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Park

(54) **SURVIVAL BACKPACK THAT CONVERTS TO A PERSONAL FLOTATION DEVICE**

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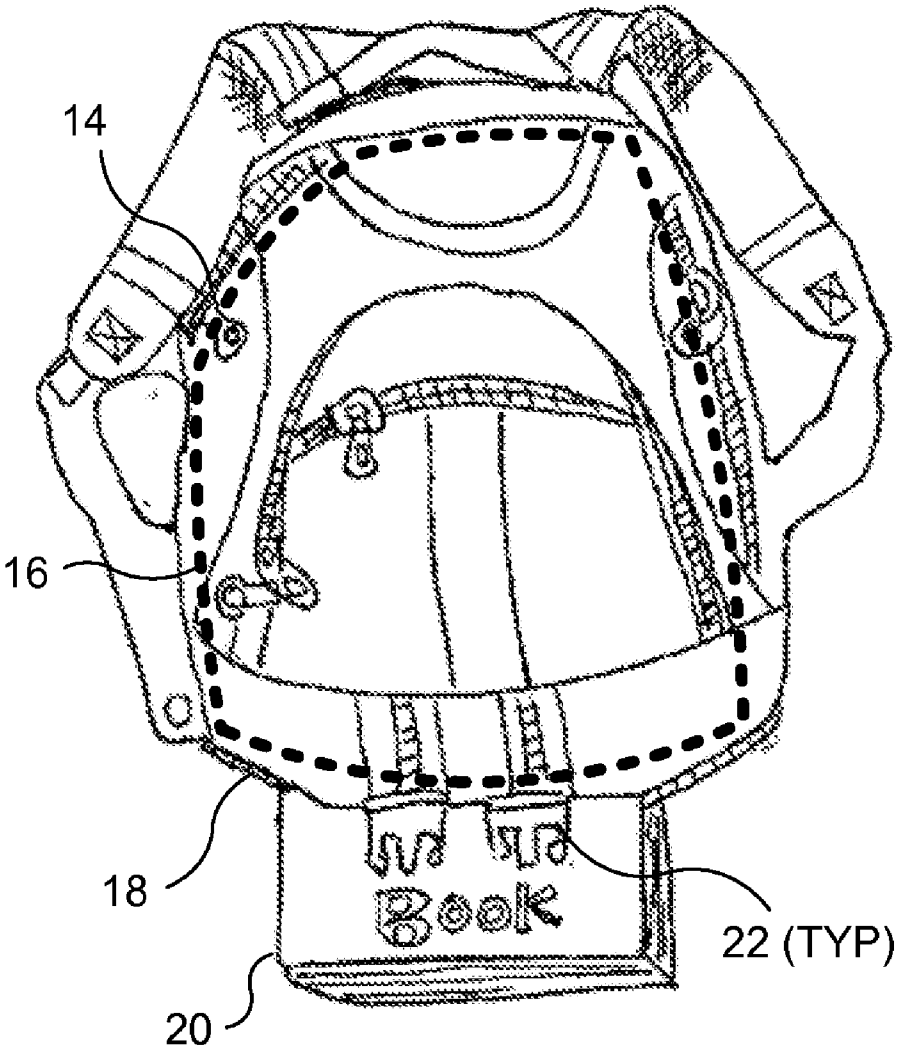
A45F 4/02	(2006.01)
B63C 9/11	(2006.01)

(52) **U.S. Cl.** **224/155**; 224/575; 224/153; 441/121

(57) **ABSTRACT**

Luggage, such as suitcases and backpacks, converts into personal flotation devices by incorporating flotation elements into their structure. Backpacks can also be converted to rescue harnesses by the incorporation of a reinforcing strap and rescue ring. Significantly, such multi-purpose items of luggage offer users access to safety devices unavailable to users of ordinary luggage, enabling such users to have access to lifesaving equipment without requiring the user to carry a dedicated PFD or rescue harness. In one embodiment a backpack includes an emergency lower opening that can be used to remove heavy items while the user is still wearing the backpack, to increase the buoyancy of the survival backpack by eliminating ballast. In another embodiment, a backpack includes a peripheral zipper that separates the backpack into first and second portions, one portion to be worn over the chest and the other portion to be worn over the back.



