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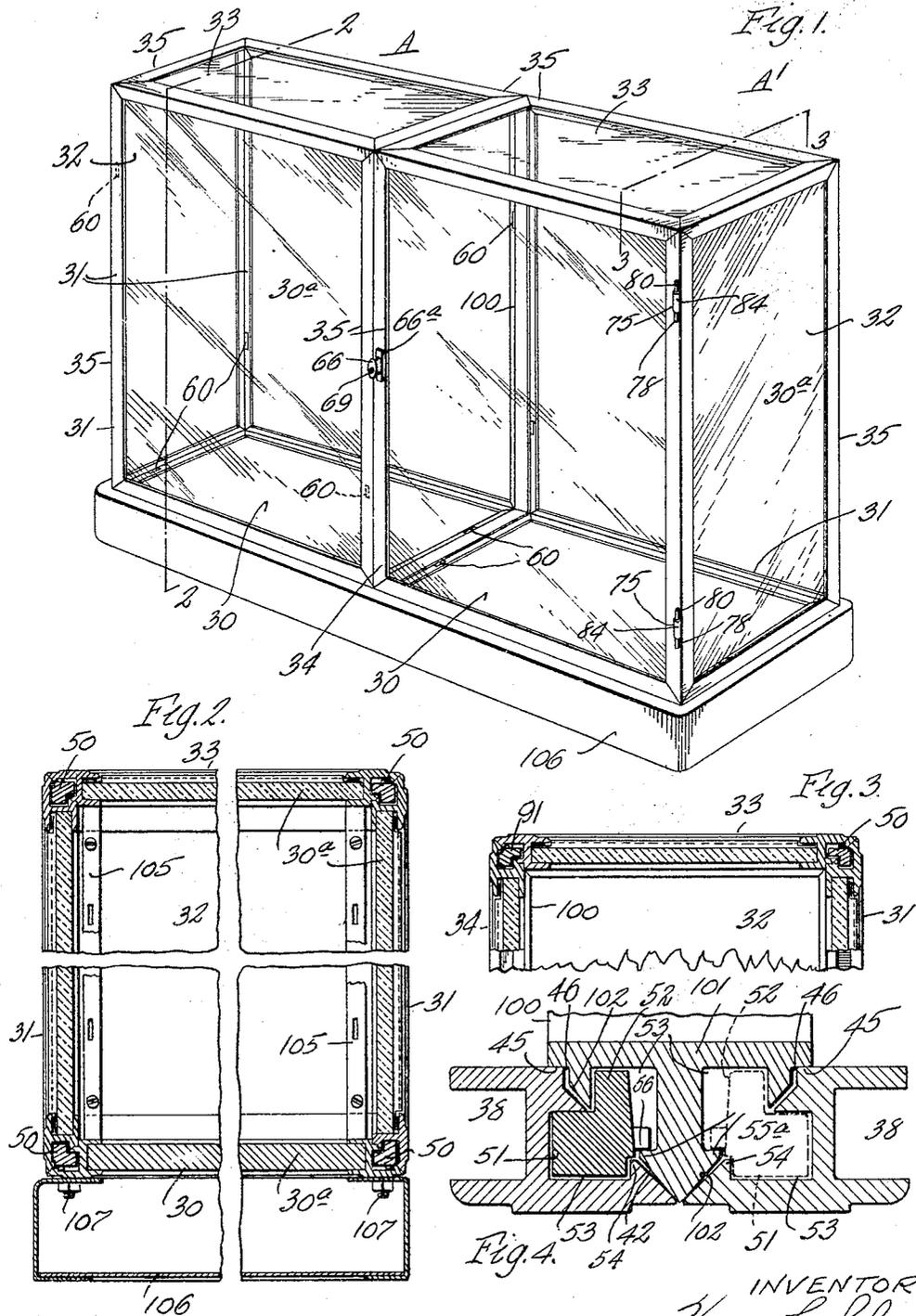
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DISPLAY CASE OR CABINET

Filed April 24, 1930

5 Sheets-Sheet 1



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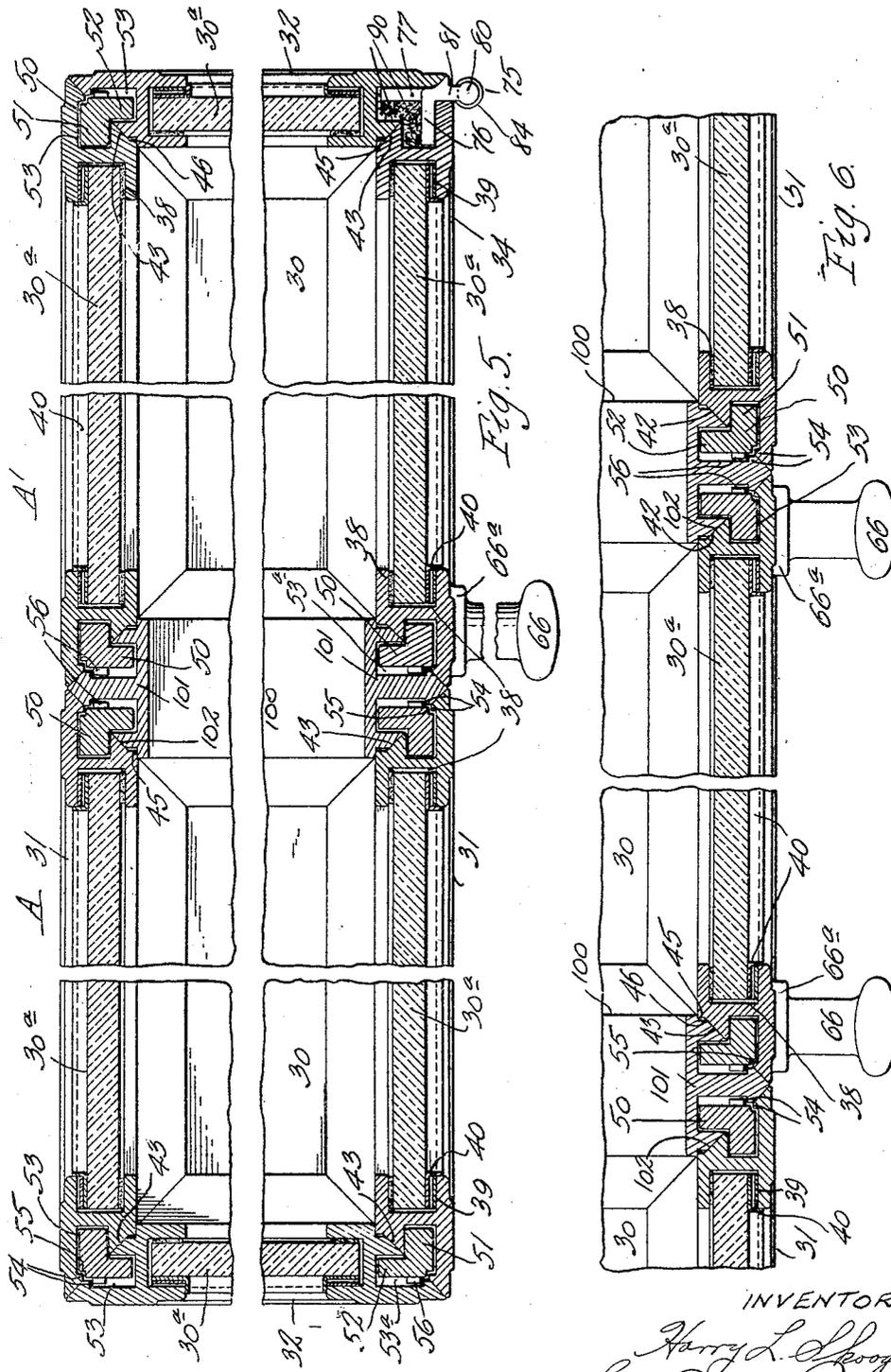
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5 Sheets-Sheet 2



