Jan. 13, 1931. S. MADSEN 1,788,883

CABINET CONSTRUCTION

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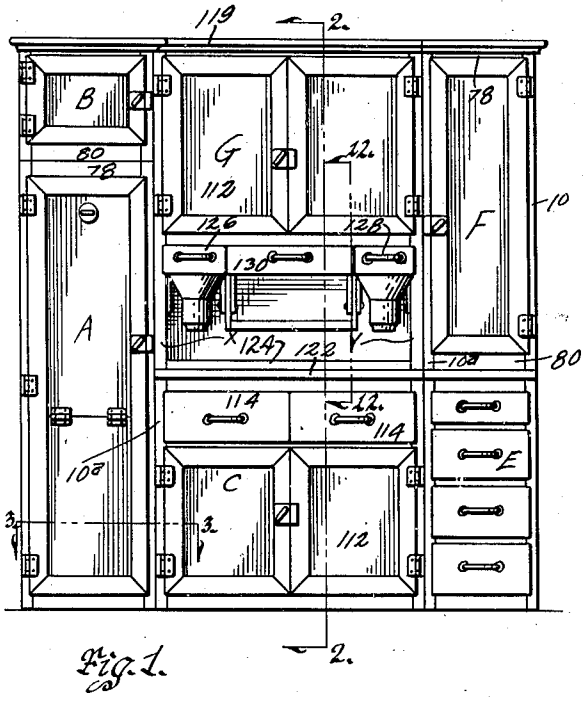


Fig. 1.

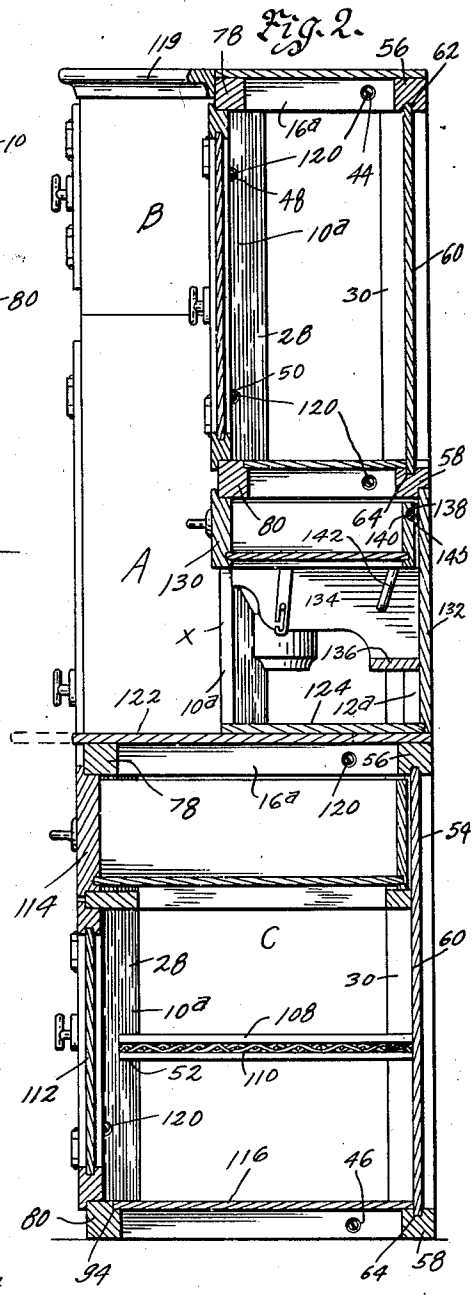


Fig. 2.

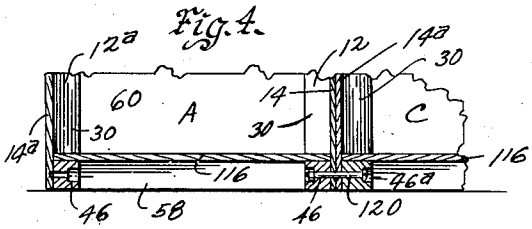


Fig. 4.

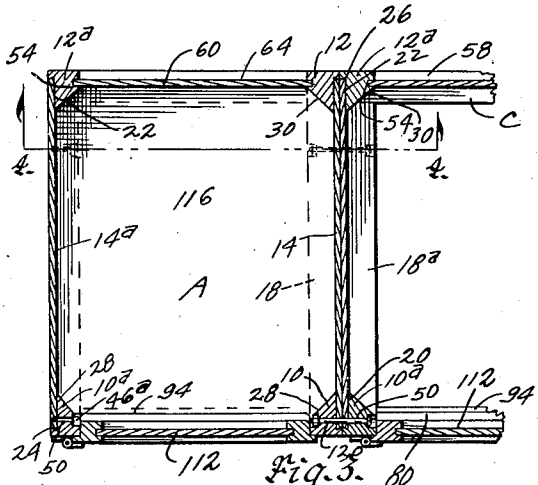


Fig. 3.

