No. 710,086. Patented Sept. 30, 1902.

F. TRAMBLAY.

CABINET FOR BOOKCASES, LETTER FILES, &c.

(Application filed May 11, 1901.)

(No Model.) 3 Sheets—Sheet 1.

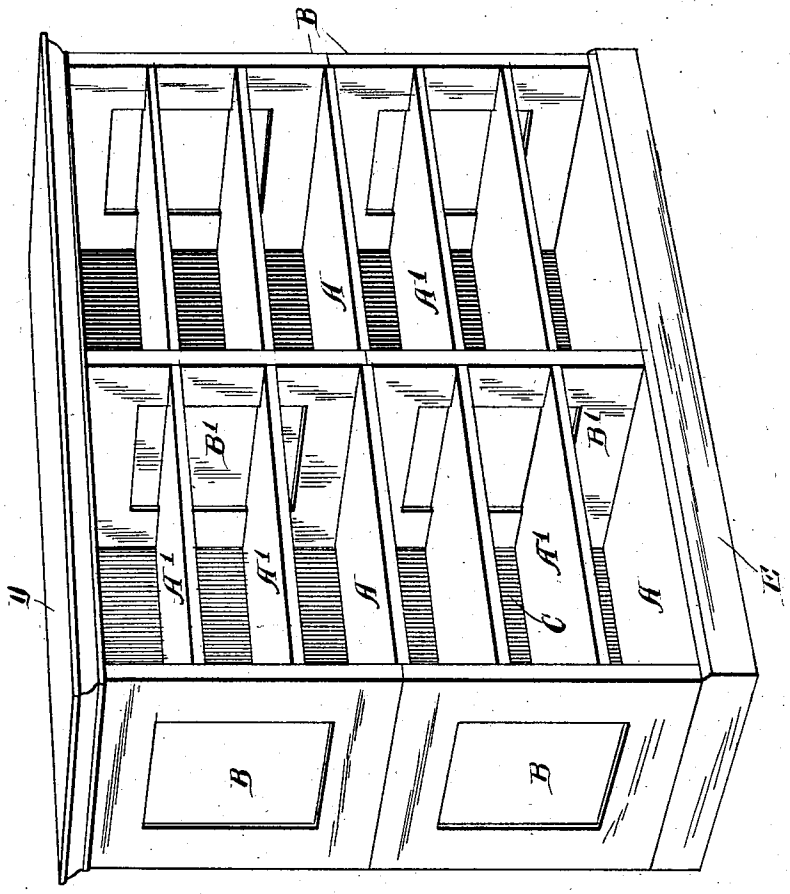

Fig 1.

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(No Model.) 3 Sheets—Sheet 2.

