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(54) SYSTEM FOR OPTIMIZING USE OF STORAGE SPACE

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(57) **ABSTRACT**

This Product will add or create storage space in a pull-out sliding drawer and provide support to prevent additional material from falling off/out of a pull-out sliding drawer. The user will be able to securely store additional material in a pull-out sliding drawer than anticipated. Pull-out sliding drawers common in several cabinets provide a certain amount of area in which to store material, which can be defined by the area within the height of the drawer side (walls or dividers) of a pull-out sliding drawer and the amount of space above a pull-out sliding drawer and below the cabinet or drawer above. In some cases, the height of the drawer wall or divider (which can hold material in the drawer) does not allow for adequate use of the overall area provided to store material due to the walls or dividers not being high enough to store and hold material in. The area above a pull-out sliding drawer and below the cabinet or drawer above is defined as "potential storage area." This product can be easily placed on and removed, from the top of the walls/dividers of a pull-out sliding drawer. Once in place, it will provide additional height and support for material stored. As a result of this product, the total "potential storage area" in a drawer to store material is more efficiently utilized.

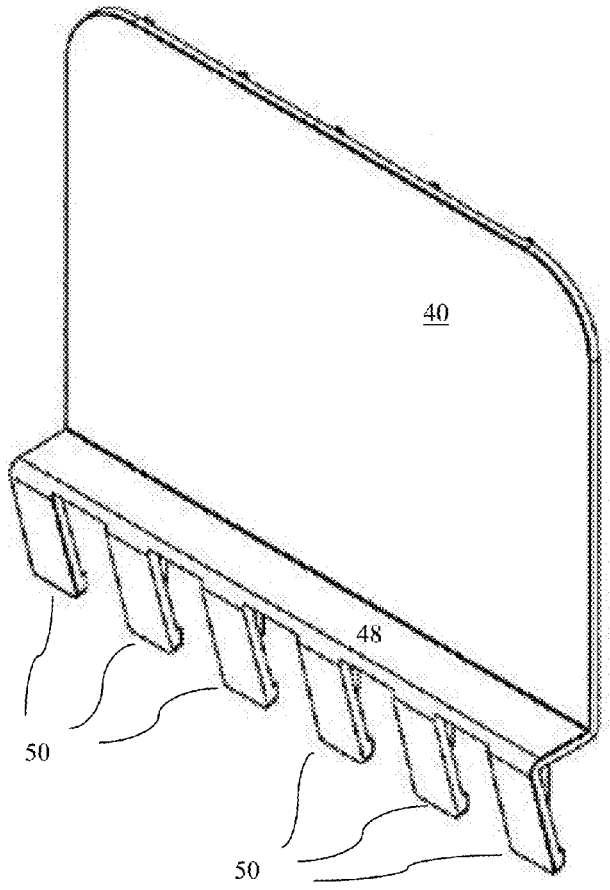


FIG. 1

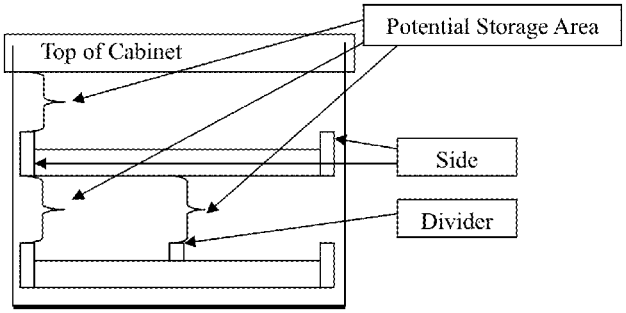


FIG. 2

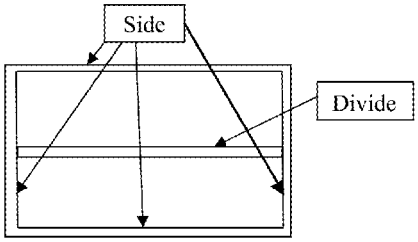


FIG. 10

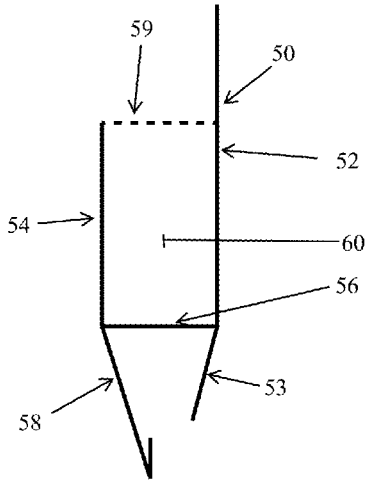


FIG. 3

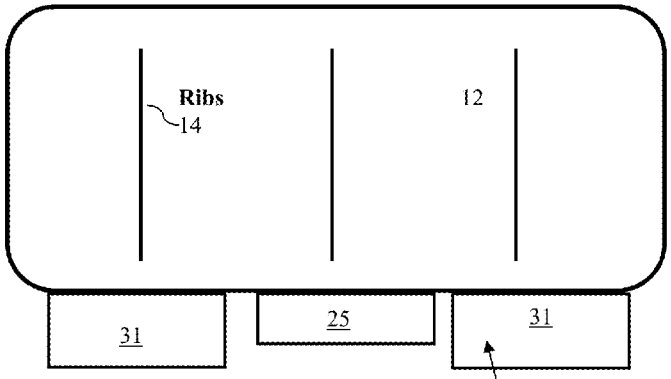


FIG. 4

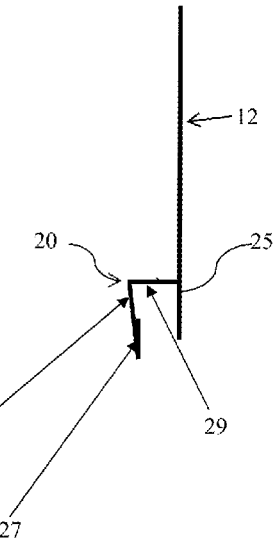


FIG. 5

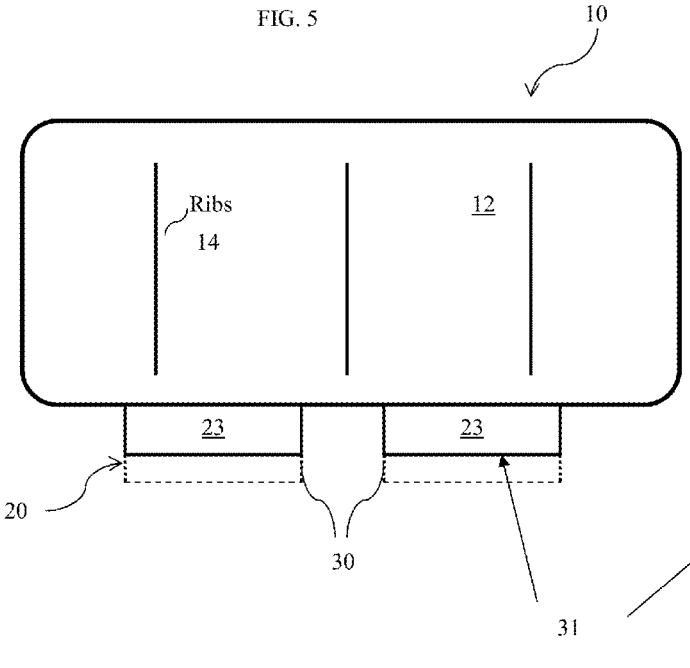


FIG. 6

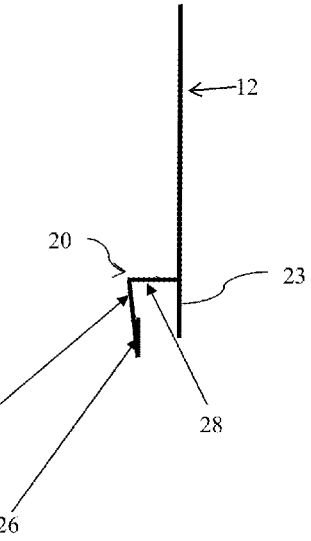


FIG. 7

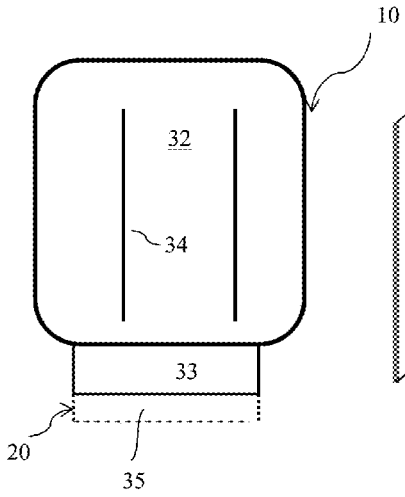


FIG. 8

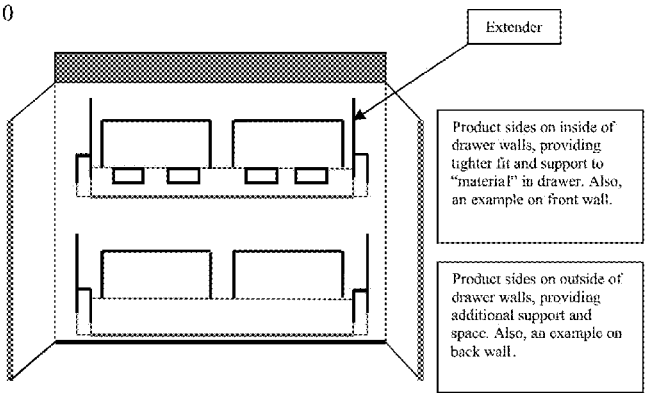
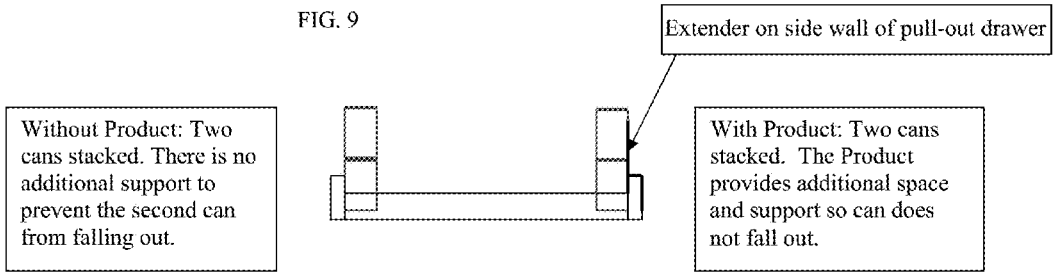


