



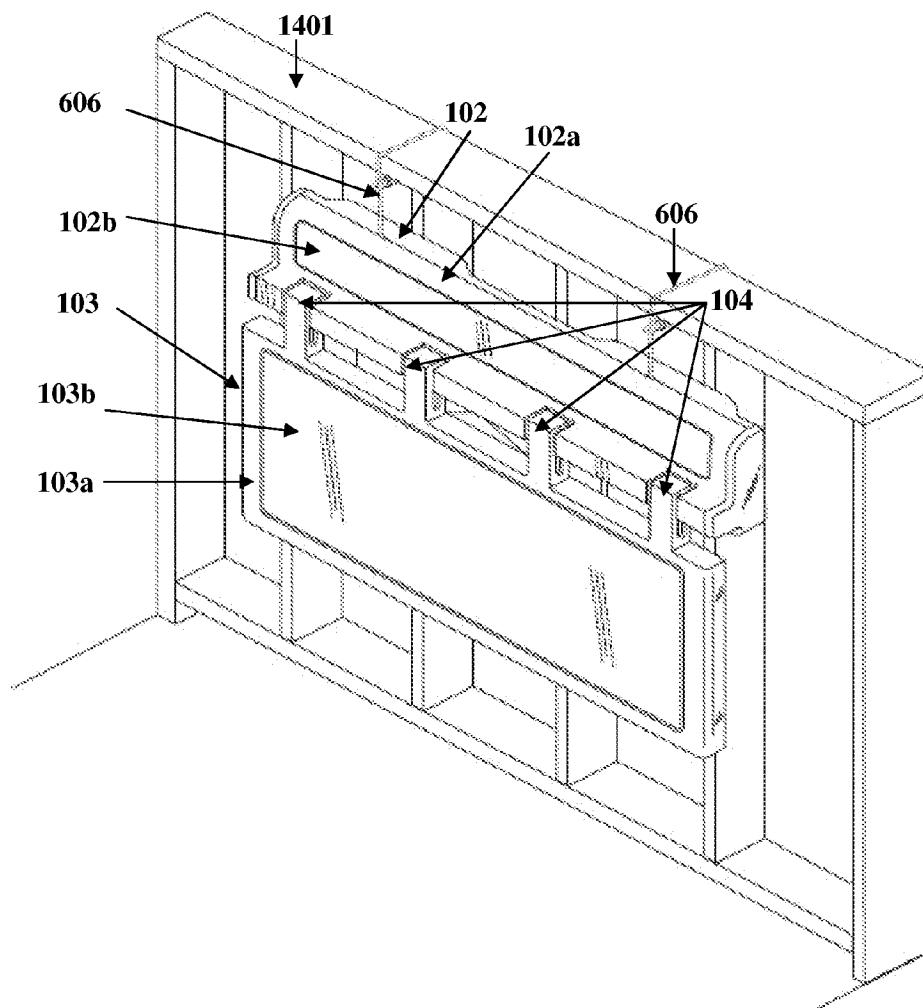
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(19) **United States**(12) **Patent Application Publication****Nelson**(10) **Pub. No.: US 2010/0101459 A1**(43) **Pub. Date: Apr. 29, 2010**(54) **BARRICADE ATTACHABLE ACTIVITY SURFACE**(52) **U.S. Cl. 108/47; 108/42; 108/161**(75) **Inventor: Hans Edward Nelson, Seattle, WA (US)**

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Sewell, NJ 08080**(73) **Assignee: H.E. Nelson, Inc.**(21) **Appl. No.: 12/257,409**(22) **Filed: Oct. 24, 2008****Publication Classification**(51) **Int. Cl.**
A47B 5/02 (2006.01)
A47B 5/04 (2006.01)
A47B 5/00 (2006.01)(57) **ABSTRACT**

Disclosed herein is an apparatus attachable to a barricading structure and method for providing an activity surface. The barricading structure may be, for example, a railing. The apparatus comprises a mountable backplash attached to the barricading structure, a foldable support platform attached to the mountable backplash via multiple connectors, and a locking system for locking the mountable backplash to the barricading structure. The foldable support platform comprises a first inlay fitted into a support structure for providing an activity surface to hold objects. The connectors are accommodated in slots provided on the mountable backplash. The accommodated connectors are hinged to the mountable backplash using a hinge pin to facilitate pivotal connection of the foldable support platform to the mountable backplash. The apparatus may comprise leg supports for supporting weight of the foldable support platform. The apparatus is made of a weather resistant material and a heat resistant material.