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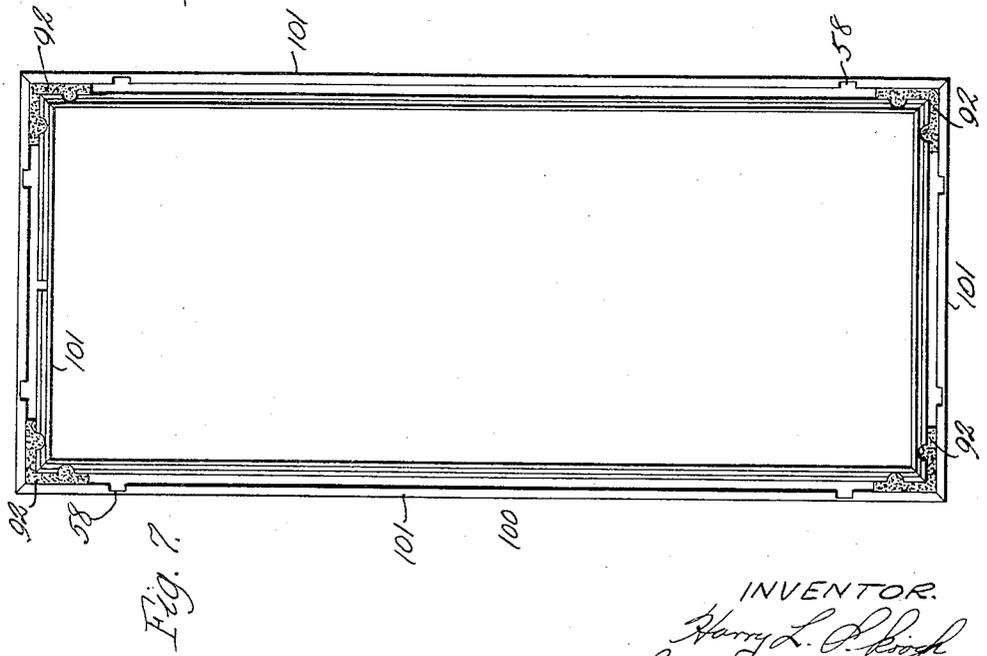
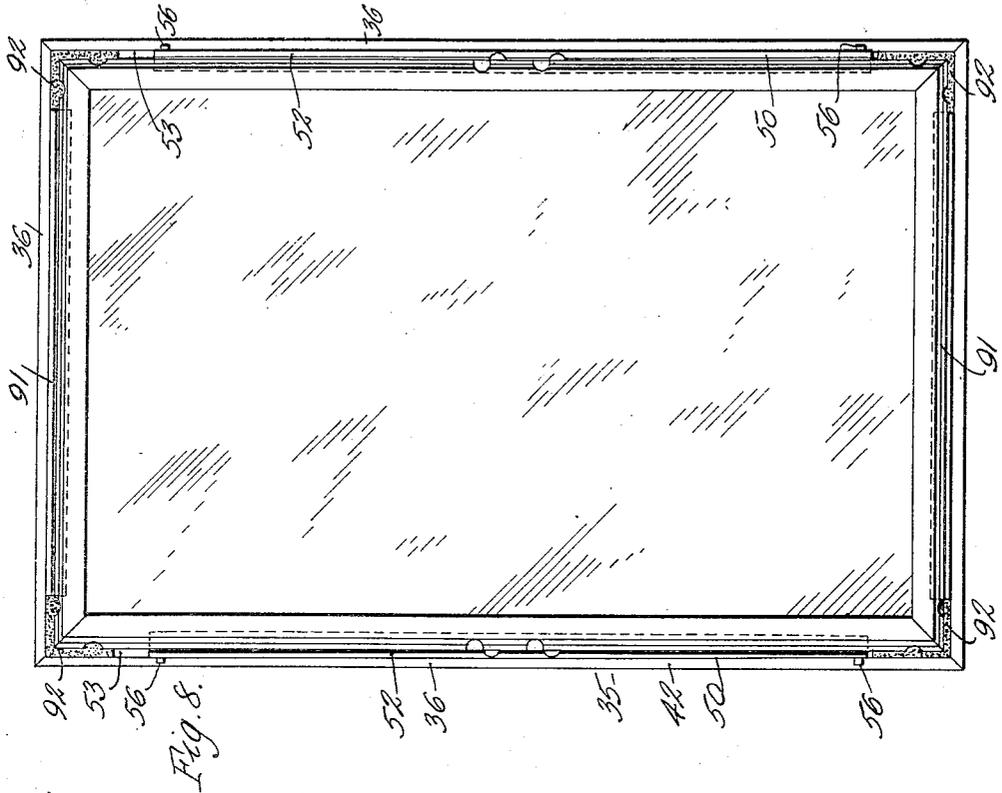
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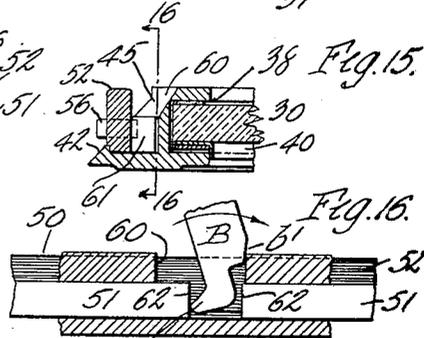
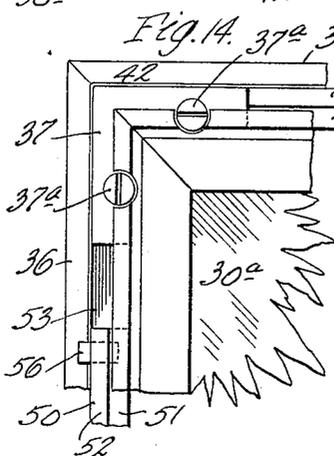
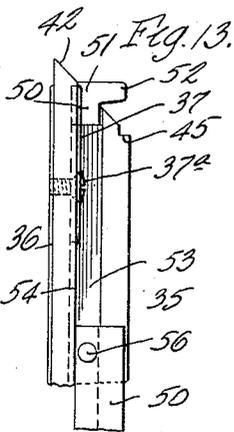
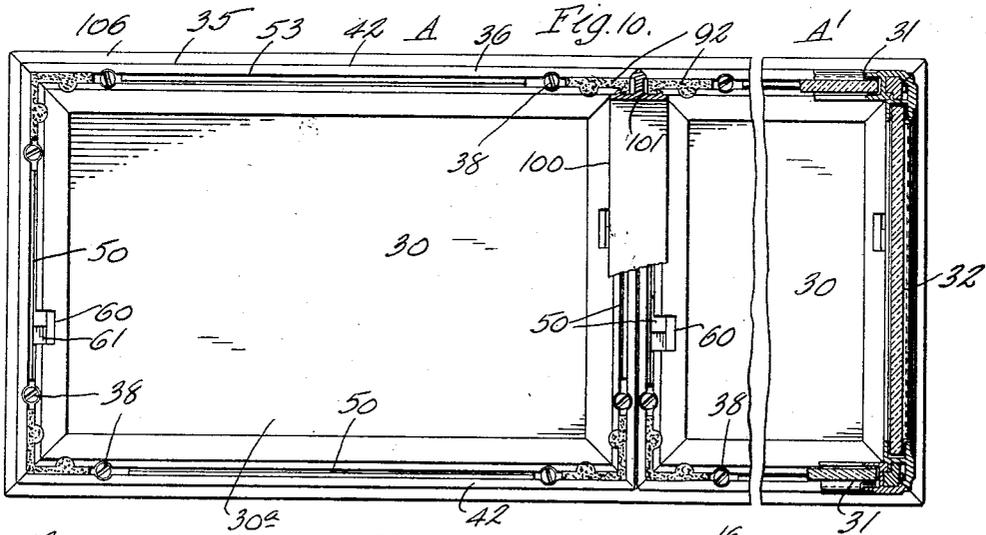
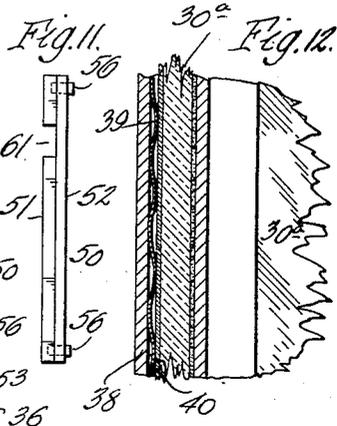
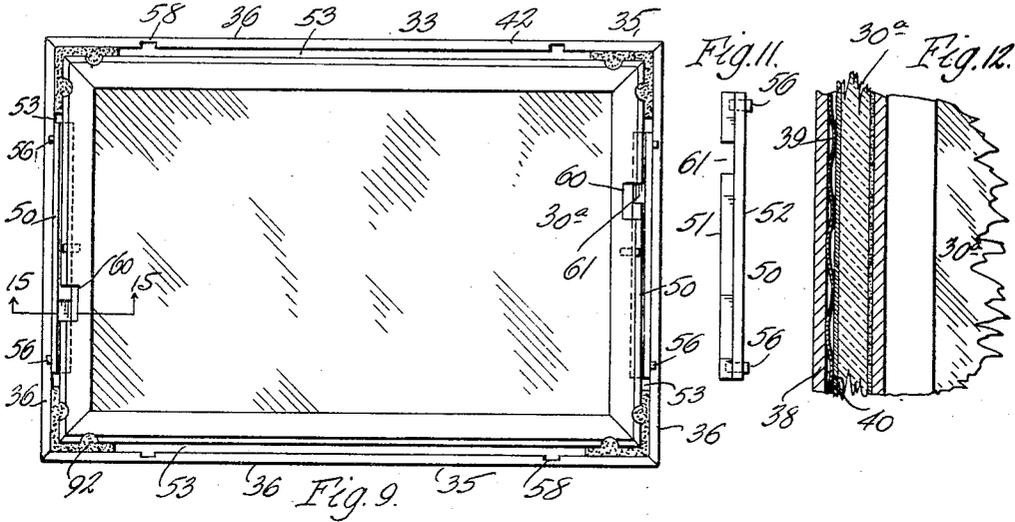
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DISPLAY CASE OR CABINET

