Nov. 15, 1966 J. V. DUNCAN 3,285,684

CABINET CONSTRUCTION

Filed Aug. 6, 1965 3 Sheets-Sheet 1

FIG. 1.

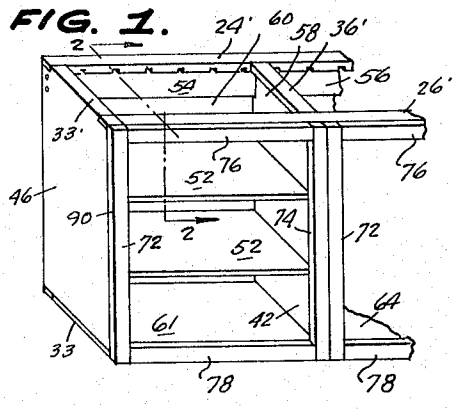


FIG. 4.

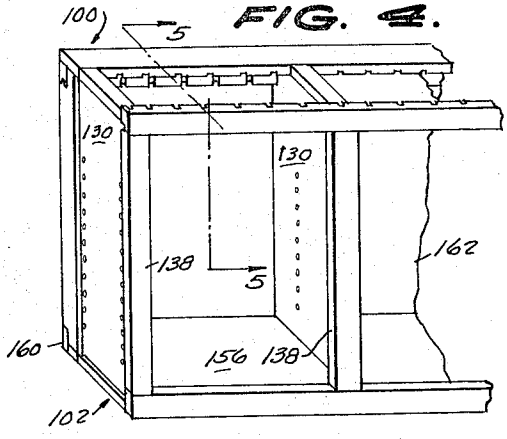


FIG. 2.

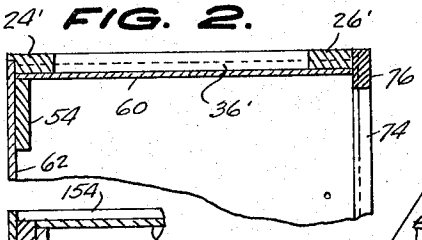


FIG. 5.

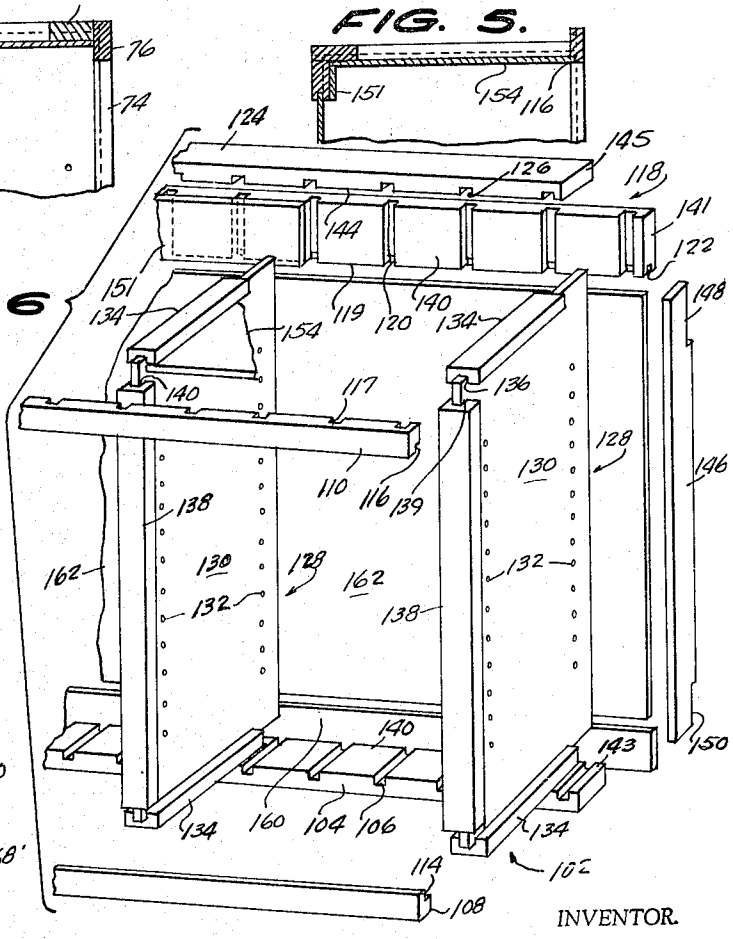


FIG. 6

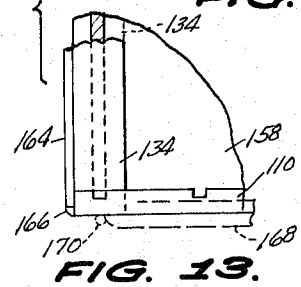
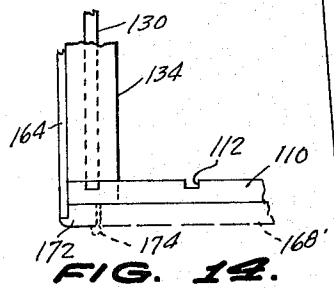


FIG. 13.

FIG. 14.



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Nov. 15, 1966 J. V. DUNCAN 3,285,684

CABINET CONSTRUCTION

Filed Aug. 6, 1965 3 Sheets-Sheet 2

FIG. 3.