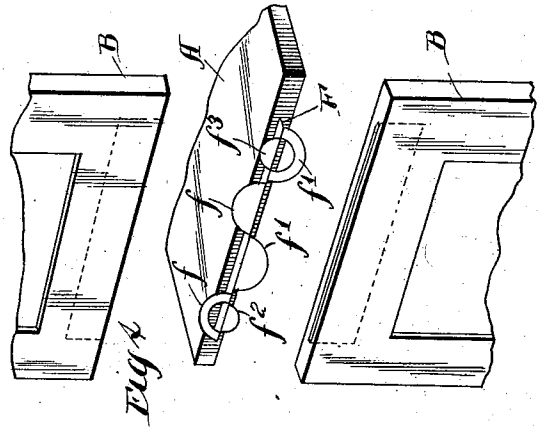

Fig 4

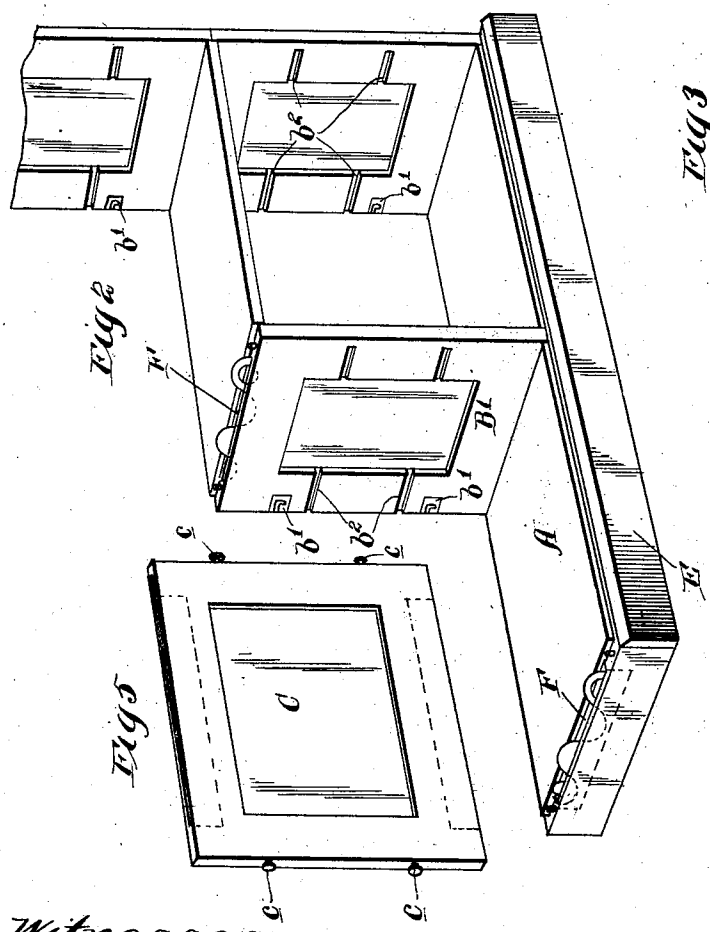

Fig 2

Fig 5

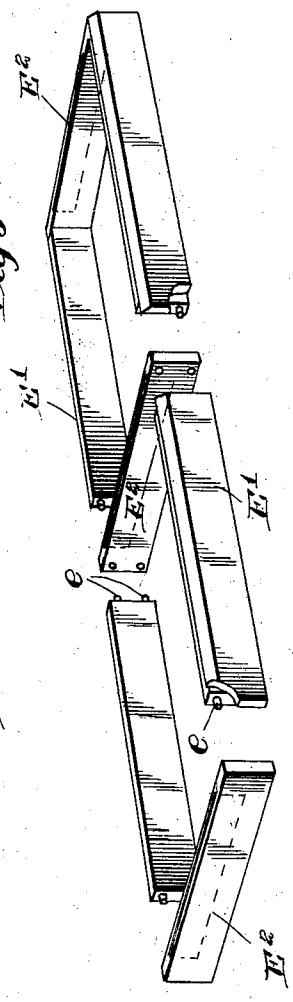

Fig 3

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(No Model.) 3 Sheets—Sheet 3.

