June 30, 1970 R. L. PROPST 3,517,825

ARTICLE HANDLING TRAY

Filed June 10, 1968 2 Sheets-Sheet 1

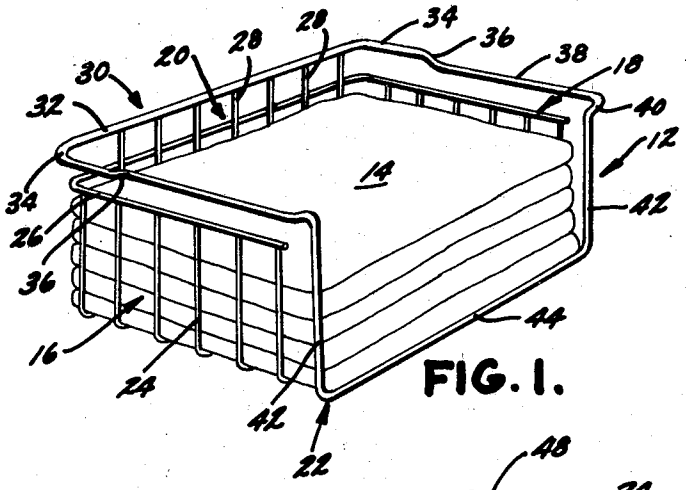

FIG. 1.

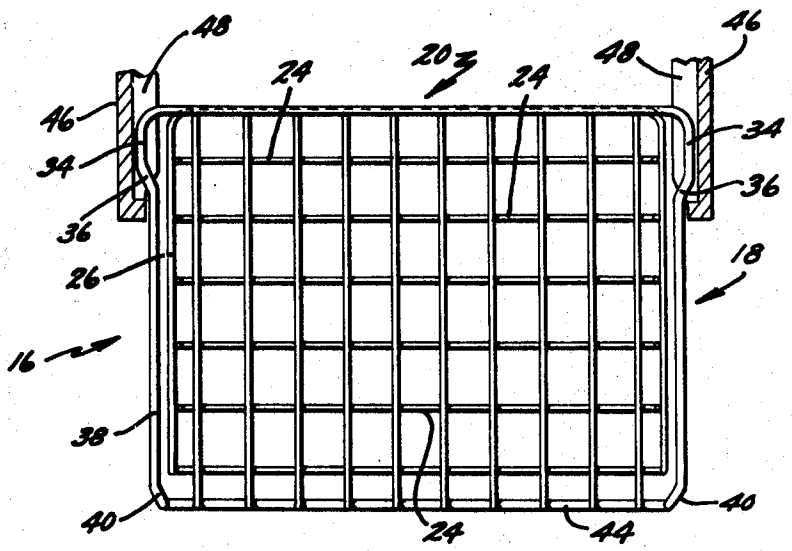

FIG. 2.

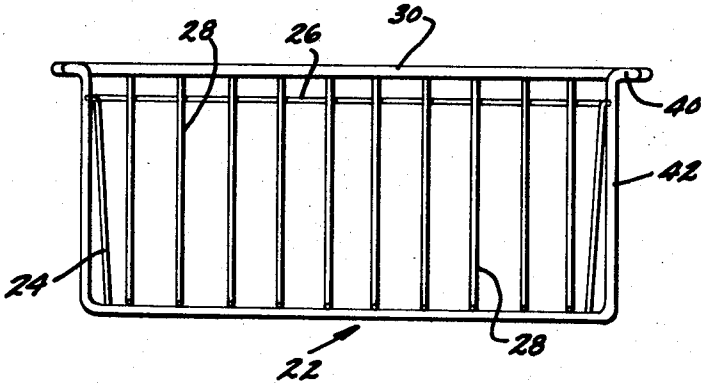

FIG. 3.

INVENTOR.
ROBERT L. PROPST
BY Price, Heneveld, Huizenga & Cooper
ATTORNEYS

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ARTICLE HANDLING TRAY

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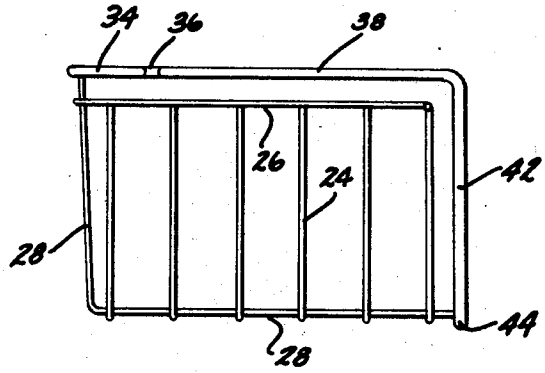

FIG. 4.