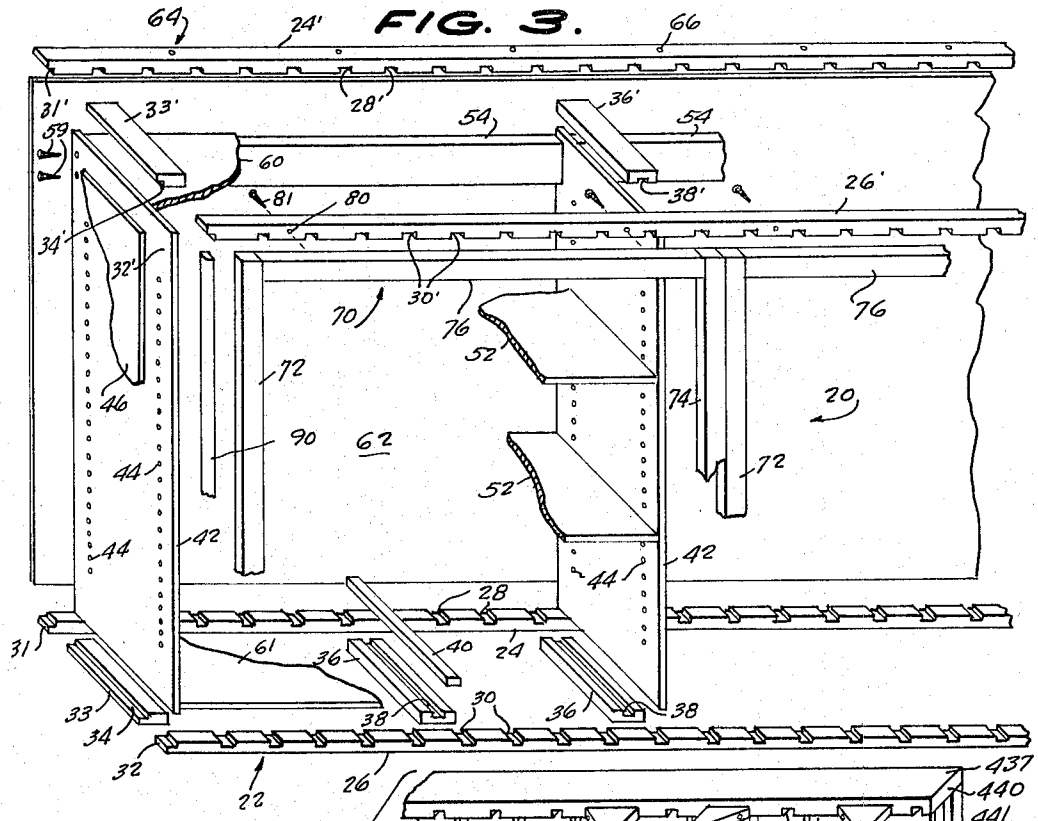
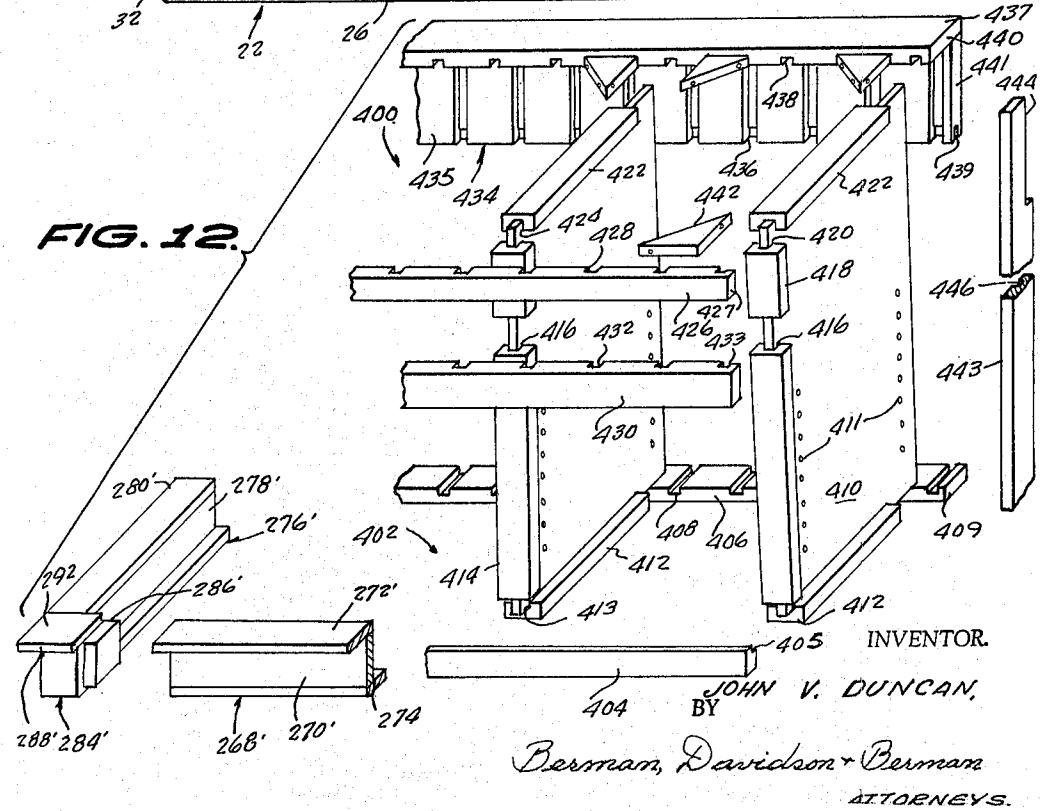


FIG. 12.



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Nov. 15, 1966 J. V. DUNCAN 3,285,684

CABINET CONSTRUCTION

Filed Aug. 6, 1965 3 Sheets-Sheet 3

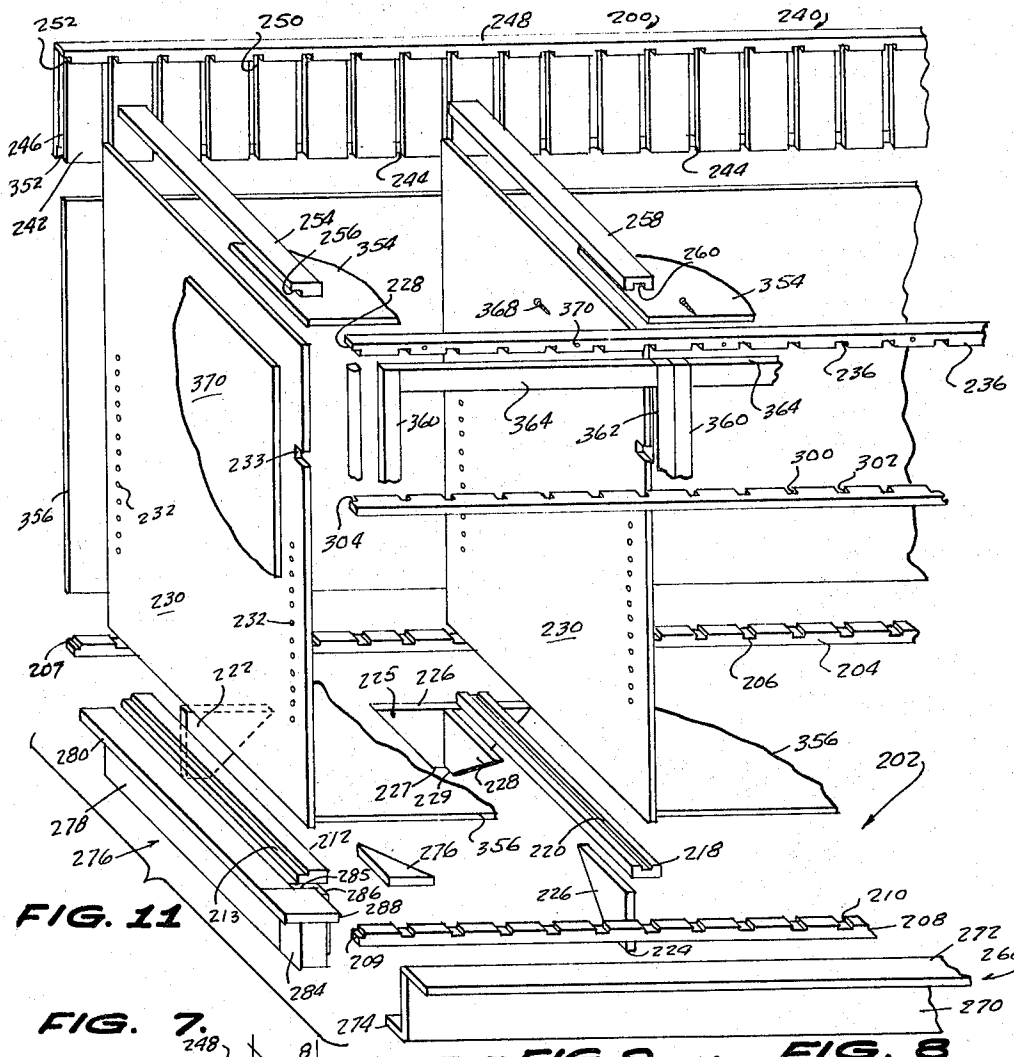


FIG. 11

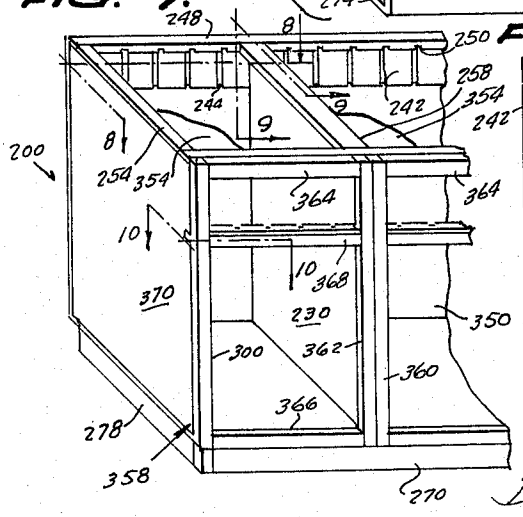


FIG. 7.

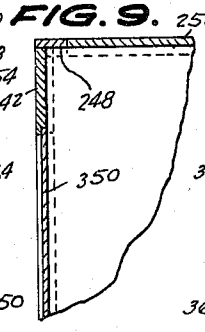


FIG. 9.

