

[54] **DRAWER DIVIDER AND DRAWER ORGANIZER**

[72] Inventor: Marie Riviers, 117 River Street, Menasha, Wis. 54952

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[51] Int. Cl.A47b 88/20

[58] Field of Search.....312/117, 126, 250, 111; 220/23.4, 22; 206/73, DIG. 7; 211/128

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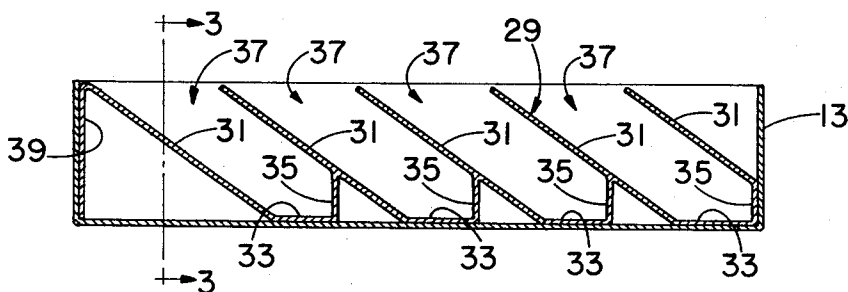
Primary Examiner—James T. McCall

Attorney—Paul J. Glaister

[57] **ABSTRACT**

The invention relates to means for dividing the elongated, side-by-side, main compartments which are usually provided in kitchen utensil drawers, silverware drawers, silver storage chests and the like, or which are provided by elongated drawer organizer trays, into a series of forwardly and downwardly inclined, sub-compartments of particular form. Specifically, these sub-compartments, which are open at the top, have the general form of a parallelepiped which is rectangular in cross section and which is partially truncated at its lower, forward end. The wall surfaces defining the sub-compartments provide, for each sub-compartment, a rectangularly shaped, open top; a downwardly and forwardly inclined utensil supporting, lower surface; a flat, horizontal bottom surface which extends parallel to the bottom surface of the main drawer or chest compartment; a vertical surface which extend transversely of the sub-compartment; spaced, vertically extending, parallel, side walls; and a flat, downwardly and forwardly inclined, upper wall surface for the sub-compartment which is spaced from and is parallel to the downwardly and forwardly inclined, utensil supporting, lower surface.

