July 28, 1942. A. VANDERVELD 2,291,176

CABINET SUPPORTING STRUCTURE

Filed Feb. 24, 1941 2 Sheets-Sheet 1

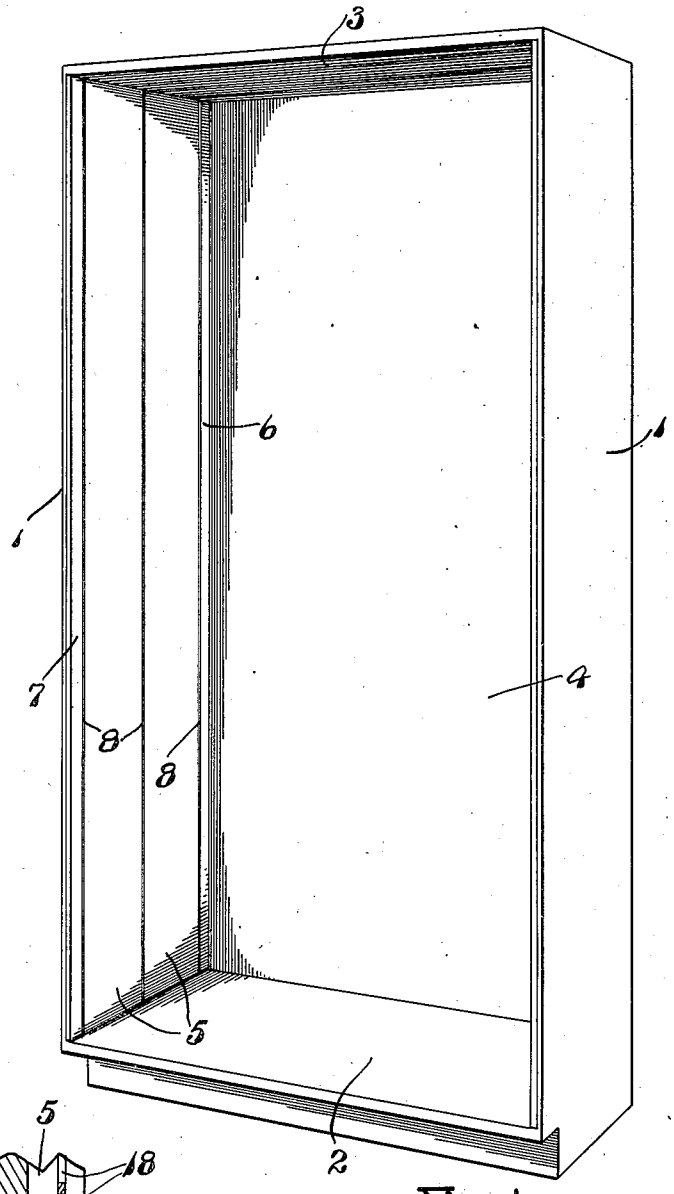


Fig. 1.

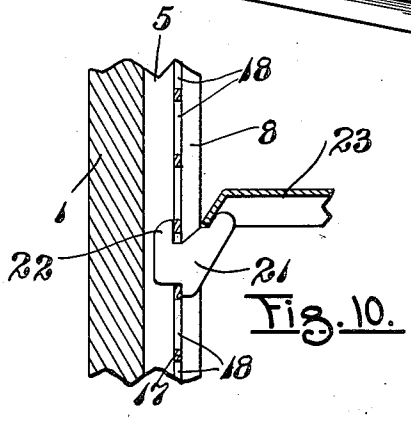


Fig. 10.

Inventor
Anthony Vanderveld
By Livernance and Van Antwerp
Attorneys

July 28, 1942. A. VANDERVELD 2,291,176

CABINET SUPPORTING STRUCTURE

Filed Feb. 24, 1941 2 Sheets-Sheet 2

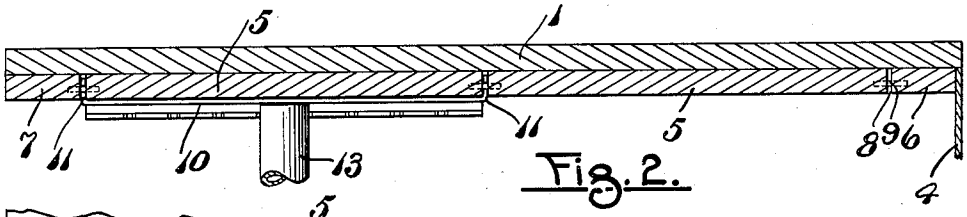


Fig. 2.