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5 Sheets-Sheet 4



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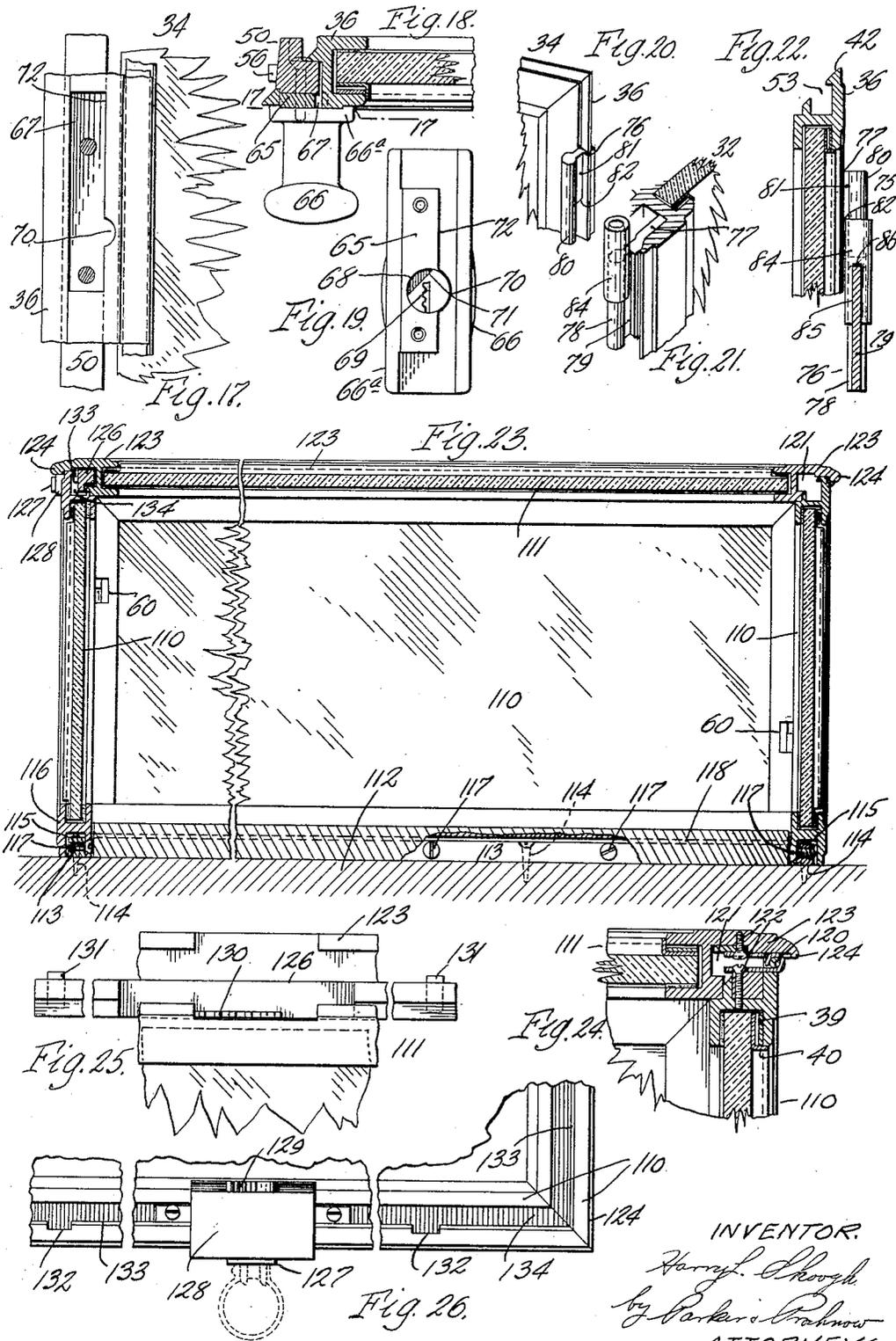
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DISPLAY CASE OR CABINET

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5 Sheets-Sheet 5



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# UNITED STATES PATENT OFFICE

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## DISPLAY CASE OR CABINET

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This invention relates to improvements in display cases, and particularly to that type of such cases known as museum cabinets.

Some objects of the invention are to provide an improved case or cabinet of this character of "knock-down" construction; also to provide improved panel or wall members of substantially standardized or uniform construction, a number of which may be assembled to form a case or cabinet, whereby structures of this kind may be shipped flat so as to reduce transportation costs to a minimum and whereby the panels can be stored by the manufacturer or user in a relatively small space; and also to provide such panels with novel and improved means, carried by and forming a part of these panels for easily and quickly locking the assembled panels together and for as readily disconnecting said panels without the use of separate or additional parts or securing devices, whereby the user, by providing himself with a number of panels can assemble them into cabinets of various sizes and capacities, and can alter or change the size, capacity or arrangement of the assembled cabinets as the need arises, without requiring the services of skilled mechanics.