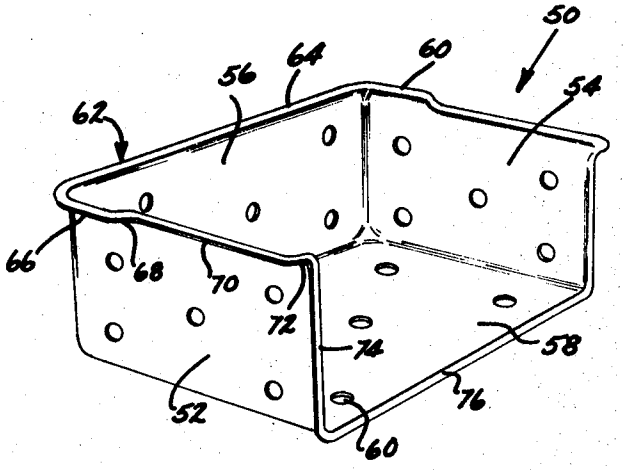

FIG. 5.

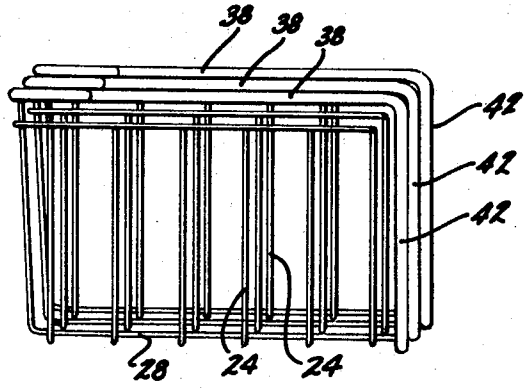

FIG. 6.

INVENTOR.
ROBERT L. PROPST
BY Price, Heneveld Huizenga & Cooper
ATTORNEYS

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ARTICLE HANDLING TRAY

Robert L. Propst, Ann Arbor, Mich., assignor to Herman Miller Inc., Zeeland, Mich., a corporation of Michigan

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U.S. Cl. 211—126 11 Claims

ABSTRACT OF THE DISCLOSURE

The disclosure relates to an article handling tray with an open top and an open front for top loading and front dispensing. The tray is formed of a back wall, two oppositely disposed side walls, and a bottom. A stiffening and gripping rim extends around the top of the back and side walls, downwardly along the front of the side walls, and across the front edge of the bottom. In one embodiment, the tray is an open mesh structure and the rim is attached to the top of the back and the front of the bottom thereby leaving a free gripping area at the top and front of the sides. In another embodiment, the tray is integrally formed from a plastic material. Preferably, the stiffening and gripping rim has an outwardly extending portion at the back of the side wall to permit the trays to be used as drawers with the gripping rim engaging rails in a cabinet or the like.

This invention relates to article handling trays.

It is an object of this invention to provide an article handling tray for linens and the like which is easily loaded and unloaded.

It is a further object of this invention to provide an article handling tray with integrally formed grips for easy handling.

It is a further object of this invention to provide an article handling tray which is nestable so that the trays can be transferred in a minimum amount of space.

It is yet another object of this invention to provide an article handling tray which can be used as a drawer, and which article handling tray has a means to prevent inadvertent removal of the tray from the drawer.

It is another object of this invention to provide a sturdy and easily washable tray for linens and the like.

Other aspects, objects, and the several advantages of this invention are apparent to one skilled in the art from a study of this disclosure, the drawings, and the appended claims.

According to the invention, a nestable tray has an open top and open front. The tray is formed from a pair of side walls, a back wall, and a bottom which are joined together to form the tray. The side walls, and preferably the back wall, slant inwardly and downwardly to permit nesting of empty trays for storage and transportation. A continuous stiffening and gripping rim extends throughout the open top and front of the tray. Preferably, the stiffening and gripping rim extends outwardly of the side walls at least at a back portion thereof to provide a means for supporting the tray in a rail in a cabinet, for example. Stop means are also provided on the stiffening and gripping rim for preventing inadvertent removal of the tray from the cabinet.

