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J. W. JACOBS ETAL

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CABINET FRAMEWORK AND DRAWER SUPPORT

Original Filed March 21, 1956

2 Sheets-Sheet 1

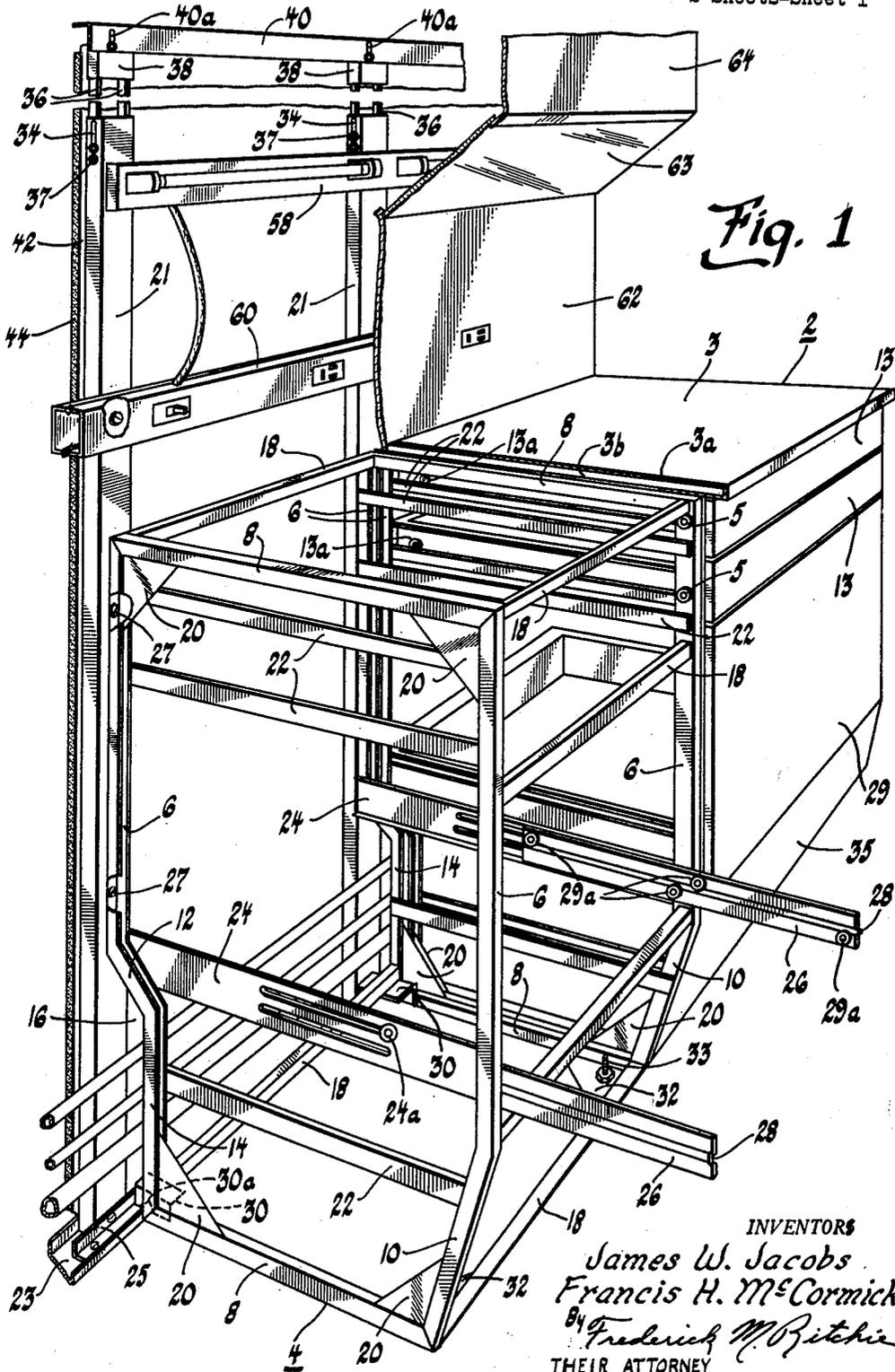


Fig. 1

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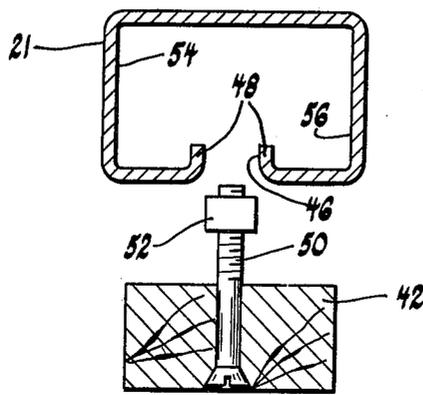


Fig. 2

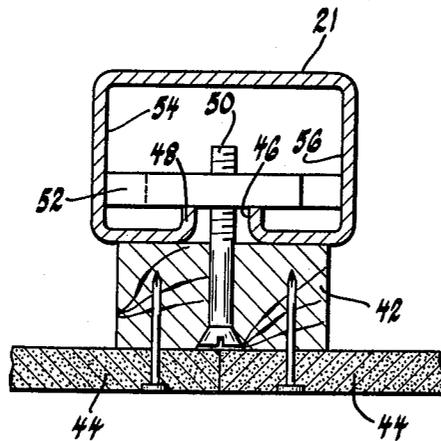


Fig. 3

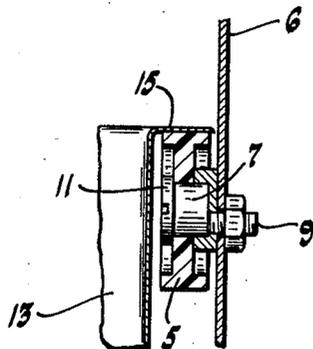


Fig. 4

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**CABINET FRAMEWORK AND DRAWER SUPPORT**

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Original application Mar. 21, 1956, Ser. No. 572,943, now Patent No. 2,965,428, dated Dec. 20, 1960. Divided and this application May 31, 1960, Ser. No. 32,875

1 Claim. (Cl. 312-341)

This is a division of our copending application Serial No. 572,943, filed March 21, 1956, now Patent No. 2,965,428.

This invention relates to a kitchen cabinet assembly and more particularly to an assembly in which the cabinets are supported by a framework that also supports one or more wall panels.

An object of the invention is to provide a portable metal framework that is adapted to support one or more kitchen cabinets, the framework being so constructed that wood furring strips may be readily attached thereto.

Another object is to provide fastening means for attaching a wood furring strip to a metal strut.

Still another object is to provide a kitchen cabinet having a frame fabricated of a plurality of interconnected channel irons.

A further object is to provide a frame and a cabinet support which are so constructed and arranged as to provide a space for the passage of conduits and the like between the frame and the cabinet support.

Further objects and advantages will become apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of the invention is clearly shown.

In the drawings:

