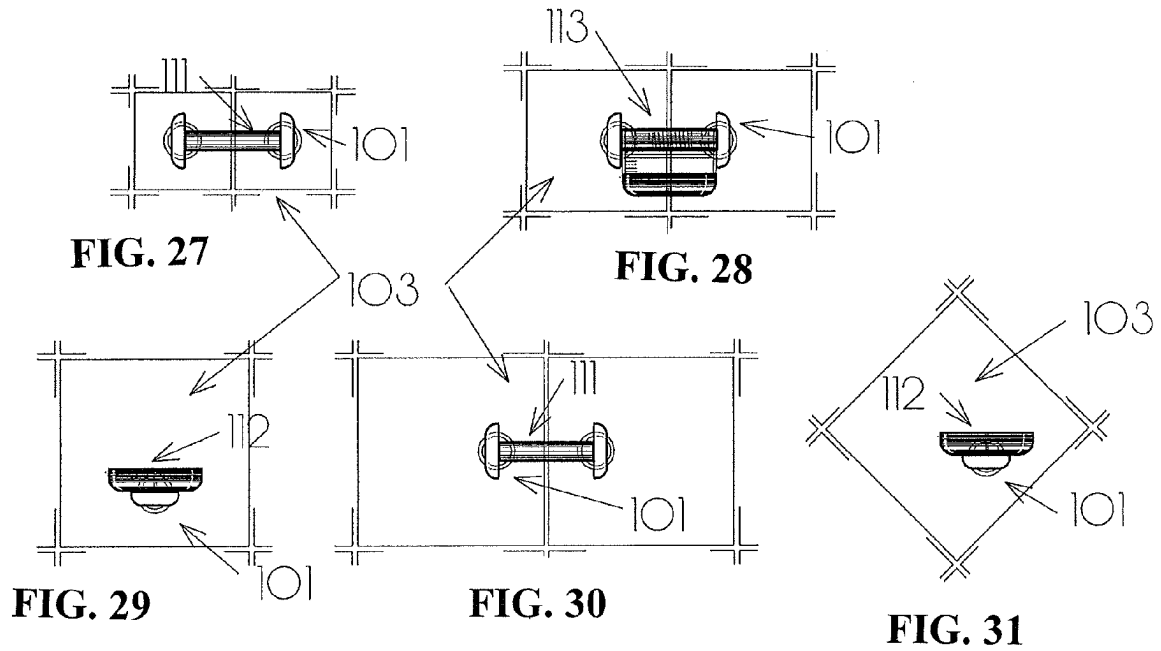


FIG. 33

UNIVERSAL TILE ACCESSORY SYSTEM

CROSS REFERENCE TO RELATED APPLICATION

[0001] This present application claims benefit of priority from U.S. patent application Ser. No. 11/348,181, filed Feb. 6, 2006 and issued as U.S. Pat. No. 7,503,534, which in turn claims the benefit of priority to U.S. Provisional Patent Application No. 60/650,203, filed Feb. 4, 2005. The disclosure of each of the aforementioned applications is incorporated by reference herein in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates to a universal accessory system for use with tile, for example. Particularly, the present invention is directed to a universal tile accessory that is well suited for bathrooms.

[0004] 2. Description of Related Art

[0005] Existing bathroom accessories are either ceramic elements that match the color and finish of specific ceramic wall tile or the "surrounds" with which these accessories are meant to be used, or they are stand-alone elements on wall-board or plaster surfaces. In the latter case, they may be made of ceramic metal, perhaps with architectural metal finishes, plastic or composites of different materials.

[0006] In recent years, because of the difficulty of stocking ceramic bathroom accessories in all of the colors and finishes available in bathroom tile that is sold, the fashion of having matching accessories has become less possible. Metal, ceramic, and plastic or composite bathroom accessories are available in hardware and home furnishing stores. Very few are bought through tile suppliers with matching tile any more. Of the ceramic tile manufacturers who still distribute ceramic accessories, only a few types of accessories are offered, usually a soap dish and toilet tissue holder and usually only in a white color. Some of the accessories attach with tile setting grout or adhesive. Other accessories attach with screws or proprietary clips. There are also accessories that do not mount to walls but sit on horizontal surfaces in the bathroom.

[0007] As can be seen, there is a continued need in the art for improvements to bathroom accessories and tile accessories in general. There also remains a need in the art for a bathroom or other tile accessory that is inexpensive and easy to make. The present invention provides a solution for these and other problems, as described herein.

SUMMARY OF THE INVENTION

[0008] The purpose and advantages of the present invention will be set forth in and become apparent from the description that follows. Additional advantages of the invention will be realized and attained by the methods and systems particularly pointed out in the written description and claims hereof, as well as from the appended drawings.

[0009] In accordance with a first aspect, a universal tile accessory system, such as for bathrooms, is provided, which minimizes the number of different objects or elements which must be manufactured and stored in local warehouses for sale to the building trade.

[0010] In accordance with a further aspect of the invention, a universal unit is provided for use singly or in pairs in a tile accessory system, preferably in a bathroom tile accessory system. If desired, one or more universal units may be

mounted on a wall either individually or as a pair in spaced relationship to each other, depending on the application.

[0011] In accordance with a preferred embodiment, the universal unit has a back portion with a substantially flat front surface and a rear surface which is adapted and configured for mounting on a wall.