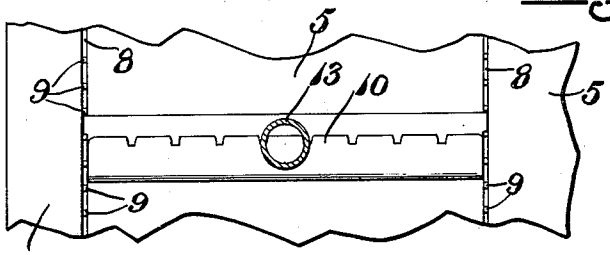


Fig. 3.

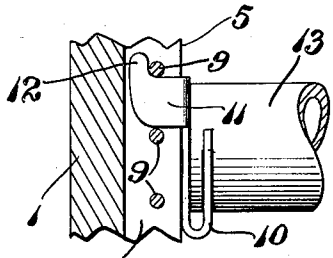


Fig. 4.

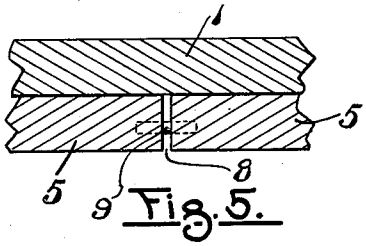


Fig. 5.

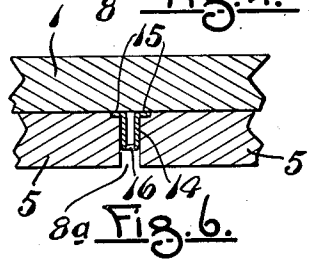


Fig. 6.

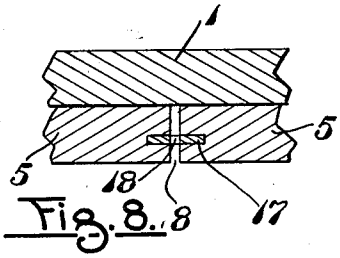


Fig. 8.

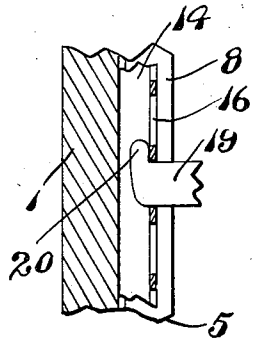


Fig. 7.

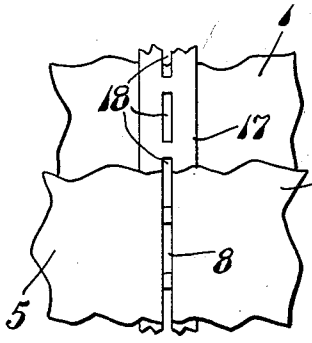


Fig. 9.

Inventor
Anthony Vanderveld
By Livernance and
Van Antwerp
Attorneys

Patented July 28, 1942

2,291,176

UNITED STATES PATENT OFFICE

2,291,176

CABINET SUPPORTING STRUCTURE

Anthony Vanderveld, Grand Rapids, Mich., assignor to Grand Rapids Store Equipment Company, Grand Rapids, Mich., a corporation of Michigan

Application February 24, 1941, Serial No. 380,202

7 Claims. (Cl. 312—156)

This invention relates to a cabinet structure and more particularly to a cabinet chassis including a supporting structure at each end thereof of novel form and one which is particularly desirable. It is in general concerned with improvements in devices of the type shown in the patent to Welch and Williams, No. 2,208,237 for Store furniture, issued July 16, 1940.

In the present invention the cabinet carcass or chassis, as it has been termed, has the ends thereof made up of panels permanently secured together, for example, by gluing or other equivalent fastening and with narrow slots between the inner panels which are separated one from another. The supporting devices which are across said slots are located between the outer and inner sides of the ends of the cabinet chassis and are invisible and are disposed in spaced apart vertical relation to each other, a very large number of them in each slot between the upper and lower ends thereof.

With this construction, the inner panels glued to the outer panel provide means to carry, support and retain the supporting elements for shelves, door hanging fixtures, hangrod mountings and various other types of accessories which may be selectively applied to the cabinet chassis and by such construction, as disclosed in the patent above referred to, an indefinite number of designs and formations in completed cabinets may be obtained for holding and displaying merchandise. And with the chassis structure and the applicable fixtures and accessories thereto, the merchandise holding and displaying character of the cabinet may be altered and quickly changed, for example in rearranging and adding to the store furnishings or in changing the same for different seasonal displays of merchandise.

With the present invention a very simple, practical, useful and efficient construction of the basic cabinet chassis is produced and one in which the vertical slots at the inner sides of the ends of the chassis are reduced in width, being rendered more inconspicuous. The structure serves to hold the supporting devices which extend across the slots mentioned, securely in place. There is no metal observable on viewing the cabinet from the front, either directly or angularly, making a very practical and desirable structure.

An understanding of the invention may be had from the following description taken in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of a cabinet chassis in accordance with my invention.

Fig. 2 is a fragmentary horizontal section through one end thereof showing a preferred form of construction.

