Nov. 7, 1933. B. G. RAND 1,934,644

FILING CABINET

Filed April 14, 1931 4 Sheets-Sheet 1

Fig. 1

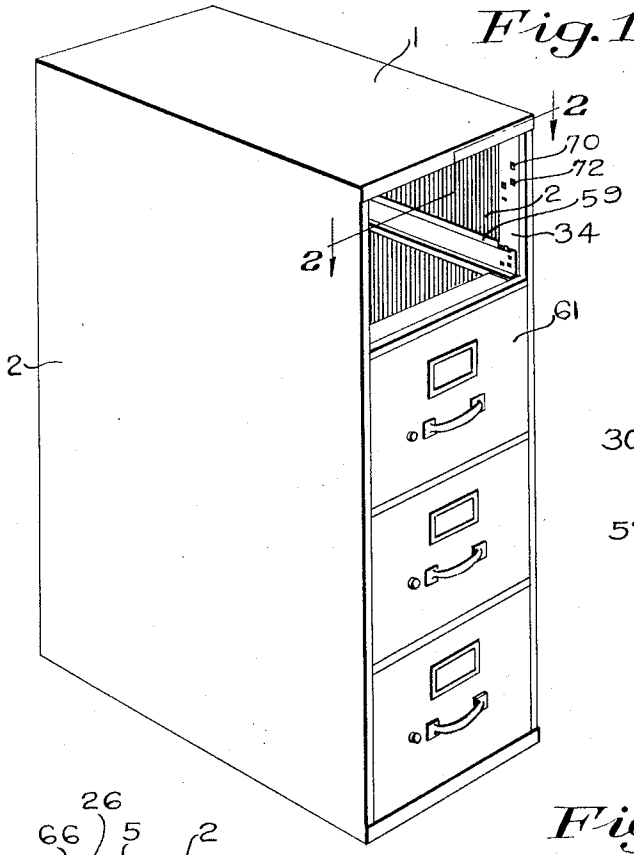


Fig. 12

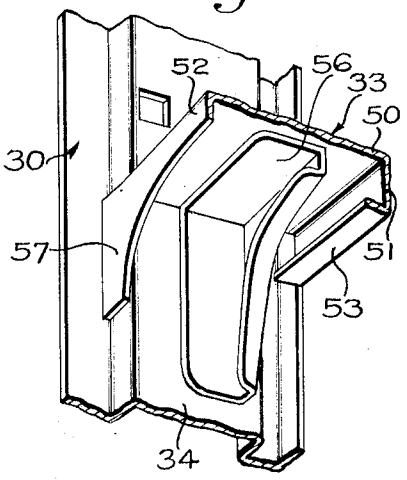
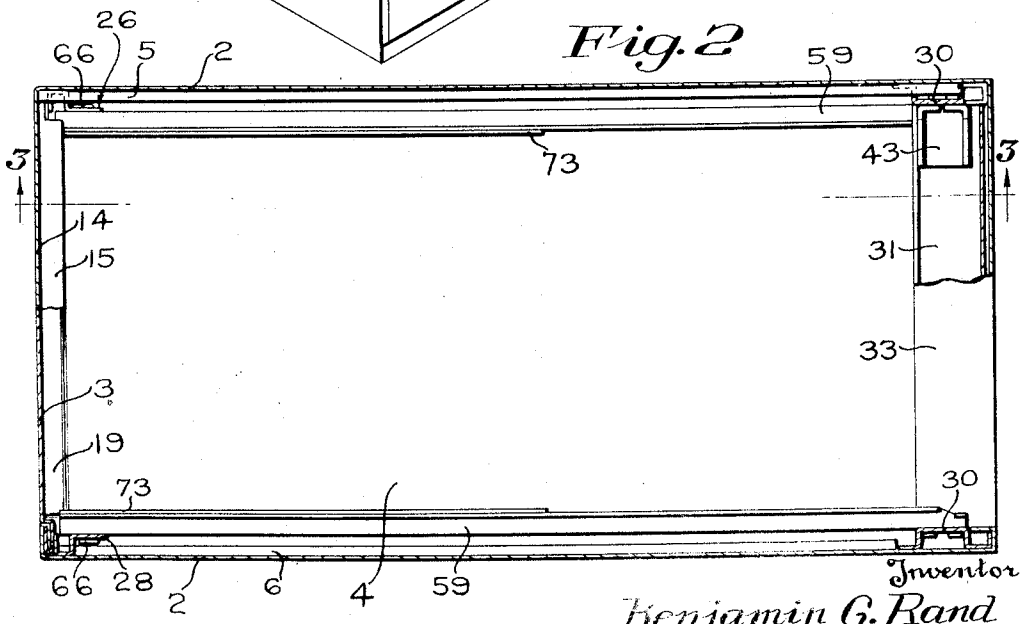