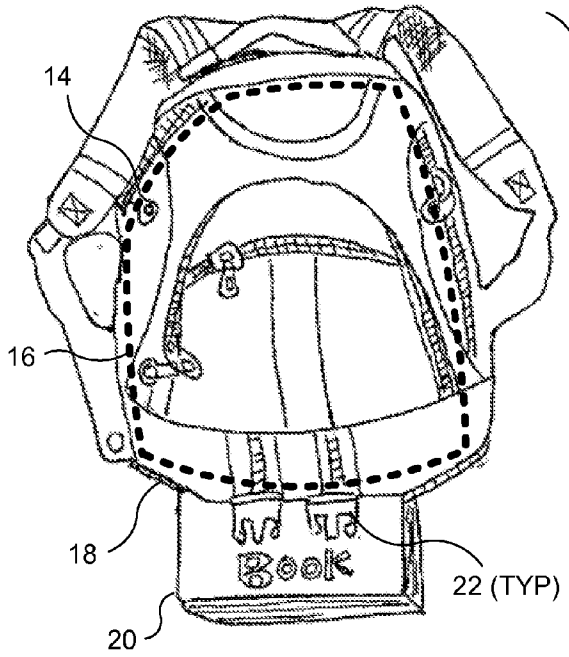


FIG. 1A

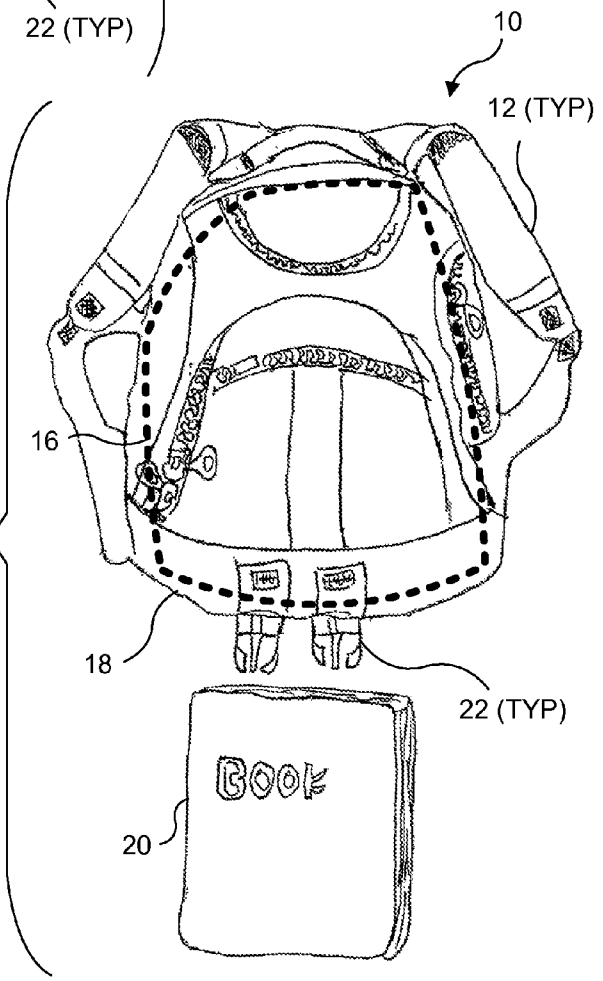


FIG. 1B

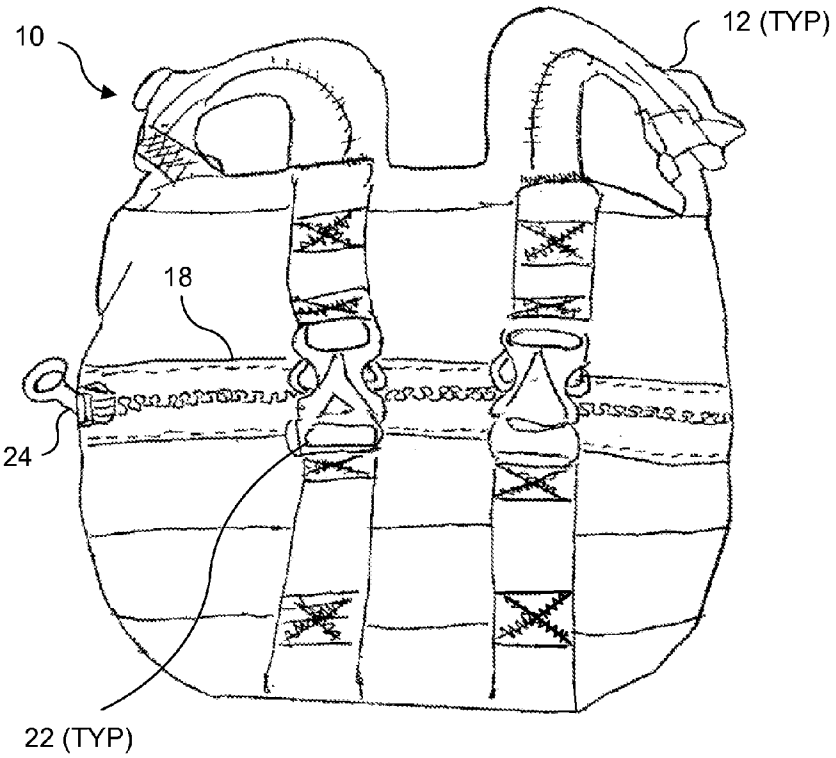


FIG. 2

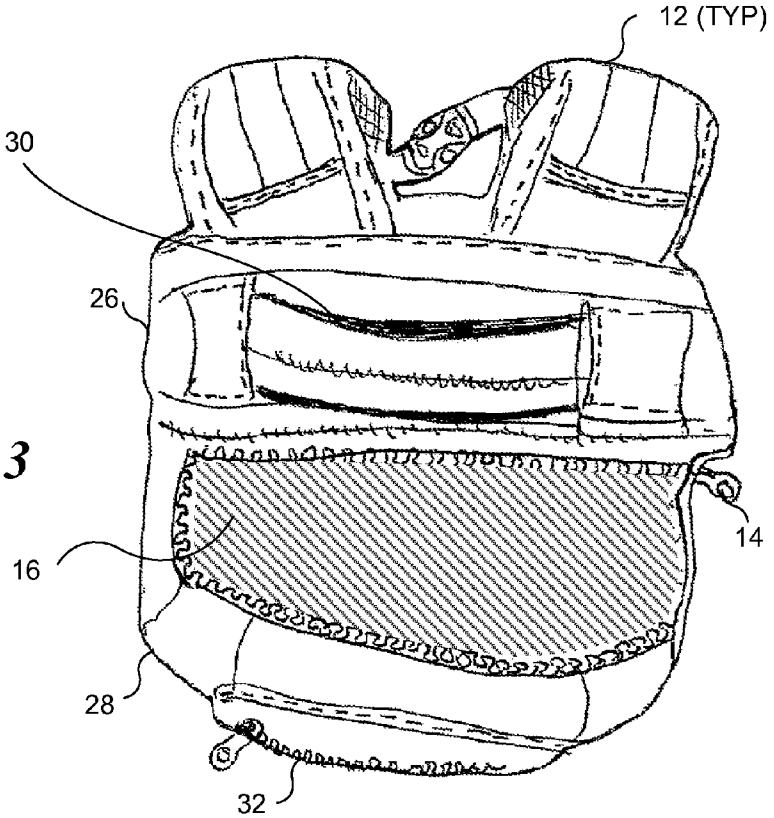


FIG. 3

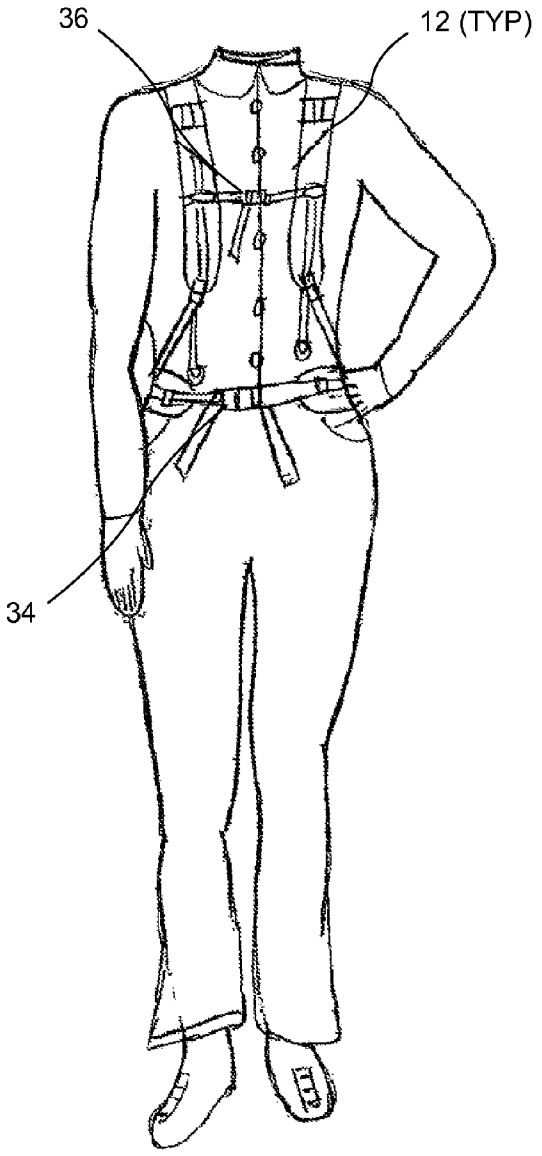


FIG. 4A

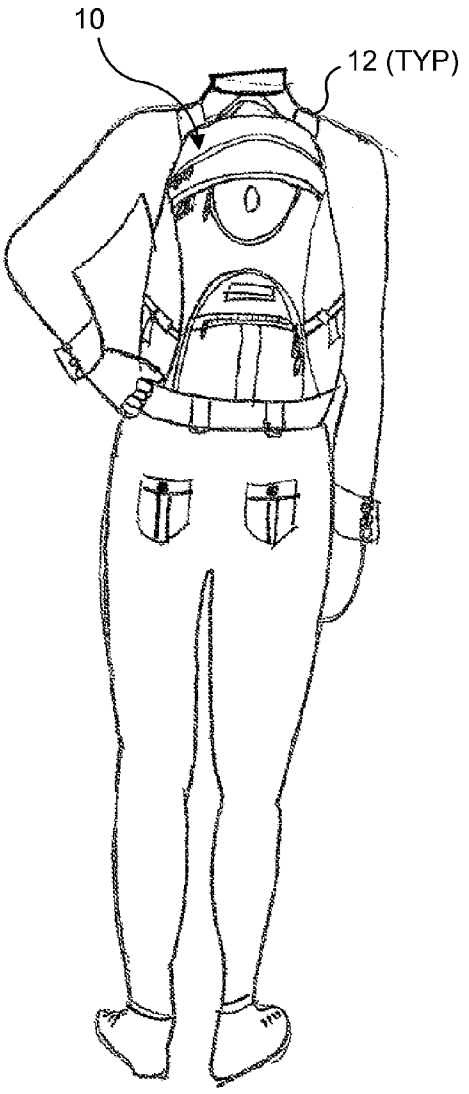


FIG. 4B

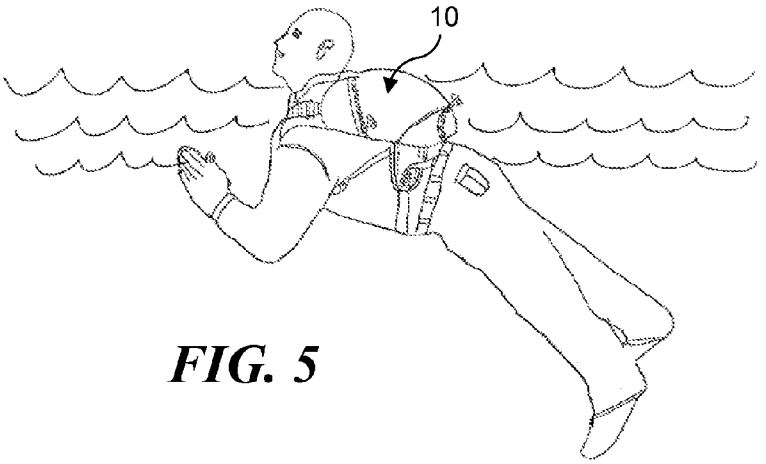


FIG. 5

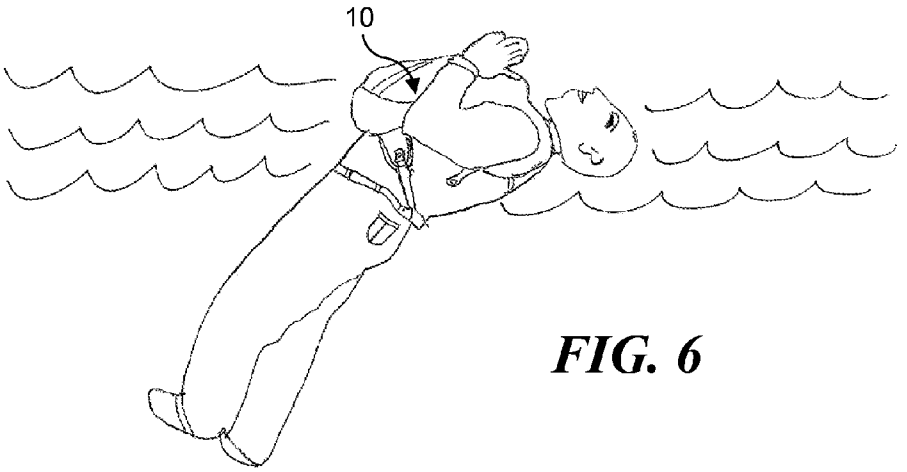


FIG. 6

