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(54) **APPARATUS FOR SECURELY HOLDING KITCHENWARE**

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(57) **ABSTRACT**

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Disclosed herein is an apparatus for securely holding multiple stemmed objects in a predetermined position for cleaning and storing the stemmed objects. The apparatus comprises a frame of a predefined shape. The frame comprises a securing means comprising multiple upper rods attached in a cantilever position to the upper end of the frame. The upper rods are arranged along width of the frame at predetermined intervals to create slots for securely holding the stemmed objects. The frame further comprises a supporting means comprising multiple lower rods attached at predetermined intervals to the lower end of the frame. The lower rods are angularly bent upwards at terminal portions of the lower rods. Spaces between the lower rods allow for drainage of water during cleaning of the stemmed objects. The frame with the securing means and the supporting means securely holds the stemmed objects in the predetermined position.

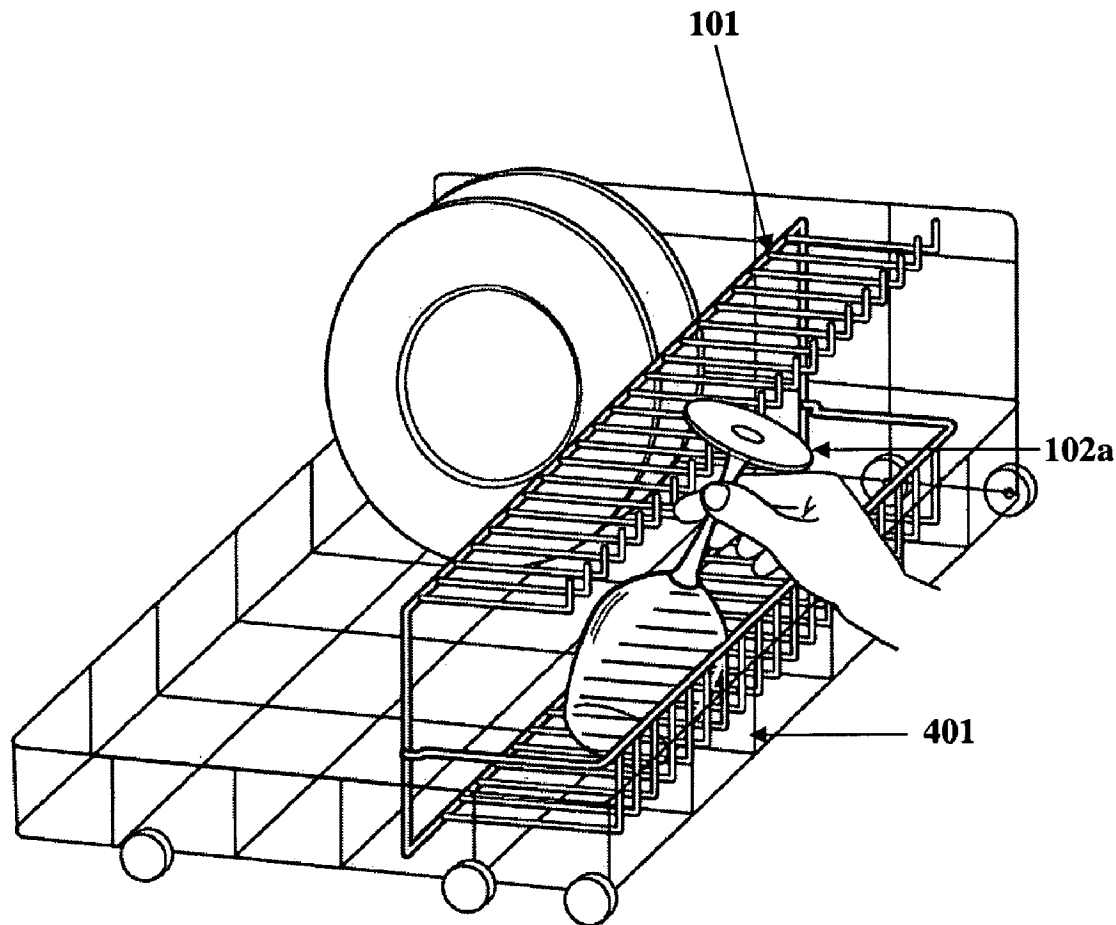
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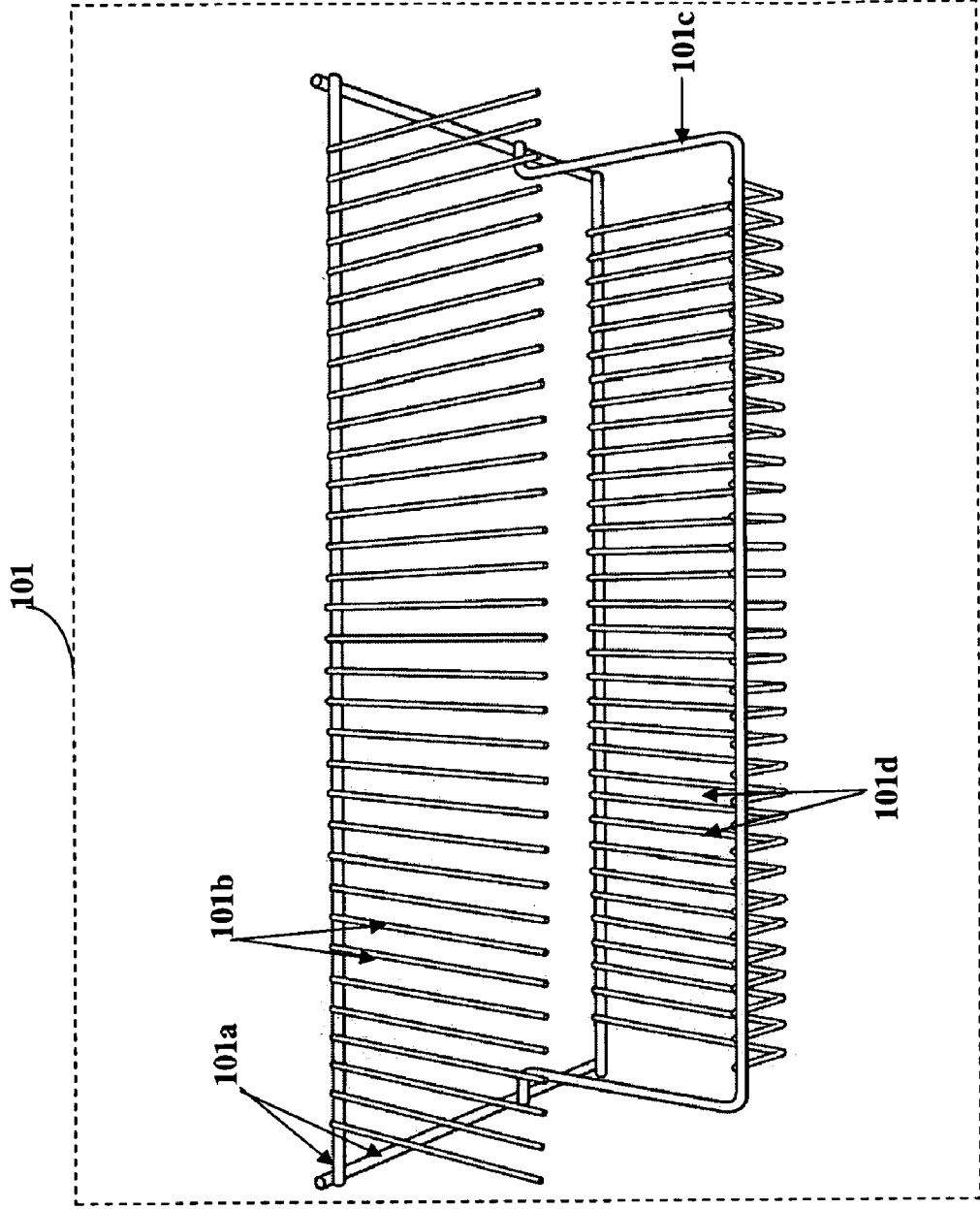