[0012] The universal unit also includes an outwardly extending projecting portion that extends perpendicularly outward from the front surface. This projecting portion preferably has two lateral and substantially parallel sides with at least one recess in one side for holding a separate accessory. If desired, the recess may be round, in which case the accessory may be, for example, a toilet tissue spindle, a towel bar or a grab bar, or the recess may be elongate in which case the accessory may be, for example, a shelf, a soap dish, a tumbler holder and/or toothbrush holder, among others. It will be recognized that the recesses may be any suitable shape depending on their specific application (e.g., round, elliptical, generally triangular or rectangular, elongate, etc.), as desired. If desired, for added safety and decorative purposes, the front edge of the projecting portion may be rounded.

[0013] In accordance with a further aspect of the invention, the back portion of the universal unit may be square shaped and may have the dimensions of a standard ceramic tile or a non-standard ceramic tile. It will be recognized that a variety of dimensions may be considered to be standard, such as four by four inches, six by six inches, eight by eight inches, twelve by twelve inches, fourteen by fourteen inches, eighteen by eighteen inches, four by eight inches, or three by six inches, among others. In accordance with one embodiment of the invention, the back portion may be made of ceramic and the front surface thereof may have a glazed or unglazed tile finish designed to match a complete set of tiles of various shapes, such as square or rectangle tiles.

[0014] In accordance with still a further aspect of the invention, the front surface of the back portion may have four edges of substantially equal length and the lateral sides of the projecting portion may extend substantially parallel to one of the edges. Preferably, the projecting portion is off-set from the center of the back portion to facilitate packing two universal units together in a common packaging, such as a box, with the projecting portion of one facing the back portion of the other. In accordance with still a further aspect of the invention, the projecting portions of two universal units may be off-set sufficiently to permit a toilet tissue roll to fit between them when used in pairs. The offsets can be further varied, as desired, based on a given application. For example, the projecting portions may be off-set toward one edge or corner of the tile if a tile is used that is substantially larger than a roll of toilet tissue, such as a tile that is, for example, six by six inches, eight by eight inches, twelve by twelve inches, or larger, as desired. It will be further appreciated that the projecting portions may be sized relatively longer as desired to accommodate different rolls of material, such as paper towel rolls and the like. Preferably, the sizing and relative offset of projections corresponds to accommodating different objects to be secured between the projecting portions, as desired.

[0015] In accordance with yet a further aspect of the invention, if desired, one lateral side of a projecting portion of the universal unit may have more than one recess, such as two, three, four or five recesses, as desired. In accordance with a preferred embodiment, two recesses may be provided. The recesses may be of the same or different shapes. In accordance with one example, one recess may be round in shape

and the other recess may be elongate in shape. The elongate recess may extend generally perpendicular to the front surface of the back portion and in direct alignment with the round recess.

[0016] In accordance with still a further aspect of the invention, the universal unit may be made of any suitable material, such as a ceramic material, a plastic material, a metal or a composite of different materials, as desired. The universal unit may be provided in any desired color, and may be provided with a surface finish, such as a glaze, a baked enamel finish, a painted finish, or a plated or anodized finish, among others, as desired.

[0017] In accordance with still a further aspect of the invention, the back portion of the universal unit and the projecting portion of the universal unit may be integral and made of the same material. By way of further example, the back portion of the universal unit and the projecting portion may be made separately of similar or different materials, as desired, and assembled prior to being received by the end user, or after being received by the end user.

[0018] In accordance with still another aspect of the invention, the rear surface of the back portion of the Universal unit may be serrated to form lugs and cavities for improved adhesion when it is mounted on a wall. For added strength in mounting, the back portion of the Universal unit may have one or two openings extending through the back portion into the projecting portion to receive one or more attachment devices such as reinforcement studs or the like, as desired.

[0019] In further accordance with the invention, a universal tile accessory system is provided. The system includes a universal unit for use singly or in pairs. The universal unit includes a back portion with a substantially flat front surface and a substantially flat rear surface adapted for mounting on a wall, wherein the back portion of the universal unit may have the dimensions of a standard ceramic tile, whereby when the universal unit is mounted, the back portion blends in with surrounding tile. The back portion preferably defines a substantially circular opening therein. The universal unit further includes a projecting portion extending substantially perpendicularly outward from the front surface. The projecting portion includes two lateral and substantially parallel sides with at least one recess on one side for holding a separate accessory, wherein the projecting portion is rotatably received in the opening in the back portion. Preferably, at least one recess in the projecting portion is adapted and configured to permit the exchange of a plurality of different types of accessories to permit the universal unit to be used to construct a plurality of different types of bathroom fixtures.

[0020] In accordance with a further aspect, the perimeter of the opening in the back portion may include a plurality of radially displaced lugs that are adapted to interdigitate with radially displaced lugs on one end of the projecting portion. By way of further example, the perimeter of the opening in the back portion may include a circumferential groove for receiving material to secure the projecting portion to the back portion.

[0021] For a full understanding of the present invention, reference should now be made to the following detailed description of the preferred embodiments of the invention as illustrated in the accompanying drawings. It is to be understood that both the foregoing general description and the following detailed description are exemplary and are intended to provide further explanation of the invention described and claimed herein.

[0022] The accompanying drawings, which are incorporated in and constitute part of this specification, are included to illustrate and provide a further understanding of the method and system of the invention. Together with the description, the drawings serve to explain the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] FIG. 1 is a front elevational view of a pair of universal units made in accordance with the present invention, mounted on a vertical tile wall, wherein the projecting portions are oriented in a vertical direction, with a toilet tissue roll extending between them.

[0024] FIG. 2 is an isometric view of a preferred embodiment of the universal unit made in accordance with the present invention.