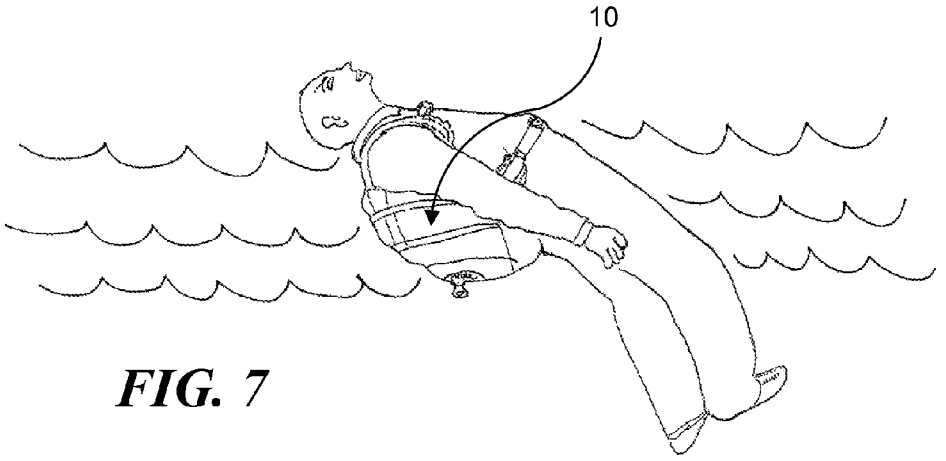


FIG. 7

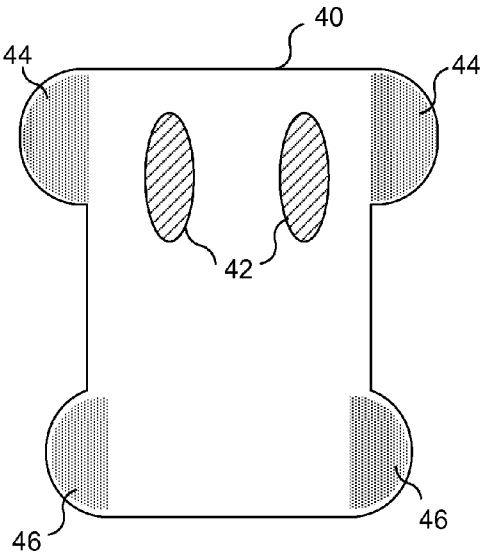


FIG. 8

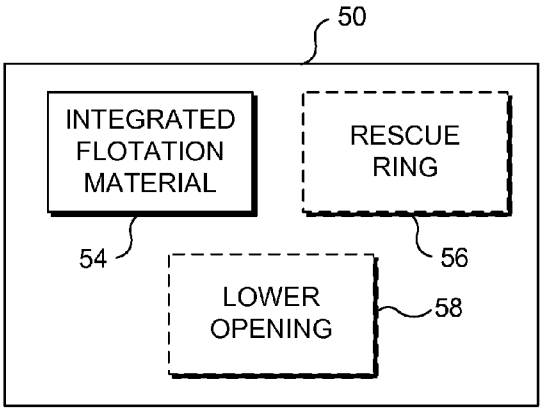


FIG. 9A

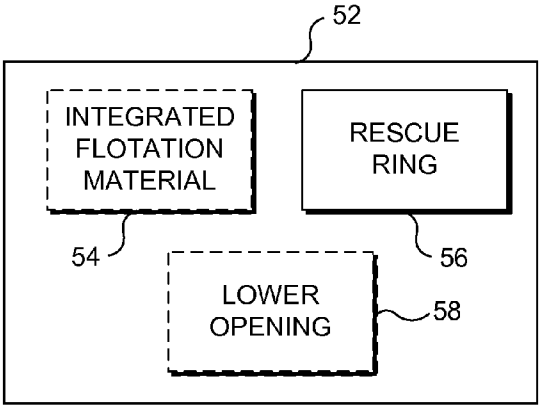


FIG. 9B

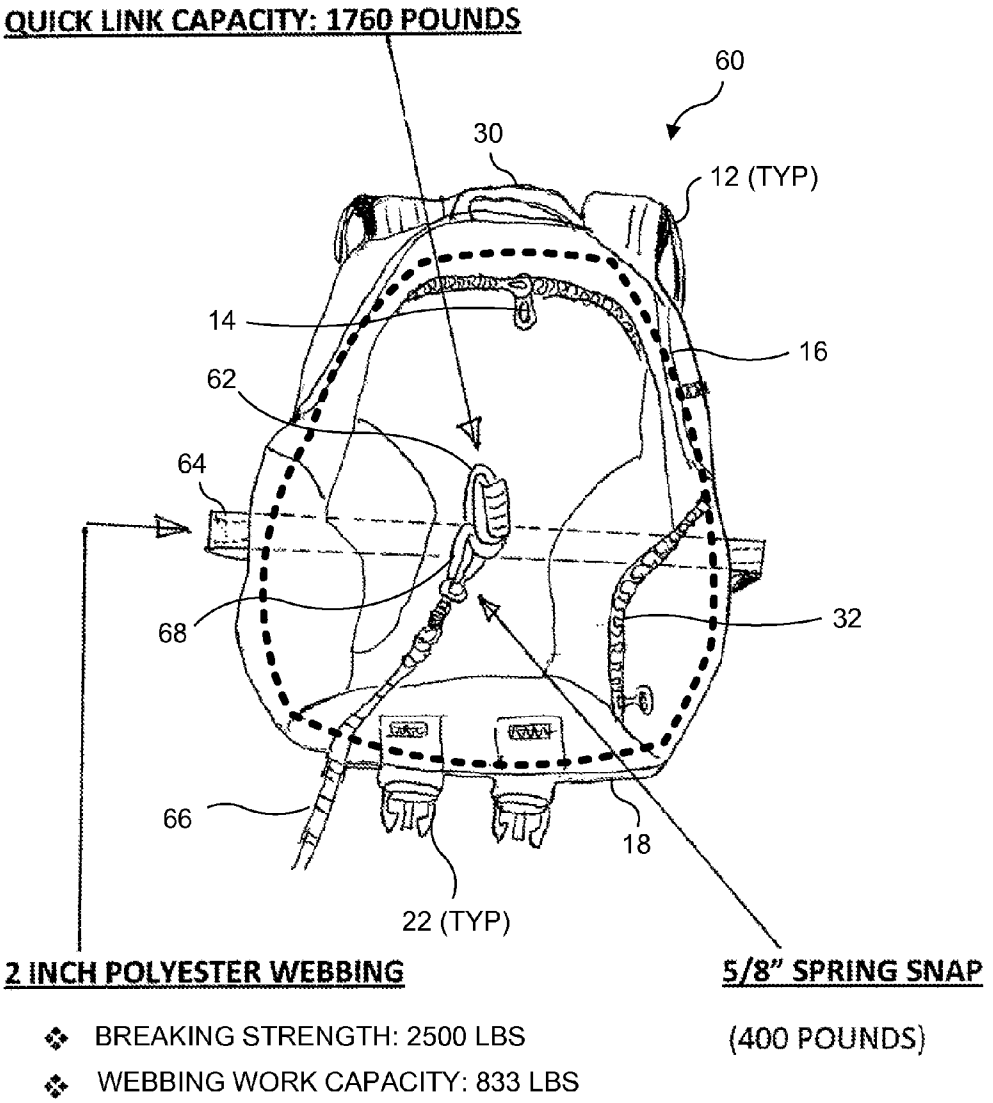

QUICK LINK CAPACITY: 1760 POUNDS
60
30
12 (TYP)
14
16
62
64
68
32
66
18
22 (TYP)
2 INCH POLYESTER WEBBING
5/8" SPRING SNAP
(400 POUNDS)
BREAKING STRENGTH: 2500 LBS
WEBBING WORK CAPACITY: 833 LBS