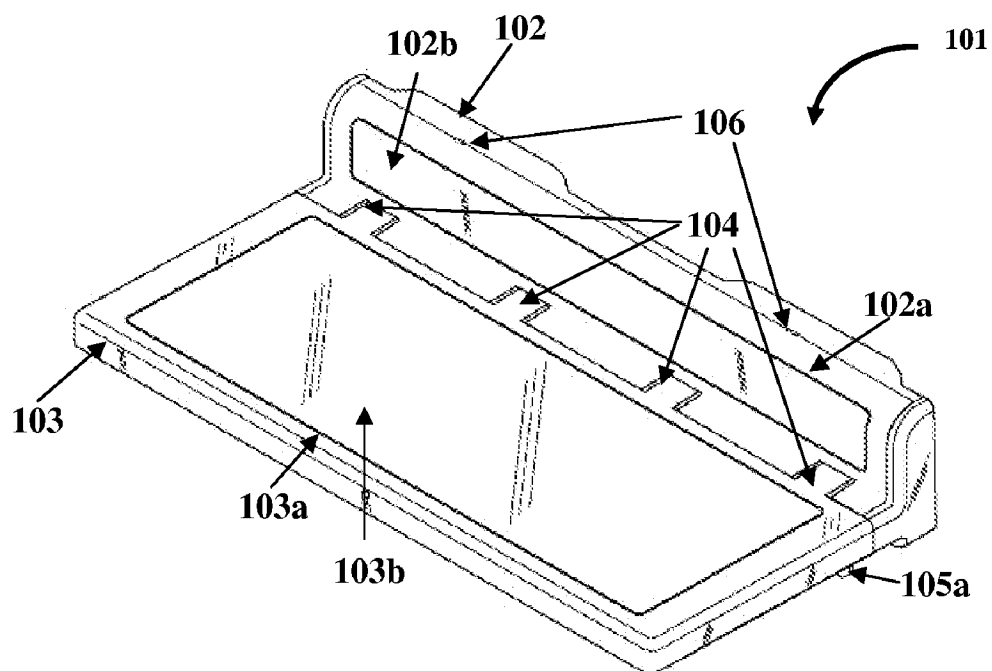


FIG. 1

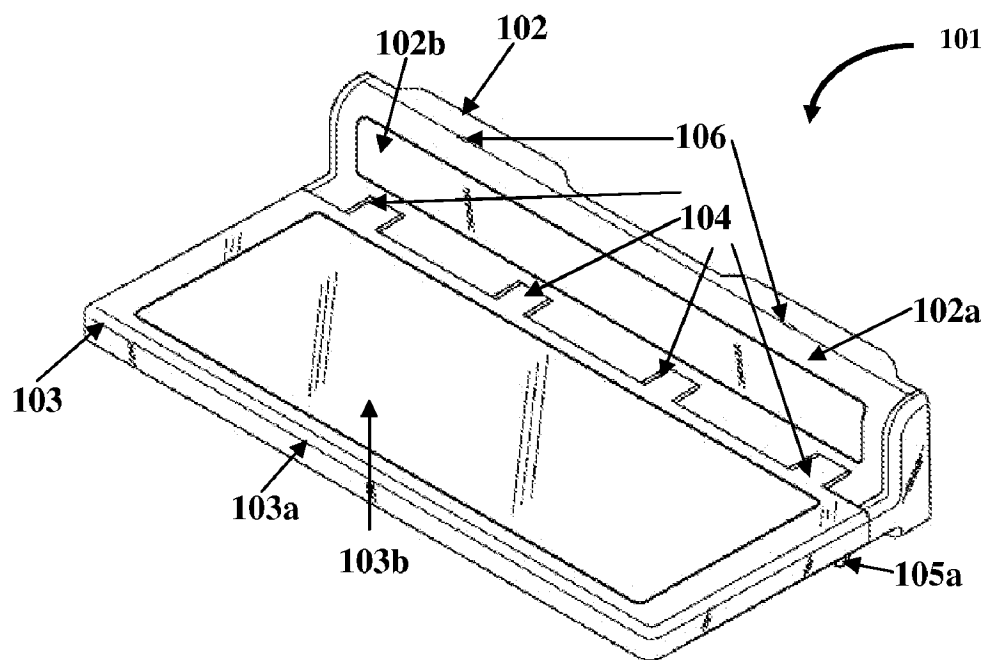


FIG. 2A

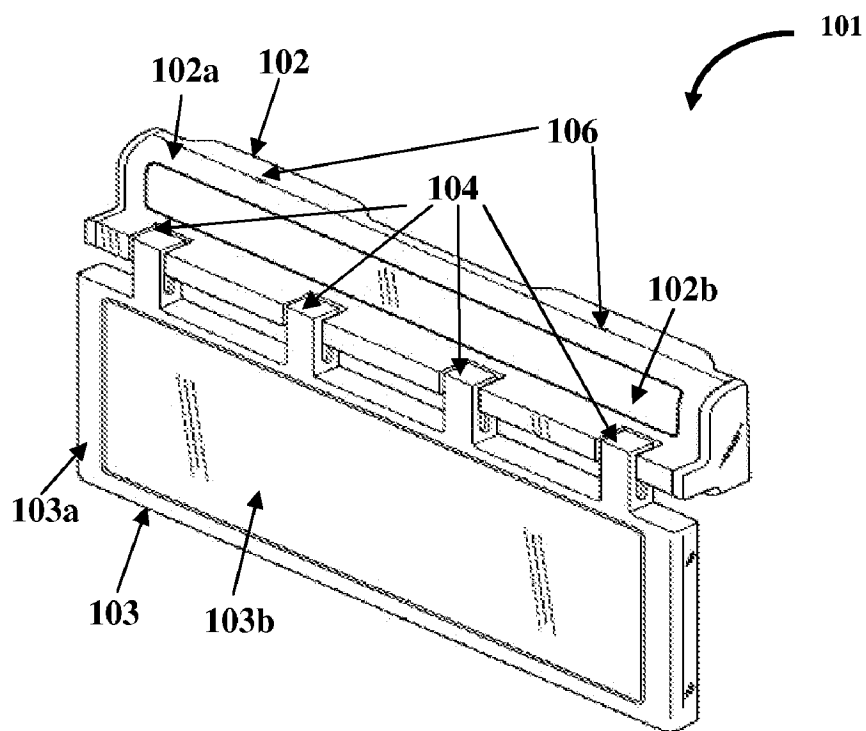


FIG. 2B

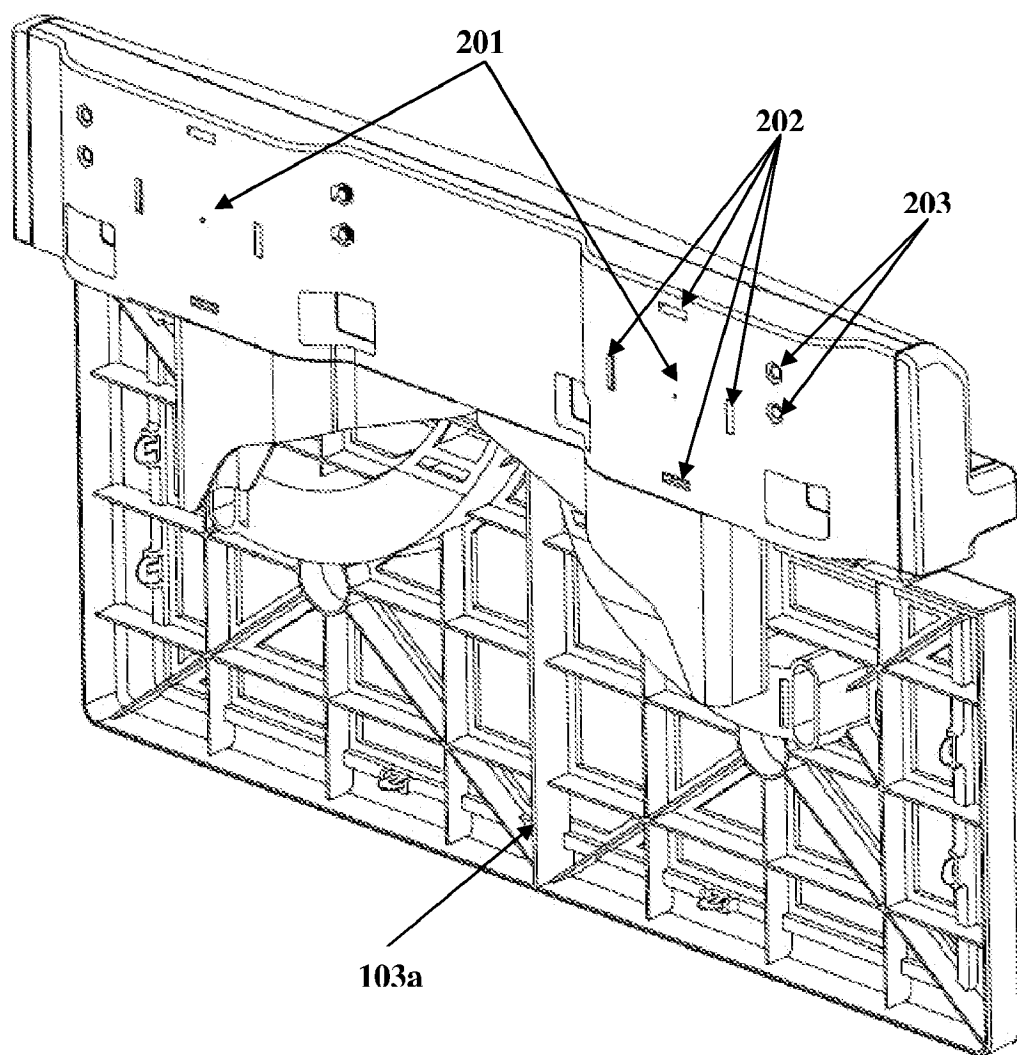


FIG. 2C

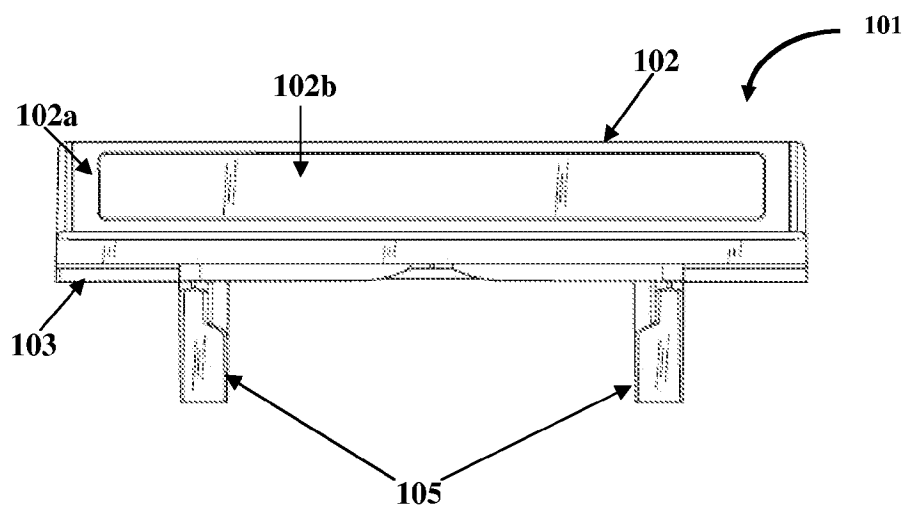


FIG. 3A

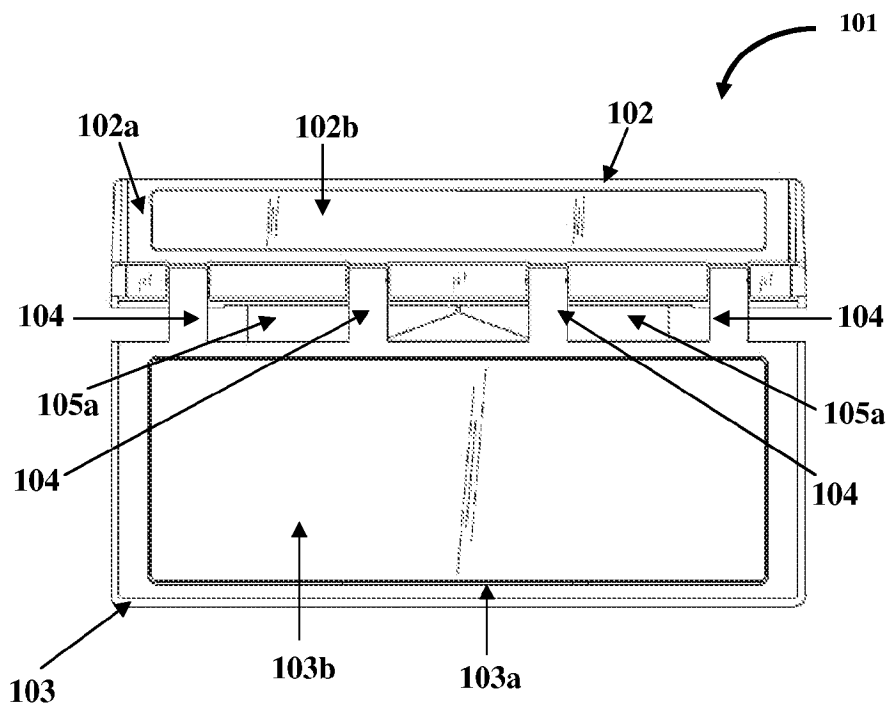


FIG. 3B

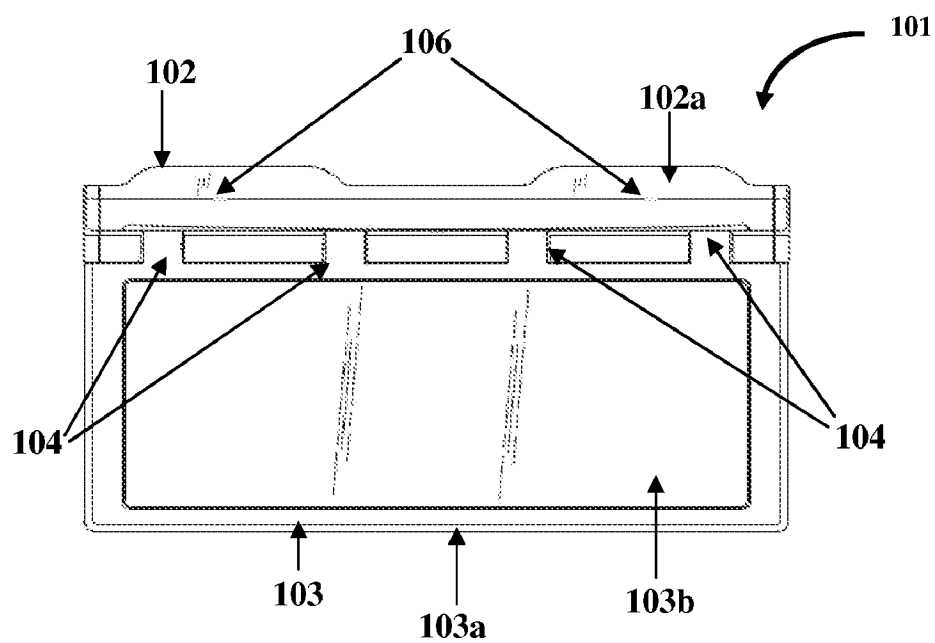


FIG. 4A

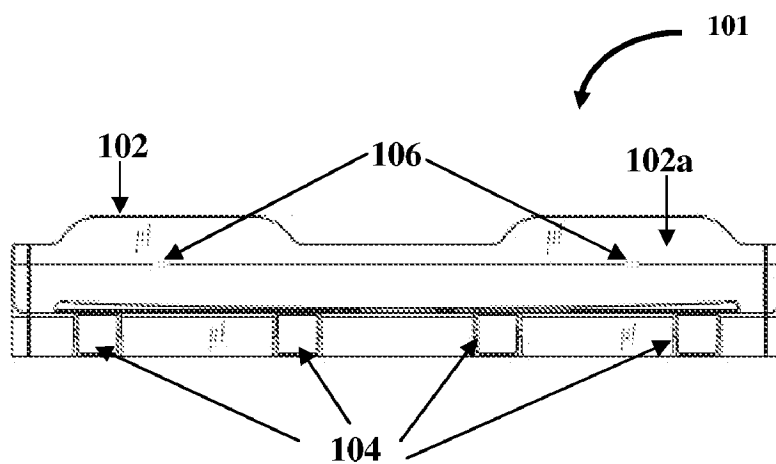


FIG. 4B

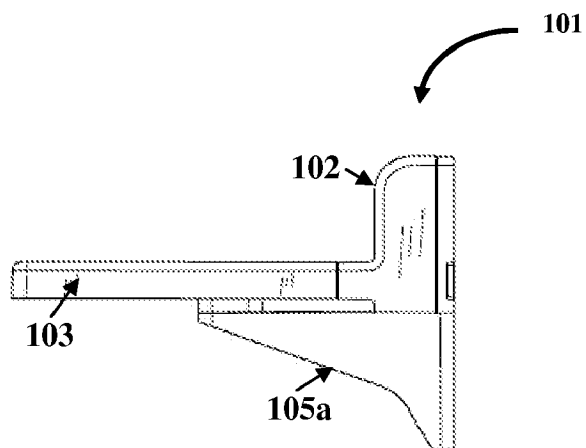


FIG. 5A

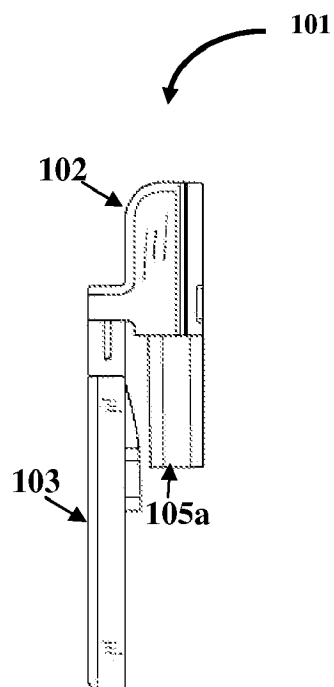


FIG. 5B

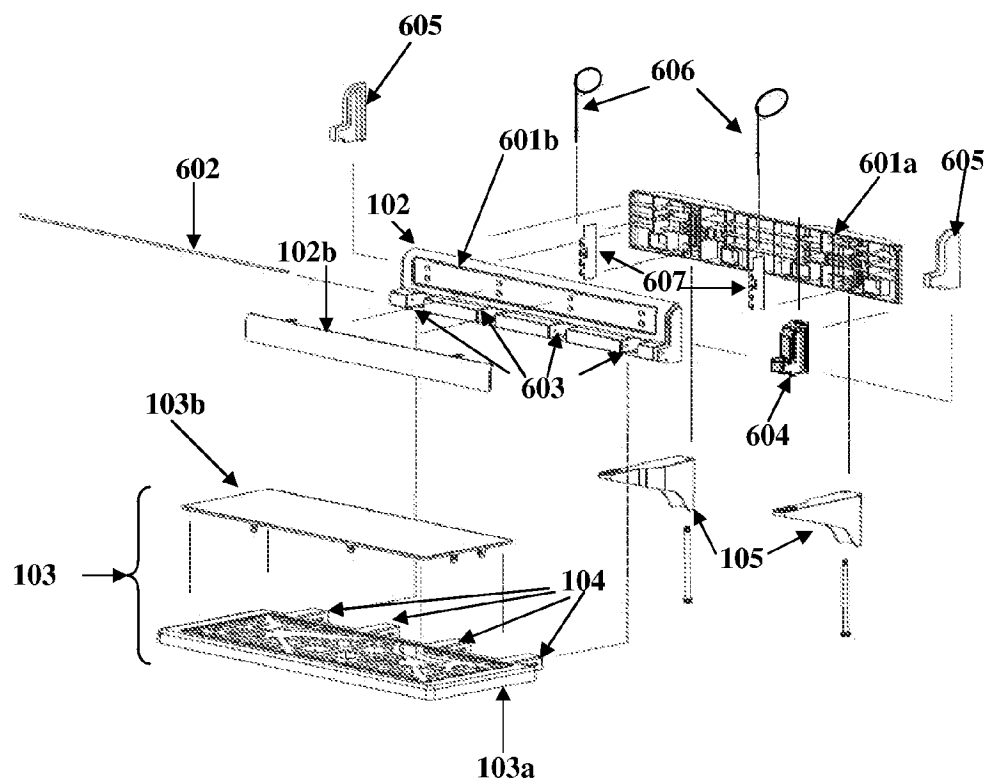


FIG. 6

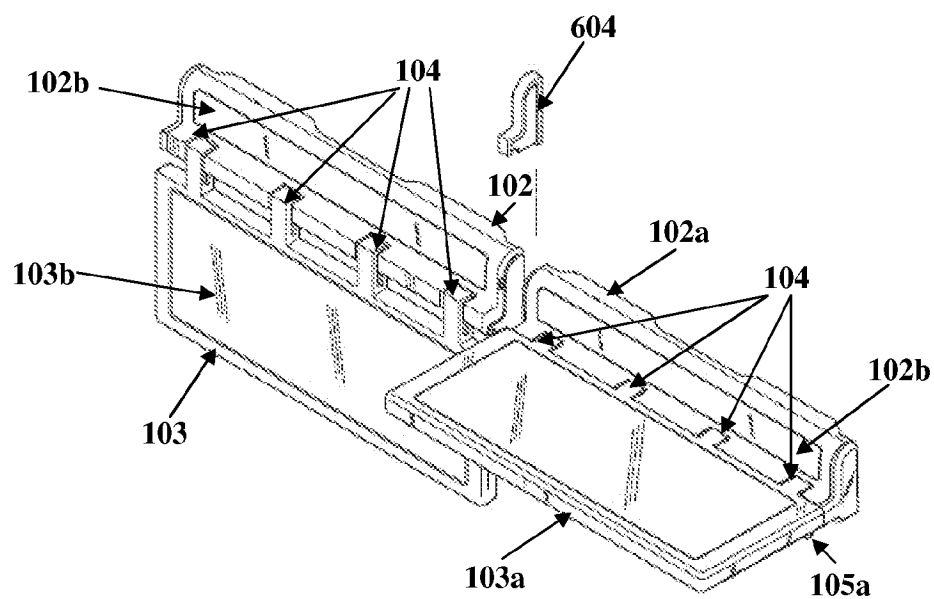


FIG. 7A

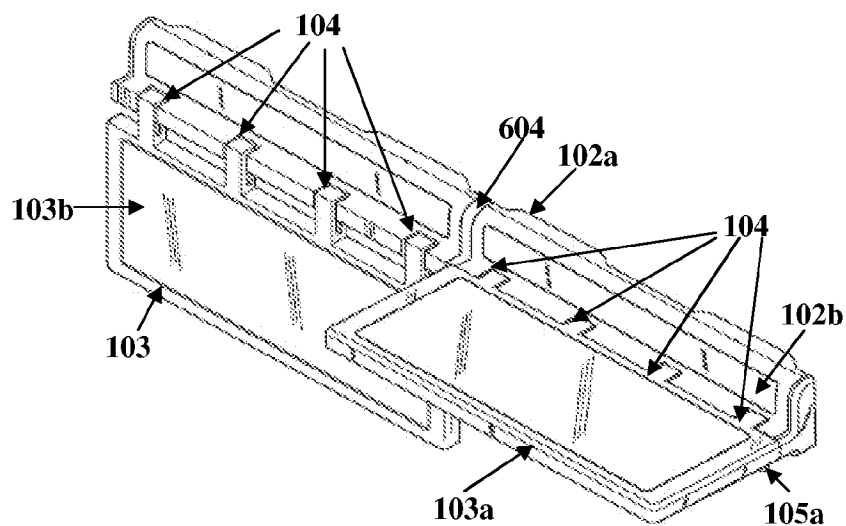


FIG. 7B

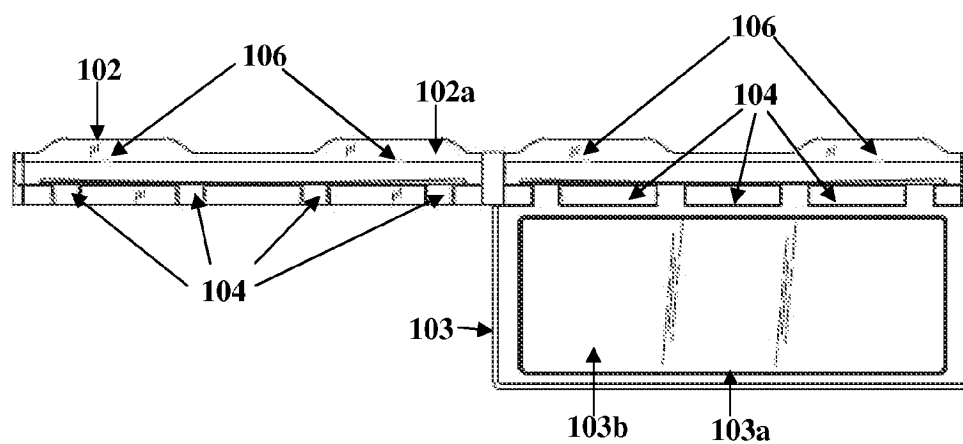


FIG. 7C

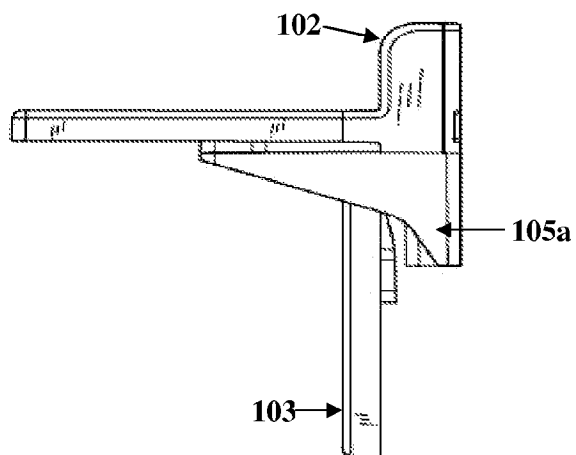


FIG. 7D

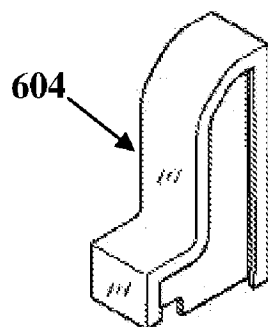


FIG. 7E

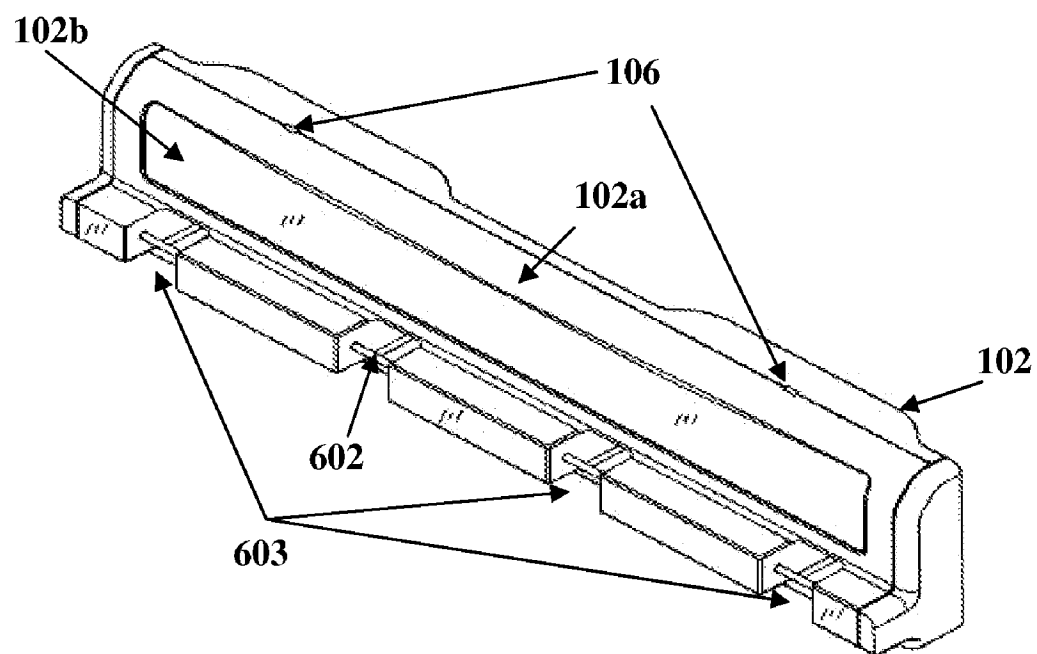


FIG. 8

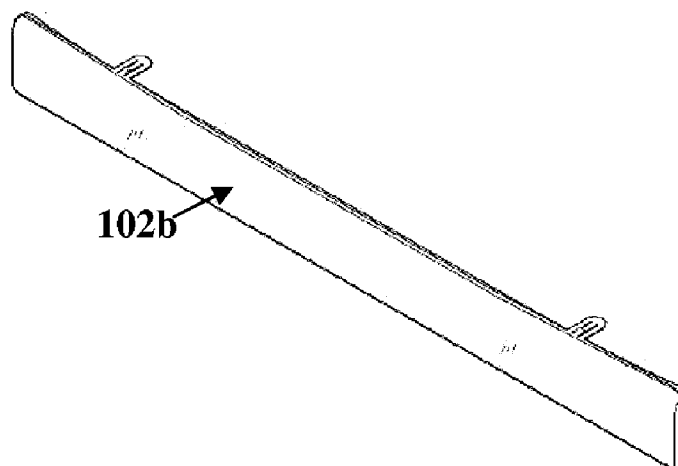


FIG. 9

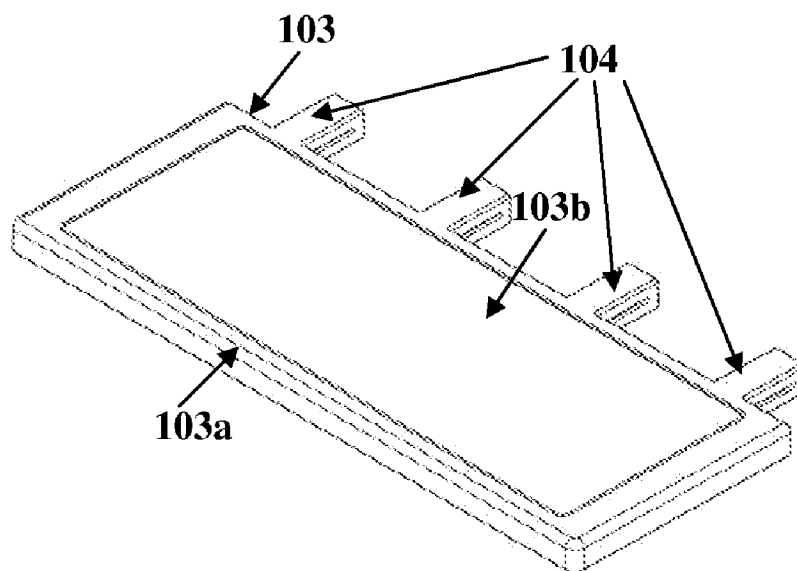


FIG. 10A

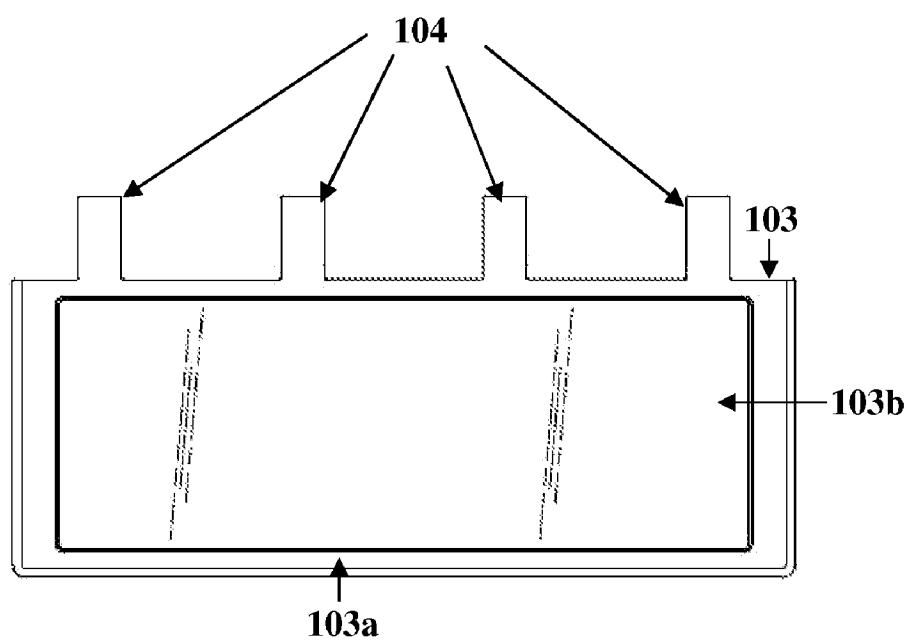


FIG. 10B

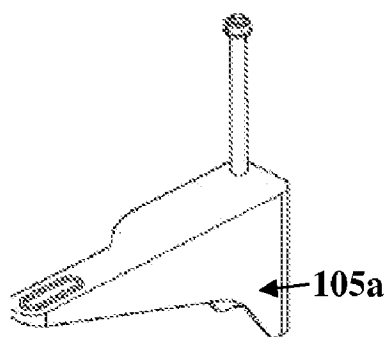


FIG. 11A

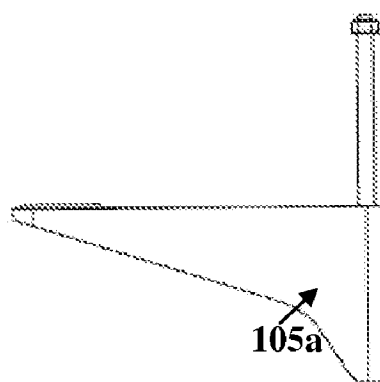


FIG. 11B

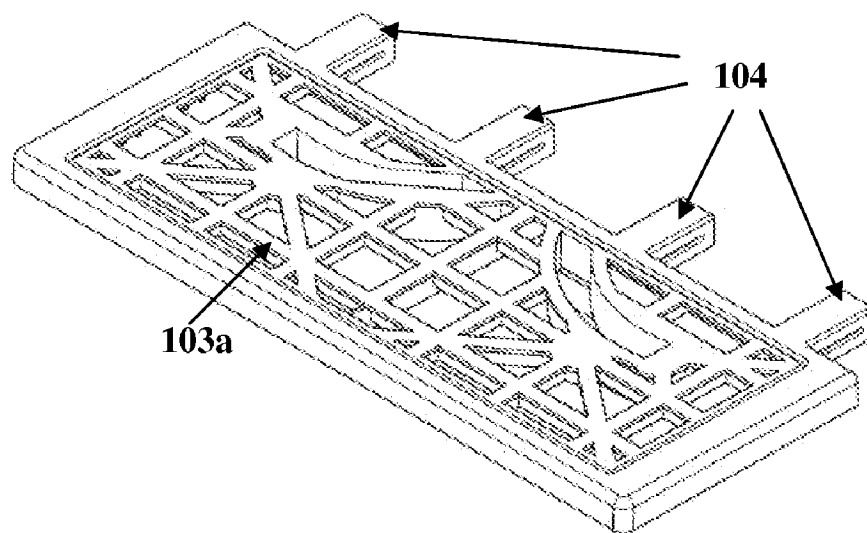


FIG. 12

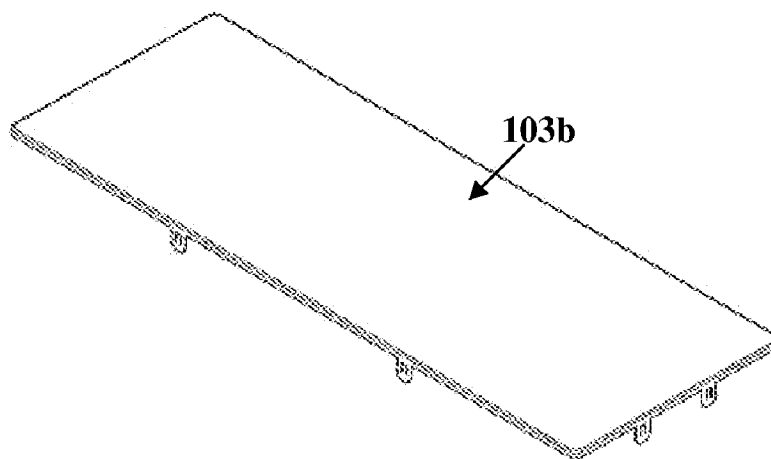


FIG. 13

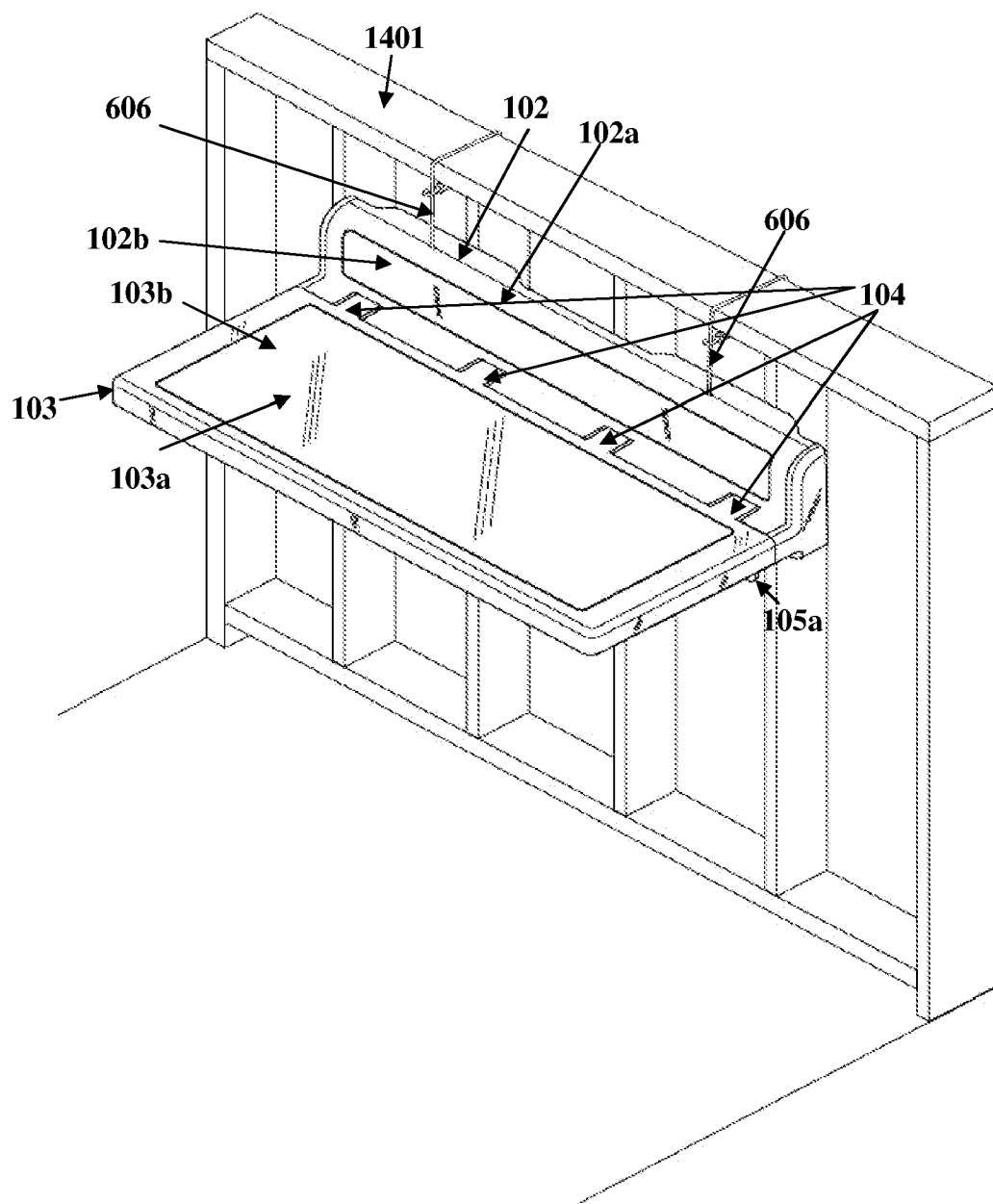


FIG. 14

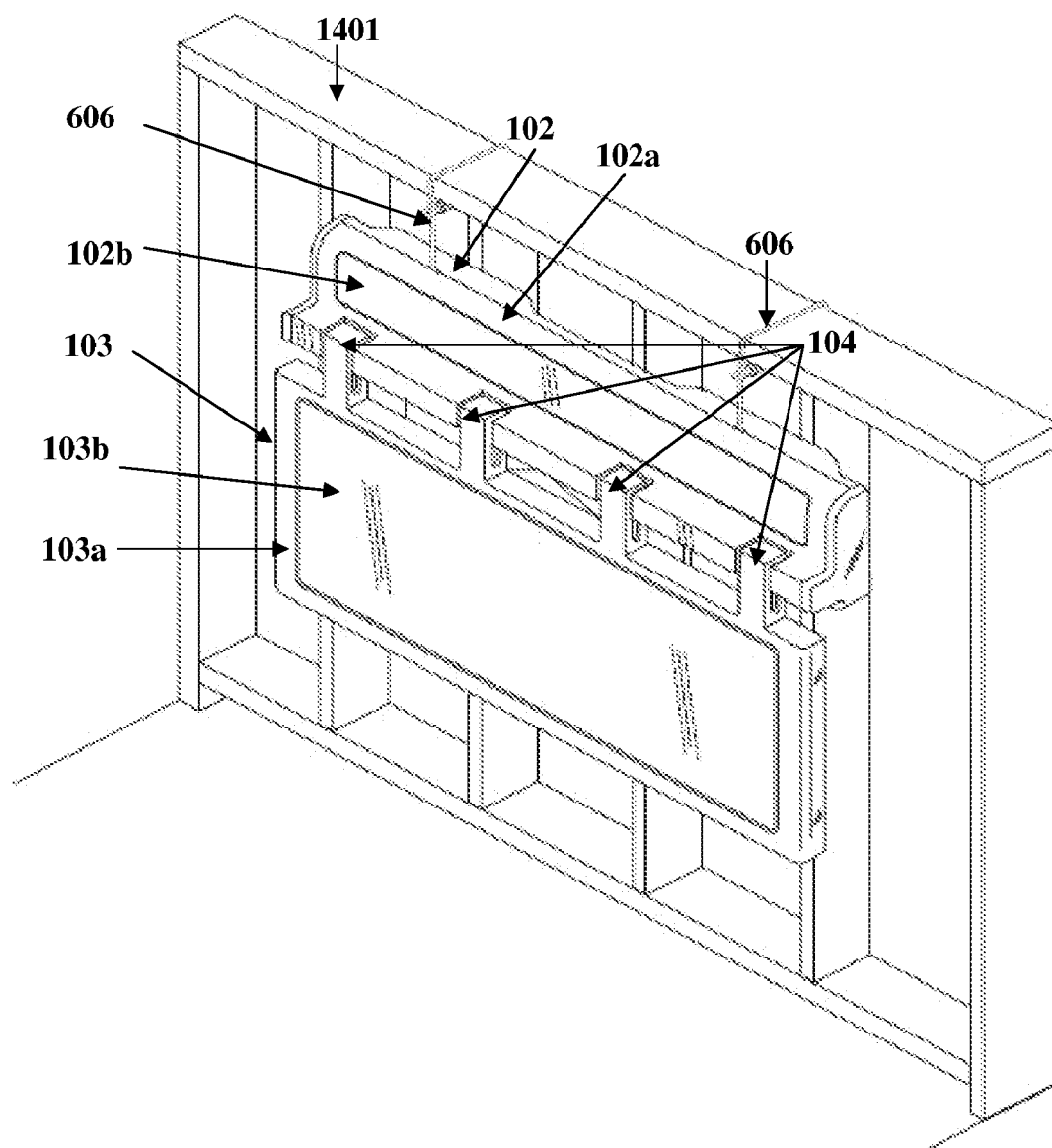


FIG. 15

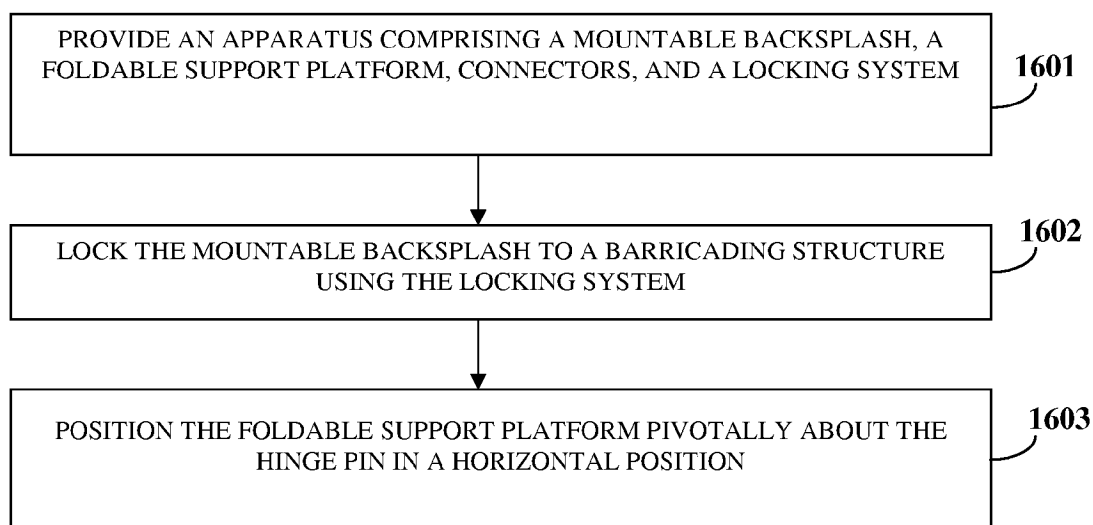


FIG. 16

BARRICADE ATTACHABLE ACTIVITY SURFACE

BACKGROUND

[0001] This invention in general, relates to foldable activity surfaces. More particularly, this invention relates to an apparatus that detachably attaches to a barricading structure to provide an activity surface.

[0002] Pieces of furniture, for example, a table, a shelf, etc., provide an activity surface on which objects, for example, food, drinks, books, etc. may be placed. These pieces of furniture are typically bulky and occupy significant space. If such pieces of furniture are placed in a limited space, for example, a