FIG. 9



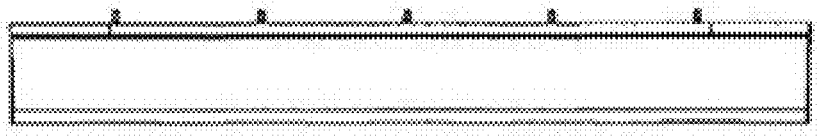


FIG. 11

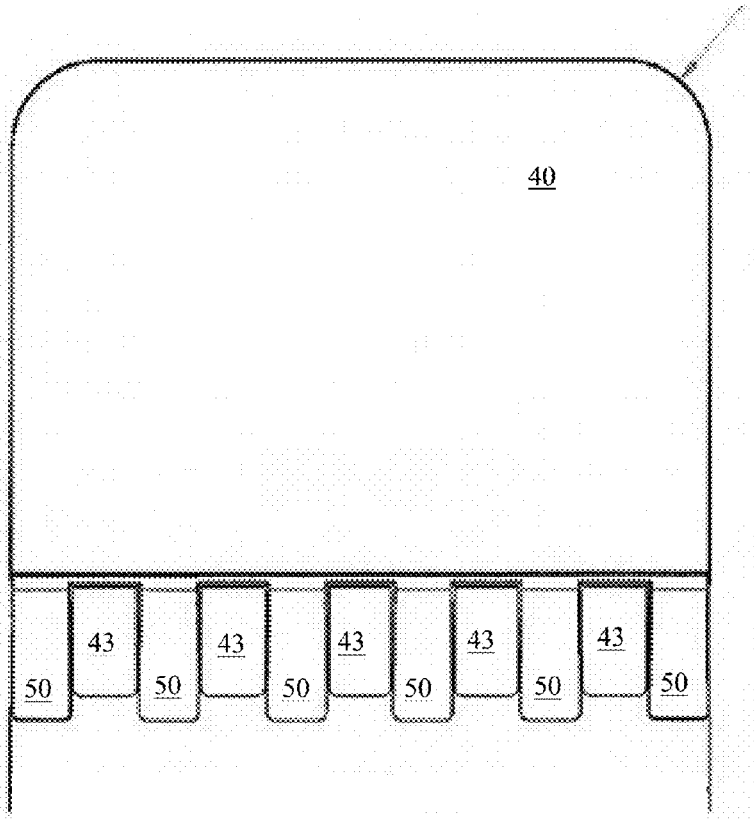


FIG. 12

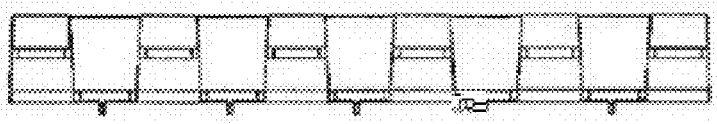


FIG. 13

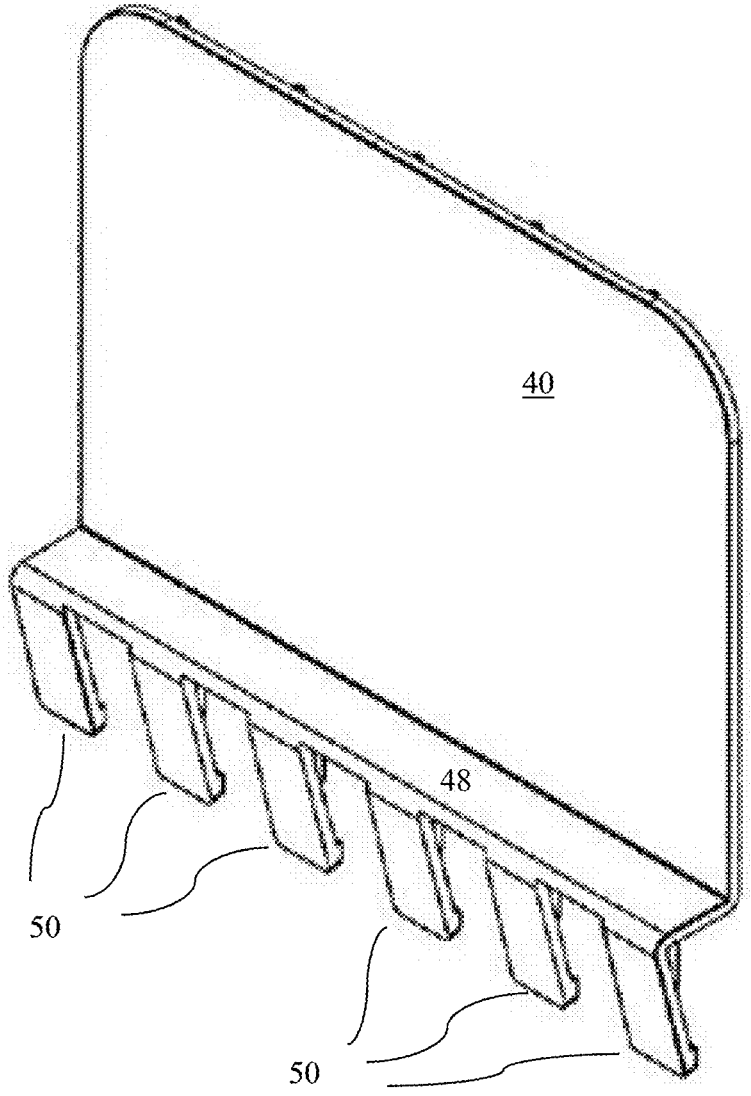


FIG. 14

FIG. 17

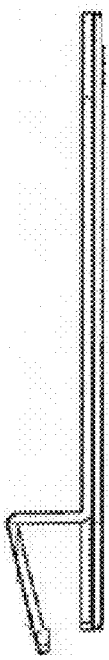


FIG. 15

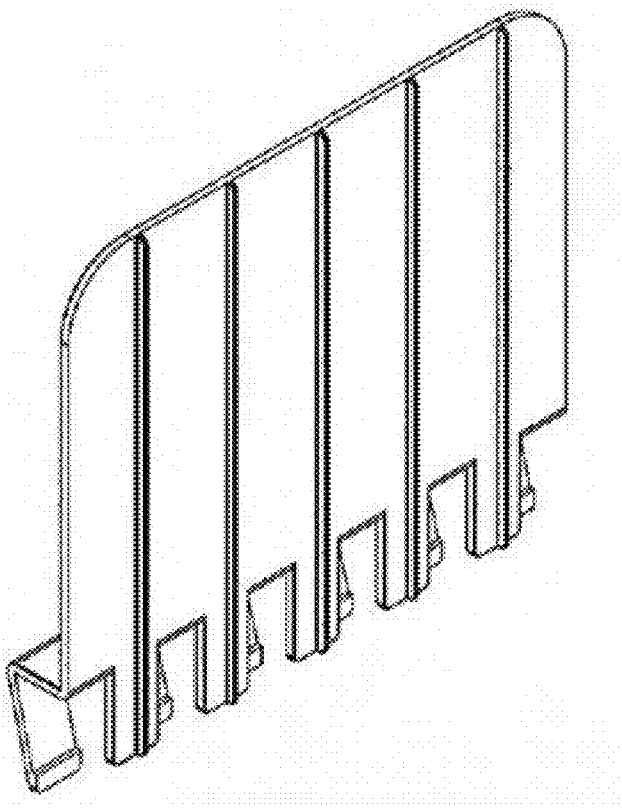


FIG. 16

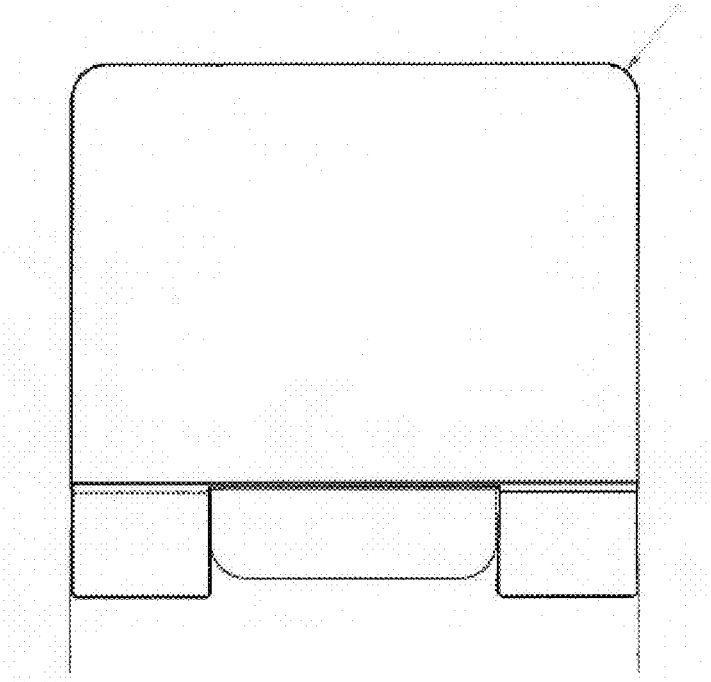


FIG. 18

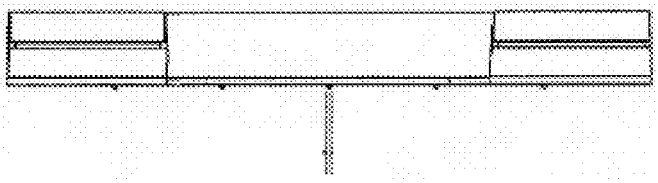


FIG. 19

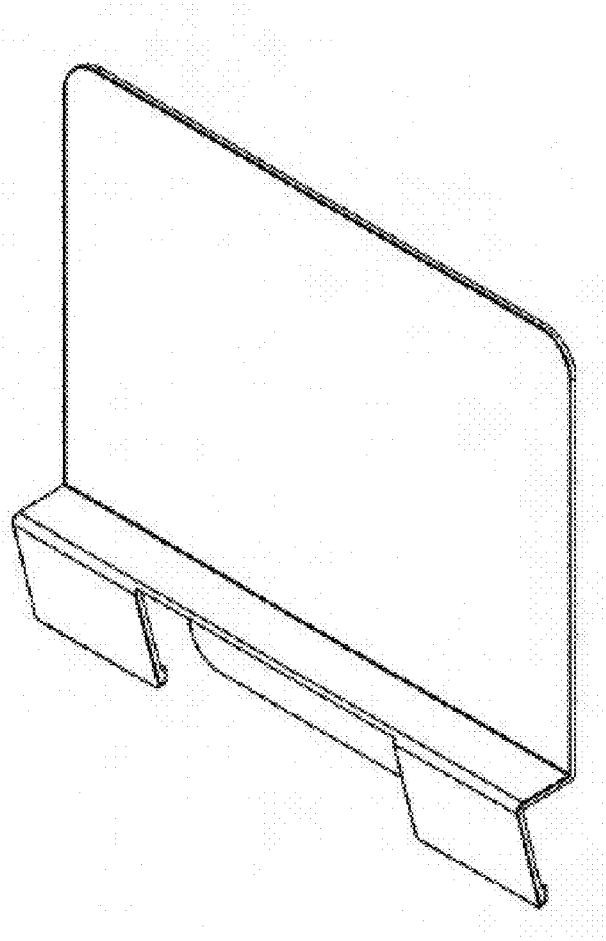


FIG. 20

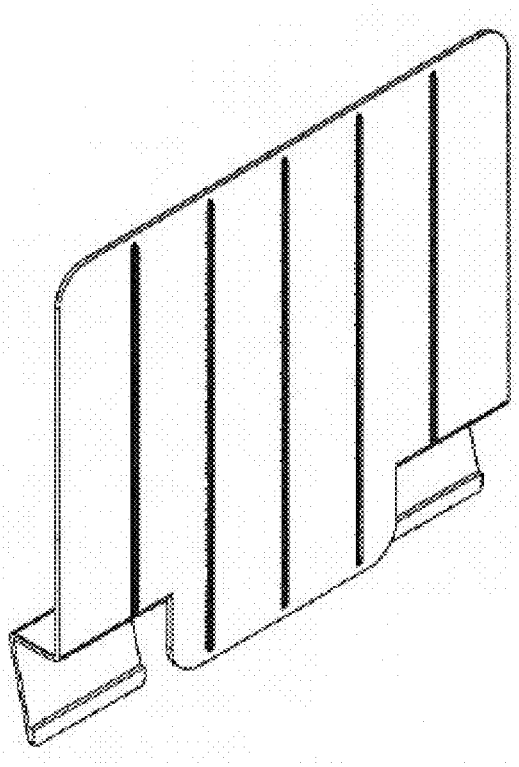


