



(19) **United States**
(12) **Patent Application Publication**
CORTES

(10) **Pub. No.: US 2010/0127024 A1**
(43) **Pub. Date: May 27, 2010**

(54) **CONVERTIBLE ACTIVITY BACKPACK**

Publication Classification

(76) Inventor: **MYRNA JANET CORTES,**
WESTON, FL (US)

(51) **Int. Cl.**
A45F 4/02 (2006.01)
A45F 3/02 (2006.01)
(52) **U.S. Cl.** **224/153; 224/600**

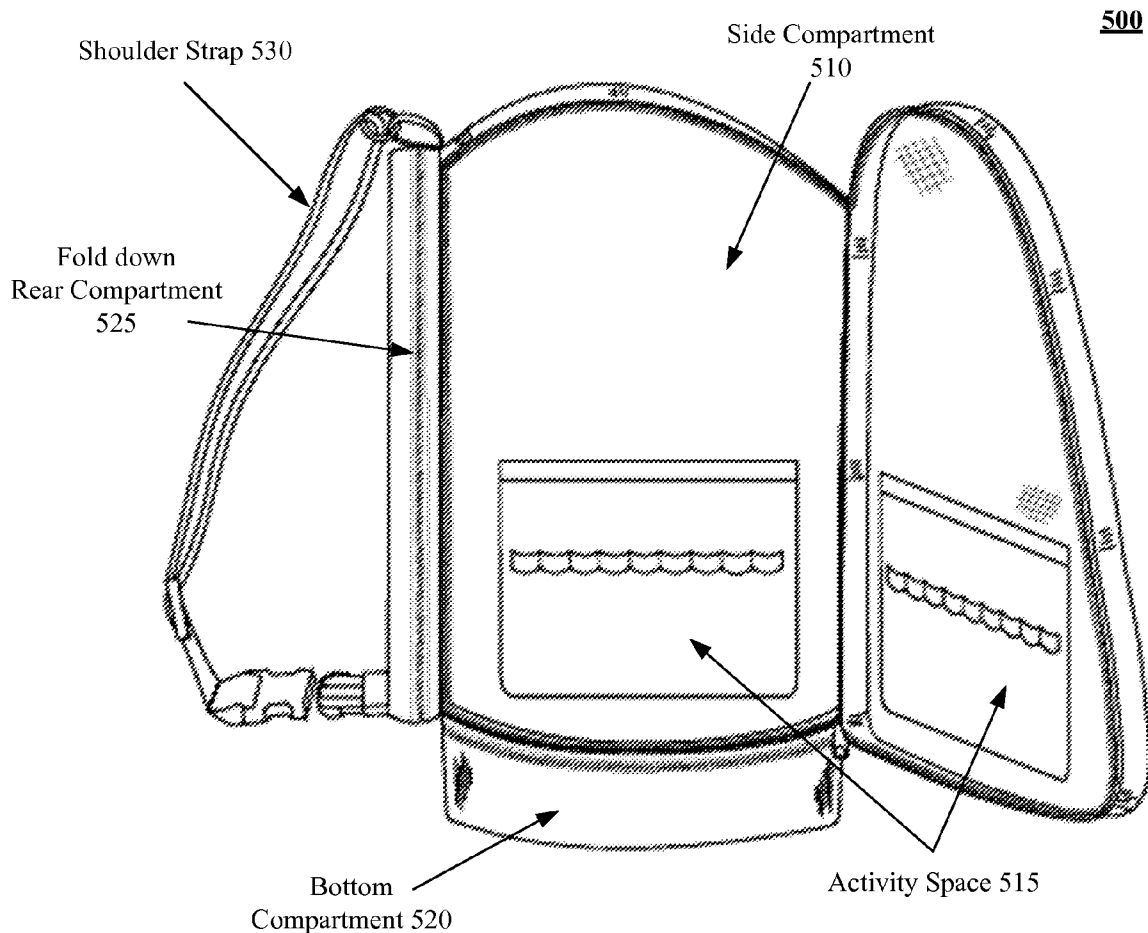
Correspondence Address:
PATENTS ON DEMAND, P.A.-General
4581 WESTON ROAD, SUITE 345
WESTON, FL 33331 (US)

(57) **ABSTRACT**

A convertible activity backpack can include a shoulder harness, at least one storage compartment for storing items, and an activity platform. The convertible activity backpack can be configured in an on-back state and in an activity state. When in the on-back state, the convertible activity backpack can be designed to be worn over at least one shoulder with the at least one storage compartment positioned on a back of a wearer and the activity platform is hidden. When configured in the activity state, the convertible activity backpack is designed to be supported and the activity platform exposed so that the activity platform is usable as a supporting surface that is approximately horizontal.

(21) Appl. No.: **12/324,446**

(22) Filed: **Nov. 26, 2008**



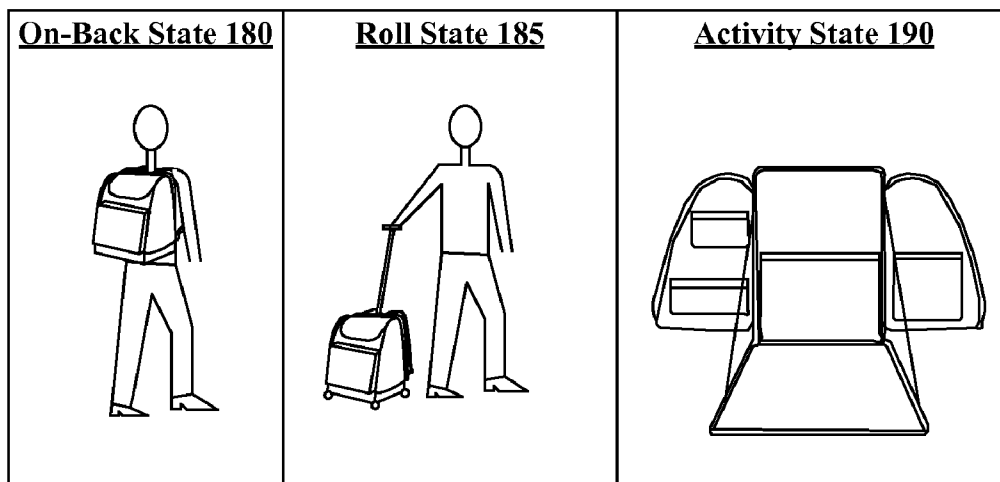
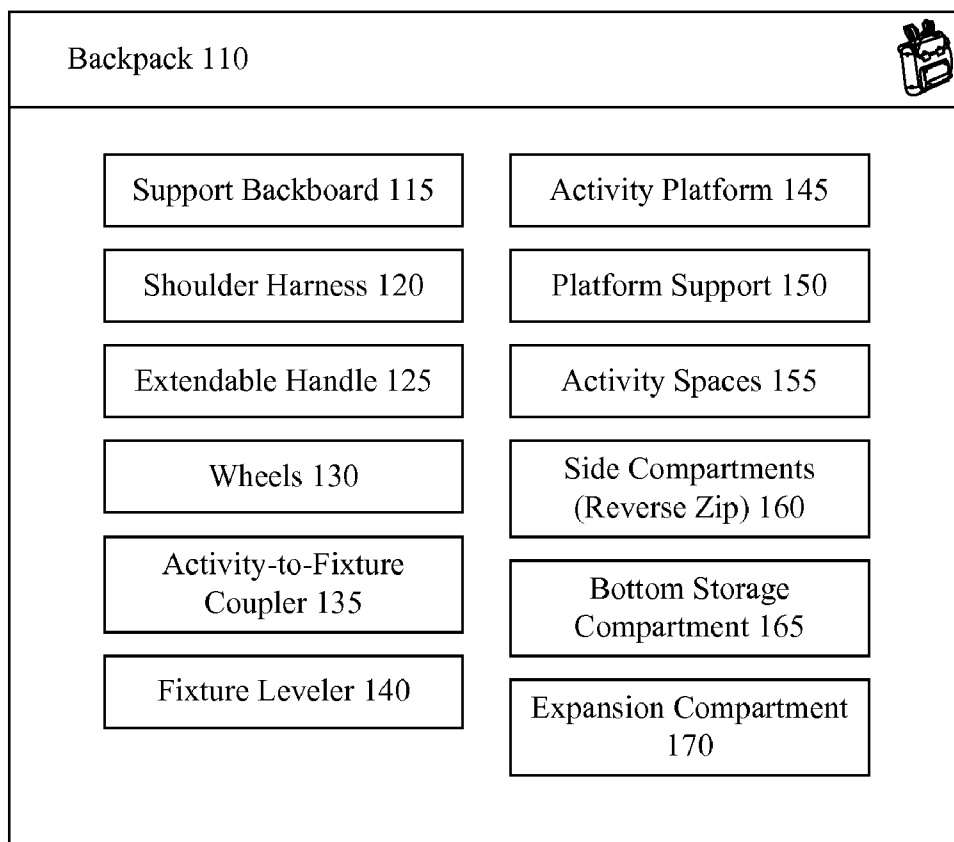