balcony, deck, patio, etc., the available or free area in the limited space will be further reduced or limited. Hence there is a need for an apparatus universally attachable to different barricading surfaces for example, a railing on a balcony, deck, patio, etc. to provide a surface on which objects may be placed, without reducing or restricting the free or unoccupied space in such spaces.

[0003] In general, foldable activity surfaces are difficult to set up against a vertical barricading structure, for example, a railing. Pivoting a foldable activity surface against a railing is typically done using different components, for example, rivet pins, brackets, etc., which require holes to be drilled into the railing thereby damaging the railing. Moreover, when such activity surfaces are attached to the barricading structure, the height of the activity surface is generally not readily adjustable on the barricading structure. Furthermore, some foldable activity surfaces are difficult to adapt to railings of different types and widths. Hence there is a need for an apparatus that is universally detachably attachable to a barricading structure without damaging the barricading structure.

[0004] Also, objects placed on the foldable activity surfaces may fall off the activity surface in the space between the barricading structure and the foldable activity surface. Also, foldable activity surfaces mounted outdoors are frequently subject to changing weather conditions, for example, rain, extreme heat, etc., leading to deterioration of the material of the foldable activity surface. The material of the activity surface may not be replaceable and replacing the entire foldable activity surface may be expensive.

[0005] Hence there is a need for an apparatus attachable to a barricading structure that provides an activity surface and is easy to install by a user. There is also a need for an apparatus that is resistant to different elements and is easily replaceable. There is also a need for an apparatus that is adaptable to barricading or railing structures fabricated with different materials in different design configurations.