FIG. 21

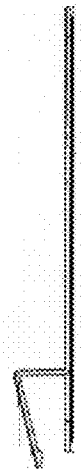


FIG. 22

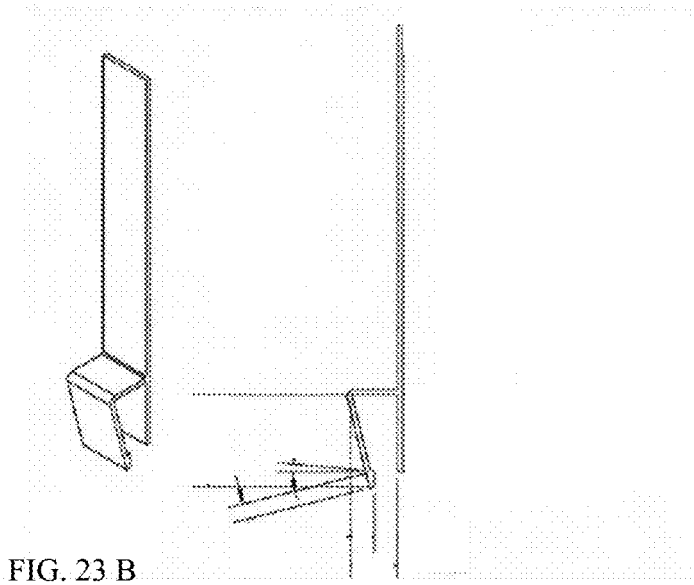


FIG. 23 B

FIG. 23 A

SYSTEM FOR OPTIMIZING USE OF STORAGE SPACE

BACKGROUND

[0001] This invention relates generally to a system for providing added space in cabinet pull-out sliding drawers or shelves. More specifically, the system allows individuals to store additional items or material within the same space, while also providing the support needed to prevent items/material from falling out.