FIGURE 1A

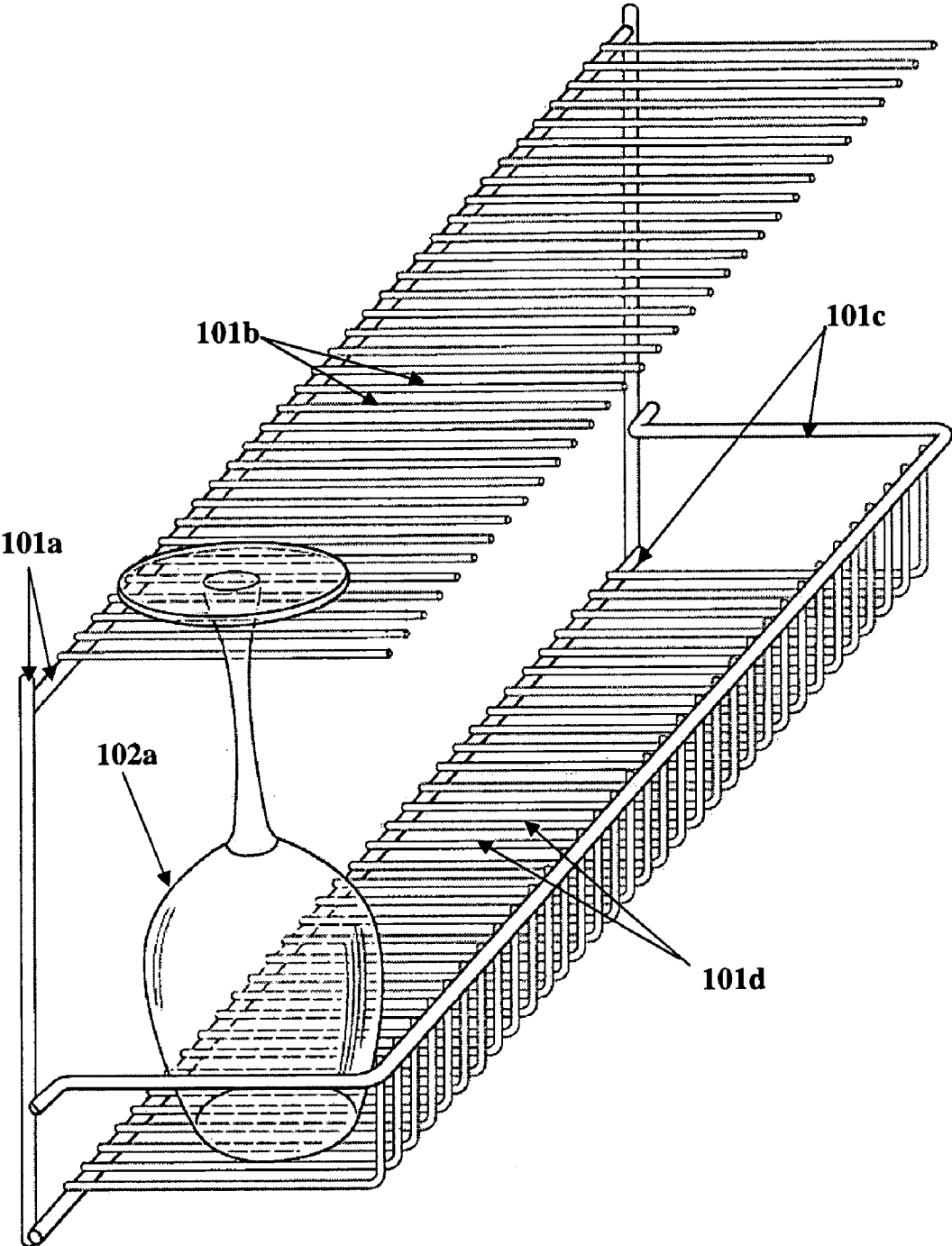


FIGURE 1B

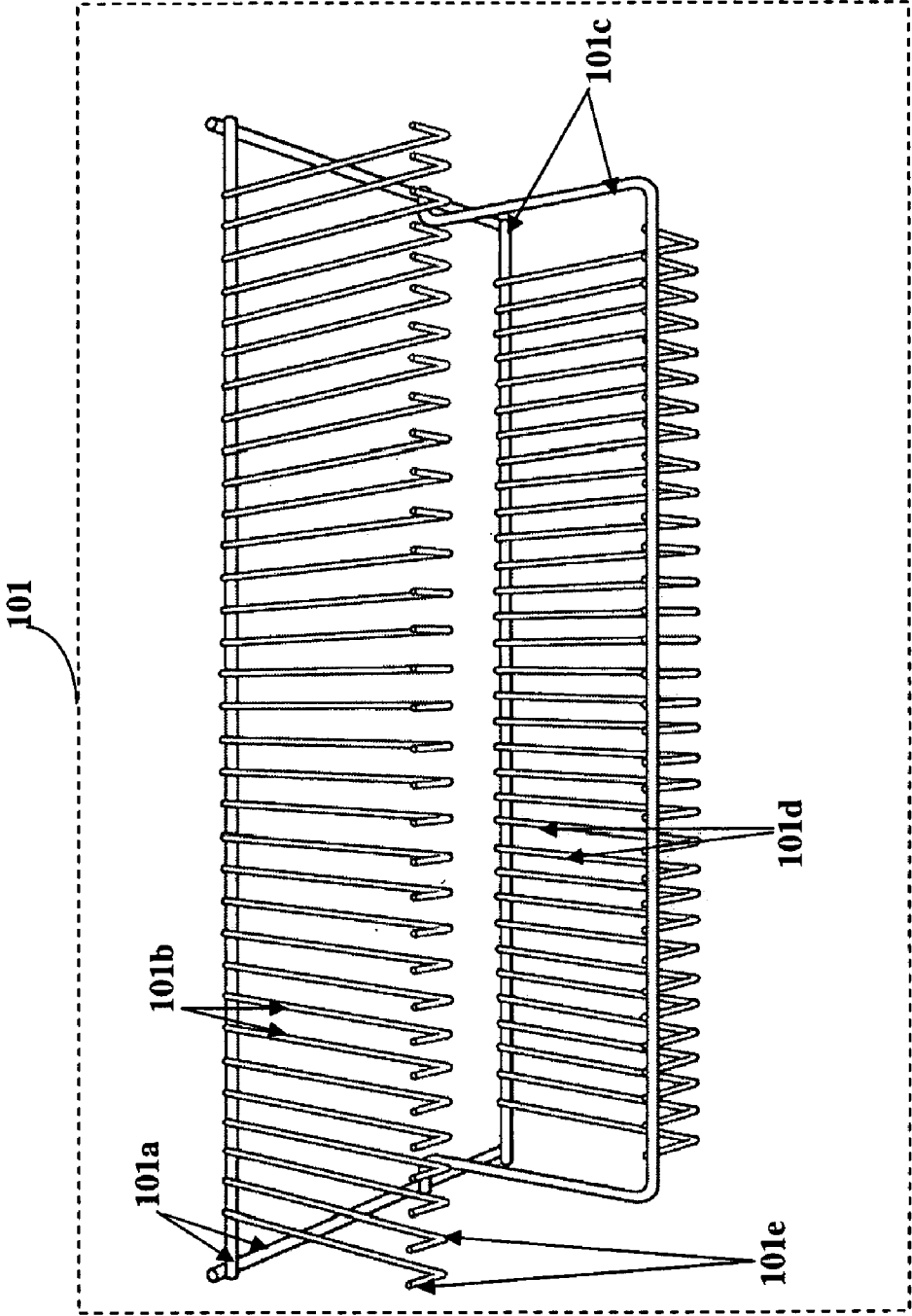


FIGURE 2A

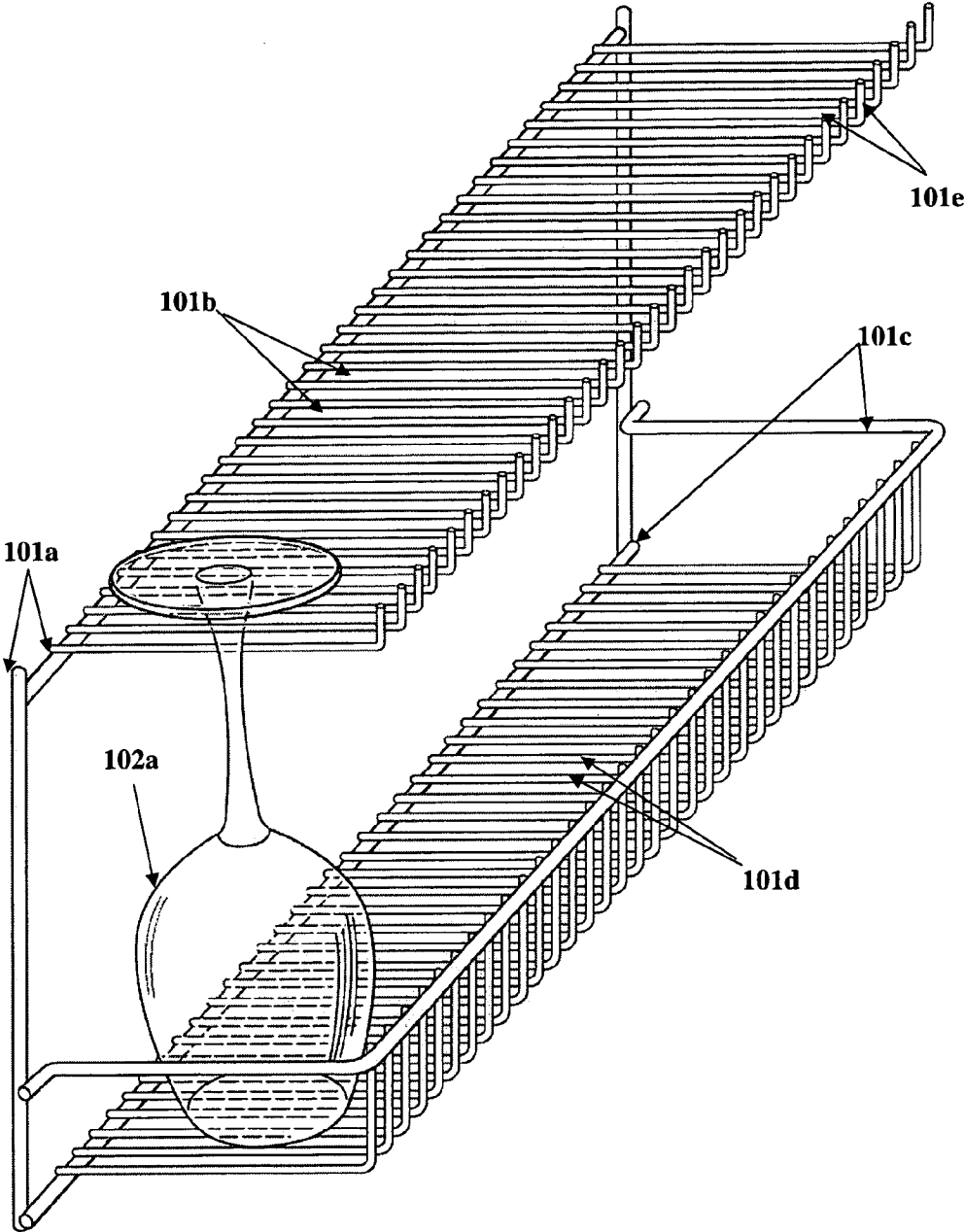


FIGURE 2B

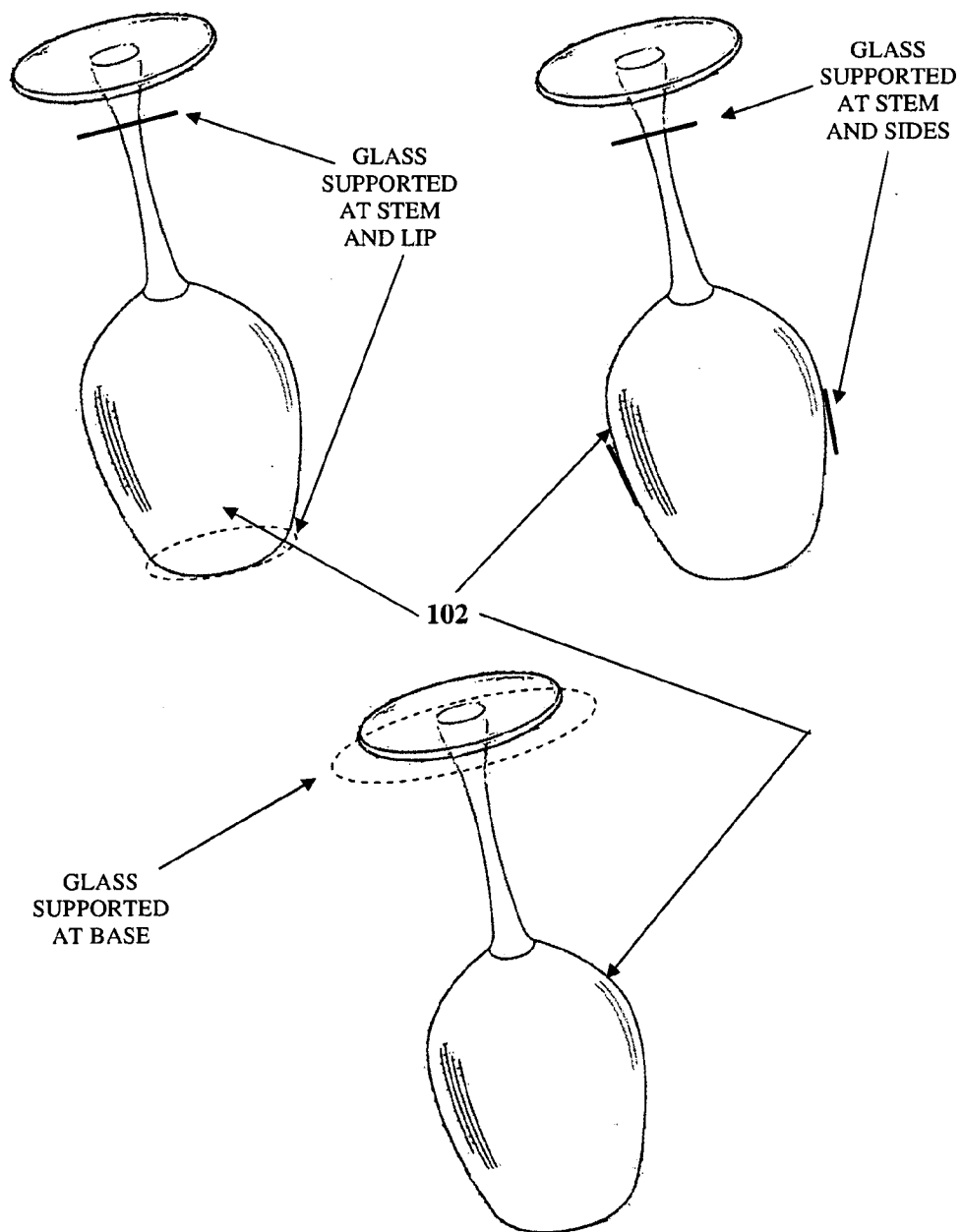


FIGURE 3

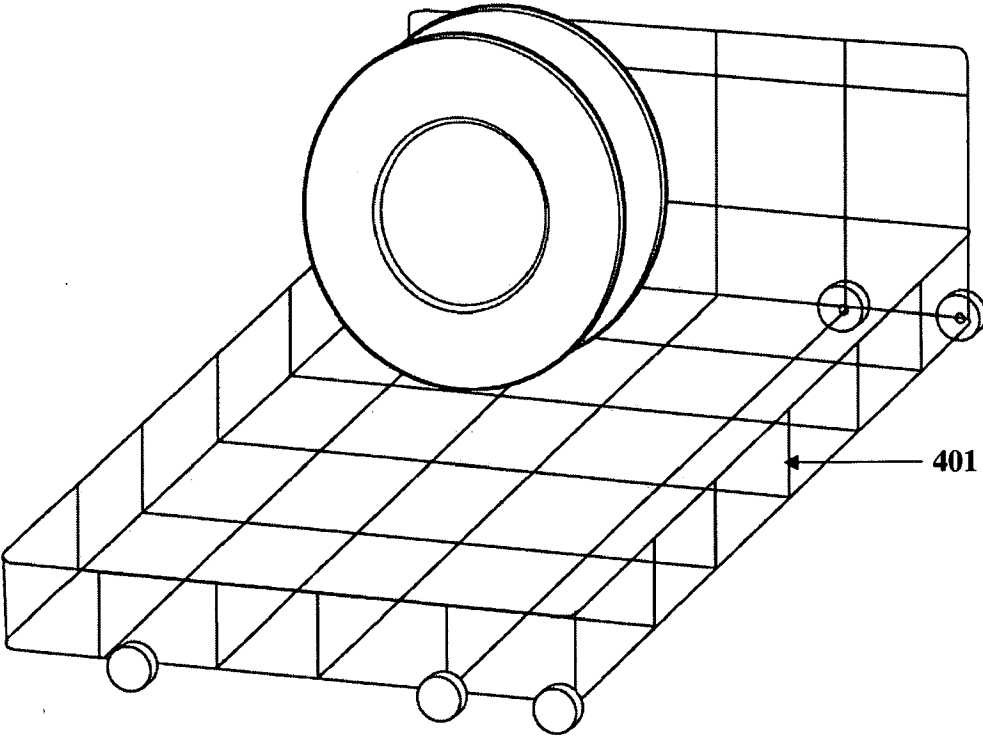


FIGURE 4A

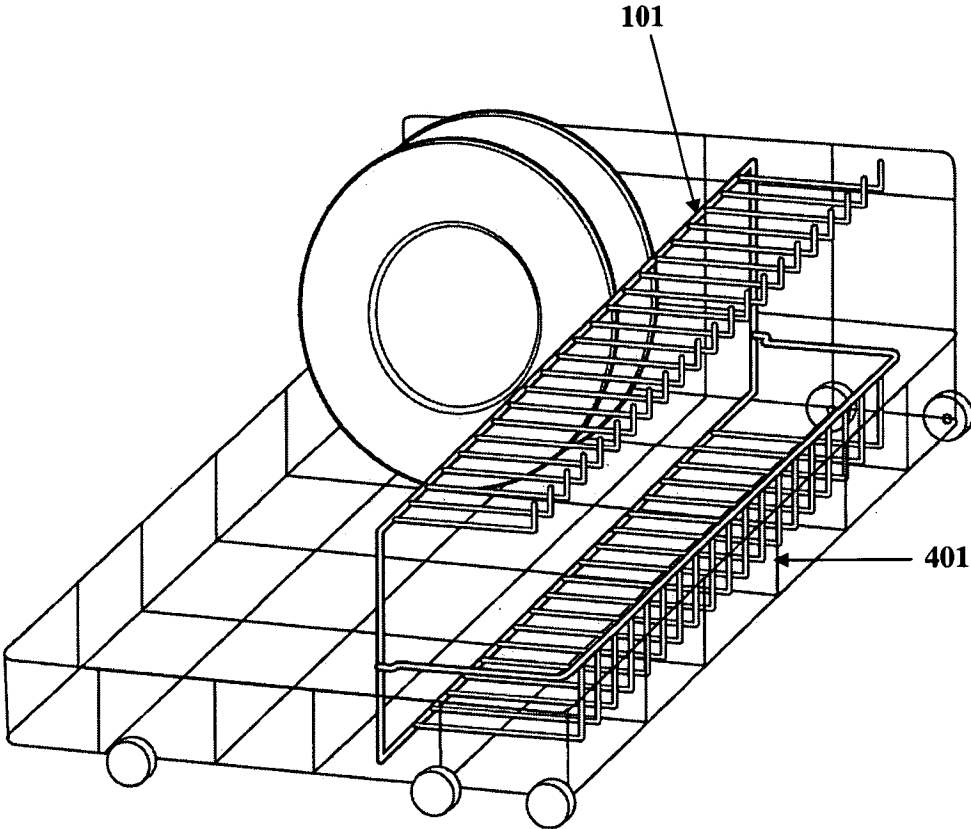


FIGURE 4B

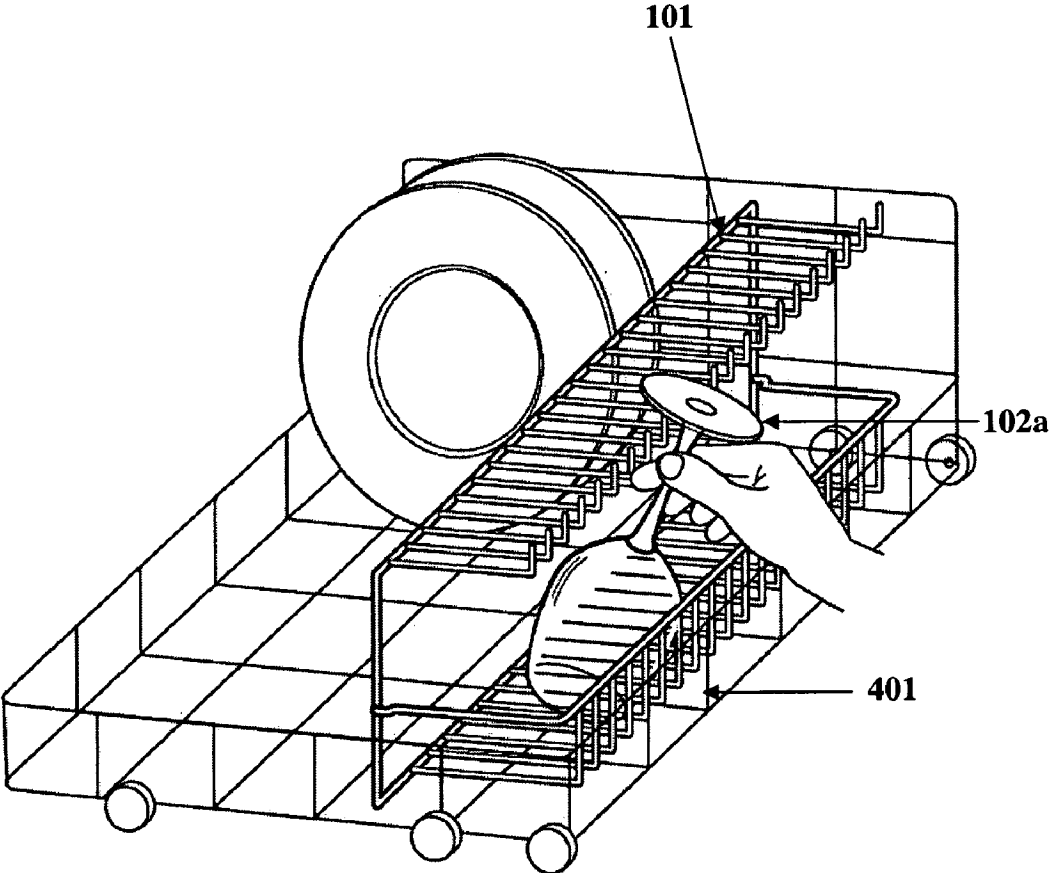


FIGURE 4C

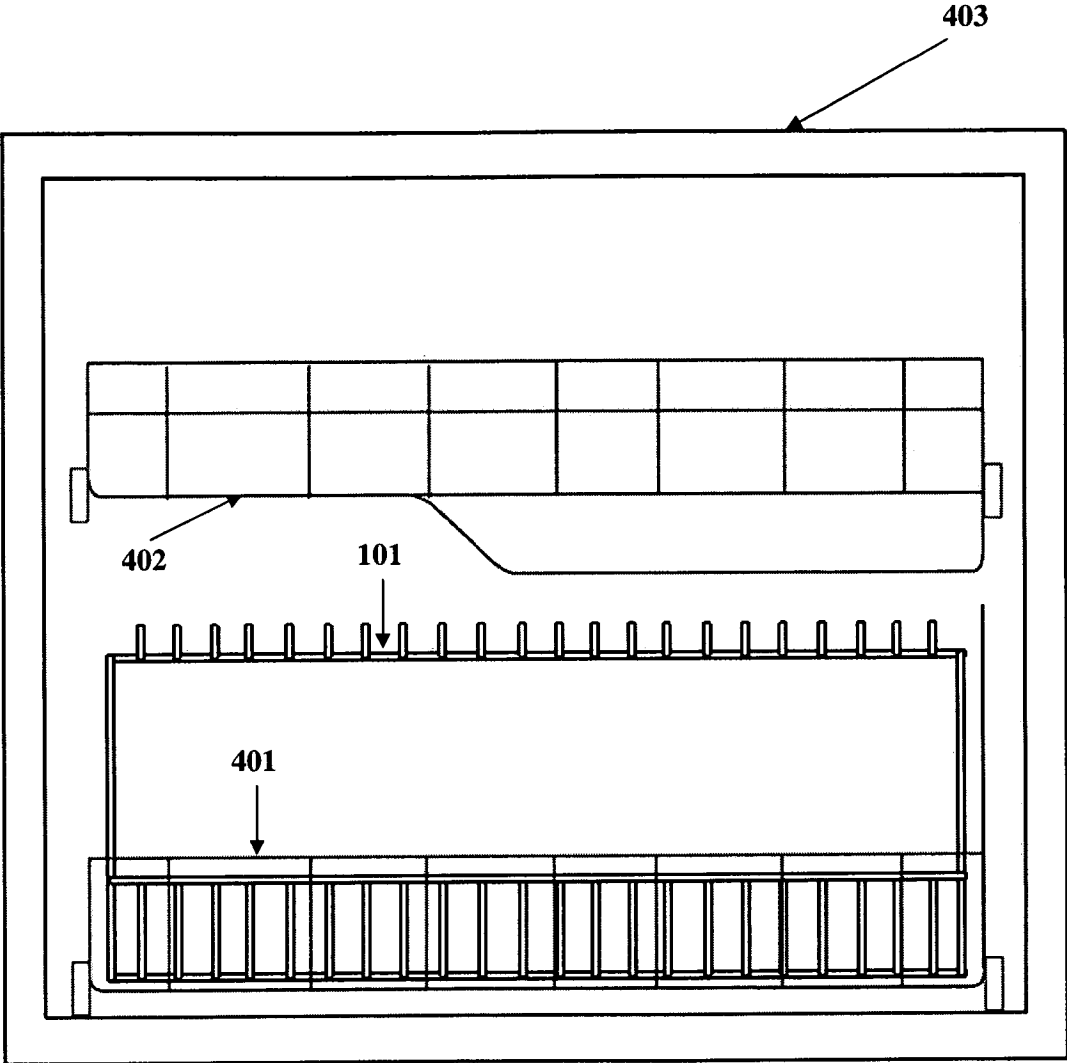


FIGURE 4D

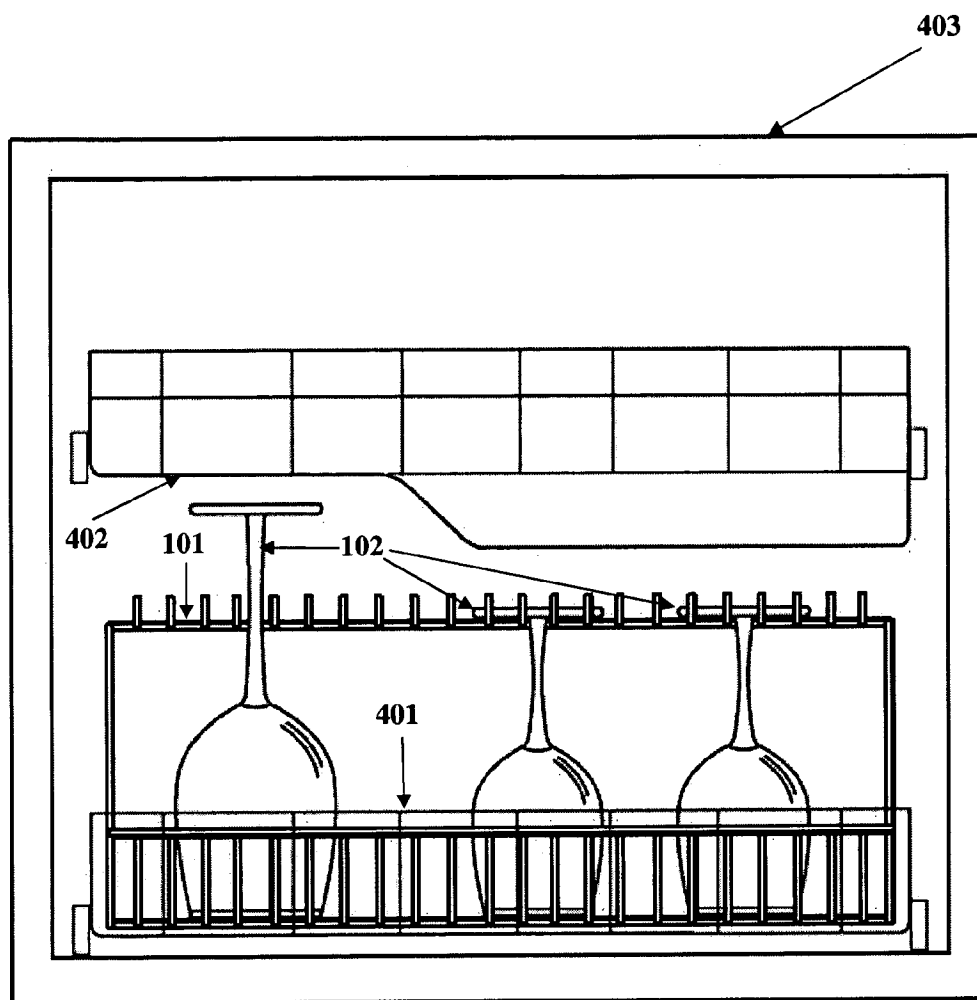


FIGURE 4E

APPARATUS FOR SECURELY HOLDING KITCHENWARE

BACKGROUND

[0001] This invention, in general, relates to an apparatus for securely holding kitchenware for cleaning and storing kitchenware. More particularly, this invention relates to an apparatus for securely holding multiple kitchenware articles in a predetermined position during cleaning of the kitchenware articles in a dishwasher.

[0002] Typically, kitchenware articles such as wine glasses, drinking glasses, glass bowls, etc. are stored in racks. Racks support glasses, bowls, and other articles that may be conveniently retrieved when required. Racks may also be used for artistically arranging wine glasses or drinking glasses. However, racks are