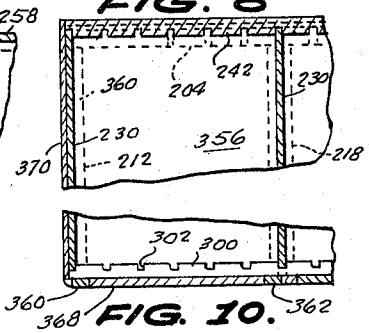


FIG. 8

FIG. 10.

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3,285,684
CABINET CONSTRUCTION

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Filed Aug. 6, 1965, Ser. No. 477,785
10 Claims. (Cl. 312—257)

This invention relates to the general field of cabinet making and, more specifically, the instant invention relates to custom-built cabinets suitable for domestic use.

One of the primary objects of this invention is to provide means or a system for constructing custom-built cabinets from a minimum number of basic elements which may be stockpiled in quantity in such a manner as to occupy but a minimum amount of space and, consequently, the means or system becomes especially suited for use by contractors and volume builders.

Another object of this invention is to provide means or a system for constructing custom-built kitchen cabinets of the wall or floor type from preformed and precut elements of standardized sizes.

It is still a further object of this invention to provide means or a system for making custom-built cabinets wherein the basic component elements of the invention are notched or grooved to permit rapid assembly of the cabinet through the use of stapling guns, pneumatic nailers, et cetera, or wherein the assembly can be as equally well accomplished through the use of simple basic tools, such as, for example, a saw, hammer, and screwdriver.

This invention has a still further object thereof, the provision of means or of a system for constructing custom-built wall and floor cabinets from basic component elements, the elements being preformed and being easily capable of transport whereby the cabinets may be assembled in situ.

The invention contemplates, as a still further object thereof, the provision of a means or a system for constructing wall or floor-supported cabinets, the wall or floor-supported cabinets being custom-built from preformed and pre-cut elements which are non-complex in construction and assembly, inexpensive to manufacture, and which are durable in use.

Other and further objects and advantages of the instant invention will become more evident from a consideration of the following specification when read in conjunction with the annexed drawings, in which:

FIGURE 1 is a perspective view of a cabinet constructed in accordance with one embodiment of this invention;

FIGURE 2 is a fragmentary, detail cross-sectional view, FIGURE 2 being taken substantially on the vertical plane of line **2—2** of FIGURE 1, looking in the direction of the arrows;

FIGURE 3 is a fragmentary exploded perspective view of the cabinet illustrated in FIGURE 1;

FIGURE 4 is a perspective view of a second embodiment of this invention;

FIGURE 5 is an enlarged detail cross-sectional view, FIGURE 5 being taken substantially on the vertical plane of line **5—5** of FIGURE 4, looking in the direction of the arrows;

FIGURE 6 is a fragmentary exploded, perspective view of the cabinet shown in FIGURE 4;

FIGURE 7 is a fragmentary perspective view of a third embodiment of this invention;

FIGURE 8 is an enlarged fragmentary detail cross-sectional view, FIGURE 8 being taken substantially on the horizontal plane of line **8—8**, looking in the direction of the arrows;

FIGURE 9 is an enlarged fragmentary detail cross-sectional view, FIGURE 9 being taken substantially on the vertical plane of line **9—9** of FIGURE 7, looking in the direction of the arrows;

FIGURE 10 is an enlarged fragmentary, detail cross-sectional view, FIGURE 10 being taken substantially on the horizontal plane of line **10—10** of FIGURE 7, looking in the direction of the arrows;

FIGURE 11 is a fragmentary enlarged, exploded perspective view of the cabinet shown in FIGURE 7;

FIGURE 12 is a fragmentary, exploded perspective view of a fourth embodiment of this invention;

FIGURE 13 is a fragmentary top plan view of the left-hand side of the cabinet shown in FIGURE 12, parts being broken away to illustrate the details of the construction thereof;

FIGURE 14 is a fragmentary top plan view similar to FIGURE 13, but showing a modified hinge connection for the cabinet doors.

Referring more particularly to FIGURES 1 to 3, inclusive, reference numeral **20** denotes, in general, a cabinet constructed in accordance with the teachings of this invention, and the cabinet **20** is seen to comprise an elongated substantially open rectangular bottom frame **22** which includes a pair of laterally-spaced, elongated, parallel, flat, substantially rectangular side frame members **24, 26** each having a plurality of transversely-extending U-shaped grooves **28, 30**, respectively, formed in a side thereof, the grooves **28, 30** being spaced longitudinally from one another at regularly-spaced intervals and being of uniform size. Adjacent ends of the grooves **28, 30** are disposed in confronting and aligned relation relative to one another.

The rectangular side frame members **24, 26** are preformed with the grooves **28, 30**, the side frame members **24, 26** being preferably formed of wood or other similar inexpensive material and may be of any desired lengths. Since the side frame members are formed of wood, or of a wood composition, the same are easily cut with a saw to obtain strips thereof of desired lengths in accordance with the desired dimensions of the cabinet lay-out.

The opposed ends of the side frame members **24, 26** are each formed with an upwardly-facing rabbet **31, 32**, and the rabbets **31, 32** may be easily provided by cutting through the side frame members **24, 26** at a side of preselected ones of the grooves **28, 30**.

The opposed pairs of ends of the side frame members **24, 26** are connected together by a pair of elongated, flat, substantially rectangular end frame members **33** (only one being shown), and each end frame member **33** is formed with an outwardly-facing longitudinally-extending rabbet **34**. The end frame member **33** is preferably formed of a strip of wood with the rabbet **34** preformed therein, and the strip is then merely cut in accordance with the predetermined width of the cabinet as required by the previously made lay-out plan. Conventional means, such as, for example, an adhesive may be utilized in making the connection between the side frame members **24, 26** and the end frame member **33**.

Interposed between the side frame members **24, 26** intermediate the ends thereof, and at preselected longitudinally-spaced intervals relative thereto, is one or more elongated, substantially rectangular spacer blocks **36** each having a longitudinally-extending, upwardly-facing and medially-positioned groove **38** formed therein and extending throughout the length thereof. The spacer blocks **36** are preformed with their respective grooves **38**, the spacer blocks **36** being cut from its preformed strip to the desired length in accordance with the predetermined width of the cabinet to be constructed.

The spacer blocks **36** are disposed perpendicular to the side frame members **24, 26** with the groove **38** of each block preferably aligned with a pair of grooves **28, 30**. One or more of the spacer blocks **36** have their respective ends fixedly-connected to the side frame members **24, 26**

by conventional means such as, for example, a glue, while others may be connected thereto by elongated, substantially rectangular splines **40** which extend through the aligned grooves **28, 30, 38**, and may be adhesively secured therein. Splines **40** are preformed of a wood strip of any convenient length which may be then sawed at a predetermined point to obtain the desired length of the spline. It will be understood, of course, that the spacer block **36** may be assembled with a spline **40** before introduction into the frame **22**.

Reference numeral **42** denotes a vertically-elongated, substantially rectangular partition wall provided with a plurality of longitudinally-spaced openings **44** along each longitudinally-extending marginal edge thereof. The openings **44** are adapted to receive the customary brackets (not shown) for supporting shelving to be described. The partition wall **42** can be preformed from plywood or other suitable rigid material and in numbers dependent entirely upon the number of compartments each cabinet is to contain.

Reference numeral **46** designates a vertically-elongated, substantially rectangular finish panel which may be preformed of a plywood composition having a finished side. Depending upon the installation of the cabinet, that is, if one or two ends of the cabinet are to be exposed to view, one or two of the finish end panels **46** will be required. The finish end panels **46** are of sufficient size (that is, slightly larger than the partition walls **42**) in order that the same may be made to cover the edge of the end frame members **33** and **33'** and the edge of the back panel **62**.