14 Claims, 11 Drawing Figures



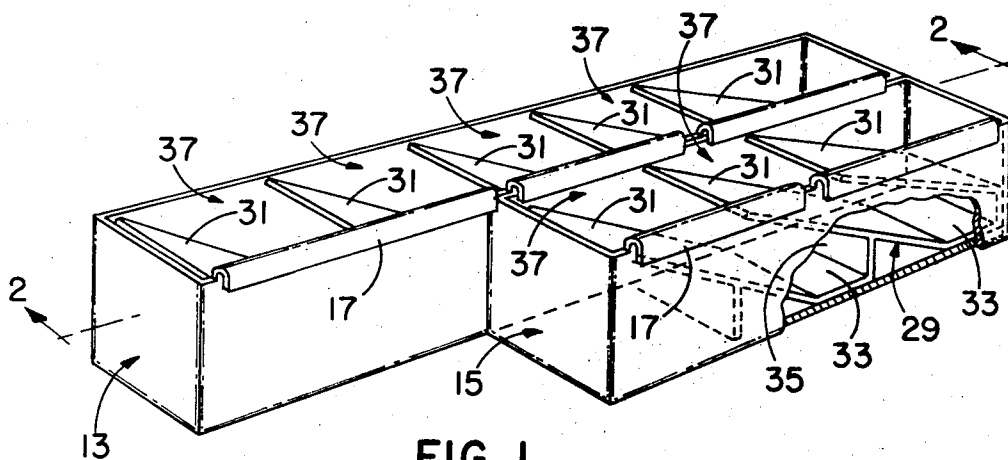


FIG. 1

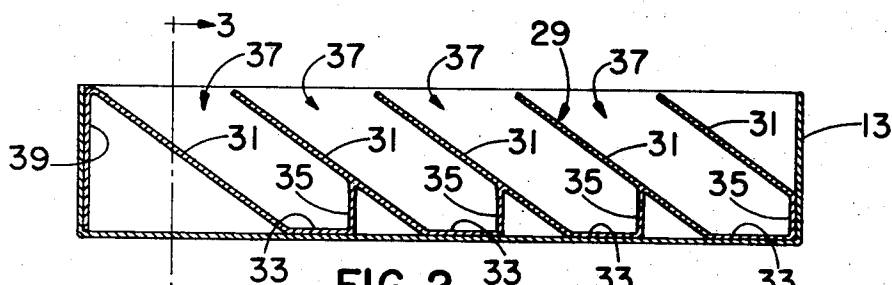


FIG. 2

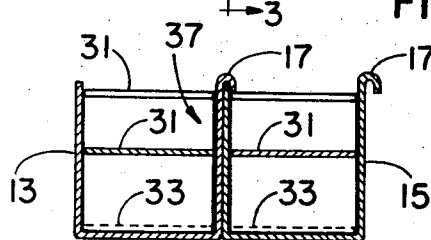


FIG. 3

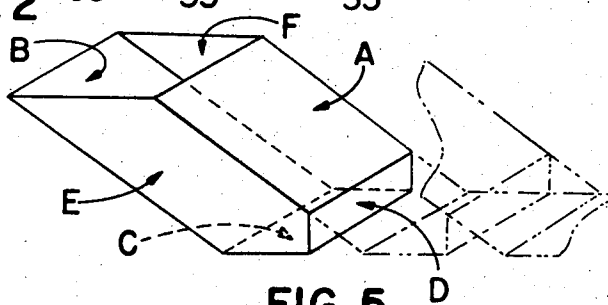


FIG. 5

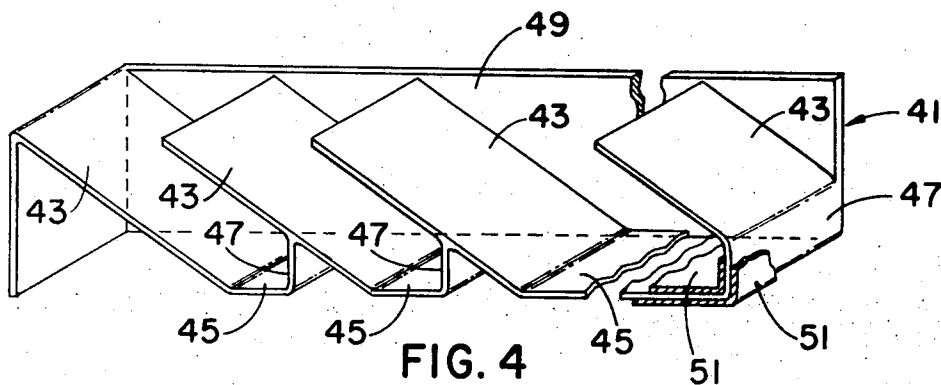


FIG. 4

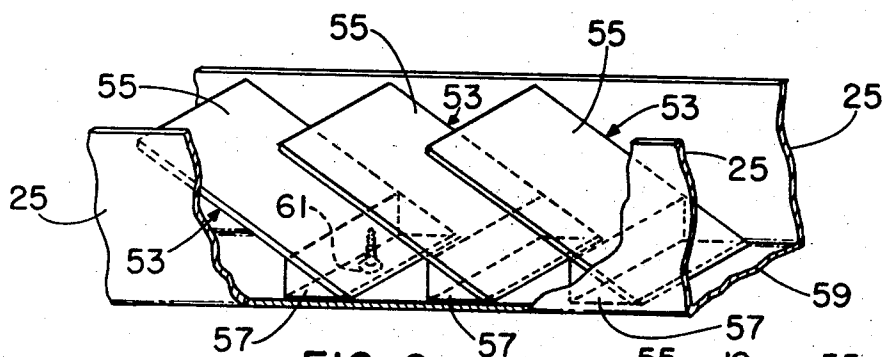


FIG. 6

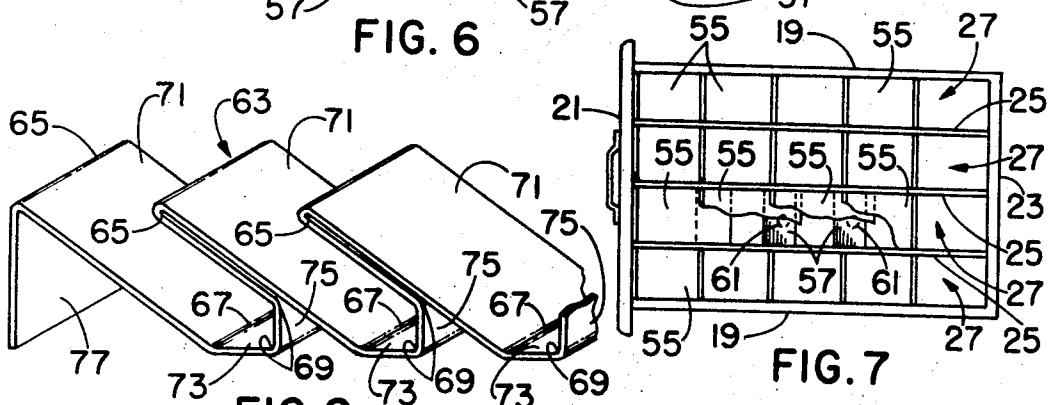


FIG. 7

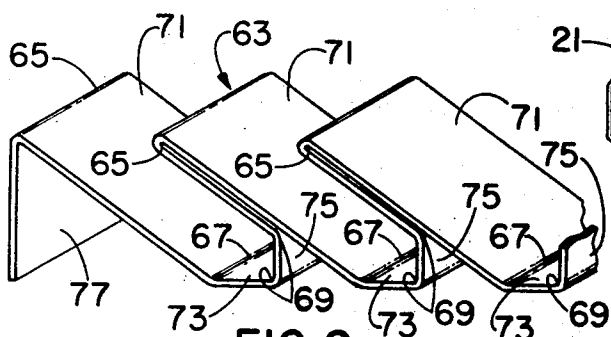


FIG. 8