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CABINET CONSTRUCTION

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Fig. 5.

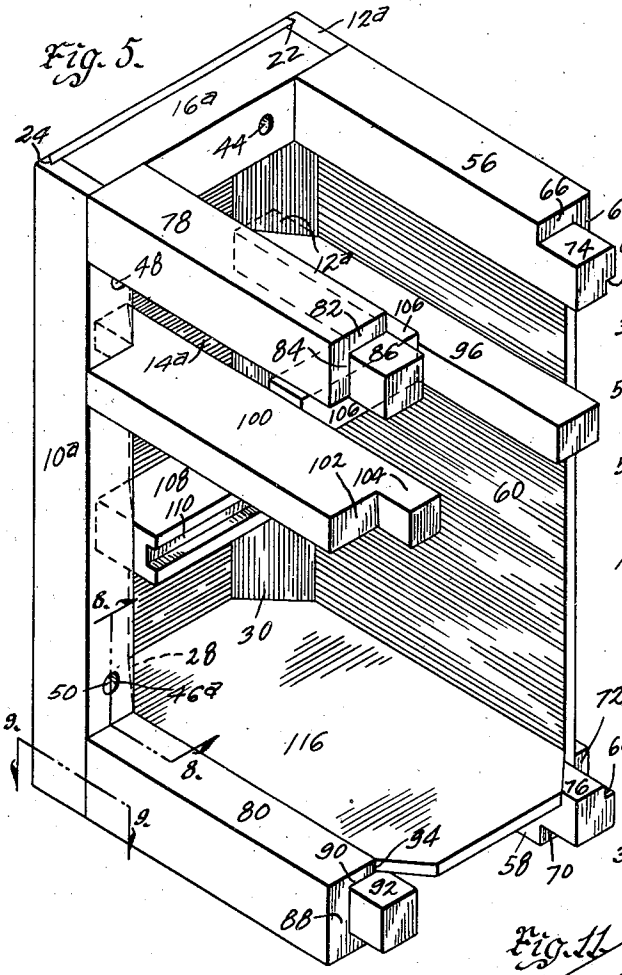


Fig. 10.

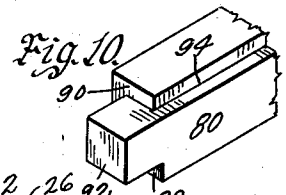


Fig. 6.

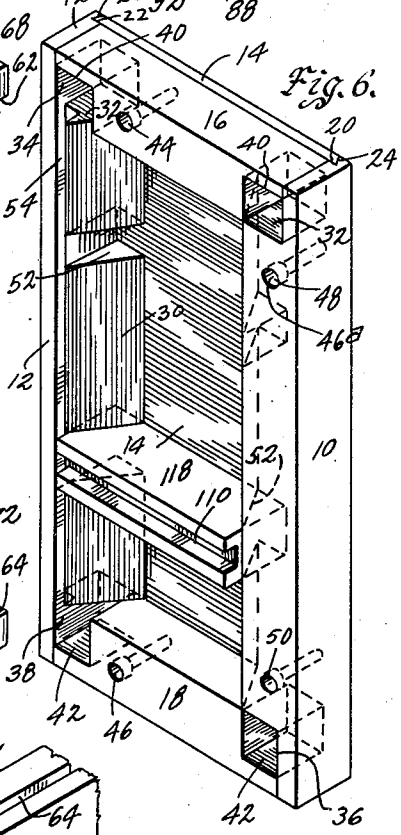


Fig. 11.

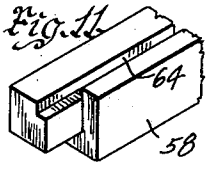


Fig. 7.

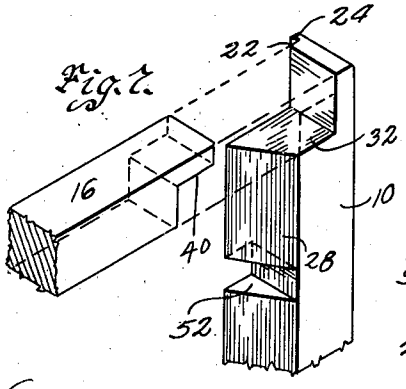


Fig. 8.

