DISH DRAINER HAVING INTEGRALLY HINGED SIDEWALLS

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ABSTRACT

A dish drainer is provided having a base structure and sidewalls integrally hinged therewith. The sidewalls are fabricated in the plane of the base structure for facilitation of transport and storage but are pivoted to a relatively upright position to the base structure for utilization as a dish drainer. End portions of adjacent sidewalls are interengageable to secure the sidewalls in the upright position but may be disengaged for subsequent storage in a flat configuration. Suitable fastener devices are provided for securing the adjacent sidewalls in interengaged relationship. Recesses are formed in the base structure for maintenance of flatware in upstanding relation to a cooperative sidewall with slot and rib conformations formed in the base structure and another cooperative sidewall for vertical positioning of plates or dishes.

10 Claims, 4 Drawing Figures
DISH DRAINER HAVING INTEGRALLY HINGED SIDEWALLS

BACKGROUND OF THE INVENTION

Dish drainers heretofore devised generally comprise a rigid plastic-coated wire-frame or plastic structure that is fabricated as an open-top container. The sidewalls of such structures are integrally formed with the adjacent sidewalls as well as the base structure thereby resulting in a drainer having a substantial depth. Also, dish drainers of this prior art construction are formed with various conformations adapted to vertically support plates or other substantially flat dishes in an upright position.

A structure thus unitarily fabricated presents the associated problem of bulk in storage and transportation. Transportation costs materially affect sales price and are a substantial economic factor. Similarly, storage of bulky articles further increases costs and the ultimate sales price. Also as a direct consequence of their bulk, the prior art structures require a substantial amount of store display space.

SUMMARY OF THE INVENTION

In accordance with this invention, a dish drainer is provided which is fabricated in a relatively thin, planar configuration. This is accomplished by molding the structure from a suitable thermoplastic synthetic resin, polymerized propylene for example, with the sidewalls being interconnected with the base by an integrally molded hinge. Thus the sidewalls which are initially formed in the same plane as the base may be subsequently folded upwardly to form the upstanding sides of the dish drainer. The ends of the sidewalls are provided with tabs which cooperatively interconnect with a similar tab on an adjacent sidewall and are releasably therewith by a fastener device.

A plurality of parallel slots are formed in the base to receive a segmental edge portion of plates which are thereby maintained in a vertical plane for draining. One of the sidewalls is also formed with a plurality of slots longitudinally aligned with those in the base and is preferably provided with a corresponding number of upstanding ribs disposed parallel to and intermediate the slots. With this sidewall positioned upright, the slots and ribs also cooperatively engage any plates vertically positioned in the slots of the base thereby aiding in their support. Several closedbottom recesses may be formed in the base along one side thereof to receive and retain the ends of vertically disposed flatware which also rest against the adjacent inclined sidewall.

Fabrication of this dish drainer with integrally hinged sidewalls results in a structure that requires a minimum of space for storage or transport. The flat planar configuration is also particularly beneficial in merchandising as displays may be neatly arranged and easily maintained with full stock for enhancement of sales appeal.

These and other objects and advantages of this invention will be readily apparent from the following detailed description of an embodiment thereof and the accompanying illustrative drawings thereof.

DESCRIPTION OF THE DRAWING FIGURES

FIG. 1 is a perspective view of a dish drainer embodying this invention in assembled relationship.

FIG. 2 is a top plan view of the device with two of the sidewalls disposed in the plane of the base.

FIG. 3 is a front elevational view of the device as seen in FIG. 2.

FIG. 4 is a perspective view on an enlarged scale of one of the fastening devices.

DETAILED DESCRIPTION OF THE ILLUSTRATIVE EMBODIMENT

A dish drainer 10 embodying this invention is shown in FIG. 1 as it appears when assembled for utilization in its intended functional role. The drainer 10 comprises a base 11 and four sidewalls 12 which are hinged to the base. It will be noted that the sidewalls 12 in this assembled configuration are disposed in a substantially vertical position but are inclined slightly outward. Fastening means 13 formed with the sidewalls cooperatively interengage to maintain the sidewalls in rigidly interconnected upright relationship.

The base 11 of the illustrative embodiment is square in plan view having a respective sidewall 12 interconnected to the base at each of four peripheral side edges 14 of predetermined depth. Forming the interior area of the base are a plurality of vertical ribs 15 disposed in spaced parallel relationship to each other and extending across the base to opposed peripheral side edges 14. A cross rib 16 also vertically oriented extends laterally of the ribs 15 at their approximate midpoint and, in this integrally molded construction interconnects with each longitudinal rib. These ribs define open top and bottom slots into which plates (not shown) may be vertically positioned for drainage. The length of the sockets is controlled by the cross rib 16 to a dimension which preferably does not permit the plates to fully project through the slots and extend below the bottom surface of the base in accordance with the depth of the base. Formed with each of two opposed peripheral side edges are two spaced apart, and downwardly extending projections forming feet 17 to maintain the base relatively elevated and permit drainage from under the side edges 14.

Also formed in the base 10 are three closed bottom recesses 18. These recesses 18 are arranged in longitudinal alignment along one peripheral side edge 14 of the base and parallel to the longitudinal ribs 15. Two longitudinally spaced divider ribs 19 are preferentially equidistantly spaced to define uniform length recesses and the bottom wall 20 of each is provided with two drain holes 21. Flatware such as knives, forks and spoons (not shown) may be vertically positioned in the recesses 18 and rested against the inclined surface of the adjacent sidewall 12 for draining. Water collected in the recesses drains through the drain holes 21.

