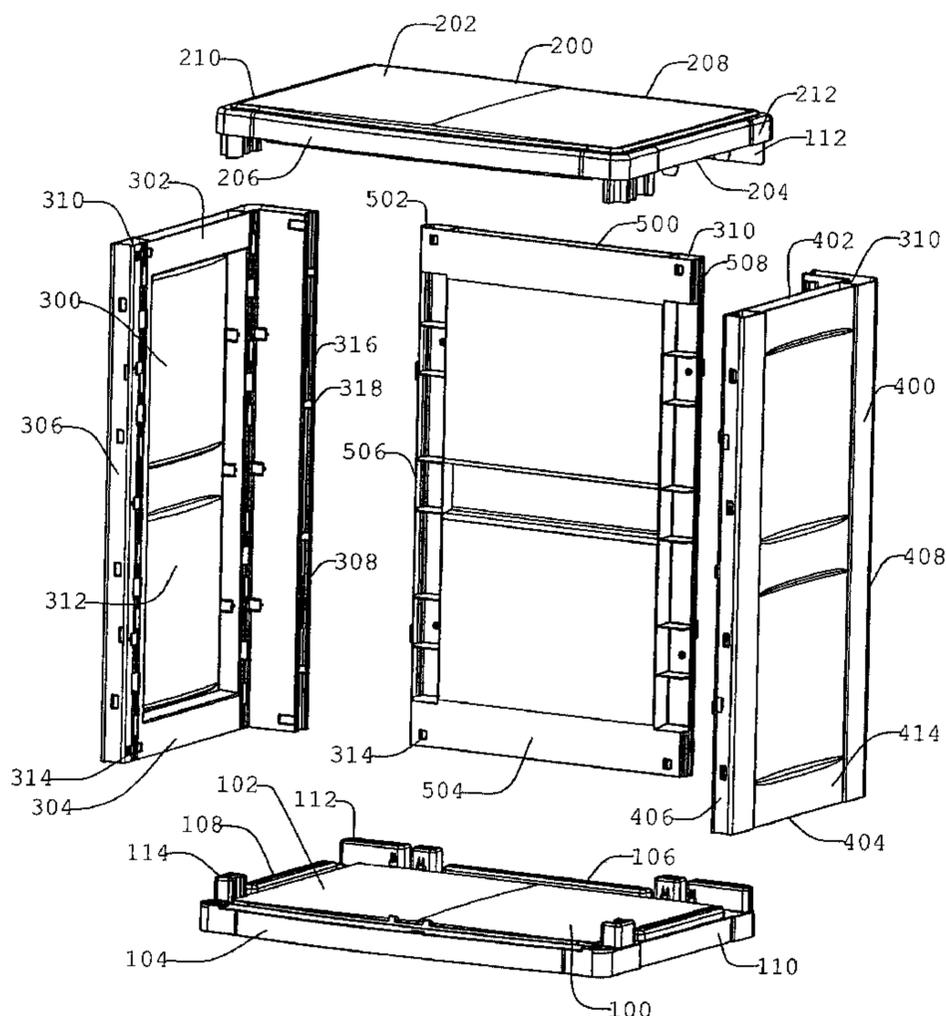




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(54) Titre : ARMOIRE DE RANGEMENT A TIROIRS EN KIT  
(54) Title: DRAWER CABINET STORAGE KIT



(57) Abrégé/Abstract:

The present invention provides an assembly, or kit, of injection molded panels having integrated connectors which combine to form a drawer cabinet. The panels are formed of injection molded plastic to interlock with one another without the need for separate fasteners or connectors. The interior of the cabinet is constructed and arranged to accept a plurality of cooperating drawer guides and drawers which snap into place to fill the cabinets interior.

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ABSTRACT

The present invention provides an assembly, or kit, of injection molded panels having integrated connectors which combine to form a drawer cabinet. The panels are formed of injection molded plastic to interlock with one another without the need for separate fasteners or connectors. The interior of the cabinet is constructed and arranged to accept a plurality of cooperating drawer guides and drawers which snap into place to fill the cabinets interior.

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**DRAWER CABINET STORAGE KIT**

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**Field of the Invention**

4           This invention relates generally to a drawer cabinet kit  
5 constructed of plastic structural panels. More specifically,  
6 the present invention relates to a cabinet constructed of  
7 injection molded plastic panels to contain a plurality of  
8 drawers with modular snap-in guides and which is capable of  
9 being packaged and shipped assembled or in a knocked-down  
10 state and constructed into a secure drawer cabinet at a  
11 desired site.

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**Background Information**

14           Throughout the home, a need exists to store a large  
15 variety of different items. This is particularly true of  
16 garage and utility areas where a vast array of products have  
17 been developed to increase the comfort level of living. The  
18 accumulation of these various objects and products gives rise  
19 to a need for adequate storage of those items when not in  
20 use.

21           Various cabinets for storing household items such as  
22 gardening tools, automotive supplies, barbeque accessories  
23 and the like are well known. One of the more popular type of  
24 cabinets for storing household items is a cabinet with a

1 plurality of pull-out drawers. Cabinets of this type are  
2 generally shipped to a consumer or a supplier fully  
3 assembled. Shipping fully assembled cabinetry requires a  
4 considerable amount of space available within a shipping  
5 medium. Because space is limited, the cost associated with  
6 shipping assembled cabinets is comparatively high.

7 Alternatively, drawer cabinet assemblies are customized  
8 for the consumer based on the consumer's needs. With  
9 customized cabinets, the consumer selects the cabinet  
10 material, the size of the associated drawers and the drawer  
11 guides needed to guide the drawers in and out of the cabinet.

12 Numerous devices have been utilized throughout history to  
13 guide drawers in and out of drawer cabinets. The simplest  
14 mechanism is a box in which the drawer slides. Other methods  
15 of control include runners on either side of the drawer or a  
16 single runner under the bottom of the drawer with notches to  
17 hold the drawer in alignment with the cabinet. All of these  
18 basic guide systems have high levels of friction between the  
19 drawer and the cabinet and, consequently, rapidly wear out.  
20 Numerous low friction devices have been designed to  
21 facilitate movement of drawers in and out of cabinets  
22 including ball bearings, wheels, and sliders. Most of these  
23 low friction devices require unsightly tracks along the side  
24 of the drawers and wide spaces between the sides of the

1 drawers and the drawer face to allow passage of the low  
2 friction devices from the inside of the drawer cabinet to the  
3 outside when the drawer is extended.

4 Side play of the drawer when extended is another  
5 difficult problem, particularly in the basic forms of drawer  
6 guides. Often the drawer must be moved from side to side and  
7 up and down in order to get it to return to the drawer  
8 cabinet. As the guides become worn, the problem becomes even  
9 more severe. Even drawer slides utilizing rollers, ball  
10 bearings and sliders have binding problems, especially when  
11 the drawers are heavily loaded or the slide parts have become  
12 slightly worn.

13 The ball bearing type of drawer slide creates a  
14 different problem. Because there is virtually no side play  
15 in a ball bearing slide the drawer cabinet must be perfectly  
16 aligned with the drawer slide in order to eliminate binding  
17 as the drawer is moved in and out. Skilled labor and time  
18 are required to properly position a ball bearing slide.

19 Fabrication costs of low friction slide arrangements are  
20 another problem. The slide arrangements must be specially  
21 made for each different length of drawer. A long drawer  
22 requires a long slide arrangement and a short drawer requires  
23 a short slide arrangement. Manufacturers are required to

1 maintain supplies of many different lengths of drawer slides  
2 or modify slides for each customer.

3 Full extension drawer slides are a variation of the  
4 typical drawer slide and are used to permit full extension of  
5 drawers such that the back of the drawer is fully accessible.  
6 Such drawer guides usually use three or more rails with one  
7 rail (cabinet rail) being attached to the cabinet, one rail  
8 (drawer rail) being attached to the drawer and one rail  
9 (floating rail) gliding between the drawer and cabinet rails.  
10 Examples of such drawer guides are disclosed in United States  
11 Pat. Nos. to Card, 1,537,067, Tobey, 2,099,148, Schaffert,  
12 1,129,831, Bullock et al, 3,203,749, Vander Ley, 4,004,841,  
13 Lautenschlager 5,733,027, Fleisch, 5,895,102, Fraccaro,  
14 6,390,574. In these systems, rollers or ball bearings are  
15 provided on racks between the floating rail and the cabinet  
16 and drawer rails to provide free gliding movement between  
17 each of the rails.