Fig. 2



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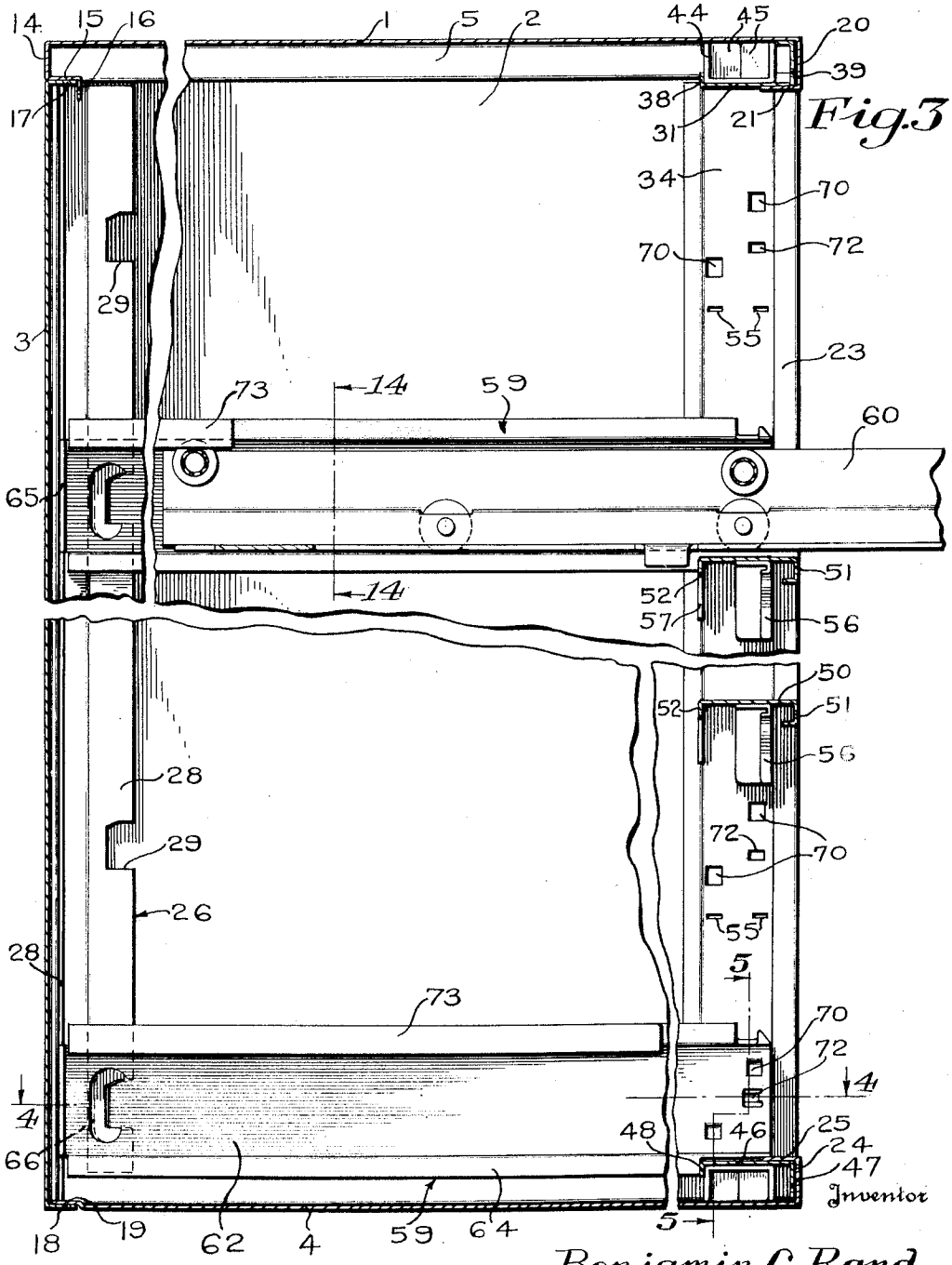