FIG. 10

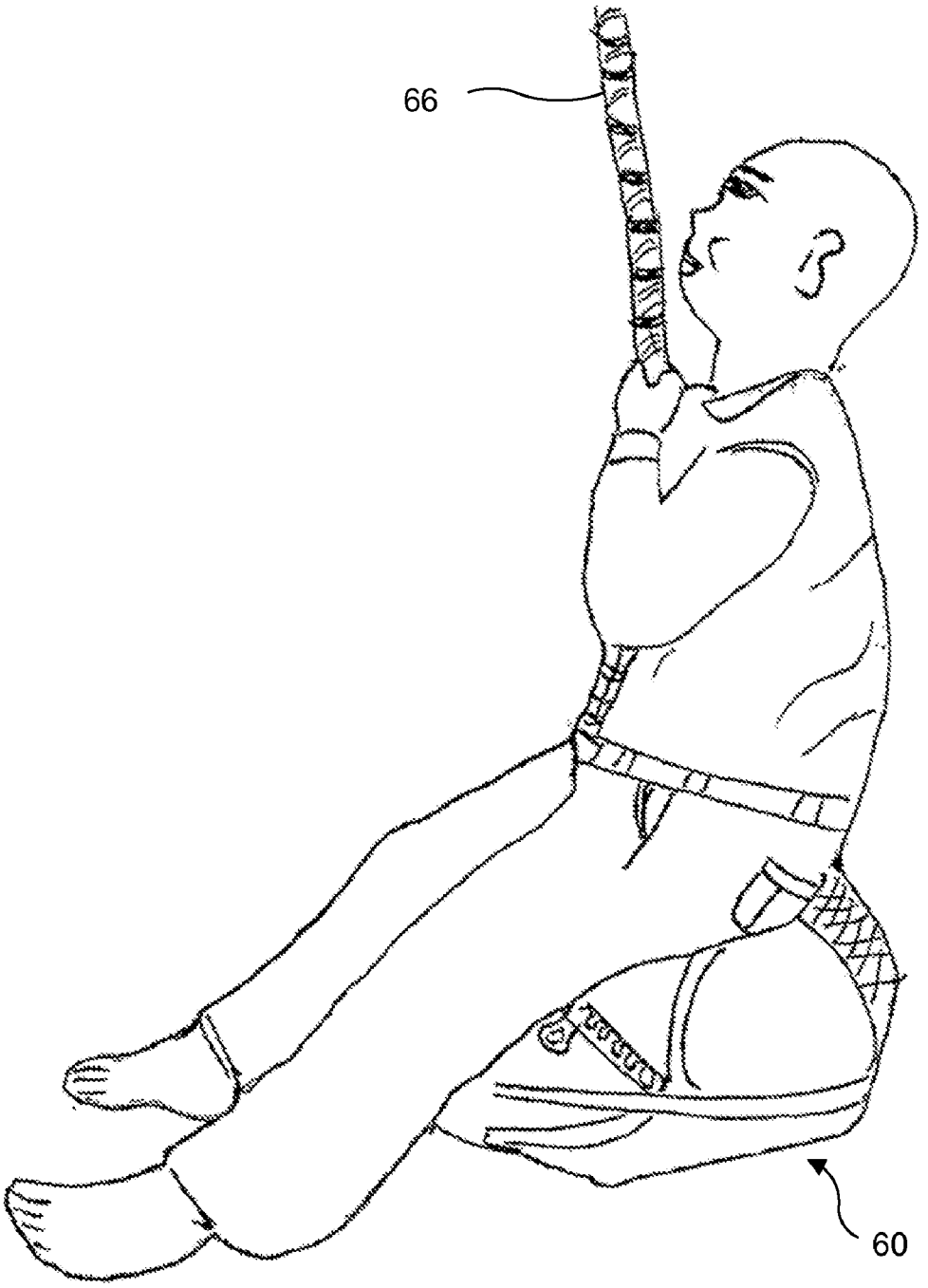


FIG. 11

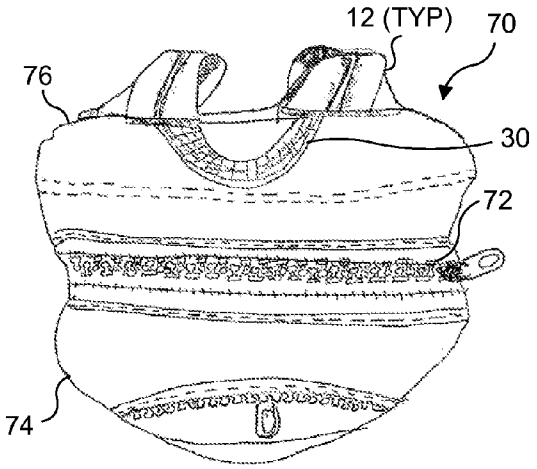


FIG. 12A

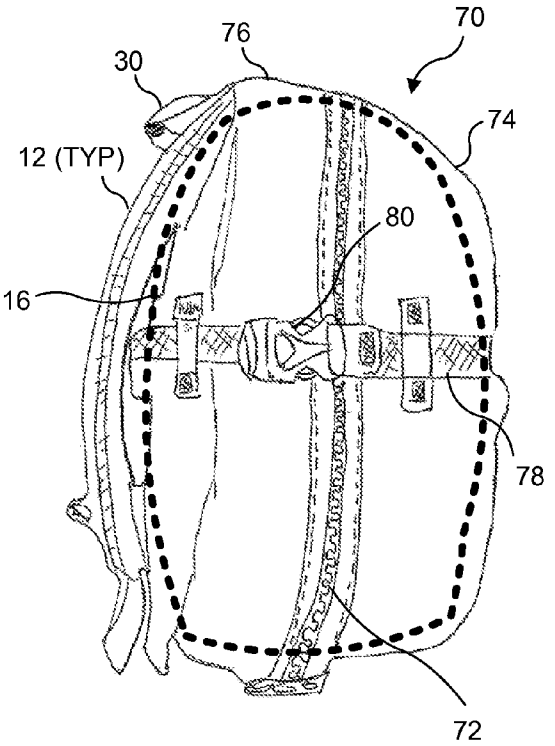


FIG. 12B

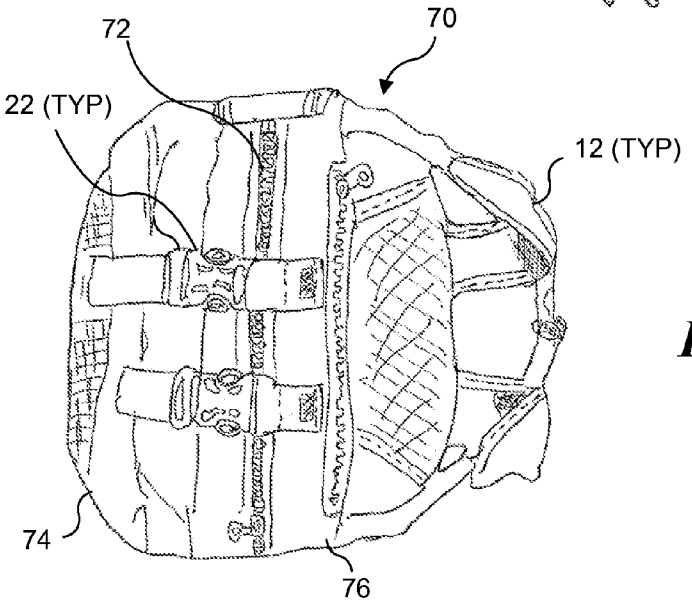


FIG. 12C

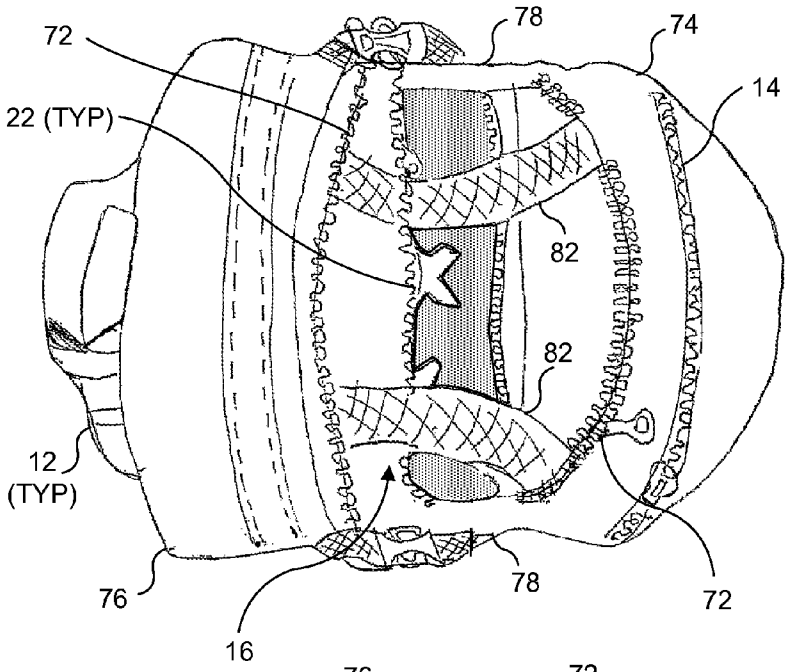


FIG. 13A

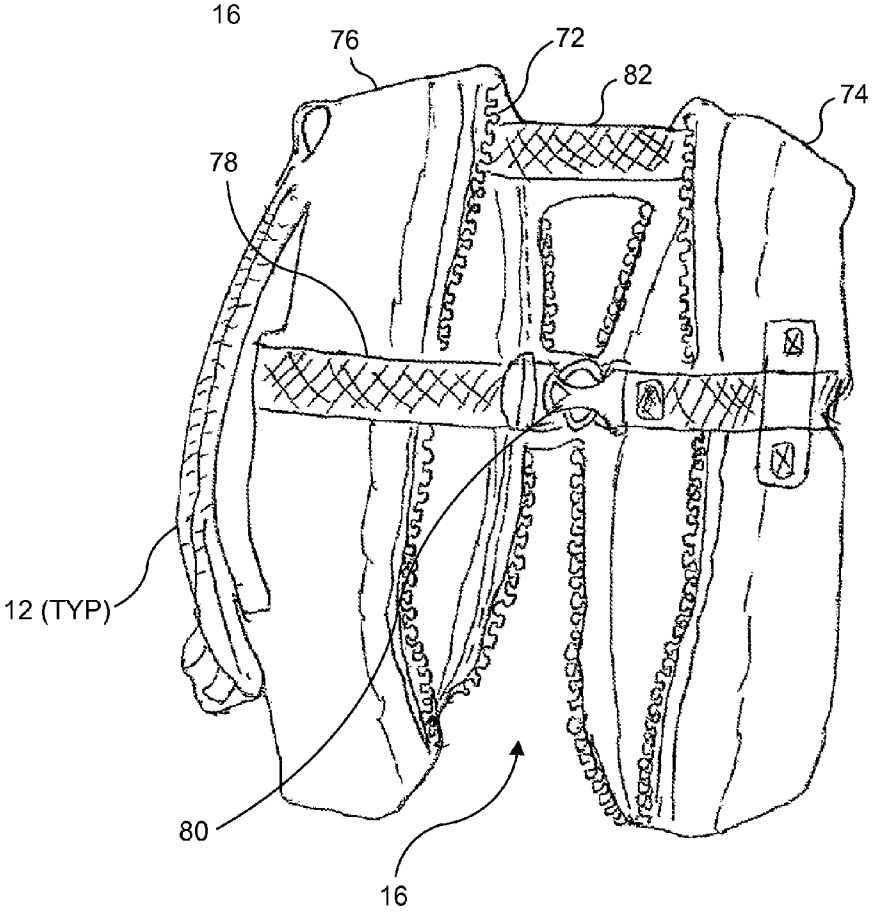


FIG. 13B

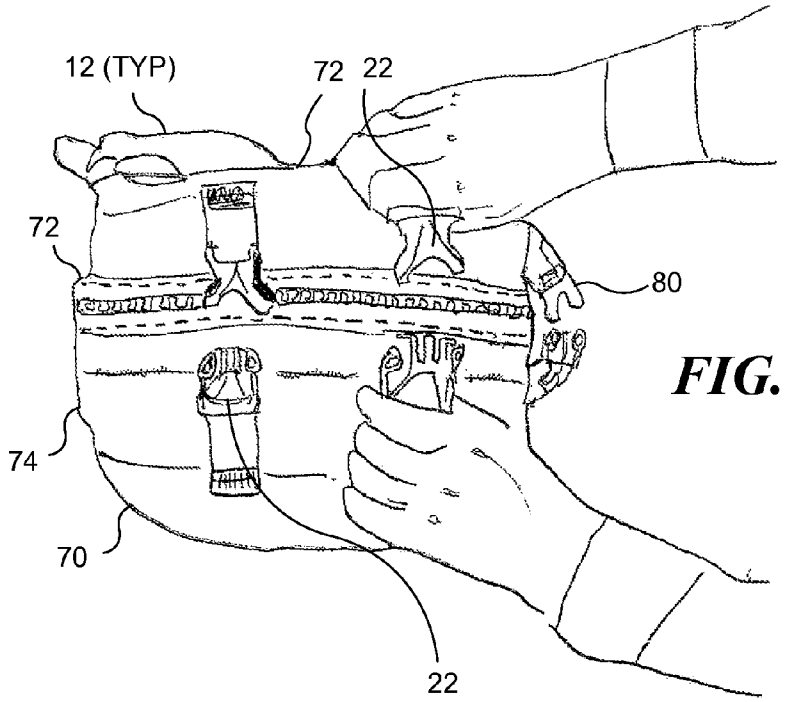


FIG. 14A

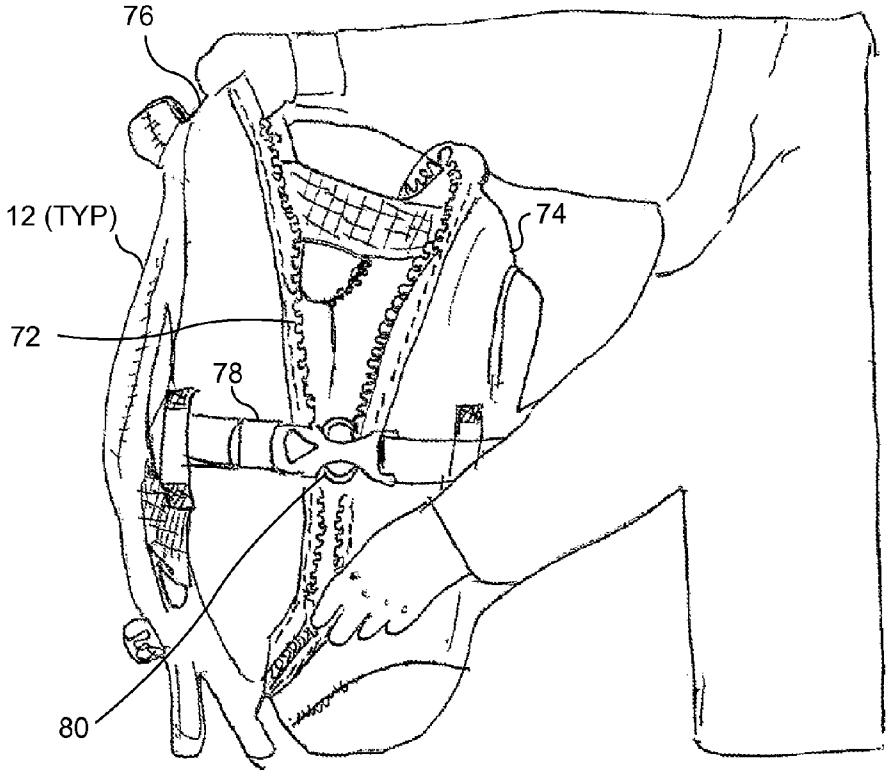


FIG. 14B

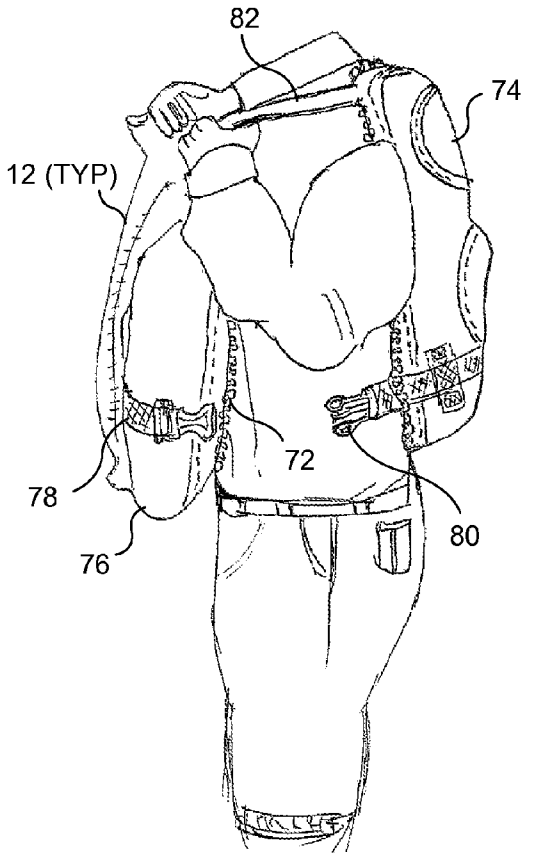