FIGURE 1 is a perspective view of a kitchen cabinet assembly constructed in accordance with this invention;

FIGURE 2 is a sectional view of a vertical strut and wood furring strip just prior to the attachment of the furring strip to the strut;

FIGURE 3 is a sectional view showing the strut and furring strip secured together; and

FIGURE 4 is a sectional view of an eccentric drawer positioning roller that is adapted to vertically position the cabinet drawers of this invention.

A preferred embodiment of a kitchen cabinet assembly constructed in accordance with this invention is shown in FIG. 1. The assembly comprises a kitchen cabinet denoted generally by reference numeral 2, and a frame for an identical kitchen cabinet generally denoted by reference numeral 4. The kitchen cabinet frame structure includes a plurality of vertically disposed channels 6 and horizontally disposed channels 8. A single channel may be bent to shape to form channels 6 and 8, or a plurality of channels may be used that are secured together by welding or any other suitable means. The lower portions of channels 6 are bent to form the offset channel members 10 and 12. Member 12 extends inwardly toward the center of the cabinet and merges into a vertical extension 14 that has its opposite end connected to horizontal channel 8. It will be apparent that the inwardly bent portion 12 provides a space 16 for the passage of water pipes and the like, as shown in the drawing. The vertical channels 6 are interconnected by horizontally extending channels 18 that are welded or otherwise connected to channels 6, the top channels forming a top frame for the cabinet. Similar lower channels 18 connect channel members 14. A plurality of gusset plates 20 are welded to the channels in order to provide a rigid frame structure. The vertical channels are also connected by drawer support members 22 and 24 that are welded or otherwise secured to the vertical irons.