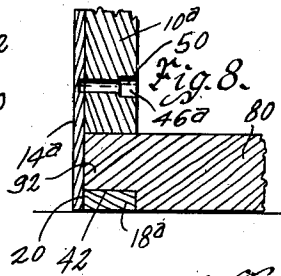
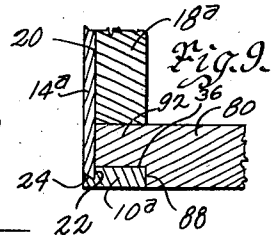


Fig. 9.



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CABINET CONSTRUCTION

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Fig. 12.

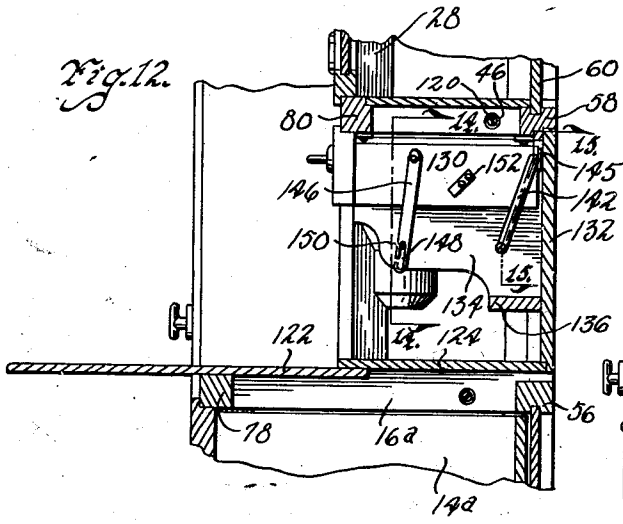


Fig. 13.

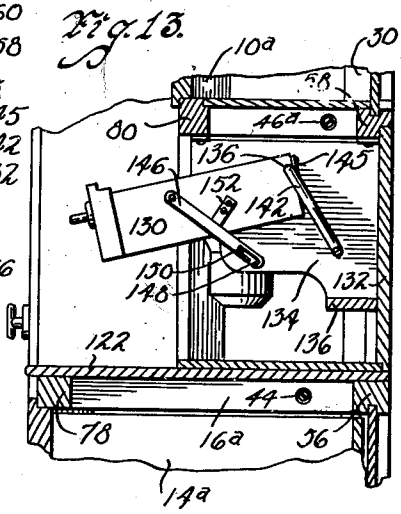


Fig. 14.

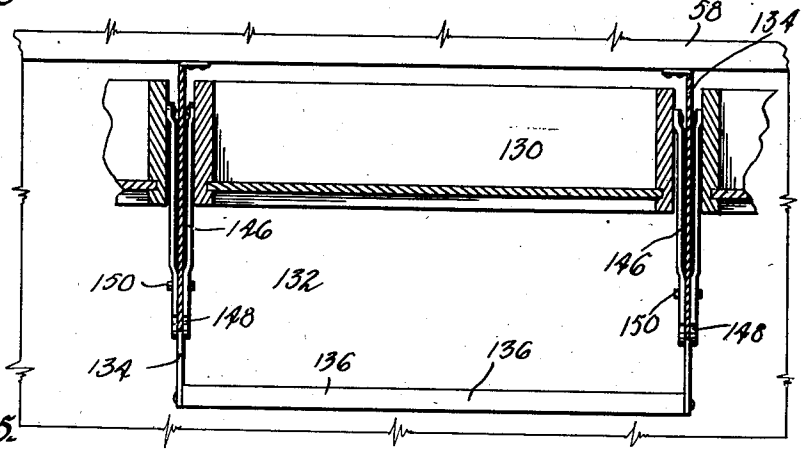
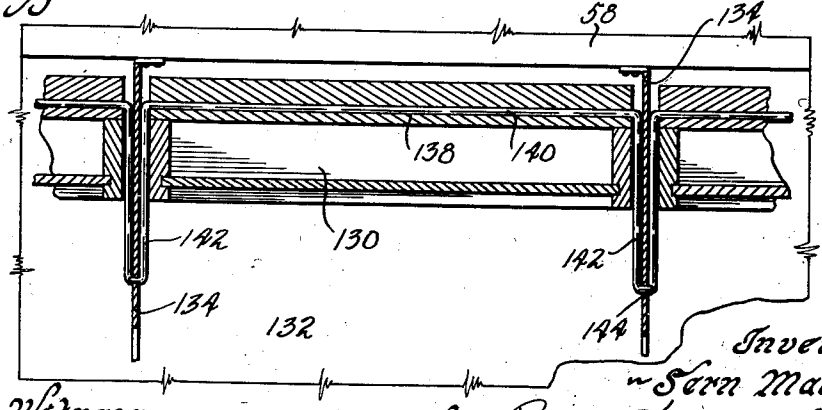


Fig. 15.