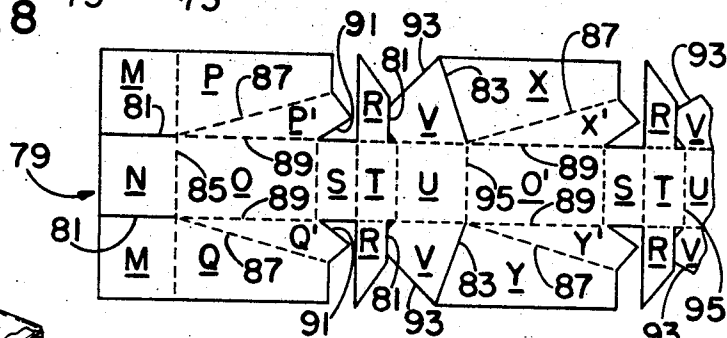


FIG. 9

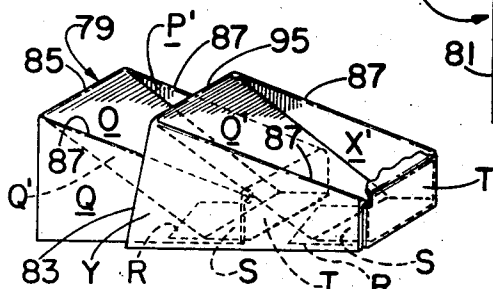


FIG. 10

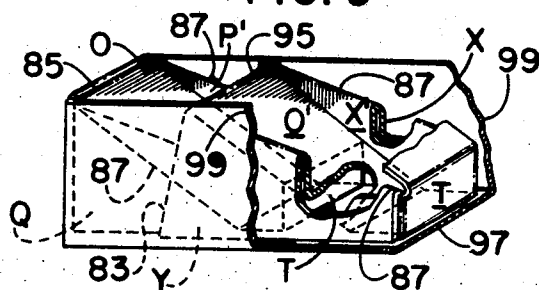


FIG. 11

DRAWER DIVIDER AND DRAWER ORGANIZER

The present invention relates to drawer divider and drawer organizing means, and particularly to drawer divider means for effecting the more orderly storage and arrangement of silverware, knives, mixing spoons and other kitchen implements and utensils.