18 One of the problems associated with such systems is that  
19 they tend to be rather large and bulky which limits their use  
20 on smaller drawers. Further, such systems are relatively  
21 complicated and difficult to fabricate, resulting in high  
22 costs to consumers.

23 Such prior art systems have not met all of the needs of  
24 manufacturers to provide a product that can be easily

1 manufactured, packaged and shipped, or the needs of consumers  
2 requiring economical and versatile do-it-yourself storage  
3 kits. Moreover, because the prior art devices do not break  
4 down they are difficult and expensive to ship from the  
5 manufacturer to the consumer.

6 Paramount among such needs is an easy to assemble kit  
7 which can be easily assembled by an average homeowner.  
8 Structure is a further consideration, the cabinet formed by  
9 the panels must create cabinet walls which resist panel  
10 separation, buckling and racking in such a way as to unify  
11 the entire enclosure.

12 Also, from a versatility standpoint, a cooperating  
13 drawer and guide should be present which can be easily  
14 assembled or modified after assembly of the side, top, bottom  
15 and back panels, and which provides security and dependable  
16 access to the contents of the drawers without the complex and  
17 difficult to assemble mechanisms associated with the prior  
18 art.

19 There are also commercial considerations that must be  
20 satisfied by any viable drawer cabinet system or kit;  
21 considerations which are not entirely satisfied by state of  
22 the art products. The drawer cabinet must be formed of  
23 relatively few component parts that are inexpensive to  
24 manufacture by conventional techniques. The drawer cabinet

1 must also be capable of being packaged and shipped in a  
2 knocked-down state.

3       In addition, there are ergonomic needs that a drawer  
4 cabinet system must satisfy in order to achieve acceptance by  
5 the end user.     The system must be easily and quickly  
6 assembled using minimal hardware and requiring a minimal  
7 number of tools.     Further, the system must not require  
8 excessive strength to assemble or include heavy component  
9 parts.     Moreover, the system must assemble together in such a  
10 way so as not to detract from the internal storage volume of  
11 the resulting wall cabinet or otherwise negatively affect the  
12 utility of the drawer cabinet.

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1 Brief Description of the invention

2       The present invention provides an assembly, or kit, of  
3 injection molded panels having integrated connectors which  
4 combine to form a drawer cabinet with a plurality of snap-in  
5 drawer guide members and cooperating pull out drawers. The  
6 cabinet panels are formed of injection molded plastic and  
7 include integrally formed connectors to interlock with one  
8 another without the need for separate fasteners. The  
9 integrated connection of the side walls and top and bottom  
10 panels simplifies the drawer cabinet construction and  
11 minimizes the number of components required to assemble the  
12 drawer cabinet. Injection molding allows the panels to be  
13 formed with integral cross-bracing, ribs and gussets for  
14 increased rigidity. When supplied as a kit, assembly of the  
15 drawer cabinet requires minimal hardware and a minimum number  
16 of hand tools.

17       The drawer cabinet assembly includes a base panel, a  
18 back panel, left and right side panels and a top panel. The  
19 base panel is constructed with integrally formed outwardly  
20 extending contoured locking posts for interlocking  
21 cooperative engagement with sockets formed into the ends of  
22 the left, right and back panels. The engagement between the  
23 locking posts and the sockets serve to rigidly connect the  
24 components together, preventing the panels from bowing

1 inwardly or outwardly under loads to provide a structurally  
2 sound cabinet with a pleasing aesthetic appearance.

3       The interior portion of the cabinet includes integrally  
4 molded vertical rails extending along each side. The rails  
5 extend from the base panel to the top panel. Each rail is  
6 constructed to accept a plurality of snap-in drawer guide  
7 members in a vertically spaced and generally parallel  
8 arrangement to cooperate with a combination of drawers to  
9 fill the cabinet. This construction allows the consumer to  
10 customize the drawer cabinet for a particular storage  
11 requirement. Cooperating with the vertical rails are snap-in  
12 drawer guide members having a rotatably mounted roller  
13 secured within the front portion thereof. The snap in guide  
14 members minimize complexity of completing the assembly while  
15 increasing versatility by allowing the consumer to customize  
16 the assembly for specific needs. The snap-in construction of  
17 the drawer guides eliminate the need for skilled tradesmen to  
18 line-up and mount complicated hardware within the cabinet.  
19 In this manner the consumer can select a plurality of drawers  
20 having various heights, snap in the drawer guides, and  
21 thereafter slide in the drawers to complete the assembly.

22       The drawers are pre-constructed of polymeric material  
23 including a first roller rotatably mounted on each lower rear  
24 corner and a second roller rotatably mounted on each upper

1 rear corner. The first rollers are adapted to cooperate with  
2 an adjacent lower drawer guide to support the rear portion of  
3 the drawer and the second rollers are adapted to cooperate  
4 with an adjacent upper guide to prevent the drawer from  
5 tipping as it is pulled outwardly.

6 In operation, as a loaded drawer is pulled outward it  
7 rolls freely on the fixed position guide roller and the  
8 rollers at the bottom rear of the drawer. As the guide  
9 roller and the drawer rollers get closer together the weight  
10 in the drawer causes a cantilever action across the guide  
11 roller and the rollers positioned at the upper rear of the  
12 drawer roll along the lower portion of the adjacent guide  
13 above. This construction allows the drawers to be easily  
14 opened with heavy loads without requiring complex sliding  
15 track mechanisms to prevent tipping of the drawer.

16 Accordingly, it is an objective of the present invention  
17 to provide a polymeric drawer cabinet assembly having a  
18 plurality of modular cooperating drawer and guide assemblies.

19 It is a further objective of the present invention to  
20 provide a modular snap-in drawer guide device, by which a  
21 cooperating drawer can be smoothly guided inwardly and  
22 outwardly of a cabinet body without the need for complex  
23 metal guiding mechanisms.

1           Yet a further objective of the present invention is to  
2 provide a modular polymeric drawer guide device which allows  
3 the drawer to be guided a sufficient distance out of the  
4 cabinet body to provide access to the interior of the drawer.

5           Still yet a further objective of the present invention  
6 is to provide a drawer cabinet assembly constructed from  
7 panels having integrated connectors which accommodate  
8 injection molding plastic formation of the panel components  
9 for increased structural integrity.

10          Another objective of the present invention is to provide  
11 a drawer cabinet storage kit in which the side walls, top  
12 panel, and bottom panel are interlocked without the need for  
13 separate fasteners.

14          Yet another objective of the present invention is to  
15 provide a kit for a drawer cabinet that is capable of being  
16 packaged and shipped in a knocked-down state and constructed  
17 into a secure drawer cabinet.

18          Still yet another objective of the present invention is  
19 to provide a drawer and guide assembly which allows an end  
20 user to customize a drawer cabinet to suit an individual  
21 application.

22          Other objectives and advantages of the present invention  
23 will become apparent from the following description taken in  
24 conjunction with the accompanying drawings wherein are set

1 forth, by way of illustration and example, certain  
2 embodiments of this invention. The drawings constitute a  
3 part of this specification and include exemplary embodiments  
4 of the present invention and illustrate various objects and  
5 features thereof.

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1 BRIEF DESCRIPTION OF THE FIGURES

2       FIGURE 1 is a perspective view of the instant invention;

3       FIGURE 2 is an exploded view of the instant invention,  
4 illustrated with the drawers and drawer guides omitted for  
5 clarity;

6       FIGURE 3 is a partial exploded view of the instant  
7 invention, illustrating a drawer guide and the inner surface  
8 of a side panel;

9       FIGURE 4 is a perspective view of a drawer utilized in  
10 the instant invention;

11       FIGURE 5 is a section view taken along line 1-1 of  
12 FIGURE 1.

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1 **Detailed Description of the Preferred Embodiments**

2 While the present invention is susceptible of embodiment  
3 in various forms, there is shown in the drawings and will  
4 hereinafter be described a presently preferred embodiment  
5 with the understanding that the present disclosure is to be  
6 considered an exemplification of the invention and is not  
7 intended to limit the invention to the specific embodiments  
8 illustrated.