FIG. 14C

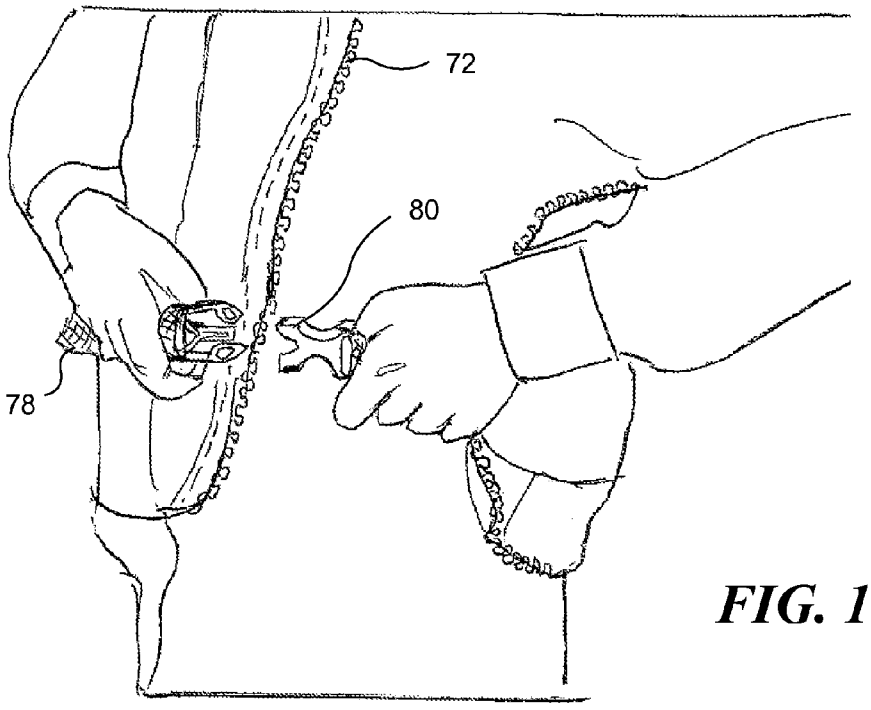


FIG. 14D

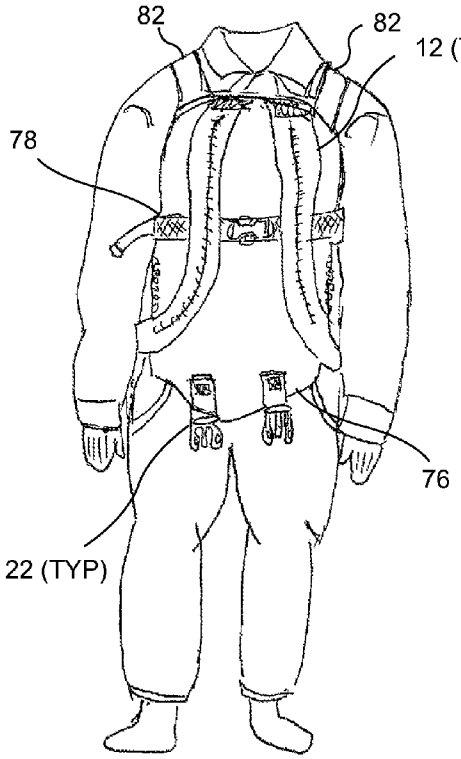


FIG. 15A

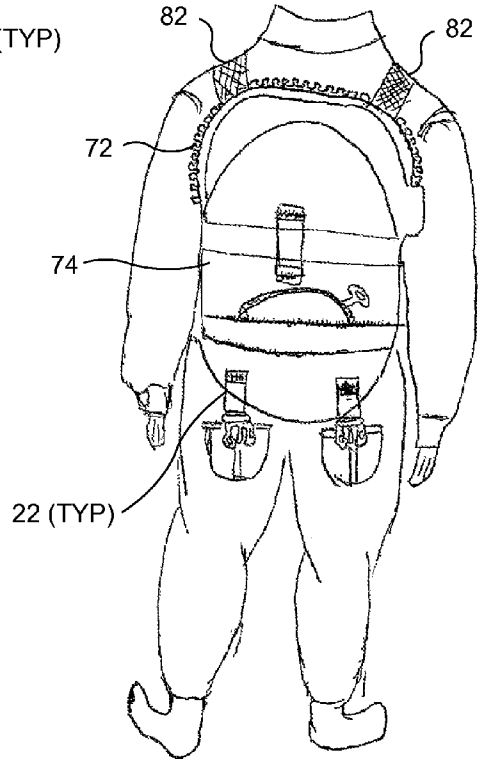


FIG. 15B

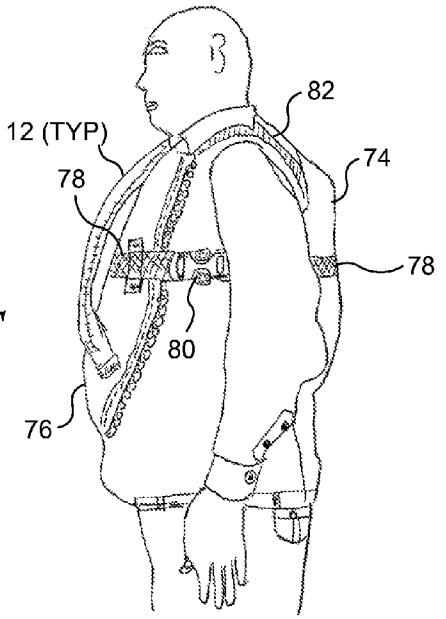


FIG. 15C

FIG. 16A

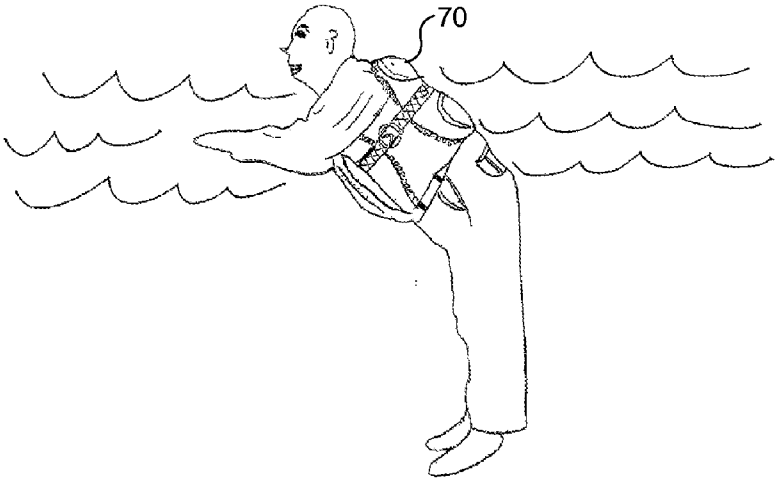


FIG. 16B

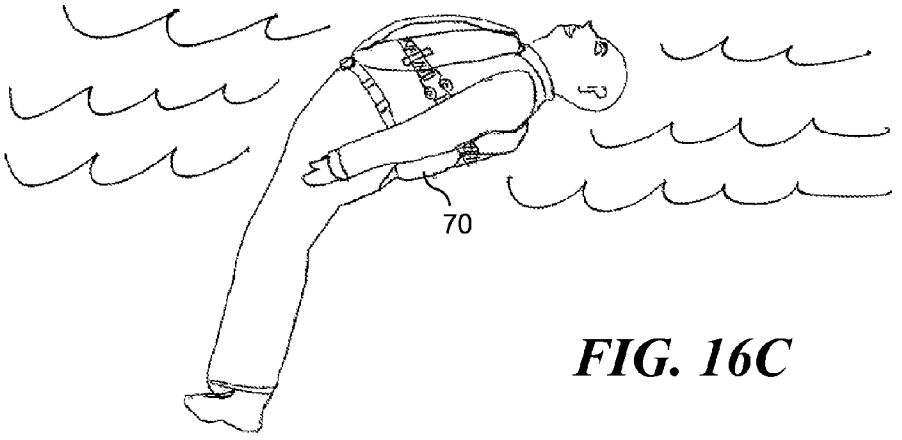


FIG. 16C

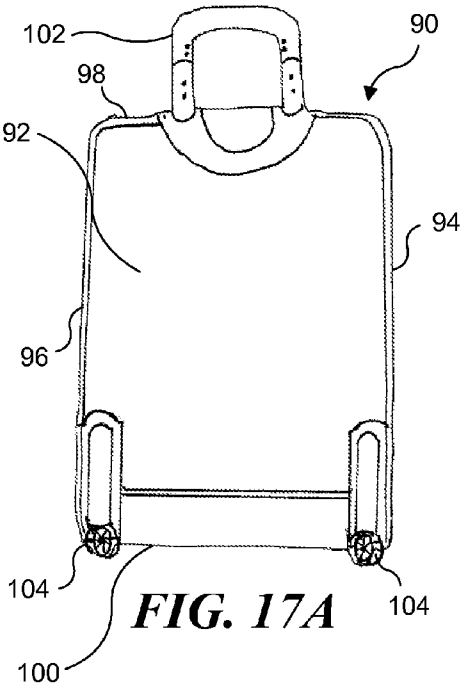


FIG. 17A

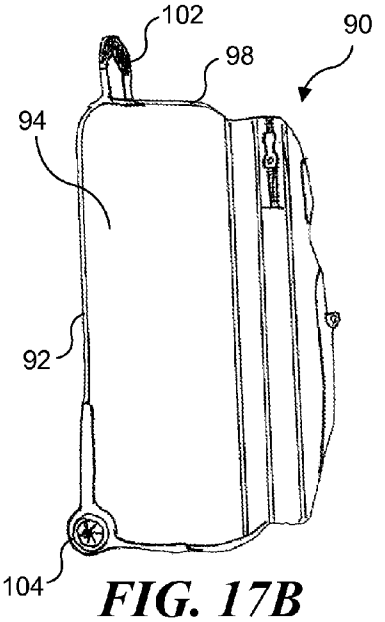


FIG. 17B