generally designed to accommodate only specific sized glasses. When glasses of different shapes or sizes are placed in a rack, some glasses may not be securely held in place, thereby leading the glasses to slide from their positions and break.

[0003] Furthermore, after glasses are used, the glasses are cleaned manually or in a dishwasher. After the glasses are cleaned, it is desirable to remove water particles on the surface of the glass to provide a clean and water-mark free glass surface.

[0004] Hence, there is a need for an apparatus to securely hold multiple glasses of different sizes in a predetermined position for cleaning and storing the glasses in a dishwasher. Furthermore, there is also a need for an apparatus to store glasses so that water particles on the surfaces of the glasses are removed.

SUMMARY OF THE INVENTION

[0005] This summary is provided to introduce a selection of concepts in a simplified form that are further described in the detailed description of the invention. This summary is not intended to identify key or essential inventive concepts of the claimed subject matter, nor is it intended for determining the scope of the claimed subject matter.

[0006] The apparatus disclosed herein addresses the above stated need for securely holding multiple stemmed objects in a predetermined position for the purpose of cleaning the stemmed objects in a dishwasher. As used herein, the apparatus for holding the multiple stemmed objects is referred to as a "rack". The stemmed objects comprising wine glasses, champagne flutes, goblets, cocktail glasses, etc., will herein be referred to as "glasses". The rack comprises a frame of a predefined shape. For example, the frame may be of a rectangular shape, a square shape, a polygonal shape, etc. The frame securely holds the glasses and the kitchenware articles during cleaning in a dishwasher. The frame comprises a securing means and a supporting means. The securing means comprise multiple upper rods attached in a cantilever position to the upper end of the frame. The upper rods are arranged along the width of the frame at predetermined intervals to create slots for securely holding the glasses of different sizes.

[0007] The glasses may be supported at the stem and base of the glasses or the stem and lateral surfaces of the glasses. The supporting means comprise multiple lower rods attached at predetermined