[0025] FIG. 3 is a front elevational view of a pair of universal units made in accordance with the present invention with projecting portions used in a vertical orientation, with a towel bar extending between them.

[0026] FIG. 4 is a front elevational view of a pair of universal units made in accordance with the present invention with the projecting portions used in a vertical orientation with a shelf extending between them.

[0027] FIG. 5 is a front elevational view of a pair of universal units made in accordance with the present invention with the projecting portions used in a vertical orientation with a grab bar and soap dish extending between them.

[0028] FIG. 6 is a front elevational view of a single universal unit made in accordance with the present invention with the projecting portion used in a horizontal orientation with a soap-dish-accessory.

[0029] FIG. 7 is a front elevational view of a universal unit made in accordance with the present invention with the projecting portion used in a horizontal orientation with a tumbler and toothbrush holder accessory.

[0030] FIG. 8 is a front elevational view of a pair of universal units made in accordance with the present invention with a surround system, made, for example, from ceramic tile.

[0031] FIG. 9 is a front elevational view of a pair of universal units made in accordance with the present invention with a relatively small surround system.

[0032] FIG. 10 is an isometric view of two tile shapes which may be in the surround system depicted in FIG. 9.

[0033] FIGS. 11-14 show the use of a universal unit made in accordance with the present invention in a tile surround system of various configurations.

[0034] FIG. 15 is a side view of the universal unit of FIG. 2, showing the positions of the round and elongate recesses.

[0035] FIG. 16 is a side view of a universal unit made in accordance with the present invention, showing the side opposite to that of FIG. 15.

[0036] FIG. 17 is a cross-sectional view of the universal unit made in accordance with the present invention taken along line "B" in FIG. 20.

[0037] FIG. 18 is an edge view of the universal unit of FIG. 2.

[0038] FIG. 19 is a rear view of the universal unit of FIG. 2.

[0039] FIG. 20 is a cross-sectional view of the universal unit taken along the line "A" in FIG. 17.

[0040] FIGS. 21 through 23 depict another preferred embodiment of a universal unit made in accordance with the invention. FIG. 21 illustrates a side view; FIG. 22 illustrates a

section view showing how the insertion of grout locks the projecting portion to the back portion and FIG. 23 illustrates a front view.

[0041] FIG. 24 is a sectional view through the back and projecting portions of another embodiment of a device made in accordance with the present disclosure.

[0042] FIG. 25 is a view of the face of the back portion of an embodiment of a universal tile accessory system illustrating a recess having an exemplary interlocking configuration.

[0043] FIG. 26 is a modified perspective view of two back portions installed on a wall in a tile pattern in a configuration suitable for mounting a toilet tissue holder. One of the projecting portions is shown in alignment with one of the recesses of one of the back portions.

[0044] FIG. 27 illustrates two nominal 4"×4" back portions surrounded by a four inch square tile pattern with projecting portions with a horizontally-oriented toilet tissue roll spindle.

[0045] FIG. 28 shows two nominal 6"×6" back portions surrounded by a six inch square tile pattern with projecting portions in combination with a horizontally-oriented small grab bar and a soap dish accessory adapter.

[0046] FIG. 29 illustrates a nominal 8"×8" size back portion surrounded by an eight inch square tile pattern with a projecting portion used to support a horizontally-oriented soap dish adapter.

[0047] FIG. 30 shows two nominal 8"×8" back portions surrounded by an eight inch square tile pattern with projecting portions used to support a toilet tissue spindle in a generally horizontal orientation.

[0048] FIG. 31 shows a nominal 8"×8" back portion surrounded by an eight inch square tile pattern in a wall of tile set in a "diamond" pattern. The projecting portion is set at 45 degrees with respect to the edges of the back portion, and supports a soap dish adapter.

[0049] FIG. 32 illustrates two nominal 12"×12" back portions surrounded by a twelve inch square tile pattern and projecting portions used to support a toilet tissue spindle in a generally horizontal orientation.

[0050] FIG. 33 illustrates two nominal 8"×8" back portions separated by a nominal 8"×8" tile. The two projecting portions are used to support a towel bar in a generally horizontal configuration.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0051] Reference will now be made in detail to the present preferred embodiments of the invention, examples of which are illustrated in the accompanying drawings. The method and corresponding steps of the invention will be described in conjunction with the detailed description of the system and kits provided therewith.

[0052] The present invention relates to a tile accessory system, preferably a bathroom accessory system, comprised of a ceramic, plastic, composite, or metal universal unit which, when used singly or in pairs, along with adapter pieces, such as toilet tissue spindles or soap dish adapters, creates common wall-mounted bathroom accessories. In accordance with a further aspect of the invention, the universal unit may be provided in various sizes to accommodate paper towel rolls, shelves, and the like for use in areas outside of the bathroom, such as in the kitchen. In accordance with a preferred embodiment, the universal unit is formed from ceramic material of the same color and finish as the ceramic tile surrounding it, to give a homogeneous and aesthetic appearance. The adapter

pieces could be made of ceramic to match the tile, or alternatively of plastic, metal or a composite material, among others.

[0053] The preferred embodiments of the present invention will now be described with reference to FIGS. 1-33 of the drawings. Identical elements in the various figures are designated with the same reference numerals.