Fig. 3 is a fragmentary elevation at the inner side of one end of the chassis.

Fig. 4 is a fragmentary vertical section through an end of the chassis, the plane of such section being at an inner vertical slot.

Fig. 5 is a fragmentary horizontal section through the panel construction of an end of the chassis.

Fig. 6 is a fragmentary horizontal section similar to Fig. 5 showing a different form or embodiment insofar as the supporting elements within the slots are concerned.

Fig. 7 is a vertical section similar to Fig. 4 of the form of construction shown in Fig. 6.

Fig. 8 is a fragmentary horizontal section similar to Figs. 5 and 6 of a still further form or embodiment of the invention.

Fig. 9 is an inner elevation thereof with certain parts broken away to disclose normally hidden parts and,

Fig. 10 is a fragmentary vertical section similar to Figs. 4 and 7 of the construction of Figs. 8 and 9 and illustrating its use in carrying a shelf.

Like reference characters refer to like parts in the different figures of the drawings.

The cabinet chassis or carcass includes two vertical ends, each having an outer panel 1 with the usual base 2 and top 3 and may be provided with a back 4. It is open at the front though in the completed store furniture the front may be filled by the fronts of drawers or by sliding or drop doors, either wholly or partly; and in open shelving, the front may be left completely open.

In the construction of the vertical ends of the cabinet chassis at the inner sides of the outside panels 1 and a plurality of panel sections 5, 6 and 7, as shown in Figs. 1 and 2, are located and in practice are permanently secured, for example, by gluing to the inner sides of the outer panels 1. In practice it is desirable that there be three vertical slots extending from the top to the bottom and at the inner sides of each end, one of the slots being located adjacent the front edge of the chassis, another adjacent the back and the other substantially midway between. This causes the two middle panel sections 5 to be of substantially the same width while the rear section 6 and the front section 7 are relatively narrow. The adjacent edges of the panel sections 5, 6 and 7 are spaced a short distance from each other providing slots 8 extending the full vertical distance between the top and bottom of the

chassis. The slots 8 in practice are narrow and may not be over .060" in width.

At a plurality of relatively closely spaced vertical positions pins 9 extend across the slots 8 having their ends received in openings in the adjacent panel sections 5 and 6 and 7. These pins are put in place before the panel sections and the outside panel 1 are glued together. After the gluing or other equivalent securing of the panels has been done, the pins 9 are securely held, are supported at their ends so that they will carry weight placed upon them, are for all practical purposes invisible, being located between the inner and outer sides of the ends of the chassis and the whole interior surface of the cabinet chassis is free and unobstructed.

The pins 9 spaced, preferably, equal distances vertically from each other are supporting members extending across the slot with which various types of fixtures and accessories may be detachably connected. We have shown a hangrod mounting at 10 at each end of which is an inturned bracket portion 11 terminating at its inner upper corner in an upturned finger 12. The height of the bracket portion 11 is slightly less than the distance between two adjacent pins 9 so that it can be inserted between two of such pins with the finger 12 extending upwardly back of the uppermost pin, the lower edge of the bracket portion 11 resting upon the pin 9 next below. Hangrod mountings as disclosed are used to detachably carry a horizontal rod 13 from which to suspend garment hangers which may carry garments and in itself is no part of the present invention, being shown in Patent No. 2,233,733, issued March 4, 1941.

The thickness of the metal from which the bracket portions 11 are made is slightly less than the width of the slot 8, for example .050", is a commonly used thickness of metal in practice. Of course, the invention is not limited to any particular specific thickness of metal and the specifications made of the thickness of the metal and the width of the slot should not be considered as the essence of the invention.

The end structure having the outer panel 1 and the several sectional panels may be used with other forms of supporting elements assembled with the panels and retained when the parts are glued or otherwise permanently secured together. In Fig. 4, the slots 8a are wider than the slots 8 for the reception of channel shape supporting strips having parallel sides 14 terminating in oppositely turned short flanges 15, the connecting or web part of the channel being provided with a plurality of vertically spaced slots 16. The sides of the channel member 14 are of less width than the depth of the slot 8a in the panel section 5 (Fig. 6) so that at the entrance to the slot no metal appears and the entire supporting structure is located between the inner and outer sides of the chassis. The flanges 15 are held between the outer panel 1 and the panel sections 5, 6 and 7 as shown.

In Fig. 8 instead of a plurality of pins 9 supplying the spaced apart supporting members within the slot 8 a single elongated plate 17 of flat metal is provided in which vertically spaced slots 18 are made having a width equal substantially to the width of the slot 8 and a length substantially equal to the distance between the pins 9 in the first described structure. In the edges of the panel sections 5, 6 and 7, grooves or slots are made to receive the edge portions of the plate 17 which in the completed structure bridges the slot 8 and with its spaced slots 18 in alinement with the slot 8.