Fig. 3

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Fig. 4

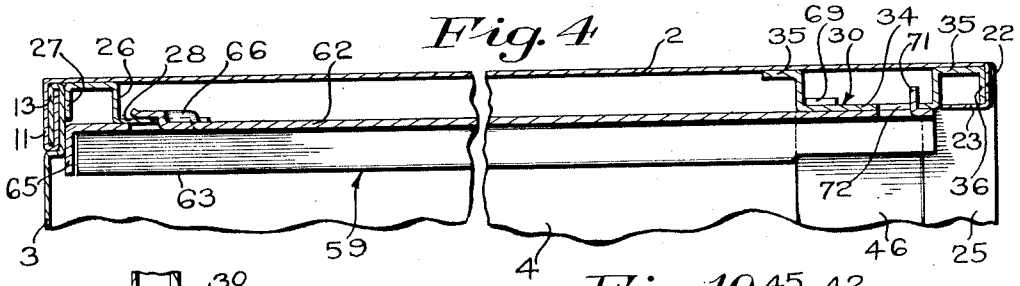


Fig. 5

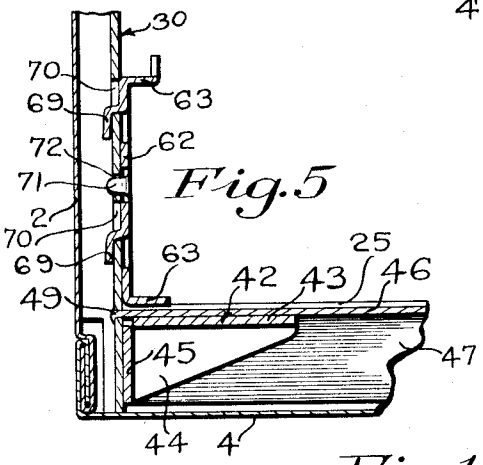


Fig. 10

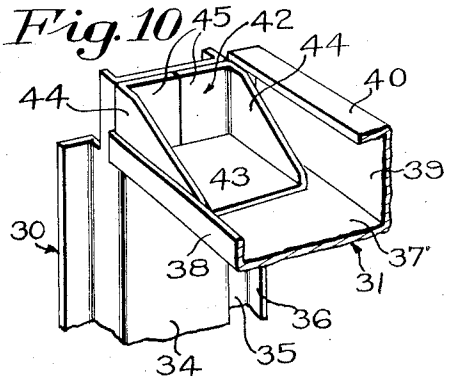


Fig. 9

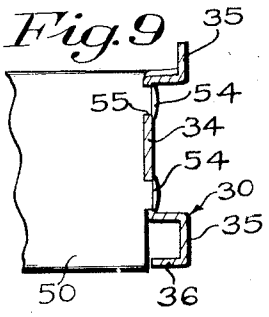


Fig. 14

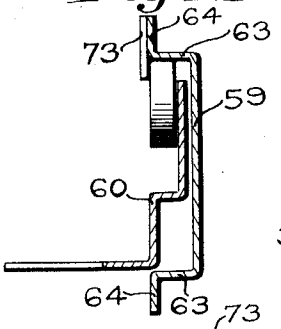


Fig. 11

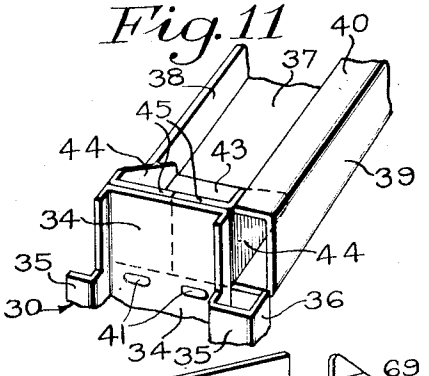
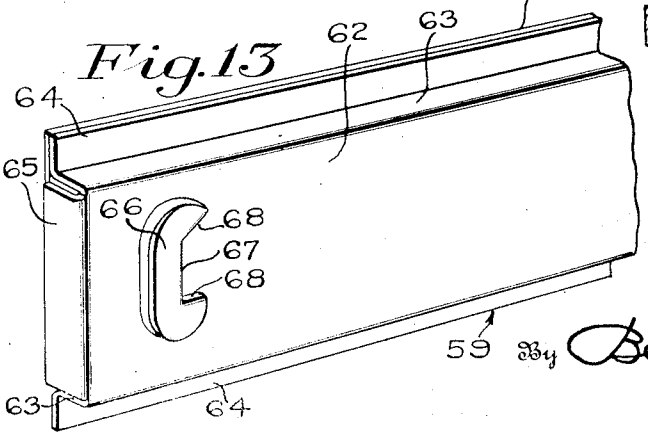
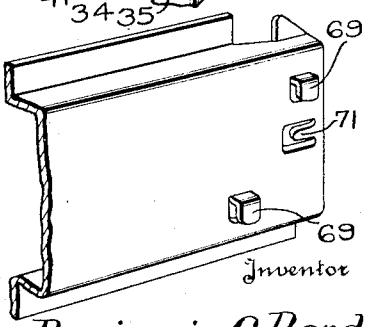


Fig. 13





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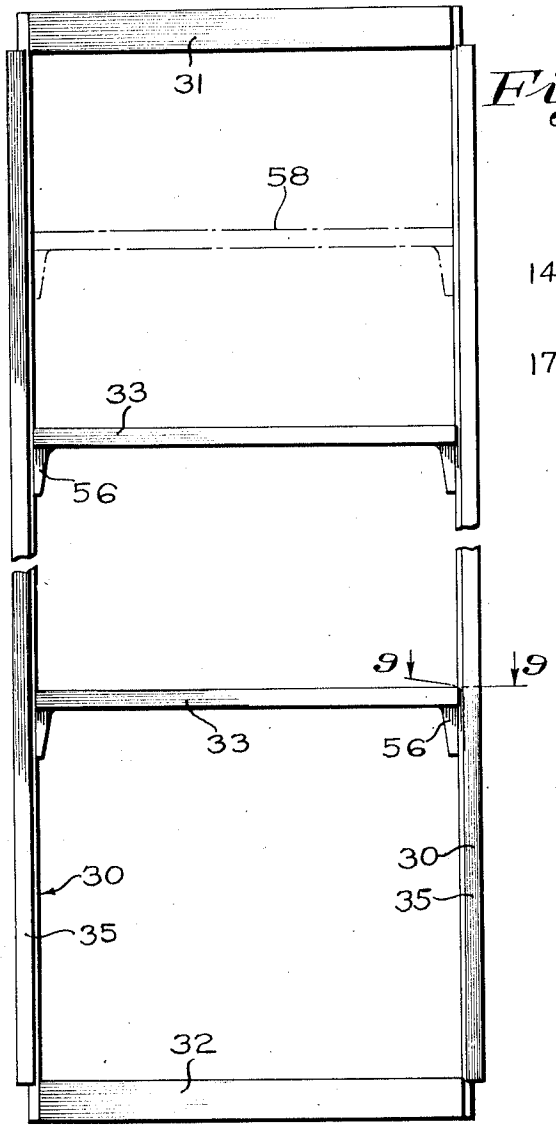