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UNITED STATES PATENT OFFICE

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CABINET CONSTRUCTION

Application filed December 31, 1928. Serial No. 329,610.

The object of my invention is to provide a cabinet construction adapted for use in the building of kitchen cupboards, book cases, broom closets, storage cases, china cabinets and the like.

More particularly, it is my purpose to provide a cabinet construction comprising certain elements peculiarly constructed for connection together for forming cabinet units, which may be used in building up various kinds of cupboards, cabinets, book cases and the like by employing standard elements and slightly modifying certain parts.

Especially it is my purpose to provide in such a cabinet construction certain elements and combination of elements for forming skeleton cabinets, which may serve as units in the building of complete cabinets and so on.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my cabinet construction, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation of a kitchen cabinet embodying my cabinet construction.

Figure 2 is an enlarged, detail, sectional view taken on the line 2—2 of Figure 1.

Figure 3 is a detail, sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a detail, sectional view taken on the line 4—4 of Figure 3.

Figure 5 is a perspective view illustrating an unfinished cabinet unit including the left side, back and bottom thereof and certain supporting members for illustrating the construction, and the manner of assembling the same.

Figure 6 is a perspective view of the right side panel with the post and top and bottom rails and a cross rail.

Figure 7 is a perspective view of the right front post and the top side rail of one of the cabinet units.

Figure 8 is a detail, sectional view taken on the line 8—8 of Figure 5.

Figure 9 is a sectional, detail view taken on the line 9—9 of Figure 5.

Figure 10 is a perspective view of the right end of the front bottom rail.

Figure 11 is a perspective view of the right end of the bottom rear rail.

Figure 12 is a detail, sectional view taken on the line 12—12 of Figure 1.

Figure 13 is a similar view showing parts in different positions.

Figure 14 is a detail, sectional view taken on the line 14—14 of Figure 12; and

Figure 15 is a detail, sectional view taken on the line 15—15 of Figure 12.

My improved cabinet construction includes certain elements which can be readily formed into units, such as end units, and these end units can be combined with other elements into cabinet units. By very slight variations, the cabinets may be made of different sizes as to height and width and depth. The different cabinet units can then be combined into various complete kitchen cabinets and the like made up of a plurality of the cabinet units.

I shall now describe the end units and the elements which compose them.

In Figure 5 is shown a left end unit and other parts and in Figure 6 is shown a right end unit.

I shall first describe a right end unit. This consists of a front post indicated by the reference numeral 10, a rear post 12, an inset side panel 14 and top and bottom rails 16 and 18.

The front and rear posts 10 and 12 are provided in their outer surfaces with rabbets 20 and 22, which terminate short of their front and rear surfaces respectively. They are relatively shallow and have beveled front and rear walls 24 and 26, as shown in Figure 6.

The panel 14 has beveled edges to correspond with the beveled walls 24 and 26, so that the edges of the panel 14 may be set into the rabbets 20 and 22 with its outer surface flush with the outer surfaces of the posts 10 and 12, as shown in Figure 6 and in Figure 3. The panel is glued into place.

The posts 10 are beveled from their lines of contact with the panel 14 inwardly and forwardly as at 28 in Figure 3, and the

posts 12 are beveled from their lines of engagement with the panel 14 inwardly and rearwardly as at 30 (Figure 3).

The posts 10 and 12 have at their upper ends transverse rabbets or notches 32 and 34 extending clear across the posts and thus providing openings which are closed by the panel 14. (See Figure 6.)

The notch 32 is spaced rearwardly from the front of the post 10 and the notch 34 is spaced forwardly from the rear of the post 12.

At the lower ends of the posts 10 and 12, they have the similar transverse rabbets or notches 36 and 38 extending clear across them and closed by the panel 14. These notches are spaced inwardly from the front and rear respectively of the posts 10 and 12.

The top rail 16 has in its under surface at its ends transverse rabbets or notches 40 spaced below the top of the rail. The bottom rail has at its ends similar transverse rabbets or notches 42 extending across the top of the rail.

In assembling one of these end units, such as has been described, the parts are preferably glued into place.