9 FIGS. 1 and 2 which are now referenced illustrate  
10 perspective and exploded views of the drawer cabinet  
11 assembly, generally referenced as 10, according to a  
12 preferred embodiment of the present invention. The drawer  
13 cabinet is made up of a base panel 100 and top panel 200,  
14 left side panel 300, right side panel 400, rear panel 500  
15 (FIG. 2), drawer guides 600 (FIG. 3) and drawers 700. In the  
16 preferred embodiment, the panels comprising the assembly are  
17 formed of but not limited to a suitable polymeric material,  
18 through the process of injection molding. The result is that  
19 the panels comprising the drawer cabinet assembly 10 are  
20 formed as unitary panels with integral connectors, and cross  
21 bracing. Strengthening ribs 120, 220 (FIG. 5) are integrally  
22 formed within the lower surfaces of the top and base panels  
23 100, 200 in order to enhance rigidity of the panels while  
24 leaving the external surface in a generally smooth condition

1 for aesthetic purposes, as shown in FIG. 1. Injection  
2 molding offers significant strength and stability advantages  
3 over wood or metal construction as utilized in the prior art.  
4 In this manner the enclosure of the instant invention is  
5 capable of handling a significant amount of weight as  
6 compared to wooden or sheet metal cabinets.

7 The base panel 100 has an upper surface 102, lower  
8 surface (not shown), front edge 104, rear edge 106, left edge  
9 108 and right edge 110. Adjacent to each of the rear, left,  
10 and right edges 106, 108, 110 is a means of attaching the  
11 base panel to the left side panel 300, right side panel 400,  
12 and back panel 500 illustrated herein as a plurality of  
13 formed locking posts 112 extending outwardly from the upper  
14 surface. The integrally formed locking posts 112 are  
15 constructed and arranged to cooperate with sockets 310  
16 extending inwardly in a linear fashion along the upper and  
17 lower edges of the left 300, right 400, and back 500 panels.  
18 The locking posts 112 and sockets 310 are constructed and  
19 arranged so that the locking posts 112 enter and mateably  
20 engage the sockets 310 securing the panels together in an  
21 inter-fitting perpendicular engagement. In a most preferred  
22 embodiment, the base panel locking posts 112 each include at  
23 least one integrally formed spring-tab 114. The spring-tabs  
24 are constructed and arranged to cooperate with apertures 314

1 provided in the locking sockets 310 for positively  
2 maintaining secure coupling engagement between the base panel  
3 100 and the left, right and back panels 300, 400 and 500.

4 The top panel 200 has an upper surface 202, lower  
5 surface 204, front edge 206, rear edge 208, left edge 210 and  
6 right edge 212. Adjacent to each of the rear, left and right  
7 edges 208, 210, and 212 respectively is a means of attaching  
8 the top panel to the left side panel 300, right side panel  
9 400, and back panel 500. The means of attaching the panels  
10 is illustrated herein as a plurality of formed locking posts  
11 112 extending outwardly from the lower surface 204. The  
12 formed locking posts 112 are constructed and arranged to  
13 cooperate with sockets 310 extending inwardly in a linear  
14 fashion along the upper and lower edges of the left 300,  
15 right 400, and back 500 panels. The locking posts 112 and  
16 sockets 310 are constructed and arranged so that the locking  
17 posts 112 enter and mateably engage the sockets 310 securing  
18 the panels together in an inter-fitting perpendicular  
19 engagement. In a most preferred embodiment, the top panel  
20 locking posts 112 each include at least one integrally formed  
21 spring-tab 114. The spring-tabs are constructed and arranged  
22 to cooperate with apertures 314 provided in the locking  
23 sockets 310 for positively maintaining secure coupling

1 engagement between the base panel 100 and the left, right and  
2 back panels 300, 400 and 500.

3 The back panel 500 is constructed and arranged for  
4 enclosing the back of the drawer cabinet 10. The back panel  
5 500 includes a top edge 502, a bottom edge 504, a left edge  
6 506, and a right edge 508. The top edge 502 and bottom edge  
7 504 include a means for attaching the back panel to the base  
8 panel 100 and the top panel 200 in a perpendicular  
9 relationship. The attachment means is illustrated herein as  
10 a plurality of locking sockets 310 arranged in a linear  
11 fashion extending inwardly along the top and bottom edges.  
12 The locking sockets preferably include at least one aperture  
13 314. The apertures 314 are constructed and arranged to  
14 cooperate with the locking post spring tabs 114 for  
15 positively maintaining secure coupling engagement between the  
16 back panel 300 and the base and top panels 100, 200.

17 The left side panel 300 is constructed and arranged for  
18 enclosing the left side of the drawer cabinet. The left side  
19 panel 300 includes a top edge 302, a bottom edge 304, a front  
20 edge 306, a back edge 308, an inner surface 312 and an outer  
21 surface (not shown). The top edge 302 and the bottom edge  
22 304 include a means for attaching the left side panel to the  
23 base panel 100 and the top panel 200 in a perpendicular  
24 relationship. The attachment means is illustrated herein as

1 a plurality of locking sockets 310 arranged in a linear  
2 fashion extending inwardly along the top and bottom edges  
3 302, 304. The locking sockets 310 preferably include at  
4 least one aperture 314. The apertures 314 are constructed  
5 and arranged to cooperate with the locking post spring tabs  
6 114 for positively maintaining secure coupling engagement  
7 between the left side panel 300 and the base and top panels  
8 100, 200. The inner surface 312 includes an integrally  
9 formed means for mounting a plurality of drawer guides in a  
10 vertically spaced and generally parallel relationship. The  
11 drawer guide mounting means is illustrated herein as a pair  
12 of like-constructed vertical rails 316 integrally molded on  
13 the inner surface 312 of the left side panel 300. One of the  
14 vertical rails 316 is positioned generally adjacent to the  
15 front edge 306 and one of the vertical rails 316 is  
16 positioned generally adjacent to the rear edge 308 of the  
17 left panel 300. The vertical rails 316 extend from about the  
18 bottom edge 304 of the panel to about the top edge 302 of the  
19 panel. The vertical rails 316 each include a plurality of  
20 vertically spaced apertures 318 which are constructed and  
21 arranged to cooperate with a plurality of drawer guides 600  
22 for removable attachment thereof.

23 The right side panel 400 is constructed and arranged for  
24 enclosing the right side of the drawer cabinet 10. The

1 right side panel 400 includes a top edge 402, a bottom edge  
2 404, a front edge 406, a back edge 408, an inner surface (not  
3 shown) and an outer surface 414. The top edge 402 and the  
4 bottom edge 404 include a means for attaching the right side  
5 panel 400 to the base panel 100 and the top panel 200 in a  
6 perpendicular relationship. The attachment means is  
7 illustrated herein as a plurality of locking sockets 310  
8 arranged in a linear fashion extending inwardly along the top  
9 and bottom edges 402, 404. The locking sockets 310  
10 preferably include at least one aperture 314. The apertures  
11 314 are constructed and arranged to cooperate with the  
12 locking post spring tabs 114 for positively maintaining  
13 secure coupling engagement between the right side panel 400  
14 and the base and top panels 100, 200. The inner surface  
15 includes an integrally formed means for mounting a plurality  
16 of drawer guides in a vertically spaced and generally  
17 parallel relationship. The drawer guide mounting means is  
18 illustrated herein as a pair of like-constructed vertical  
19 rails 316 integrally molded on the inner surface of the left  
20 side panel 400. One of the vertical rails 316 is positioned  
21 generally adjacent to the front edge 406 and one of the  
22 vertical rails 316 is positioned generally adjacent to the  
23 rear edge 408 of the left panel 400. The vertical rails 316  
24 extend from about the bottom edge 404 of the panel to about

1 the top edge 402 of the panel. The vertical rails 316 each  
2 include a plurality of vertically spaced apertures 318 which  
3 are constructed and arranged to cooperate with a plurality of  
4 drawer guides 600 for removable attachment thereof.