Fig. 8

Fig. 6

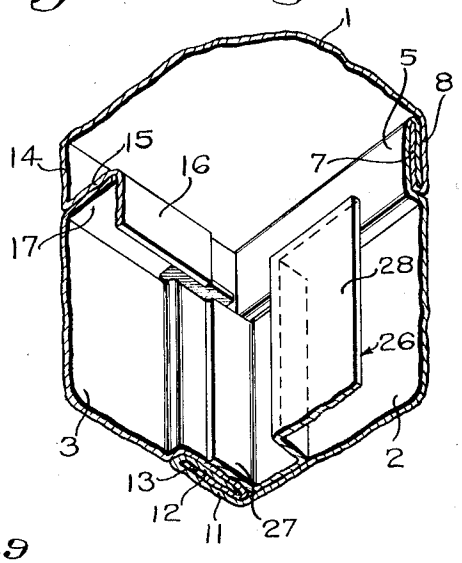
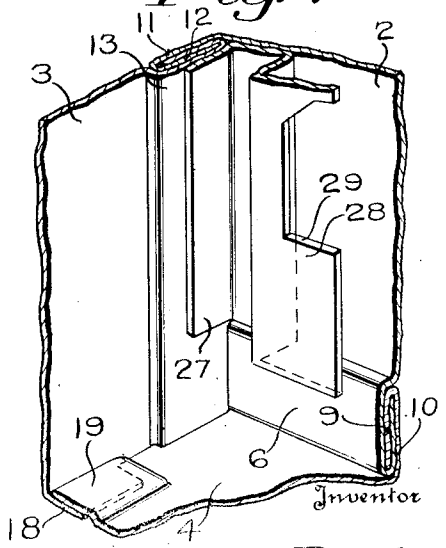


Fig. 7



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Patented Nov. 7, 1933 1,934,644

UNITED STATES PATENT OFFICE

1,934,644

FILING CABINET

Benjamin G. Rand, North Tonawanda, N. Y., assignor to Remington Rand Inc., Buffalo, N. Y.

Application April 14, 1931. Serial No. 530,105

7 Claims. (Cl. 312—141)

This invention relates to improvements in the construction of sheet metal filing cabinets and similar articles of furniture.

The invention is directed to improving the construction of filing cabinets and the like designed to improve the construction of the parts forming the casing, the front frame member, the dividers between drawers, the drawer supporting members, and the connecting parts thereof, to facilitate economical manufacture and assembly of these parts, eliminate labor cost, and at the same time provide a finished cabinet structure having substantial strength and rigidity through the cooperation of the parts in assembled relation for housing records in drawers carried by the drawer supporting members.

One embodiment of the invention is disclosed in the accompanying drawings, in which:

Fig. 1 shows a four drawer type of filing cabinet in perspective with the top drawer omitted.

Fig. 2 is a horizontal section through the top portion of the filing cabinet taken substantially on line 2—2 of Fig. 1.

Fig. 3 is a vertical longitudinal section taken on line 3—3 of Fig. 2.

Fig. 4 is a horizontal section through one side of the filing cabinet taken on line 4—4 of Fig. 3.

Fig. 5 is a vertical section through one of the lower corners of the filing cabinet taken on line 5—5 of Fig. 3.

Fig. 6 is a fragmentary view in perspective looking from the inside of the cabinet at one of the upper rear corners.

Fig. 7 is a fragmentary view in perspective looking from the inside of the cabinet at one of the lower rear corners, and showing a corner corresponding in position to the upper corner shown in Fig. 6.

Fig. 8 is a front elevation of the front frame member detached from the cabinet.

Fig. 9 is a fragmentary section taken on line 9—9 of Fig. 8 through a portion of the front frame member illustrating the manner of connecting a divider bar with one of the side bars of the frame member.

Fig. 10 is a fragmentary view of one of the upper corners of the front frame member in perspective looking from the rear side of the frame member.

Fig. 11 is another fragmentary perspective of the same corner of the frame member as shown in Fig. 10 looking from a position at the front and at one side of the frame member.

Fig. 12 is a fragmentary perspective showing a portion of one of the side bars of the front frame member and the under side of one end of one of the dividers connected thereto.

Fig. 13 shows one of the drawer supporting members in perspective.