SUMMARY OF THE INVENTION

[0006] This summary is provided to introduce a selection of concepts in a simplified form that are further described in the detailed description of the invention. This summary is not intended to identify key or essential inventive concepts of the claimed subject matter, nor is it intended for determining the scope of the claimed subject matter.

[0007] The apparatus and method disclosed herein addresses the above stated needs for providing an activity surface that is detachably attached to a barricading structure. The barricading structure may, for example, be a railing, a fence, a vertical picket, a flat horizontal surface, a flat vertical surface, a wall, an elevated platform, a door, a desk, etc.

fabricated in different design configurations. The barricading structure may be made of different materials and of different sizes. For example, the apparatus may be attached to railings made of plastic, metal, wood, glass, cement, etc. The apparatus serves as a piece of furniture, for example, a table, a shelf, etc. and is easily installed by a user. The apparatus is also resistant to weather conditions and is easily replaceable. The apparatus disclosed herein is further adaptable to barricading structures fabricated in different design configurations and made of different materials.

[0008] The apparatus disclosed herein comprises a mountable backslash, a foldable support platform, and multiple connectors. The mountable backslash is detachably attached to the barricading structure. The mountable backslash may be of a clamshell design allowing connections to be hidden from view. The mountable backslash comprises multiple slots. The foldable support platform is attached to the mountable backslash via the connectors. The connectors are accommodated in the slots for connecting the