Each drawer support 24 may include an extension 26 that carries a plurality of drawer rollers, as shown. Drawer support plate 24 is slotted, as shown, and coacts with conventional guide means 24a secured to extensions 26 so as to guide the extension 26 and the drawer supported thereby during its sliding movement.

A pair of angle irons 30 are welded to channel irons 8 and 18 at the lower part of the frame structure. Each angle iron has a V-shaped slot 30a that is adapted to coact with one of the vertically disposed flanges on the horizontal structural member 23, as shown, to preclude movement of the cabinet away from the member 23. The lower front frame structure is provided with gusset plates 32 welded to the channel irons. Each of these gusset plates carries a bolt or adjustable foot assembly, denoted by reference numeral 33, that may be extended to engage the kitchen floor after the cabinet frame is secured to the vertical support 21.

In order to construct a finished cabinet, it is only necessary to secure panels to the channel iron frame and to provide the front opening of the frame with drawers. If one or more cabinets are to be used in side by side abutting relationship, it may not be desirable to provide the abutting sides of the frames with panels. The panels may be secured to the channel irons by machine screws or other suitable means and the top of the frame may carry a work table 3 suitably secured to the top channel irons.

The complete cabinet is denoted by reference numeral 2 and as shown, has a plurality of drawers slidably disposed in frame 4. Drawers 13 are provided with a longitudinally extending flange 15, as shown in FIG. 4, that rides on top of a roller 5. The rear portions of these drawers may be supported and guided by any conventional means in accordance with conventional practice and may, for example, carry rollers 13a or other suitable means adapted to engage the drawer supports 22. The drawer 29 may also be provided with a longitudinally extending flange (not shown) similar to the flange 15, adapted to slidably engage the rollers 29a secured to extension 26. If such a flanged arrangement is used, the extension 26 may be formed with a groove 28 that slidably guides the flange. Drawer 35 may carry means (not shown), adapted to engage lower drawer supports 22 for supporting the drawer in its sliding movement. A work table 3 is secured to the top channel irons of the frame and is preferably made of a layer of moisture-and-heat resistant material 3a bonded to an inner relatively rigid member 3b. It should be noted that the outer faces of the drawer structure completely enclose the front area of the cabinet frame. It will thus be apparent that no panel members are needed to cover the front faces of channel irons 6 and 10 as these will be covered by the front faces of the drawers. Rollers 5 are rotatably secured at the inner face of channel irons 6 and engage the outwardly extending flange 15 of the drawers, as shown in FIG. 4. These rollers are eccentrically mounted, as will more clearly hereinafter appear, in order that the drawers may be vertically displaced to accurately space them in vertical relation.

The kitchen cabinets hereinbefore described are adapted to be secured to a framework that includes vertically disposed struts 21. A horizontal structural base member 23 is secured to the lower ends of the vertical struts 21 by an angle iron 25 or other suitable means. Structural member 23 is U-shaped and is adapted to be secured to the floor of an enclosure or to any other suitable horizontally disposed support. One leg of the U-shaped member 23 forms a vertically extending abutment that engages the V-shaped slots 30a in the angle irons 30 for holding the frame of the cabinet from movement away from the struts 21. Struts 21 are hollow and are slotted

at 34 as shown in FIG. 1. These slots slidably guide bolts that threadingly engage extension bars 36. With this construction it is possible to provide a vertical strut that may be adjusted so as to compensate for differences in ceiling heights. The lower ends of the bars 36 slide along the interior walls of strut 21 and may be held from movement with respect to the struts by the fastening bolts 37 that are slidably guided by slot 34. The bars 36 may be welded to hollow extension struts 38, as shown in the drawings. Struts 38 are arranged with fastening means that extend through slots 40a formed in a horizontal bar 40. This horizontal bar may engage the ceiling of a room and by the just-described construction, is extensible to a certain degree with respect to struts 38. It will thus be apparent that the vertical struts are provided with extensible means adapted to be used with rooms having ceilings of varying vertical heights.

