

Dec. 15, 1931.

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1,836,901

METALLIC CABINET STRUCTURE

Filed March 12, 1930

5 Sheets-Sheet 1

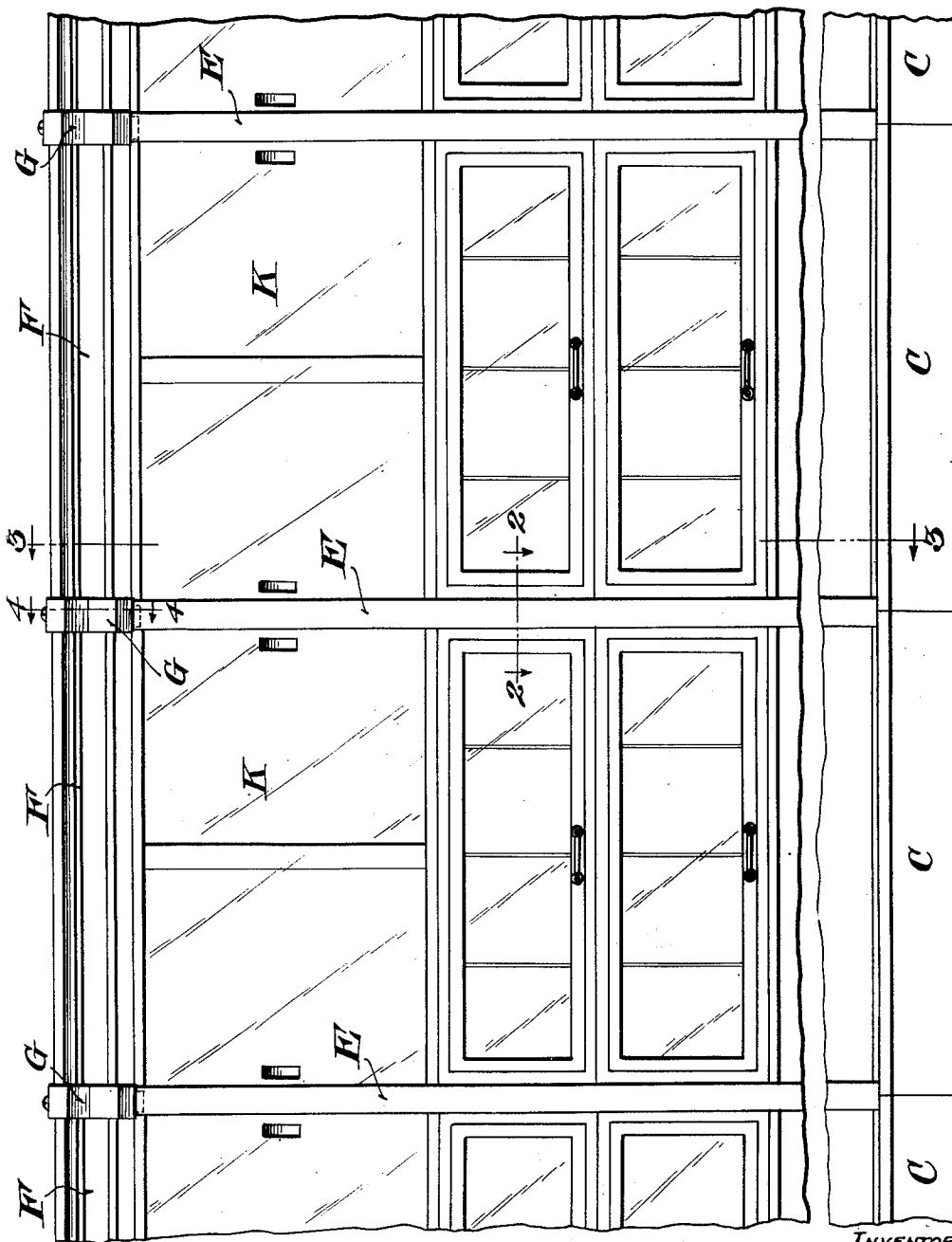


Fig. 1.

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5 Sheets-Sheet 2

Fig. 2.