intervals to the lower end of the frame. The supporting means provide support to the glasses and kitchenware articles through lips or bases of the glasses and the kitchenware articles. The lower rods are angularly bent

upwards at terminal portions of the lower rods. The spaces between the lower rods allow for drainage of water during the cleaning of the glasses. The rack also stores the glasses and kitchenware articles for removing the water particles on the glasses and kitchenware articles. In an embodiment of the apparatus disclosed herein, the terminal portions of the upper rods may be angularly bent upwards. The angularly bent terminal portions of the upper rods prevent the glasses from sliding out of the slots between the upper rods.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The foregoing summary, as well as the following detailed description of the invention, is better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, exemplary constructions of the invention are shown in the drawings. However, the invention is not limited to the specific methods and instrumentalities disclosed herein.

[0009] FIG. 1A illustrates an apparatus for securely holding glasses during cleaning and storing the glasses.

[0010] FIG. 1B exemplarily illustrates placement of a glass in an inverted position in a slot created by the upper rods of the rack.

[0011] FIG. 2A illustrates an embodiment of the apparatus for securely holding glasses in a predetermined position for cleaning and storing the glasses.

[0012] FIG. 2B exemplarily illustrates placement of a glass in an inverted position in a slot created by the upper rods with angularly bent terminal portions.

[0013] FIG. 3 exemplarily illustrates modes of securely holding the glasses.

[0014] FIGS. 4A-4C exemplarily illustrate placement of a glass in the rack for cleaning the glass in a dishwasher.

[0015] FIG. 4D exemplarily illustrates clearance provided above the upper rods of the rack for accommodating the glasses in a dishwasher.

[0016] FIG. 4E exemplarily illustrates placement of glasses of different sizes in the rack in a dishwasher.

DETAILED DESCRIPTION OF THE INVENTION

[0017] FIG. 1A illustrates an apparatus for securely holding multiple stemmed objects in a predetermined position for cleaning and storing the stemmed objects. As used herein, the apparatus for holding the multiple stemmed objects is referred to as a "rack". The stemmed objects comprising wine glasses, champagne flutes, goblets, cocktail glasses, etc., will herein be referred to as "glasses".

[0018] The rack 101 comprises a frame 101a for securely holds the glasses 102 and kitchenware articles during cleaning in a dishwasher 403. The frame 101a is of a predefined shape. For example, the frame 101a may be of a rectangular shape, a square shape, a polygonal shape, etc. The rack 101 comprises a securing means comprising multiple upper rods 101b. The upper rods 101b are attached in a cantilever position to the upper end of the frame 101a. The upper rods 101b are arranged along the width of the frame 101a at predetermined intervals to create slots for securely holding the glasses 102. For example, the upper rods 101b may be arranged along the width of the frame 101a at intervals of 1/2 an inch. The glasses 102 of multiple sizes may be securely placed in the slots created by the upper rods 101b. The glasses 102 may be supported at the stem and base of the glasses 102 or may also

be supported at the stem and lateral surfaces of the glasses 102. The modes of securely holding the glasses 102 are illustrated in FIG. 3.