FIG. 1

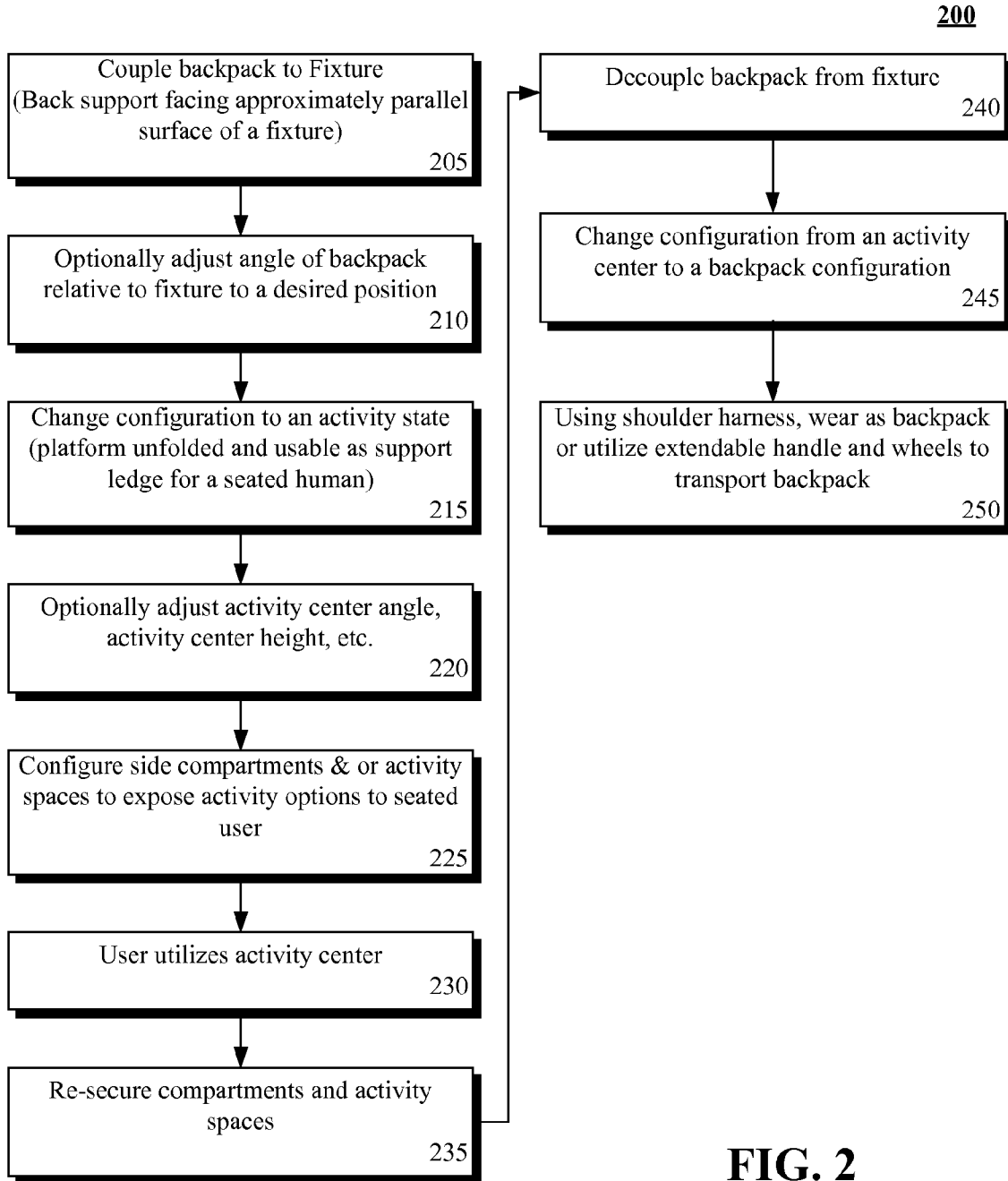


FIG. 2

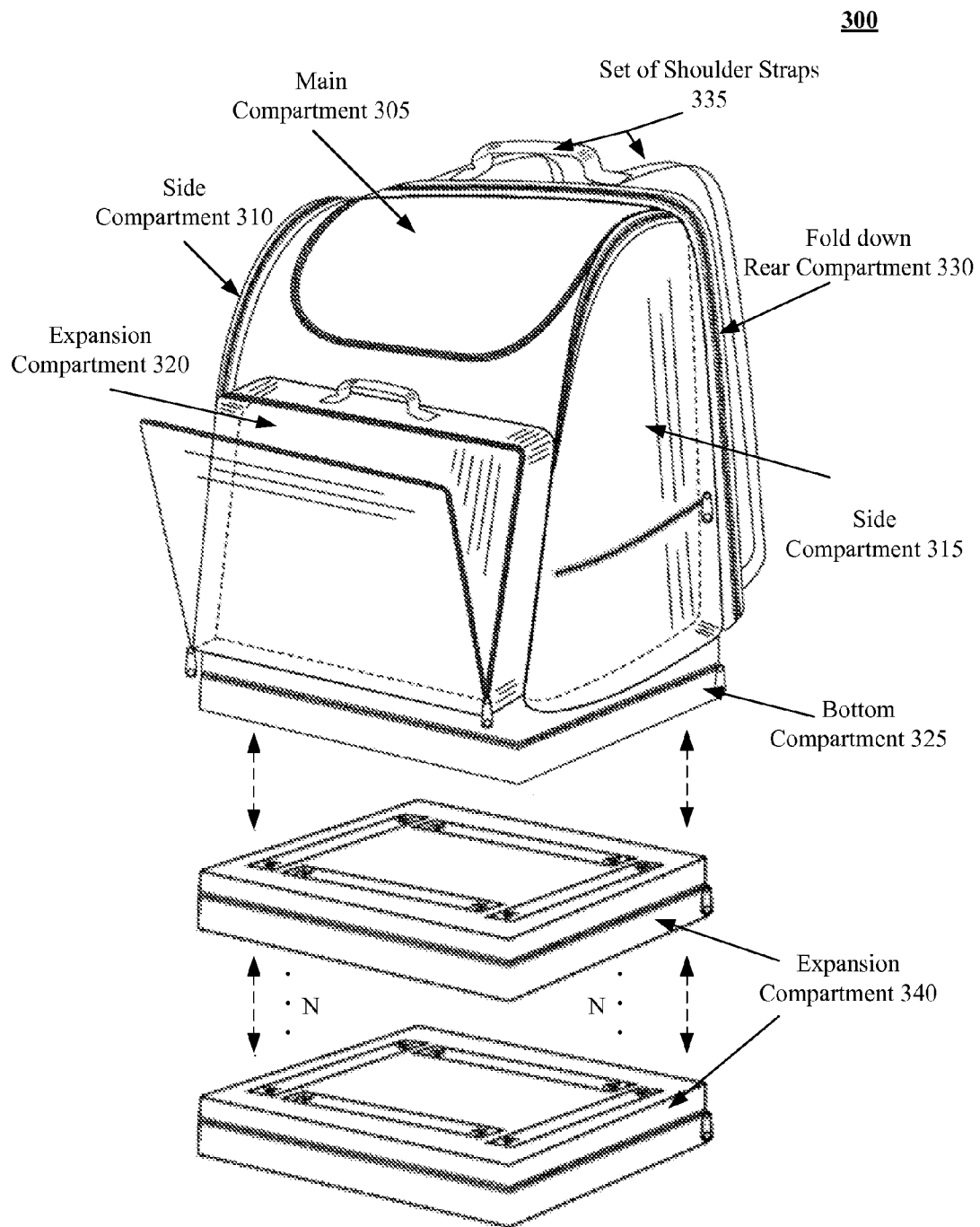


FIG. 3

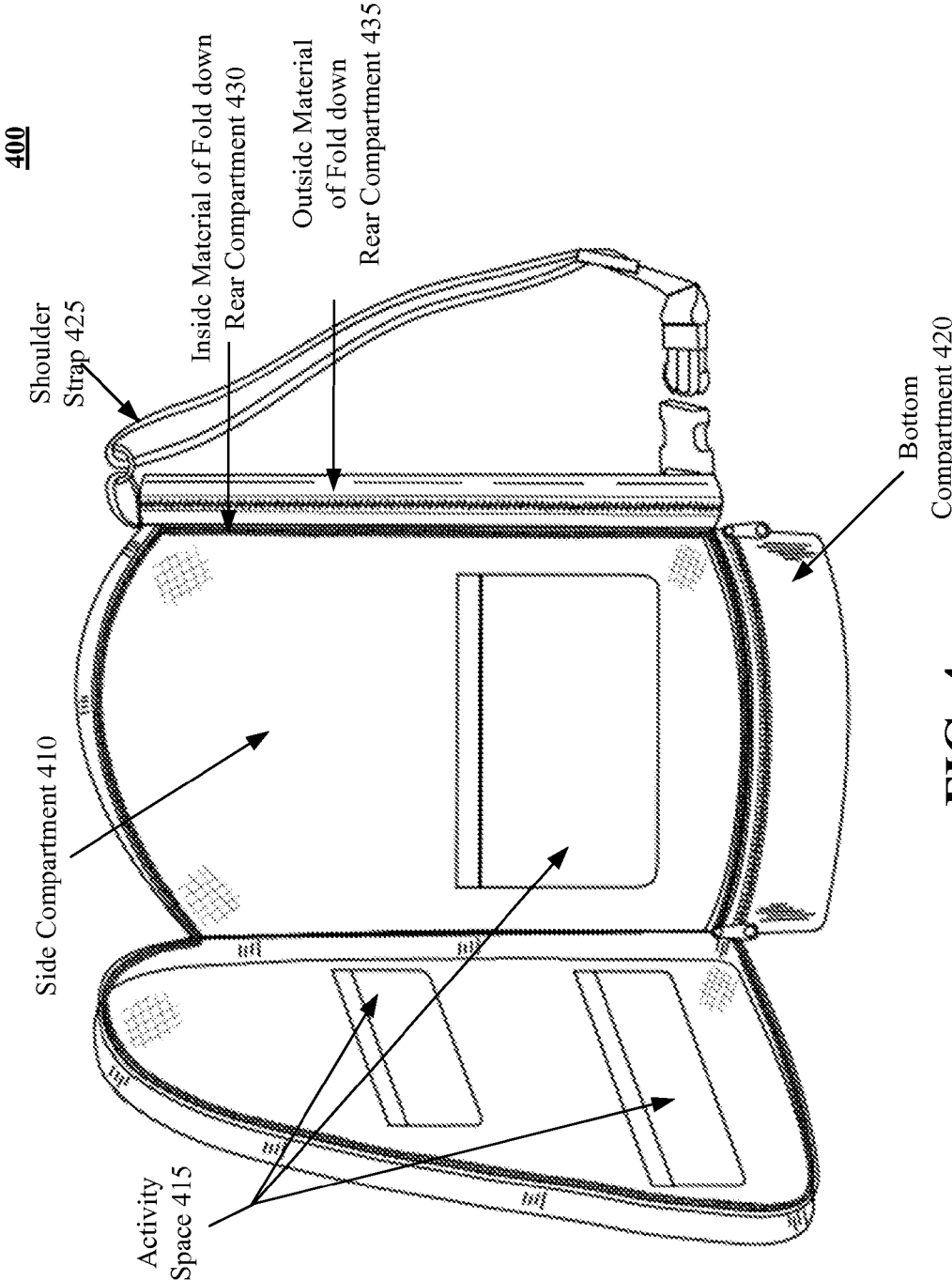


FIG. 4

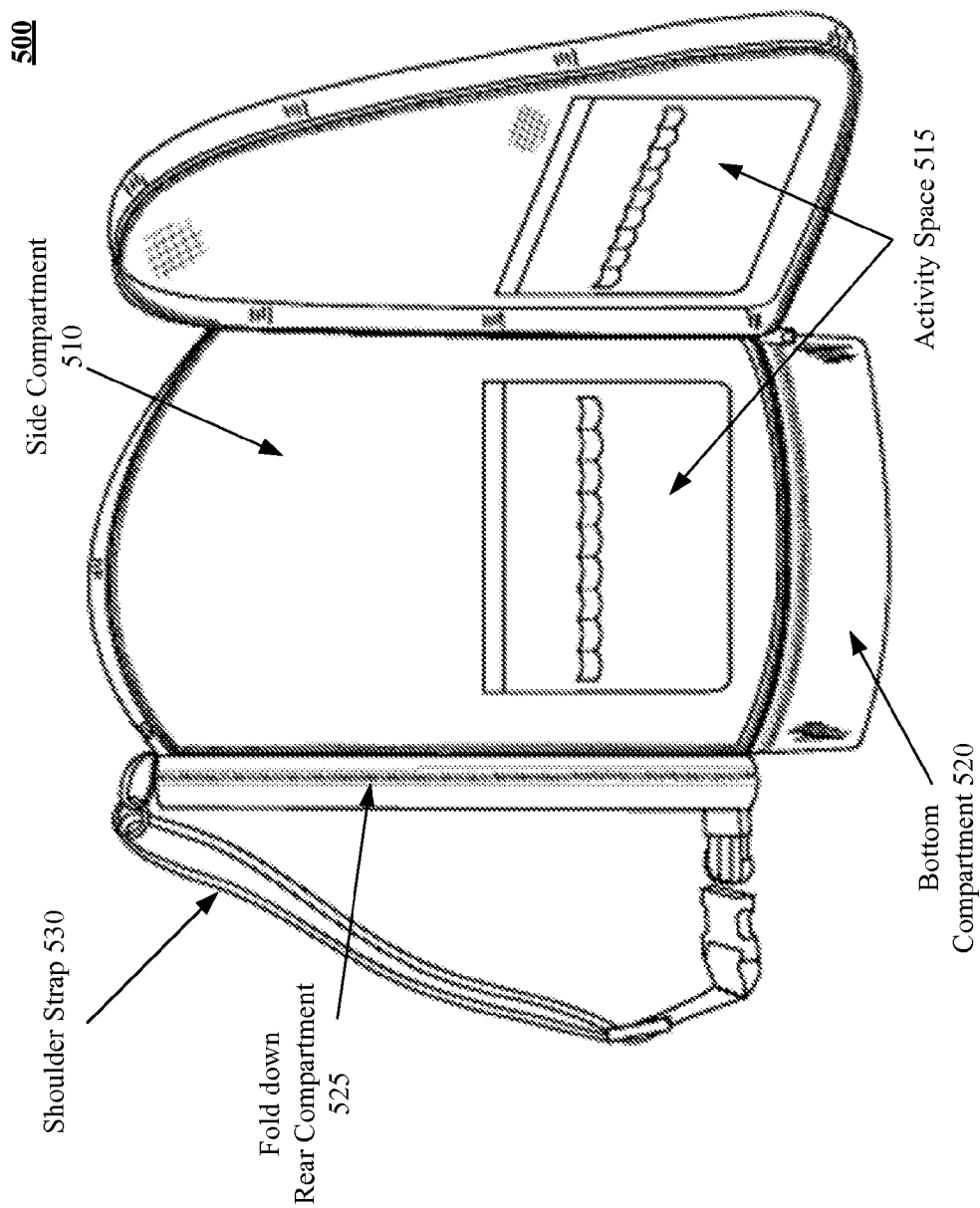


FIG. 5

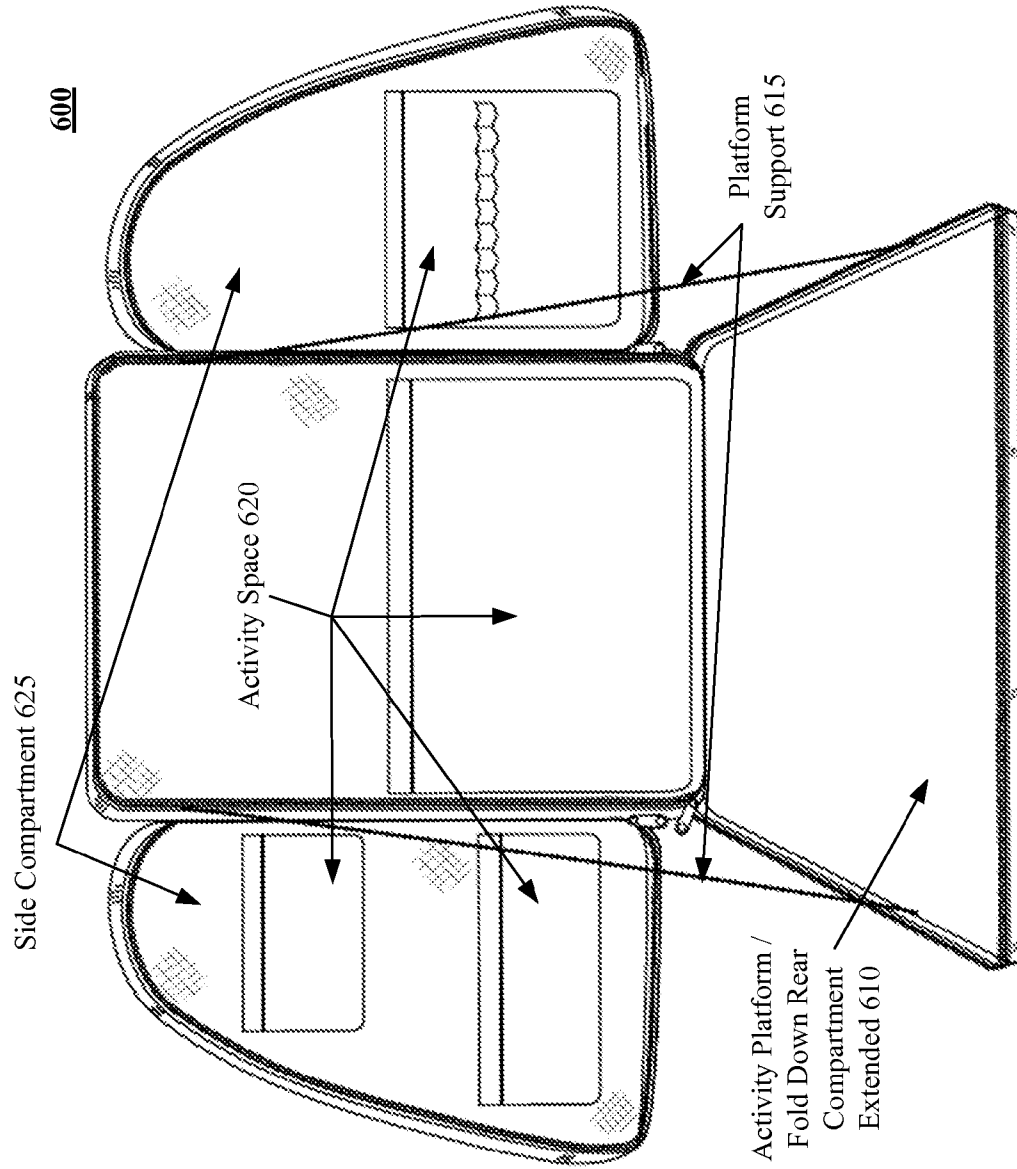


FIG. 6

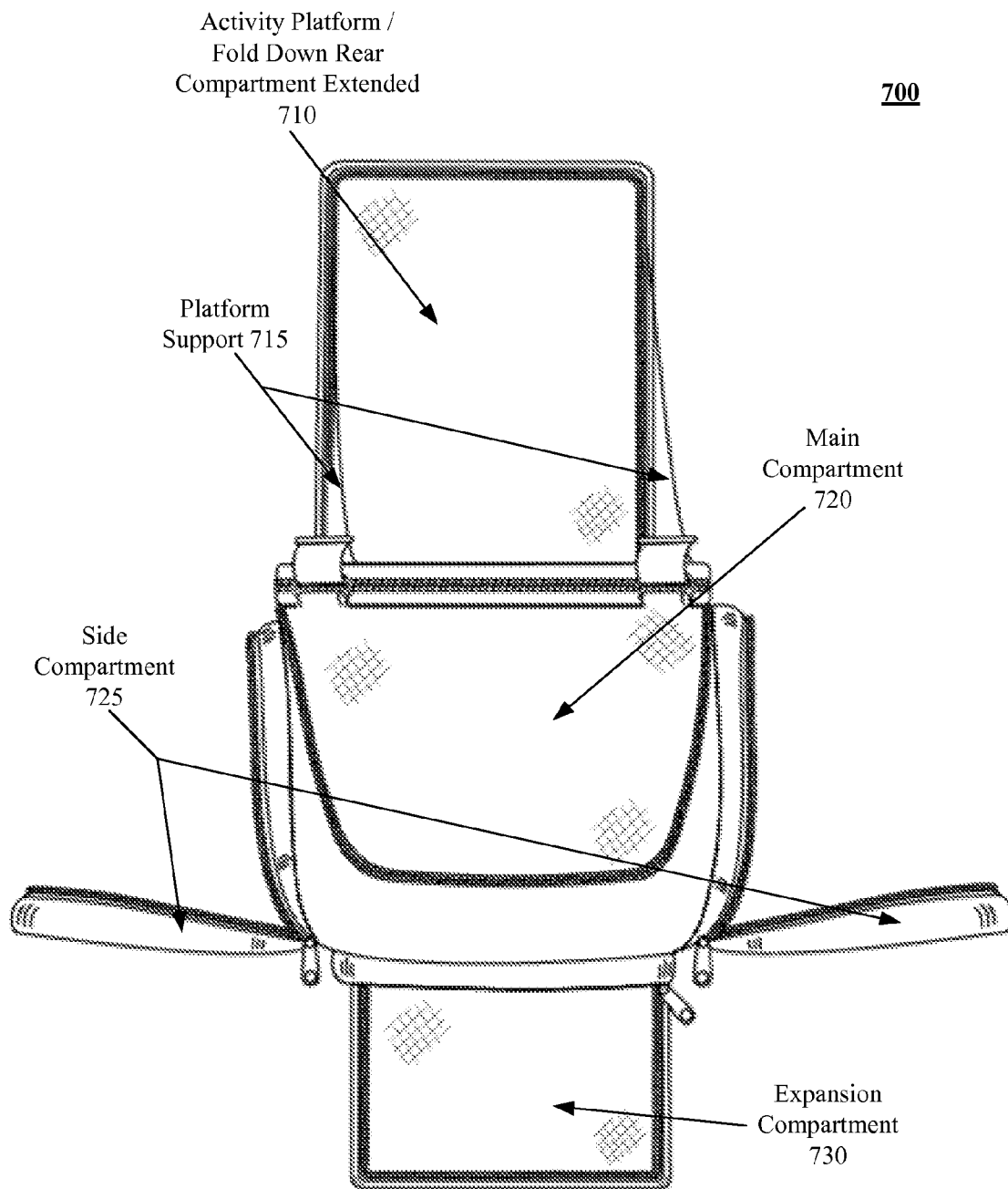


FIG. 7

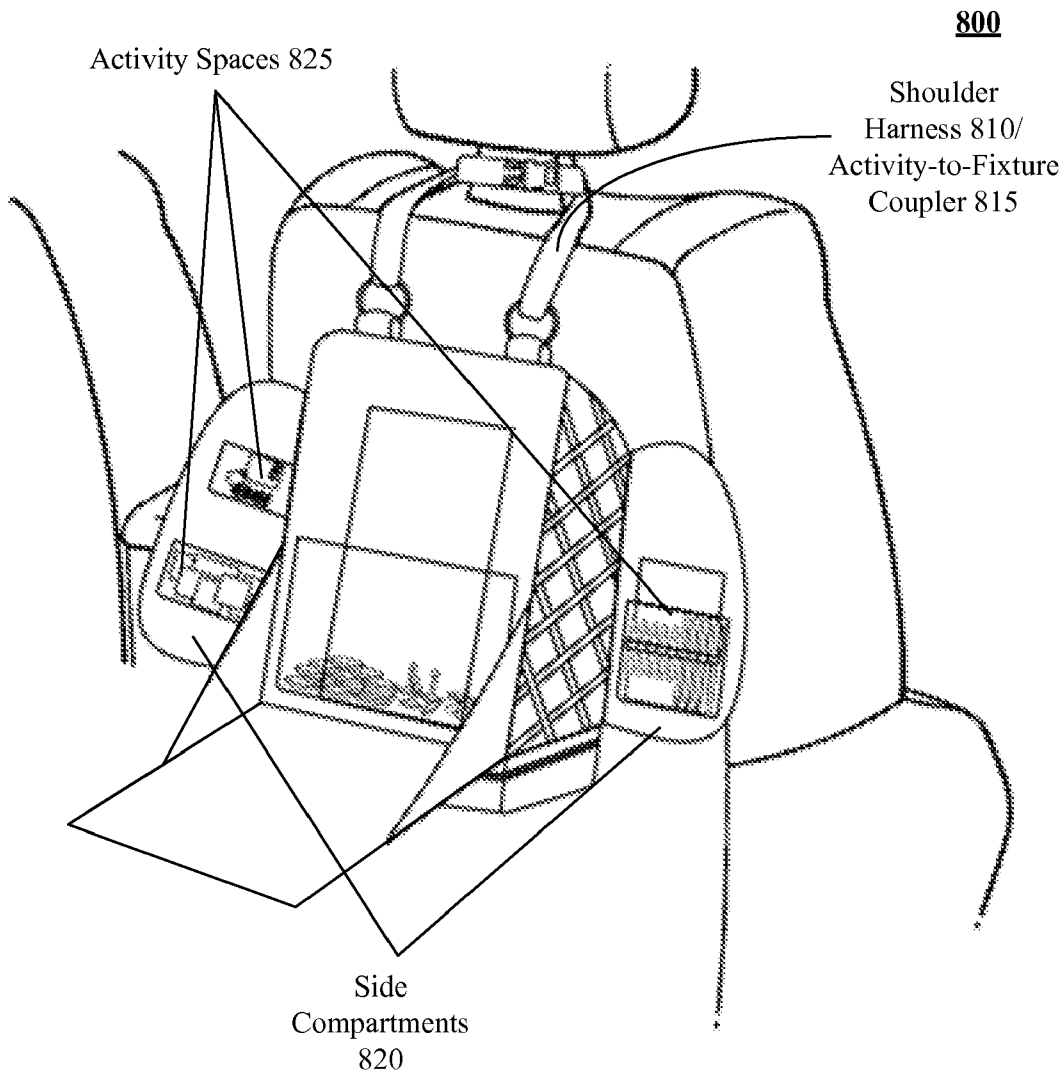


FIG. 8

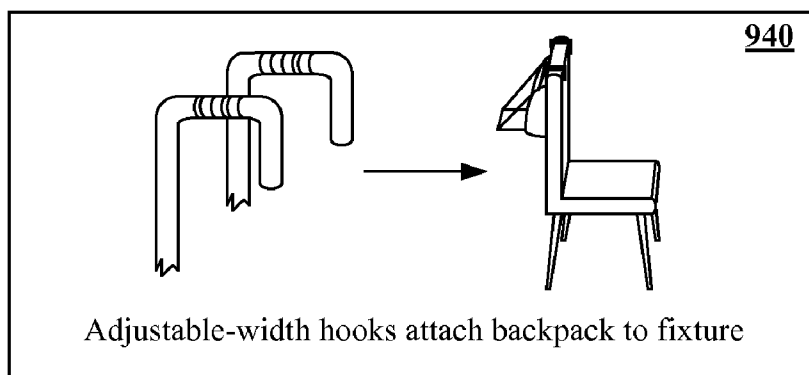
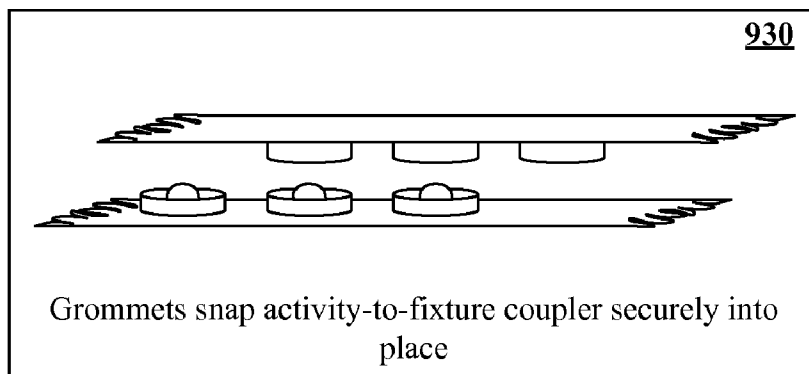
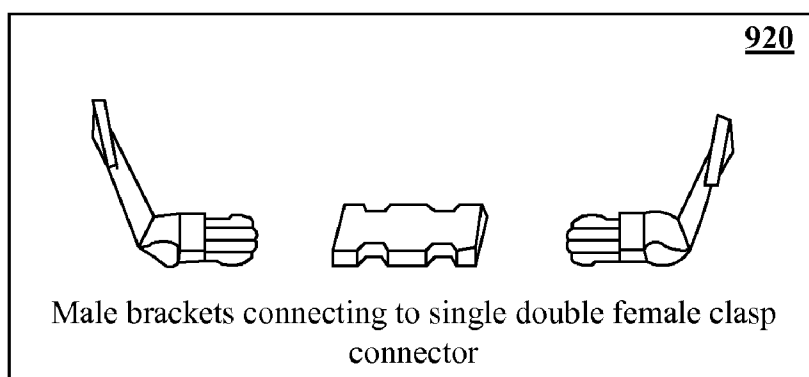
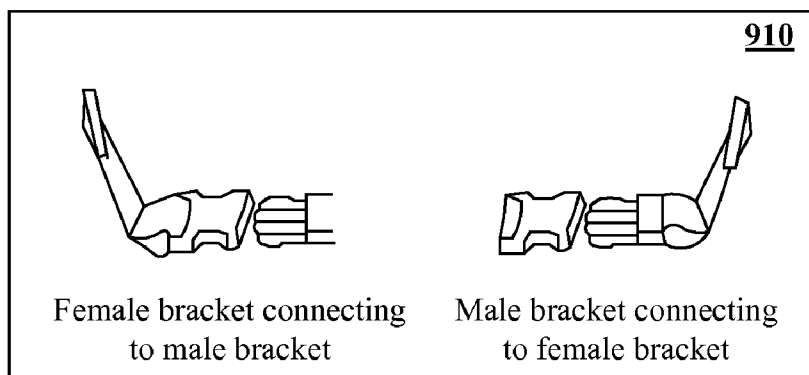


FIG. 9

CONVERTIBLE ACTIVITY BACKPACK

BACKGROUND OF THE INVENTION

[0001] The present invention relates to the field of backpacks and carry-bags, and, more particularly, to a convertible activity backpack.

[0002] Parents with young children often find themselves carrying a lot of items. These items allow children to engage in entertaining activities when they choose to do so, regardless of the environment and can include a number of school related necessities, such as pens, books, and folders, as well as exclusively activity geared items that can include coloring books, card games and board games. For younger children or toddlers, necessary items to be packed can include typical diaper bag items, change of clothes, formula, etc. Further, electronic gadgets such as MP3 players, portable DVD players, and portable electronic gaming systems/devices, are also