It will be seen that at each corner there is a mortise-like opening formed by the notches 32 and 40, 34 and 40, 36 and 42, and 38 and 42. These are to receive the tenons of the top and bottom, front and rear rails, hereinafter to be described.

Each top rail 16 has at a fixed distance from the rear of the unit, a hole 44 extending from the inner face of the rail outwardly almost but not quite through the panel 14.

At the same distance from the rear, each bottom rail 18 has a similar hole 46.

Each front post 10 at fixed distances from the top and bottom has similar holes 48 and 50. The purpose of these holes is to afford bolt holes by which different cabinet units may be bolted together. The holes terminate short of the outer surface of the panel 14, so as to leave no unsightly holes therein when that panel happens to be the outside of the assembled cabinet. The inner ends of the holes have enlarged countersinks 46*a* to receive bolt heads or nuts.

When two cabinet units are bolted together, the remaining material can be easily broken away.

The posts 10 and 12 are provided at proper heights on the inside of the unit with the slots or gains or dadoes 52, which are cut to receive shelves or cross bars or the like.

The left end unit is the same as the right end unit, except for the necessary changes to adapt it to be fitted into a cabinet at the left side thereof. I have indicated the elements of the left end unit by the same reference numerals as those applied to the right end unit with the addition of the letter "a."

The rear posts 12 and 12*a* of the right and left end units are provided in their inner adjacent faces and spaced forwardly from the rear faces with vertical grooves 54 to receive the rear panel hereinafter mentioned.

In assembling the right and left end units together in a cabinet unit, I employ a back unit comprising a top rail 56, a bottom rail 58 and a back panel 60. The top rear rail 56 and the bottom rear rail 58 are provided in their lower and upper surfaces spaced forwardly from their rear faces with grooves 62 and 64 respectively to receive the panel 60. (See Figures 2, 5 and 11.)

In assembling the back and end units together, the members 56, 60 and 58 are fitted together and the end units are then slid into place. It will be noted that each top rear rail 56 of the back unit has in its upper surface a transverse notch 66 at each end and in its rear surface a vertical notch 68. Similarly each bottom rail 58 has in its under surface at each end a transverse notch 70 and in its rear surface a vertical notch 72. There is thus left at each end of the top rail 56 a tenon 74 and at each end of the bottom rail 58 a tenon 76.

In assembling the back and end units, the tenons 74 and 76 are slipped into the mortise-like holes formed by the notches in the posts 12 and 12*a*, and the rails 16, 16*a*, 18 and 18*a*.

When the end units and back unit are slipped together, the top and bottom front rails are also assembled. These rails are indicated at 78 and 80 (Figure 5). The top front rail 78 has at each end in its upper surface a transverse notch 82 and in its front surface a vertical notch 84, thus leaving a tenon 86. These tenons slip into the mortise-like holes formed by the notches 32 and 40 at the upper front corners of the end units. The bottom rail 80 has at its ends at its front, vertical notches 88, and in its upper and lower surfaces at its ends transverse notches 90 and 91, thus forming the tenons 92 which enter the corresponding openings in the lower parts of the end units.

The front lower rail 80 may also be provided in its upper surface adjacent to its inner edge with a rabbet 94 extending its entire length to support the bottom board hereinafter referred to. The front rail 80 is preferably a little deeper from top to bottom than the rail 58.

If it is desired to provide means for supporting shelves or drawers, they may be readily provided and assembled with the other parts at the time the ends, back and the rails 78 and 80 are assembled.

For example, if it is desired to provide a drawer support, a cross bar 96 may be provided at the back end of the cabinet unit. The cross bar 96 has squared ends (see Figure 5) which are positioned in the corresponding dadoes 52.

At the front of the unit, there may be provided a cross bar 100 having at its ends in its

front portion the notches 102, leaving the projecting tenons or ends 104 to be received in slots 52, such as those that have been described.

The bars 100 and 96 may be connected by a fore-and-aft bar 106 to support a drawer.

If it is desired to afford means for supporting a removable shelf, a fore-and-aft extending bar 108 may be arranged in slots 52 in each end unit (see Figures 5 and 6). The bars 108 may be provided with suitable grooves 110 in their adjacent faces to receive a sliding shelf.

Referring now to Figure 3, it will be seen that the cabinet unit may be provided with a suitable hinged door 112, and by reference to Figure 1, it is also obvious that the same unit may have the sliding drawer 114.

I shall now describe some of the advantages of the cabinet construction hereinbefore referred to and will then explain how such a cabinet construction may be used in a great variety of combinations, thus setting forth further advantages of the construction.