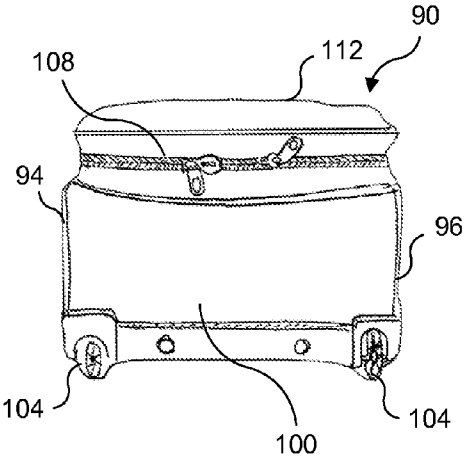


FIG. 17C

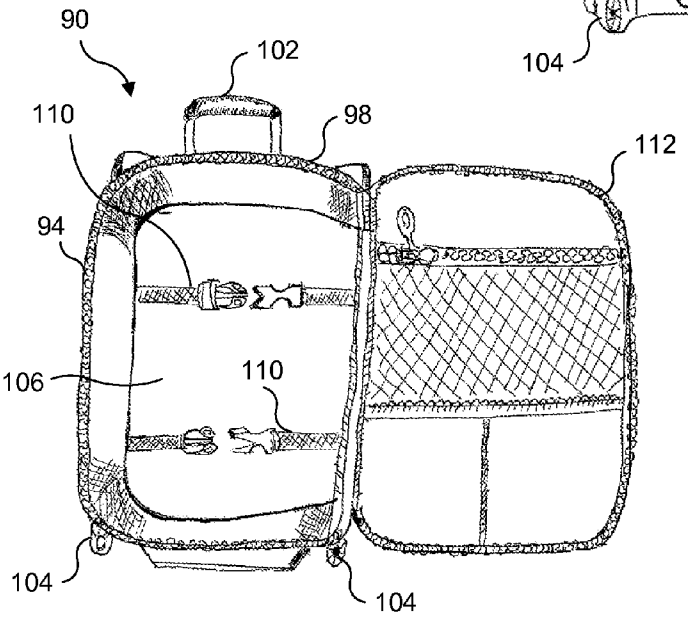


FIG. 17D

SURVIVAL BACKPACK THAT CONVERTS TO A PERSONAL FLOTATION DEVICE

RELATED APPLICATIONS

[0001] This application is based on two prior copending provisional applications, Ser. No. 61/319,193, filed on Mar. 30, 2010, and Ser. No. 61/347,343, filed on May 21, 2010, the benefits of the filing dates of which are hereby claimed under 35 U.S.C. §119(e).