In one embodiment, the tray is made in an open mesh structure to facilitate washing, and the stiffening and gripping rim is attached to the tray at the top of the back wall and at the front of the bottom to leave a free gripping area at the top and front of the side walls.

In another embodiment, the tray is integrally formed from plastic material.

The invention will now be described with reference to the accompanying drawings in which:

FIG. 1 is a perspective view of a first embodiment of the invention;

FIG. 2 is a top view of the tray shown in FIG. 1, illustrating how the tray can be used as a drawer;

FIG. 3 is a front elevational view of the tray shown in FIGS. 1 and 2;

FIG. 4 is a side elevational view of the tray shown in FIGS. 1 through 3;

FIG. 5 is a perspective view of a second embodiment of the invention; and

FIG. 6 is a side elevational view similar to FIG. 4, showing a plurality of trays in nesting position.

Referring now to the drawings and to FIGS. 1 through 4 in particular, an article handling tray **12** is shown with sides **16** and **18**, a back **20**, and a bottom **22**. In FIG. 1, the tray **12** has linen **14** stacked within it. As can be seen from the drawings, the tray has an open top and open front so that the linen **14** can be easily removed and easily stacked within the tray.

In the first embodiment shown, the tray is formed with an open mesh structure. The side walls **16** and **18** are formed by a plurality of parallel U-shaped wires **24** which extend across the bottom **22** of the tray. The back wall **20** is formed from a plurality of parallel L-shaped wires **28** which extend downwardly and across the bottom. The L-shaped wires and the U-shaped wires are joined at the bottom. A rim wire **26** extends around the sides and back of the tray. This rim wire **26** is attached to the U-shaped wires **24** at the top portion thereof and is attached to the L-shaped wires **28** at a top portion thereof.

A top rim **30** is provided for gripping and rigidifying the tray structure. The top rim **30** extends around the back wall, the top of the side walls, down the front of the side walls, and across the front of the tray. Thus, the top rim **30** has a back portion **32** which joins forwardly extending side portion **34**. The side portions extend inwardly at **36** and then forwardly again at **38**. Thus, at the side walls, the top rim **30** extends outwardly of the plane of the side wall so that the tray can be supported on rails such as **48** in a cabinet such as **46**. These forwardly extending side portions **34** extend outwardly further than the forwardly extending portions **38** so that a stop can be provided at **36** to permit the tray to be retained within a cabinet structure as illustrated in FIG. 2. In this way, accidental removal of the tray from the drawer can be prevented. The rim extends inwardly again at **40**, downwardly at **42**, and across the front at **44**.

As illustrated in FIG. 4, the back wall **20** slopes downwardly and slightly inwardly. As seen in FIG. 3, the side walls **16** and **18** also slant downwardly and slightly inwardly.

As can be seen from FIG. 6, the structure of the tray provides an efficient stacking with each subsequent tray on the stack positioned upwardly and forwardly of the lower tray by a distance equal to the thickness of the rim **30**. The trays, however, have a box-like appearance, with very little space lost in slanting walls.

Referring now to FIG. 5, an integrally molded plastic tray **50** is provided with opposite sides **52** and **54**, a back **56**, and a bottom **58**. Holes **60** are provided in the side wall for drainage so that the tray can be easily washed.

An outwardly extending rim **62** is provided to surround the open areas of the tray. This rim provides a gripping area for carrying the tray and permits the tray to be used as a drawer in the same manner as has been shown in FIG. 2.

The outwardly extending rim **62** has a back portion **64** which joins the forwardly extending side wall portions **66**. The side walls extend inwardly at **68** and then

forwardly at **70**. The rim extends inwardly again at **72**, downwardly at **74**, and across the front at **76**.

The side walls **52** and **54** slant inwardly in the same manner as has been shown for the first embodiment of FIGS. 1 through 4. Preferably, the back wall **56** also slants inwardly as the back **20** of the tray **12**. In this manner, the tray shown in FIG. 5 will stack in the same manner as the tray shown in FIGS. 1 through 4.

It will be appreciated from viewing FIG. 6, that the open mesh tray of the invention can be formed with vertical side walls without losing the compact nesting qualities. With vertical side walls, the rim **26** can be eliminated and the upstanding legs of the U-shaped members **24** will be aligned in a plane parallel to the side walls when the tray is nesting. To provide added strength, the top of at least some of the U-shaped members **24** can extend to and can be fixed to the gripping rim portion **38** in the same fashion as the L-shaped members **28** are fixed to the rim portion **32**.