[0002] In many households, the amount of area available to store items/material in pull-out sliding drawers has far greater potential than what is actually used, or perceived to be allowed. Both new and pre-existing pull-out sliding drawers provide a certain area in which to store items/materials, which is defined by the area of the drawer bottom surface, and the height of the walls/dividers typically positioned on the sides. These manufactured drawers may also define what items/materials can be stored in a pull-out sliding drawer based on the dimensions. As is well known, pull-out cabinet sliding drawers or shelves can be constructed with various wall/divider configurations and dimensions (e.g. thickness and height). Often times, the walls are somewhat short or non-existent, theoretically leaving additional free space available within the cabinet to store items/material. Stated differently, the walls are intentionally designed to be low, to leave additional space or area to stack items, and so the cabinet does not feel overly clustered or full. Many times however the height of these "wall/dividers" is too low to store additional items/materials, and too low to prevent additional items from easily falling over the drawer edges. As a result, the total "potential storage area" provided is not being effectively or efficiently utilized. Ideally, the total "potential storage area" would be usable, including the space above the walls/dividers in a pull-out sliding drawer and/or on top of the items/materials currently stored in the sliding pull-out drawer, and extending to the bottom of the pull-out sliding drawer or the bottom of the top of the overall cabinet above.

[0003] In addition to the issues outlined above, homeowners often get very frustrated when items/materials fall over the edges of existing pull-out drawers or shelves. When this happens, items must be retrieved from tight and often awkward spaces. After this has happened a few times, the user will avoid any attempts to stack items, or make use of total available space within the cabinet.

SUMMARY

[0004] The system described below provides the ability to add height and support to an outer portion of pull-out sliding drawers or shelves, thus providing more usable storage space. More specifically, a shelf extender is attachable to the walls or dividers of a pull-out sliding drawer, thus allowing a user to optimize the use of space available. The shelf extenders can be easily attached to any desired portion of the pull-out drawers (i.e. the back, sides, front, internal dividers, etc.) to create a more effective storage system. Further, the shelf extender is removable and thus can be easily repositioned as needed. By providing the additional height and support to these sections, more space is being utilized to store items/materials in the area provided.

[0005] The shelf extender of the various embodiments easily attaches to any wall/divider of a pull-out sliding drawer, including side wall, back wall, front wall and/or middle wall (divider). When added to the top of one or more of the four sides and/or middle (divider) "walls" of a pull-out sliding drawer, our shelf extender provides support to help contain and hold additional items/materials. As a result, this shelf extender allows one to better utilize the "potential storage area" provided and at the same time prevents items/materials from falling out. The shelf extender is removably attached to the walls/divider, thus repositioning or reconfiguration can easily be accomplished by a homeowner. With the flexibility and ease of use, the shelf extender can be used on one wall or divider or multiple sides, as well as, it can be quickly put on or taken off when and where additional space and support is desired.

[0006] As will be recognized, items/material may include, but is not limited to, any physical item or substance: anything that can be stored in a drawer/shelf/storage space area or wherever this product is used—groceries, personal household items, utensils, paper products, towels, spices, glasses, pans, Tupperware, lids, covers, etc.

[0007] The general purpose and objective of the invention is to create additional storage space in an existing pull-out sliding drawer and provide support for the current and added items/materials stored preventing them from falling out. In the description below, additional storage area is also called "potential storage area".

[0008] The benefits of the various embodiments of the shelf extender include effectively and efficiently utilizing the "Potential Storage Area" by creating more space to contain and store more items/materials than one would expect. By using sturdy material and a robust attachment system, the resulting structure's strong enough to hold added items/materials and to prevent it from falling out. As further discussed below, the shelf extender can be placed on pull-out sliding drawer wall or divider with the upward extending side panel or upright wall on the inside or outside of the wall or divider, with either adding more support (tightness) of the stored material or adding additional space to store.

[0009] To provide additional flexibility, the shelf extender is easily attached and/or removed, thus making its flexible enough to use only when and where needed. The shelf extender is not permanently attached but rather can be place on and taken off within seconds, thus also allowing reconfiguration. Naturally, the shelf extender, can be placed in different locations within the pull-out sliding drawer where it is needed. This allows users to address particular concerns or problem areas. In some cases, a clear material is used, thus allowing users to see what is in the storage area.

[0010] The clamp or attachment structure is typically positioned at an angle and includes a desired level of flexibility, thus allowing use of the shelf extender on different size walls/dividers while containing to proper support to hold it in place. In some embodiments, the structure of the clamp is configured with one side (arm) longer than the other to increase the ease of attaching the shelf extender.

[0011] Additional features can be provided by certain uses and configurations for the shelf extender. For example, where an additional side panel or wall is added on the other side of panel base, and clamped in place additional storage space is provided to hold and store small packages. Such space could also be extended down into the drawer base to store larger items, such as tupperware covers, utensils, straws, food packets, etc. In addition, the product is designed so it could be placed on an inside edge of the drawer

walls/dividers, as the drawer rollers may prevent the product from being placed on top of walls.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] Further objects and advantages of the preferred embodiments will be apparent from reading the following detailed description, in conjunction with the drawings, in which

[0013] FIG. **1** shows the front view of a cabinet with two pull-out sliding drawers and desired placement of the shelf extender;

[0014] FIG. **2**: top view of a pull-out sliding drawer showing all the potential walls, including front, back, side, and middle/divider walls;

[0015] FIG. **3** is a back view of the shelf extender;

[0016] FIG. **4** is side view of the shelf extender and clamp, depicting how the upright wall of the shelf extender is on the very edge/top of the "clamp" and one side of the flat panel base;

[0017] FIG. **5** is a front view of another embodiment of the shelf extender;

[0018] FIG. **6** is a side view of the shelf extender;

[0019] FIG. **7** shows a front view of a small version of the shelf extender;

[0020] FIG. **8** illustrates an example of the shelf extender inserted on to side walls of pull-out sliding drawers and either the back or front wall, with one example showing the side of the shelf extender on the inside of the drawer wall, and another example showing the side of the shelf extender on the outside of the drawer wall;

[0021] FIG. **9** provides an illustration of storage options with and without the shelf extender;

[0022] FIG. **10** shows a side view of an alternative embodiment where additional storage space is provided;

[0023] FIG. **11** is a top view of an embodiment of the shelf extender;

[0024] FIG. **12** is a front view of the embodiment shown in FIG. **11**;

[0025] FIG. **13** is a bottom view of the embodiment shown in FIG. **11**;

[0026] FIG. **14** is a front perspective view of the embodiment shown in FIG. **11**;

[0027] FIG. **15** side view of the embodiment shown in FIG. **11**;

[0028] FIG. **16** rear perspective view of the embodiment shown in FIG. **11**;

[0029] FIG. **17** is a top view of another embodiment of the shelf extender;

[0030] FIG. **18** is a front view of the embodiment shown in FIG. **17**;

[0031] FIG. **19** is a bottom view of the embodiment shown in FIG. **17**;

[0032] FIG. **20** is a front perspective view of the embodiment shown in FIG. **17**;

[0033] FIG. **21** is a rear perspective view of the embodiment shown in FIG. **17**;

[0034] FIG. **22** is a side view of the embodiment shown in FIG. **17**; and

[0035] FIGS. **23**A and **23**B are side and perspective views respectively of yet another embodiment of the shelf extender.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0036] Various embodiments of the shelf extender, and related systems, are discussed below. It will be understood that the shelf extender is available in different dimensions (height, length, shape, configuration, etc.), as well as, in different colors to meet the needs of the user. As will be seen, the dimensions of this shelf extender are often dependent upon the size of the pull-out sliding drawer and the "potential storage area" available.