The advantages of a cabinet structure of this kind largely rises from the particular structure of several of the elements which facilitates their combination with very slight changes into cabinet units of a variety of sizes and permits the convenient building of complete cabinets made up of several cabinet units. Some of the features of the elements which are thus important may now be mentioned.

The arrangement of the posts with the beveled edged end panels leaves a smooth outer surface for an outer wall, and whereby when two cabinet units are placed together, there will be a minimum loss of space.

The particular rabbeted or notched top and bottom rails of the end units and the notched ends of the posts permits them to be glued to the end panel in such manner as to leave the mortise-like openings for receiving the front and rear rails.

The particular arrangement of the front and rear rails permits their tenons to enter such mortise-like openings and to afford rather light weight but very strong construction.

The particular arrangement of the notches of the posts and end rails in connection with the manner of connecting the panel to them makes it possible to cut the notches clear across the posts and rails, instead of cutting mortises into them, so that simpler tools can be used and production can be speeded up. Thus simpler operations are necessary for forming the mortise-like openings than is usually the case.

The top and bottom front rails and the back rail member can be made of any desired length for making cabinets of different widths although the end units may be made the same.

It is, of course, obvious that for making tall cabinets, all that is necessary is to lengthen the upright posts and the end panels and the real panel.

The beveled faces of the posts allow a maximum of room on the interior of the cabinet and provide corners which are easily and conveniently cleaned.

At the same time, there is enough of each post on the inside of the finished cabinet to permit the providing of the notches for the cross bars or fore-and-aft bars for shelves, drawers and the like.

The smooth ends of the cabinet units make it easy for placing units of various heights and widths together for making various combinations with tight joints.

The particular arrangement of notches leaves no end grain walls, which easily split out, thus making the strongest type of mortise joint known.

It also permits the use of a maximum size of mortise to receive a large size strong tenon on the front or back rails. A pin or nail can be driven through the corner joints in such a way as to enter the post from two ways for further tying the parts together.

The beveled faces of the posts on the inside are convenient for the attachment of hardware for supporting shelving and also permit the use of the same type of notch for bars running forward or back or crosswise of the cabinet, and facilitate easy cleaning of the interior of the cabinet.

It should perhaps be mentioned that a floor board 116 can be solidly supported on the inwardly projecting parts of the lower rails.

The use of the rabbet 94 (see Figures 2 and 10) covers up an unsightly front edge of the floor board, leaving a smooth level surface.

Such a structure facilitates the manufacture of parts at the factory and their convenient assembling in various combinations for building cabinets at other points and particularly for making built-in cabinets.

I shall now try to illustrate how these elements and units may be combined into a great variety of different cabinets.

For instance in Figure 1, I have shown a kitchen cabinet having at the left-hand side a cabinet unit A, which is similar to the units already described, except that it is higher, and is convenient for the use of ironing boards and brooms and the like. The cabinet B above the cabinet A is simply shorter than the cabinet units already described.

At the right of the cabinet A at the lower part of the complete kitchen cabinet are respectively cabinets C and E. The cabinet C has drawers 114 in its upper part, and the cabinet E has a series of drawers.

Above the cabinet E is a cabinet F which is taller than the cabinets C and E, but not quite so tall as the cabinet A, which may be used for any desired purpose.

It will be noted that I have so far described the cabinets without any tops. They are so constructed that a top or cover board 118 may be readily secured to them. (See Figure 2.)

In the particular kitchen cabinet now used for purposes of illustration, I have shown spaced above the cabinet C, the cabinet G, which is shallower from front to rear than the other cabinets shown, and may be used for china or kitchen supplies.

Any number of cabinets may be rigidly connected together, as illustrated for instance in Figures 3 and 4.

In Figure 3, it will be seen that a bolt 120 has been inserted through aligned holes 50 (see also Figure 10) and the material not bored out has been broken away to permit the insertion of the bolt.

In Figure 4 is shown a bolt 120 extended through aligned holes 46. (See Figure 6.)

In Figure 2, it will be observed the bolts 120 are received in all of the holes 44, 46, 48 and 50. These holes are provided with enlarged countersunk portions as illustrated at 46*a* in Figure 8 to receive the heads for the nuts on the bolts, so that the bolts will have no projecting parts.

Thus the unit cabinets A and B are fastened together, and B, G and F are fastened together.