often taken along when traveling. A caveat to the ease of transportation of these items is that these electronic devices introduce a need for proper storage to ensure that the device's screens do not incur damage during transportation.

[0003] Most conventional backpacks have few compartments that are rigid or even strategically accessible. This can lead to an individual losing oversight of the items being carried and leads to a lot of "rummaging around" when looking for something specific. As such, carrying a large variety of items and keeping them organized often proves to be a challenging task; especially challenging for parents attempting to juggle the transport and care of multiple children and their respective activities.

[0004] Another problem arises when an individual wishes to utilize any of the items carried along for entertainment in a less than optimal environment. These environments are typically the backseat of a car, a seat on a train or an airplane and any other area that does not allow easy access to a flat surface to be used as an activity platform. Items are commonly lost and/or damaged due somewhat to ad hoc or haphazard item organization.

SUMMARY

[0005] One aspect of the disclosure includes a convertible activity backpack having a shoulder harness, at least one storage compartment for storing items, and an activity platform. The convertible activity backpack can be configured in an on-back state and in an activity state. When in the on-back state, the convertible activity backpack can be designed to be worn over at least one shoulder with the at least one storage compartment positioned on a back of a wearer and the activity platform is hidden. When configured in the activity state, the convertible activity backpack is designed to be supported and the activity platform exposed so that the activity platform is usable as a supporting surface that is approximately horizontal.

[0006] Another aspect of the disclosure includes a backpack having a shoulder harness, a central storage compartment, and an activity platform compartment. The shoulder harness can be configured to secure the backpack over shoulders of a wearer. The central storage compartment can store items. The activity platform compartment can store an activity platform having an open and closed position. The activity platform can be contained in the activity platform compartment when in the closed position. The activity platform can be approximately horizontal when in the open position. When in

the open position the activity platform is able to function as a horizontal support surface for objects.