foldable support platform to the mountable backslash. The accommodated connectors are hinged to the mountable backslash using a hinge pin to facilitate pivotal connection of the foldable support platform to the mountable backslash. Axial movement of the connectors about the hinge pin enables folding and unfolding of the foldable support platform.

[0009] The foldable support platform comprises a first inlay fitted into a support structure for providing an activity surface to hold one or more objects. The objects may, for example, be a drink, food, a book, etc. The mountable backslash comprises a second inlay fitted into a back support for preventing the objects from falling off the foldable support platform. The first inlay and the second inlay are replaceable.

[0010] The apparatus further comprises a locking system. The locking system locks the mountable backslash to the barricading structure. The locking system may, for example, comprise one or more of a hook panel, multiple height adjustment cables, multiple suction cups, an adjustable hooking unit, and multiple hook and loop fasteners. The hook panel is attached inside the back support of the mountable backslash. The hook panel secures the height adjustment cables in order to suspend the apparatus using the height adjustment cables. The hook panel controls adjustment of the height of the apparatus on the barricading structure to multiple height adjustment cables using the height adjustment cables. The hook and loop fasteners fasten the apparatus to the barricading structure. The rear surface of the mountable backslash comprises one or more openings for inserting one or more suction cups. The suction cups fasten the apparatus onto a smooth surface or a coarse surface. The mountable backslash may be mounted onto the barricading structure using the adjustable hooking unit attached to the hook panel. The mountable backslash and the foldable support platform may be rounded at edges for appearance and safety.