[0054] For purposes of illustration and not limitation, as embodied herein, FIGS. 1 through 7 and 15 through 20 illustrate universal units alone or in combination with formed adapter pieces which make up the system according to the present invention. Using universal units alone or in pairs, in concert with adapter pieces such as those depicted herein, most of the popular bathroom accessories can be created. These figures illustrate a toilet tissue holder, a soap holder/grab bar, a small soap dish and matching tumbler/toothbrush holder, towel bar and shelf unit. All add-on adapter pieces are preferably designed to snap out to facilitate cleaning. The decor may be changed by replacing the adapter pieces with different motifs. The adapter pieces can have a metallized finish, be of transparent or opaque plastic, ceramic, glass or composite materials, among others. In accordance with a preferred embodiment of the invention, the adapter pieces may be made of clear or smoked acrylic plastic.

[0055] In accordance with one embodiment of the invention, the projecting portion may be centered on the back portion, or may be off-set from the centerline. In the latter embodiment, two universal units can be nested and, if based on a 4 by 4 inch tile, may fit into a box or other suitable container approximately 4.5 inches square for compact storage, stocking and stacking. The projecting portion's location with respect to the back portion may be determined in accordance with the dimensions of a standard roll of toilet tissue, among other things. Installed in a tile wall other than one based on four by four inch tile may require the use of one or more sizes of adapter tiles. Moreover, significantly larger tile sizes than 4 by 4 inch tile may be used. The placement of the projecting portion may then be determined in accordance with the intended use, such as holding toilet tissue, paper towels in a non-bathroom setting, for example, or the like.

[0056] FIG. 8 through FIG. 14 illustrate a system which enables the ceramic accessories to be used in bathrooms where little or no wall tile is used, such as gypsum board or plaster surfaces. FIGS. 8 through 14 illustrate possible design schemes using shaped tiles with finish edges (bullnose, ogee, or other shapes.) Quarter circle tile and straight tiles with bullnose or other decorating outer edges create various "surround" shapes. Such tiles may be sold in combination with the universal units in the form of a kit that may be purchased by an end user such as a consumer or contractor. As will be appreciated, such kits need not be used in bathrooms, but may be used anywhere, for example, that it is desired to use the accessory or accessories in the kit that the universal unit is designed to support (e.g., a shelf or the like).

[0057] In the context of bathroom use, a significant problem with hanging damp towels against a gypsum board or plaster surface is the that these surfaces will absorb moisture which will blister the paint and often promote mildew or mold growth. A surround of tile as depicted herein, such as ceramic tile, would be a functional improvement over the current situation in most homes and other settings. Moreover, wall surfaces surrounding most bathroom accessories receive more abrasion abuse than other wall areas. As such, these locations would benefit from having a durable, tile surround as embodied herein.

[0058] In accordance with a further aspect of the invention, a method is provided of attachment of the universal unit to a substrate. For purposes of illustration and not limitation, as embodied herein, attachment of the universal unit to a tile substrate would, in most cases, be by the same method as used for attaching the tile. If greater pull-out strength is required for a towel bar or grab bar or shelf, for example, or for higher abuse areas such as public restrooms or showers, a stud system may be employed, wherein a template is provided to aid the installer in locating the installation of a rustproof metal stud(s). The stud(s) may project a significant length of a cavity formed inside the universal unit through the projecting portion, or may even project nearly the full length. The studs may include, for example only, annular "harpoon" rings and a hex head, for example, to facilitate installation with a socket wrench into a stud or specially reinforced blocking behind the gypsum board. The cavity in the universal unit may be filled with a curing type cementitious or synthetic high strength grout of putty consistency and the unit inserted over the stud and into the tile setting bed.

[0059] FIG. 1 illustrates a toilet tissue holder accessory which includes two universal units made in accordance with the invention in combination with a spring-loaded spindle. Back portion 1 of the universal unit may be dimensionally the same as a standard 4 by 4 inch tile, or may have other standard or nonstandard tile dimensions, as known in the art. Projecting portion 2 of the Universal unit is preferably oriented in a direction that is generally perpendicular or fully perpendicular to the back portion 1. An off-set dimension 3 may be provided to determine an appropriate off-set of the projecting portion 2 to accommodate a toilet tissue roll. Dashed rectangle 4 indicates placement of a toilet tissue roll, rotatably mounted on a spring-loaded spindle 5.

[0060] FIG. 2 depicts a perspective view of a universal unit made in accordance with the invention having a projecting portion 6 and a back portion 7. Recesses 8 are formed in the side of the universal unit to receive a toilet tissue roll spindle or protrusions of other accessory adapter pieces. A first recess 8A is depicted as being round, while the second recess 8B is depicted as being elongate in shape, and arranged perpendicularly to the back portion 7 and in alignment with the round recess 8A. Two hollow openings 9 are also formed within the projecting portion 6 for receiving reinforcement studs as described above.

[0061] FIG. 3 illustrates a towel bar accessory with the projecting parts used in a vertical orientation on a wall. A towel bar tube 10 is suspended by recesses in the universal unit as described above. Towel bar tube 10 may be of plastic, metal or composite material, as desired. The length of towel bar tube 10 may vary incrementally in stages equal to a tile module. Fittings 11 may be provided at each end of the bar 10 that secure into the round recesses of the Universal unit projecting portion. It will be appreciated that the universal units may be combined with any suitable accessory (e.g., towel bar, soap dish, shelf, toilet tissue holder, paper towel holder, etc.) as described herein to be sold as a kit, if desired. In the embodiment of FIG. 3, the towel bar may be provided in a first length that may be cut to any desired length depending on the application (e.g., bath towel, hand towel or washcloth, etc.).