[0037] Material used to construct the preferred embodiment of the shelf extender will be plastic. This plastic will provide flexibility, durability, and strength to support items/materials that will be stored in a pull-out sliding drawer. This shelf extender will also be constructed at different lengths and heights, all dependent on the length and width of the pull-out sliding drawer and the height of the "Potential Storage Area." That said, the shelf extender can be of various shapes and configurations to accommodate the dimensions and shape of the cabinet pull-out sliding drawer (e.g. square, rectangle, curved, etc.) and to meet the wishes of customers.

[0038] As shown in FIGS. **1** & **2** the placement within a cabinet can vary. In this example two pull-out drawers are shown. The arrows point to an example of a pull-out sliding drawer "wall", where the shelf extender would be attached to. This figure shows two side walls and one middle/dividing wall. This figure also defines the "potential storage area." The "potential storage area" includes from the top of the walls, and/or top of the items/materials currently stored in the drawer to the bottom of the top of cabinet or drawer above. FIG. **2** shows a top view of an exemplary drawer, showing the sides and a divider. As further discussed below, each of these structures can support a shelf extender.

[0039] In various figures below, both the front and back view of the shelf extender will look similar, with the exception that either the front or the back portion of the clamp will be longer to increase the ease of placing on a wall or divider and provide additional support. The dotted lines in the clamp represent the longer portion of the clamp. In addition, the side panel or upright wall will be placed on one side of the flat panel base. Also, ribs may be placed in the upright wall for additional strength, as noted by the lines in the upright wall.

[0040] In order to attach the shelf extender to the (walls/divider) of the pull-out sliding drawer, a clamp mechanism will be used. This clamp mechanism is generally a "U" shaped structure, configured to fit over the wall/divider of the pull-out sliding drawer. Depending on the size of the shelf extender, there will be a minimum of one clamp per shelf extender, with multiple clamps being used where the size of the shelf extender requires additional support. The "Upright walls" of the shelf extender—(see e.g. FIG. **4**) is attached to the outer sides of the clamp mechanism and top of the flat panel base, which allows the (shelf extender's) upright wall to be placed on either the inside of the wall of the pull-out sliding drawer or turned around and placed on the outside of the wall of the pull-out sliding drawer. When the shelf extender is placed on the inside part of the wall/divider, not only does it provide additional storage space, it provide additional support for items stacked right up to the wall/divider. If the shelf extender is placed on the outside part of the wall/divider, it provides additional space for various items. The versatility of having the shelf

extender placed on the outside or inside of the wall/divider is a unique part of our shelf extender.

[0041] Because the walls/dividers of pull-out sliding drawers can be at different thicknesses, the clamp is constructed to be flexible to accommodate various width wall/divider. One side of the clamp is inward positioned to create additional support and tightness. This flexibility of the clamp enables our shelf extender to be secure. In addition, one side of the clamp will be longer than the other side, making it easier to put the shelf extender into place by pressing the longer portion of the clamp against the pull-out sliding drawer wall or divider.

[0042] The shelf extender will be available in different colors, including being clear. Having a clear material will add additional value of the shelf extender because now the owner of the shelf extender can look through the shelf extender to see what is stored on the pull-out sliding drawer.

[0043] Referring again to FIGS. **3-4**, a more detailed illustration of one embodiment of the shelf extender **10** is shown. More specifically, FIG. **3** shows a back view of shelf extender **10**. As can be seen, shelf extender **10** includes an upright portion or upright wall **12** which will provide containment and support when in use. In a similar manner, FIG. **4** illustrates a side view. In this particular embodiment, shelf extender **10** is approximately 8 inches wide and 6 inches high. That said, it will be clearly understood that variations in size and configuration are easily possible and in some cases necessary. As discussed herein, the terms "front" and "back" are utilized to provide spatial references, however the orientation and positioning could easily vary.

[0044] As illustrated in FIGS. **5-6**, shelf extender **10** includes a clamp or connection structure **20** for use in connecting to shelf structures. In one embodiment, illustrated in FIG. **5**, clamp structure **20** includes a first pair of connection mechanisms **23**. As better illustrated in FIG. **6**, which is a side view, connection mechanisms **23** each include a flat panel base **28**, which extends substantially perpendicularly from the upright wall **12**, and a clamping tab **30** which extends downwardly from the flat panel base **28**. As can be seen, clamping tab **30** extends at a slight angle inwardly so that a bottom portion of clamping tab **30** is closer to an upright wall extension **23** then the upper portion. In this particular embodiment, shelf extender **10** is configured of a plastic material which is somewhat flexible. Using this type of material first clamping structures **23** are thus devised so that a bottom portion of clamping tab **30** will flex outward during attachment, and then maintain compression to hold upright wall **12** in a substantially vertical or substantially upright orientation.

[0045] As will be appreciated, FIG. **3** illustrates a similar configuration however connection mechanism **20** is slightly modified. Referring to FIGS. **3** and **4**, it can be seen that a downward extending portion **25** of upright **12** extends in the same plane at a bottom portion thereof. A flat panel base **29** extends outwardly in a substantially perpendicular manner while a clamping tab **31** extends downwardly and inwardly therefrom. Again, the flexible nature of the materials used, and the configuration of clamping tab **31**, allows movement, and provides a clamping pressure when sandwiched around a portion of the shelves. As illustrated in both FIGS. **4** and **6**, a rubber surface or pad **26**, **27** could be provided to an end portion of clamps **30** or **31** to help perform a gripping function.