Other objects are to construct a case or cabinet comprising two or more sections or rectangular enclosures formed of the detachable panels described and having open ends, and to provide an improved frame or intermediate member for connecting the open ends of adjacent cabinet sections to enable a case or cabinet to be formed of any desired length or capacity; also to construct such sections of panels each having a marginal frame provided with concealed locking means for connecting abutting edges of adjacent panels together, to form either a single section or enclosure or to connect the abutting edges of adjacent sections and intermediate frame members together; also to construct said panel frames and intermediate frames so that adjacent abutting side members or edges form miter joints of improved construction; and also to provide a miter joint with concealed locking means for releasably connecting the parts of the joint.

It is desirable that cabinets or cases of the

character stated should have a neat substantially unobstructed exterior, or that the moldings, strips or side members of the panel frames be smooth and devoid of fittings, clamps or other projecting securing or locking devices, and also that, insofar as possible, the locking or securing means for connecting the several panels of the case or cabinet be inaccessible to unauthorized persons, so as to reduce to a minimum the theft or loss of the contents of the cases.

Further objects of the invention, therefore, include the provision of detachable panels and locking means carried thereby, for locking the adjacent panels together, or to intermediate frame members when such are used, whereby as many panels as desired may be so locked or connected by locking means accessible only from the inside of the case or cabinet, it only being necessary to provide means accessible and operable from the outside of the case or cabinet for actuating the locking means of the last panel or panels applied to the structure in the assembly thereof; also to construct said last panel or panels of the structure so that the same may be used as a door or doors to afford access to the interior of the structure; and also to provide a novel hinge for such door panels whereby the same may be adjusted to aline such panels to fit or register accurately with the edges of the panels or parts forming the door opening at the time of assembly.

Other objects of the invention are to improve display cases or museum cabinets in the other respects hereinafter set forth and claimed.

In the drawings:

Fig. 1 is a perspective view of a display case or cabinet constructed in accordance with an embodiment of the invention;

Fig. 2 is a transverse, vertical section thereof, on an enlarged scale, partly broken away, taken approximately on the line 2—2, Fig. 1;

Fig. 3 is a similar view of the upper end of the structure, taken approximately on the line 3—3, Fig. 1;

Fig. 4 is an enlarged cross section, showing the frame side members of two opposed

panels in operative relation to an intermediate frame used for connecting adjacent open ends of two case sections;

Fig. 5 is a fragmentary horizontal section of the case shown in Fig. 1;

Fig. 6 is a fragmentary horizontal section showing a door or removable panel in operative relation to two intermediate connecting frames;

Fig. 7 is a side elevation of the connecting frame for joining the adjacent open ends of two case sections;

Fig. 8 is a face view of the inner side of a panel used as a door;

Fig. 9 is a face view of the inside of one of the detachable panels or walls of the case;

Fig. 10 is a plan view of the base panels of the case showing one end panel and portions of two side panels connected thereto;

Fig. 11 is a side elevation of one of the locking members used for detachably connecting and locking adjacent panels;

Fig. 12 is a fragmentary cross section of a panel showing the means for securing the plate of a panel in the frame thereof;

Fig. 13 is a fragmentary edge view of one of the panels;

Fig. 14 is a fragmentary, inside face view of a corner of one of the panels with the padding removed to show the corner connection between two side members of the panel frame;

Fig. 15 is a fragmentary cross section of a panel on line 15—15, Fig. 9;

Fig. 16 is a fragmentary, sectional view thereof, approximately on the line 16—16, Fig. 15, showing a tool for operating a locking member;

Fig. 17 is a fragmentary, sectional elevation approximately on the line 17—17, Fig. 18;

Fig. 18 is a fragmentary, cross section through the side frame member of a panel showing the means for actuating a locking member from the outside of a case;

Fig. 19 is a face view of the inner side of an operating member for actuating a locking bar from the outside of the case, detached from the structure;

Fig. 20 is a fragmentary perspective view of a part of a door panel, detached from the case and provided with a hinge member by which it may be pivotally connected to the edge of another panel;

Fig. 21 is a fragmentary, sectional perspective view showing a portion of a panel side frame member provided with a hinge member to which the hinge member shown in Fig. 20 may be pivotally connected;

Fig. 22 is a sectional elevation showing the two hinge members of Figs. 20 and 21 operatively connected;

Fig. 23 is a transverse, vertical section showing a display case or cabinet of modi-

fied construction of the type known as a table cabinet;

Fig. 24 is a fragmentary cross section thereof, on an enlarged scale, showing a hinge connection between the top panel and one of the side panels thereof;

Fig. 25 is a fragmentary, bottom plan view of one of the side members of the top frame of the case shown in Fig. 23, illustrating a locking member of modified construction for locking the top panel to the side frame member of an adjacent panel;

Fig. 26 is a fragmentary plan view of the upper edge of a side panel of the table cabinet, illustrating the means for actuating the locking member of Fig. 25.

In accordance with the invention, the display case or museum cabinet is composed of a plurality of separate detachable panels, the edges of which are arranged in abutting relation and secured together to provide a rectangular or other form of enclosure of the desired dimensions and capacity. The case may comprise a single section having a bottom wall or panel, upright walls or panels forming the sides and ends of the case, and a top wall or panel, or the case may comprise a plurality of sections arranged end to end and connected by intermediate transverse frames, in which case the walls or panels of the adjacent ends are omitted.

In the embodiment of the invention illustrated in Figs. 1, 2, 5 and 10, the cabinet comprises two connected sections A and A'. The section A, in the arrangement shown, includes a bottom wall or panel 30, front and rear parallel, upright side walls or panels 31 connected at their lower edges to the edges of the bottom panel, an outer end wall or panel 32 similarly connected, and a top wall or panel 33 connected to the upper edges of the panels 31 and 32.

The other section A' is similarly constructed of a plurality of separate panels, except that one of the panels, such for example as one front panel, is replaced by a panel 34 which is hinged to the structure to form a door which affords access to the interior of the case.

The panels 30, 31, 32 and 33 are preferably of like construction, each comprising a glass or other plate 30a surrounded by a marginal frame 35 having opposite end and side frame members or molding strips 36. In the construction shown, these strips are separate pieces, mitered at their ends and rigidly connected at the corners of the frame by suitable angle pieces 37 secured to the strips by screws or other fastening devices 37a, see Fig. 14. Each panel frame, however, could, if desired, be formed of a single integral part.

The panel plates 30a are received in inwardly facing channels 38 formed in the frames 35 and are firmly held in place by

compressible or spring retaining strips 39, see Fig. 12, arranged in the channels at the outer side of the plates and which force the latter against felt or other yielding strips at the inner sides of the channels. Finishing strips 40 of angular cross section may be inserted between the spring strips 39 and the adjacent outer face of the plates 30 with their transverse flanges bearing on the edge of the outer channel walls, to provide a neat, finished appearance to the outer faces of the panels. Any other suitable means may be used for securing the plates 30a in their marginal frames 35.

The peripheral edges of the panel frames 35 are preferably beveled inwardly at 42 towards the inner sides of the panels, so that when the several panels of a case or case section are assembled, the beveled edges 42 of each panel form miter joints 43 with the corresponding beveled edges of adjacent panels.

Preferably the edges 42 are so formed that there is a slight or gradual inward separation between the two edges forming a joint 43, so as to prevent binding between the panels, see Fig. 4, in which this feature is illustrated in connection with miter joints between the panels and an adjacent intermediate connecting frame or member between the sections A and A'.

