CABINET ASSEMBLY AND DRAWER THEREFOR
Morris V. Oldford, Chicago, Ill.
(1313 21st Ave., Apt. 82, Nashville, Tenn. 37212)
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ABSTRACT OF THE DISCLOSURE

This invention relates to cabinet assemblies and drawers therefor, and more particularly to cabinet assemblies of the wall and base type suitable for use in home construction and remodeling.

Generally, cabinets have been manufactured and assembled in a cabinet shop or factory and transported to the site for installation. The cabinets in their assembled form occupy a large cubage and are, therefore, expensive to transport and store.

More recently, there has become available pre-cut, unassembled cabinets which can be assembled by the home owner. However, such cabinets are generally nailed and glued together presenting a considerable problem to the average home owner. There is, therefore, a need for an easy to assemble cabinet and drawer assembly to satisfy the demands of the do-it-yourself home owner.

It is a general object of the invention to provide a cabinet assembly and drawer which will overcome the above named disadvantages.

Another object of the invention is to provide a cabinet assembly and drawer which is pre-fabricated for easy assembly at the destination.

Another object of the invention is to provide a cabinet assembly and drawer of the above character which can be assembled very rapidly and which does not require tools, nails, screws or glue to form its joints.

Another object of the invention is to provide a cabinet assembly and drawer of the above character which, when assembled, is locked together so that it cannot be disassembled in normal use.

Another object of the invention is to provide a cabinet assembly and drawer which can be easily disassembled for storage in a small package.

Further objects and features of the invention will appear from the following description in which the preferred embodiment of the invention has been set forth in detail, in conjunction with the accompanying drawings.

Referring to the drawings:

FIGURE 1 is an isometric view of a typical assembled base cabinet incorporating my invention.

FIGURE 2 is an exploded view of the cabinet of FIGURE 1 showing the manner of construction and order of assembly thereof, and also showing an isometric view of an assembled drawer for use therein.

FIGURE 3 is an exploded view shown in the drawer of FIGURE 2 showing the manner of construction and order of assembly thereof.

FIGURE 4 is an isometric view of an assembled wall cabinet incorporating my invention.

FIGURE 5 is an exploded view of the wall cabinet of FIGURE 4 showing the manner of construction and the order of assembly thereof.

BASE CABINET

Referring now to FIGURES 1 and 2, there is shown a base cabinet assembly 10 incorporating the invention.

In general, the cabinet includes a face frame or front panel 11, side panels 12 and 13, top and bottom panels 16 and 17, a back panel 18, shelf panels 19a, b, and a drawer 20.

Face frame or front panel 11 includes an opening 21 to one side of which is mounted a door 22. Door 22 is pre-hung in a conventional manner and is not required to be installed by the user. A second opening 23 is provided for permitting the drawer to pass through front panel 11.

Vertical dovetail slots 25 and 26 are formed along each side margin on the rear of front panel 11 and extend its full height.

Horizontal slots 27 and 28 are formed along the upper and lower margins of the rear side of panel 11 and cross each of the slots 25 and 26 near the corners. Slots 27 and 28 are formed with a square cross-section for receiving the front edges of top and bottom panels 16 and 17.

Side panels 12 and 13 are mirror images of each other and, therefore, will be jointly described. The front edge of each of the panels 12 and 13 is formed with a vertical tongue 29 having a dovetail shape in cross-section. Tongue 29 faces forwardly and is adapted to slidably fit into and engage one of the slots 25 or 26 in the front panel.

Side panels 12 and 13 are further provided with horizontal dovetail slots 31 and 32 extending along the upper and lower inner margins. Additional horizontal slots or grooves 33, 34 are formed in the side panels 12 and 13 and are parallel to the top and bottom. Slot 33 is dovetailed in cross-section and is spaced from slot 31 a distance somewhat greater than the depth of drawer 20 so that it can support the same.

Rear edges of side panels 12 and 13 are formed with vertically extending grooves 35, 36 along their rear inner margins to receive back panel 18, the side edges 50 of which are received in grooves 35, 36.

Top and bottom panels 16 and 17 and shelf panel 19 are provided with outwardly facing tongues 41a, b, c, d, 42a, b, c, d, along their side margins which are adapted to fit into and engage slots 31, 32, 33 and 34, respectively, in side panels 12 and 13. Shelf panel 19a has a dovetail slot 43 extending from front to rear along the upper middle surface thereof for receiving a runner guide 44.