[0062] FIG. 4 illustrates a shelf accessory where the projecting parts of the universal unit are used in a vertical orientation on a wall. Shelf 12 may be made of tempered safety glass or other glass, plastic, ceramic, metal or composite material, as desired. The shelf length will preferably vary

incrementally in stages equal to the tile module. However, a kit may be provided having a plurality of shelves of different lengths or a single shelf made from a material that may be trimmed to a desired length. Resilient fittings 13 are also preferably provided for securing the shelf 12. These fittings 13 may be made, for example, of clear silicone rubber, vinyl or other flexible material. Protrusions on the fittings are adapted and configured to fit into the elongate recesses on the projecting portion of the universal unit and to be locked in place by the shelf which is then inserted onto the snug grooves of the fittings, as depicted in FIG. 4.

[0063] FIG. 5 illustrates a relatively large soap dish with a grab bar as might be useful at a bathtub or in a shower stall. The projecting portions are once again depicted in a vertical orientation. The soap dish 14 is preferably removable for washing in a sink by compressing two spring-loaded toggles. The grab bar 15 must be more securely anchored to the wall than just the adhesion of the tile setting material, preferably by employing anchoring studs embedded into cavities formed in the universal units with a curing grout or other suitable adhesive as embodied herein.

[0064] FIG. 6 illustrates a small soap dish 16 as might be used flanking a lavatory mirror. With this accessory, the universal unit is used with its projecting portion in a horizontal orientation. Preferably, a projection extending downwardly from the bottom of the soap dish adapter 16 mates with an "O" ring or other resilient sleeve or member in the universal unit to provide a snug fit for the adapter 16 into the round recess in the universal unit. The soap dish 16 may also be provided with an elongate projection to fit into an elongate recess (if provided) in the universal unit for added security.

[0065] FIG. 7 depicts a toothbrush and tumbler holder as might be used flanking a lavatory mirror. The universal unit is used with the projecting portion arranged in a horizontal orientation. A toothbrush/tumbler holder adapter piece 17 is provided, which includes a projecting part with "O" ring or resilient sleeve providing a snug fit for the adapter into the round recess 19 of the universal unit. A matching tumbler 18 may also be provided that matches the motif of the holder. Again, the tumbler adapter may have a projection that fits into the elongate recess, as with the soap dish described above. Moreover, as with the soap dish described above and the soap dish/grab bar described above, the toothbrush/tumbler holder may be provided alone as a kit, or in combination with the universal unit and/or surrounding tile (e.g., as a "surround system" as described below) as a kit.

[0066] FIG. 8 illustrates a tile (e.g., ceramic tile) surround system to provide a tile area on a sheetrock or plaster wall to work with and compliment bathroom accessories created by the universal unit accessory system. A towel bar or shelf accessory 20 may be provided, while an outer tile edge 21 such as with a bullnose finished edge or other formed decorative finished edge is provided. A quarter round design tile 22 with finished outer edges and raw cushion edged inner edges may also be provided. Design tiles of other shapes and sizes may also be manufactured to expand the design pallet of the tile surrounds as well as for finishing tile wall areas such as at the top of tile wainscots. Such a surround system may be provided alone as a kit, or in combination with the universal unit and accessories described herein as a kit to provide a complete decorative and functional solution.

[0067] FIG. 9 illustrates a possible tile surround motif for a toilet tissue holder or soap dish/grab bar having a finished

edge **21**, a quarter round tile **22**, and a nominal adapter tile **23** (such as a 4 by 2 inch tile) having all raw cushion edges.

[0068] FIG. **10** depicts two adapter tiles. For example, a bullnose or other finished edge **21** may be provided in combination with a quarter round tile **22** and a half tile adapter tile **23**. The tile dimension **24** may be a four inch nominal or other standard or nonstandard tile dimension. Tile dimension **25** is half of a standard tile. Standard raw cushion edge **26** may be the same as any standard tile edge.

[0069] FIGS. **11**, **12**, **13**, and **14** illustrate a minimal tile surround design for a towel bar or shelf accessory, tumbler/toothbrush holder, small soap dish, and toilet tissue holder, respectively. The arrangement of FIG. **14** may also be used for a soap dish/grab bar accessory. In these figures, reference **20** points to a towel bar or shelf accessory, **21** indicates bullnose or other finished edges and **22** indicates a quarter round tile.

[0070] FIG. **15** depicts an inside side view of an exemplary universal unit. Reference **27** points to the recesses which are configured and adapted to accept the adapter pieces. FIG. **16** depicts an outside side view of a universal unit made in accordance with the invention.

[0071] FIG. **17** depicts a cross-sectional view through section "B" (from FIG. **20**) cutting through the entire universal unit and optional reinforcement studs. Reference **29** points to the reinforcing studs in the fixture cavity.

[0072] FIG. **18** depicts an edge view of the universal unit. Reference **27** points to the round and elongate recesses, respectively, that accept the adapter pieces, shown in phantom (dashed lines). Reference **28** points to the tile bottom lugs which will match the design of a standard tile-back lug pattern.

[0073] FIG. **19** illustrates the back of the universal unit which faces the wall and is preferably set into thinset mortar, synthetic mortar, cementitious thick setting bed (mud), or tile adhesive, among others. Reference **28** points to the lugs which are used to enhance adhesion to thinset and other mortar beds. Reference **29** points to the cavity openings which exist to provide a more uniform clay mass for proper firing of the clay, and for additional anchorage reinforcement.

[0074] FIG. **20** is a plan view and section "A" (from FIG. **17**) through the projecting portion of the universal unit. Reference **29** points to the cavities which can receive reinforcement studs embedded in curing type grout.