5 The left, right and back panels 300, 400 and 500 are  
6 attached to the top and bottom panels 100 and 200 by  
7 inserting the locking posts 112 into locking sockets 310  
8 until the spring tabs 114 integrally formed into the locking  
9 posts 112 engage the apertures 314 in the sockets 310 of the  
10 left, right and back panels 300, 400 and 500. It will be  
11 appreciated that the purpose of the locking posts 112 are to  
12 align two panels in a perpendicular relationship and to  
13 facilitate their mechanical connection. The perpendicular  
14 panels are brought into a coupled relationship wherein the  
15 locking posts 112 enter the corresponding sockets 310 in the  
16 left, right and back panels 300, 400 and 500. The result is  
17 a mechanically secure engagement between the panels. The  
18 coupling engagement between the panels as described above  
19 provides a secure connection and offers several advantages.  
20 First, the design allows the panels to be connected without  
21 the need for separate fasteners. Second, the design creates  
22 a positive lock that prevents separation of the panels.  
23 Third, the design maintains alignment of the panels and  
24 prevents bowing or bending of either panel relative to one

1 another. The resultant drawer cabinet created by the  
2 combination of the interlocking panels benefits from high  
3 structural integrity and reliable operation.

4 Referring to Figure 3 and 4, to accommodate a  
5 combination of various sized drawers 700 to fill the drawer  
6 cabinet, a plurality of drawer guides 600 are provided. The  
7 drawer guides 600 are constructed and arranged to cooperate  
8 with the mounting means provided on the inner surfaces of the  
9 left and right side panels 300, 400 and the drawers 700 to  
10 provide support and prevent tipping and canting of the  
11 drawers 700, while the drawers are moved inwardly and  
12 outwardly of the cabinet assembly.

13 The drawer guides 600 are constructed and arranged to  
14 securely support the drawers while evenly distributing the  
15 weight thereof within the cabinet assembly. The drawer  
16 guides are generally L-shaped and include a vertical leg 602,  
17 a horizontal leg 604, a front portion 606, and a back portion  
18 608, and means for removable securement within the cabinet  
19 assembly. In a preferred, albeit non-limiting embodiment,  
20 the vertical leg 602 includes a means for removably securing  
21 the drawer guides 600 to the inner surfaces of the left and  
22 right side panels 300, 400 in a vertically spaced generally  
23 parallel relationship, illustrated herein as a pair of  
24 outwardly extending locking posts 610. One of the locking

1 posts 610 is integrally formed into the front portion 606 of  
2 the vertical leg 602 and one of the locking posts is  
3 integrally formed into the back portion 608 of the vertical  
4 leg of the drawer guide 600. The locking posts are  
5 preferably constructed and arranged to have a conjugate shape  
6 to the apertures 318 provided in the left and right side  
7 panel vertical rails 316. In a most preferred embodiment,  
8 the drawer guide locking posts 610 each include at least one  
9 integrally formed spring-tab 114. The spring-tabs 114 are  
10 constructed and arranged to cooperate with apertures 318  
11 provided in the vertical rails 316 for positively maintaining  
12 secure coupling engagement between the drawer guides 600 and  
13 the left and right side panels 300, 400. For supporting and  
14 facilitating easy movement of a loaded drawer 700, the drawer  
15 guides 600 include at least one roller 616 rotatably mounted  
16 in the front portion 606 of the horizontal leg 604. The  
17 roller 616 is sized and positioned between an upper surface  
18 612 and a lower surface 614 of the horizontal leg 604 of the  
19 drawer guide 600 so that a portion of the roller protrudes  
20 above the top surface. The upper surface of the horizontal  
21 leg 604 of the drawer guide 600 also includes an outwardly  
22 protruding detent 618. The detent 618 is integrally formed  
23 into the rear portion 608 of the drawer guide and is  
24 constructed and arranged to cooperate with rollers 720 (FIG.

1 4) rotatably mounted on the lower rear portion of the drawers  
2 for releasably securing a drawer 700 within the drawer  
3 cabinet 10. Pulling outward on the drawer 700 allows the  
4 rollers to release from the guide detents 618. The lower  
5 surface 614 of the horizontal leg 604 of each drawer guide  
6 also includes an integrally formed and outwardly protruding  
7 stop tab 620 (FIG. 5). The stop tab 620 is constructed and  
8 arranged to cooperate with a stop 722 (FIG. 4) formed into  
9 the upper rear portion of the drawers 700 to prevent the  
10 drawers from being extended completely out of the drawer  
11 cabinet.

12 In operation, the drawer guides 600 may be positioned on  
13 the inner surface of the left and right side panels to  
14 accommodate a combination of various sized drawers to fill  
15 the drawer cabinet by sliding the locking posts 600 into the  
16 apertures 318 until the spring-tab 114 engages the left or  
17 right side panel. The result is a mechanically secure inter-  
18 fitting engagement between the guides and the panels. The  
19 design allows the drawer guides to be connected to the panels  
20 without the need for separate fasteners.

21 Referring to FIGS 4 and 5, a plurality of drawers 700  
22 are provided for enclosing the front of the wall cabinet 10  
23 and providing storage within the cabinet. The drawers 700  
24 include a front portion 702, a rear portion 704, a left side

1 706, a right side 708 and a bottom surface 714. The left  
2 side 706 and the right side 708 each include at least one  
3 upper roller 710 and at least one lower roller 720 rotatably  
4 mounted thereto. In the preferred embodiment the rollers 710  
5 and 720 are mounted within integrally formed roller pockets  
6 712. The upper rollers 710 are rotatably mounted within the  
7 upper roller pockets to extend partially outward therefrom to  
8 cooperate with the lower surface 614 of an adjacent drawer  
9 guide, and wherein the lower rollers 720 are rotatably  
10 mounted within the lower roller pockets to extend partially  
11 outward therefrom to cooperate with the upper surface 612 of  
12 an adjacent drawer guide 600. In this manner, the  
13 cooperating rollers and said drawer guides prevent the drawer  
14 from tipping as the drawer is extended outwardly from the  
15 drawer cabinet. The lower surface 714 of the drawers 700  
16 include a pair of integrally formed detents 716. The pair of  
17 detents 716 are constructed and arranged to cooperate with  
18 the rollers 616 rotatably mounted in the front portion 606 of  
19 the drawer guides 600 for releasably securing a drawer 700  
20 within the drawer cabinet.

21 Thus, a drawer cabinet kit with a plurality of drawer  
22 guides and cooperating drawers has been shown and described.  
23 The kit is comprised of injection molded components having

1 integrated connectors which may be assembled on a desired  
2 site without requiring separate fasteners or tools.

3 All patents and publications mentioned in this  
4 specification are indicative of the levels of those skilled  
5 in the art to which the invention pertains. All patents and  
6 publications are herein incorporated by reference to the same  
7 extent as if each individual publication was specifically and  
8 individually indicated to be incorporated by reference.

9 It is to be understood that while a certain form of the  
10 invention is illustrated, it is not to be limited to the  
11 specific form or arrangement herein described and shown. It  
12 will be apparent to those skilled in the art that various  
13 changes may be made without departing from the scope of the  
14 invention and the invention is not to be considered limited  
15 to what is shown and described in the specification.

16 One skilled in the art will readily appreciate that the  
17 present invention is well adapted to carry out the objectives  
18 and obtain the ends and advantages mentioned, as well as  
19 those inherent therein. The embodiments, methods, procedures  
20 and techniques described herein are presently representative  
21 of the preferred embodiments, are intended to be exemplary  
22 and are not intended as limitations on the scope. Changes  
23 therein and other uses will occur to those skilled in the art  
24 which are encompassed within the spirit of the invention and

1 are defined by the scope of the appended claims. Although  
2 the invention has been described in connection with specific  
3 preferred embodiments, it should be understood that the  
4 invention as claimed should not be unduly limited to such  
5 specific embodiments. Indeed, various modifications of the  
6 described modes for carrying out the invention which are  
7 obvious to those skilled in the art are intended to be within  
8 the scope of the following claims.