The vertical struts 21 are designed to carry a wood furring strip 42. The wood furring strip provides means adapted to carry wall panel material denoted by reference numeral 44. The wall panel may be nailed to the wood furring or secured thereto by any other suitable means. The securing of the wood furring to the strut is an important feature of the invention as it provides a surface that is readily adapted to receive nails or other types of wall securing means.

FIGS. 2 and 3 show a preferred method of securing a wood furring strip to a metal strut. The metal strut 21 has an elongated slot 46 at its rear that extends the entire length thereof. The slot may be formed by bending the walls of the strut inwardly to form inturned flanged members 48. In this embodiment the strut is hollow and is formed by a plurality of walls that define a rectangle. It will be apparent to those skilled in the art that the strut may be of any cross-sectional configuration and that the slot may be of any desired length. The wood furring strip 42 is provided with one or more bolt receiving apertures that are adapted to receive one or more bolts 50. The bolt receiving apertures may have countersunk portions adapted to conceal the head end of the bolt. The bolt is suitably threaded and these threads engage the internal threads of an elongated nut denoted by reference numeral 52. This nut is longer than the distance between the inner walls 54 and 56 of the strut but the width of the nut as shown in FIG. 2 is somewhat less than the width of slot 46. The nut is not as wide as the slot in order that the bolt and nut may be inserted through the slot into the interior of the strut when the slot and bolt are longitudinally aligned. It will thus be apparent that all that is needed for assembling the furring strip 42 to the strut 21 is the insertion of the nut and the projecting end of the bolt through the slot 46 into the interior of the strut. The bolt may then be tightened by a rotation thereof with a suitable tool adapted to coact with the head end of the bolt. The nut 52 will rotate inside of the strut until the ends of the nut engage inner walls 54 and 56 of the strut whereupon rotation of the nut is precluded. With rotation of the nut positively precluded, the strut and furring may be tightly drawn together by rotation of bolt 50. The strut and wood furring strip are shown in assembled position in FIG. 3 with the nut engaging flanged portions 48 of the strut.

The eccentric positioning structure for the rollers 5 is shown in detail in the sectional view of FIG. 4. As shown in this figure, the roller 5 is journaled on a bearing member 7 eccentrically disposed with respect to a threaded bolt or attachment portion 9 that is connected to member 7. The head portion 11 of member 7 is slotted to provide for means adapted to receive a screwdriver or the like that may be used to rotatably adjust eccentric 7. Rotation of the one-piece or unitary member 7 will, of course, vertically position the roller 5 which in turn positions the drawer 13 which has a flange 15 resting on the roller 5. The eccentric roller assembly may be secured to channel iron 6 by means of a nut threaded on bolt 9

or by other manner adapted to secure the eccentric drawer positioning means.

The method of setting up the kitchen cabinet assembly will now be described. The horizontal structural member 23 is first secured to a floor or other horizontally disposed member. The structural member 23 is secured in a true horizontal position and shims may be used between the member and floor to compensate for irregular floor surfaces. The structural member need not necessarily be secured against the wall of a room but may be disposed in any position that will enhance the architectural setting of the room. When the horizontal structural member is secured in place, the vertical struts 21 are affixed thereto in a true vertical position and the kitchen cabinet frames may then be secured by machine screws 27 or other suitable means to one face of the vertical struts, as shown in FIG. 1. It will be apparent that if the struts are in a true vertical position, the same will be true of the cabinet frames, and, furthermore, that a horizontal axis of the frame will be normal to a plane including the vertical struts. The cabinets are thus positioned by using the vertical struts as a reference plane and do not depend on cabinet mounted levelling devices for this function. If more than one cabinet is used, the cabinet frames may be secured together to strengthen the kitchen assembly. When the cabinet frames are securely fastened to the struts, the adjustable feet or bolts 33 may be extended to engage the floor to provide additional cabinet support. These bolts will take up any irregularities in the floor structure. It will be apparent from the foregoing that the cabinet frames and cabinets are thus spaced from the floor of the enclosure during the positioning procedure. As noted hereinbefore, the upper ends of the struts are held in alignment and are connected by a horizontally disposed plate 40 that may be secured to the ceiling of a room to provide for better support of the struts 21. It will also be apparent that the struts 21 together with the horizontally disposed members 23 and 40 comprise what may be termed a structural framework.