[0075] According to a particular preferred embodiment of the present invention, the universal unit in the tile accessory system utilizes a back portion of the same appearance as a standard ceramic wall tile, but has a recess similar in nature to a dove-tail socket, wherein separate "accessory adapters" are inserted into the recess and tile grout is forced into the joint between them thereby permanently locking the back portion to the accessory insert. This embodiment is depicted in FIGS. **21-23**. Such an embodiment has significant advantages, as by providing the universal unit in pieces, as opposed to an integral form, it is possible to manufacture the universal unit components in a standard tile oven that does not provide the vertical clearance required to form the integral universal unit. Moreover, the projecting portions may be made from the same, or different materials from the back portion, permitting highly decorative combinations of materials (e.g., stainless steel or chrome projecting portions mounted on ceramic tile, and the like).

[0076] As illustrated in FIGS. **21-23**, the recessed back portion **31**, which is modular with the wall tile and is set with the wall tile, receives adapter pieces which project from the

wall and create the specific accessories. The illustration shows a projecting portion which creates half of a toilet tissue roll holder or towel bar. The adapter piece **32** is inserted into a "dove-tailed" recess in the back portion **31** and tile grout is forced into the groove **33** which locks the accessory piece into place. It will be appreciated that while a dovetail is preferred, any suitable shape may be used. Reference **30** indicates the recess in the adapter piece to receive the toilet paper roll spindle or towel bar end. The preferred material for the back portion is of ceramic with the glazed finish to match the wall tile, although it could be made of other materials such as plastic, metal or composition material, among others. The specific accessory insert adapter **32** is preferably cast from ceramic to match or compliment the wall tile, or from metal, plastic or composites. Reference **34** indicates a centering device to aid in installation of the adapter **32** into the back portion **31**.

[0077] Embodiments of the universal unit and bathroom accessory system have a number of advantages, such as:

[0078] 1. The system can provide designers with a graceful line of accessories that will appear to be sculpted from the wall with no unnecessary protrusions.

[0079] 2. Because there is only one kind of ceramic object that must be stocked in local warehouses, it is possible for manufacturers to furnish the accessories in the color and finish of the tile being used.

[0080] 3. The non-symmetrical design of the Universal unit allows two units to be stocked in a box (e.g., 4.5 inches square), which is more compact than current accessories storage requirements.

[0081] 4. The simple shape of the Universal unit will require a minimum of hand finishing prior to glazing, should glazing be desired.

[0082] 5. The preferred embodiment of the Universal unit as illustrated has a smooth appearance with no sharp edges to injure users.

[0083] 6. The tile surround system provides a means to use the universal bathroom accessory system on walls that are otherwise untiled.

[0084] 7. The tile surround system provides a more durable surface at accessory locations to prevent moisture damage to sheetrock or plaster walls as well as abrasion damage.

[0085] In further accordance with the disclosure additional embodiments of a universal tile accessory system are provided that provide still additional flexibility and variation.

[0086] For purposes of illustration, FIG. **24** illustrates a section view through an additional embodiment of a universal unit including a back portion **103** and a projecting portion **101**. Section arrow **110** in FIG. **25** indicates the location where the section shown in FIG. **1** is taken. In this embodiment, the back portion **103** is provided with a generally circular opening **102** that is adapted and configured to receive a generally circular base portion of the projecting portion. As depicted, an interlocking interface **104** is provided to permit the projecting portion **101** to engage the back portion **103** inside of opening **102**. Specifically, an interfitting arrangement of lugs **121** that define gaps **122** between the lugs are provided that permit the projecting portion **101** to be inserted into the opening **102** of the back portion **103** when the lugs are out of alignment.

[0087] The concentric grooves **125**, **126** are preferably formed in the soft clay to make the back portion **103** and projecting portion prior to firing and glazing the components. The grooved surfaces **125**, **126** are preferably best left

unglazed to enhance adhesion to the grout or compound. As further depicted in FIG. 24, a recess 106 internal to the projecting portion 101 may be provided. Recess 106 is believed to improve the baking and firing qualities of the projecting portion 101 and also provides a location for attachment to a substrate 108 into structure using an anchoring stud 107, if desired. As with the earlier embodiment of a universal unite described above, depressions 109 may be provided in the projecting portion 101 to facilitate the insertion of accessory adapters that, in combination with the back portion 103 and projecting portion 101, cooperate to form a bathroom accessory.

[0088] For purposes of installation, back portion 103 is installed first. After the tiles and back portions 103 have been installed and the tile setting compound has set-up and cured, the opening 102, in cooperation with the exposed substrate 108, forms a recess that is filled with compound cement or grout. Prior to the insertion of the male end of the projecting portion 101 containing lugs 121, it is coated liberally with compound or grout and the cavity 106 (if provided) is filled to facilitate installation if a reinforcing stud 107 is not used. If a reinforcing stud 107 is used, then a suitable amount of adhesive or other suitable material may be used inside of cavity 106 to strengthen the bond, as appropriate. Then the projecting portion 101 is inserted into the opening 102 in the back portion 103 so that the lugs 121 on the male end of the projecting portion 101 fit through the gaps 122 on the back portion 103. The projecting portion 101 is then rotated until the projecting portion 101 has reached its desired angular orientation. The interfitting lugs 121 hold the projecting portion 101 stationary until the cement compound or grout 105 has set and cured.

[0089] If desired, the surfaces of adjacent lugs 121 on the projecting portion 101 and back portion 103 that engage each other are slightly tapered to provide a progressively tighter fit during rotation. During installation, all of the voids between the lugs are preferably filled with compound or grout to facilitate locking the back portion 103 and projecting portion 101 together. As depicted, concentric grooves 125, 126 may be provided in the back portion 103 and projecting portion to provide additional surface area for compound or grout to contact to enhance the physical strength of the joint after installation.