BACKGROUND

[0002] Natural disasters occur around the world without much warning, including a recent tsunami in Asia, as well as massive flooding in Africa and Pakistan. Such natural disasters claim many lives.

[0003] Accidents and emergency situations also occur frequently, claiming hundreds, if not thousands of lives every year. Such situations can result in victims being left to survive for hours or even days in the open ocean or other bodies of water, without a personal floating device (PFD). Even when people are not in an aircraft or boat that might be equipped with such PFDs, tsunamis, storms, and floods can place people in danger of drowning. In other emergency situations, victims may be trapped in a burning building or some other dangerous environment, with no rescue harness being readily available to facilitate their escape.

[0004] Under normal circumstances, people are not likely to carry a PFD or a rescue device (such as a rescue harness) around when traveling or during their daily activities, because such PFDs and rescue devices are cumbersome, and take up too much space. Most people do not think about having a PFD or a rescue device immediately available, even when traveling over water in an aircraft or marine vessel, because they assume the aircraft or marine vessel will have such PFDs available. While modern aircraft and marine vessels are generally equipped with PFDs, because such devices are not the passenger's personal property, most passengers will be unfamiliar with the location and use of the specific PFDs provided by the aircraft or marine vessel operator. If compact and portable personal PFDs were widely available, passengers would be more likely to have a PFD readily available in an emergency situation, where passengers might have only minutes to respond.

[0005] It would be desirable to provide compact and portable personal PFDs so that individuals are more likely to have access to such lifesaving equipment in an emergency situation.

SUMMARY

[0006] This application specifically incorporates by reference the disclosures and drawings of each patent application and issued patent identified above as a related application.

[0007] The concepts disclosed herein encompass a multi-purpose survival backpack that can be used as an everyday bag for transporting and carrying personal belongings, which also can be used as a personal flotation device and/or a rescue harness. Significantly, such a multi-purpose survival backpack offers users access to safety devices unavailable to users of ordinary backpacks, enabling such users to have access to lifesaving equipment without requiring the user to carry a dedicated PFD or rescue harness.

[0008] In at least one embodiment, such a multi-purpose survival backpack includes a front panel incorporating a flotation material; a back panel similarly incorporating a flotation material, and a main body having a quick release opening in a lower portion enabling the contents to be quickly removed during an emergency situation. In some embodiments, the additional flotation material is incorporated into shoulder straps used to secure the backpack to the user. While the front panel, back panel, and shoulder straps represent exemplary locations for incorporating a flotation material to enable the survival backpack to be used as a PFD, it should be recognized that flotation material can be incorporated into the survival backpack in other locations, and in other permutations and combination of locations, so long as the incorporation of the flotation material does not prevent the survival backpack from including a storage area for personal belongings, or prevent the survival backpack from being worn over a user's back (i.e., worn in the fashion as a conventional backpack). In a particularly useful, but not limiting embodiment, the survival backpack will include a torso or hip harness enabling the survival backpack to be secured to the user not only at the shoulders, but across the waist or torso. The flotation material incorporated into this embodiment of a survival backpack enables the user to use the survival backpack as a PFD in an emergency, to keep the user afloat in water while the user is awaiting rescue.

[0009] In at least one embodiment, such a multi-purpose survival backpack includes a central zipper that separates the survival backpack into a front portion and a back portion. A flotation material is similarly incorporated into this embodiment of a survival backpack. In an emergency, the user manipulates the central zipper to empty the contents of the backpack, and to separate the survival backpack into the front and rear portions. The user places the front portion of the survival backpack over his chest, the rear portion of the survival backpack over his back, and uses straps to secure the survival backpack to his body.

[0010] Either of the survival backpack embodiments discussed above can be modified to include a heavy duty rescue ring, which will enable the survival backpack to also be used as a rescue harness. Emergency personnel can couple rope or rescue lines to the rescue ring, enabling the user to be hoisted, dragged or lifted to safety. In at least some embodiments, the rescue ring is positioned such that the user can use the survival backpack as a seat, with a rescue line being attached to the rescue ring, so the rescue line can be used to hoist the user out of the water (or out of a building) in an emergency. In such embodiments, the survival backpack and rescue ring are made from heavy duty materials enabling the survival backpack to be rugged enough to accommodate such use. If desired, in embodiments including the rescue ring, the flotation material can be eliminated, such that the survival backpack can double as a rescue harness, but not a PFD.

[0011] Another aspect of the concepts disclosed herein relates to non-wearable luggage into which flotation material is incorporated. In an emergency, the user can empty the luggage of non-necessities (the more of the contents that is discarded, the more weight the luggage will support as a PFD). In at least one related embodiment, such luggage includes an inner volume that will accommodate an infant or small child. In at least one embodiment, the non-wearable luggage is based on a rolling suitcase suitable for being placed in the overhead bin of an aircraft, where the rolling suitcase includes flotation material sufficient to support an infant or small child disposed in the inner volume. In at least one such

embodiment, a harness is included to enable the child or infant to be secured in the inner volume.

[0012] This Summary has been provided to introduce a few concepts in a simplified form that are further described in detail below in the Description. However, this Summary is not intended to identify key or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

DRAWINGS

[0013] Various aspects and attendant advantages of one or more exemplary embodiments and modifications thereto will become more readily appreciated as the same becomes better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

[0014] FIGS. **1**A and **1**B are rear elevational views of a first exemplary embodiment of a multi-purpose survival backpack, illustrating how a quick release lower opening enables the user to quickly remove the contents of the backpack during an emergency;

[0015] FIG. **2** is a bottom view of the survival backpack of FIGS. **1**A and **1**B, illustrating the lower opening in a closed position;

[0016] FIG. **3** is a top view of the survival backpack of FIGS. **1**A and **1**B, illustrating an upper sealable opening providing access to an internal storage volume and front and rear panels defining the internal storage volume, where flotation material is incorporated into the front and rear panels;

[0017] FIG. **4**A is a front view of an exemplary embodiment of a multi-purpose survival backpack incorporating flotation materials being worn, illustrating shoulder straps containing flotation materials, and a hip or waist harness assembly securing the survival backpack to the user;

[0018] FIG. **4**B is a back view of the multi-purpose survival backpack of FIG. **4**A being worn, illustrating an exterior portion of the survival backpack with multiple compartments;

[0019] FIG. **5** schematically illustrates an individual floating in water on his stomach while wearing a multi-purpose survival backpack incorporating flotation materials, on the individual's back;

[0020] FIG. **6** schematically illustrates an individual floating in water on his back while wearing a multi-purpose survival backpack incorporating flotation materials, on the individual's chest;

[0021] FIG. **7** schematically illustrates an individual floating in water on his back while wearing a multi-purpose survival backpack incorporating flotation materials, on the individual's back;

[0022] FIG. **8** schematically illustrates an exemplary ergonomically shaped flotation member to be used in a rear panel of a survival backpack incorporating flotation materials;

[0023] FIG. **9**A is a functional block diagram of the elements in a survival backpack to be used as a PFD;

[0024] FIG. **9**B is a functional block diagram of the elements in a survival backpack to be used as a rescue harness;

[0025] FIG. **10** is a back view of an exemplary embodiment of a multi-purpose survival backpack including a heavy duty rescue ring that can be attached to a rescue line in an emergency;

[0026] FIG. **11** schematically illustrates a multi-purpose survival backpack including a heavy duty rescue ring being used as a seat while the user is hoisted out of a dangerous situation;

[0027] FIG. **12**A is a side view of an exemplary embodiment of a survival backpack including flotation material and a central zipper, which enables the user to covert the survival backpack into a PFD including a front portion worn over the user's chest and a rear portion worn over the user's back;

[0028] FIG. **12**B is a side view of the survival backpack of FIG. **12**A, showing a quick release parachute buckle;

[0029] FIG. **12**C is a bottom view of the survival backpack of FIG. **12**A, showing additional quick release parachute buckles;

[0030] FIG. **13**A is a side view of a second exemplary embodiment of a survival backpack including flotation material and a central zipper, which enables the user to covert the survival backpack into a PFD including a front portion worn over the user's chest and a rear portion worn over the user's back;

[0031] FIG. **13**B is a side view of the survival backpack of FIG. **13**A, showing a quick release parachute buckle;

[0032] FIGS. **14**A-D illustrate steps in using the survival backpacks of FIGS. **12**A-**13**B;

[0033] FIGS. **15**A-**16**C schematically illustrate the survival backpacks of FIGS. **12**A-**13**B being worn as a PFD;

[0034] FIG. **17**A is a rear view of an exemplary embodiment of non-wearable luggage incorporating flotation materials enabling the luggage to be used for infant rescue;

[0035] FIG. **17**B is a side view of an exemplary embodiment of non-wearable luggage incorporating flotation materials enabling the luggage to be used for infant rescue;

[0036] FIG. **17**C is a bottom view of an exemplary embodiment of non-wearable luggage incorporating flotation materials enabling the luggage to be used for infant rescue; and

[0037] FIG. **17**D is a top view of an exemplary embodiment of non-wearable luggage incorporating flotation materials enabling the luggage to be used for infant rescue, illustrating a chamber for receiving an infant or small child, and a harness for securing the infant/child.