In order to close the inner sides of the miter joints 43 and provide a firm, rigid contact between the panels, the inner corners of certain of the panel frame members 36 are formed with longitudinal rectangular shoulders or projections 45, which are engageable in rectangular grooves or recesses 46 in the frame members of the other panels. In assembling a case the shoulders 45 on a panel are disposed opposite the grooves 46 of adjacent panels so that these parts interfit at each miter joint, as shown in Figs. 4-6. In addition to the firm rigid contact thus afforded between the adjacent panels, a dust and pest proof joint is provided.

In order to maintain the several panels of a case or case section in position with their marginal beveled edges 42 in firm engagement and with the shoulders 45 closely fitting in the grooves 46, and permit the ready detachment of the panels, when desired, the panels may be provided with one or more locking members 50, each of which comprises a bar of angular cross section having one leg 51 preferably formed somewhat wider or thicker transversely of the bar than its other leg 52. These locking bars or members 50 are slidably arranged in certain of the frame members 36 of the panel frames 35 so as to operatively engage with the opposed members of adjacent panel frames.

Each panel frame 35 has formed in its beveled peripheral edge 42, a continuous longitudinal, outwardly opening channel 53 so disposed between its inner and outer corners

that, when one panel is in operative relation to another, its channel 53 will communicate with and extend in angular relation to the adjacent channels 53 of said other panel. Thus each miter joint 43 is provided with a concealed or closed lengthwise extending angular passage or recess 53a. The outer wall of each channel 53 is formed with an inwardly extending shoulder or projection 54 which overhangs the channel for at least a part of its length. The transverse width of the legs 51 of each locking bar is slightly less than the corresponding width of a channel 53 so as to have a sliding fit therein, and, to mount the locking bars in the panels, each bar is arranged with its leg 51 extending into a channel 53 of a panel frame with its other leg 52 projecting beyond the beveled edge 42 thereof and extending inwardly or towards the inner face plane of the panel. The outer longitudinal corner of each locking member 50 is cut away to form a groove 55 into which the overhanging shoulder 54 of the corresponding frame member projects, thus preventing the locking bar from dropping out of its channel, but, nevertheless, permitting free endwise or sliding movements of the bar in its channel. The locking bars are, therefore, preferably inserted endwise into the channels of the several frame members 36 before these members are connected by the angle pieces 37, and after the frames are completed, the bars 50 remain connected thereto, and are prevented from becoming detached and lost.

The narrow legs 52 of the locking bars are of slightly less width than the transverse distance between the shoulders 54 and the opposite or inner walls of the channels 53, so that when a panel having the locking bars mounted thereon is positioned with its beveled edge or face 42 in engagement with the corresponding face of another panel, the leg 52 of each of its locking bars can clear the shoulder 54 of the channel 53 of the adjacent panel frame members, and will readily enter the channel.

In order to lock the abutting panels together, the locking bars 50 are provided with suitable studs or projections 56 preferably arranged on the legs 52 and which are adapted to be positioned behind the shoulders 54 of the channels into which these legs 52 extend, and to enable the projections 56 to enter the channels, said shoulders 54 are notched or cut-away at 58. To connect a panel to the edges of adjacent panels the locking bars 50 are, therefore, moved endwise or positioned so that their projections 56 are disposed opposite the notches or cut-away portions 58 of the opposed beveled edges 42 of said other panels so as to allow the legs 52 of the bars and their projections 56 to enter the channels 53 and permit the opposed beveled edges 42 of the several miter joints 43 to engage. After this has been done, the locking bars 50 are moved endwise in a direction to cause the projections

56 to pass out of register with the notches or recesses 58 and engage behind said shoulders 54. The beveled edges 42, and the shoulders 45 and grooves 46 of the miter joints are thus drawn firmly together.

This construction enables the several panels of a case or case section to be easily and quickly connected together to form a rigid structure, and since the locking bars are concealed in the closed recesses 53a of the miter joints, they do not project at either side of the panels, or mar the finished appearance of the structure.

It is desirable in a structure of this kind to prevent the unauthorized actuation of the locking bars 50 in order to insure the safety of the contents of the structure. For this purpose, the invention contemplates the actuation of the majority of the locking bars 50 concealed in the closed recesses 53a from the interior of the case or cabinet, this actuation of the locking bars to their locking position being preferably carried on as the assembly of the structure proceeds, and it is only necessary to provide means for actuating relatively few of the locking bars from the exterior of the case. For example, in a case comprising one or two sections, it is ordinarily necessary to thus actuate only the locking bar or bars of the last panel to be assembled.

In order to afford access to those concealed locking bars 50 which are to be actuated from the interior of the case, the frame members 36 which carry these locking bars are each formed with an opening 60 which extends through the inner flange or wall of the member into communication with the channel 53 thereof, and is disposed opposite a recess or cut-away portion 61 in the locking bar, the ends of this recess forming opposed shoulders or abutments 62, see Figs. 15 and 16. In Fig. 16 a portion of a suitable tool or member B for actuating these locking bars is shown, having at its end a projecting toe *b* and adjacent thereto at the opposite side of the tool, a bearing face or heel *b'*. To actuate a locking bar, the tool is inserted through the opening 60 in the frame member 36 so as to engage the projection *b* thereof with one of the abutments 62 of the locking bar in this member and the heel *b'* with an opposed edge of said opening 60. By using said edge of the opening as a fulcrum and swinging the tool in the direction of the arrow, Fig. 16, the bar is caused to move in an opposite direction. Thus by reversing the tool B and engaging it with the appropriate abutment 62 and the opposed edge of the opening 60, the locking bar may be moved endwise in one direction to position its projections 56 opposite the recesses 58 to place the panel in or release it from its operative position, and in an opposite direction to engage the projections 56 behind the

shoulder 55 of the channel in which it is located to lock the panel in place.

Any suitable means may be provided for actuating those locking bars which are actuated from the exterior of the cabinet. For example, as shown in Figs. 17-19, there is illustrated a practical construction for this purpose, in which the locking bar 50 is provided with a rectangular block 65 which slidably engages in a longitudinally arranged slot or aperture 67 in the outer face of the frame bar 36 and to which block an operating knob or handle 66 is fastened for operating the locking bar. The block 65 is shorter in a lengthwise direction than the distance between the opposite ends of the aperture 67 so as to afford a limited endwise movement of the locking bar to which it is connected. The knob 66 is preferably provided with a fixed plate 66a which covers the slot 67. Means are provided for positively locking the bars 50 in their panel securing positions. In the construction shown, the cylinder 68 of a lock 69 is arranged to rotate in a hole formed partly in the block 65 and partly in a notch 70 in a side of the recess 67. The cylinder 68 is cut away to form a flat face 71 at one side thereof, which, when said cylinder is in unlocked position, forms a continuation of one edge 72 of the block 65, thus permitting the block and its attached locking bar to be shifted endwise by appropriate manipulation of the handle 68. When the locking bar 50 has been thus moved to a position in which its projections 56 are in locking engagement with the channel shoulders 54 of an adjacent panel, the cylinder 68 will be opposite the notch 70, and by then rotating said cylinder by means of its key, the cylinder will be turned to the position shown in Fig. 19, in which the body of the cylinder projects into said notch 70, so that upon now withdrawing the key the locking bar will be prevented from endwise movement.

A panel having its two opposite locking bars 50 provided with the exterior actuating members 68 is desirable where the panel is relatively small, and is, therefore, not too heavy to be readily disconnected and lifted away from the structure easily when access to the interior of the cabinet is only occasionally required. Such a panel is shown in Figs. 6 and 8.

In cases, however, where the panel is relatively large and heavy, or where access to the interior of the cabinet is frequently necessary, such panel may be provided with only one locking bar having the outside actuating means, and the panels may be hinged to the structure at one edge, preferably that opposite the edge carrying the aforementioned locking member, so that the panel can be swung to and from its closed position, without detaching it from the structure.