The principal object of the invention is to provide a simple, inexpensive, divider or drawer organizer means which can be used with existing storage drawers, drawer trays and drawer organizers. As will hereinafter appear, this object is accomplished by the provision of means whereby the usual side-by-side compartments which are to be found in kitchen utensil drawers or which are provided by drawer organizer trays, can be divided into a plurality of inclined sub-compartments of particular form. The means used for effecting this division of elongated drawer or drawer tray compartments into these specially shaped sub-compartments can be fabricated in various ways, whereby the invention can be quickly and conveniently adapted to existing kitchen utensil and silverware drawers, silver storage chests, and the like. Also, the divider means of the invention can be manufactured of various materials, including wood, plastics, extruded or sheet metal, corrugate and other types of stiff paperboard.

Other objects of the invention include the provision of a simple means for improving the effectiveness of drawer organizer trays of the type presently on the market, and the design of a one piece, foldable, cardboard section which can be shipped flat but which can be readily folded to form divided compartments and sub-compartments in accordance with the invention.

These and additional objects and advantages of the invention will be made more apparent in the accompanying drawings and the following description of certain preferred embodiments thereof.

In the drawings,

FIG. 1 is a perspective view showing two, generally rectangularly shaped, drawer organizer trays of the type presently on the market, equipped with divider means in accordance with the invention,

FIG. 2 is a sectional view on the general line 2—2 of FIG. 1,

FIG. 3 is a sectional view on the general line 3—3 of FIG. 2,

FIG. 4 is a perspective view illustrating how certain extrusion and other molded structures can be formed for use within a main drawer compartment, or otherwise, to provide sub-compartments in accordance with the invention,

FIG. 5 is an outline, perspective view showing the shape of the individual sub-compartments provided by the drawer dividing means of the invention,

FIG. 6 illustrates the structural features of certain insert elements that can be placed within a drawer or drawer compartment to divide that drawer or drawer compartment into a series of sub-compartments in accordance with the invention,

FIG. 7 is a plan view showing a conventionally divided, kitchen utensil drawer wherein the several, side-by-side, longitudinally extending, main drawer compartments have been subdivided into sub-compartments by the use of divider elements of the general type illustrated in FIG. 6,

FIG. 8 illustrates how a drawer divider insert in accordance with the invention can be fabricated of folded

corrugate or other stiff cardboard or other sheet material,

FIG. 9 is a plain view of a die-cut, cardboard blank which can be folded to provide a drawer divider unit in accordance with the invention, and

FIGS. 10 and 11 are perspective views which illustrate, respectively, one step in the folding of the blank shown in FIG. 9 and the manner of positioning the folded blank within a drawer organizer tray or main drawer compartment.

As previously noted, the objects of the invention are accomplished by providing means which divide the elongated main compartments formed by the usual drawer dividers or by drawer organizer trays into a series of adjacent, inclined sub-compartments of particular shape. This desired shape is illustrated in FIG. 5, and it will be noted that the desired storage space is defined by two generally parallel, inclined, wall sections or surfaces A and B, which are joined by a horizontal transversely extending, bottom surface C and a vertical end wall surface D. The two sides of the storage spaces will normally be defined by two, generally parallel, spaced wall surfaces E and F, and these surfaces E and F may be provided by the sides of the usual, fixed, drawer dividers or by the sides of removable drawer dividers or drawer organizer trays located in the drawer.

Thus, each of the sub-compartments in accordance with my invention has the general form of a parallelepiped, which is rectangular in cross section, and which is partially truncated at its lower, forward end by the vertical wall surface D. The sub-compartments are open at the top, and the other sides of the sub-compartments are enclosed by the wall surfaces A, B, C, D, E and F which define the remaining six walls of the sub-compartment space.