[0046] It should be noted that the upright portion **12** in both FIGS. **3** and **5** is illustrated to have supporting ribs **14** to provide rigidity and strength as desired. Those skilled in the art will recognize that several variations are possible and the ribs may or may not be necessary.

[0047] Referring now to FIG. **7**, a smaller version of the shelf extender **10** is illustrated. Again, an upright portion **32** is provided, which may or may not have ribs **34** a similar connection mechanism **20** is utilized, however this embodiment simply includes a single downwardly extending portion **33** and a clamping tab **35**.

[0048] In a similar manner, FIGS. **11-17** illustrate an alternative embodiment, where the connection mechanism **20** is made up of several alternating teeth or tabs **50**. In this particular embodiment, upright wall **40** again is substantially minor and configured to extend in an upright manner when attached. Again a flat panel base **48** extends in a substantially perpendicular manner away from upright **40**. A plurality of downwardly extending portions **43** extend in the same plane as upright **40**, however extending downwardly from the location where flat panel base extends. Here, a plurality of clamping tabs **50** then extend downwardly from a portion of flat panel base **48**, again at an inwardly directed angle. As illustrated in FIG. **16**, a clamping or holding structure is again created, where clamping tabs **50** provide a compression force, against any material positioned between extension **43** and clamping tab **50**.

[0049] Yet another embodiment of the shelf extender is illustrated in FIGS. **18-21**. This embodiment is very similar to the previously discussed embodiments, however a slightly revised connection mechanism is used.

[0050] As shown above, the shelf extender system will assist in a) creating and providing additional space to store additional items/material in the pull-out sliding drawer than one would expect; at the same time b) provide support that would prevent Material from falling out of the pull-out sliding drawer. Generally speaking, the shelf extender includes upright walls that can be at various heights, lengths, and shapes depending on the size of the pull-out sliding drawer (i.e. the potential storage area provided). The shapes may also be varied, including but not limited to square, rectangle, triangle, circle, etc. and may change to accommodate market demand; being located on either side of the flat panel base of the clamp (see FIGS. **4** & **6**), allowing the device to be placed on pull-out sliding drawer with upright wall either on the inside of the side wall or divider or the outside of the side wall. Alternatively, the extender could be placed on a central divider, providing multiple functional uses. Having the extender placed on the wall or divider so the shelf extender upright wall is located on the inside of the wall/divider, it provides additional "tightness" support right up against the items/materials stored. Having the shelf extender placed on the wall or divider so the shelf extender upright wall is located on the outside of the wall/divider, it creates and provides additional space of storage.

[0051] As shown above, ribs may be included on the upright walls to provide additional strength and support. Alternative strengthening structures could also be included.

[0052] As also discussed above, clamps enable the shelf extender to be securely placed on and removed from the wall or divider of the pull-out sliding drawer in an instant, but secure enough to provide the proper strength and support necessary. Generally speaking, the clamps will consists of two sides facing one another which provide a clamping force

to hold the shelf extender in place. In one embodiment the clamp one side of the clamps will be pointed at an angle to ensure clamp is touching enough of the drawer wall or divider. In some embodiments, this angle may be between 0° to 10° (degrees), which helps provide additional support when placed on to a pull-out sliding drawer wall or divider. Naturally, these skilled in the art will recognize that these angles can be greatly varied, depending on the type of materials used or the particular proportions involved. One additional feature involves one of the two sides being longer than the other, which assists with placing the said device to the pull-out sliding drawer wall or divider. When this longer piece of one of the clamp sides is pressed against the wall or divider of the pull-out sliding drawer, it opens the clamp wider, increasing the ease of attaching (placing) the said device.

[0053] In another example, front and back alternating positions are used. For example, the front and back clamp arms alternate on the both sides of the flat base. When there is a clamp on the edge, the back clamp arm will be moved over with the next clamp arm in the front. The alternating positions may provide constant support. A lip on tip of clamp adding additional support when attached to pull-out drawer wall.

[0054] As indicated, the flat base located at the top of the clamp(s) and the bottom of the side of the upright panels are attached to flat base. The flat base will be wide enough to fit on the wall and/or divider of a pull-out sliding drawer. The wall or divider has various widths, typically running from ¼ inch to ¾ inch—based on current study. The shelf extender may be used for any size or dimension as needed to provide additional storage space for various items/material.

[0055] As mentioned above, the shelf extender is flexible enough to be put on and/or taken off when needed and/or placed in various sections of walls/dividers as desired. This allows for repositioning as needed, and for significant flexibility.

[0056] As also discussed above, the shelf extender will be manufactured in various sizes and shapes to accommodate different size pull-out cabinet drawers. The shelf extender clamp will tightly secure to the walls/dividers in order to provide proper support for storing additional items/materials. The shelf extender will be multiple colors to match cabinetry, including having it clear. Having a clear shelf extender will enable the user to see what is being stored.

[0057] There is also the option to place wording to the surface/side of shelf extender. This would define what is stored in the drawer. An example would be "soup", "snacks", etc. This wording could be permanent or also a peel away material which could be placed on shelf extender.

[0058] As an additional enhancement, the shelf extender will be further configured to add an additional storage feature based on an additional upright wall placed on the opposite side of flat base (where the current panel base is) and each of the two ends, acting as a cap, to enclose the storage area. This version of the shelf extender will enable one to store additional Material inside the panels and on top of flat base. As an example FIG. **10** shows a side view of the enhanced shelf extender, having a "J" type configuration, with additional storage capabilities.

[0059] Referring now more specifically to FIG. **10**, the shelf extender **50** will be further configured to add an additional storage feature based on an additional or secondary upright wall (side panel) **54** placed on the opposite side of the flat panel base **56** (parallel to upright wall **52**). In addition, a panel **59** is attached on each of the ends of the flat panel **56**, acting as a cap. This new configuration encloses the storage area **60**. While still providing additional height and support to store more items/material in a pull-out sliding drawer (thus better utilizing storage space available and preventing items/material from falling out) this configuration provides an additional storage compartment **60** where the user can store small packages and/or small individual items (e.g. water flavoring packets, gravy packages, microwave popcorn packages, etc.). The added upright wall **54** may also be placed at the base of the current clamps and extended outward from the pull-out sliding drawer and into the enclosed drawer area, providing a much larger compartment for storing larger items like Tupperware covers and pots/pan covers. This embodiment also shows extension **53** positioned at an angle with respect to upright wall **52**. In certain applications, this may provide additional holding force and enhance the operation of the connection mechanism.