[0007] Still another aspect of the disclosure is a method for adjusting a configurable activity backpack. In the method, backpack having a hidden activity platform can be identified. The backpack can be coupled to a seatback of a vehicle. The previously hidden activity platform can be exposed. After the coupling and when the activity platform is exposed, an approximately horizontal surface for a seated human can be formed.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0008] FIG. 1 is a schematic diagram of a convertible activity backpack in accordance with an embodiment of the inventive arrangements disclosed herein.

[0009] FIG. 2 shows a flow chart of a method for adjusting the convertible backpack from one state to another in accordance with an embodiment of the inventive arrangements disclosed herein.

[0010] FIG. 3 shows a front view of an embodiment of a convertible activity backpack in accordance with the inventive arrangements disclosure herein.

[0011] FIG. 4 shows a side view of an embodiment of a convertible activity backpack in accordance with the inventive arrangements disclosure herein.

[0012] FIG. 5 shows another side view of an embodiment of a convertible backpack in accordance with the inventive arrangements disclosure herein.

[0013] FIG. 6 shows a rear view of an embodiment of a convertible activity backpack in accordance with the inventive arrangements disclosure herein.

[0014] FIG. 7 shows a top view of one embodiment of the convertible activity backpack in accordance with the inventive arrangements disclosure herein.