As will hereinafter appear, the sub-compartments provided in the main drawer or tray compartments are desirably disposed in a parallel, inclined, side-by-side, forwardly extending, stacked relationship. This facilitates easy insertion of the silverware, knives, mixing spoons and other utensils into the individual sub-compartments. Further, the shape of the sub-compartments, and particularly the rectangular cross sectional form, the flat, horizontal bottom wall and the adjacent, vertical end wall, assure that the utensils will be efficiently positioned in the sub-compartment and will not be forced into engagement with each, thereby making possible the best possible use of the available drawer space.

Two drawer organizer trays of conventional design are shown at 13 and 15 in FIGS. 1, 2 and 3. Drawer divider or drawer organizer trays of this general type are marketed commercially by various manufacturers including Rubbermaid, Inc. of Wooster, Ohio. Each of the trays is generally square or rectangular in cross section, and each is desirably provided with a notched, over-hanging lip 17 whereby adjacent trays will be automatically held together in any selected position. The tray units 13 and 15 are sold in various sizes and lengths to meet the needs of the user.

As previously indicated, it is common practice to divide kitchen utensil drawers, silverware drawers and silverware storage chests by the use of permanent or removable partitions which form a series of elongated,

generally parallel, longitudinally extending, main, storage compartments, which are generally rectangular in cross section. Such a drawer is illustrated in FIG. 7, in which Figure the sides of the drawer are shown at 19, the drawer front at 21, the back of the drawer at 23, and three longitudinal partitions at 25. These partitions 25 divide the drawer space into four, elongated, longitudinally extending, main compartments, each of which is indicated generally at 27.

On preferred means for accomplishing the division of the main storage compartments of a conventionally divided drawer, or the storage compartments provided by drawer organizer trays, into sub-compartments having the general form illustrated in FIG. 5, consists in the provision of a relatively rigid insert element 29 having the general form illustrated in FIGS. 1, 2 and 3.

The insert element 29 includes parallel, inclined, wall sections 31, flat, bottom wall sections 33 and vertical wall sections 35. Such an element can be manufactured as a plastic or metal extrusion, and by sawing off or shearing from an extruded piece, suitably dimensioned lengths thereof, insert elements as illustrated at 29 of any desired width can be provided. These elements can then be readily inserted into the divider tray or drawer division compartments, as illustrated in FIGS. 1, 2 and 3, and those compartments will thereby be divided into a plurality of sub-compartments 37 of the desired shape. Depending on the material of which the insert element 29 is made, it may include a vertical reinforcing section 39 for the initial, inclined wall section 31, as shown particularly in FIG. 2.

A second form of molded or cast insert providing storage compartments in accordance with the invention, is illustrated at 41 in FIG. 4. This structure includes parallel, inclined, wall sections 43, flat, bottom wall sections 45 and vertical wall sections 47. It also includes an integral side wall section 49 which will permit use of one or more of the inserts 41 in large drawer spaces, which do not include permanent or removable partitions or divider elements.

When so used a number of the units 41, each of which includes a side wall section 49, can be fastened to a drawer bottom, in side-by-side relationship. By this procedure, all or a part of the main compartment of a drawer can be divided into sub-compartments having the rectangular cross section, partially truncated, parallelepiped shape illustrated in FIG. 5, and this division can be accomplished without the use of any other divider, drawer organizer or partition means within the main drawer space.

If the insert elements of the types illustrated at 29 and 41 are made of metal, it may be desirable to coat those elements with a rubber-like or other plastic coating to prevent scratching of the silverware or other items that are stored in the storage compartments provided by those elements. A coating of the type applied to the wire, drainage racks used for holding dishes in kitchen sinks is suitable, and a fragmentary section of such a coating is illustrated at 51 in FIG. 4. If used the coating 51 should completely cover the insert element.

FIGS. 6 and 7 illustrate a convenient way of applying the invention to wooden or other drawers which can be, or have been, separated into a series of elongated, main, storage compartments of generally rectangular shape, such as are illustrated at 27 in FIG. 7, by suitable

divider strips, such as the partitions 25 in FIG. 7. In this arrangement there are provided for each of the main drawer compartments 27 a series of divider units 53 each of which consists of a thin, flat, rectangularly shaped, wall section 55, which may be of wood or plastic or other material. Each of the wall sections 55 is attached at its base to a suitable support 57 which may also be of wood. The support 57, in cross section, has the general form of a right angle triangle, and it is adapted to be fastened to the base 59 of the drawer or drawer divider by a wood screw 61 or by an adhesive or other suitable fastening. The transverse dimensions of the units 53 will be such that they will fit snugly between the upright partition elements 25 which define the sides of the main drawer compartments 27 or the compartments provided in drawer organizer trays, if trays are used.