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**CLAIMS**

2 What is claimed is:

3 1. A plastic drawer cabinet kit having a base panel, a  
4 top panel, a left side panel, a right side panel and a back  
5 panel in combination with a plurality of drawer guides and  
6 drawers comprising:

7 a base panel for enclosing the bottom of said drawer  
8 cabinet, said base panel having an upper surface, a lower  
9 surface, a left end, a right end, a front portion and a back  
10 portion, said left end including a means for attaching said  
11 base panel to a left side panel in a perpendicular  
12 relationship, said right end including a means for attaching  
13 said base panel to a right side panel in a perpendicular  
14 relationship, said rear portion including a means for  
15 attaching said base panel to a back panel in a perpendicular  
16 relationship;

17 a top panel for enclosing the top of said drawer  
18 cabinet, said top panel having an upper surface, a lower  
19 surface, a left end, a right end, a front portion and a back  
20 portion, said left end including a means for attaching said  
21 top panel to a left side panel in a perpendicular  
22 relationship, said right end including a means for attaching  
23 said top panel to a right side panel in a perpendicular  
24 relationship, said back portion including a means for

1 attaching said top panel to a back panel in a perpendicular  
2 relationship;

3 a back panel for enclosing the back of said wall  
4 cabinet, said back panel having a top edge, a bottom edge, a  
5 left edge, and a right edge, said top edge including a means  
6 for attaching said back panel to said top panel in a  
7 perpendicular relationship, said bottom edge including a  
8 means for attaching said back panel to said base panel in a  
9 perpendicular relationship;

10 a left side panel for enclosing the left side of said  
11 drawer cabinet, said left side panel including a top edge, a  
12 bottom edge, a front edge, a back edge, an inner surface and  
13 an outer surface, said top edge including a means for  
14 attaching said left side panel to said top panel in a  
15 perpendicular relationship, said bottom edge including a  
16 means for attaching said left side panel to said base panel  
17 in a perpendicular relationship, said inner surface including  
18 a means for removably securing a plurality of drawer guides  
19 in a vertically spaced generally parallel relationship;

20 a right side panel for enclosing the right side of said  
21 drawer cabinet, said right side panel including a top edge, a  
22 bottom edge, a front edge, a back edge, an inner surface and  
23 an outer surface, said top edge including a means for  
24 attaching said right side panel to said top panel in a

1 perpendicular relationship, said bottom edge including a  
2 means for attaching said right side panel to said base panel  
3 in a perpendicular relationship, said inner surface including  
4 a means for removably securing a plurality of drawer guides  
5 in a vertically spaced generally parallel relationship;

6 a plurality of drawer guides, said drawer guides  
7 including a means of removably securing said drawer guides to  
8 said inner surfaces of said left and said right side panels,  
9 said drawer guides constructed and arranged to cooperate with  
10 at least one drawer to provide support and prevent tipping  
11 and canting of said at least one drawer while said at least  
12 one drawer is moved inwardly and outwardly of said cabinet  
13 assembly;

14 at least one drawer for enclosing the front of said  
15 drawer cabinet and providing a storage area within said  
16 drawer cabinet, said at least one drawer including a front  
17 portion, a rear portion, a left side and a right side, said  
18 left side and said right side each including at least one  
19 upper roller and at least one lower roller rotatably mounted  
20 thereto, wherein said upper and said lower rollers are  
21 constructed and arranged to cooperate with said drawer guides  
22 to allow said at least one drawer to be moved inwardly and  
23 outwardly of said drawer cabinet to provide access to said  
24 storage area within said at least one drawer;

1        wherein said drawer cabinet can be shipped fully  
2 assembled or in a disassembled state and assembled on a  
3 desired site without separate fasteners.

4

5        2. The drawer cabinet kit as described in claim 1,  
6 wherein said means for removably securing a plurality of  
7 drawer guides includes a pair of vertical rails integrally  
8 molded on each of said inner surfaces of said left and said  
9 right side panels, wherein one of said vertical rails is  
10 positioned generally adjacent to said front edge of each said  
11 panel and one of said vertical rails is positioned generally  
12 adjacent to said rear edge of each said panel, said vertical  
13 rails extending from about said bottom edges of said panels  
14 to about said top edges of said panels, said vertical rails  
15 including a plurality of vertically spaced apertures, wherein  
16 said apertures are constructed and arranged to cooperate with  
17 said drawer guides for removable attachment thereof, wherein  
18 said drawer guides are positionable in a generally parallel  
19 relationship to accommodate a combination of various sized  
20 drawers to fill said cabinet.

21

22        3. The drawer cabinet kit as described in claim 1,  
23 wherein said drawer guides are generally L-shaped, said L-  
24 shaped drawer guides including a vertical leg and a

1 horizontal leg, a front portion, and a back portion, wherein  
2 said vertical leg is constructed and arranged to prevent  
3 canting of said drawers while said drawers are moved inwardly  
4 and outwardly of said drawer cabinet, wherein said horizontal  
5 leg is constructed and arranged to cooperate with said at  
6 least one drawer to prevent tipping of said drawer while said  
7 drawer is moved inwardly and outwardly of said drawer  
8 cabinet, wherein said vertical leg includes a means for  
9 removably securing said drawer guides to said inner surfaces  
10 of said left and said right side panels, wherein said means  
11 for removably securing said drawer guides to said inner  
12 surfaces of said left and said right side panels are  
13 constructed and arranged to cooperate with said inner  
14 surfaces of said side panels to removably secure said drawer  
15 guide members in a vertically spaced generally parallel  
16 relationship.

17

18 4. The drawer cabinet kit as described in claim 3,  
19 wherein said means for removably securing said drawer guides  
20 to said inner surfaces of said left and said right side  
21 panels includes a pair of outwardly extending locking posts,  
22 wherein one of said locking posts is integrally formed into  
23 said front portion of said vertical leg of said drawer guide  
24 and one of said locking posts is integrally formed into said

1 back portion of said vertical leg of said drawer guide,  
2 wherein said locking posts are constructed and arranged to  
3 have a conjugate shape to said left and said right side panel  
4 vertical rail apertures, wherein said locking posts enter  
5 said apertures for coupling engagement between said drawer  
6 guides and said side panels, wherein said drawer guides may  
7 be positioned to accommodate a combination of various sized  
8 drawers to fill said drawer cabinet.

9

10 5. The drawer cabinet assembly as described in claim 4,  
11 wherein each said locking post includes at least one  
12 integrally formed spring tab, wherein said spring tab is  
13 constructed and arranged to cooperate with said vertical rail  
14 apertures for a mechanically and releasably secure connection  
15 between said drawer guides and said side panels.

16

17 6. The drawer cabinet kit as described in claim 3,  
18 wherein said drawer guides each include at least one roller,  
19 wherein said at least one roller is rotatably mounted in said  
20 front portion of said horizontal leg of said drawer guide  
21 for supporting said at least one drawer, wherein said  
22 horizontal leg includes an upper surface and a lower surface,  
23 wherein said roller is sized and positioned between said

1 upper surface and said lower surface so that a portion of  
2 said roller protrudes above said top surface.

3

4 7. The drawer cabinet kit as described in claim 6,  
5 wherein said upper surface of said horizontal leg of said  
6 drawer guide includes an outwardly protruding detent, wherein  
7 said detent is integrally formed into said rear portion of  
8 said drawer guide, wherein said rollers rotatably mounted on  
9 said left and said right lower portions of said at least one  
10 drawer cooperate with said detent for releasably securing  
11 said drawer member within said drawer cabinet, wherein  
12 pulling outward on said at least one drawer allows said  
13 rollers to release from said detent.