A plurality of elongated, substantially rectangular shelves **52** are shown in FIGURES 1 and 3. The shelving, again, may be formed of any desirable lightweight wood, wood composition, plastic or other similar compositions or materials, and may be pre-cut in accordance with the specification of each compartment to be formed in the cabinet **20**.

At **54** is designated one of a plurality of elongated, substantially rectangular hanging strips. The hanging strips **54** are of such length as to extend between each adjacent pair of partition walls **42**. Here, again, the lengths of the hanging strips **54** will vary, depending upon the length of each compartment.

Reference numeral **59** indicates a pair of wood screws, there being a pair of screws **59** for each end of the cabinet, the function of which will be described below.

Reference numerals **60, 61** denote top and bottom closure members formed of any suitable rigid material, the top and bottom closure members **60, 61** being horizontally-elongated with the dimensions of each being identical, but the same may vary in length from one compartment to the next adjoining compartment.

Reference numeral **62** indicates an elongated, substantially rectangular back wall of such length and width as to span across one or more of the compartments in the cabinet **20** in a manner to be described below. Each back wall **62** may be formed by cutting a preformed sheet of wood or plastic composition.

An elongated, substantially open top rectangular frame is designated by the reference numeral **64**. The frame **64** is substantially identical to the frame **22**, with but two exceptions. Consequently, identical reference numerals have been employed with a prime mark added to differentiate the frame members **64** and to identify the component elements of each frame from one another. One of the exceptions to which reference has been made above, comprises the provision of preformed nail or screw holes **66** which extend transversely through the side frame member **24'** at longitudinally-spaced intervals.

The second exception comprises the provision of screw holes **80** in the side frame member **26'**, the holes extending from edge-to-edge and receive screws **81** therethrough.

Reference numeral **70** designates a substantially open rectangular front finish frame comprising a pair of oppositely-disposed, elongated, laterally-spaced, substantially parallel and rectangular side frame members **72, 74** between the upper and lower pairs of ends of which are disposed and connected the adjacent pair of ends of elongated, vertically-spaced, parallel and substantially rectangular top and bottom frame members **76, 78**. The adjacent ends of the frame members may be glued or otherwise connected together by conventional means.

A front finish frame **70** will be provided for each compartment of the cabinet **20**, and hence, as the compartments vary in dimensions, each frame **70** must vary accordingly. However, the front finish frames **70** may be pre-assembled as a unit in such numbers as are required. The pre-assembled prefabricated finish frames have a width substantially equal to the distance between the center lines of each adjacent pair of partition walls **42**.

The upper and lower ends of the frames **70** are flush with the upper side of the front side frame member **26'** and with the underside of the lower front side member **26**.

This type of cabinet may be constructed in situ or in the shop, as preferred. The standardization of the prefabricated elements, that is, the frame members **24, 26, 24', 26'**, the dividers or spacers **33, 36**, the splines **40**, and the partition walls **42** serves to economize in time and material costs. For example, and in connection with volume building, it is only necessary to transport to the building site a plurality of elongated prefabricated slotted strips of material such as is exemplified by the elements **24, 26, 24', 26'** from which may be cut the identical side frame members.

Since the height and width of the cabinet **20** are predetermined by the dimensions of the preformed partition walls **42** which are also transported to the site of the building, the end frame members **33, 33'** could be precut and transported to the building location or could be cut from lengths of material at the building site, the end frame member **33, 33'** being severed from lengths of material having the transverse cross-sectional configuration illustrated. The same is also true of the spacer blocks **36, 36'** and splines **40**. The length of the back wall **62** may be cut from a sheet of prefabricated material at the site as well as the construction of the shelving **52**. The lengths of the back wall **62** and the shelving **52** are, of course, dependent upon the length of the cabinet **20** and the spacing desired between the partition walls **42**. The top and bottom rectangular closure walls **60, 61** may also be severed from a prefabricated sheet of material.

As has been indicated as one of the several objects of the invention, one of the primary objects set forth is to provide a cabinet which may be constructed with an economy of time and materials. While the cabinet **20** may be assembled through various method steps, the following procedure is recommended.

Assuming that all of the materials required for constructing the cabinet are made available to the cabinetmaker at the building site in which a plurality of cabinets **20** are to be constructed, the craftsman selects any one of the side frame members **24, 26, 24', 26'** and places it along the wall which is to be cabineted. The desired length of the cabinet **20** is now marked off on the selected side frame member, and this member is also marked at each notch where one of the partition walls **42** is to be placed. The other three of the side frame members are now placed in side-by-side relationship relative to one another and with respect to the marked one thereof, the other three side frame members are correspondingly marked. For the convenience of assembly, all marks should be so placed as to be visible by the cabinetmaker. In accordance with the markings, the four side frame members **24, 26, 24', 26'** are now cut to the desired length.

The assembly of the cabinet **20** at this point may be facilitated through the use of a sawhorse or other support (not shown) having a height approximately equaling the height of the cabinet **20**. One end of the back top side frame member **24'** is now placed on the support with the

notches 28' facing downwardly. Then, beginning at the other end of the back top side frame member 24', the marked notched portions 28' are fitted over one of the partition walls 42, respectively, and the side frame member 24 is then glued or otherwise secured thereon through a mechanical fitting such as, a nail, the back edge of the side frame member 24' being mounted flush with the back edge of the wall 42.

A partition wall 42 is, of course, fitted below the rabbet 31' at the opposed ends of the side frame member 24'.

The spacer blocks 36' and 33' are now placed on top of each partition wall 42 and are fixedly secured thereon as by an adhesive. The spacer blocks 33', 36' are pushed along the upper edge of the partition wall 42 until the same abut against the longitudinally-extending side frame members 24'. The longitudinally-extending side frame member 26' is now placed on the partition walls 42 with the latter engaging within the marked notches 30'. Here, again, an adhesive may be employed or any other means to secure the side frame member 26' to the partition walls 42. It is to be understood, of course, that when assembling the side frame member 26' on the partition walls 42, the side frame member 26' is pushed inwardly over the top edge thereof until it abuts against the ends of the spacer blocks 33', 36'. These series of operations result in the assembly of the frame 64 together with the attached partition walls 42 utilizing a minimum amount of adhesive and with but few, if any, mechanical fasteners, and with the expenditure of a minimum of effort and time.

With the top side frame 64 assembled as described on the partition walls 42, the frame 64 together with the partition walls 42 are inverted 180° about the longitudinal axis of the frame 64. The bottom front side frame member 26 is now adhesively or otherwise connected to the other ends of the partition walls 42 with those ends entering in the marked grooves 30. The dividers 33, 36 are now secured on the partition walls 42 in the same manner as described above in connection with the dividers 33', 36', and the bottom frame 22 is completed by connecting the bottom back side frame member to the partition walls 42, the walls 42 being received and secured within the marked grooves 28.

With this assembly still in its inverted position, the top closure members 60 are now inserted and adhesively secured to the members forming the top frame 64. The hanging strip or strips 54 are now inserted and are connected to adjacent pairs of the partition walls 42 as by an adhesive, or, and is the case of the hanging strip which abuts one of the end partition walls 42, additional securing means is afforded through the use of the screws 59 which extend through the end partition walls 42 and penetrate the adjacent end of the hanging strip 54.

The cabinet 20 as thus far assembled, is again inverted 180° about its longitudinal axis and the bottom closure members are now inserted and are fixedly secured, preferably by adhesive 61 to the frame 22.

The back wall 62 is now cut and is applied to the back of the cabinet 20, the back wall 62 being continuous and extending across the rear edges of each of the partition walls 42, and is, of course, of such width as to extend from the plane of the underside of the frame 22 to the plane of the upper side of the frame 64. The back wall 62 is adhesively secured to the frame members 22, 64 as well as to the hanging strips 54.