Fig. 14 is a cross section through one of the drawer supporting members and an associated part of the drawer supporting and guiding mechanism taken on line 14—14 of Fig. 3.

The illustrated form of the filing cabinet is provided with a top wall 1, side walls 2, rear wall 3, and bottom wall 4. The upper and lower edges of side walls 2 are each formed to provide doubled seam portions 5 and 6 respectively, as shown in Figs. 6 and 7 respectively, with which complementary seam portions 7 formed on depending side flanges 8 along both sides of the top wall interlock with the seams 5 at the upper edges of the side walls, while complementary seam portions 9 on upwardly extending flanges 10 at the side edges of the bottom wall interlock with seam portions 6 on the lower edges of the side walls. This rigidly connects the top, side, and bottom walls, in forming the finished cabinet. The rear edges of side walls 2 are provided with inwardly extending flanges 11 formed to provide doubled seam portions 12 as shown in Fig. 7, with which the complementary seam portions 13 on the side edges of rear wall 3 interlock for securing the rear wall in position at the back of the cabinet.

The rear edge of top wall 1 is provided with a depending flange 14, Figs. 3 and 6, terminating in an inturned flange 15 provided with a depending lip 16 at the inner edge. The inturned flange 15 seats on top of the laterally extending flange 17 provided on the upper edge of rear wall 3 and the depending lip 16 engages around the free edge of flange 17. The lower edge of rear wall 3 is provided with a lateral flange 18, Figs. 3 and 7, and an offset portion 19 on the rear edge of bottom wall 4 overlaps flange 18. After these parts are assembled in this manner the side walls, top, bottom and rear walls may be suitably welded together along the connecting portions thereof in any suitable manner.

The front edge of top wall 1 is formed with a depending flange 20, Fig. 3, terminating in an inturned edge portion 21 in spaced parallel relation to the adjacent part of the top wall in order to provide an inwardly facing channel at the front edge of the cabinet across the top. The side walls 2 are formed at the front edges with laterally extending flanges 22 terminating in inturned edge portions 23 in spaced parallel relation to adjacent portions of the side walls to form inwardly facing channels at the front of the cabinet adjacent the

side walls. An inwardly facing channel is also provided in the bottom of the cabinet in a similar manner, by the upturned flange 24 on the front edge of bottom wall 4 terminating in the inturned lip 25.

Rear uprights 26 are mounted in the rear corners of the cabinet and have offset edge portions 27 and 28 respectively, the edge portions 27 being welded or otherwise suitably secured in the rear corners defined by the side walls 2 and rear wall 3, while edge portions 28 are in spaced parallel relation inwardly of the side walls and project toward the front of the cabinet. These edge portions 28 are formed with notches 29 opening forwardly at the free edges and form supporting and attaching parts for the rear ends of drawer supporting members hereafter described.

A front frame member is shown in Fig. 8 having side bars 30 and top and bottom connecting members 31 and 32, respectively. Divider bars 33 are secured to the side bars 30 and extend between intermediate portions of these bars to define the drawer compartment openings in the front frame member and form reinforcements for the frame member as well as fillers for the spaces between adjacent drawers.

The side bars 30 of the front frame member are similarly but oppositely formed from sheet metal strips having a central section 34 offset laterally from the side edges 35 so as to form a channel in the strip facing outwardly when the side bars are in position in the cabinet as shown in Figs. 2 and 4. The front edge portion 35 is provided with a lateral inwardly directed flange 36, Fig. 4, cooperating with the front edge portion 35 and the adjacent part of the offset portion 34 to form an inwardly facing channel in the side bars. By this side bar structure a substantially rigid construction results with the use of relatively thin gauge sheet metal. A structure is also provided which facilitates its attachment to the side walls of the outer casing and for supporting and retaining the shape of the adjacent parts of the side walls forming the front edges of the cabinet, through the relation of the edge portion 35 and flange 36 providing surfaces against which the adjacent portions of the side walls firmly engage.

The top connecting member 31 is formed from a strip of sheet metal to provide a channel shaped member by having the central portion 37, Figs. 10 and 11, provided with upwardly extending side flanges 38 and 39 respectively, the flange 39 being substantially wider than flange 38, and being provided on the front edge of the connecting member to seat against the inside face of depending flange 20 on top wall 2. The upper edge of flange 39 terminates in a laterally extending lip 40 engaging the under face of top wall 1 adjacent flange 20 within the inwardly facing channel formed by the front edge structure of the top wall. The channel in the connecting member 31 faces upwardly and the central portion 37 is provided at each end with a pair of projections 41 engaging in a pair of slots in the upper end portions of each central section 34 of side bars 30. The ends of these projections 41 are provided with swaged or riveted terminals to rigidly units the connecting member 31 with side bars 30. In order to provide a rigid corner structure and connection between the top connecting member 31 and side bars 30, there is provided in addition to the connection formed by projections 41, a corner connecting bracket 42 having a plate section 43 provided with laterally extending side flanges 44 formed with laterally extending end flanges 45. The plate sections 43 are welded or otherwise secured to the central portion 37 of the top connecting member adjacent the end thereof, while the laterally extending end flanges 45 are welded or otherwise secured to the free end portions of central sections 34 of side bars 30.