14

15 8. The drawer cabinet kit as described in claim 6,  
16 wherein said lower surface of said horizontal leg of said  
17 drawer guides include an integrally formed and outwardly  
18 protruding stop tab, wherein said stop tab is constructed and  
19 arranged to cooperate with said rear portion of at least one  
20 drawer to prevent said drawer from being extended completely  
21 out of said drawer cabinet.

22

23 9. The drawer cabinet kit as described in claim 6,  
24 wherein said left and said right sides of said at least one

1 drawer each include an integrally formed upper roller pocket  
2 and an integrally formed lower roller pocket, wherein said  
3 upper roller pockets are positioned generally at an upper  
4 rear portion of said left side and said right side of said  
5 drawer, wherein said lower roller pockets are positioned  
6 generally at a lower rear portion of said left side and said  
7 right side of said drawer, wherein said upper rollers are  
8 rotatably mounted within said upper roller pockets to extend  
9 partially outward therefrom to cooperate with said lower  
10 surface of an adjacent drawer guide, and wherein said lower  
11 rollers are rotatably mounted within said lower roller  
12 pockets to extend partially outward therefrom to cooperate  
13 with said upper surface of an adjacent drawer guide, wherein  
14 said rollers and said drawer guides prevent said drawer from  
15 tipping as said drawer is extended outwardly from said drawer  
16 cabinet.

17

18 10. The drawer cabinet kit as described in claim 6,  
19 wherein said at least one drawer member includes a lower  
20 surface, said lower surface including a pair of detents  
21 integrally formed therein, wherein said pair of detents are  
22 constructed and arranged to cooperate with said rollers  
23 rotatably mounted in said front portion of said drawer guides

1 for releasably securing said at least one drawer within said  
2 drawer cabinet.

3

4 11. The drawer cabinet kit as described in claim 1,  
5 wherein said means of attaching said base panel to said left  
6 side panel, said right side panel, and said back panel  
7 includes a plurality of outwardly extending locking posts,  
8 wherein said locking posts are constructed and arranged to  
9 cooperate with a plurality of locking sockets, wherein said  
10 locking posts are brought into an coupling engagement with  
11 corresponding locking sockets in said left side panel, said  
12 right side panel and said back panel resulting in a  
13 mechanically secure connection between said base panel and  
14 said left, right, and back panels.

15

16 12. The drawer cabinet kit as described in claim 11  
17 wherein said base panel locking posts include at least one  
18 integrally formed spring-tab, wherein said at least one  
19 spring-tab is constructed and arranged to cooperate with said  
20 locking sockets for positively maintaining secure coupling  
21 engagement between said base panel and said left, right and  
22 back panels.

23

1           13. The drawer cabinet kit as described in claim 1,  
2 wherein said means of attaching said top panel to said left  
3 side panel, said right side panel, and said back panel  
4 includes a plurality of outwardly extending locking posts,  
5 wherein said locking posts are constructed and arranged to  
6 cooperate with a plurality of locking sockets, wherein said  
7 locking posts are brought into an coupling engagement with  
8 corresponding locking sockets in said left side panel, said  
9 right side panel and said back panel resulting in a  
10 mechanically secure connection between said base, left,  
11 right, and back panels.

12

13           14. The drawer cabinet kit as described in claim 13  
14 wherein said top panel locking posts include at least one  
15 integrally formed spring-tab, wherein said at least one  
16 spring-tab is constructed and arranged to cooperate with said  
17 locking sockets for positively maintaining secure coupling  
18 engagement between said top panel and said left, right and  
19 back panels.

20

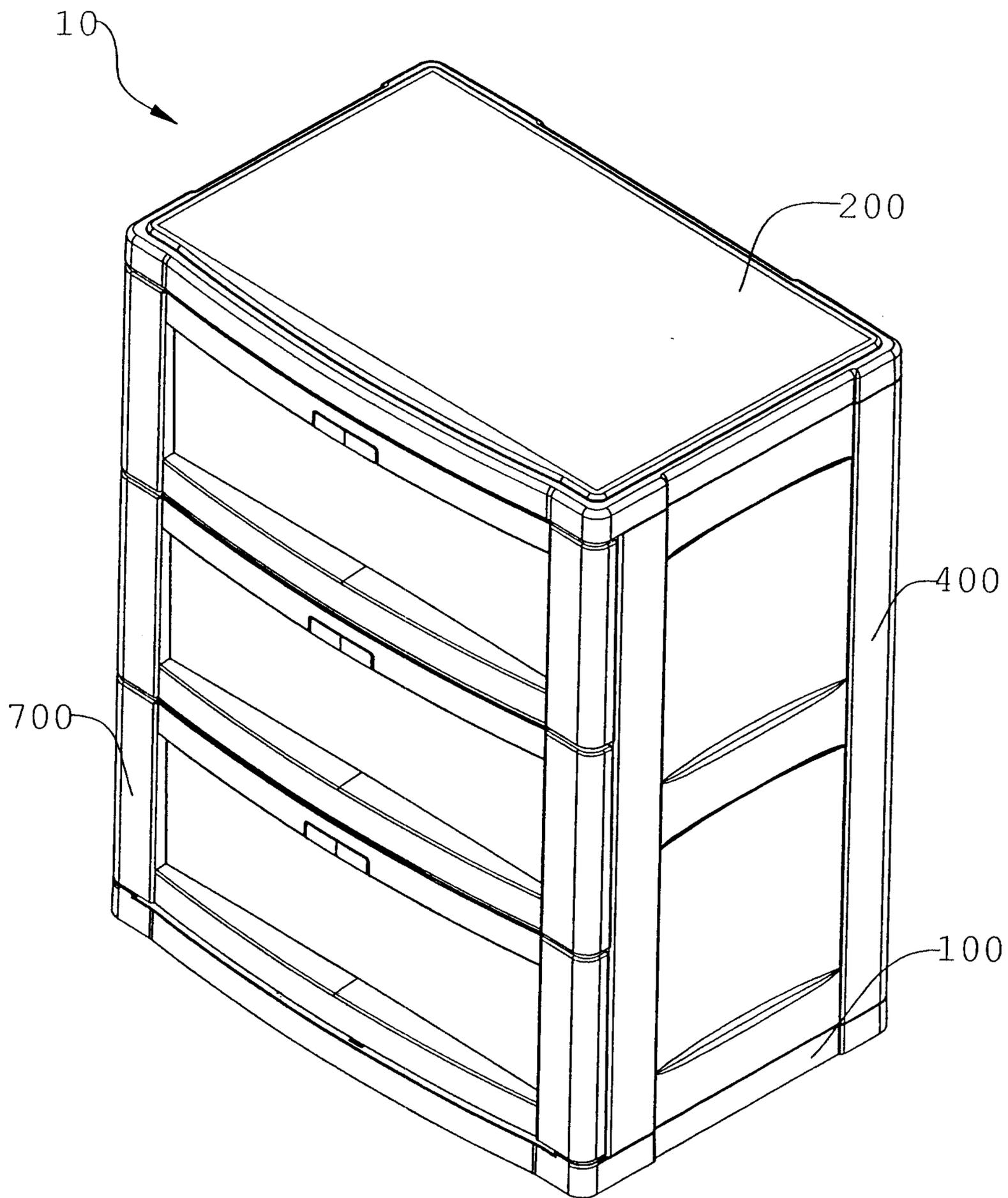
21           15. The drawer cabinet kit as described in claim 1  
22 wherein said left side panel, said right side panel, and said  
23 back panel include a plurality of locking sockets arranged in  
24 a linear fashion along said top and said bottom edges, said

1 locking sockets extending inwardly between said outer surface  
2 and said inner surface, wherein said locking cavities are  
3 constructed and arranged to cooperate with said top and said  
4 base panels, wherein said top and said base panels are  
5 secured to said left, right and back panels via said locking  
6 sockets.

7  
8 16. The drawer cabinet kit as described in claim 15,  
9 wherein at least one of said locking sockets include an  
10 aperture therethrough, wherein said aperture is constructed  
11 and arranged for mating engagement with at least one spring-  
12 tab integrally formed into locking posts in said top and said  
13 base panels.