[0019] The rack 101 further comprises a supporting means comprising multiple lower rods 101d. The supporting means provide support to the glasses 102 and kitchenware articles through lips or bases of the glasses 102 and the kitchenware articles. The lower rods 101d of the supporting means are attached at predetermined intervals to the lower end of the frame 101a creating spaces between each of the lower rods 101d. For example, the lower rods 101d may be attached at intervals of 1/2 an inch. The lower rods 101d are angularly bent upwards at terminal portions of the lower rods 101d. The spaces between the lower rods 101d allow for drainage of water during cleaning of the glasses 102 and kitchenware articles in the dishwasher 403. The lower rods 101d of the frame 101a form a lip 101c for holding different sized glasses 102 and kitchenware articles such as bowls plates, etc. The lip 101c may provide support to the glasses 102 and the kitchenware articles during cleaning. Further, after cleaning, the glasses 102 and the kitchenware articles may be placed in the rack 101 for drying. The glasses 102 and kitchenware articles may be stored in the rack 101 for further use.

[0020] The rack 101 may be available in different dimensions. A rack 101 may be chosen based on the size of a dishwasher 403 or preferred capacity of the rack 101. For example, the rack 101 may have the following dimensions:

16" length×5" width×8" height

12" length×5" width×8" height

8" length×5" width×8" height

[0021] The materials used for manufacturing the rack 101 may be rust proof, chemically resistant, and light in weight. The rack 101 may have curved or smooth edges for safe handling. For example, the rack 101 may be made of steel frames with rubberize coating. The rack 101 may also be made of hardened plastic, coated steel, or coated aluminum.

[0022] FIG. 1B exemplarily illustrates the placement of a glass 102a in an inverted position in a slot created by the upper rods 101b of the rack 101. The placement of the glasses 102 within the slot created by the upper rods 101b of the rack 101 secures the glasses 102 during removal and storage of the glasses 102. The lip 101c at the lower portion of the rack 101 also holds kitchenware articles of different sizes and prevents the kitchenware articles from sliding out.

[0023] FIG. 2A illustrates an embodiment of the apparatus for securely holding multiple glasses 102 in a predetermined position during cleaning and storing the glasses 102 on the rack 101. The rack 101 comprises a frame 101a with multiple upper rods 101b attached in a cantilever position. The terminal portions of the upper rods 101b are angularly bent upwards. The angularly bent terminal portions 101e of the upper rods 101b prevent the glasses 102 from sliding out of the slots during the process of cleaning and during storage. The placement of a glass 102a in an inverted position in a slot created by the upper rods 101b with angularly bent terminal portions 101e is illustrated in FIG. 2B.

[0024] FIG. 3 exemplarily illustrates the modes of securely holding the glasses 102. In one mode of securely holding a glass 102a, the glass 102a may be supported at stem and lip of the glass 102a. The glass 102a may also be supported at the stem of the glass 102a and the lateral surfaces of the glass 102a. In another mode, the glass 102a may be held at the base. For example, medium sized glasses may be supported at the stem and the lateral surfaces of the glasses 102 and short sized

glasses may be supported by the base of the glasses 102. Securely holding the glasses 102 at different positions allow distribution of forces to different portions of the glasses 102.

[0025] The following steps exemplarily illustrate the method of securely holding glasses 102 and kitchenware articles for cleaning in the dishwasher 403. An area on the lower tray 401 of the dishwasher 403 is located for accommodating the rack 101. The area located for placing the rack 101 is illustrated in FIG. 4A. Further, the rack 101 is placed in the located area as illustrated in FIG. 4B. A glass 102a is then placed in an inverted position into the rack 101 with the lip of the glass 102a placed on the lower rods 101d and the stem of the glass 102a in a slot between upper rods 101b as illustrated in FIG. 4C. Also, the area above the glass 102a is checked for obstacles. A clearance of 2 to 4 inches between the upper tray 402 of the dishwasher 403 and the upper rods 101b of the rack 101 is provided as illustrated in FIG. 4D. The clearance is provided to avoid obstacles in the dishwasher 403. The clearance depends on the size of the glass 102a. The placement of large and small sized glasses in the rack 101 to avoid obstacles is illustrated in FIG. 4E.

[0026] The foregoing examples have been provided merely for the purpose of explanation and are in no way to be construed as limiting of the present method and system disclosed herein. While the invention has been described with reference to various embodiments, it is understood that the words, which have been used herein, are words of description and illustration, rather than words of limitation. Further, although the invention has been described herein with reference to particular means, materials and embodiments, the invention is not intended to be limited to the particulars disclosed herein; rather, the invention extends to all functionally equivalent structures, methods and uses, such as are within the scope of the appended claims. Those skilled in the art, having the benefit of the teachings of this specification, may effect numerous modifications thereto and changes may be made without departing from the scope and spirit of the invention in its aspects.

I claim:

1. An apparatus for securely holding multiple stemmed objects in a predetermined position for cleaning and storing said stemmed objects, comprising:

a frame of a predefined shape, comprising:

a securing means comprising a plurality of upper rods attached in a cantilever position to upper end of said frame, wherein said upper rods are arranged along width of the frame at predetermined intervals to create slots for securely holding the stemmed objects; and

a supporting means comprising a plurality of lower rods attached at predetermined intervals to lower end of the frame, wherein said lower rods are angularly bent upwards at terminal portions of the lower rods, wherein spaces between the lower rods allow for drainage of water during said cleaning of the stemmed objects;

whereby the frame with said securing means and said supporting means securely hold the stemmed objects in said predetermined position.

2. The apparatus of claim 1, wherein terminal portions of the upper rods are angularly bent upwards to prevent the stemmed objects from sliding out of said slots.

3. The apparatus of claim 1, wherein the stemmed objects of a plurality of sizes are placed at predetermined intervals in said slots of the frame, wherein each of the stemmed objects are supported at one of stem and base of the stemmed objects and said stem and lateral surfaces of the stemmed objects.

4. The apparatus of claim 1, wherein the supporting means provide support to one or more of the stemmed objects and kitchenware articles through one of lips and bases of the stemmed objects and said kitchenware articles.

5. The apparatus of claim 1, wherein the frame securely holds the stemmed objects and kitchenware articles during cleaning in a dishwasher.

6. The apparatus of claim 1, wherein said predefined shape is one of a rectangular shape, a square shape, and a polygonal shape.

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