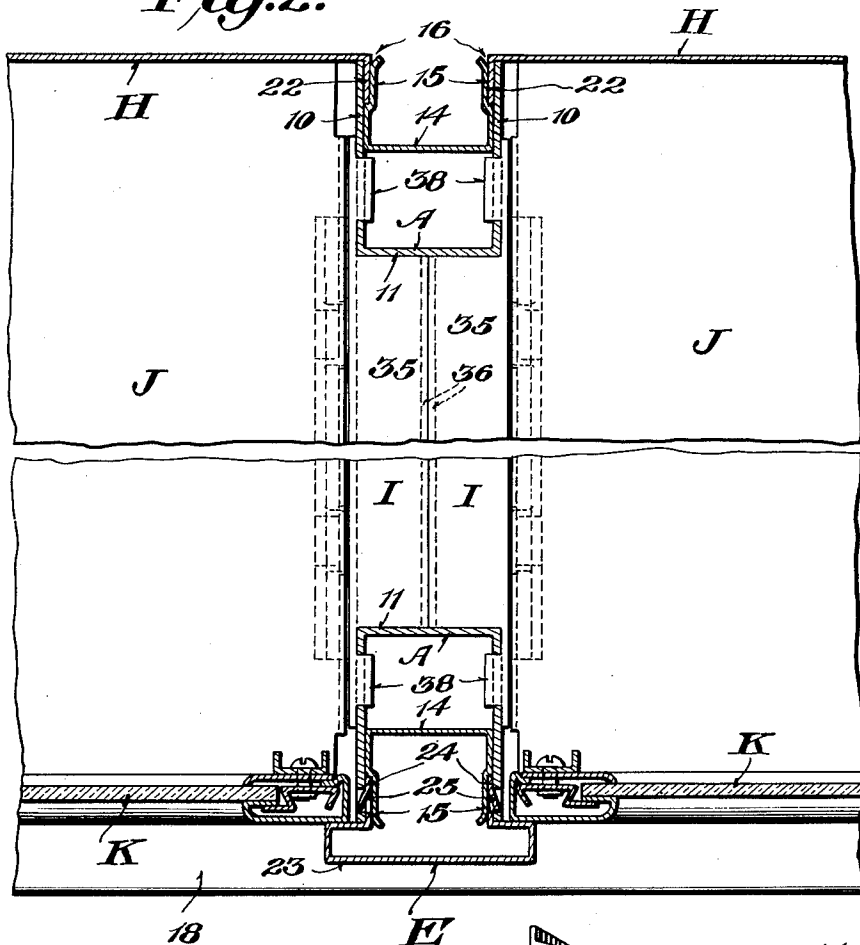


Fig. 10.

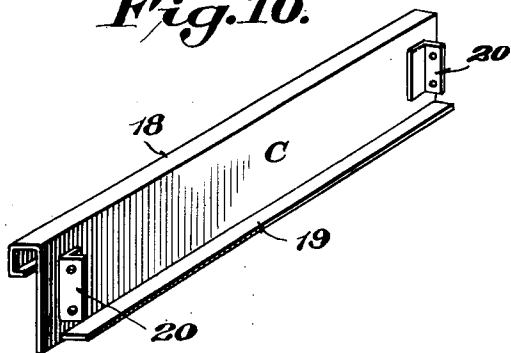
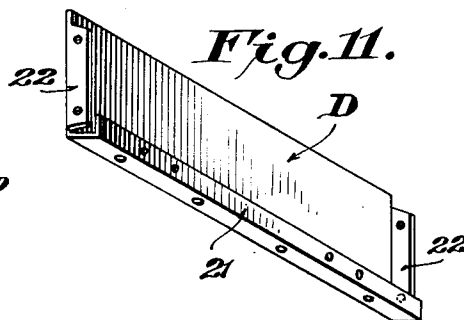


Fig. 11.