14  
15 17. The drawer cabinet kit as described in claim 1,  
16 wherein said bottom surface of said base panel includes  
17 integrally formed cross-bracing, wherein said cross-bracing  
18 provides increased weight capacity and stability to said  
19 drawer cabinet kit.

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**FIGURE 1**

*Zulaywa & Singelhurst*  
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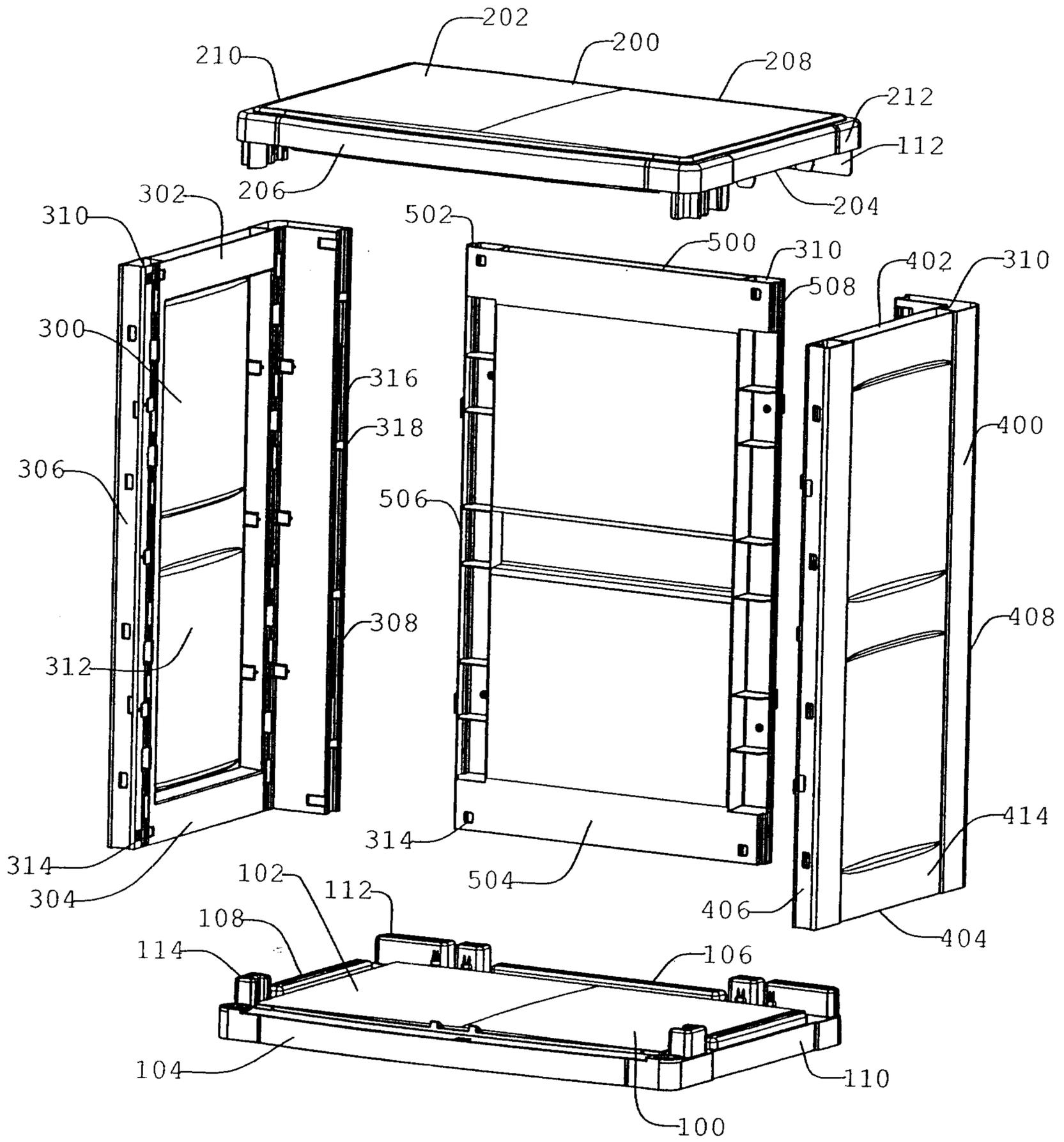
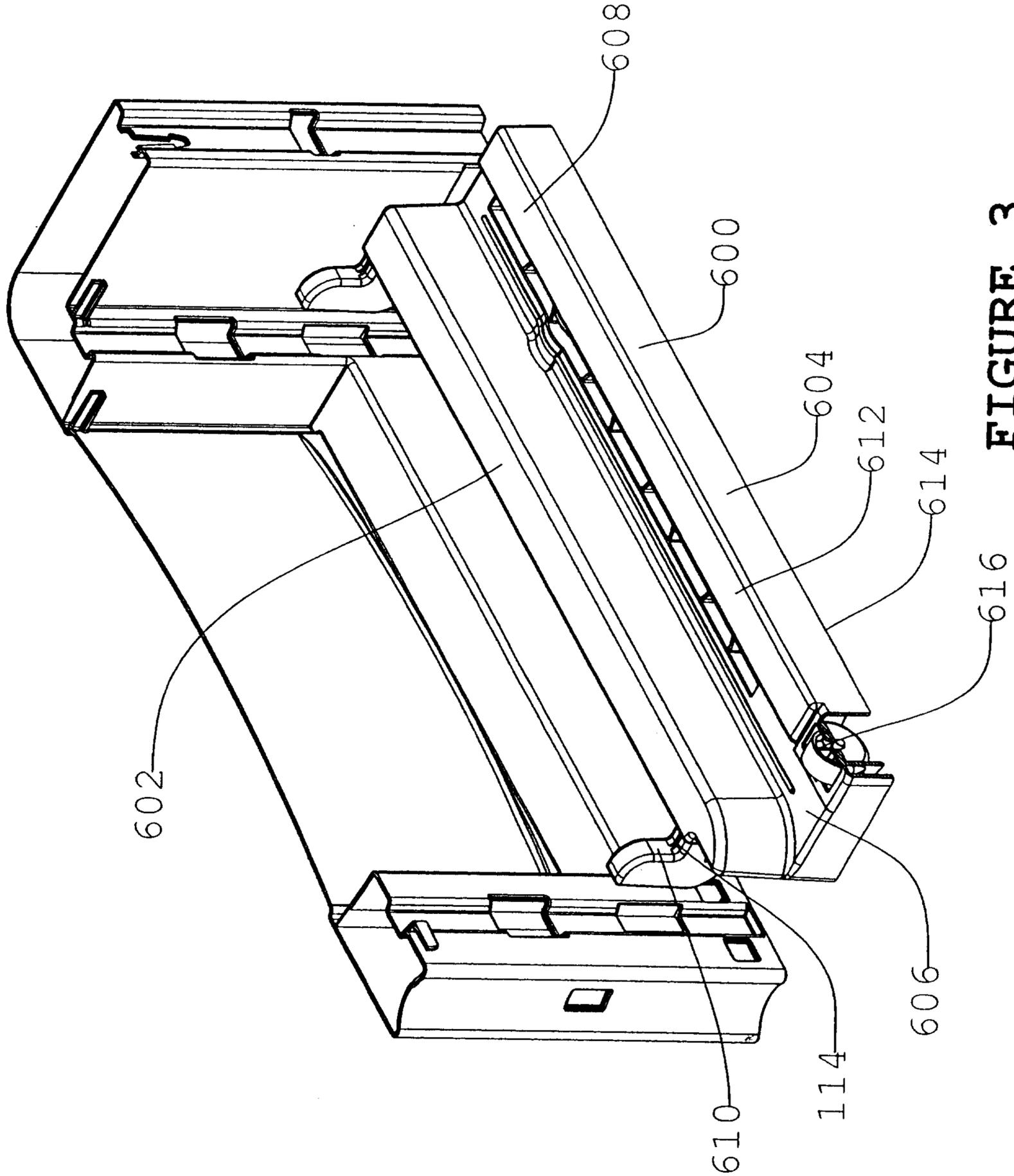