Guide 44 comprises a flange 45 for abutting the top surface of the shelf for support, and a downwardly extending tongue 46 having a dovetail shape in cross-section and adapted to engage slot 43 in shelf 19a. Runner guide 44 further includes transversely projecting elongate ribs 47 and 49 on each side of the guide, the ribs being spaced from the flange 45 and adapted to be engaged by a drawer runner 49 as hereinafter described in connection with the drawer 20.

DRAWER

Referring now to FIGURES 3 and 4, there is shown a drawer comprising a front panel 51, side panels 52 and 53, a bottom panel 54 and a back panel 56. Front panel 51 includes vertical dovetail slots 57 and 58 spaced slightly from the sides and along the rear edge extending from the bottom to a point spaced from the top. The front panel further includes a horizontal slot 59 having a square cross-section and extending along the lower margin, spaced from the lower edge and running from side to side. The front edge of the bottom panel 54 is adapted to fit into slot 59.

The front edges of side panels 52 and 53 are formed with tongues 61 and 62, each having a dovetail shape in cross-section. Side panels 52 and 53 have grooves 63 and 64 along their inside lower margins extending from front to rear, for receiving the side edges 65 of bottom panel 54.
Side panels 52 and 53 further have vertical dovetail slots 66 and 67 spaced slightly from their rear margins. The side edges of the back panel 56 are formed as outwardly facing dovetail tongues 65 and 69 adapted to engage slots 66 and 67 of the side panels. The bottom edge of back panel 56 is relieved along its inner corner to form a rebate 71 for overlapping bottom panel 54 after drawer 20 is assembled.

The assembly of the base cabinet and drawer will now be described.

**DRAWER ASSEMBLY**

The drawer is assembled by sliding side panels 52 and 53 upwardly so that tongues 61 of the panels 52 and 53 engage and slide along slots 57 and 58 in the front panel 51 until the upper ends of the tongues abut at the upper ends of the slots. Bottom panel 54 is then slid through grooves 63 and 64 of side panels 61 and 62 until its front edge projects into slot 59 in the front panel 51 to thereby lock side panels 52, 53 and bottom panel 54 vertically with respect to front panel 51. Back panel 56 is then slid downwardly so that tongues 66 and 69 engage slots 66 and 67 in the side panels 61 and 62. The length of bottom panel 54 is such that when the same is fully home in slot 59, the rearmost edge extends partially through slots 66 and 67. Rabbet 71 is adapted to overlap the rear edge of the bottom panel so that the bottom panel cannot be removed when the back panel is in place.

The drawer assembly just described is effectively retained together in a sturdy solid unit by the action of the dovetail joints formed between the tongue and groove members 61, 62, 57, 58 between the side panels and front panel, and the tongue and groove dovetail joint formed between slots 65, 66, and tongues 68 and 69. The slots 63, 64 and side edges of the bottom need not be constructed in an interlocking fashion since the drawer is held together by the remaining joints.

**CABINET ASSEMBLY**

Cabinet 10 is assembled as follows: It is convenient to lay front panel 11 face down on a suitable supporting surface. Side panels 12 and 13 are then slid so that tongues 29 engage grooves 25 and 26. Side panels 12 and 13 are then slid so that the slots 31 and 32 are generally aligned with slots 27 and 28 so that top and bottom panels 16 and 17 can be slid through the inter slots and forwardly into slots 27 and 28 to thereby lock the side panels vertically with respect to front panel 11. Back panel 15 is then slid onto the rear side panels 16 and 17 until its front edge lies within slot 30 to thereby lock side panels 32, 33 vertically with respect to front panel 31. Back panel is then slid onto the rear side panels 32, 33, slots 99 engaging the sides of back panel 37. Side panel 101 is adjusted so that its upper edge abuts the underside of top panel 38. When assembled, additional strips 111, 112 are fastened to the top and bottom outer side of back panel 38 and serve to give it additional support when it is nailed to a wall.