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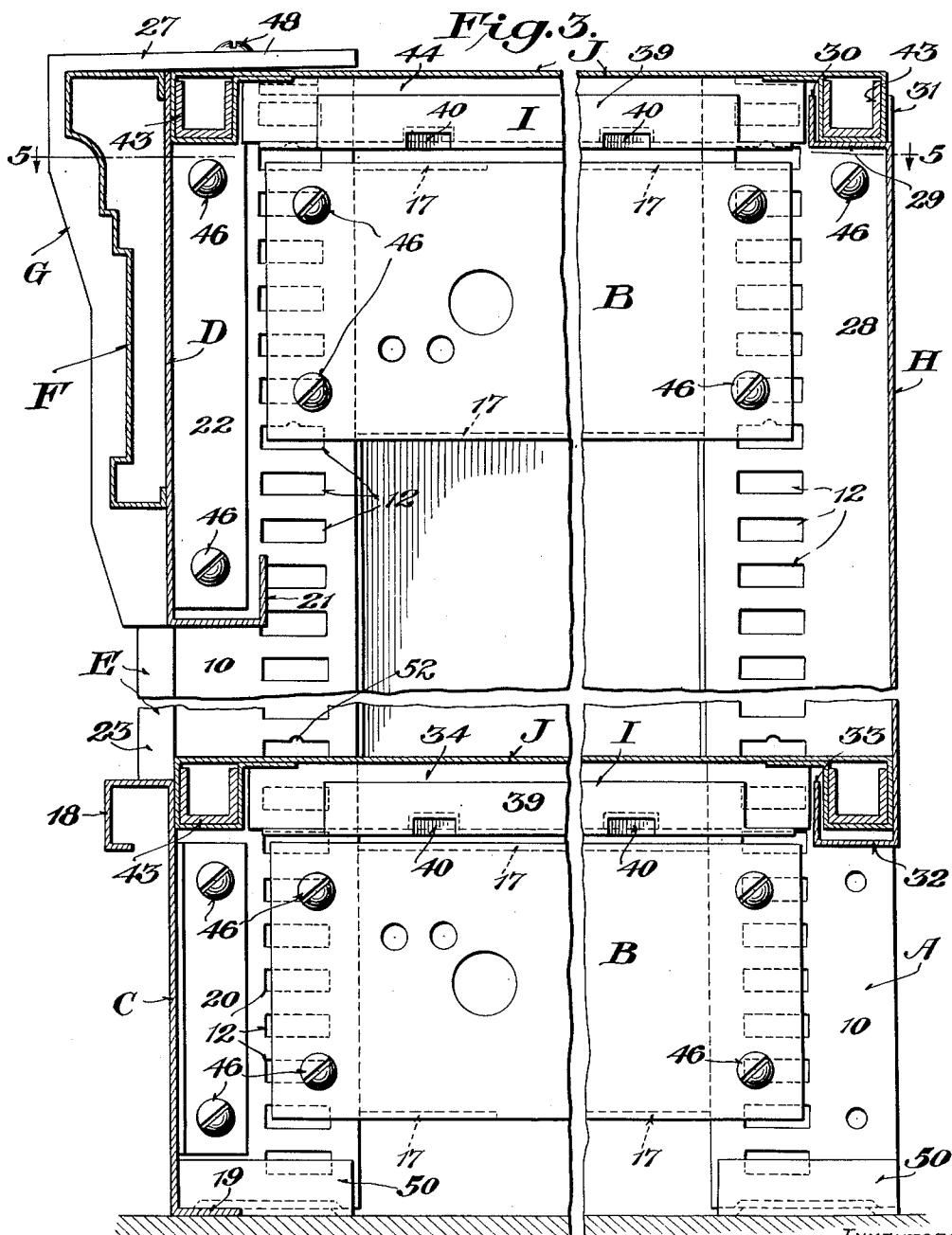
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METALLIC CABINET STRUCTURE