Fig 6

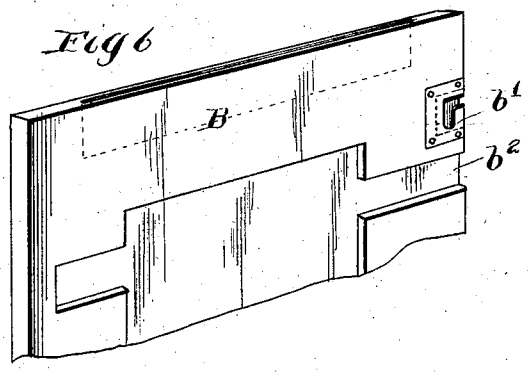


Fig 7

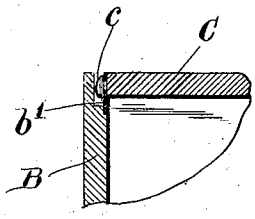


Fig 8

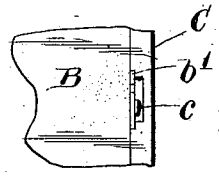


Fig 9

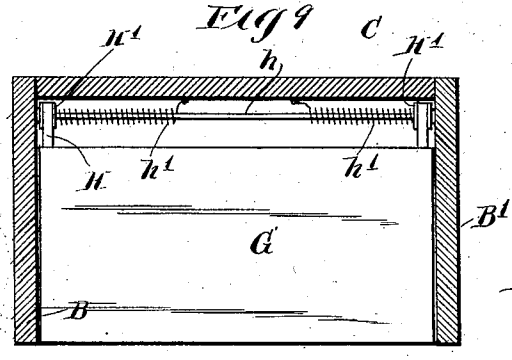


Fig 10

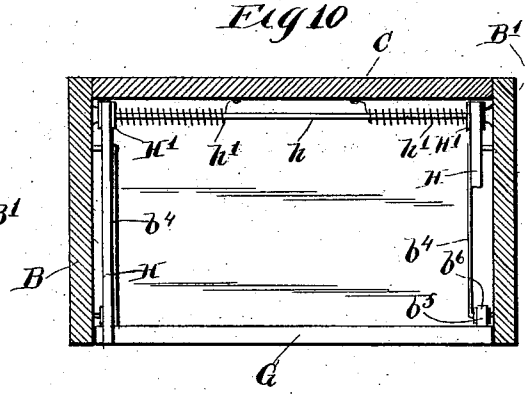
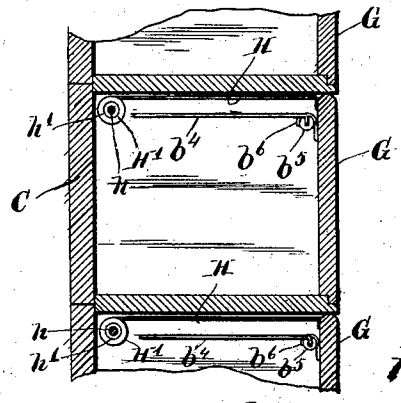


Fig 11



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UNITED STATES PATENT OFFICE.

FELIX TRAMBLAY, OF CHICAGO, ILLINOIS.

CABINET FOR BOOKCASES, LETTER-FILES, &c.

SPECIFICATION forming part of Letters Patent No. 710,086, dated September 30, 1902.

Application filed May 11, 1901. Serial No. 59,729. (No model.)

To all whom it may concern:

Be it known that I, FELIX TRAMBLAY, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cabinets for Bookcases and Letter-Files, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in cabinet structures for use in making letter-file cabinets, bookcases, and analogous structures and embraces also certain minor features of improvements relating to the closing of the compartments of such cabinets.

With respect to the first-named feature of the invention it relates to a novel construction in cabinets for the purpose set forth, which is made of a plurality of detachably-interlocked like parts or sections so arranged that the cabinet may be expanded or contracted, while using in its construction only the necessary number of parts required for making a permanently-built cabinet, and the parts being so arranged as to give the necessary finish to the cabinet. The parts of said cabinet are also detachably connected, so that the cabinet may be "knocked down" when being shipped or when stored.

In the drawings, Figure 1 is a perspective view of a cabinet made in accordance with my invention suitable for containing letter-files. Fig. 2 illustrates the cabinet partly dismantled. Fig. 3 illustrates the rails which may form part of the base of the cabinet, said rails being separated to show the manner of joining the same. Fig. 4 illustrates two side panels of a compartment and a horizontal panel thereof and also the connecting-plate for joining said parts, said parts being slightly separated to more clearly illustrate the connecting-plate. Fig. 5 is a perspective view of the back member of one of the compartments. Fig. 6 is a view of a fragment of one of the end members of a compartment. Figs. 7 and 8 are fragmentary details showing the manner of joining the back and end members. Fig. 9 is a horizontal section of a compartment, showing a front or door connected therewith, the door being in its open position. Fig. 10 is a similar view showing the door in its closed position. Fig. 11 is a vertical section of parts of three adjacent compartments.

The cabinet shown in Fig. 1 is constructed to form part of a filing-cabinet, said cabinet being provided with a plurality of suitably-spaced shelves to receive between the same drawers containing letters and documents filed therein. Certain of the shelves consist of the bottom walls of the compartments. Said cabinet consists of four principal compartments, two lower and two upper compartments, the upper and lower compartments at each side being divided from the upper and lower compartments of the other side by a partition forming the inner end walls of the compartments. Each compartment, as herein shown, contains three shelves or supports for the filing-drawers. The cabinet is supported on a suitable base and is surmounted by an ornamental top. Each compartment consists of a bottom member A, end members B B′, and a back member C. When one compartment is placed over the other, as shown in Fig. 1, the bottom member A of the upper compartment constitutes the top member of the next lower compartment. The upper compartments are shown as provided with single top members D, forming the top of the cabinet, though said member may be made of two parts. The bottom members A of the lower compartments may also be made from a single piece of material. The bottom members rest on a suitable base E, which may consist of an integral structure from one end of the cabinet to the other and ornamented by suitable molding at the front thereof or may consist of a plurality of longitudinal and transverse rails E′ E^2, respectively connected at their ends by dowel-pins *e* in the manner indicated in Fig. 3. The bottom members A and the top members D of the several compartments are interlocked with the end and intermediate or partition members and with the transverse rails E^2 of the base. Said interlocking connections consist of metal plates F, (shown in Figs. 2 and 4,) which are inserted and secured in the ends of the horizontal members A A′ and are provided with upwardly and downwardly extending lugs *f f′*, which enter grooves *b* in the adjacent end faces of the end and intermediate members, as clearly shown