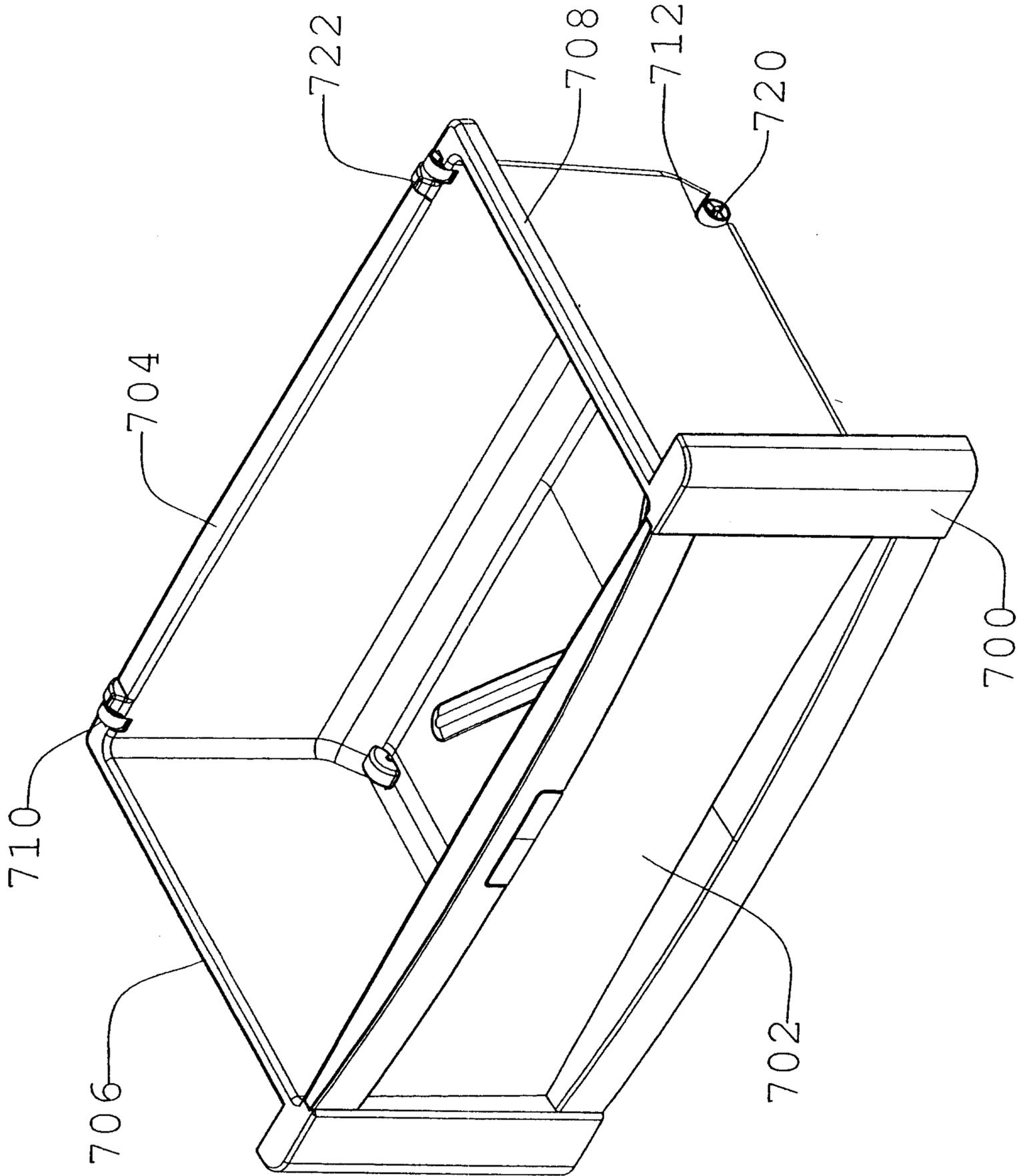
FIGURE 2

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**FIGURE 3**

*Stulay & Singletary*  
PATENT AGENTS



**FIGURE 4**

*Sulayman Al-Singdeh*  
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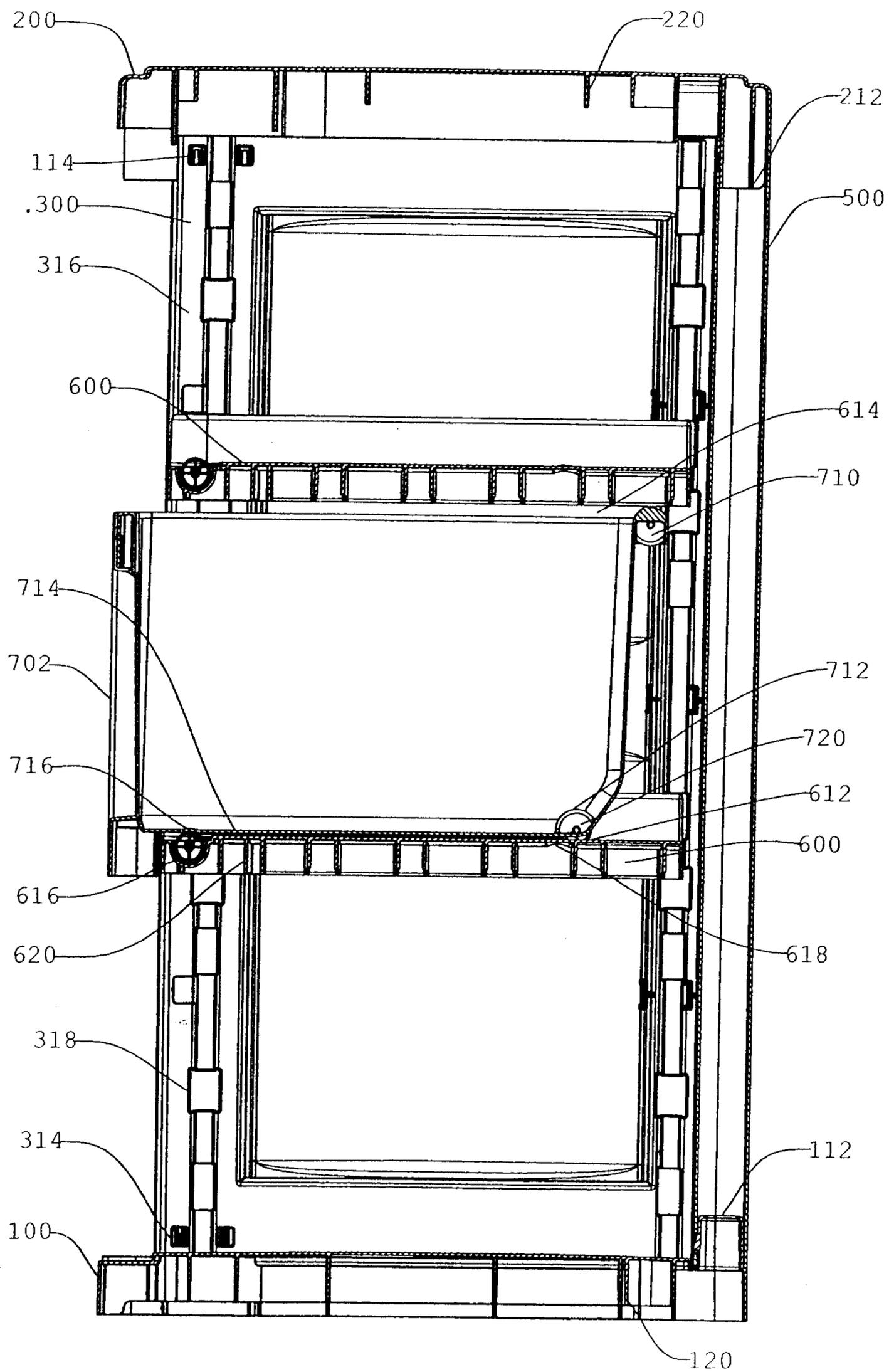


FIGURE 5

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