Filed March 12, 1930

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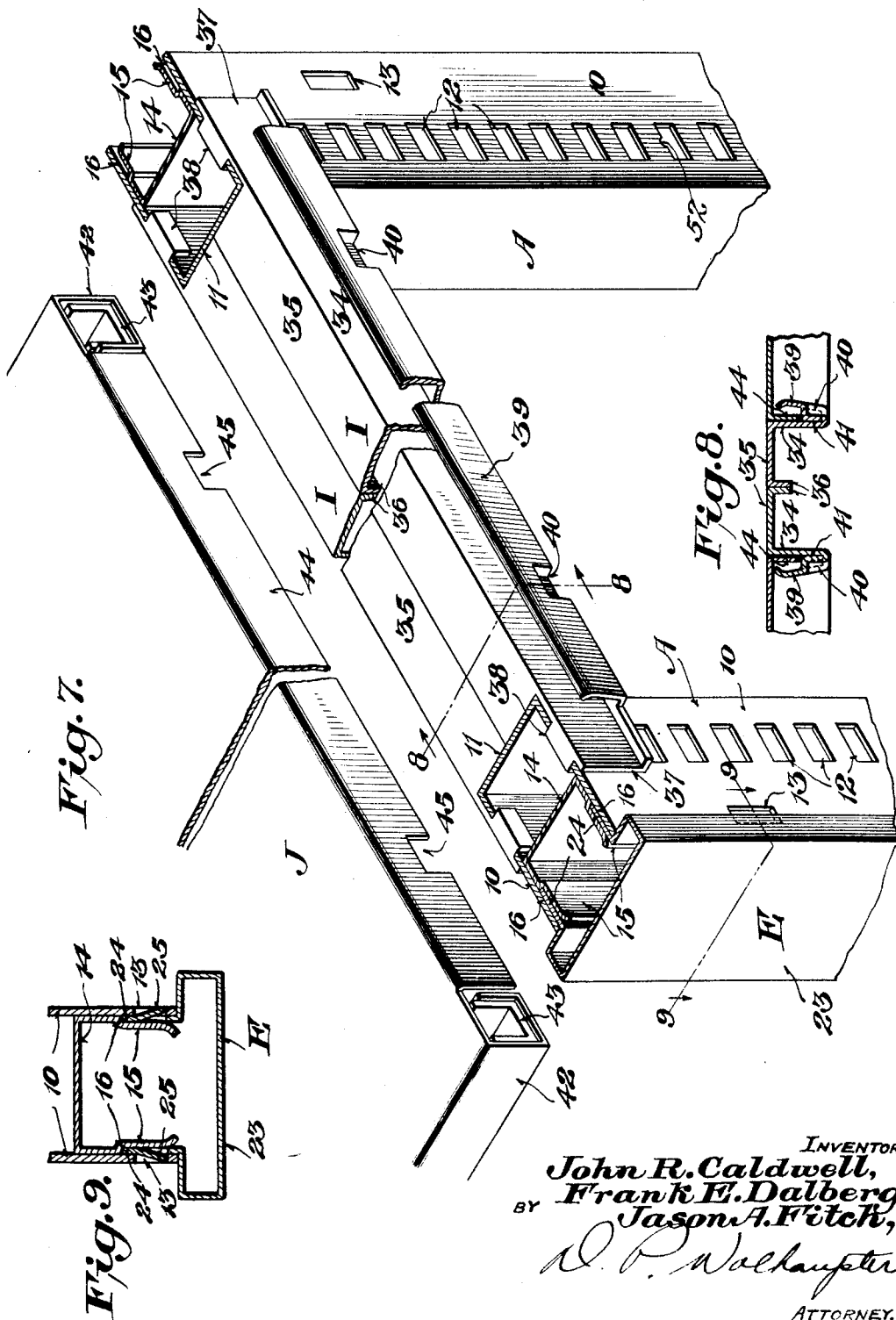
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METALLIC CABINET STRUCTURE

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UNITED STATES PATENT OFFICE

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METALLIC CABINET STRUCTURE

Application filed March 12, 1930. Serial No. 435,292.

This invention relates to cabinet structures, particularly metallic cabinet structures of the type employed for example in retail commercial establishments for the storage and display of goods, and has in view to provide various improvements in the structural elements of such cabinets, from an economical production cost standpoint, especially designed to facilitate their assembly and disassembly and to provide for convenience in securing desired adjustments of certain elements thereof.

Also, the invention has in view to provide a metallic cabinet structure composed of separable or detachably connected elements which, in their assembled relation, provide a cabinet of attractive appearance and which is exceptionally strong and sturdy, a relatively small number of different structural elements being employed and these being of such design that they are easy to form and are adapted for cooperation with one another in a novel manner to impart strength and rigidity to the structure.

With the foregoing and other purposes in view, the invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter more fully described, illustrated in the accompanying drawings, and defined in the appended claims.

In the drawings, wherein like characters of reference denote corresponding parts in the different views:—

Figure 1 is a front elevation of a section of a cabinet constructed in accordance with the invention.