in Fig. 4. The interlocking strips or plates F are preferably each made from a single piece of sheet metal, one edge of which is plain, to be inserted into the end of one of the horizontal members A and the other edge or margin of which is cut and folded upwardly and downwardly to form the holding prongs or lugs $f f'$. Four holding prongs or lugs are shown on each interlocking strip or plate—two directed upwardly and two downwardly. The upwardly and downwardly projecting prongs are arranged alternately, as clearly shown in Fig. 4. The downwardly-projecting prongs f' enter the grooves b and e' in the end members and base-rails, respectively, while the upwardly-projecting prongs f enter grooves b in the bottom edges or margins of said end members. In order to strengthen the interlocking connections between the ends of said interlocking plates F and the end members of each compartment, the prongs f at one end and the prongs f' at the other end are cut to provide auxiliary prongs $f^2 f^3$, respectively, which are bent to project in directions opposite to the direction of the prongs from which they are cut, thereby providing an interlocking connection between each end of the plate and both the upper and lower end members of the compartment. Where two compartments are built side by side, a single end member B′ constitutes the end of both compartments and, in fact, a partition between said compartments. Said partition members B′, therefore, have interlocking connections at their ends with the horizontal members A of the compartments, on either side thereof, and the top members D, if the top be made of separate members. The prongs of the locking plates or strips of two adjacent horizontal members enter the same groove in the end and the partition members and in the transverse base-rails E′, and for this purpose the downwardly-projecting prongs of the plate of one horizontal member desirably stands opposite to spaces between the downwardly-projecting prongs of the plate of the adjacent horizontal member, while the upwardly-projecting prongs of one of said plates occupy a like position with respect to the spaces between the upwardly-projecting prongs of the other plate. With this construction the grooves b and e' need not be made of great width, and a firm interlocking joint between the vertical and horizontal members is provided. The intermediate or partition members may be provided with dowel-pins b^3, as shown in Fig. 2, adapted to enter suitable apertures in the intermediate rail E^2 of the base, the adjacent intermediate members and the top member, if the latter be made of a single piece, extending from one end of the cabinet to the other. Said prongs $f f'$ of each plate or strip F are separated a distance from the margin of the member to which the plate is attached, thereby forming a flat surface on said strip, which rests on the upper margin of the member which the prongs enter, so as to provide an ample width of bearing of the plate on the member beneath to support the member to which the strip is attached. The plate F, attached to each horizontal member, extends only half-way across the margin of the intersecting vertical member, thereby providing room for attachment to each vertical member two horizontal intersecting members. Where but one horizontal member intersects a vertical member, as at the end of the cabinet structure, the superimposed vertical member or the top wall of the compartment contacts with the outer side of the upper margin of said vertical member and gives the proper finish to the joint at this place. The back members C are connected with the rear margins of the end and partition members by means of headed studs c, which engage L-shaped locking-slots in plates b' in the end and partition members, the horizontal parts of said L-shaped slots opening rearwardly. Said plates are set over suitably-shaped recesses in the end and partition members, thereby forming spaces behind said plates to receive the heads of the locking-studs, as shown in Figs. 7 and 8.

When the cabinet is to be used as a letter-file cabinet, the end and partition members are provided with horizontal grooves b^2, which receive the shelves A′, which latter constitute, with the horizontal members A, supports for the filing-drawers. Said grooves b^2 open rearwardly from the end and partition members, so that said shelves may be inserted into the compartment from the rear. After being inserted thereinto they are locked in place by the attachment of the back members C to the end and partition members.

If the cabinet is to be used for a bookcase, the shelves A′ will be omitted and the end and partition members will be made of the required height to provide the desired height of the compartment, otherwise the construction will be the same as shown and just described.