A panel so mounted is shown in Figs. 1

and 5, wherein the front panel 34 is provided with a locking bar 50 in one of its vertical side frame members 36, and which is operable from the outside by a knob 66 provided with a lock arranged as before described. The opposite, upright side frame member 36 of this panel is connected by a pair of hinges 75 to the abutting beveled side frame member of the adjacent end panel 32.

These hinges 75 are preferably made as shown in Figs. 20-22, to adapt the swinging or hinged panel to be accurately mounted or initially fitted so as to register with the opening formed by the edges of the four other panels or parts against which the four sides of its frame 35 abut when in closed position.

For this purpose, each of the hinges 75 comprises two pivot members 76 and 77, the first of which is rigidly secured to the edge of the swinging panel 34, as shown in Fig. 20, and the other of which is similarly secured in the channel of the adjacent frame member of the panel 32 and is provided with a bearing or pivot portion 78 which is located outside of said channel and is connected to the body of the member 77 by a reduced longitudinally extending portion 79, see Fig. 21. The other pivot member 76 is provided with a longitudinal pivot portion 80, which is similarly connected to the body of the member 76 by a reduced portion 81, which, however, terminates short of the lower end of the pivot portion 80, thus providing a transverse bottom shoulder or abutment 82. In order to connect the two members 76 and 77, a sleeve 84 is provided, and which is cut away at one side to form a notch 85 extending upwardly from its lower end and terminating in a downwardly facing shoulder or stop 86. This sleeve is adapted to be engaged downwardly over the pivot portion 78 of the member 77 with the notch 85 straddling the reduced portion 79 of said member, the sleeve being supported by the engagement of its shoulder 86 with the top edge of said portion 79. After the sleeves 84 have been applied to the hinge members 77, the panel 34 can be connected by inserting the lower projecting ends of the pivot portions 80 of its hinge members 76 into the upper ends of the appropriate sleeves 84, and lowering said panel until the shoulders 82 come to rest upon the upper ends of said sleeves, in which position the panel 34 can readily turn relatively to the stationary panel to which it is pivoted, see Fig. 22.

In practice, in order to accurately position the swinging panel in proper relation to the opening it is to fit, the hinge member or pivot member 76 of the swinging panel is initially made with its connecting portion 81 extending substantially the entire length of the pivot portion 80 and body portion of said member.

When assembling the parts for use the lower part of the connecting portion is cut away,

until by trial, it is found that the shoulder 82 thus formed, is in the correct position when engaged upon the upper end of the sleeve 84 to support the swinging frame with its upper and lower edges in correct relation to the abutting edges of the top and bottom panels.

Thus the panels 34 can be accurately mounted, relatively to the top and bottom panels 33 and 30, even though the several hinge members 76 and 77 on the movable and stationary panels respectively are not exactly the same distance apart.

When in closed position, a panel mounted by means of the hinges 75 cannot be removed, since upward movement thereof is prevented by the engagement of its upper frame member 36 with the adjacent frame member of the top panel 33.

In assembling the panels of a single section case or cabinet constructed in accordance with the foregoing disclosure, the bottom panel 30 is first placed in position and then one of the side or end panels is placed in upright position with its beveled edge 42 engaging the corresponding beveled edge 42 of said panel 30, and the same is then secured by actuating the locking member 50 concealed in recess 53a in the miter joint 43 formed by these abutting beveled edges. Another panel is now arranged in upright position with its lower edge 42 in contact with another edge 42 of the base panel 30, and with one of its upright side edges 42 engaging a like edge of the upright panel just mentioned. These upright edges are then connected by the locking member 50 provided for that purpose. Another upright panel is placed in position and connected, and, if the remaining side panel is to be used to afford access to the interior, the top panel is next applied and locked in position. All of the panels so far assembled may be locked by actuating the locking members from the interior of the structure. The last panel is now applied and may be provided with two locking bars 50 operable from the outside, as shown in Fig. 6, or it may have a single locking bar so actuated, and be pivotally mounted or connected to the structure by hinges 75, as shown in Figs. 1 and 5. In this case, no locking bar is provided for the miter joint 43 at that corner of the structure where the hinges are located, since the swinging movement of this panel would not permit the projecting leg 52 of a locking member to properly enter the channel 53 in the opposed frame member 36. The hinged frame member, however, may also be channelled, each channel being filled with a suitable felt or other packing strip 90 which abut one against the other to form a dust and pest proof joint. Where the detachable panel is provided with two locking members actuated from the outside, as in Figs. 6 and 8, or with one locking member so actuated, and with a hinged con-

nection, as in Figs. 1 and 5, the two remaining side frame members may, if desired, be provided with modified bars 91 of a cross section similar to the locking bars, but which are not provided with the locking projections 56, see Figs. 3 and 8. The provision of such modified bars 91 assists in preventing dust and pests from entering the structure between the beveled faces of these miter joints.

If desired, the corners of the several panels of the structure may have felt or packing strips 92 inserted in the channels at the abutting ends of the frame members, and which extend over the connecting angle pieces or brackets 37, sufficient clearance being left between the ends of these packings 92 and the movable locking bars 50 to permit the necessary endwise movement of the latter. In the case of the hinged or removable panels which have the modified filler bars 91, the packings 92 may extend to the ends of these bars, since no endwise movement of the latter is required.

In order to construct a case or cabinet having two or more sections, such as the sections A and A', Figs. 1 and 5, intermediate connecting members or frames 100 are provided.

In the construction shown, each frame is of open form comprising four side members 101, which are of substantially triangular outline in cross section so as to provide opposed beveled faces 102, see Fig. 4, which are complementary to the beveled faces 42 of the frames 35 of the panels. These connecting frames 100 are assembled between the adjacent open ends or sides of two sections with the opposite beveled edges 102 thereof engaging the corresponding beveled edges 42 of said open ends and forming therewith miter joints exactly similar to the miter joints 43 before described.

The side frame members of the adjacent panels are connected to a frame member 100 by locking members or bars 50 arranged in the channels 53 of said adjacent frame members with their narrow legs 52 extending into channels 53a in the connecting frames and which are provided with shoulders 55a with which the projections 56 on the locking bars engage as before mentioned. The locking bars can be arranged in the abutting panel frame members, or in the channels of the connecting member 100, as desired.

By the provision of these abutting frame members 100, a cabinet or case of any desired length or capacity can be assembled, or by removing a single side panel from a case already assembled, the capacity of the case can be increased by providing an additional section and connecting the same thereto by means of one of the connecting members. Similarly a structure composed of several connected sections can be converted into a number of separate units or sections by partially dismantling the structure, removing

the connecting frames 100 and substituting the necessary number of side or end panels to close the several sections. If desired, the connecting frame members may be provided with glass or other plates to form partitions between the case sections.

It will be seen from the foregoing that by providing a number of panels of appropriate size, cases can be assembled or changed, and existing cases constructed of these panels can be re-arranged from time to time by merely connecting or disconnecting the necessary panels or connecting frames by appropriate manipulation of the locking members. Since, with the exception of the hinged connection when such is used, all of the panels are of like construction, and no special equipment in the way of extra fittings or appliances is needed, the work can be done at any time without the assistance of skilled mechanics. Panels which have been secured by locking bars actuated from the inside of the structure can be replaced by panels the locking members of which are operable from the outside and vice versa.

A case constructed as described can be readily adapted for a variety of different purposes, and the contents may be placed in the cabinet on the plates 30a of the bottom panels 30, or the case or case sections can be provided with spaced horizontal shelves, in which case shelf supporting bars 105 can be secured to the upright panels, and which are slotted to receive detachable brackets for supporting the shelves, in accordance with known practice.