[0011] The apparatus further comprises multiple leg supports. The leg supports are hinged to the mountable backslash for supporting the weight of the foldable support platform. A clearance is provided between the leg supports and an underlying surface. The leg supports are foldable. The mountable backslash and the support platform may comprise multiple openings for draining accumulated water. Coupling members may be provided for connecting multiple apparatuses and aligning the apparatuses at the same height with respect to each other. Each of the connected apparatuses may be used independently. The apparatus may be made of a

weather resistant material and a heat resistant material. The apparatus further comprises end caps for providing a protective covering for both ends of the mountable backplash.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The foregoing summary, as well as the following detailed description of the invention, is better understood when read in conjunction with the appended drawings. For the purpose of illustrating the invention, exemplary constructions of the invention are shown in the drawings. However, the invention is not limited to the specific methods and instrumentalities disclosed herein.

[0013] FIG. 1 illustrates an apparatus detachably attachable to a barricading structure for providing an activity surface.

[0014] FIG. 2A exemplarily illustrates an isometric view of the apparatus with the foldable support platform in a horizontal position.

[0015] FIG. 2B exemplarily illustrates a side view of the apparatus with the foldable support platform in a downward position.

[0016] FIG. 2C exemplarily illustrates a rear view of the apparatus with the foldable support platform in a downward position.

[0017] FIG. 3A exemplarily illustrates a front view of the apparatus with the foldable support platform in a horizontal position.

[0018] FIG. 3B exemplarily illustrates a front view of the apparatus with the foldable support platform in the downward position.

[0019] FIG. 4A exemplarily illustrates a top view of the apparatus with the foldable support platform in the horizontal position.

[0020] FIG. 4B exemplarily illustrates a top view of the apparatus with the foldable support platform in the downward position.

[0021] FIG. 5A exemplarily illustrate a side view of the apparatus with the foldable support platform in the horizontal position.

[0022] FIG. 5B exemplarily illustrate a side view of the apparatus with the foldable support platform in the downward position.

[0023] FIG. 6 exemplarily illustrates an exploded view of the apparatus attachable to the barricading structure.

[0024] FIG. 7A exemplarily illustrates an isometric view of two apparatuses prior to connection.

[0025] FIG. 7B exemplarily illustrates an isometric view of two apparatuses connected together, wherein one apparatus is in a folded position and the other apparatus is in an unfolded position.

[0026] FIG. 7C exemplarily illustrates a top view of two apparatuses connected together.

[0027] FIG. 7D exemplarily illustrates a side view of two apparatuses connected together.

[0028] FIG. 7E exemplarily illustrates one of the coupling members for connecting two apparatuses together.

[0029] FIG. 8 exemplarily illustrates a back support of the mountable backplash.

[0030] FIG. 9 exemplarily illustrates a second inlay of the mountable backplash.

[0031] FIG. 10A exemplarily illustrates an isometric view of the foldable support platform.

[0032] FIG. 10B exemplarily illustrates a top view of the foldable support platform.

[0033] FIG. 11A exemplarily illustrates one of the leg supports of the apparatus.

[0034] FIG. 11B exemplarily illustrates a side view of one of the leg supports of the apparatus.

[0035] FIG. 12 exemplarily illustrates a support structure of the foldable support platform.

[0036] FIG. 13 exemplarily illustrates a first inlay of the foldable support platform.

[0037] FIG. 14 exemplarily illustrates the apparatus detachably attached to the barricading structure for providing the activity surface.

[0038] FIG. 15 exemplarily illustrates the apparatus detachably attached in the downward position to the barricading structure.

[0039] FIG. 16 illustrates a method of providing an activity surface on a barricading structure.

DETAILED DESCRIPTION OF THE INVENTION

[0040] FIG. 1 illustrates an apparatus **101** detachably attachable to a barricading structure **1401** for providing an activity surface. The barricading structure **1401** may, for example, be a railing, a fence, a vertical picket, a flat horizontal surface, a flat vertical surface, a wall, a floor, an elevated platform, a desk, and a door fabricated in different design configurations. The barricading structure **1401** may be made of different materials and of different sizes. For example, the apparatus **101** may be attached to railings made of plastic, metal, wood, glass, cement, etc. The apparatus **101** may be used to provide an activity surface for supporting objects, for example, food, drinks, books, etc. The apparatus **101** may also be attached to railings of balconies, decks, patios, fences, boats, walls, etc. The apparatus **101** comprises a mountable backplash **102**, a foldable support platform **103**, and multiple connectors **104** of the foldable support platform **103**. The connectors **104** may, for example, be multiple support pegs. The connectors **104** may be four support pegs as exemplarily illustrated in FIG. 1. An isometric view of the apparatus **101** with the foldable support platform **103** in a horizontal position is exemplarily illustrated in FIG. 2A. A rear view of the apparatus **101** with the foldable support platform **103** in a downward position is exemplarily illustrated in FIG. 2C.

[0041] FIG. 6 exemplarily illustrates an exploded view of the apparatus **101**. The mountable backplash **102** may be detachably attached to the barricading structure **1401**. The mountable backplash **102** comprises multiple slots **603**. The mountable backplash **102** prevents objects from falling off the foldable support platform **103**. For example, if a user places a book or a drink on the activity surface provided by the foldable support platform **103**, the mountable backplash **102** prevents the book or drink from falling off the balcony. The mountable backplash **102** is of a clamshell design thereby allowing barricading structure **1401** connections to be hidden from view. The mountable backplash **102** may be designed to accommodate ground posts of varying magnitudes present in between the barricading structure **1401** such that two or more apparatus **101** may be connected to each other to run adjacent to one another to provide a continuous activity surface along the barricading structure **1401**. The rear surface of the mountable backplash **102** has designated spots to accommodate the ground posts thereby allowing the apparatus **101** to be installed at the same level on the barricading structure **1401**.

[0042] The mountable backplash **102** comprises a back support **102a** and a second inlay **102b**. The second inlay **102b**

is fitted into the back support **102a**. The back support **102a** of the mountable backplash **102** is exemplarily illustrated in FIG. 8. The back support **102a** provides a means to attach and support the apparatus **101** to the barricading structure **1401**. The back support **102a** of the mountable backplash **102** comprises a first section **601a** and a second section **601b** as illustrated in FIG. 6. The first section **601a** is positioned behind the second section **601b** of the back support **102a** and against the barricading structure **1401**. The apparatus **101** may further comprise end caps **605** for providing a protective covering at both ends of the mountable backplash **102**. The first section **601a** and the second section **601b** of the back support **102a** are fitted together and may be sealed at both ends with the end caps **605**. The second inlay **102b** is a replaceable inlay that fits into the back support **102a** of the mountable backplash **102**. The second inlay **102b** of the mountable backplash **102** is exemplarily illustrated in FIG. 9.

[0043] The back support **102a** may comprise guides to enable the connectors **104** to attach to the slots **603** of the back support **102a**. The combination of the back support **102a**, the second inlay **102b**, the connectors **104**, and the end caps **605** provide the support and strength for connecting the foldable support platform **103** to the mountable backplash **102**. The mountable backplash **102** has maximum support strength when each of the back support **102a**, the second inlay **102b**, the connectors **104**, and the end caps **605** are used.

[0044] The foldable support platform **103** is attached to the mountable backplash **102** via the connectors **104** illustrated in FIG. 10A. The foldable support platform **103** provides a platform on which objects, for example, a book, a drink, food, etc. may be placed. An isometric view of the foldable support platform **103** is illustrated in FIG. 10A. A top view of the foldable support platform **103** is exemplarily illustrated in FIG. 10B. The foldable support platform **103** comprises a support structure **103a** as illustrated in FIG. 12 and a first inlay **103b** as illustrated in FIG. 13. The support structure **103a** supports the first inlay **103b**. The first inlay **103b** is a replaceable inlay fitted into the support structure **103a** and provides an activity surface on which one or more objects may be placed. The activity surface provided by the first inlay **103b** holds the placed objects.

[0045] The second inlay **102b** and the first inlay **103b** may be of different colors and different designs. The second inlay **102b** and the first inlay **103b** may be replaceable in the event of damage to the apparatus **101**, or may be replaced to add aesthetic appeal to the apparatus **101**. The replaceability of the second inlay **102b** and the first inlay **103b** allow the decor of the apparatus **101** to be altered to match the decor of a home, balcony, deck, etc., based on the location of installation of the apparatus **101**. The mountable backplash **102** and the foldable support platform **103** may be rounded at the edges for appearance and safety. The foldable support platform **103** may be positioned in a horizontal position, or folded to a downward position. The mountable backplash **102** and the foldable support platform **103** may comprise multiple openings (not shown) for draining accumulated water.

[0046] The connectors **104** of the foldable support platform **103** are accommodated in the slots **603** of the mountable backplash **102** for connecting the foldable support platform **103** to the mountable backplash **102**. The connectors **104** are hinged to the mountable backplash **102** using a hinge pin **602** to facilitate pivotal connection of the foldable support platform **103** to the mountable backplash **102**. The hinge pin **602**

inserted through the connectors **104** connects the foldable support platform **103** to the mountable backplash **102**. Axial movement of the connectors **104** about the hinge pin **602** facilitates movement of the foldable support platform **103** from the horizontal position to the vertical position as illustrated in FIG. 14 and FIG. 15. The hinge pin **602** and the connectors **104** provide stability and support to the foldable support platform **103** when the foldable support platform **103** is moved to the horizontal position as illustrated in FIG. 2A. A support strap may be provided on the apparatus **101** for fastening the foldable support platform **103** when lowered to the vertical position to prevent unintentional movement.

[0047] The foldable support platform **103** comprises multiple connectors **104** extending from a side of the foldable support platform **103** proximal to the mountable backplash **102**. The connectors **104** are illustrated in FIGS. 1, 2A, 2B, 3B, and 10A-10B. Each of the connectors **104** defines one of the slots **603** of the mountable backplash **102**. The slots **603** are illustrated in FIG. 8. Each of the slots **603** of the mountable backplash **102** communicates through the corresponding connectors **104** generally parallel to side surface of the foldable support platform **103** and parallel to the surface of the barricading structure **1401** to which the apparatus **101** is mounted. The hinge pin **602** illustrated in FIG. 6 passes through openings in each of the slots **603** and the connectors **104**, and hence the foldable support platform **103**, rotatably and slideably engages the hinge pin **602**. The combination of the rotatable and slideable engagement between the connectors **104** and the hinge pin **602** allows the foldable support platform **103** to move between the horizontal position and the downward position and further allows the foldable support platform **103** to be supported in both positions.

[0048] In the downward position of the foldable support platform **103**, as illustrated in FIG. 2B, the foldable support platform **103** is supported by the hinge pin **602**. In the horizontal position, illustrated in FIGS. 1 and 2A, each of the connectors **104** slideably engages a mating connector slot defined by the mountable backplash **102**. The mating connector slots **603** are illustrated in FIG. 6. FIGS. 1, 2A, 4A and 4B illustrate the connectors **104** and the mating connector slots **603** in slideable engagement. The slideable engagement between each of the mating connector slots **603** and each of the connectors **104** constrains the rotation of the connectors **104** about the hinge pin **602** and hence supports the foldable support platform **103** when the foldable support platform **103** is in the horizontal position.