With the construction shown it will be seen that while the several compartments of the cabinet are separable they are joined by interlocking connections, which insure a rigid structure as a whole when assembled and also a construction which gives a finished appearance to the cabinet. If it be desired to increase the capacity of the cabinet, it may be readily done by removing the top D and adding thereto another compartment or compartments, as the case may be, and placing the top sections on the top of the compartments added. If it be desired to extend the cabinet endwise thereof, this may be accomplished by providing a base of greater length if the base be made an integral structure or providing an additional section of the base if made of separable parts and building thereon another compartment or compartments in the same manner as compartments are joined together in the construction shown in Fig. 1. In the

event of adding other compartments to one end of the construction (shown in Fig. 1) the end members adjacent to which said compartment is added will then constitute intermediate or partition members between central compartments and the end compartment of the newly-formed cabinet. It will thus be seen that the addition of compartments to existing compartments does not change the form or construction of the structure as a whole and does not necessitate the interposition of two walls between two adjacent compartments placed side by side, as in case where the structure is built up of completed units, which are merely set up side by side and held together by interlocking connections. With the construction illustrated, therefore, it will be seen that when an additional compartment or compartments are to be added only new outer end members and the top and bottom members are required, thereby avoiding the necessity of furnishing two end members for such additional compartments and preserving the proportions and identity of the structure as a whole.

I have shown in Figs. 9, 10, and 11 means for closing the fronts of the compartments either when used as a bookcase or a letter-file, but preferably with the latter. The fronts of said compartments are closed by doors G, each made of the required dimensions to completely cover the front opening of the compartments. Said doors are supported in the end and partition members of the compartments by means of brackets b^4, attached to the end and partition members. Rollers b^5, attached to the end and partition members at the outer ends of the brackets b^4, constitute antifriction-bearings, which facilitate the opening and closing of the doors. When the door G is opened, it occupies a horizontal position, as shown in Fig. 9. The closed position of the door is shown in Figs. 10 and 11. Hooks b^6 at the upper margin of the door are adapted to engage the rollers in the closed position of the door to hold the latter in place, as shown in said Figs. 10 and 11.

As a means for effecting an automatic retiring of the door when thrown upwardly said door is connected, by means of straps H, to spring-rotated wheels or pulleys H′, mounted on a shaft h, secured at the back of the compartment. The springs for actuating said pulleys consist of spiral springs h', which surround the rod, and each attached at one end to one of the pulleys and at its other end to the rear wall or member of the compartment. When the door is pulled outwardly to close the same, as shown in Fig. 10, the pulleys H′ are rotated against the compression of the springs h', so that when the door is again thrown upwardly into horizontal position the tension of said springs is sufficient to draw the door backwardly into its open position, as shown in Fig. 9.

The actuating devices for the doors hereinbefore described may be employed with cabinet structures of construction varying from that herein shown.

I claim as my invention—

1. An expansible knockdown cabinet structure comprising a plurality of compartments each constructed of separable bottom, top and end members, provided in their margins with grooves, connecting-plates fitting in said grooves and detachably connecting said parts, the outer end and top walls of certain of the compartments constituting the single partition-wall between said compartment and other compartments formed by the addition to said first compartment of members which are substantial duplicates in size of the members constituting said first compartment.

2. An expansible and knockdown structure comprising two or more compartments, each consisting of separable bottom, top and end members and a back member, connecting-plates detachably connecting the margins of the bottom, top and end members, the back member closing the compartment and being interlocked with the end members to brace the structure, the outer end and top walls of certain of the compartments constituting the single partition-wall between said compartment and other compartments formed by the addition to said first compartment of members which are substantial duplicates in size of the members constituting said first compartment.

3. An expansible and knockdown cabinet structure comprising two or more compartments, each constructed of separable bottom, top and end and back members, connecting-plates detachably connecting the margins of the bottom, top and end members, the said end members being provided with rearwardly-opening L-shaped slots and the back member being provided with lugs adapted to enter said slots when the back member is in place, the outer end and top walls of certain of the compartments constituting the single partition-wall between said compartment and other compartments formed by the addition to said first compartment of members which are substantial duplicates in size of the members constituting said first compartment.

4. A cabinet structure comprising a plurality of compartments, with two or more compartments located side by side, each compartment being constructed of vertical and horizontal members which are duplicates of the members composing the other compartment or compartments, and each two adjacent, laterally-separate compartments having a common end member constituting the partition between said compartments, and provided in its upper and lower margins with grooves, and flanged connecting-plates fitting in grooves in the margins of the horizontal members, the flanges of the plates of two adjacent horizontal members of adjoining compartments engaging with the same groove of the common partition member thereof.