The bottom connecting bar or member 32 is constructed in a manner similar to the top connecting member 31 by having a strip of sheet metal formed to provide a central portion 46 having front and rear laterally extending flanges 47 and 48 respectively, the flange 47 being wider than flange 48 as illustrated in Fig. 3, and embraced by the inner faces of the flanges 24 and 25 on bottom wall 4. The bottom connecting member is positioned so that the channel formed therein faces downwardly. The ends of the central section 46 of the bottom connecting member are provided with a pair of projections secured in a pair of slots in the bottom ends of side bars 30 in the same manner as above described in connection with the top connecting bar 31, this being shown in section in Fig. 5, one of the projections being indicated at 49. Corner brackets 42 have their plate portions 43 secured to the central portion 46 of the bottom connecting bar and the end flanges 45 secured to the lower end of central sections 34 of side bars 30, thereby providing a rigid corner connection between the lower connecting member 32 and the side bars.

It will thus be seen that a rigidly constructed rectangular front frame member is provided by this construction which is fitted in the rearwardly facing channel portions formed at the front end of the casing. This front frame member is rigidly secured in position by having the edge portions 35 suitably secured to the side walls 2 by welding or the like or any other contacting portion of the front frame member with either the side walls, top or bottom walls. This front frame member rigidly supports the casing structure of the cabinet at the front end.

The drawer receiving openings in the front end of the cabinet are defined by the divider bars 33 formed of sheet metal having central portions 50 provided with front and rear depending side flanges 51 and 52, the lower edge of front flange 51 terminating in a rearwardly extending lip 52 as clearly shown in Fig. 12. These divider bars extend between the side bars 30 and are provided with a pair of projections at opposite ends shown at 54 in Fig. 9 engaged in slots 55 formed in central sections 34 of side bars 30. The ends of these projections 54 may be swaged, riveted or otherwise permanently secured to the side bars, particularly where they form dividers for the front frame member defining drawer receiving openings of a size adapted to receive relatively deep drawers such as those used for correspondence files, as distinguished from shallow drawers that may be used for card files or other articles. Where these divider bars are permanently secured to the side bars, angular brackets 56 shown in Fig. 12, may be suitably secured to central portion 50 of the divider bar and central section 34 of the side bars to make a rigid connection. The ends of the rear flange 52 of each divider bar are provided with extensions 57 as shown in Fig. 12, extending beyond the ends of the remaining portions of the divider bar to engage the faces of the connecting portion between central section 34 and the rear edge 35 of side bars 30, the end of this projection 57 fitting against the inner face of the rear edge 35 of side bars 30 in

the manner shown in Fig. 12. This provides cooperation between the divider bar structure and the side bar structure tc reduce the tendency of the divider bars to flex and to brace the entire front frame structure intermediate the ends.

In addition to providing a plurality of spaced sets of slots 55 in the central section 34 of the side bars to divide the front frame member into drawer receiving openings of a size for receiving relatively deep drawers, the central sections 34 of the side bars are also provided with intermediate pairs of slots 55 as clearly illustrated in Fig. 3 so that additional divider bars 33 may be inserted after the cabinet is completely finished in order to adapt its use to shallow drawers. In this case, additional dividers constructed exactly as those shown in Figs. 8 and 12 are provided, having the pairs of projections 54 on the ends of the central portions thereof adapted for interlocking engagement in the slots 55, by slightly springing or flexing the divider bars, to permit the insertion of the projections into the slots. One of these additional divider bars is shown in position in the front frame member in Fig. 8 at 58, in dot and dash lines.

This cabinet construction is made and assembled to receive either relatively deep drawers or shallow drawers, or a combination of both deep and shallow drawers, but as illustrated in the drawings particularly Fig. 1, only the structure necessary for mounting relatively deep drawers, is illustrated. The rear upright 26 and the side bars 30 of the front frame member however, are both constructed for the addition of parts so that shallow drawers or the like may be used in place of the relatively deep drawers shown.

Drawer supporting members 59 are mounted in the cabinet by attachment to the rear upright 26 and the side bars 30 of the front frame member for mounting a movable intermediate carriage structure partially illustrated at 60 in Fig. 3 showing a plurality of supporting rollers for engagement in the channels of drawer supporting members 59 and also adapted for engagement with parts carried by the drawers 61, generally indicated in Fig. 1. The intermediate carriage mechanism 60 and the drawer structure 61 may be of any suitabe construction for operation in the drawer supporting members 59 constructed in a manner hereafter described.

These drawer supporting members 59 are each formed of a strip of sheet metal having a central section 62 provided with laterally extending top and bottom flanges 63 terminating in edge portions 64 offset to one side of central section 62, these flanges 63 and edge portion 64 extending for substantially the entire length of the drawer supporting members. The rear end of central section 62 is provided with a lateral extension 65 forming an end wall for the channel provided in the drawer supporting member by flanges 63 and central section 62. This channel receives the carriage mechanism 60 that supports the drawer for movement into and out of the cabinet and the end flanges 65 form stops, to limit the rearward movement of the carriage 60. The rear end portion of drawer supporting member 59 has central section 62 provided with an offset flange 66 on the opposite side of the central section from that providing the channel.