[0049] To move from the downward position to the horizontal position, a user using the apparatus **101** disclose herein will rotate the foldable support platform **103** approximately 90 degrees about the hinge pin **602**. The user then will slide the foldable support platform **103** toward the mountable backplash **102**. The connectors **104** will slideably engage the mating connector slots **603**, thereby supporting the foldable support platform **103** in the horizontal position. A load placed on the foldable support platform **103** when the foldable support platform **103** is in the horizontal position is transferred to the connectors **104**, to the mating connector slots **603** and hence to the mountable backplash **102**. To move the foldable support platform **103** from the horizontal position to the downward position, the user reverses the above sequence.

[0050] As illustrated in FIGS. 3A, 5A and 7D, the foldable support platform **103** is also selectably supported by multiple leg supports **105** when the foldable support platform **102** is in the horizontal position. Construction of the leg supports **105**

is illustrated in FIGS. 6, 11A and 11B. Each leg support **105a** is hinged to rotate about a vertical axis of rotation. The vertical axis of rotation is defined by an axle, which may be a bolt. The axle and vertical axis of rotation are illustrated in FIGS. 6, 11A and 11B. The axle is attached to and supported by the mountable backslash **102**.

[0051] The leg support **105a** has a deployed position as illustrated in FIGS. 3A, 5A and 7D. In the deployed position, the leg support **105a** is rotated about the vertical axis of rotation so that the leg support **105a** is generally perpendicular to the surface of the foldable support platform **103** when the foldable support platform **103** is in the horizontal position. The foldable support platform **103** comprises a ramp in the shape of a quadrant. The ramp defines a leg support engagement location in a spaced-apart relation to the hinge pin **602** when the foldable support platform **103** is in the horizontal position. When the foldable support platform **103** is in the horizontal position, the leg support **105a** engages the leg support engagement location of the foldable support platform **103**. A load placed on the foldable support platform **103** when the foldable support platform **103** is in the horizontal position is transferred to the leg support engagement location, to the leg support **105a**, to the axle defining the vertical axis of rotation of the leg support **105a**, and hence to the backslash **102**.

[0052] The leg support **105a** also has a stored position illustrated by FIGS. 2C and 5B. In the stored position, the leg support **105a** is rotated about the vertical axis approximately 90 degrees from the deployed position so that the leg support **105a** is oriented generally parallel to the surface of the foldable support platform **103** when the foldable support platform **103** is in the downward position. The downward position of the foldable support platform **103** is illustrated in FIGS. 2B, 2C, 3B, 4B, 5B and 15. In the stored position, the leg support **105a** does not engage the ramp or the leg support engagement location and does not provide support to the foldable support platform **103**. The leg support **105a** also may be located within 90 degrees range of motion intermediate between the fully deployed position illustrated by FIG. 3A and the stored position illustrated by FIGS. 2C and 5B. When the leg support **105a** is in an intermediate position and the foldable support platform **103** is in the horizontal position, the leg support **105a** engages the quadrant-shaped ramp at an intermediate location along the quadrant. Intermediate locations along the ramp provide less rise than does the leg support engaging location, allowing a user to level the foldable support platform **103** by selecting an intermediate position for the leg support **105a** that corresponds to a level position for the foldable support platform **103**.

[0053] A front view of the apparatus **101** with the foldable support platform **103** in a horizontal position is exemplarily illustrated in FIG. 3A. The foldable support platform **103** may be folded to a downward position when not in use as illustrated in FIG. 2B. A side view of the apparatus **101** with the foldable support platform **103** in a downward position is exemplarily illustrated in FIG. 2B. A front view of the apparatus **101** with the foldable support platform **103** in the downward position is exemplarily illustrated in FIG. 3B. A top view of the apparatus **101** with the foldable support platform **103** in the horizontal position is exemplarily illustrated in FIG. 4A. A top view of the apparatus **101** with the foldable support platform **103** in the downward position is exemplarily illustrated in FIG. 4B.

[0054] The apparatus **101** further comprises a locking system for locking the mountable backslash **102** to the barricading structure **1401**. The locking system may comprise, for example, one or more of a hook panel **607**, multiple height adjustment cables **606**, suction cups, an adjustable hooking unit, and multiple hook and loop fasteners. The first section **601a** of the back support **102a** may, for example, comprise multiple openings **201**, **202**, and **203** herein referred to as "holes" for inserting the suction cups, the hook and loop fasteners, and the bolts respectively. The suction cup holes **201**, the hook and loop fastener holes **202**, and the bolt holes **203** are exemplarily illustrated in FIG. 2C. Bolts may be inserted in the bolt holes **203** for connecting the first section **601a** and the second section **601b** of the back support **102a**. The bolts that pass through the bolt holes **203** may be drilled to a wall to position the mountable backslash **102** on the barricading structure **1401**. The hook panel **607** may be attached inside a back support **102a** of the mountable backslash **102**. The hook panel **607** may be attached in between the second section **601b** and the first section **601a** of the back support **102a** into an opening provided between the second section **601b** and the first section **601a**. Multiple hooks may be provided on the hook panel **607** to suspend the apparatus **101**. In addition to the hooks, height adjustment cables **606** may also attach to the hook panel **607**.

[0055] The hook panel **607** secures the height adjustment cables **606** to suspend the apparatus **101** using the height adjustment cables **606**. The height adjustment cables **606** pass through cable slots **106** provided in the back support **102a** of the backslash **102**. The cable slots **106** may accommodate cables or hooks, for example, "J" shaped hooks, for suspension. Corresponding slots are provided in both the first section **601a** and the second section **601b** such that the corresponding slots come together to form the cable slots **106** when the first section **601a** and the second section **601b** are assembled together. The hook panel **607** provides multiple height adjustment levels for adjusting height of the apparatus **101** on the barricading structure **1401** using the height adjustment cables **606**. The hook panel **607** controls adjustment of height of the apparatus **101** on the barricading structure **1401** to the height adjustment levels using the height adjustment cables **606**.

[0056] The hook panel **607** may comprise multiple linear hooks to provide the multiple height adjustment levels. The height of the apparatus **101** may be adjusted to the multiple height adjustment levels by using one of the multiple linear hooks on the hook panel **607**. The hook panel **607** may be hidden from view. The height adjustment cables **606** may be looped cables secured to the hook panel **607** in order to adjust the height of the apparatus **101** on the barricading structure **1401**. The height adjustment cables **606** may go over the barricading structure **1401** and be secured to the hook panel **607**. The height adjustment cables **606** also work with different size barricading structures.

[0057] The hook and loop fasteners (not shown), for example, Velcro®, may be used to fasten the apparatus **101** to vertical or horizontal pickets of the barricading structure **1401**. The hook and loop fasteners are inserted into the hook and loop fastener holes **202** of the first section **601a** of the back support **102a**. Multiple leg supports **105** support weight of the foldable support platform **103** when the foldable support platform **103** is in a downward position. The hook and loop fasteners therefore allow that the foldable support platform **103** not to flap during windy weather conditions.

[0058] The apparatus 101 connects to the barricading structure 1401 at four connection points. Two height adjustment cables 606 go over the barricading structure 1401 and are secured to the hook panel 607 through loops on the height adjustment cables 606. Two hook and loop fasteners may also be fastened around the vertical or horizontal pickets on the barricading structure 1401 for securing the apparatus 101 and providing stability. Alternatively, the apparatus 101 may also exemplarily be secured to a wall by drilling holes in the wall and using screws to secure the apparatus 101.

[0059] The rear surface of the mountable backplash 102 comprises one or more openings, for example, the suction cup holes 201 for inserting the suction cups. When there is no clearance between the barricading structure 1401 and a rear smooth or rough surface behind the barricading structure 1401, the suction cups may be used to fasten the apparatus 101 to the smooth surface, for example, a glass surface or a coarse surface. The suction cups may be used to replace the hook and loop fasteners. The height adjustment cables 606 may be used if a clearance between the barricading structure 1401 and the rear smooth or coarse surface is provided. The adjustable hooking unit (not shown) may be attached to the hook panel 607 when the clearance between the barricading structure 1401 and rear smooth or coarse surface is provided. The adjustable hooking unit resembles a chain comprising multiple loops that attach to the hook panel 607.

[0060] The mountable backplash 102 is mounted onto the barricading structure 1401 using the adjustable hooking unit attached to the hook panel 607. The adjustable hooking unit may be used if the apparatus 101 cannot be attached to a top rail of the barricading structure 1401, for example, a railing structure topped with a glass enclosure such that no space for attaching the apparatus 101 is available. The adjustable hooking unit may be used with an adjustable screw for clamping to railings of different dimensions. Height adjustment cables 606 may also be used with railings of different dimensions. The height adjustment cables 606 may be fastened to an opening in the barricading structure 1401.

[0061] The height of the apparatus 101 is adjustable to one of the height adjustment levels by securing the loops in the adjustable hooking unit to one of the linear hooks on the hook panel 607. The adjustable hooking unit may, for example, be shaped like the letter "J" and may be attached using the adjustable vise screws when clearance between the barricading structure 1401 and the rear smooth or coarse surface is not provided. The adjustable vise screws may be clamped onto barricading structures of different widths. The adjustable hooking unit may be used in conjunction with the suction cups to provide the locking system in cases where the hook panel 607, height adjustment cables 606, and the hook and loop fasteners are not employed. The adjustable hooking unit may, for example, be made of a weatherproofed metal or stainless steel.

[0062] FIG. 11A and FIG. 11B exemplarily illustrate the leg supports 105 of the apparatus 101. The leg supports 105 are hinged to the mountable backplash 102 for supporting weight of the foldable support platform 103 when the foldable support platform 103 is in the horizontal position. A clearance is provided between the leg supports 105 and an underlying surface. The leg supports 105 may be aligned to a folded position or an unfolded position. The leg supports 105 are foldable and may be aligned to a folded position under the mountable backplash 102 to place the foldable support platform 103 in the downward position. The leg supports 105

have a starting position and a stopping position built below the foldable support platform 103 to help alignment of the leg supports 105 to the unfolded position and the folded position. The leg supports 105 beneath the mountable backplash 102 are aligned to the unfolded position from the folded position to support the foldable support platform 103. The leg supports 105 may be slid along the hinge pin 602. The connectors 104 comprise an opening for allowing the leg supports 105 to slide along the hinge pin 602.

[0063] The leg supports 105 follow a ramp to be impressed into underside of the support structure 103a of the foldable support platform 103. The ramp is followed until the leg supports 105 lock in place during the folding and unfolding operations. The leg supports 105 allow chairs to be placed under the foldable support platform 103. Enough leg space is provided since no adjustment around the leg supports 105 of the apparatus 101 is required. The apparatus 101 may be made of a weather resistant material and a heat resistant material, for example, plastic, stainless steel, etc. The apparatus 101 is designed such that adaptability to most of the barricading structures is achieved.

[0064] FIG. 14 exemplarily illustrates the apparatus 101 attached to the barricading structure 1401 for providing the activity surface. The apparatus 101 does not use screws or require holes to be drilled into the barricading structure 1401. The apparatus 101 provides options to be mounted anywhere on the barricading structure 1401. The apparatus 101 may also be directly attachable to a wall, for example, a wall of a small kitchen or study, by drilling methods. Movement of the leg supports 105 may be restricted to a predefined range of angles. The leg supports 105 may comprise stoppers built in at the extremities of the predefined range of angles to prevent movement beyond the predefined range. The apparatus 101 detachably attached in the downward position to the barricading structure 1401 is exemplarily illustrated in FIG. 15.