The units 53 can be manufactured by gluing or fastening a suitable dimensioned strip of wood to one edge of an elongated board or plywood section, and the individual units can then be cut from these composite lengths to provide units having the proper dimensions to fit the drawer or drawer organizer compartments.

Similarly to the previously described embodiments of the invention, each of the sub-compartments provided by the divider units 53 has the form of an inclined parallelepiped which is rectangular in cross section and which is partially truncated at its lower, forward end by the vertical wall surface provided by the support 57 for the next forward, inclined, wall defining section 55. The sub-compartments are open at the top and are disposed in a forwardly extending, stacked relationship with the longitudinal axes of the several sub-compartments in each stack being essentially parallel to each other and being inclined at a uniform angle to the bottom surface of the drawer and the main drawer divisions.

In all of the embodiments of the invention, the forwardly inclined, longitudinal axes of the several sub-compartments in each stack extend at an angle to the bottom plane of the drawer or the main drawer compartment, within the range of about 30° to 60°. For most kitchen uses a forward inclination of approximately 45° will be found to be particularly satisfactory.

Divider insert units in accordance with the invention can also be made by folding a sheet of metal, a piece of corrugate or other stiff, sheet material, and one example of such a structure is shown at 63 in FIG. 8. The insert unit 63 is made from an elongated strip of uniform width material of such dimensions that the folded unit will fit snugly within the drawer or drawer organizer compartment. Crease lines provided at 65, 67 and 69 will result in the formation in the folded unit of parallel, forwardly and downwardly inclined, wall sections 71, flat bottom wall sections 73, vertical wall sections 75 and a front end, reinforcing support section 77.

When such a strip is folded, as shown in FIG. 8, it can be used in the manner as the previously described insert elements 29 and 41. To give increased rigidity and strength to the structure the two folded over portions which provide the inclined wall sections 71 can be adhesively or mechanically joined together in the position shown in FIG. 8. When located in an elongated, main drawer compartment, the insert unit 63 will divide that compartment into a series or stack of forwardly

inclined, side-by-side, sub-compartments, each of which has the truncated parallelepiped shape illustrated in FIG. 5.

This folded strip arrangement, particularly if made from cardboard or corrugate, is especially advantageous from the viewpoint of providing a relatively inexpensive structure which can be thrown away periodically to provide a clean drawer section. It may also be manufactured with a decorative surface to provide an attractive appearance.

FIGS. 9, 10 and 11 illustrate still another form of the drawer divider means of the invention. In the structure shown in those figures, a drawer compartment insert element, with or without means defining the walls of the main drawer compartment within which the insert is to fit, is provided by folding a suitably, die-cut and creased, blank, a section of which is illustrated at 79 in FIG. 9. Desirably the blank 79 is cut from a fairly stiff, thin, paperboard, such as that used for file covers.

In FIGS. 9, 10 and 11, the cut lines in the blank 79 are indicated by solid lines, as at 81 and 83, and the crease or fold lines are indicated by dashed lines, as at 85 and 87. To form the die cut and creased blank 79 into a sub-compartment defining insert, that blank is folded to the form illustrated in FIGS. 10 and 11.

End sections M and N are folded downwardly along the crease line 85. The adjacent parts of the blank are folded upwardly along crease lines 89 and downwardly along crease lines 87. Sections M and N are then tucked under section N to form the forward, vertical, supporting end wall of the insert structure.

Section O becomes the lower inclined wall surface of the first sub-compartment. Sections P - P' and Q - Q', when folded, are vertically disposed and received between them the cut out tab sections R.