Connecting portions 67 and 68 between flange 66 and central section 62, provide angularly arranged supporting shoulders for engaging the edges of the rear upright 26 in opening 29 in the manner shown in Fig. 3, to rigidly retain the rear end of the drawer supporting member in fixed relation at the rear of the cabinet. Each of the drawer supporting members is inserted in its assembled relation in the cabinet by first interlocking the parts 66, 67 and 68, on the drawer supporting member, in an opening 29 formed in rear upright 26, with flange 66 engaging the opposite face of the edge 28 of rear upright 26, from the remaining portion of the drawer supporting member. These parts of the rear upright and drawer supporting member are of a complementary character. After these parts are engaged, the laterally extending offset tongues 69 struck out of the front end portion of central section 62 are engaged in openings 70 formed in central sections 34 of side bars 30, and afterwards the front end of the drawer supporting member is moved downwardly a slight distance until the tongues engage on the edges of central sections 34 forming the bottom margins of openings 70. In this position the drawer guides will be supported in a horizontal position and in proper relation to mount a drawer for movement into and out of the cabinet through one of the drawer openings in the front frame member. The front end of the drawer slide is permanently locked in position by bending tongue 71 formed in the body of central section 62 of the drawer supporting member laterally into opening 72 in the central section 34 of side bar 30. The engaged position of these parts is shown in Fig. 5 while the openings and tongues are shown clearly in Figs. 3, 4 and 13.

The tongues 69 and 71 form complementary parts with the openings 70 and 72 for permanently attaching the front end of the drawer supporting members to the front frame members. These drawer supporting members may be removed by bending the tongue 71 from its laterally extending position as shown in Fig. 5 back to the position shown in Fig. 13, but this is not usually necessary except where the drawer supporting member may become deformed or is defective.

A retaining strip 73 is secured to the upper edge portion 64 of drawer supporting member 59 along the rear end portion thereof and overhangs the channel in the drawer supporting member in order to guide the rollers on the intermediate carriage 60 and prevent the disengagement from bearing contact with flanges 63 in the channels.

It will be noted particularly in Fig. 3 that the slots 55 and openings 70 and 72 are arranged in groups in predetermined relation and provide corresponding supporting parts at opposite sides of the cabinet for the drawer supporting member and divider bar used in conjunction with the mounting of each drawer in the cabinet and that a corresponding horizontally disposed recess 29 is provided in the rear upright 26. The rear upright and the front frame member are initially constructed to provide a mounting in the form of these co-acting parts adapted to receive a sufficient number of drawer supporting members and divider bars for a complete set of shallow drawers in the cabinet instead of the relatively deep drawers 61 as illustrated in Fig. 1. This construction permits the interchangeability of the drawer supporting parts and the divider bars in addition to the selective assembly of these parts with the cabinet for supporting one or more deep drawers or a desired number of shallow drawers or a combination of deep and shallow drawers.

After the side, top, bottom and rear walls are

pressed into assembled relation by the interengagement of their seamed edges, it will be seen that with the rear uprights applied before assembly of the side walls by spot welding or the like, it is then only necessary to assemble the front frame member in the cabinet with the desired divider bars in position and then to insert the drawer supporting members into position by interlocking the rear ends with the rear upright and subsequently interlocking the front ends with the side bars, for supporting the desired number of drawers and permanently securing these parts in locked position by striking the tongues 71 with a suitable tool to extend them laterally into openings 72.

The invention claimed is:

1. A filing cabinet comprising a casing having side walls formed with seam portions along the upper and lower edges, a bottom wall having upturned side edges formed to provide complementary seam portions interlocked with the seam portions on the lower edges of said side walls, a top wall having depending side flanges formed into complementary seam portions interlocked with the seam portions at the upper edges of said side walls, said seam portions on the top and bottom being interlocked in assembled relation with the seam portions on the side walls by slidably engaging said seam portions with each other, said side walls having inturned flanges on the rear edges formed to provide seam portions, a rear wall having seam portions on the side edges interlocked with the last-mentioned seam portions on the side walls, said rear wall having the seam portions thereof slidably engaged with the seam portions on the rear edges of the side walls, said rear wall having lateral inwardly extending flanges at the upper and lower ends, said bottom wall having the rear edge offset upwardly and overlapping the lateral flange on the bottom of said rear wall, said top wall having a depending flange on the rear edge terminating in an inturned flange in spaced parallel relation to said top wall and seating on the inturned flange at the upper edge of said rear wall, said inturned flange on said top wall having a depending lip on the inner edge engaging the inner edge of the inturned flange on said rear wall, integral portions on the front edges of said side, top and bottom walls forming rearwardly extending channels, and drawer supporting means mounted in said casing adjacent said side walls, said seam portions cooperating to provide a substantially rigid corner section along the upper, lower and rear edges of said side walls and said inturned flanges and integral portions cooperating with said seam portions to provide rigid corner sections at the other corners of said cabinet.