If it is found desirable to mount the structure on a support, a base, such as indicated at 106, may be provided, in which case the bottom panels 30 may be secured thereto by concealed screws 107 passing through the outer flanges of the frame members 36 thereof.

In the modified construction shown in Figs. 23 to 26, a case of the table type is illustrated in which certain features of the invention are embodied.

As shown in Fig. 23, this case comprises upright side and end panels 110 and a top panel 111. The case is secured on a support 112 which is provided with a rectangular frame 113 composed of bars of square cross section secured to the top face of support 112 by screws 114. This frame 113 is received and concealed in channels 115 formed in the bottom face of the lower frame member 116 of each of the side and end panels, said frame members being secured to the frame 113 by screws or the like 117, passing through the inner flange of each of said frame members into the frame 113. A suitable bottom plate or member 118 is inserted into the case with its side edges abutting against the inner faces of the lower frame members 116 and concealing the screws 117.

The adjacent upright edges of the side and end panels 110 may be connected by locking members substantially similar to the locking members 50, and preferably actuated from the inside of the case, as before described, and the top panel 111 is movably connected so as to be actuated from the outside for affording access to the interior of the case.

In the construction shown, the rear frame member of the top panel 111 is connected by hinges 120 to the top frame member of the rear panel, the two leaves of the hinge being respectively secured within a recess 121 in the joint formed by these abutting frame members, as by screws 122. The frame members 123 of the panel 111 are of somewhat modified form, being provided with a laterally projecting marginal bead 124, which overhangs the top edges of the upright side panels, forms a finished appearance to the structure, and provides means for grasping the panel to swing the same about its hinges. The bead 124 at the rear edge of the panel 111 is recessed or cut away, as is the rear flange of the top frame member of the rear upright panel, so as to form recesses for the hinges 120. The ends of the hinge pins abut against the opposite ends of these recesses, thus preventing the pin from being driven out by an authorized person attempting to gain access to the interior of the cabinet.

The front frame member of the panel 111 is locked to the top frame member of the front upright panel 110 by a locking bar 126 similar to the locking bars 50, which may be actuated from the exterior of the case by any suitable means. Since it is unnecessary to provide projecting knobs or the like for lifting the panel 111, a key actuated cylinder lock 127 is provided, which is rotatably secured in a block 128 fixed to the top frame member of the front panel 110. The cylinder of the lock is provided at its inner end with a gear sector or pinion 129 which meshes with a series of rack teeth 130 on the locking bar 126. By actuating the lock 127 by means of its key, the locking bar can be shifted endwise in one direction or another through the connection described, so as to move its locking projections 131 into and out of register with notches 132 formed in a shoulder 133 overhanging the channel 134 in the front frame member of the upright panel 110. To lock the panel 111, the projections 131 are moved into engagement beneath the shoulder 133 of the panel 110, as in the previous construction.

I claim as my invention:

1. In a cabinet, a plurality of panels each having its edges formed to abut against the edges of adjacent panels to provide an enclosure, fixed parts at the edges of certain of said panels, members confined in part

within the adjacent edges of other panels and having projections thereon, engageable with said fixed parts on said first panels to lock said other panels thereto, and said members being movable and having parts disposed so as to be accessible only from the inside of said cabinet for engaging said projections with said fixed parts.

2. In a cabinet, a plurality of panels each having its edges formed to abut against the edges of adjacent panels to provide an enclosure, fixed parts at the edges of certain of said panels extending towards the edges of adjacent panels, members having parts confined within the adjacent edges of other panels and other parts extending towards the edges of said first panels and having projections thereon, and said members being movable relatively to said other panels and to said first panels to engage their projections behind said fixed parts on said first panels to lock said other panels thereto.

3. A cabinet having a plurality of panels connected to form an enclosure with the edges of certain of said panels forming the margins of an opening into said cabinet, said edges each having a lengthwise recess therein facing said opening, and also having a fixed part adjacent said recess, a detachable panel for closing said opening, movable locking members having parts disposed in lengthwise recesses in the edges thereof and other parts which, when said edges are engaged with said marginal edges on said other panels extend into the recesses therein, and projections on last mentioned parts of said locking members which are engageable with said fixed parts on said other panel edges for locking said last panel to said other panels.

4. A cabinet having a plurality of panels connected to form an enclosure with the edges of certain of said panels forming the margins of an opening into said cabinet, said edges each having a lengthwise recess therein facing said opening, a detachable panel for closing said opening, locking members having parts disposed in lengthwise recesses in the edges thereof and other parts which, when said edges are engaged with said marginal edges on said other panels, extend into the recesses therein, and said locking members being movable lengthwise of and relatively to said panel edges of said first mentioned and said detachable panels for locking said detachable panel to said other panels.

5. A cabinet having a plurality of panels connected to form an enclosure, the edges of certain of said panels being beveled and forming the margins of an opening into said cabinet, a detachable panel for closing said opening and having beveled edges constructed to abut against and form miter joints with said beveled edges of said other panels, and locking members having parts

disposed in the beveled edges at one side of said miter joints and having projections engageable with fixed parts on the opposed beveled edges of said joints for locking said detachable panel in said opening, each of said locking members being movable relative to both of the panels which it locks together.

6. A cabinet having a plurality of panels connected to form an enclosure, the edges of certain of said panels being beveled and forming the margins of an opening into said cabinet, a detachable panel for closing said opening and having beveled edges constructed to abut against and form miter joints with said beveled edges of said other panels, and movable locking members disposed in channels in the beveled edges at one side of each of said miter joints and extending into channels in the opposed beveled edges of said joints, projections on said members, and fixed parts overhanging the channels in said opposed beveled edges, and said members being movable lengthwise of said miter joints for engaging said projections with said fixed parts for locking said detachable panel in said opening.

7. A cabinet having a plurality of panels connected to form an enclosure, each of said panels comprising a plate secured in a marginal frame, said frames having opposite side members each of which is beveled to form a miter joint with the corresponding frame members of adjacent panels and having a longitudinal channel therein, endwise movable locking bars disposed in certain of said channels and projecting into the channels in opposed members of said miter joints, and interengaging parts on said bars and said opposed frame members for locking adjacent panels one to another upon endwise movement of said bars.

8. A cabinet having a plurality of panels connected to form an enclosure, each of said panels comprising a plate secured in a marginal frame, said frames having opposite side members each of which is beveled to form a miter joint with the corresponding frame members of adjacent panels and having a longitudinal channel therein, endwise movable locking bars disposed in certain of said channels and projecting into the channels in opposed members of said miter joints, interengaging parts on said bars and said opposed frame members for locking adjacent panels one to another upon endwise movement of said bars, the locking bars of certain of said panels being accessible and operable only from the inside of said cabinet for locking these panels to adjacent panels, and means operable from the outside of said cabinet for actuating a locking bar of another of said panels for locking said panel to an adjacent panel.

9. A cabinet having a plurality of panels connected to form an enclosure, each of said

panels comprising a plate secured in a marginal frame, said frames having opposite side members each of which is beveled to form a miter joint with the corresponding frame members of adjacent panels and having an internal longitudinal channel therein contiguous with a like channel in the opposed frame member of a miter joint, endwise movable locking bars disposed in certain of said channels and projecting into the channels in said opposed frame members and engageable with parts on said members for locking adjacent panels one to another, certain of said panels having apertures in the inner faces of their frame members connecting with the channels therein for affording access to their locking bars from the interior only of said cabinet to lock said panels to adjacent panels, and means extending outwardly from a locking bar in a frame member of another panel for operating said locking bar from the outside of said cabinet to lock said panel to an adjacent panel.