Reasonable variation and modification are possible within the scope of the foregoing disclosure, the drawings, and the appended claims without departing from the spirit of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A nestable tray having an open top and an open front comprising: a pair of side walls, a back wall, and a bottom joined together to form said tray, said side walls and back wall formed to permit nesting of said trays with other similar trays, a stiffening and gripping rim extending around the open top and front of said tray, said rim being positioned outwardly of all portions of the side walls and free from engagement therewith to provide a gripping area above and outwardly of said side walls.

2. A nestable tray according to claim **1** wherein said rim is bent inwardly at a rear portion of said side walls to provide a stop when said tray is supported by said rim at said side walls.

3. A nestable tray according to claim **1** wherein said side walls, back wall, and bottom are formed of an open mesh structure.

4. An open mesh nestable tray having an open top and an open front comprising: a pair of side walls, a back wall, and a bottom joined together to form said tray, said side walls and back wall formed to permit nesting of said tray with other similar trays, a continuous stiffening and gripping rim extending around the open top and front of said tray, said rim being positioned outwardly of said side walls, said side walls formed from a plurality of parallel U-shaped wire-like members which extend across said bottom, and a plurality of parallel L-shaped wire-like members forming said back wall and extending across said bottom substantially perpendicular to said U-shaped wires, said L-shaped members being joined to said U-shaped members at said bottom.

5. A nestable tray according to claim **4** wherein said open mesh structure further comprises a wire rim member extending around the sides and back of said tray at a top portion thereof and fixed to said U-shaped members and to said L-shaped members.

6. A nestable tray according to claim **5** wherein said stiffening and gripping rim is fixed to said L-shaped member only at an upper portion of said back wall and at a front portion of said bottom, thereby leaving an open gripping area along the top and front of said side walls.

7. A nestable tray having an open top and an open front comprising: a pair of side walls, a back wall, and a bottom wall joined together to form said tray, said side walls and back wall formed to permit nesting of said trays with other similar trays, a continuous stiffening and gripping rim extending around the open top and front of said tray, said rim being positioned outwardly of said side walls, said tray being integrally formed of a plastic material.

8. An open mesh nestable tray having an open top and open front comprising:

a pair of oppositely disposed side walls, a back wall, and bottom walls joined together to form said tray;

said side walls being slanted inwardly and downwardly to permit nesting of a plurality of said trays;

said side walls being formed from a plurality of U-shaped wire-like members forming the side walls and extending across said bottom;

said back wall being formed by a plurality of parallel L-shaped, wire-like members extending downwardly from top to bottom of said back wall and across said bottom;

said L-shaped members being joined to said U-shaped members at said bottom and together forming said bottom;

a wire rim member extending around a top portion of said side walls and said back wall and joined to said U-shaped members and said L-shaped members at upper portions thereof;

a stiffening and gripping rim surrounding said back and side walls, extending downwardly at the front of said walls, and extending across the front of said bottom; and

said stiffening and gripping rim being fixed to said mesh structure at the upper portion of said back wall and at the front portion of said bottom.

9. An open mesh nestable tray according to claim **8** wherein said back wall slopes downwardly and inwardly so that said tray nests forwardly and upwardly a distance substantially equal to the thickness of said stiffening and gripping rim.

10. An open mesh nestable tray according to claim **8** wherein said stiffening and gripping rim extends outwardly at the top of the side wall so that the tray can be used as a drawer by supporting the same at said outwardly extending rim at said side walls.

11. An open mesh nestable tray having an open top and open front comprising:

a pair of oppositely disposed side walls, a back wall, and bottom walls joined together to form said tray;

said side walls being formed from a plurality of U-shaped wire-like members forming the side walls and extending across said bottom;

said back wall being formed by a plurality of parallel L-shaped, wire-like members extending downwardly from top to bottom of said back wall and across said bottom;

said back wall being slanted inwardly and downwardly to permit forward nesting of a plurality of said trays;

said L-shaped members being joined to said U-shaped members at said bottom and together forming said bottom;

a stiffening and gripping rim surrounding said back and side walls, extending downwardly at the front of said walls, and extending across the front of said bottom; and

said stiffening and gripping rim being fixed to said mesh structure at the upper portion of said back wall and at the front portion of said bottom.

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NILE C. BYERS, JR., Primary Examiner