[0015] FIG. 8 shows a supported view of the convertible activity backpack being attached to a seat back in accordance with the inventive arrangements disclosure herein.

[0016] FIG. 9 shows a set of possible embodiments for an activity-to-fixture coupler element in accordance with the inventive arrangement disclosed herein.

DETAILED DESCRIPTION OF THE INVENTION

[0017] The disclosure describes a backpack which can be configured as an activity station with minimal conversion time. For example, a backpack, which a child or adult can carry, can be attached to support structure, such as a back of a seat. When so positioned, an activity platform can fold down from the backpack, which can be used as a desktop for one or more engaging activities. Other compartments of the backpack can be accessed, which provide activity spaces for storing items to be used with the activity platform. For instance, activity spaces can include art supplies, which a user can utilize for art projects positioned on the platform. Portability, ease of use, ease of organization, and a minimization of transported artifacts are just a few of the advantages achieved by the configurable activity station/backpack.

[0018] One contemplated use case is for parents of young children to utilize the activity backpack to minimize hassles involved in child transport and care. This can be especially useful for caregivers of multiple children, each having different entertainment and other needs. Child-specific items can

be placed in a backpack, which a child can carry, and can quickly be configured for a child's use as an activity station during transport.

[0019] Another contemplated use is for students or business people, who can utilize the activity station as a portable desk space attachable at will to a support structure. For example, the activity station can form a keyboard platform for touch typing on a screen visible when the backpack is in an activity state. In one embodiment, a portable support structure, such as legs extending from the bottom of the backpack can permit the backpack to be self-supporting when in an activity state. Thus, so long as a chair is available, a user can utilize the backpack as a portable workspace/activity center. The above configurations are just two of many contemplated ones for the convertible activity backpack and a scope of the disclosure is not to be construed as limited in this regard.

[0020] As will be appreciated by one skilled in the art, the present invention may be embodied as a device, a device add-on, or a set of distinct, yet attachable components that together perform the functions described for a convertible activity backpack. Thus, a bifurcation of the activity backpack into two linkable components, one providing basic backpack functions the other providing activity station functions which are separately marketed and sold, are to each individually and collectively to be considered within scope of the present disclosure. Further, enhancements to a base unit, such as a self-supporting stand for a convertible activity backpack or a roll attachment for a convertible activity backpack are to be considered within scope of the disclosure although each is individually distinct from the base unit.

[0021] The disclosure is described below with reference to flowchart illustrations and/or block diagrams of methods, apparatus (systems) and the like according to embodiments of the invention. It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams are for illustrative purposes only. Functions noted in the block may occur out of the order noted in the figures. For example, two blocks shown in succession may, in fact, be executed substantially concurrently, or the blocks may sometimes be executed in the reverse order, depending upon the functionality involved. Further, additional steps and/or components can be added to those shown or one or more components or steps expressed herein may be omitted, yet still be considered within scope of the disclosed and claimed convertible activity backpack described herein.

[0022] FIG. 1 is a schematic diagram of a convertible activity backpack 110 in accordance with an embodiment of the inventive arrangements disclosed herein. The backpack 110 (also referred to as a rucksack, knapsack, packsack, pack, or Bergen) can be a portable container designed to be carried by a single, mobile individual. The backpack 110 can be created using any of a variety of materials, including fabric weaves, leather, synthetic cloth, molded plastic, etc. The backpack 110 design can be frameless, can include an internal frame (e.g., support backboard 115), or can be designed for an external frame.

[0023] In one configuration, the backpack 110 can be worn on one's back, which is shown by on-back state 180. Different configurations are contemplated for state 180. For example, the backpack 110 can be carried on one's back and secured with two straps (e.g., shoulder harness 120) that go over the shoulders or can be designed to be worn using one shoulder strap. Optionally, backpack 110 can be carried in a hand using

a hand-carrying strap. The backpack 110 in state 180 can be used advantageously to carry relatively heavy loads (compared to handbags) for long periods of time without encumbering a user's hands.

[0024] In one configuration, the backpack 110 can include optional padded hip belts, which can be advantageous for heavy loads, as the hips are stronger than shoulders. An optional use of hip belts can increase agility and balance, since a load rides nearer a user's own center of mass. When hip belts are included, shoulder straps can be used mainly for stabilizing a load, as opposed to supporting a substantial portion of the load.

[0025] In another configuration, the backpack 110 can be placed in an activity state 190. In the activity state 190, an activity platform 145 can be exposed, which a user can utilize as a support. In the activity state 190, the backpack 110 can be coupled to a support structure, such as a chair back. In one embodiment, the backpack 110 can include a self-support structure, designed to support the weight of the backpack 110 at a configurable height (i.e., a sitting height, for example, for a seated user). In such an embodiment, extensible and lockable legs can be included in the body of the backpack 110. In another embodiment, the backpack 110 can be designed to be stable when placed on a horizontal surface, such as a table, when in state 190. Zero or more compartments can unfold in a user facing and accessible fashion, when the backpack 110 is in activity state 190. For example, side compartments 160 can optionally reverse zip, so that they can expose activity spaces 155, which a user can easily access from state 190.

[0026] Other optional configuration states can exist for the backpack 110, such as roll state 185, which shows an extensible handle and wheels being included within/attached to backpack 110, which enable the backpack 110 to be pulled (as opposed to being worn over a shoulder—shown as state 180) should a user so desire.

[0027] Additionally, backpack 110 can include numerous detachable compartments 170, which can be used to situationally increase storage capacity. For example, a lunchbox attachment, a bottom compartment attachment 165, and additional expansion compartments 170 can be included for backpack 110. Use of detachable compartments can increase a versatility of the backpack 110. For example, a mother can pack a lunchbox, place the lunchbox in a refrigerator, and optionally attach this lunchbox to the backpack 110 when needed. Similarly, another expansion compartment 170 can include diapers, formula, and/or a change of clothes for an infant or toddler. Thus, a caregiver of young children can keep one or more child-specific expansion packs ready and accessible for quick use. These expansion packs can be attached to an adult's and/or an older child's backpack 110, which can expedite voyages involving young children. Similarly, a student can use different detachable compartments 170 to hold paraphernalia specific to different classes, which can be attached/detached as needed.

[0028] Backpack 110 options and compartments can include support backboard 115, shoulder harness 120, extensible handle 125, wheels 130, activity-to-fixture coupler 135, fixture leveler 140, activity platform 145, platform support 150, activity spaces 155, side compartments 160, bottom storage compartments 165, one or more expansion compartments 170, and/or other such components.

[0029] Support backboard 115's function can be to evenly distribute backpack 110's weight across the user's back when worn in the on-back state 180. That is, the backboard 115 can

be an internal frame. In one embodiment, support elements can double in function to add rigidity and support strength to the activity platform 145, when in an activity state 190 as well as a protective compartment to protect sensitive equipment, such as electronic games, LCD screens, and the like, which can be exposed when in activity state 190. Support backboard 115 can be implemented in a number of ways including but not limited to taking the form of a single sheet of rigid material spanning the entirety of the back surface of backpack 110, or several beams of rigid material strategically placed to distribute backpack 110's weight. In one embodiment, the aforementioned support beams can also retract and fold for easier and more compact storage of a backpack 110 if desired. In another embodiment, the support beams can be detachable from the backpack 110 and/or can be external to the backpack 110. The rigid material of support backboard 115 can be covered with additional fabric or padding for maximized comfort of the user in the on-back state 180. Cover fabric options can include but are not limited to, for instance, mesh fabrics, gel filled fabrics and foam filled fabrics that can conform to a user's back.

[0030] Shoulder harness 120 can be strategically attached to backpack 110 to allow the user to securely wear backpack 110 in on-shoulder state 180. A shoulder harness 120 can be constructed of durable fabric and can incorporate, but is not limited to, shape-conforming padded materials to further distribute the weight of a backpack 110 across a user's shoulders in an on-back state 180. In one embodiment a shoulder harness 120 can feature clasps that allow the harness to unhinge from its bottom fixture on a backpack 110 and be utilized as an activity-to-fixture coupler 135. In such an embodiment, the shoulder harness 120, can be referred to as including detachable shoulder straps, able to be positioned over a vehicle seat and under a headrest to permit the backpack 110 to be affixed to a back of a vehicle seat.

[0031] Extendable handle 125 and wheels 130 can be optional components used to achieve roll state 185. In one embodiment, extendable handle 125 can retract into a specialized compartment behind support backboard 115 when not in use, and be securely locked into place with a mechanism that includes but is not limited to a mechanical spring locking. By the same process, extendable handle 125 can be adjusted to custom selected height levels. In another embodiment, extendable handle 125 can be detached from backpack 110 and stored in a separate location if desired.