The prefabricated front finish frames 70 are now connected to the cabinet by means of the screws 81 which thread through the holes 80, and the frames 70 are also adhesively secured to the front edge of the partition walls 42 and to the front edge of the side frame member 26. It should be noted that in installing the frames 70, the remotely-disposed side frame members 72, 74 terminate on the center lines of the end partition walls 42. Adjacent side frame members 72, 74 are disposed in overlapping and abutting relation relative to the forward edge of each adjacent partition wall 42 with their respective abutting edges falling on the center line of the adjacent one of the partition walls 42. The cabinet 20 may now be fitted with any desired type of hinged door, such as those illustrated in FIGURES 13 and 14 and to which reference will be made below.

Preferably, and before the doors are mounted on the frame 70, vertically-extending quarter rounds 90 are adhesively secured in the corners formed by the side frame members 72, 74 at the end ones of the partition walls 42, and the other hardware which normally accompanies such cabinets is now installed.

A second embodiment of this invention is shown in FIGURES 4 to 6, inclusive, wherein reference numeral 100 denotes a wall cabinet formed of prefabricated elements which, as before, could be preassembled, if desired. The wall cabinet 100 comprises an open, elongated, substantially rectangular bottom frame 102 which includes an elongated, substantially rectangular back side frame member 104 having a plurality of transversely-extending, upwardly-facing and longitudinally-spaced U-shaped grooves 106 formed therein. This element is identical to the side frame members 24, 26 and 24', 26'. Reference numeral 108 denotes an elongated, substantially rectangular front side frame member disposed in laterally-spaced and substantially parallel relationship relative to the back frame member 104. The front side frame member 108 and the front side frame member 110 of the open top frame indicated at 112 are identically constructed, but are inverted relative to one another, and each is provided with confronting rabbets 114, 116 opening upwardly and downwardly, respectively, and each is formed with transversely-extending grooves 117, which are open at their inner ends into the rabbets 114, 116. Only the U-shaped grooves 117 of the side frame member 110 are visible in the drawings, but it will be understood that similar grooves are formed in the front side frame member 108.

The top frame includes a compound back side frame member 118 which comprises an elongated, substantially rectangular element or back side frame member 119 in which are cut a plurality of longitudinally-spaced, transversely-extending, inwardly-opening and vertically-extending grooves 120. The back side frame member 119 includes a continuous downwardly-opening, centrally-located groove 122 which is adapted to serve a function to be described.

Reference numeral 124 designates an elongated, substantially rectangular back frame extension member identically constructed with respect to the back side frame member 104. As is seen in the several figures, the back frame extension member 124 is formed with a plurality of longitudinally-spaced, transversely-extending, downwardly-opening, substantially U-shaped grooves 126. The back side frame element 119 has the edge opposite the groove 122 fixedly secured as by an adhesive to one of the longitudinally-extending marginal edges of the extension frame member 124 with the grooves 120 at the upper or inner ends thereof being in open communication with the grooves 126 at the back or outer ends thereof. The back or side frame member 119 with the extension frame member 124 are prefabricated and preassembled to comprise the back side frame member 118.

The cabinet 100 also includes a plurality of partition wall assemblies. Each assembly is prefabricated and preassembled for eventual inclusion in the cabinet 100. As is seen in FIGURES 4, 5 and 6, the partition wall assemblies are generally designated by reference numeral 128 and are seen to include a substantially rectangular partition wall 130 through which extends a plurality of vertically-spaced, longitudinally-extending openings 132 adjacent each longitudinally-extending marginal edge thereof.

Reference numeral 134 designates, in general, elongated, horizontal substantially rectangular spacer blocks each having a longitudinally-extending, centrally-located groove 136 extending throughout its length. The spacer blocks

134 are adapted to receive the upper and lower ends of the partition walls 130 within the grooves 136 and the blocks 134 are fixedly secured thereon as by an adhesive. The spacer blocks 134, as is seen in FIGURE 6, terminate at points disposed adjacent to and spaced inwardly from the longitudinally-extending upright edges of the partition walls 130. It will be immediately recognized that the spacer blocks 134 are identical to the spacer blocks 36, 36' and could, therefore, be cut from the same strip of pre-grooved material.

Similar elongated, vertically-extending, substantially rectangular spacer blocks 138 having longitudinally-extending, centrally-located grooves 139 formed therein are provided and are adapted to receive the forwardly-facing, longitudinally-extending, edge of the partition walls 130 therein. The spacer blocks 138, as is seen in FIGURES 4 and 6, terminate at points adjacent to, but spaced from the upper and lower edges of the partition walls 130.

In grooving the frame member 119, lands 140 are provided and these lands, at one or both ends thereof, are cut or severed to provide abutments 141. The end lands 142 of the back side frame member 104 are also severed to form the abutments 143, and the back frame extension member 124 has the end lands 144 also severed to form the abutment or shoulder 145.

Reference numeral 146 designates one of a pair of vertically-elongated, substantially rectangular filler strips having an upper, inwardly-extending notch 148 and a lower inwardly-extending notch 150, the notches 148, 150 extending inwardly from the rear edges of the filler strips 146. The notches face in the same direction and serve a purpose to be described.

Reference numeral 151 designates an elongated, substantially rectangular cover strip pre-cut according to specifications, to extend between adjacent pairs of panels.

Reference numerals 154, 156 designate, in general, elongated, substantially rectangular top and bottom closure walls, respectively, which are pre-cut to the dimensions of a given compartment forming a part or the whole of the cabinet 100.

Reference numeral 160 designates an elongated, substantially rectangular leveling strip to which further reference will be made.

As in the previous embodiment of this invention, a continuous back wall 162 having a substantially rectangular configuration is employed to extend across one or more of the compartments of the cabinet 100.

The assembly of the cabinet 100 follows, preferably, the indicated mode of assembly employed in constructing the cabinet 20. For example, any one of the side frame members 118, 108, 104 or 110 could be laid against the wall to be cabineted and the desired length marked thereon and with the appropriate grooves which are to receive the partition walls 128 would also be marked. The marked side frame member would then be placed in juxtaposition relative to the other three side frame members, and the remaining three marked accordingly. All side frame members would then be cut to the desired length. In constructing the cabinet 100, it is preferable to initiate the construction by using the compound back side frame member 118. One end of this member is preferably supported on a sawhorse, or other suitable support and, starting with the other end of the compound member 118, the rear and upper rear edges of one of the partition walls 130 are engaged within the grooves 120 and 126 at the pre-marked intervals. It is preferable that the compound top back frame member be first used in the assembly, since it affords a greater support.

The top front side frame member 110 is now engaged over the upper front corners of the performed panels 128, the same being engaged within the appropriate marked ones of the grooves 117. The top back side frame member and top front side frame members are adhesively secured in place or other fastening means may be used if desired, and thereafter, the cabinet 100 is inverted 180° about it longitudinal axis. The bottom front frame member 108 is now applied to the lower front corners of the partition walls 128 in the same manner as was the top front side frame member 110, and the back lower side frame member 104 is now applied to the lower edges of the partition walls 128 at the rear sides thereof. With the assembly of the cabinet 100 as thus far described, still in its inverted position, the top closure walls 154 are now inserted and adhesively secured in the rabbet 116 and against the undersides of the spacer blocks 134, and to the underside of the extension member 124.

The partially assembled cabinet 100 is now returned to its original position and the pre-cut bottom closure walls 156 are inserted and are adhesively connected in the rabbet 114 and to the upper sides of the dividers 134 at the lower ends of the partition walls 128, and to the upper side of the side frame member 104. The top back side frame member 119 actually constitutes the hanging stip which is now concealed from view by the cover strip 151 which has also been pre-cut, the cover strip being adhesively secured to the top side frame member in order that the grooves 120 may be concealed from view.