[0065] The leg supports 105 may be aligned to a folded position or an unfolded position. The leg supports 105 are foldable and may be aligned to a folded position under the mountable backplash 102 to place the foldable support platform 103 in the downward position. The leg supports 105 beneath the mountable backplash 102 are aligned to an unfolded position from the folded position to support the foldable support platform 103. The leg supports 105 follow a ramp to be impressed into the underside of the support structure 103a of the foldable support platform 103. The ramp is followed until the leg supports 105 lock in place during the folding and unfolding operations. The leg supports 105 do not make contact with the floor.

[0066] The leg supports 105 allow chairs to be placed under the foldable support platform 103. Enough leg space is provided since no adjustment around the leg supports 105 of the apparatus 101 is required. The apparatus 101 may be made of a weather resistant material and a heat resistant material, for example, plastic, stainless steel, etc. The apparatus 101 is designed such that adaptability to most of the barricading structures is achieved. FIG. 14 exemplarily illustrates the apparatus 101 attached to the barricading structure 1401 for providing the activity surface. The apparatus 101 does not use screws or require holes to be drilled into the barricading structure 1401. The apparatus 101 provides options to be mounted anywhere on the barricading structure 1401.

[0067] The apparatus 101 may further comprise one or more of coupling members 604 for connecting one or more apparatuses in tandem as a single unit. The coupling members

604 align the apparatuses at an equal relative height with respect to each other. One of the coupling members **604** for connecting two apparatuses together is exemplarily illustrated in FIG. 7E. Each of the connected apparatuses may be used independently. If only one apparatus **101** is used, then the end caps **605** are used at either ends of the mountable backslash **102**. If two apparatuses are connected together in tandem, then two end caps **605** are employed at open ends of the apparatuses and one of the coupling members **604** is used for connecting both the apparatuses. Multiple apparatuses may be connected to form an extensive activity surface using the coupling members **604**. Each of the connected apparatuses may facilitate the foldable support platform **103** of each of the apparatuses to be in horizontal position or in a downward position independently based on requirements. FIG. 7A exemplarily illustrates an isometric view of two apparatuses prior to connection. FIG. 7B exemplarily illustrates an isometric view of two apparatuses connected together. In FIG. 7B, one apparatus **101** is in the downward position and the other apparatus **101** is in the horizontal position. FIG. 7C exemplarily illustrates a top view of two apparatuses connected together. FIG. 7D exemplarily illustrates a side view of two apparatuses connected together.

[0068] FIG. 16 illustrates a method of providing an activity surface on a barricading structure. The method disclosed herein provides **1601** an apparatus attachable to the barricading structure comprising a mountable backslash, a foldable support platform, multiple connectors, and a locking system. The mountable backslash comprising a second inlay fitted into the back support is attached to the barricading structure and prevents objects placed on the foldable support platform from falling off the foldable support platform. The mountable backslash comprises multiple slots for accommodating the connectors of the foldable support platform. The accommodated connectors are hinged to the mountable backslash using a hinge pin to facilitate pivotal connection of the foldable support platform to the mountable backslash. Axial movement of the connectors about the hinge pin enables folding and unfolding of the foldable support platform. The foldable support platform comprises a first inlay fitted into a support structure for providing an activity surface to hold one or more of objects. The foldable support platform is attached to the mountable backslash via the connectors.

[0069] The locking system locks **1602** the apparatus on the barricading structure. The locking system may comprise one or more of hook and loop fasteners, a hook panel, suction cups, an adjustable hooking unit, and height adjustment cables. The height of the apparatus on the barricading structure may be adjusted using height adjustment cables. A hook panel attached inside a back support of the mountable backslash provides a multiple height adjustment levels for adjusting of the height of the apparatus on the barricading structure using the height adjustment cables. The apparatus may be suspended using the height adjustment cables. The suction cups and the adjustable hooking unit may be used to attach the apparatus when clearance between the barricading structure and a rear smooth or coarse surface is not provided.

[0070] The foldable support platform is positioned **1603** pivotally about the hinge pin in a horizontal position. The foldable support platform attached to the mountable backslash via the connectors may be positioned in a horizontal position or a downward position. The hinge pin inserted into the connectors enables a pivotal connection of the foldable support platform. The axial movement of the connectors

about the hinge pin aids the foldable support platform to be lifted from the downward position to the horizontal position when the activity surface is needed. FIG. 5A exemplarily illustrates a side view of the apparatus with the foldable support platform in the horizontal position. FIG. 5B exemplarily illustrates a side view of the apparatus with the foldable support platform in the downward position. The foldable support platform in the horizontal position may, for example, be used as a shelf or a storage space.

[0071] The leg supports are hinged to the mountable backslash for supporting weight of the foldable support platform when the foldable support platform is in the horizontal position. A clearance is provided between the leg supports and an underlying surface. The leg supports may be aligned to a folded position or an unfolded position. If the activity surface is not in use, the leg supports may be aligned to a folded position under the mountable backslash and the foldable support platform may be forced down to the downward position.

[0072] As an example, the apparatus **101** may be locked on a balcony railing, as exemplarily illustrated in FIG. 14. The foldable support platform **103** may be disposed horizontally for providing an activity surface. The foldable support platform **103** may be connected to the mountable backslash **102** via the hinge pin **602**. The foldable support platform **103** may be pivotally positioned about the hinge pin **602**. The apparatus **101** serving as a desk provides the activity surface. The apparatus **101** may also be used as a dining table, a bar, any storage space, etc.

[0073] The foregoing examples have been provided merely for the purpose of explanation and are in no way to be construed as limiting of the present invention disclosed herein. While the invention has been described with reference to various embodiments, it is understood that the words, which have been used herein, are words of description and illustration, rather than words of limitation. Further, although the invention has been described herein with reference to particular means, materials and embodiments, the invention is not intended to be limited to the particulars disclosed herein; rather, the invention extends to all functionally equivalent structures, methods and uses, such as are within the scope of the appended claims. Those skilled in the art, having the benefit of the teachings of this specification, may effect numerous modifications thereto and changes may be made without departing from the scope and spirit of the invention in its aspects.

I claim:

1. An apparatus detachably attachable to a barricading structure for providing an activity surface, comprising:

- a mountable backslash detachably attached to said barricading structure, wherein said mountable backslash comprises a plurality of slots;
- a foldable support platform attached to said mountable backslash via a plurality of connectors, wherein said foldable support platform comprises a first inlay fitted into a support structure for providing said activity surface to hold one or more of a plurality of objects; and
- said connectors accommodated in said slots of the mountable backslash for connecting the foldable support platform to the mountable backslash, wherein said accommodated connectors are hinged to the mountable backslash using a hinge pin to facilitate pivotal connection of the foldable support platform to the mountable backslash;

whereby the apparatus detachably attaches to the barricading structure to provide the activity surface.

2. The apparatus of claim 1, wherein the mountable back-splash comprises a second inlay fitted into a back support for preventing the objects from falling off the foldable support platform, wherein said second inlay is replaceable.

3. The apparatus of claim 1, wherein said first inlay is replaceable.

4. The apparatus of claim 1, further comprising a locking system for locking the mountable backplash to the barricading structure.

5. The apparatus of claim 4, wherein said locking system comprises one or more of a hook panel, a plurality of height adjustment cables, suction cups, an adaptable hooking unit, and a plurality of hook and loop fasteners.

6. The apparatus of claim 5, wherein said hook panel attached inside a back support of the mountable backplash secures said height adjustment cables in order to suspend the apparatus using the height adjustment cables, wherein the hook panel controls adjustment of height of the apparatus on the barricading structure to a plurality of height adjustment levels using the height adjustment cables.

7. The apparatus of claim 5, wherein said hook and loop fasteners fasten the apparatus to the barricading structure.

8. The apparatus of claim 5, wherein rear surface of the mountable backplash comprises one or more of a plurality of openings for inserting said suction cups, wherein the suction cups fasten the apparatus to one of a smooth surface and a coarse surface.

9. The apparatus of claim 5, wherein the mountable back-splash is mounted onto the barricading structure using said adjustable hooking unit attached to said hook panel.

10. The apparatus of claim 1, wherein the barricading structure is one or more of a railing, a fence, a vertical picket, a flat horizontal surface, a flat vertical surface, a wall, a floor, an elevated platform, a desk, and a door fabricated in a plurality of design configurations, wherein the barricading structure is made of one of a plurality of materials and is of different sizes.

11. The apparatus of claim 1, further comprising a plurality of leg supports hinged to the mountable backplash for supporting weight of the foldable support platform, wherein a clearance is provided between said leg supports and an underlying surface.

12. The apparatus of claim 1, wherein axial movement of the connectors about the hinge pin enables folding and unfolding of the foldable support platform.

13. The apparatus of claim 1, wherein the apparatus is made of one of a weather resistant material and a heat resistant material.

14. The apparatus of claim 1, wherein the mountable back-splash and the foldable support platform comprise a plurality of openings for draining accumulated water.

15. The apparatus of claim 1, further comprising one or more coupling members for connecting a plurality of apparatuses and aligning said apparatuses at an equal level with

respect to each other, wherein each of said connected apparatuses are used independently.

16. The apparatus of claim 1, wherein the mountable back-splash and the foldable support platform is rounded at edges for appearance and safety.

17. The apparatus of claim 1, further comprising a plurality of end caps for providing a protective covering for both ends of the mountable backplash.

18. A method of providing an activity surface on a barricading structure, comprising the steps of:

providing an apparatus comprising:

a mountable backplash detachably attached to said barricading structure, wherein said mountable back-splash comprises a plurality of slots;

a foldable support platform attached to said mountable backplash via a plurality of connectors, wherein said foldable support platform comprises a first inlay fitted into a support structure for providing said activity surface to hold one or more of a plurality of objects; said connectors accommodated in said slots of the mountable backplash for connecting the foldable support platform to the mountable backplash, wherein said accommodated connectors are hinged to the mountable backplash using a hinge pin to facilitate pivotal connection of the foldable support platform to the mountable backplash; and

a locking system;

locking the mountable backplash to the barricading structure using said locking system; and

positioning said foldable support platform pivotally about said hinge pin in a horizontal position;

whereby the activity surface is provided on the barricading structure.

19. The method of claim 18, wherein the apparatus further comprises a plurality of leg supports hinged to the mountable backplash for supporting weight of the foldable support platform, wherein a clearance is provided between said leg supports and an underlying surface.

20. The method of claim 18, wherein the mountable back-splash comprises a second inlay fitted into a back support for preventing one or more of a plurality of objects from falling off the foldable support platform.

21. The method of claim 18, wherein axial movement of the connectors about the hinge pin enables folding and unfolding of the foldable support platform.

22. The method of claim 18, further comprising the step of adjusting height of the apparatus on the barricading structure using height adjustment cables, wherein a hook panel attached inside a back support of the mountable backplash controls said adjustment of said height of the apparatus on the barricading structure using said height adjustment cables.

23. The method of claim 18, further comprising the step of connecting a plurality of apparatuses and aligning said apparatuses at an equal level with respect to each other, wherein each of said connected apparatuses are used independently.

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