[0032] The wheels 130 can be positioned at various locations of backpack 110 to facilitate use of the carry bag in roll state 185. That is, wheels 130 can be attached to positions that include but are not limited to all 4 corner points of backpack 110's bottom base as indicated in roll state 185 or solely two corners at same side of the backpack as extendable handle to allow for proper rolling of the bag. In one embodiment, wheels 130 can retract into designated special compartments on backpack 110. In another embodiment, wheels 130 can be detached and stored in a separate location when not in use.

[0033] The activity-to-fixture coupler 135 can be a mechanism that permits the backpack 110 to couple to a support object when in activity state 190. The support object can include a chair back, a table, a wall, and the like. Coupler 135 can utilize any of a variety of fastening mechanism including, but not limited to, button snaps, magnetic couplers, hook-and-loop (e.g., VELCRO) fasteners, zip fasteners, slide based coupling mechanism, gravity supported hooks, and the like. Further, as previously mentioned, in one embodiment, one or

more straps (used as shoulder straps in the on-back state 180) can be used as a coupler 135 (when in an activity state 190).

[0034] Fixture leveler 140 can be a component that adjusts a position and/or angle of the backpack 110 relative to a user, when the backpack 110 is in the activity state 190. The angle adjustments of leveler 140 can, for example, ensure that when backpack 110 is used in activity state 190, backpack 110 remains approximately (e.g., ± 15 degrees) perpendicular to the plane of gravity. In one embodiment, the leveler 140 can adjust a vertical position of the backpack 190 relative to a user.

[0035] One embodiment of fixture leveler 140 can be automatically or manually retracting and extending pegs that hold backpack 110 in a level position when the fixture that backpack 110 is coupled to is not perpendicular to the center of gravity. That is to say, when for example, backpack 110 is attached to a reclined car seat, fixture leveler 140 adjusts to negate for the fact that the fixture is at an angle so that backpack 110's activity platform remains orthogonal to the user's body when in use. Mechanically, this can be performed by having screw-able extensions on a bottom most portion of the backpack, which can horizontally offset the backpack from a support. Thus, when attached to a seatback, leveler 140 can be extended when that seat is reclined and retracted when the seat supporting the backpack 110 (in state 190) is upright.

[0036] Activity platform 145 can be a rigid or semi-rigid component of backpack 110 that folds out when in state 190. Additional support for platform 145 can be provided by support 150, if desired for a specific implementation. Platform 145 can be approximately parallel to a user's back, when backpack 110 is in the on-back state 180. A fastener (zipper, button, hook-and-loop fastener, etc) can be used to ensure the platform 145 is safely retracted or hidden when in state 180.

[0037] Activity spaces 155 can be storage compartments located inside a backpack 110 or one of backpack 110's compartments to facilitate storage and easy access of various items. Activity spaces 155 can be in the form of storage spaces including but not limited to stretch compartments, elastic loops for pens and the like, clear pockets for easy visibility of stored items such as identification cards, In-case-of-emergency cards and keys. Activity spaces can be optionally exposed when in state 190.

[0038] Reverse zip side compartments 160 are large compartments that can run the entire side of a backpack 110 and can include zero or more activity spaces 155. In one embodiment, a unique reverse zip nature of side compartments 160 allow them to be easily accessible and used even when a backpack 110 is in an activity state 190. Snaps, hook-and-loop fasteners, and the like can be utilized in place of a zipper to similar effect. Additionally, in one embodiment, additional top and/or bottom compartments can expose activity-specific objects for use, when backpack 110 is in state 190.

[0039] Bottom Storage compartment 165 can be a relatively large compartment of a backpack 110 that further facilitates easy organization of multiple items. Bottom Storage compartment 165 can, in one embodiment, be folded up and zipped away when not in use as an expandable compartment. In another embodiment, bottom storage compartment 165 can be a structured, very rigid compartment that is well suited for the storage of electrical devices such as MP3 players or portable electronic games.

[0040] Each expansion compartment 170 can be selectively attached to a backpack 110 via mechanisms including but not limited to clips, snaps, zippers and the like. In one embodi-

ment, expansion compartment 170 can be insulated and water tight to allow a user to keep items cool such as various food items and medications by adding ice packs to the inside of an expansion compartment 170 or taking the expansion compartment 170 directly from the refrigerator.

[0041] FIG. 2 shows a flow chart of a method 200 for adjusting the convertible backpack from one state to another in accordance with an embodiment of the inventive arrangements disclosure herein. Method 200 can be performed using backpack 110 of FIG. 1.

[0042] The method can begin in an on-back configuration, where the backpack is being adjusted to an activity station state. In step 205, a user can couple the backpack to fixture in one embodiment. When coupled to the support (e.g., a seat back), the back support of a backpack can be approximately parallel to a surface of support, assuming the support possesses an approximately vertical surface (e.g., a wall, a seat back in an upright position, etc). In another embodiment (not shown in method 200), the user can place the backpack in a self-supporting configuration.

[0043] In step 210, an angle of the backpack relative to the supporting fixture can be optionally adjusted to a desired position. This adjustment can utilize any type of fixture lever (e.g., item 140 of FIG. 1). For example, if a supporting fixture is a reclined seat having a thirty degree angle, the fixture lever can offset the backpack by approximately thirty degrees. A desired adjustment can depend upon activity station use, and sometimes a user may prefer that an activity platform be at an angle relative to a horizontal plane. In step 215, a user can unfold an activity platform of the backpack. This unfolding can require the platform be unzipped, unsnapped, or otherwise released. In optional step 220, additional adjustments can be made to the supported backpack. For example, in one implementation, the user can make vertical adjustments to adjust the activity platform to a desired height, such as a comfortable height for a seated human.

[0044] In step 225, side compartments and/or activity spaces can be exposed for use. For example, sides of the backpack can include reverse zippered compartments being hinged against the supporting fixture so they open outwardly. When open, various activity spaces, pens, speakers, games, etc. can be within reach of a user. The activity center can be utilized in accordance with user desires, as shown by step 230.

[0045] Once this usage is complete, compartments, activity spaces, the activity platform, and the like can be re-secured. In step 240, the backpack can be decoupled from the fixture. In step 245, the detached backpack can be used in a different manner, such as being used as in an on-back configuration or a roll configuration as a portable storage container. For example, a user can utilize a shoulder harness to use wear the backpack over his/her shoulder, as shown by step 250. In another example, also shown by step 250, an optional handle and wheels can be extracted from the convertible backpack, which can thereafter be rolled.

[0046] One specific embodiment of a convertible activity backpack is expressed in FIGS. 3-8. It should be appreciated that options shown can vary from implementation-to-implementation and that the scope of the contemplated backpack is not to be construed as limited to specifics of FIGS. 3-8.

[0047] FIG. 3 shows a front view of an embodiment of a convertible activity backpack. As shown, the backpack can include a large main compartment 305 and side compartments 310 and 315. Each side compartment 310, 315, can be

relatively large, reverse zip compartments that take up the entirety of both the right and left side of the backpack. A rear compartment 330 can fold downward to expose an otherwise hidden activity platform. When the activity platform is shown, the side compartments 310, 315 can unzip so that contents stored in them are easily accessible by a user facing the folded activity platform. The backpack can include a set of shoulder straps 335, which can be used when the backpack is positioned over a user's shoulders. In one embodiment, the straps 335 can also be used to secure the backpack to a supporting fixture (e.g., a seatback) when the backpack is used as an activity center.

[0048] The backpack can include zero or more expansion compartments 320, 340, each detachable from the main backpack. In one embodiment, expansion compartment 320 can be specially designed to function as a lunchbox. Bottom compartment 325 and expansion compartment 340 can be compartments that span the entire bottom of the backpack. One contemplated use of an expansion compartment 340 is to contain one or more spare sets of clothes, diapers, etc.

[0049] FIG. 4 shows a side view of an embodiment of a convertible activity backpack. A side compartment 410 can be unzipped on the backpack 400, which reveals activity spaces 415. Each activity space 415 can be a sub compartment for holding items. Bottom compartment 420 and shoulder strap 425 are also shown. It should be noted that the interior material 430 and exterior material 435 of the backpack need not be the same. For example, inside material 430 can be flexible to allow comfortable wear of the backpack in an on-back state whereas outside material 435 can be a more rigid structured material, or vice versa.

[0050] FIG. 5 shows another side view of an embodiment of a convertible backpack. Activity space 515 is pictured within side compartment 510, as including elastic loops for pens, and the like. Bottom compartment 520, fold down rear compartment 525 and shoulder strap 530 are pointed out as reference points.

[0051] FIG. 6 shows a rear view of an embodiment of a convertible activity backpack. In this view, an activity platform can be extended 610 for use. One or more platform supports 615 can help stabilize the platform 610. Side compartments 625 are exposed. Multiple activity spaces 620 can be accessible for use while the platform 610 is extended.