The end units of the cabinet G extend downwardly below the main pieces of such cabinet units as shown at X and Y in Figure 2. They terminate just above the cabinet C so as to allow the work board 122 to slide under them. Above the work board 122, the end unit portions at X and Y are connected by a bottom board 124 (Figures 1 and 2).

Hung below the unit G are flour and sugar bins 126 and 128 and a drawer 130.

A back board 132 is arranged to close the space at the back of the complete structure between the units C and G.

Laterally spaced brackets 134 are hung from the rails 58 and 80 of the cabinet G (see Figures 12, 13 and 14).

A shelf 136 connects the lower ends of the brackets 134. The flour bin 126, the sugar bin 128 and drawer 130 are supported in the following manner. I shall describe the support for the drawer 130 and it will be understood that the bins are similarly hung.

In the rear upper part of the drawer 130 is a transverse groove 138, in which is received the central member 140 of a resilient U-shaped hanger having at its ends the downwardly inclined arms 142. The arms 142 are provided at their free ends with out-turned spindles 144 journaled in the brackets 134 (Figure 15). Clips 146 may be used for preventing accidental removal of the member 140 from the groove 138. (Figure 13.) The rear end of the drawer 130 is thus mounted for swinging movement.

Arms 146 have their upper ends pivoted to the sides of the drawer 130 forwardly from the member 138. The arms 146 incline downwardly and have at their lower ends bayonet slots 148, which receive pins 150 projecting from the brackets 134. The drawer 130 can thus be swung from upper closed position as in Figure 12 to forwardly swung and tilted position shown in Figure 13. Stop blocks 152 on the sides of the drawer limit the downward and outward swing of the drawer.

If it is desired to entirely remove the drawer, it may be slid to cause the arms 146 to travel on the pins 150 until the pins are opposite the mouths of the slots 148, and then the arms 146 can be released from the pins 150, the drawer swung further out, and the arms 142 sprung toward each other to withdraw the spindle ends 144 from the brackets 134.

The bins are hung in the same way on the brackets 130 and the downwardly extending portions X and Y of the cabinet G.

It will be seen from the foregoing, how readily a great variety of cabinets may be made from the elements and units hereinbefore described.

I claim as my invention:

1. In a cabinet construction, an end unit including front and rear upright posts having opposite rabbets, one face of each rabbet being beveled substantially as shown, and a panel with beveled edges received in said rabbets, said upright posts having in their upper ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them and closed at one end by the panel.

2. In a cabinet construction, an end unit including front and rear upright posts having opposite rabbets, one face of each rabbet being beveled substantially as shown, and a panel with beveled edges received in said rabbets, said upright posts having in their upper ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them and closed by the panel, a back unit comprising top and bottom rails with notches in their rear surfaces at their ends and in the upper surfaces of the ends of the top rail, and in the lower surface of the bottom rail at its ends for thus forming tenons for cooperative connection with the end units, said top and bottom rails having opposite grooves spaced from their rear faces, the rear upright posts of the end units having vertical grooves, and a back panel received in said grooves.

3. In a cabinet construction, an end unit

including front and rear upright posts having opposite rabbets, one face of each rabbet being beveled substantially as shown, and a panel with beveled edges received in said rabbets, said upright posts having in their upper ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them and closed by the panel, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel.

4. In a cabinet construction, an end unit including front and rear upright posts having opposite rabbets, one face of each rabbet being beveled substantially as shown, and a panel with beveled edges received in said rabbets, said upright posts having in their upper ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches respectively in their under and upper surfaces at their ends extending laterally across them and closed by the panel, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel, said upright posts being beveled inside the cabinet structure substantially as shown.

5. In a cabinet construction an end unit including front and rear upright posts having opposite rabbets, one face of each rabbet being beveled substantially as shown, and a panel with beveled edges received in said rabbets, said upright posts having in their upper ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches respectively in their under and upper surfaces at their ends extending laterally across them and closed by the panel, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel, said upright posts being beveled inside the cabinet structure substantially as shown, and being provided with intermediate notches as described.

6. In a cabinet construction, a pair of end members, each comprising front and rear upright posts provided with opposite rabbets each having a beveled face, a panel having beveled edges inset in said rabbets to form the end of a cabinet, top and bottom rails, said posts and rails being provided with end notches extending laterally across them to form rectangular open mortises at each corner closed by the panel, and a rear unit comprising top and bottom rails formed with tenons to enter said mortises, and a back panel, the rear posts and rails being provided with grooves to receive the edges of the back panel.