5. The combination, with a horizontal shelf

member provided in one margin with a groove, and two end members adapted for attachment to the grooved margin of the shelf member, said end members being provided in their margins adjacent to the shelf member with grooves, of a locking-plate fitting in the groove of said shelf member and provided with oppositely-directed flanges which enter the grooves of said end members, said plate extending laterally to, but not beyond, the grooves of the end members, and the flanges at the opposite sides of the plate extending only a part of the way across the same, whereby the like flanges of a second laterally-extending locking-plate may enter the grooves of said end members in the same plane with the flanges of the first-mentioned locking-plate.

6. In a cabinet structure, the combination with two shelf members disposed end to end and provided at their adjacent margins with grooves, and two end members intersecting said shelf members and having grooves in their adjacent margins, of locking-plates fitting in the grooves of said shelf members and provided on their adjacent margins each with oppositely-extending flanges which enter the grooves of said end members.

7. In a cabinet structure, the combination with two shelf members disposed end to end and provided in their adjacent margins with grooves, and two end members intersecting said shelf members and having grooves in their adjacent margins, of connecting-plates fitting in the grooves of said shelf members and provided on their adjacent margins each with oppositely-directed prongs which enter the grooves of said end members, the prongs of one of said plates being located out of line with the prongs of the adjacent plate.

8. In a cabinet structure, the combination with shelf members disposed end to end and provided in their adjacent margins with grooves, and two end members intersecting said shelf members and having grooves in their adjacent margins, of connecting-plates fitting in the grooves of said shelf members and provided on their adjacent margins each with oppositely-directed prongs which enter the grooves of said end members, the prongs of one of said plates being located out of line with the prongs of the adjacent plate, certain of the prongs of said plates being provided with auxiliary prongs which are bent oppositely to the direction of the prongs from which they are formed.

9. In a cabinet structure, the combination with a shelf member having a groove in one of its margins, and end members having grooves in their adjacent margins, said end members intersecting the shelf member, of a connecting-plate made of sheet metal and comprising a flat web which enters the groove in said shelf member and having its margins cut and folded in opposite directions to form prongs, the prong at one side of said web being located out of line with the prong at the other side thereof, said prongs entering the grooves in said end members, and the plates extending but half the distance across the margins of said end members.

10. A sheet-metal connecting-plate comprising a flat web provided at its margin with oppositely-directed prongs, the prongs at one side of the plate being located out of line with the prongs at the other side thereof, the prongs at the end of said plate being cut and folded to form auxiliary prongs which are bent oppositely to the direction of the prongs from which they are formed.

11. A cabinet structure consisting of members provided at their margins with grooves and which are detachably interlocked at their margins, the interlocking devices consisting of metal plates, each of which enters the groove in the margin of one member and is provided at its free margin with oppositely-directed prongs which enter the grooves in the two members which intersect the first-mentioned member, the two prongs at the ends of the plates being provided with auxiliary prongs which are bent oppositely to the direction of the prongs from which they are formed.

12. A cabinet structure comprising a plurality of members which are provided in their magins with grooves and are detachably interlocked at their margins, the interlocking devices consisting of metal plates, each of which enters the groove in the margin of a horizontal member and is provided at its free margin with upwardly and downwardly extended prongs which are adapted to enter the grooves in the upper and lower margins of intersecting vertical members, the connecting-plate of each horizontal member extending but half the distance across the margins of the intersecting vertical members.

13. A cabinet structure comprising a plurality of compartments each consisting of a plurality of horizontal and vertical members, connecting-plates for detachably interlocking said horizontal and vertical members at their margins, said plates being separable from the vertical members by movement thereof in the direction of the planes of the vertical members, and said vertical members being provided on their inner faces adjacent to their rear margins with L-shaped slots which open at their rear ends through the rear edges of the vertical members, back members for the several compartments, and projecting lugs on the margins of said back members adapted for engagement with said L-shaped slots.

14. A cabinet structure comprising a plurality of compartments each consisting of a plurality of horizontal and vertical members, metal plates for detachably interlocking said members at their meeting margins, said vertical members being provided at their rear margins with locking-slots, back members provided with projecting lugs adapted to engage said locking-slots, said vertical members being also provided on their adjacent or inner faces

with horizontal grooves which are closed at their front ends and open at their rear ends through the rear edges of said vertical members, and shelves supported in said grooves, said back members engaging the rear edges of the shelves, when locked in position, to hold the shelves in place in said grooves.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 27th day of April, A. D. 1901.

FELIX TRAMBLAY.

Witnesses:
WILLIAM L. HALL,
GERTRUDE BRYCE.