Figure 2 is an enlarged horizontal section taken approximately on the line 2—2 of Fig. 1.

Figure 3 is a vertical transverse section taken approximately on the line 3—3 of Fig. 1.

Figure 4 is a vertical transverse section taken approximately on the line 4—4 of Fig. 1.

Figure 5 is a horizontal section taken approximately on the line 5—5 of Fig. 3.

Figure 6 is a detail section taken approximately on the line 6—6 of Fig. 4.

Figure 7 is a detail perspective view illustrating particularly the assembly of the

shelf supports with the posts and the manner in which the shelves are adapted to be assembled with their supports.

Figure 8 is a cross section taken approximately on the line 8—8 of Fig. 7 and showing the manner of connecting the shelves with their supports.

Figure 9 is a detail section on the line 9—9 of Fig. 7.

Figure 10 is a perspective view on a small scale of one of the base panels.

Figure 11 is a perspective view on a small scale of one of the frieze plates; and

Figure 12 is a perspective view on a small scale of one of the back plates or panels.

A cabinet constructed in accordance with the present invention may consist of a single section or may be formed of any desired length by connecting any desired number of sections in end to end relation, and in this connection it is a feature of the invention that the respective sections preferably are duplicates of one another, and each section preferably has duplicate end structures, so that in connecting a plurality of sections in end to end relation the end structure between each adjacent pair of sections may be common to both sections of the pair.

For a better understanding of the invention the elements constituting one section of the present cabinet structure will first be described in detail and thereafter will be explained how said elements may be assembled with one another to produce either a single cabinet section or an elongated cabinet composed of a plurality of sections connected together in end to end relation.

First, posts A of desired height or length and of U-shaped cross-section are provided, each consisting of spaced side walls 10, 10 and an inner connecting wall 11. In each side wall 10, adjacent to the inner wall 11, is formed a series of preferably horizontally elongated, rectangular openings 12, the openings of each series preferably being evenly spaced longitudinally of the post and the openings of the respective series preferably being alined with one another. In addition, each side wall, adjacent to its outer or free edge, and at suitable points spaced longi-

itudinally of the post, has formed therein any desired plurality of preferably vertically elongated, rectangular openings 13. Furthermore, a channel member 14 of U-shaped cross-section is suitably secured, as by means of spot welding or otherwise, within each post with the free edges of its sides 15, 15 disposed outwardly and terminating approximately in the plane of the outer or free edges of the post sides 10, 10, the said sides of said channel member being stepped inwardly as shown whereby a channel 16, having an open side at the outer edges of the sides 10 and 15, is formed between each post side 10 and the adjacent channel side 15.

Second, spreader plates B are provided for connecting and holding front and rear pairs of the posts A in spaced relation. Each spreader plate (Figs. 3 and 5) consists of a rectangular body portion of suitable height and length provided at its ends with fastener receiving openings and at its upper and lower edges with laterally turned flanges 17 terminating at their outer ends inwardly of the ends of the plate to provide shoulders for engagement with the inner faces of the walls 11, 11 of a pair of the posts A.

Third, base plates or finishing panels C (Figs. 3 and 10) are provided to extend from one to the other of each front pair of posts A, A, at the bottom of the cabinet. Each of these plates consists of a body portion of suitable height and length bent outwardly, downwardly, and then inwardly at its upper edge to provide an attractive finishing rib formation 18, and at its lower edge preferably having an inwardly directed flange 19. In addition, upon the inner face and adjacent to each end of each plate or panel C is welded or otherwise suitably secured a vertically extending, inwardly directed flange 20 having fastener receiving openings therein, these flanges being adapted to abut the adjacent side walls of a front pair of posts A, A, to hold them in spaced relation.

Fourth, frieze plates D (Figs. 1, 3, 4 and 11) are provided to extend from one to the other of each front pair of posts A, A, at the top of the cabinet. Each of these plates, which is of suitable width or height and preferably of the same length as the finishing plates or panels C, consists of a body portion having an inwardly and upwardly bent lower edge portion 21 and inturned flanges 22 at its ends provided with fastener receiving apertures, these flanges being adapted to abut the adjacent side walls of a front pair of posts A, A, to hold them properly spaced at their upper ends.