2. A drawer supporting member for filing cabinets comprising a sheet metal channel member, an attaching part on one end of said member having a flange offset in spaced parallel relation thereto, and angularly arranged portions connecting said flange to said member to provide supporting shoulders, tongues on the opposite end portion of said member disposed laterally thereof, and a distortable tongue provided on the last-mentioned end portion of said member.

3. A drawer supporting member for filing cabinets comprising a sheet metal channel member, an integral flange offset from said member at one end, angular supporting shoulders connecting said flange to said member, laterally directed tongues offset from said member at the opposite end, and a tongue formed on the last-mentioned end of said member and distortable laterally relative thereto.

4. A filing cabinet comprising a casing, and a rectangular frame member in the front end of said casing, said frame member comprising oppositely formed side bars, each side bar being formed of a strip of sheet metal having a relatively wide central section offset laterally from the edge portions and in substantially parallel relation thereto, and providing an outwardly facing channel in each bar, and a laterally extending flange on the forward edge of said strip forming with adjacent portions an inwardly facing channel in each bar, top and bottom connecting members between the ends of said side bars, and means rigidly connecting said top and bottom members to the ends of said side bars to form a rigid frame structure.

5. A filing cabinet comprising a casing, and a rectangular frame member in the front end of said casing, said frame member comprising oppositely formed side bars, each side bar being formed of a strip of sheet metal having a relatively wide central section offset laterally from the edge portions and in substantially parallel relation thereto, and providing an outwardly facing channel in each bar, and a laterally extending flange on the forward edge of said strip forming with adjacent portions, an inwardly facing channel in each bar, top and bottom connecting members between the ends of said side bars, each formed of a strip of sheet metal having a channel shape in cross section, the channel in the top member facing upwardly and the channel in the bottom member facing downwardly, projections on opposite ends of said top and bottom members extending through slots in the end portions of the central sections of said side members and permanently secured therein, and corner brackets of sheet metal having plate sections secured to the end portions of said top and bottom members in the channels thereof, laterally extending flanges on the side edges of said plate sections, and end flanges extending laterally of said plate sections rigidly secured to the end portions of the central sections of said side members.

6. A filing cabinet comprising a casing having side walls, frame members at the front edges of said side walls, drawer supporting members, each having an offset rearwardly extending flange formed on the rear end portion interengaged with a complementary part in the rear end portion of said casing adjacent said side walls, said flange being engaged by rearward movement of said drawer supporting member to insert said tongue into said complementary part, each drawer supporting member having the front end formed with offset downwardly extending tongues engaged in openings formed in said frame members in interlocked relation with said frame members, said tongues being adapted for engagement with said frame members by lateral movement of the front end of said drawer supporting member to insert said tongues through said openings and then by downward movement to interengage said tongues with said frame members disposed between said tongues and the drawer supporting member, and a laterally extending tongue formed on each drawer supporting member extending through an opening in said frame member and retaining the front end of said drawer supporting member in position on said frame member against vertical movement and against disengagement of the

first mentioned tongues from said frame member.

7. A filing cabinet comprising a casing having side walls provided with seam portions at the upper and lower edges and formed of portions offset inwardly from said side walls having return bend portions at the outer edges providing marginal portions on said side walls extending toward each other substantially in the plane of said side walls and spaced from said offset portions to form channels along the upper and lower edges of said side walls, a top wall having depending side flanges formed with inwardly and upwardly extending sections spaced from said depending side flanges to form seam portions complementary to the seam portions on the upper edges of said side walls, said top wall having the seam portions thereof slidably engaged in interlocked relation with the seam portions of said side walls, said top wall and said side walls being formed for assembly by sliding said top wall into engaged position on said side walls, a bottom wall having upwardly extending side flanges terminating in inwardly and downwardly extending spaced sections forming channels and arranged to provide seam portions on said bottom wall complementary to the seam portions on the bottom edges of said side walls, said bottom wall having the seam portions thereof slidably interlocked in interengaged relation with the seam portions on said side walls, said side walls having lateral flanges on the rear edges terminating in return bend portions overlying said lateral flanges in spaced relation inwardly thereof to form seam portions, said top wall having a depending flange on the rear edge terminating in an inturned flange in spaced parallel relation to said top wall, and a rear wall having lateral inwardly extending flanges on the upper and lower edges and having inwardly offset side edge portions terminating in outwardly disposed return bend portions extending toward each other in spaced parallel relation to said side edge portions to form channels and provide seam portions on the rear wall slidably interlocked in interengaged relation with the seam portions on the rear edges of the side walls, said rear wall having the seam portions thereon slidably engaged with the seam portions on the rear edges of the side walls to provide for slidable assembly of said rear wall with said side walls, the lateral flange on the upper edge of said rear wall abutting the inturned flange on said top wall in assembled relation with the lateral flange on the lower edge of said rear wall overlapping the rear edge of said bottom wall, and integral portions on the front edges of said side, top and bottom walls forming a front portion for said cabinet.

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