The upper edge of the continuous and pre-cut back wall 162 is now inserted in a longitudinally-extending groove 122, and it is seen in FIGURES 4 and 6 that the width of the back wall 162 extends to a point substantially flush with the underside of the back side frame member 104. The hanger strip 160 is now nailed to the rear edge of the back side frame member 104, the nails passing through the lower marginal edge of the back wall 162 to securely hold the same in place.

The back wall 162 may be optionally glued or nailed to the rear edges of the partition walls 128.

The filler strips 146 are now applied to the sides of the cabinet, the upper notches 148 thereof engaging about the top back side frame member 119 and the lower notches 150 receiving therein the opposed ends of the leveling strip 160.

Doors of the type shown in FIGURES 14 and 13 may now be hung and other hardware supplied in accordance with the needs of the user.

An end finish panel 164 may now be adhesively secured to the outer sides of the spacer blocks 134, 138 at the extreme ends of the cabinet 100 and to the outer sides of the filler strips 146. As is seen in FIGURE 13, the finish panels 164 extend partially across the remotely-disposed ones of the spacer blocks 138 to form a hollow border which is closed by the vertically-extending quarter round 166. The open front of the cabinet 100 may be closed by means of a substantially rectangular door 168 shown in phantom lines in FIGURE 13. In this instance, the door 168 is hingedly connected to one of the outermost ones of the spacer blocks 138 as at 170. Again, and if desired, a door 168' may be hingedly connected to the spacer blocks 138 through the use of mounting strips 172 and a butt hinge 174 as shown in FIGURE 14.

FIGURES 7 to 11, inclusive, illustrate a third embodiment of this invention. The cabinet illustrated in these figures is of the floor-supported type and is designated, in general, by reference numeral 200. The cabinet 200 is seen to comprise an open, substantially rectangular bottom frame 202 which includes a back side frame member 204 having a plurality of longitudinally-spaced, transversely-extending, upwardly-opening, substantially U-shaped grooves 206 formed therein. As is seen in FIGURE 11, the ends of the back side frame member 204 are rabbeted as at 207. The frame 202 also includes an elongated, substantially rectangular front side frame member 208 rabbeted at its ends, as at 209, and provided with a plurality of longitudinally-spaced, transversely-extending, upwardly-opening, substantially U-shaped grooves 210. The adjacent pairs of ends of the back and front side frame members 204, 208, respectively, are connected

together by means of an elongated, substantially rectangular end frame member **212** preformed to provide outwardly-facing rabbets **213**. As in the preceding embodiments of this invention, the grooves **206**, **210** confront and are aligned with one another, and the rabbeted ends of the back and front frame members **204**, **208**, respectively, are aligned with the rabbet **213**.

The open frame **202** may be reinforced by triangular braces **216** which are also prefabricated, the braces being right-angled and disposed at the inner corner of the junction of the side frame member **208** with the end frame member **212**. Any conventional means may be employed in making this connection.

Reference numeral **218** designates one of a plurality of elongated, substantially rectangular spacer blocks, each having a longitudinally-extending, upwardly-opening, substantially U-shaped groove **200** formed therein. This is also in accordance with the teachings of the preceding embodiments of this invention.

As in the embodiment shown in FIGURE 1, the spacer blocks **218** are disposed longitudinally of the side frame members **204**, **208** at preselected intervals, it being understood that the grooves **220** will be aligned with preselected pairs of grooves **206**, **210**, and that the spacer blocks **218** are fixedly secured by conventional means to the side frame members **204**, **208** in a manner described above. Preferably, each of the spacer blocks **218** has fixedly secured thereto a depending, substantially triangular support block **222**, each having a lower substantially horizontal flat side **224**. With respect to the front frame side member **208**, the support blocks **222** are substantially perpendicular. However, the same support blocks are fixedly secured to the back side frame member **204** and extend substantially parallel thereto at any desired spaced interval.

Each of the spacer blocks **218** at the back or rear ends thereof and to the back side frame member **204** is secured a further preformed floor support and brace **225**. Each of the braces **225** includes a frusto-pyramidal block which is inverted, the apex end thereof facing downwardly for engagement with the floor. To the support block **225**, and centrally thereof, is secured the base end of a triangular support block **228** identical in construction with respect to the triangular support block **222**. The support block **228** has a lower flattened side **229** disposed within the same plane as the plane of the end **227**. The two elements **226**, **228** comprise the brace or support means **225** and are preformed and pre-assembled. As is shown in FIGURE 11, the base of the element **226** extends parallel to the back side frame member **204** and the altitude of the triangular member **228** extends parallel to the longitudinal axis of the spacer block **218**.

Reference numeral **230** designates a plurality of vertically-elongated, substantially rectangular preformed partition walls, the walls **230** being provided with a plurality of vertically-spaced, transversely-extending, bracket-receiving openings **232**, as before, the openings being positioned adjacent each vertically-extending marginal edge thereof. As is seen in FIGURE 11, the front edge of each of the partition walls **230**, adjacent the upper ends thereof, is formed with an inwardly-extending notch **233**.

As is seen in FIGURE 11, the cabinet **200** includes an elongated, substantially rectangular top frame side member **234** having a plurality of downwardly-facing, longitudinally-spaced and substantially U-shaped grooves **236** formed therein. The grooves **236** are aligned with the grooves **210** formed in the front side bottom frame member **208**. The ends of the front side frame member **234** are rabbeted, as at **238**.

Reference numeral **240** indicates, in general, an elongated prefabricated back side frame member substantially L-shaped in configuration and includes a back side frame member **242** having an elongated, substantially rectangular configuration having a plurality of grooves **244** extending transversely thereacross at longitudinally-spaced intervals, and being rabbeted at its opposed ends as at **246**. The back side frame member **242** has its upper end fixedly secured as by adhesive to the longitudinal marginal edge of an elongated, substantially rectangular extension **248**. The extension **248** is disposed at substantially right angles to the back side frame member **242** and is formed with similar grooves **250** which open at their inner ends into the upper ends of the grooves **244**, and the extension **248** is rabbeted as at **252** at the opposed ends thereof. The rabbets **246** and **252** are, of course, parallel with one another.

Reference numeral **254** designates one of a pair of end frame members, the end frame member **254** being substantially rectangular and having formed therein a downwardly-opening, longitudinally-extending rabbet **256**. The end frame members **254** extend between the extension **248** and the front side frame member **234** and are fixedly secured thereto by conventional means.

A plurality of preformed spacer blocks **258** are provided, each spacer block **258** being formed with a downwardly-opening, longitudinally-extending groove **260**. The spacer blocks **258** have their respective opposed ends fixedly secured to the extension **248** and to the top front frame member **234**. The groove **260** is, of course, aligned with the grooves **244** and **250**.

At **268** is generally designated (see FIGURE 11) a pre-fabricated substantially Z-shaped elongated front kickboard which includes an elongated, substantially rectangular upright bight **270** from the upper longitudinally-extending end of which laterally projects a substantially rectangular aligning flange **272**. The lower end of the bight **270** terminates in a laterally-projecting, substantially rectangular fastening flange **274**. The flanges **272**, **274** project from the bight **270** at substantially right angles with respect thereto, but from opposite sides thereof.

Reference numeral **276** designates, in general, a prefabricated left-hand kickboard, it being understood that a similar right-hand kickboard is provided and is similarly constructed, but not shown herein. The right- and left-hand kickboards **276** each comprises a normally upright, elongated, substantially rectangular bight **278** from the upper edge of which laterally-projects an elongated, substantially rectangular flange **280**. The lower longitudinally-extending end of the bight **278** terminates in a laterally-projecting, substantially rectangular lower flange **282**. The flanges **280**, **282** are disposed at right angles with respect to the bight **278** and project therefrom in opposite directions.