[0052] It should be appreciated that different activity spaces 620 and configuration options can be implemented depending upon an intended use of the activity station. For example, in one embodiment, the main compartment can include a computer monitor and a keyboard can be placed on the activity platform 610. A fold down portion of one of the side compartments 625 can expose a mouse platform (similar to platform 610), which can house a mouse, trackball, touchpad, or other pointing device. The opposing portion of one of the fold down side compartments 626 can include a microphone, speaker, web camera, optical disks, and the like.

[0053] In another configuration, a music player can be contained in an activity space 620 of the main portion, the side compartments can expose speakers, and the platform 610 (without support 615) can fold all the way down to display music media compartments. In still another example, the platform 610 can be an art platform, where the activity spaces include art supplies. In yet another example, platform 610 can function as a video or board game platform.

[0054] Further, in one embodiment, different removable inserts can exist, which alter the activity spaces 620 for a

particular use. The removable inserts can snap, hook-and-loop fasten, or otherwise attach to the backpack. Thus, an art enthusiast can configure an activity station to include multiple art-related spaces, such as having pen, pencil, crayon, marker specific spaces, paper dispensers, glue sticks, and the like. A student can configure the activity spaces to hold a cell-phone, extra batteries, an MP3 player, a calendar, a class schedule, homework, and the like.

[0055] Specifics of the activity spaces 620, platform folding 610, and the like can depend and/or can be adapted for distinct types of activities for which that activity backpack implementation is designed.

[0056] FIG. 7 shows a top view of one embodiment of the convertible activity backpack. The activity platform/fold down rear compartment 710 is extended showing platform support 715. The main compartment 720 is situated between the fold down rear compartment 710, the open side compartment 725 and the open expansion compartment 730. Due to the fact that the backpack is in a transitional state from backpack to activity center, all compartments can be open simultaneously.

[0057] FIG. 8 shows a supported view of the convertible activity backpack being attached to a seat back. As shown, a shoulder harness 810 of the backpack can function as activity-to-fixture coupler 815, which holds the backpack against the back of a seat in a car. The side compartments 820 are shown as extended, which exposes activity spaces 825 containing various items, such as pens, electronic devices, cards and game pieces, in an orderly fashion. This position allows, for example, a child to engage in entertaining activities while on a trip while at the same time providing a method that ensures that fewer items get lost during the trip and parents can be less distracted while driving.

[0058] FIG. 9 shows a set of embodiments for an activity-to-fixture coupler, which couples the activity backpack to a fixture, such as a seatback.

[0059] Scenario 910 shows an embodiment where the activity-to-fixture coupler is integrated with the shoulder harness, as shown for example in FIG. 8. The shoulder harness can include two straps, which are detachably connected to a bottom portion of the backpack using male/female brackets. One strap can have a female bracket, which connects to a male connector attached to the bottom of the backpack. The other strap can have a male connector, which connects to a female bracket attached to the bottom of the backpack. The two straps (one terminating in a female bracket and the other in a male connector) can be directly coupled to each other (e.g., as shown in FIG. 8).

[0060] Scenario 920 shows a different implementation, where each backpack strap can have a same type of end connector. As shown, each strap can end in a male connector, which can attach to a female bracket affixed to a bottom of each side of the backpack. Alternatively, each strap can terminate with a female bracket, which can connect to a male connector affixed to a bottom of each side of the backpack. Either way, when the two opposing straps are connected to each other (e.g., as shown in FIG. 8), an intermediate coupler (e.g., male-to-male or female-to-female) is needed.

[0061] Scenario 930 shows a coupling mechanism comprising a set of snaps or grommets. These can be used to snap endpoints of two shoulder straps to a bottom of a backpack in a detachable manner. They can also be used to attach disconnected shoulder straps to each other (e.g., for a configuration shown in FIG. 8).

[0062] Scenario 940 shows a gravity based coupler for attaching an activity backpack to a fixture. As shown, adjustable width hooks can be attached to the backpack top, which can be positioned over a chair back, as illustrated.

[0063] Other types of fastening techniques are contemplated for the activity to fixture coupler and the scenarios 910-940 are not to be construed as a limitation of the scope of the disclosure. For example, magnetic coupling, hook-and-loop coupling, zipper based attachments, and the like are contemplated.

[0064] The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the invention. As used herein, the singular forms "a", "an," and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof

[0065] The description of the present invention has been presented for purposes of illustration and description, but is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art without departing from the scope and spirit of the invention.

What is claimed is:

1. A convertible activity backpack comprising:

a shoulder harness;

at least one storage compartment configured to store items; and

an activity platform, wherein said convertible activity backpack is able to be configured in an on-back state and an activity state, wherein when configured in said on-back state the convertible activity backpack is designed to be worn over at least one shoulder with the at least one storage compartment positioned on a back of a wearer and the activity platform is hidden, and wherein when configured in said activity state the convertible activity backpack is designed to be supported and the activity platform exposed so that the activity platform is usable as a supporting surface that is approximately horizontal.

2. The backpack of claim 1, wherein the at least one storage compartment comprises a central compartment and two side compartments, wherein each of said side compartments comprises at least one activity space, wherein each of said side compartments is configured to open in a user facing direction when the convertible activity backpack is in the activity state so that items stored in the activity space is accessible when the activity platform is exposed.

3. The backpack of claim 2, wherein each of the two side compartments is attached to the central compartment using a zipper, wherein the zipper unzips along three of four sides of the central compartment, wherein the forth side is a side opposite a back of the wearer when the convertible activity backpack is configured in the on-back state.

4. The backpack of claim 1, wherein the convertible activity backpack is configured to attach to a seatback of a vehicle when in the activity state.

5. The backpack of claim 1, wherein the shoulder harness is configured to decouple from a body of the convertible activity backpack, wherein a decoupled shoulder harness is configured to wrap around a head rest of the seatback, where it is

re-coupled to support the convertible activity backpack when the backpack is configured in the activity state.

6. The backpack of claim 2, further comprising: at least one detachable bottom compartments configured to span a bottom area of the backpack when attached.

7. The backpack of claim 2, further comprising: at least one detachable, insulated, expansion compartment configured to store refrigerate-able items, wherein the expansion compartment, when attached, is attached to a side of the backpack opposite a back of the wearer when the convertible activity backpack is configured in an open back state.

8. The backpack of claim 1, wherein the convertible activity backpack is configured to remain stable and self supporting when placed on an approximately horizontal surface and when configured in the activity state.

9. The backpack of claim 1, wherein the activity platform is configured to support a keyboard being used by a touch typist when the activity platform is in the activity state, and wherein a portion of the at least one storage compartment facing a user when the activity platform is exposed is configured to house a flat screen monitor viewable by the touch typist.

10. The backpack of claim 1, wherein the activity platform is configured to be used as a writing platform when exposed and when the convertible activity platform is in the activity state.

11. A backpack comprising: shoulder harness configured to secure said backpack over shoulders of a wearer; a central storage compartment configured to store items; and an activity platform compartment configured to store an activity platform having an open and closed position, where the activity platform is contained in the activity platform compartment when in the closed position and is approximately horizontal when in the open position, wherein when in the open position the activity platform is able to function as a horizontal support surface for objects.

12. The backpack of claim 11, wherein the activity platform is a portion of the backpack facing a back of the wearer when worn over the shoulders of the wearer.

13. The backpack of claim 12, wherein the activity compartment is zippered along three sides excluding a bottom-most side connecting the activity platform to the central storage compartment.

14. The backpack of claim 11, further comprising: two side compartments, wherein each of said side compartments attached to the backpack on opposing sides of the central storage compartment, wherein each of the side compartments is configured to open in a user facing direction when the activity platform is in an open position.

15. The backpack of claim 14, further comprising: a plurality of activity spaces configured to store items in a user accessible manner when the activity platform is in an open position and when the two side compartments are open, wherein each of the two side compartments and the activity platform compartment comprise at least one activity space.

16. The backpack of claim 11, further comprising: an activity-to-fixture coupler configured to attach the backpack to a seatback of a vehicle so that the activity platform is able to be placed in the open position.

17. The backpack of claim 16, wherein the activity-to-fixture coupler comprises the shoulder harness.

18. The backpack of claim 16, further comprising: a fixture leveler configured to adjust an angle of the backpack relative to the seatback when the backpack is attached to the seatback.

19. A method for adjusting a configurable activity backpack comprising: identifying a backpack having a hidden activity platform; coupling the backpack to a seatback of a vehicle; and exposing the previously hidden activity platform, wherein after the coupling and when exposed the activity platform forms an approximately horizontal surface for a seated human.

20. The method of claim 19, further comprising: opening two side compartments of the backpack when the activity platform is exposed, wherein when opened, each of the two side compartments comprises activity spaces for storing items, which are accessible to the seated human.

* * * * *