The slots at 16 in the channel member of the structure shown in Fig. 6 are adapted to have a bracket portion 19 with an upturned finger 20 thereon inserted therethrough, the finger coming against an intervening part of the metal above the slot 16 through which the bracket portion is passed, while such bracket portion rests against the metal portion below the slot 16 as shown in Fig. 7. Also as shown in Fig. 10 the construction described with reference to Fig. 8 is adapted to similarly receive a supporting bracket 21 in the same manner which is supplied with an upwardly extending inner finger 20, the connection with the supporting member located across the slot 8 being in the same manner. Such brackets 21 may be used to carry shelves indicated at 23 or other desired fixtures or accessories used in completing the cabinet.

It is to be understood that the various bracket forms shown may be used in connection with a great many accessories such as door mounting frames, shelf brackets and the like as disclosed in the patent to Welch and Williams heretofore mentioned. In all cases it will be evident that the height dimension of the bracket members such as 11 in Fig. 4, 19 in Fig. 7 and 21 in Fig. 10 is very much more than the thickness of the metal used. The sides of the bracket portion are held against buckling and twisting because they will be so closely engaged by the sides of the slots 8 in which they are housed. The example given of a slot having a width of .060" and the metal inserted therein being 0.50" thick leaves a clearance of .005" at each side so that buckling, twisting or other distortion of the metal under load is insured against. The structure described is very practical and useful and with it no appearance of metal at the entrance openings to the slots 8 is seen while the slots being of such narrow character do not detract from the appearance of the cabinet at its inner sides but on the other hand serve to enhance such appearance.

The invention is defined in the appended claims and is to be considered comprehensive of all form of structure coming within their scope.

I claim:

1. In a cabinet chassis or body, vertical end members each comprising an outer panel and a plurality of panel sections located at the inner side of and secured to said outer panel with narrow slots spacing said panel sections at their vertical edges from each other, and a plurality of supporting means located in each slot in vertical spaced relation to each other and held in position against removal by the securing of said sectional panels to the outer panel.

2. In a cabinet chassis or body, a vertical end member comprising, an outer panel and a plurality of sectional panels at the inner side of and secured to the outer panel with adjacent edges separated by narrow slots, spaced supporting members associated with each of said slots and disposed a distance inward from the entrance openings thereof, said plurality of supporting means being in vertically spaced relation and held and supported by the sectional panels at each side of said slots.

3. In a construction of the class described, a cabinet chassis or body having a vertical end comprising an outer panel having a width equal substantially to the depth of the cabinet chassis and a plurality of sectional panels located at the

inner side of and secured to said outer panel, said sectional panels being separated at their vertical edges by narrow vertical slots, the combined widths of said sectional panels and the slots between being substantially equal to the width of the outer panel, and a plurality of horizontal pins in vertical spaced relation bridging each of said slots and at their ends penetrating the adjacent sectional panels, said pins being located between the entrance openings of said slots and the outer panel, as specified.

4. A vertical end for a cabinet chassis or body comprising, an outer panel having a width equal substantially to the depth of the cabinet chassis and a plurality of vertical sectional panels located at the inner side of and secured to said outer panel with the adjacent edges of said sectional panels spaced short distances apart to make continuous narrow vertical slots between them, said sectional panels at each edge of said slots being vertically grooved between their opposite sides, and a flat plate extending across each of said slots having opposite edge portions received and held within said grooves in adjacent sectional panels, said plate between its vertical edges having a plurality of vertical slots in conjunction with the slots between the sectional panels spaced from each other at adjacent ends by narrow integral portions of the plate which connect the parts of said plate at opposite vertical sides of the slots.

5. A vertical end member for a cabinet chassis having a plurality of horizontally spaced narrow vertical slots therein at its inner side, said slots extending partially through the end member and having depths greatly in excess of their widths, and vertically spaced horizontal pins extending across said slots and located between the entrance openings and the bottoms of said slots and having their end portions penetrating said member at opposite sides of the slots, as specified.

6. In a construction of the class described, a cabinet chassis or body having a vertical end comprising, an outer panel having a width equal substantially to the depth of the cabinet chassis and a plurality of sectional panels located at the inner side of and secured to said outer panel, said sectional panels being separated at their vertical edges by narrow vertical slots, the combined widths of said sectional panels and the slots between being substantially equal to the width of the outer panel, and a vertical channel member located lengthwise of each slot having parallel sides with a connecting portion between said sides and said sides having flanges extending oppositely to each other, said flanges being located between the outer panel and said sectional panels, the connecting portion between the sides of said channel having a plurality of spaced apart vertical slots therein, as specified.

7. A construction containing the elements in combination defined in claim 6, the width of the sides of said channel being less than the thickness of the sectional panels.

ANTHONY VANDERVELD.