10. A cabinet having a plurality of panels connected to form an enclosure with the edges of certain of said panels forming the margins of an opening into said cabinet, a detachable panel having its edges formed to abut against said marginal edges of said opening for closing the latter, fixed shoulders on said first panels at the marginal edges of said opening, and endwise movable locking bars having parts arranged in and extending lengthwise of the edges of said detachable panel and having projections which, when said bars are moved lengthwise, engage behind said shoulders to lock said panel in position.

11. A cabinet having a plurality of panels connected to form an enclosure with the edges of certain of said panels forming the margins of an opening into said cabinet, a detachable panel having its edges formed to abut against said marginal edges of said opening for closing the latter, fixed shoulders on said first panels at the marginal edges of said opening, and endwise movable locking bars having parts arranged in and extending lengthwise of the edges of said detachable panel and said bars also having projections thereon, and said marginal edges of said first panels having recesses which, when said locking bars on said detachable panel are moved in one direction, permit said projections thereon to clear said shoulders on said first panels and enable said panel to be operatively engaged in said opening, and said projections being engageable with said shoulders to lock said panel in position when said locking bars are moved in an opposite direction.

12. A cabinet having a plurality of panels connected to form an enclosure with the edges of certain of said panels forming the margins of an opening into said cabinet and said edges each having a channel extending lengthwise thereof and a notch extending into said chan-

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nel, a detachable panel the edges of which are engageable with said channeled edges for closing said opening, endwise movable locking bars having parts mounted in and extending lengthwise of said edges of said panel, projections on said locking bars which, in one position of the latter, register with and pass through the notches in the opposed edges of said opening to permit said panel to be placed in operative position, and each of which, upon movement of said bars to another position moves into engagement with a side of a channel, thereby locking said panel in position.

13. In a cabinet, a panel having a marginal frame, other panels arranged perpendicular thereto and also having marginal frames one side of each of which abuts against a side member of said first panel and having their opposite perpendicular frame side members in abutting relation to the corresponding frame members of adjacent panels, another panel also having a marginal frame the side members of which abut against the remaining side frame members of said perpendicular panels, and means detachably securing all of said panels together to form an enclosure and comprising endwise movable locking members having parts confined within certain of the frame side members of said panels and which members are movable lengthwise of and relatively to said side members and also having parts, said locking members movable into and out of locking engagement with fixed parts of the abutting frame members of adjacent panels.

14. In a cabinet, a panel having a marginal frame, other panels arranged perpendicular thereto and also having marginal frames one side of each of which abuts against a side member of said first panel and having their opposite perpendicular frame side members in abutting relation to the corresponding frame members of adjacent panels, another panel also having a marginal frame the side members of which abut against the remaining side frame members of said perpendicular panels, and means detachably securing all of said panels together to form an enclosure and comprising locking bars movable endwise in channels extending lengthwise of certain of the frame side members of said panels and which, when moved in one direction, have interlocking engagement in corresponding channels in the abutting frame members of adjacent panels, and which bars when moved in an opposite direction are disconnected from said channels to permit said panels to be removed.

15. In a cabinet, a panel having a marginal frame, other panels arranged perpendicular thereto and also having marginal frames one side of each of which abuts against a side member of said first panel and having their opposite perpendicular frame side members

in abutting relation to the corresponding frame members of adjacent panels, another panel also having a marginal frame the side members of which abut against the remaining side frame members of said perpendicular panels, means detachably securing all of said panels together to form an enclosure and comprising locking members having parts confined within certain of the frame side members of said panels and also having parts movable into and out of locking engagement with fixed parts of the abutting frame members of adjacent panels, certain of said frame members having means for affording access to their locking members for operating the same only from the inside of said cabinet, and means operable from the outside of said cabinet for actuating the locking member of another panel for locking said panel to adjacent panels.

16. A cabinet having adjacent alined sections comprising connected bottom, side and top panels and each section having a side opening defined by an edge on each of said panels thereof, a frame disposed between and extending across the open ends of two adjacent sections, and means for detachably connecting said sections to said frame comprising locking bars having parts disposed in and movable lengthwise of and relatively to said panel edges and also having parts movable into and out of locking engagement with fixed parts on the adjacent sides of said frame.

17. A cabinet having adjacent alined sections comprising connected bottom, side and top panels and each section having an opening defined by an edge on each of said panels thereof, a frame disposed between and extending across the open ends of adjacent sections, and means for detachably connecting said sections to said frame comprising endwise movable locking bars having parts slidably disposed in channels extending lengthwise of said panel edges, and said bars having parts movable into and out of locking engagement with fixed parts on the adjacent sides of said frame, by sliding said bars in one direction or the other in said channels.

18. A cabinet having adjacent alined sections comprising connected bottom, side and top panels and each section having an opening defined by an edge on each of said panels thereof, a frame disposed between and extending across the open ends of adjacent sections, means for detachably connecting said sections to said frame comprising locking members disposed in said panel edges and movable into and out of locking engagement with fixed parts on the adjacent sides of said frame, and the locking members of certain of the panels of said sections being accessible for actuation only from the inside of said cabinet, and a locking member of another panel having means operable from the out-

site of said cabinet for moving said locking member into and out of locking position.

19. A cabinet having adjacent alined sections comprising connected bottoms, side and top panels and each section having an opening defined by an edge of each of said panels thereof, a frame disposed between and extending across the open ends of adjacent sections, means for detachably connecting the several panels of each section comprising locking members disposed in certain of the panel edges and movable into and out of engagement with fixed parts on the adjacent edges of other panels, and similar means in said end edges of said sections movable into and out of engagement with fixed parts on the adjacent sides of said frame for detachably connecting said sections thereto.

20. A cabinet having a plurality of panels disposed in edge to edge relation to form an enclosure, each panel comprising a plate secured in a frame having a beveled marginal edge which abuts against and forms miter joints with the adjacent beveled edges of other panel frames, a channel in and extending lengthwise of the beveled edge of each frame contiguous with and disposed in angular relation to the channels in adjacent frame edges and forming a closed recess of angular cross section in each miter joint, a locking member of angular cross section having one leg secured in one channel of each joint and having its other leg formed to project into the channel of the other frame edge of said joint, and said locking members being movable lengthwise of said channels for engagement with a fixed part on said last mentioned frame edge of each joint for locking said panels together.

21. A cabinet having adjacent alined sections comprising connected bottom, side and top panels and each section having an opening defined by an edge on each of said panels thereof, a frame disposed between and extending across the open ends of adjacent sections, said panel edges and the opposite edges of said frame being beveled so as to abut and form miter joints between said sections and said frame, a channel in and extending lengthwise of the beveled edges of said panels contiguous with and disposed in angular relation to corresponding channels in said opposite edges of said frame and forming therewith a closed recess of angular cross section in each miter joint, a locking member of angular cross section having one leg secured in one channel of each joint and having its other leg formed to project into the channel of the other edge comprising said joint, and said locking members being movable lengthwise of said channels for engagement with a fixed part on said last mentioned part of each joint for locking said section to said frame.

22. A cabinet having a plurality of panels connected to form an enclosure, the edges of

certain of said panels being beveled and forming the margins of an opening into said case, a detachable panel for closing said opening and having beveled edges constructed to abut against and form miter joints with said beveled edges of said other panels, a movable locking member having parts disposed in one of said beveled edges of said detachable panel and having projections engageable with fixed parts on the opposed beveled edge of one of said other panels, and means extending outwardly from the locking member through said detachable panel for actuating said member from the outside of said cabinet, said means including a lock which is operable to engage a fixed part on said panel to retain said locking bar in locked position.

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