Section S remains horizontal, engaging the cut edges 91 in sections P' and Q', and thus defines the horizontal bottom wall surface of the sub-compartment. Section T is folded upwardly and defines the vertical end wall of the subcompartment. Section U extends backwardly over sections S and O to provide the upper, forwardly and downwardly inclined, defining wall surface of the sub-compartment.

The two cut out sections V are folded downwardly, the cut edges 93 of those sections extending horizontally, so that those Sections V will support Section U in the desired inclined position. Section O' of the next unit of the blank is then folded along crease line 95 into engagement with the upper surface of section U, thereby to provide the lower, forwardly and downwardly inclined wall surface of the second sub-compartment. Sections X - X' and Y - Y' are similar to sections P - P' and Q - Q' and are similarly folded.

The second unit of the blank may then be folded, similarly to the first unit, to provide the wall surfaces which define the remainder of the second sub-compartment. The blank may include as many foldable units as are required to provide the desired number of sub-compartments, and the dimensions of the foldable units may be adjusted so that the drawer insert when folded into finished form will engage the bottom and side walls 97 and 99 of a divider tray or main drawer compartment, as illustrated in FIG. 11.

The die-cut and creased blank arrangement illustrated in FIGS. 9, 10 and 11, thus constitutes a still

further means for dividing drawer and divider tray compartments into a series of sub-compartments having the rectangular cross section, truncated, parallelepiped form illustrated in FIG. 5. This arrangement has the advantage that the resulting insert structure is self-supporting, and if desired, the die-cut blank can include integral sections foldable to form a rectangular tray for containing and supporting the folded, sub-compartment defining sections.

In the foregoing there have been described a number of embodiments of a simple, inexpensive and highly efficient drawer divider and drawer organizing means. All of the disclosed embodiments make possible the division of the usual, elongated, side-by-side, utensil storage compartments into a series of specially shaped sub-compartments. By virtue of this special shape much more efficient use of the drawer storage space is made possible. Moreover, silverware and the usual kitchen implements are not only more easily and more efficiently stored than in the previously available arrangements, but in addition, they can be much more easily located and removed from the storage spaces, as required. The net result is the provision of a drawer divider and drawer organizer means which constitutes a highly efficient space-saving device.

I claim the following as my invention:

1. Insert means for dividing an elongated, open top, rectangular cross section, storage compartment, such as the storage compartments provided in kitchen utensil drawers, silverware drawers, silver storage chests, drawer organizer trays and the like, into a series of forwardly and downwardly inclined, generally parallel, sub-compartments, each of which is open at the top and each of which has the general form of a parallelepiped that is rectangular in cross section and that is partially truncated at its lower forward end, said insert means including wall surface defining means which provide for each sub-compartment a rectangularly shaped open top; a flat, downwardly and forwardly inclined, utensil supporting, lower surface; a flat, horizontal bottom surface, which is adapted to engage to extend parallel to the bottom surface of the storage compartment within which the said insert means is to be located; a vertical surface which extends transversely across the sub-compartment; and a flat downwardly and forwardly inclined upper wall surface for the sub-compartment, which upper wall surface is spaced from, and extends parallel to, the downwardly and forwardly inclined, utensil supporting, lower wall surface.

2. Structure in accordance with claim 1 wherein the said insert means comprises a one piece casting or molding made of a suitable rigid material such as metal or plastic.

3. Structure in accordance with claim 1 wherein the said insert means comprises a suitably shaped and creased section of paperboard which when folded along the said creases which have been formed therein will provide the wall surface defining means specified in claim 1.

4. Structure in accordance with claim 1 wherein the said insert means comprises a transversely cut-off section of a rigid metal or plastic extrusion.

5. Structure in accordance with wherein the several downwardly inclined, generally parallel, sub-compartments are symmetrically disposed relative to each other

in stacked relationship, and wherein the longitudinal axes of said sub-compartments are parallel to each other and extend at an angle to the flat, horizontal bottom surfaces of the said sub-compartments, within the range of about 30° to 60°.