[0090] FIG. 25 illustrates a portion of the face of a back portion 103, which lies in the same vertical plane as the surrounding tile wall. The distance from the centerline of a ceramic tile joint to the inside face of the projecting piece is represented by reference numeral 100. In accordance with one embodiment, distance 100 is about half of the width required to accommodate a standard toilet tissue roll, with a small additional space added to allow for ease of unrolling toilet tissue and installation of replacement rolls.

[0091] As will be appreciated by those of skill in the art, opening 102 can be positioned in any desired location in back portion 103. The location of opening 102 will depend on the particular application, as well as the size of tile. In accordance with one embodiment, the center of the opening 102 in the back portion 103 in a number of tile sizes is placed a predetermined distance from the edge of the back portion. For example, regardless as to size of tile, the opening can be placed the predetermined distance from the edge in order to facilitate making a toilet tissue holder from any size tile. When positioning the opening 102 eccentrically in this manner, it is still possible to make a wide variety of bathroom or

other tile accessories. By way of further example, opening 102 can be centered in the back portion 103.

[0092] FIG. 26 is a modified perspective view of a tile wall with two back portions 103 installed with adhesive and finished with grout 105, abutting one another in order to support a toilet tissue holder or other accessory using such a spacing. Projecting portion 101 is also illustrated in alignment with opening 102.

[0093] FIG. 27 illustrates a portion of a nominal 4"×4" tile wall with a toilet tissue holder made in accordance with an embodiment of the invention. As illustrated, back portions 103 are installed with the surrounding tile, and projecting portions 101 are oriented to receive a toilet tissue spindle. FIG. 28 illustrates a portion of a nominal 6"×6" tile wall with the back portions 103 mounted with the surrounding tile. Openings 102 in back portions 103 are eccentrically mounted to accommodate the mounting of a combination soap dish and grab bar accessory 113. Preferably, when installing an accessory such as 113 including a grab bar, projecting portions 101 are installed over reinforcing studs 107 for added support.

[0094] FIG. 29 illustrates a portion of a nominal 8"×8" tile wall with a single back portion 103 supporting a soap dish accessory 112. A single projecting portion 101 is mounted in the opening 102 in back portion 103 as described herein. FIG. 30 illustrates a portion of a nominal 8"×8" tile wall, wherein two 8 inch square back portions 103 are used with eccentrically mounted openings 102 for receiving projecting portions 101 to support a toilet tissue spindle 111.

[0095] FIG. 31 illustrates a portion of a nominal 8"×8" tile wall set in a "diamond" pattern. A single projecting portion 101 is mounted in the eccentric opening 102 in an 8 inch square back portion 103 to support a soap dish adapter 112. FIG. 32 illustrates a portion of a nominal 12"×12" tile wall, wherein two 12 inch square back portions 103 are used with eccentrically mounted openings 102 for receiving projecting portions 101 to support a toilet tissue spindle 111.

[0096] FIG. 33 illustrates a portion of a nominal 8"×8" tile wall with two nominal 8 inch square back portions 103 mounted with a blank tile mounted between them. Each back portion 103 includes an eccentric opening 102 for receiving a projecting portion 101. Projecting portions 101 are oriented to receive a towel bar adapter 114.

[0097] As will be appreciated, the embodiments depicted in FIGS. 24-33 permit rotational articulation of the projecting portion 101 with respect to the back portion 103. This is extremely advantageous as it permits the portions of the universal unit to be made in shallower kilns due to modular construction. Moreover, such rotational articulation permits the projecting portion to be oriented at a variety of angles to permit horizontal, vertical, or angular mounting of any desired bathroom accessory. For example, back portions 103 may be displaced in different horizontal rows of tile, but still permit mounting of an angled grab bar. Such installation of a grab bar can be very advantageous for getting out of a bathtub. As will be appreciated, such angular rotation opens many design possibilities that were heretofore not possible.

[0098] It will be appreciated by those of skill in the art that all of the teachings herein applicable to the embodiments of FIGS. 1-23 are equally applicable with respect to the embodiments of FIGS. 24-33. As an illustrative example, the embodiments of FIGS. 24-33 may be made from a variety of materials (e.g., ceramic, plastic and composite) in a variety of manners. By way of still further example, any embodiment herein may be made of materials such as cultured marble,

materials (e.g., polymethyl methacrylate) sold under the trade name of CORIAN® by the DuPont company in a variety of colors and patterns, and the like.

[0099] In accordance with another aspect, the dimensions of the universal units disclosed herein preferably match the thickness of a standard ceramic tile. For purposes of illustration, those of skill in the art know that typical standard thicknesses of tile can be about ¼ inch, about ⅜ inch, about ⅝ inch or about ½ inch. For example, FIG. 2 illustrates the thickness of the back portion of an exemplary universal unit, which can match the thickness of a standard ceramic tile.

[0100] By way of further example, it will be appreciated that the back portions (e.g., 103) herein may be made in different shapes, such as rectangular shapes, hexagonal shapes and the like. By way of further example, universal units as described herein may be used with back portions having dimensions that are multiples of, but do not exactly match, surrounding tile. For example, a universal unit with a four inch square back portion may be used with one inch square tile. Similarly, a universal unit with a four by six inch rectangular back portion may be used with tile that is four inches square, or a mixture of different tile sizes or colors, depending on the desired surrounding tile design. For example, by using a universal unit having a back portion with length and width dimensions that are a multiple of the dimensions of the surrounding tile, the advantages of the disclosed embodiments are still realized. In other words, many configurations of tile surrounding the universal unit may be used. Advantageously, by using a universal unit that blends into the surrounding tile that can be used to hold a variety of accessories, many choices are made possible that were not previously available.