**WALL CABINET ASSEMBLY**

The wall cabinet is assembled by sliding side panels 82, 83 onto front panel 81 so that the tongues 98 engage the slots 93, 94. Side panels 82, 83 are adjusted so that slots 101, 102, 103 and 104 are in registry with slots 96, 97. Then bottom panel 86 is slid forwardly through slots 105, 107 until its front edge lies within slot 97 to thereby lock side panels 83, 84 vertically with respect to front panel 81. Back panel is then slid onto the rear side panels 82, 83, slots 99 engaging the sides of back panel 87. Back panel 87 is lowered to a position such that its upper edge lies below slots 101, 102. The top panel 88 is then slid through slots 105, 107 until its front edge projects into slot 96. Then back panel 87 is lifted upwardly until it overlaps the top panel 84. The spacing of the strip 112 from the top edge of the back panel is adjusted so that when back panel 87 is lifted upwardly until the top edge of strip 110 contacts top panel 84, and back panel 87 is correctly positioned vertically with respect to the remainder of the cabinet. Reversing the assembly, procedure of top, bottom and back panels will reverse the direction of door opening of the wall cabinet.

Adjustable shelves 116, 117 are inserted on metal shelf pins 118 provided in pre-drilled holes to receive same in the side panels 82, 83.

It will be seen that the tongue and groove interlocking joints formed between side panels 82, 83 and front panel 81 and the projection of the front edges of top and bottom panels 84, 86 into slots 96, 97 locks the side panels and front panels together as a rigid unit. The back panel 87 is not free to be moved upwardly (nor the cabinet downwardly) since the upper edge of strip 110 is in contact with top panel 84 to support the entire cabinet. Thus, when back panel 87 is nailed to a wall as in a common kitchen installation, the wall cabinet cannot be removed or disassembled without unmounting it from the wall.

While I have shown the invention as incorporated in a base cabinet, drawer and wall cabinet, it will be understood that the invention is not limited to the details of
construction shown and that other forms or combinations can be used without departing from the spirit and scope of the invention. For example, while there are shown certain joints as having been formed in dovetail configuration, it will be understood that other interlocking configurations may be used provided they are capable of locking engagement with each other. The dovetail joint shown is preferred, however, since it is reasonably easy to make with commonly available power tools.

Further, it is obvious to those skilled in the art that many of the tongue and groove joints employed in my cabinet assemblies can be reversed in structure; that is to say, by overlapping the parts in opposite order and then exchanging the positions of the tongues and slots.

I claim:

1. In a knock-down cabinet construction, a front panel having a pair of spaced parallel dovetail grooves formed therein on its inner side and spaced parallel upper and lower grooves also formed on its inner side, a pair of spaced side panels having dovetailed front edges seated in the dovetailed grooves in said front panel, said side panels each having spaced upper and lower dovetail grooves formed therein on their inner sides, top and bottom panels having dovetailed side edges seated in the upper and lower dovetailed grooves in said side panels and having their front edges seated in said upper and lower grooves in said front panel to prevent sliding movement of the front panel relative to the side panels, the seating of said front edges in the upper and lower grooves of said front panel preventing movement of the front edges of the side panels in the dovetailed grooves of the front panel, said side panels each having grooves therein adjacent the rear edge on the underside thereof and a rear panel having its side edges seated in the grooves of the side panel adjacent their rear edges, said rear panel overlapping the rear edges of the top and bottom panels and preventing the top and bottom panels from being shifted in the grooves in said side panels.

2. A cabinet as in claim 1 together with a plurality of shelf panels, said side panels having dovetailed grooves formed on the inner sides thereof, said shelves having dovetailed side edges seated in the dovetailed grooves in said side panels and wherein said shelves are held in place by said back panel.

3. A construction as in claim 1 wherein said front panel has a drawer slidably mounted therein.

4. A construction as in claim 1 wherein said front panel has a door therein to permit access to said shelves.

5. In a knock-down wall cabinet construction, a front panel, a pair of spaced side panels, said front panel and said pair of spaced side panels having means forming first and second joint means interlocking said side panels to said front panel but permitting sliding movement between the same, a top and bottom panel, means carried by the top and bottom panels and by the side panels forming third and fourth joint means interlocking said top and bottom panels with said side panels but permitting a sliding movement relative thereto, cooperative locking means carried by the front panel and the top and bottom panels preventing a sliding movement of said front panel relative to said side panels when said top and bottom panels are in place, a rear panel, means carried by the rear panel and the side panels forming fifth and sixth joint means interlocking said rear panel to said side panels but permitting sliding movement of the rear panel relative to the side panels, said rear panel, when in position, overlapping the rear edges of the top and bottom panels to hold the top and bottom panels in place.

6. A cabinet construction as in claim 5 wherein said back panel includes a strip extending across the inside and adapted to abut the top panel from the inside of the cabinet so that when fastened to a wall said back panel supports the cabinet through said strip and top panel.

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JAMES T. MCCALL, Primary Examiner.