It should be pointed out that the securing together of the vertical struts, horizontal structural member and cabinet frames provides a self-sustaining portable cabinet assembly. The cabinet frame being fabricated of channel irons reinforces the framework including the vertical struts. Since the assembly is self-sustaining, the horizontal bar 40 need not in all instances be attached to the ceiling. Furthermore, it is apparent that the vertical struts, horizontal structural member and cabinet frames might be pre-assembled as a self-sustaining portable unit.

The struts 21 may carry a light fixture denoted by reference numeral 58, and a two-part wiring raceway 69. The two parts of the raceway are arranged to be snapped together, the back part being secured to the vertical struts by machine screws, as shown. The wiring raceway may have a switch and spaced outlets formed therein, as shown. A panel 62 is adapted to cover the wiring raceway and is provided with a lower edge portion that engages the work table 3. The switches and outlets on raceway 69 protrude through the panel 62 in order that they will be accessible to the user. The upper portions of the struts may carry an upper cabinet 64. There may be one or more of these cabinets secured to the struts, as desired. A light dispersing panel 63 is interposed between upper cabinet 64 and panel 62 and acts to disperse light downwardly toward the work table. The lights mounted on light fixture 58 may be used to light the interior of cabinets 64 by providing suitable light passing apertures in the lower shelf of cabinet 64.

From the foregoing it is seen that a kitchen cabinet assembly has been provided that may be assembled in any desired position in a room. The frame structure for the cabinets is portable and is easily assembled. Furthermore, the frame structure is adapted to support a plurality of kitchen cabinets and also to support a wood

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furring strip that provides for easy attachability of wall panel material.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted, as may come within the scope of the claim which follow.

What is claimed is as follows:

In combination, a cabinet support comprising a vertically disposed framework, said framework being formed of a plurality of interconnected vertically and horizontally extending coplanar metal struts, one of said struts having an upstanding portion, an adjustable kitchen cabinet having a rigid frame structure, said frame structure having a plurality of vertically disposed channel iron corner posts, a plurality of horizontally disposed channel irons rigidly connected to some of said vertically disposed channel iron corner posts and forming a front opening, one of said corner posts having an offset portion extending inwardly toward the front of said cabinet to provide a clearance space at the rear of said cabinet for utility conduits and including means for transversely slidably supporting said cabinet structure on said upstanding portion and means for positively securing said cabinet to one side of said framework whereby said cabinet projects in cantilever fashion from said framework, a pair of drawer guides on another of said corner posts in said front opening, a pair of drawer means slidably supported by said drawer guides in stacked relationship in said front opening, said drawer guides comprising a roller, a

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one-piece, unitary bearing and drawer adjustment member for rotatably supporting said roller and having integrally as a part thereof a head portion, a threaded bolt portion and a bearing portion coaxially disposed with respect to said head portion and eccentrically disposed with respect to said bolt portion, means for spacing said roller from said another of said corner posts, said another of said corner posts having port means for receiving said bolt portion, means including said bolt portion for fastening said bearing and drawer adjustment member to said another of said corner posts, and singular means including a slot on said head portion to receive a screwdriver or the like for rotating said bearing portion and said bolt portion to raise and lower said drawer means and to cause said fastening means to secure said bearing and drawer adjustment member to said another of said corner posts after said cabinet structure is supported on said framework and said drawer means are removed.

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