Fifth, pilasters or channel members E are provided for cooperation with the front posts A to lend an attractive finish to the open fronts of said posts. Each of these channel members (Figs. 1, 2, 7 and 9) is of a length to extend from the top of the base plate C to

the bottom of the frieze plate D and, in cross section, consists preferably of a substantially rectangular front portion 23, of somewhat greater width than the post A, having extending rearwardly therefrom a pair of flanges 24, 24, spaced so as to enter the heretofore mentioned post channels 16. Struck outward from each flange 24 is a plurality of spring tongues 25, spaced with respect to one another so as to aline with the openings 13, whereby the simple act of entering the flanges 24 into the post channels 16 and pushing inward on the member E causes said tongues to be depressed until they come into alinement with said openings 13 whereupon they are adapted to spring outward into said openings and thus lock the member E to the post.

Sixth, cornice or molding plates F (Figs. 1, 3 and 4) are provided for imparting an attractive finish to the front of the cabinet at the top thereof. These are of suitable width or height and of a length corresponding approximately to the distance between centers of a front pair of posts A, A, and they may be of any attractive cross sectional design.

Seventh, pilaster caps G are provided to support the cornice or molding plates F, and to cover the ends of the latter; also to interrupt the continuity of the cornice or molding plates and thereby lend increased attractiveness to the cabinet. Each pilaster cap (Figs. 1, 3 and 4) has its inner face formed to fit the contour of the outer face of the cornice or molding plate F, and at its bottom is formed with a lug 26 to fit neatly into the open top of the rectangular front portion 23 of a pilaster E. At the top of each pilaster cap is an inwardly directed extension 27 which is disposed normally at a slight obtuse angle with respect to the plane of the front portion of the cap and provided with a fastener receiving opening.

Eight, back plates or panels H are provided for closing the rear of the cabinet. Each back plate (Figs. 3 and 12) consists of a body portion having inturned flanges 28 at its ends adapted to engage the adjacent side walls of a pair of rear posts A, A. At its top, each back plate is bent inwardly as at 29 and then upwardly as at 30, and one or more tongues 31 is or are directed upwardly from the upper edge of the body portion in the plane thereof, to provide a seat for the rear edge of a shelf, while at its bottom each back plate is bent inwardly as at 32, and then upwardly as at 33, to provide another shelf rest.

Ninth, shelf supports I are provided to extend between each front and rear pair of posts A, A for the purpose, as their name implies, of supporting the ends of shelves which extend from end to end of each cabinet section. Each shelf support (Figs. 3, 7 and 8) is of angular, inverted L-shaped

cross-section and inclusive of a side wall 34 and a top wall 35. The top wall preferably is of a length corresponding to the distance between the inner faces of a front and rear pair of the posts A, A and is of a width approximating one-half the width of a post A, its free edge portion being constituted by a downturned flange 36. The side wall is longer than the top wall and therefore is inclusive of end portions 37 which extend beyond the ends of the top portion, and, as showed in Fig. 7, these end portions are adapted to lie against side faces of a front and rear pair of the posts A, A, each end portion being inclusive of a hook formation 38 extending from the upper edge thereof inwardly and downwardly and adapted to be inserted through a selected opening 13 so that by slight downward movement of the support same may be detachably interlocked with a pair of the posts A, A. Formed as an integral extension of the lower edge of the side wall 34 is an outwardly and upwardly directed flange or lip 39 which is disposed in spaced relation to said side wall and at one or more points is pressed inwardly, as indicated at 40, to provide, in the space between the side wall 34 and said flange or lip, at the bottom of said space, a lug or lugs 41.

Tenth, shelves J are provided to extend longitudinally of the cabinet between pairs of the shelf supports I. These shelves, of duplicate construction, (Figs. 2, 3, 7 and 8) each consists of a flat, rectangular body portion of proper length and width, preferably bent downwardly, inwardly and then upwardly at its front and rear edges to provide hollow stiffening formation 42, which may be reinforced by bars 43 of suitable section disposed therein. Each end of each shelf is bent downwardly to provide a flange 44 which is adapted to be entered between the side 34 and the lip 39 of a support I and, as best shown in Fig. 7, these flanges are recessed, as indicated at 45, to receive the lug or lugs 41 whereby forward or rearward shifting movement of the shelves with respect to the supports I is prevented.