[0101] It will be appreciated that embodiments of the invention and the invention itself provide many other advantages, only some of which are described herein. There has thus been shown and described a novel universal tile accessory system such as for bathrooms which fulfills all the objects and advantages sought therefor. Many changes, modifications, variations and other uses and applications of the subject invention will, however, become apparent to those skilled in the art after considering this specification and the accompanying drawings which disclose the preferred embodiments thereof. All such changes, modifications, variations and other uses and applications which do not depart from the spirit and scope of the invention are deemed to be covered by the invention, which is to be limited only by the claims which follow. Thus, it is intended that the present invention include modifications and variations that are within the scope of the appended claims and their equivalents.

What is claimed is:

1. A universal tile accessory system comprising:

- a) a universal unit for use singly or in pairs, the universal unit having:
 - i) a back portion with a substantially flat front surface and a substantially flat rear surface adapted for mounting on a wall, wherein the back portion of the universal unit has dimensions of a standard ceramic tile, whereby when the universal unit is mounted, the back portion blends in with surrounding tile, wherein the back portion defines an opening therein; and
 - ii) an upstanding projecting portion extending substantially perpendicularly outward from the front surface, the projecting portion having two lateral and substantially parallel sides with at least one recess on one side

for holding a separate accessory, wherein the projecting portion is received in the opening in the back portion, and wherein the back portion and projecting portion form an integral unit after installation, and further wherein at least one recess of the universal unit is adapted and configured to permit the exchange of a plurality of different types of accessories to permit the universal unit to be used to construct a plurality of different types of bathroom fixtures.

2. The universal tile accessory system of claim 1, wherein only one of the accessories is mounted in the universal unit at a given time.

3. The universal tile accessory system of claim 1, wherein the universal unit can accommodate accessories chosen from the group consisting of a toilet tissue spindle, a shelf, a grab bar and a towel bar when used in cooperation with a second universal unit to create different types of bathroom fixtures.

4. The universal tile accessory system of claim 1, wherein the Universal Unit consists essentially of a monolithic structure without moving parts after being installed.

5. The universal tile accessory system of claim 1, wherein the system further includes an accessory selected from the group consisting of a soap dish, a toothbrush holder and a tumbler holder, wherein the accessory is mounted into the recess in the universal unit to form a bathroom fixture when the projecting portion of the universal unit is oriented in a generally horizontal orientation, when mounted, and the recess projects in a generally vertical direction, when mounted.

6. The universal tile accessory system of claim 1, wherein the system further includes a second universal unit and an accessory selected from the group consisting of a toilet tissue spindle, a shelf, a grab bar, a towel bar and a soap dish in combination with a grab bar, wherein the accessory is mounted into the recess in each universal unit to form a bathroom fixture when the projecting portion of the universal unit is oriented in a generally vertical orientation when mounted and the recess projects in a generally horizontal direction when mounted.

7. The universal tile accessory system of claim 1, wherein the front surface of the back portion is generally rectangular in shape.

8. The universal tile accessory system of claim 7, wherein the front surface of the back portion is generally square in shape.

9. The universal tile accessory system of claim 1, wherein the front surface of the back portion is generally hexagonal in shape.

10. The universal tile accessory system of claim 1, wherein the projecting portion may be rotatably received in the back portion to permit rotational angulation of the universal unit during installation.

11. The universal tile accessory system of claim 1, wherein the universal unit is made of a material selected from the group consisting of ceramic, plastic, metal, and a composite of different materials.

12. The universal tile accessory system of claim 11, wherein the universal unit and back portion are made from cultured marble.

13. The universal tile accessory system of claim 11, wherein the universal unit and back portion are made from polymethyl methacrylate.

14. The universal tile accessory system of claim 1, wherein the rear surface of the back portion of the universal unit is serrated to form lugs and depressions between the lugs for improved adhesion to a wall.

15. The universal tile accessory system of claim 1, further comprising a ceramic tile surround system to complement the universal unit.

16. The universal tile accessory system of claim 1, wherein the back portion has a decorative edge on the front surface.

17. The universal tile accessory system of claim 1, wherein the back portion includes a recess having a cross-section with a dovetail shape for receiving the projecting portion therein.

18. A universal tile accessory system comprising:

a) a universal unit for use singly or in pairs, the universal unit having:

i) a back portion with a substantially flat front surface and a substantially flat rear surface adapted for mounting on a wall, wherein the back portion of the universal unit has dimensions of a standard ceramic tile, whereby when the universal unit is mounted, the back portion blends in with surrounding tile, wherein the back portion defines a substantially circular opening therein; and

ii) a projecting portion extending substantially perpendicularly outward from the front surface, the projecting portion having two lateral and substantially parallel sides with at least one recess on one side for holding a separate accessory, wherein the projecting portion is rotatably received in the opening in the back portion, and further wherein at least one recess in the projecting portion is adapted and configured to permit the exchange of a plurality of different types of accessories to permit the universal unit to be used to construct a plurality of different types of bathroom fixtures.

19. The universal tile accessory system of claim 18, wherein the perimeter of the opening in the back portion includes a plurality of radially displaced lugs that are adapted to interdigitate with radially displaced lugs on one end of the projecting portion.

20. The universal tile accessory system of claim 18, wherein the perimeter of the opening in the back portion includes a circumferential groove for receiving material to secure the projecting portion to the back portion.

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