Each of the sidewalls 12 is of the same general configuration consisting of a rectangularly shaped, relatively thin sheet of material with the length of each being the same as that of the peripheral side edge 14 of the base to which it is connected. Formed with each sidewall at each end thereof adjacent the free longitudinal edge are longitudinally extending tabs 22 forming cooperative portions of the fastening means 13. The tabs are each provided with a circular aperture 23 through which a fastener device 24 is inserted to interconnect two adjacent sidewalls in assembled relationship. It will be noted in the several figures of the drawings that the tabs of adjacent sidewalls overlap in assembled relationship with the respective apertures 23.
aligned to cooperatively receive one of the fastener devices 24 for interlocking of the sidewalls. Also, the sidewalls are preferably at an angle of the order of 80°-85° to the horizontal when assembled.

All of the sidewalls 12 are interconnected with the base 11 by hinge means 25 comprising integrally formed portions of the same plastic material as the base and sidewalls. The plastic material selected is polymerized propylene, a synthetic thermoplastic resin, that exhibits the desired characteristics of extreme flexibility when formed in relatively thin sections. Such material as is well known exhibits a substantial degree of rigidity when formed in thicker sections as in the case of the base and sidewalls. To further enhance flexibility and hinged movement of the sidewalls, the hinge means relative to each side is formed as four relatively short sections that are designated by the numeral 25 and define three intervening open spaces.

Each of the sidewalls 12 is also provided with an enlarged bead 26 formed along the free longitudinal edge. This bead 26 does not extend onto the tabs 22 and is operative to increase the rigidity of the sidewalls without resort to increase of wall thickness. Limiting the bead 26 to the main rectangular section of the sidewall enables the tabs 22 to be readily bent at the corners into overlapping relationship with the tab of an adjacent sidewall during an assembly operation.

One of the sidewalls 12 at the longitudinal ends of the ribs 15 is provided with a plurality of ribs 27 disposed in spaced parallel relationship. These ribs 27 are formed on the upper or inner surface of the sidewall and are arranged in longitudinal alignment with respective ones of the longitudinal base ribs 15. An elongated opening 28 is formed in the sidewall between adjacent pairs of the ribs 27 with the elongated openings being slightly less than that of the ribs. These openings and ribs cooperate with the base ribs and slots to maintain the larger size plates upright in the drainer. Preferably, this sidewall is not provided with an elongated opening between the last pair of ribs 27 as seen at the right of FIG. 1 for enhancement of the sidewalls' rigidity.

A fastener device 24 particularly suitable for securing the overlapped tabs 22 is shown in detail in FIG. 4. This fastener device is also formed from a propylene polymer and comprises a flat circular head 29 and integrally formed shank 30. The shank 30 is flat, diamond shape provided with a central aperture 31. While the widest dimension of the shank 30 is greater than the circular aperture 23 in the tabs 22, the inherent flexibility of the material coupled with the apertured configuration enables the shank to collapse to an extent permitting insertion through the tab aperture. If desired, the fastener devices may be removed to permit return of the sidewalls 12 to the plane of the base 11.

It will be readily apparent from the foregoing detailed description of the illustrative embodiment, a novel dish drainer is provided which may be advantageously fabricated in a flat, planar configuration. This configuration effects economy in transportation and storage as well as in fabrication. The drainer is readily assembled in the desired configuration with upright sidewalls by means of the friction-locking fastener devices.

Having thus described the invention, what is claimed is:

1. A dish drainer formed from a thermosetting synthetic resin comprising:

   a base adapted for positioning on a supporting surface and having at least two adjacent peripheral side edges, said base formed with a plurality of open-topped elongated slots for receiving edge portions of dishes,

   at least two sidewalls with each sidewall disposed at a respective side edge of said base, each sidewall interconnected at one edge thereof with the respective peripheral side edge of said base, one of said sidewalls formed with said base along a peripheral side edge disposed transversely to the longitudinal axis of said elongated slots, said last mentioned sidewall having a plurality of upstanding ribs formed in spaced parallel relationship on the inwardly facing surface thereof with the space between adjacent pairs of said ribs disposed in longitudinal alignment with a respective one of said slots,

   hinge means integrally formed with said base and each of said sidewalls permitting relative swinging movement about a hinge axis parallel to the adjacent interconnected edges between a position in the plane of said base and a position upright thereto, and

   fastening means cooperatively interengaging each of said adjacent sidewalls when said sidewalls are disposed in upright relationship to secure said sidewalls together.

2. A dish drainer according to claim 1 wherein said fastening means includes a laterally projecting tab extending from each end of each side wall in the plane of said sidewall and a fastener device interengageable with two of said tabs when said sidewalls are disposed in upright relationship.

3. A dish drainer according to claim 2 wherein each of said tabs has a through aperture formed therein which is aligned with the aperture in the overlapping tab of an adjacent sidewall when said sidewalls are disposed in upright relationship, and said fastener device is insertable through the aligned apertures.

4. A dish drainer according to claim 2 wherein said fastener device is removably interengageable with said tabs.

5. A dish drainer according to claim 1 which is fabricated from a thermoplastic synthetic resin having the characteristic of enhanced flexibility when formed in relatively thin section, said hinge means being formed in relatively thin section.

6. A dish drainer according to claim 5 wherein said hinge means comprises a plurality of relatively short elements formed at the juncture of each sidewall and respective peripheral side edge of said base.

7. A dish drainer according to claim 1 wherein each sidewall has a reinforcing bead formed therewith along the unhinged longitudinal edge.

8. A dish drainer according to claim 1 wherein elongated slots are formed in said last mentioned sidewall immediately of at least some of said ribs.

9. A dish drainer according to claim 1 wherein said base is provided with at least one closed bottom, open topped recess disposed adjacent one peripheral side edge of said base.

10. A dish drainer according to claim 1 wherein said elongated slots in said base are open bottomed.

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