To construct a cabinet section from the foregoing primary elements, a rectangular framework inclusive of four corner posts A is first erected by connecting said posts together by means of the spreader plates B and the base and frieze plates C and D, respectively. That is to say, a spreader plate B is placed at the top and bottom of each front and rear pair of posts with its end portions against the side faces of the posts, respectively, and the ends of its flanges 17 abutting the inner walls 11 of the posts, and bolts 46 then are passed through the fastener receiving openings in the end portion of said plates and through suitable of the openings 12 in the posts to secure the plates to the latter, it

being preferred in this connection to surround the bolts, between the side walls 10, 10 of the posts, with sleeves 47 to prevent inward deflection of the side walls of the posts when the bolts are tightened. Thus, the respective end pairs of posts are secured rigidly in fore and aft spaced relation. The base and frieze plates C and D on the other hand serve to connect the posts at one end of the section in spaced relation to the posts at the end of the section. The flanges 20, 20 of the base plate are disposed in abutting relation with adjacent side walls 10, 10 of the front pair of posts at the bottoms thereof and bolts 46 are engaged through these flanges and through openings formed in the side walls of the posts, said bolts, like the first mentioned bolts, preferably also being equipped with post side wall spacing sleeves. The frieze plate is secured in a similar manner at the tops of the posts by bolts 46 passed through the flanges 22 thereof and through the posts. Next, the back plate H may be secured between the rear pair of posts by snapping the flanges 28 thereof into the channels 16 of said posts in the same manner that the pilaster flanges 24 are adapted to be snapped into the channels 16 of the front pair of posts, the said flanges 28 to this end being provided with tongues 51 for cooperation with the openings 13 in the rear posts. Further, said back plate may additionally be secured by means of bolts 46 passed through the flanges of said back plates and through the posts.

With the framework of the cabinet section thus assembled, a shelf support I may be engaged in the manner heretofore stated with each end pair of the posts at a desired elevation and a shelf J may then be engaged at its ends with said shelf supports, the rear reinforcement formation of the shelf being received in the formation 32 of the back H whereby the shelf and the back become interlocked with one another. For closing the top of the section, other shelf supports may be mounted at the tops of the posts and a shelf mounted on said supports may constitute the top closure of the section.

Next, if they have not previously been engaged with the posts A, the pilaster or channel members E may now be snapped into closing and finishing relation to the open front sides of the front posts, and with these members in place the cornice or moulding plate F may be placed against the front of the frieze plate D and be secured in such position by the pilaster cap pieces G. That is to say, the lugs 26 at the lower ends of the pilaster caps are seated in the upper open ends of the pilasters E and the inner faces of said pilaster caps are arranged in embracing relation to the cornice F, after which a screw 48 is passed downwardly through the inward extension 27 of each pilaster cap and threaded into a cross piece 49 carried within each post at the

top thereof, so that by drawing said screws tight the pilaster caps are caused to fulcrum about the upper ends of the pilasters E and thus bind the cornice F against the front of the frieze plate D; this action resulting from the disposition of the extension 27 of the pilaster cap at a slight obtuse angle to the plane of the front of the cap in a manner which is obvious.

From an inspection of Fig. 11 of the drawings it will be noted that the formation 21 of the frieze plate D is provided with a number of openings. These are adapted to receive fasteners for suitably mounting, sliding or hinged doors K at the front of the cabinet section as shown in Fig. 1.

Inasmuch, however, as said doors and the manner of mounting them forms no essential part of the present invention, a detailed showing and description of said doors is omitted.

Foot pieces 50 (Fig. 3) preferably are provided at the lower ends of the posts A and said foot pieces are provided with depressions as shown by dotted lines to receive suitable shim elements (not shown) for leveling the cabinet.

When only a single cabinet section is desired its ends may, if desired, be closed in any suitable manner. On the other hand, when it is desired to construct an elongated cabinet composed of two or more sections, the structure heretofore described simply is continued beyond one or both ends of a section first constructed, the posts A and their related elements between each pair of sections then being common to both sections of the pair, in which connection it will be noted that the shelf supports I between each pair of sections will cooperate to form a substantial flush continuation of the shelves of the adjacent pair of sections.