The left- and right-hand kickboards **276**, at their respective forward or front ends are provided with a normally upright corner post **284**. The corner post **284** is substantially rectangular in configuration and has the upper end thereof disposed in the plane of the underside of the upper flange **280**. The lower end of the corner post **284** is disposed in the plane of the underside of the flange **282**. The inner corner of each of the corner posts **284** is thickened to provide the walls **285**, **286**, the walls **285**, **286** being adapted to extend between the planes of the underside of the flange **280** and the upper side of the flange **282**. To the upper end of the corner post **284** is fixedly secured a substantially rectangular plate **288**.

As is seen in FIGURE 11, the bight **278** abuts against the inner corner of the corner post **284** and is fixedly secured thereto and to the adjoining wall **285**.

The bight **278**, the flanges **280**, **282**, the corner post **284** together with its walls **285**, **286** and the plate **288** are preformed and are pre-assembled to take the form of the kickboard **276** as a single unit.

Reference numeral **300** designates an elongated, substantially flat, rectangular lock bar having a plurality of notches **302** formed therein at longitudinally-spaced intervals. Each lock bar **300** is provided with a rabbet **304** at the opposed ends thereof.

As is seen in the drawings, the notches **302** and rabbets **304** are adapted for engagement within the notches **233** formed in the partition walls **230**.

To assemble the cabinet **200**, the top back side frame member **240** is mounted on the upper corners of the partition walls **230** in the manner previously described. Thereafter, the spacer blocks **254**, **258** are added to the upper edges of the partition walls **230**. This is then followed by the addition of the top front side frame member **234**. The lock bar **300** is now connected in the notches **233** of the partition walls **230** and the partially completed cabinet is now inverted. The front side frame member **208** is now mounted on the opposed end of the partition walls **230** after which the spacer blocks **212**, **218** are mounted on the partition walls **230** and this, in turn, is followed by the addition of the back side frame member **204**. The prefabricated top closure walls **354** are now inserted and secured to the frame members **240**, **254**, **258** and **238**. The end kickboards **276** are now applied by first aligning the edge of thet flange **280** flush with the front edge of the lower front longitudinally-extending member **208**. A piece of kickboard **268** is then cut to fit between the front faces of the blocks **284** at each end of the cabinet. It is glued and fastened to the cabinet, aligning the front edge of the flange **272** flush with the front edge of the lower front side frame member **208**. As needed, braces **222** are glued and slid along the spacer blocks **218** and under the flange **274**, and are fastened to the same. One longitudinally-extending marginal edge of a back wall **350** is now fitted into the groove **352** formed in the frame member **242** and is secured therein, the other longitudinally-extending marginal edge of the back wall **350** being fixedly secured to the outer edge of the side frame member **204**.

The cabinet thus far assembled is now returned to its original position after which preformed and pre-cut bottom walls **356** are inserted and secured in the manner described above. The preformed face frames comprising the elements **360**, **362**, **364**, **366** are now secured to the front edge of the cabinet by means of the screws **368** and through adhesive, and the desired doors and other hardware may now be applied. The end partition walls **230** are finished, as before, by means of finish panels **370** which ride in the rabbets **256** and **313** together with the adjacent ones of the panels **230**.

A fourth embodiment of this invention is illustrated in FIGURE 12. In this embodiment, also comprising a floor-supported cabinet, the cabinet is designated, in general, by the reference numeral **400**. The cabinet **400** comprises a bottom frame **402** which includes a longitudinally-extending, substantially rectangular front side frame member **404** having a longitudinally-extending rabbet **405** at a corner thereof. The longitudinally-extending front frame member **404** is identically constructed with respect to the front side frame member **110** shown in FIGURE 6, and also includes a plurality of vertically-extending grooves (not shown) as indicated at **117** in the element **110** of FIGURE 6. The bottom frame **402** includes an elongated, substantially rectangular back side frame member **406** having a plurality of longitudinally-spaced and transversely-extending, upwardly-facing slots **408** formed therein.

Reference numeral **410** connotes a plurality of vertically-elongated, substantially rectangular partition walls each of which is provided with a plurality of vertically-spaced, transversely-extending bracket-receiving openings **411** disposed adjacent each vertically-extending marginal edge thereof.

As in the preceding embodiments of this invention, the bottom frame **402** is provided with a plurality of elongated, substantially rectangular dividers **412**, each of which is formed with a longitudinally-extending centrally-located, upwardly-facing groove **413**. The divider members **412** receive the lower ends of the partition panels **410** within their respective grooves **413** and are fixedly secured thereto as by an adhesive or other suitable means. The lower rear edge of the spacer panels **410** are received within the grooves **408** in the back side frame member **406**, the entry being made in the grooves which have been previously marked. In a similar manner the forward corners at the lower ends of the partition walls **410** are received within the grooves formed in the front side frame member **404**.

Reference numeral **414** designates, in general, a plurality of vertically-elongated, substantially rectangular vertical spacer blocks each of which is provided with a longitudinally-extending, centrally-located groove **416**. The vertically-extending partition walls **410** and extend upwardly from a point adjacent to, but spaced from the lower edge of the partition walls **410**. The spacer blocks **414** are fixedly secured to the partition walls **410** as by an adhesive.

Reference numerals **418** designate additional elongated, substantially rectangular spacer blocks having longitudinally-extending grooves **420** formed therein. The spacer blocks **418** are mounted on the front edge of the partition walls **410** in spaced relation relative to the upper end of the spacer blocks **414** and terminate at points adjacent to, but spaced from the upper front corner of the partition walls **410**.

Reference numerals **422** designate a plurality of elongated, substantially rectangular divider blocks or members having downwardly-opening, longitudinally-extending grooves **424** formed therein The divider blocks **422** are adapted to engage over the upper edges of the partition walls **410** in spaced relationship relative to the front and rear edges thereof. The spacer blocks **422** are adapted to be fixedly secured to the upper edges of the partition walls **410** as by a suitable adhesive.

An elongated, substantially rectangular top side frame member is indicated at **426**, the side frame member **426** being provided with a plurality of longitudinally-spaced, transversely-extending grooves **428** which open inwardly of the cabinet **400**. The outer terminal ends of the top frame members **426** terminate in an end wall **427** adjacent the outermost ones of the grooves **428**.

Reference numeral **430** denotes, in general, an elongated, substantially rectangular lock bar member also having a plurality of transversely-extending, longitudinally-spaced, substantially U-shaped grooves **432** formed therein and facing inwardly of the cabinet **400**. The opposed ends of the lock bar member **430** terminate in end walls **433**.

At **434** is indicated an elongated, inverted, substantially L-shaped back frame side member, the top back frame side member **434** including an elongated, substantially rectangular wall **435** provided with a plurality of inwardly-facing, longitudinally-spaced, transversely-extending, U-shaped grooves **436**. To the upper edge of the top back side frame member **434** is fixedly secured the longitudinally-extending marginal edge of a second elongated, substantially rectangular extension member or element **437** having a plurality of longitudinally-spaced, downwardly-opening, substantially U-shaped grooves **438** formed therein. The upper ends of the grooves **436** are in open communication with the inner ends of the grooves **438**, and the grooves **436**, **438** are parallel with respect to one another. The lower edge of the back top side frame member **435** is formed with an upwardly-extending, longitudinal and continuous groove **439**. As is seen in FIGURE 12, the opposed ends of the extension **437** terminate in end walls **440** which are perpendicular to the end walls **441** formed in the top back wall side frame member **434**.

The top frame **434** also includes a plurality of substantially triangular corner braces **442**. The corner braces **442** may be used at the junction of the top frame member **426** with any one of the spacer blocks **422**, and at the junction of the latter with the extension **437**.