6. Means defining the side walls and the bottom surface of an elongated main storage compartment for kitchen utensils, silverware and the like, said main compartment being open at its top and being generally rectangular in cross section, and means within said main compartment defining upper and lower wall surfaces of a series of forwardly and downwardly inclined, generally parallel, sub-compartments, each of which is open at the top and each of which has the general form of a parallelepiped that is rectangular in cross section and that is partially truncated at its lower forward end, said wall defining means providing for each sub-compartment a rectangularly shaped open top; a flat, downwardly and forwardly inclined, utensil supporting, lower surface; a flat, horizontal bottom surface, which is parallel to the bottom surface of the said main storage compartment; a vertical surface which extends transversely across and which defines the end wall of the sub-compartment; and a flat downwardly and forwardly inclined upper wall surface for the sub-compartment, which upper wall surface is spaced from, and extends parallel to, the downwardly and forwardly inclined, utensil supporting, lower wall surface; the side wall defining surfaces for said sub-compartments being provided by the side walls of the main storage compartment.

7. Structure in accordance with claim 6 wherein the main storage compartment comprises a one-piece, molded, drawer organizer tray, one or more of which trays can be placed in a utensil storage drawer in side-by-side relationship, and wherein the means defining the walls of the sub-compartments comprises a one-piece, removable insert of such dimensions that it will fit within and engage the inside wall surfaces of said tray, thereby dividing the main storage compartment provided in said tray into sub-compartments as aforesaid.

8. Structure in accordance with claim 6 wherein the means defining the upper and lower wall surfaces of the sub-compartments comprises a transversely cut-off section of a rigid metal or plastic extrusion.

9. In combination in a drawer or other container for holding kitchen utensils, silverware and the like, wall defining means for dividing the drawer into a series of narrow, elongated, generally parallel, flat sided, longitudinally extending main compartments which are open at the top and are generally rectangular in cross section, and wall defining means for dividing each of said main compartments into a series of forwardly and downwardly inclined sub-compartments each of which is open at its top and each of which has the general

form of a parallelepiped that is rectangular in cross section and that is partially truncated at its lower forward end, said wall defining means providing for each sub-compartment a flat, downwardly and forwardly inclined, utensil supporting, lower surface; a flat, horizontal bottom surface, which is parallel to the bottom surface of the drawer and the said main storage compartments; a vertical, surface which extends transversely across the sub-compartment and which defines the end wall thereof; and a flat downwardly and forwardly inclined upper wall surface for the sub-compartment, which upper wall surface is spaced from, and extends parallel to, the downwardly and forwardly inclined, utensil supporting, lower wall surface; the said drawer dividing means providing side walls for the side sub-compartments; and the sub-compartments which are located in each main compartment being disposed in parallel, inclined, side-by-side, forwardly extending, stacked relationship, with the longitudinal axes of the several sub-compartments in each stack extending at an angle to the bottom plane of the main compartment within which said sub-compartments are located, within the range of approximately 30° to 60°.

10. Structure as defined in claim 9 wherein the wall dividing means for dividing each of the main compartments into a series of sub-compartments comprises a unitary, one-piece, removable insert element.

11. Structure in accordance with claim 2 wherein the several downwardly inclined, generally parallel, sub-compartments are symmetrically disposed relative to each other in stacked relationship, and wherein the longitudinal axes of said sub-compartments are parallel to each other and extend at an angle to the flat, horizontal bottom surfaces of the said sub-compartments, within the range of about 30 to 60 degrees.

12. Structure in accordance with claim 3 wherein the several downwardly inclined, generally parallel, sub-compartments are symmetrically disposed relative to each other in stacked relationship, and wherein the longitudinal axes of said sub-compartments are parallel to each other and extend at an angle to the flat, horizontal bottom surfaces of the said sub-compartments, within the range of about 30 to 60 degrees.

13. Structure in accordance with claim 4 wherein the several downwardly inclined, generally parallel, sub-compartments are symmetrically disposed relative to each other in stacked relationship, and wherein the longitudinal axes of said sub-compartments are parallel to each other and extend at an angle to the flat, horizontal bottom surfaces of the said sub-compartments, within the range of about 30 to 60 degrees.

14. Structure in accordance with claim 7 wherein the means defining the upper and lower wall surfaces of the sub-compartments comprises a transversely cut-off section of a rigid metal or plastic extrusion.

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