[0060] By providing additional height and support to store more items/material in a pull-out sliding drawer and better utilizing storage space available and preventing items/material from falling out, an additional variation of the embodiment will allow shelf extender to be expandable, either expanding in its length (small/longer) or expanding in its height, up and down. This configuration uses the same original configuration but provides the ability to expand the shelf extend to a desired length. An example would include a shelf extender currently at 8 inches expanded on a slider to now a 16 inch shelf extender. In a similar fashion, this same concept may be used vertically, as well.

[0061] An additional variation of the embodiment will allow the shelf extender to be designed for drawers which prevent the placement of the shelf extender product on the top of a pull-out sliding drawer wall/divider due to the configuration of the pull-out sliding drawer and its cabinet drawer slides. This variation allows the shelf extender to expand, as well as, be placed along side the inside and up against a pull-out sliding drawer wall/divider. With the ability to slide or extend to get larger or smaller or designed to be the exact size of the drawer, this version of the shelf extender is attached by either expanding larger or smaller so the end caps are placed up against the adjourning pull-out sliding drawer wall that is perpendicular to the wall/divider it is intended to be placed on. Attachment would be accomplished by end caps similar to suction cups.

[0062] In addition to the details discussed, an additional embodiment will allow the extender to be expandable. In this example, when placed on a wall, the extender can slide to get larger or smaller. In this embodiment, the extender in one configuration would be 8" long. A "slider" could be included in which you could pull the product so it is now 16" long. This may be a similar concept for a vertical approach as well. One can increase the height or decrease the height.

Example 1: Product Used with a Pull-Out Sliding Drawer

[0063] As one example, best illustrated in FIG. **9** stack two cans of soup (approximately 4" in height) on top of one another inside a pull-out sliding drawer with low side walls. In this example, the pull-out sliding drawer of a cabinet has a 1⅝" wall height (inner side portion of the front, back, side, outside wall and/or an inside divider wall) and it can support

one can of soup where the can will not fall over or outside the drawer. The space above the drawer wall and or can of soup ("potential storage area") may allow an additional can of soup to be stacked on top of the first can of soup that is already placed in the drawer. However, because the side wall (in this case) is only 1⅝" high, the first can of soup will stay in the drawer while the second can of soup will easily fall over the outer side drawer wall or an internal divider wall (with movement by the drawer or the drawer or material being bumped, etc.) because it will have no support to keep it in the drawer. Our invention provides the additional height and support to allow the second can of soup to be stacked on top of the first can of soup (without it falling out), therefore, adding additional space to store items/materials. This same concept can be used for any type of items/materials placed in this pull-out sliding drawer.

[0064] In this example above, we are referring to a 24" cabinet with pull-out sliding drawers having drawer dimensions of 19" by 21" from the outside of each end of the drawer. Please note that the shelf extender is intended and can be used with any size (dimension) drawer. The side "walls" in this example are ¾ of an inch wide (thick) and the walls are 1⅝" high from the bottom of the wall inside the drawer to the top of the wall. In this case, there is no middle divider wall. That leaves the storage space inside the walls at 17.50 inches by 19.50 inches, taking into account the combined width or thickness of the side walls (1½ inches based on 2×¾ inches). The height from the bottom of the drawer (inside the walls) to the top of the inside of the cabinet is 9", providing a total storage space area of 3,071 square inches. By adding the can of soup, if the entire pull-out sliding drawer (bottom) was filled with 1 can of soup (which is 4" high), the total area used would be 1,365 square inches (4"×17.50"×19.50"). There would be 1,706 square inches of area still remaining ("potential storage area") that is not being utilized, calculated by 3,071 sq inches minus 1,365 sq inches. If we decreased the 9" height of storage area by ¼", to allow for the drawer to open and close without items/materials hitting the opening of the top of the cabinet or drawer above, the total storage space is 2,985, with the ADDITION STORAGE AREA of 1,620 square inches (4.75"×17.50"×19.50") available after storing the can of soups. This is more than the area used by the 1 can of soup stored on the bottom of the entire drawer. In this example of a 24 inch cabinet and 19"×21" pull-out sliding drawers using our shelf extender helps utilize the additional 1,620 square inches of area remaining and at the same time not have material fall out. Additional space various by size of drawer.

[0065] Although the examples and embodiments mentioned above show attachment to the sides and divider of a pull out drawer, it will be recognized that further variations are possible. For example, the shelf extender could be configured to work in conjunction with a "Lazy Susan" type shelf or cabinet, a rotating turn table, or any other storage structure which is configured to hold products and is has issues with "containment" of items or materials.

[0066] Various embodiments of the invention have been described above for purposes of illustrating the details thereof and to enable one of ordinary skill in the art to make and use the invention. The details and features of the disclosed embodiment[s] are not intended to be limiting, as many variations and modifications will be readily apparent to those of skill in the art. Accordingly, the scope of the present disclosure is intended to be interpreted broadly and to include all variations and modifications coming within the scope and spirit of the appended claims and their legal equivalents.

What is claimed is:

1. A removable shelf extender for creating additional usable space within a storage cabinet having pull-out shelves, the shelf extender comprising:

a removably attached upright wall having an upright wall and a connection structure that can be quickly and easily attached to an edge of a pull-out sliding drawer, thus providing an additional support for containing items within a space above the surface of the pull-out sliding drawer;

wherein the upright wall provides an upright containment surface extending upwardly and beyond the existing edge of the pull-out sliding drawer; and

wherein the connection mechanism comprises a lateral extension protruding from an intermediate location on the upright wall, the lateral extension having a bridge portion extending substantially perpendicular to the upright wall, and a holding portion extending in a downward direction from and end of the bridge portion;

wherein the connection mechanism is flexible, thus allowing a bottom edge of the holding portion to be movable with respect to the upright wall, so that a compression force is produced when attached to the movable shelves and the compression force is capable of holding the upright wall in position

2. The removable shelf extender of claim **1** wherein the height of the upright wall is at least 1".

3. The removable shelf extender of claim **2** wherein the height of the upright wall extend to substantially fill the potential storage area (space) available above the pull-out sliding drawer from the top surface of the pull-out drawer to a bottom portion of any pull-out sliding drawer or cabinet positioned thereabove.

4. The removable shelf extender of claim **1** wherein the upright panel has at least one strengthening rib. [NOTE—Since we identify ribs here, the other claims necessarily do not include or require ribs, thus both options are covered.)

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