It will be noted that the openings 12 of the parts A are marked at intervals by forming small recesses 52 in certain of the bars separating said openings to facilitate the operation of locating the shelf supports on said posts. Further, it will be understood, of course, that the front surfaces of the pilasters E may be fluted or otherwise ornamented; that the pilaster caps may be cast or stamped from sheet metal, and that the reinforcing ribs of the various elements, particularly the reinforcing formations at the front and rear edges of the shelves J, may be formed as separate elements spot welded or otherwise secured to their respective body structures.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from

the spirit of the invention and scope of the appended claims.

We claim:—

1. In a metallic cabinet, a post of U-shaped cross-section inclusive of spaced sides, and means cooperating with each side to provide an outwardly opening channel adapted to receive a flange element of a post finishing pilaster.

2. In a metallic cabinet, a post of U-shaped cross-section inclusive of spaced sides, a post finishing pilaster, means cooperating with each side of the post to provide an outwardly opening channel adapted to receive a flange element of a said post finishing pilaster, and interlocking formations carried by said post sides and said pilaster, respectively.

3. In a metallic cabinet, a post of U-shaped cross-section inclusive of spaced sides, a flanged post finishing pilaster, means cooperating with each side of the post to provide an outwardly opening channel adapted to receive a flange of said post finishing pilaster, and means whereby said pilaster is caused automatically to become interlocked with the post by the act of inserting the pilaster flanges within said post channels.

4. In a metallic cabinet, a post of U-shaped cross-section inclusive of spaced sides each having openings formed therein, a post finishing pilaster inclusive of spaced flanges, means cooperating with each side of the post to provide an outwardly opening channel to receive a related flange of the pilaster, and spring tongues struck from the flanges of said pilaster to be received within the openings in the post sides to interlock the pilaster with the post.

5. In a metallic cabinet, a post, a pilaster carried by said post, a cornice, a pilaster cap embracing the cornice and having a detachable connection at its lower end with the top of the pilaster, and means detachably connecting the top portion of the pilaster cap with the post.

6. In a metallic cabinet, a post, a pilaster carried by said post and having an open upper end, a cornice, a pilaster cap embracing the cornice and fitting at its lower end into the upper open end of the pilaster, and a detachable connection between a top portion of the pilaster cap and the post.

7. In a metallic cabinet, a pair of posts each having a side opening, a shelf support of angular cross section inclusive of a flat top portion disposed at its ends in abutting relation to the inner faces of the posts, a side portion extending downwardly from said top portion and beyond the ends of the top portion for engagement against the side faces of the posts, tongues on the side portion for engagement in the side openings of the posts, the side portion being extended laterally outward and then upward to provide an up-

wardly opening channel to receive the down-turned end flange of a shelf.

8. In a metallic cabinet, a post, a pilaster carried by said post and inclusive of an open top portion, a cornice, a pilaster cap having its inner face recessed to conform to the contour of said cornice and embracing the latter, a lug on said pilaster cap fitting into the open top portion of said pilaster, an inwardly directed extension carried by said pilaster cap, and a fastener extending through said extension and engaged with a part of said post.

9. In a metallic cabinet, a post, a pilaster carried by said post and inclusive of an open top portion, a cornice, a pilaster cap having its inner face recessed to conform to the contour of said cornice and embracing the latter, a lug on said pilaster cap fitting into the open top portion of said pilaster, an inwardly directed extension carried by said pilaster cap, and a fastener extending through said extension and engaged with a part of said post, said pilaster cap extension being disposed normally at a slight obtuse angle with respect to the plane of the front portion of said cap.

10. In a metallic cabinet, a pair of posts each inclusive of a side wall having an opening therein, and a shelf support of angle cross-section inclusive of a top portion and a side portion extending at its ends beyond the ends of said top portion, the end portions of the side of said support being adapted to overlap the side walls of the posts, respectively, and the top portion of said side being adapted to lie between the adjacent inner faces of the posts, and hook formations on the end portions of the side of said support extending first laterally and then downwardly with respect to said end portions for engagement in the openings in the side walls of said posts, respectively.

In testimony whereof we hereunto affix our signatures.

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