7. In a cabinet construction, a pair of end members, each comprising front and rear upright posts provided with opposite rabbets each having a beveled face, a panel having beveled edges inset in said rabbets to form the end of a cabinet, top and bottom rails, said posts and rails being provided with transverse notches extending laterally across them to form rectangular open mortises at each corner closed by the panel, and a rear unit comprising top and bottom rails formed with tenons to enter said mortises, and a back panel, the rear posts and rails being provided with grooves to receive the edges of the back panel, said end units having holes projecting through their rails from the inside partially through the panel.

8. In a cabinet construction, a pair of end members each comprising front and rear upright posts provided with opposite rabbets each having a beveled face, a panel having beveled edges inset in said rabbets to form the end of a cabinet, top and bottom rails, said posts and rails being provided with transverse notches extending laterally across them to form rectangular open mortises at each corner closed by the panel, and a rear unit comprising top and bottom rails formed with tenons to enter said mortises, and a back panel, the rear posts and rails being provided with grooves to receive the edges of the back panel, said end units having holes projecting through their rails from the inside partially through the panel, front top and bottom rails having tenons to enter the front mortises of the end units, the last-named bottom rail being of slightly greater vertical thickness than the other bottom rails and having in its upper face at its inner part a longitudinal rabbet and a floor board resting in said rabbet and upon the other bottom rails.

9. In a cabinet construction, an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, a panel for said end unit, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending

laterally across them, the opening formed by the ends of the posts and rear notches jointly being closed by the panel.

10. In a cabinet construction, an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them, a back unit comprising top and bottom rails with notches in their rear surfaces at their ends and in the upper surfaces of the ends of the top rail, and in the lower surface of the bottom rail at its ends for thus forming tenons for cooperative connection with the end units.

11. In a cabinet construction, an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them, a back unit comprising top and bottom rails with notches in their rear surfaces at their ends and in the upper surfaces of the ends of the top rail, and in the lower surface of the bottom rail at its ends for thus forming tenons for cooperative connection with the end units, said top and bottom rails having opposite grooves spaced from their rear faces, the rear upright posts of the end units having vertical grooves spaced from their rear faces, and a back panel received in said grooves.

12. In a cabinet construction, an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches in their under and upper surfaces respectively at their ends extending laterally across them, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel.

13. In a cabinet construction, an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, top and bottom end rails with notches respectively in their under and upper surfaces at their ends extending laterally across them, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel, said upright posts being bevelled inside the cabinet structure substantially as shown.

14. In a cabinet construction an end unit including front and rear upright posts having in their ends spaced respectively from their front and rear surfaces transverse notches extending entirely across them, a panel for said end unit, top and bottom end rails with notches respectively in their under and upper surfaces at their ends extending laterally across said top and bottom end rails, a back unit including a panel and top and bottom rails, said top and bottom rails being provided with tenons for coacting with mortise-like openings formed by the notches in the top and bottom rails of the end unit and in the rear upright posts of the end unit, said top and bottom rails being formed with grooves to receive the back panel, said upright posts being beveled inside the cabinet structure substantially as shown, and being provided with intermediate notches as described.

15. In a cabinet construction, a pair of end members, each comprising front and rear upright posts, top and bottom rails, said posts and rails being provided with end notches extending laterally across them, the side and end of one notch being greater than the side and end of the other notch whereby to form a complete rectangular open mortise at each corner, a rear unit comprising top and bottom rails formed with tenons to enter said mortises, and a back panel, the rear posts and rails being provided with grooves to receive the edges of the back panel.

16. In a cabinet construction, a pair of end members, each comprising front and rear upright posts, top and bottom rails, a panel for said end unit, said posts and rails being provided with transverse notches extending laterally across them to form a rectangular mortise at each corner closed by the panel, a rear unit comprising top and bottom rails formed with tenons to enter said mortises, a back panel, the rear posts and rails being provided with grooves to receive the edges of the back panel, said end units having holes projecting through their rails from the inside partially through the panel, front top and bottom rails having tenons to enter the front mortises of the end units, the last named bottom rail being of slightly greater vertical thickness than the other bottom rails and having in its upper face at its inner part a longitudinal rabbet and a floor board resting in said rabbet and upon the other bottom rails.

17. In a cabinet construction, a panel, vertical and horizontal rails secured together to form a frame therefore, a pair of said rails

having beveled inner corners and having bevelled rabbets in their outer faces, said panel having beveled edges received in said rabbets and held thereby, said pair of rails having notches in the beveled corners thereof facing each other and a cross rail having ends seated in said notches and lying against said panel.

Des Moines, Iowa, December 3, 1928.

SERN MADSEN.