At **443** is designated an elongated, substantially rectangular filler strip having a notch **444** formed at the upper end thereof, and a longitudinally-extending, substantially U-shaped channel **446** is centrally located between the opposed edges thereof.

As in the preceding embodiments of this invention, all of the component elements of the embodiment of the cabinet shown in FIGURE 12 are preformed. An inspection of FIGURES 11 and 12 discloses that there are certain elements shown therein common to each. Therefore, to distinguish between the elements of each figure, the same reference numerals have been employed in FIGURE 12, but to these reference numerals a prime mark has been added.

To assemble the cabinet **400** the composite back side frame member **435, 437** is first mounted on the upper back corners of the partition walls **410** after which the top front frame member **426** is connected to the upper front corners of the partition panels **410**. The braces **442** may then be assembled at desired points. The lock bar **430** now may be connected on the front edges of the partition walls **410**, and after this construction has been made, the partially complete cabinet **400** is now inverted 180° about its longitudinal axis. The front bottom side frame member **404** is now mounted on the partition walls **410** and this is followed by the connection of the back bottom side frame member **406**. Pre-cut top closure walls (not shown) may now be inserted, if desired, and connected with the underside of the top frame after which the kickboards **268', 276'** are applied to the bottom wall in the same manner as described in connection with the invention of FIGURES 7 to 11, inclusive. One longitudinally-extending marginal edge of a back wall (not shown) is now inserted in the groove **439** and secured therein, while its other longitudinal marginal edge is connected to the bottom back side frame member **406**.

The filler strips **443** may now be applied to the outermost ones of the partition walls **410** and the partially completed cabinet **400** is now reverted to its original position after which the preformed and pre-cut bottom walls may be installed on the bottom frame.

Finish panels are then applied in the manner previously described.

It is obvious, of course, that the top closure members referred to in connection with cabinets **200** and **400** could be omitted without prejudice to the over-all construction of these cabinets inasmuch as each of these cabinets could be fitted with a top formed of formica or other similar material to provide finish and ornamentation to cabinets constructed in the manner described. The addition of the formica top members forms no essential part of this invention and has not, therefore, been illustrated in the drawings.

It is important to note that each of the above-described cabinets may be constructed of preformed elements and that basically the same or similar elements are utilized throughout the construction of the various cabinets. All of the cabinets involve the provision of basic slotted or grooved elements which are preformed and which may be cut to given lengths in accordance with a given specification. For example, all of the spacer blocks disclosed in this specification could be, conceivably, cut from a single length of substantially rectangular grooved material. All of the side frame members could be constructed from an elongated, transversely-grooved strip of material, and even the L-shaped top back side frame members could be formed from the same strip through the simple expedient of securing together a pair of longitudinally-extending edges of two of such strips. The front side frame members are similarly constructed and the departures between the members in the several embodiments of this invention depend merely from the length, width and depth of the strip which is to be grooved and cut.

This invention also envisions the provision of front and side kickboards having identical construction which may be prefabricated, and wherein the side kickboard assemblies are provided with front corner posts which may be prefabricated and assembled with the side kickboard to constitute a single unit.

The invention contemplates the use of pre-cut and finished walls or panels, as well as pre-cut top and bottom walls and partition walls.

The basic underlying principles behind this invention reside in the provision of a system whereby custom-built wall or floor cabinets may be constructed, en masse, from preformed units and assembled without loss of time, while still preserving the esthetic quality of a piece of furniture.

Having described and illustrated several embodiments of this invention, it will be understood that the same is offered merely by way of example, and that this invention is to be limited only by the scope of the appended claims.

What is claimed is:

1. A cabinet comprising an open substantially-rectangular top and bottom frame, said top and bottom frames each including, respectively, a pair of laterally-spaced, elongated, substantially-rectangular and parallel front and back side frame members with the front and back side frame members of each frame being disposed, respectively, in vertically-spaced and parallel relationship, said front and back side frame members each having grooves extending transversely thereacross with the grooves on one of said side frame members aligned with a groove of any other of said side frame members, said grooves of said top and bottom frames, respectively, being disposed in confronting relationship, a plurality of vertically-extending, substantially-rectangular partition walls, said partition walls having their respective corners engaged and secured in preselected ones of said aligned grooves, a closure wall extending between each adjacent pair of partition walls and fixedly secured to said side frame members at said top and bottom frames, and a back wall extending across and being fixedly secured to each adjacent pair of partition walls.

2. A cabinet comprising an open substantially-rectangular top and bottom frame, including, respectively, a pair of laterally-spaced, elongated, substantially-rectangular and parallel front and back side frame members with the back and front side members, respectively, of the top and bottom frames being disposed in vertically-spaced and parallel relation, said side frame members having grooves extending transversely thereacross aligned with one another and with the grooves of each frame confronting one another, a plurality of vertically-spaced and parallel spacer blocks extending between and being secured to each pair of said side frame members on each of said frames, each of said spacer blocks having a groove extending longitudinally therethrough aligned with preselected ones of the grooves of the side frame members with which it is connected, a plurality of vertically-elongated, substantially-rectangular partition walls having opposed ends engaging and being fixedly secured within said grooves of each vertically-spaced pair of said spacer blocks and said preselected grooves of said side frame members, a closure wall extending between each adjacent pair of said partition walls and secured to said side frame members of said top and bottom frames, respectively, and a back wall extending across and being fixedly secured to each adjacent pair of partition walls.

3. A cabinet comprising an open substantially-rectangular top and bottom frame, including, respectively, a pair of laterally-spaced, elongated, substantially-rectangular and parallel front and back side frame members with said side frame members being parallel to one another and formed with a plurality of aligned grooves with the grooves of any adjacent pair of side frame members confronting one another, said front and back side frame members being vertically-spaced from one another, a plurality of partition walls having a vertically-elongated, substantially-rectangular configuration, an elongated substantially-rectangular spacer block fixedly secured to the opposed ends of each of said partition walls, means fixedly securing the opposed ends of each spacer block, respectively, between adjacent sides of each pair of said side frame members with said partition walls engaging, at their respective corners, within selected ones of said aligned grooves, an

elongated substantially-rectangular back wall extending continuously between each adjacent pair of partition walls, and top and bottom closure walls extending between each adjacent pair of partition walls and being fixedly secured, respectively, to said top and bottom side frame members.

4. A cabinet as defined in claim 3, wherein said grooves of said front frame members are perpendicular to the plane of said back side frame members.

5. A cabinet as defined in claim 3, and a continuous kickboard disposed below said bottom frame and extending across the front and opposed sides of said cabinet, the forward ends of said spacer blocks being supported on said front side of said kickboard, and floor-engaging brace means fixedly secured to said back side frame member.

6. A cabinet as defined in claim 3, and a continuous kickboard disposed below said bottom frame and extending across the front and opposed sides of said cabinet, said kickboard supporting the front side bottom frame member, and floor-engaging brace means fixedly secured to said back side frame member of said bottom frame.

7. A cabinet as defined in claim 3, and a filler strip extending between the top and bottom back side frame members adjacent the remotely-disposed partition walls, and a finish panel fixedly secured to the exposed sides of said filler strips, to the outermost ends of the top and bottom back side frame members, and to the remotely-disposed edges of said spacer blocks of said top and bottom frames.

8. A cabinet as defined in claim 3, wherein said top back side frame member comprises an inverted substantially L-shaped element having a continuous longitudinally-extending groove formed in the lower end thereof to receive the upper edge of said back wall therein.

9. A cabinet as defined in claim 3, wherein the forward vertical edges of said partition walls are formed with an inwardly-extending notch, and a lock bar disposed within each pair of notches formed in adjacent panels and fixedly secured therein.

10. A cabinet as defined in claim 3, and a substantially open rectangular finish frame fixedly secured to the front edges of said front and bottom side frame members and to the front edges of each adjacent pair of said partition walls.

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