DESCRIPTION

Figures and Disclosed Embodiments are not Limiting

[0038] Exemplary embodiments are illustrated in referenced Figures of the drawings. It is intended that the embodiments and Figures disclosed herein are to be considered illustrative rather than restrictive. No limitation on the scope of the technology and of the claims that follow is to be imputed to the examples shown in the drawings and discussed herein. Further, it should be understood that any feature of one embodiment disclosed herein can be combined with one or more features of any other embodiment that is disclosed, unless otherwise indicated.

[0039] One aspect of the concepts disclosed herein is a multi-purpose survival backpack that combines a functional backpack with integral flotation material that enables the survival backpack to be used as a PFD. Another aspect of the concepts herein encompasses a survival backpack that combines a functional backpack with a rescue harness that has a rescue ring that can be coupled to a rescue line. Another aspect of the concepts disclosed herein is a survival backpack that incorporates both the flotation element and the rescue ring element. Still another aspect of the concepts disclosed herein is a piece of non-wearable luggage that includes integral flotation elements in a form factor that provide enough internal storage volume that the item of luggage can be used

as a PFD for an infant or small child, where the infant/child is disposed in the storage volume. With respect to the concepts incorporating flotation elements, it is significant that such flotation elements enable the item (either a backpack or non-wearable luggage) to be readily used as a personal flotation device (PFD) in any body of water in the event of an emergency without inflating or changing the form of the item.

[0040] With initial reference to FIGS. **1**A and B, a survival backpack **10** generally includes one or more compartments for storing and/or transporting personal belongings or other items typically carried in backpacks. In at least one embodiment, the main storage compartment can accommodate at least a textbook, or a ream of letter sized paper. This size distinction is important to recognize, as the primary function of the survival backpacks disclosed herein is to transport personal belongings, such as textbooks and other items (as is the case with conventional backpacks), with the emergency attributes (the flotation elements and/or rescue harness elements) adding additional functionality. As such, the concepts disclosed herein should not be confused with existing PFDs that may include relatively small storage pockets (for relatively small items, such as a compass, flare, or knife), where the PFD is not intended to be used to transport relatively larger materials such as textbooks, paper, or cameras.

[0041] The exterior of survival backpack **10** can be fabricated from any material durable enough for use in a conventional backpack. In an exemplary, but not limiting embodiment, the exterior shell of backpack **10** is made from fabric with fibers of 420 denier or greater. In an exemplary, but not limiting embodiment, the exterior shell of backpack **10** is made from tear resistant and abrasion resistant fabric. In an exemplary, but not limiting embodiment, the exterior shell of backpack **10** is made from waterproof fabric. The use of waterproof materials for the exterior portion of the backpack is not strictly required to provide flotation. Exemplary materials include, but are not limited to, vinyl, polyester, nylon, and cotton.

[0042] Survival backpack **10** includes shoulder straps **12** that enable the backpack to be worn over the user's back, supported by the user's shoulder, as is customary for conventional backpacks. Survival backpack **10** includes an upper zipper **14** enabling the user to access a main internal storage volume **16** (noting that some backpacks may also include smaller additional storage volumes accessed using different zippers or fasteners).

[0043] Significantly, survival backpack **10** includes a lower opening **18** that enables a user to remove items from internal storage volume **16** while wearing the backpack. This feature allows the user to quickly reduce the weight of survival backpack **10** in an emergency (by emptying the main storage volume, in which bulky and heavy items may be stored), so that the emptied (or mostly empty, if other secondary storage compartments are still in use) survival backpack **10** is more likely to be able to support the user in the water. Note that the ability of the flotation material incorporated into survival backpack **10** to provide flotation to a user is a function of many factors, including the weight of the user, the quantity and buoyancy of the flotation material, and the weight of items stored in the backpack. If one wanted to provide a survival backpack that could provide flotation for all but persons of unusually large weight, without removing items from the backpack, one could simply provide more flotation material. However, that would increase the size of the backpack, or reduce the size of the internal storage volume. Exemplary embodiments have indicated that storage compartments of useful size can be achieved while using about the same quantity of flotation material present in U.S. Coast Guard approved flotation devices. Enabling a user to quickly remove most of the mass from a survival backpack will ensure that survival backpack **10** will include sufficient flotation material to enable the backpack to be used as a PFD, while still providing useful storage space that users would expect to be present in a conventional backpack. In other words, survival backpack **10** will be able to provide storage for almost as much personal belongings as a conventional backpack, while still providing PFD functionality. The flotation material will add some bulk, but survival backpack **10** can still be comfortably worn, and used in travel situations where the backpack must be stored in an overhead bin or under a seat.

[0044] Referring once again to FIGS. **1**A and **1**B, quick release buckles **22** cover lower opening **18** in the closed position. To evacuate internal storage volume **16**, the user can reach behind themselves and manipulate the buckles to access the lower opening (in at least some embodiments, a zipper is further used to close the lower opening). Gravity will then cause the contents of internal storage volume **16** (generally indicated in FIGS. **1**A and **1**B as book **20**) to fall to the ground.

[0045] FIG. **2** is a bottom view of survival backpack **10** of FIGS. **1**A and **1**B, illustrating lower opening **18** in a closed position. Also visible in FIG. **2** is a zipper **24** used to close lower opening **18**. If desired, zipper **24** can be replaced by a hook and loop type closure. Quick release buckles **22** can also be seen in FIG. **2**. Note that quick release buckles **22** are oriented substantially perpendicular to zipper **24** (which defines lower opening **18**). Significantly, quick release buckles **22** provide structural support for items stored in internal storage volume **16**. Thus, even heavy items, such as a plurality of text books, will not stress zipper **24**/lower opening **18** until the buckles are released.

[0046] Quick release buckles **22** are one example of reinforcing outer elements that can be employed. Other types of fastening mechanisms may be similarly employed to support items stored in internal storage volume **16**, enabling survival backpack **10** to be used to retain and transport heavy items. For example, conventional backpacks are used by children, students, and travelers to carry school books, laptops, and other personal items. Some users regularly load backpacks with twenty to forty pounds of personal belongings.

[0047] In an exemplary but not limiting embodiment, zipper **24** is useful for accessing materials from the inside of the backpack, without removing the backpack from the user's back in an emergency. To facilitate manipulating the zipper unseen, the zipper can be of a relatively larger size. In an exemplary, but not limiting embodiment, zipper **24** is fabricated from durable heavy duty material (exemplary materials include plastics or other synthetic materials). Lower opening **18** (and zipper **24**, or a similarly oriented hook and loop closure) is positioned such that anyone can easily access the opening to release any items from the backpack by reaching behind to open the bottom portion of the backpack, even if a person is in the water. Lower opening **18** can be easily accessed whether a person is wearing the backpack on the back or on the chest, as shown in FIGS. **7** and **8**. Where a hook and loop closure is used in place of zipper **24**, one or more straps can be included to enable a user to more readily open the hook and loop closure while wearing survival backpack **10**.

[0048] FIG. **3** is a top view of the survival backpack of FIGS. **1**A and **1**B, illustrating upper zipper **14** in an open position enabling the user to access main internal storage volume **16**, which is a main compartment for carrying heavy items (or bulky items), such as books and laptops, for everyday use. If desired, zipper **14** can also be replaced by some other type of fastener, including but not limited to buckles and hook and loop fasteners. Survival backpack **10** includes a handle **30** and an additional storage compartment **32** (noting that such additional features are optional, and not required).

[0049] Note that internal storage volume **16** is defined by a back panel **26** and a front panel **28**. Back panel **26** rests against the back of a user wearing the backpack, to provide support and cushion for the back. In an exemplary, but not limiting embodiment, flotation material is incorporated into both back panel **26** and front panel **28**. If additional flotation material is required to achieve a desired degree of buoyancy, such flotation material can be incorporated into shoulder straps **12**. If desired, torso straps can be added to enable survival backpack to be secured to a user's torso (at about, or slightly above, the user's waist). In an exemplary, but not limiting embodiment, the flotation material is sewn into the panels or straps, so the flotation material is not readily observable to a user. In another exemplary, but not limiting embodiment, the flotation material is removably coupled to the panels, so the flotation material can be removed by the user if additional space is required (the flotation material will fill up some volume of the backpack that could otherwise be used for storage). In an exemplary, but not limiting embodiment, the flotation material is covered with a waterproof material, so the flotation material will remain dry even when survival backpack **10** is used as a PFD. It should be understood that the concepts disclosed herein encompass incorporating the flotation material into any combination/permutation of the front panel, the back panel, the shoulder straps, and the torso straps (when the backpack is so equipped).

[0050] Exemplary flotation materials include kapok, plastics, polyurethane, closed-cell foams, plastic foams, flexible foam materials, rigid foams, cork, balsa wood, synthetics, or other similar materials. Closed cell foams are strong flexible materials made up of tiny, individual air-filled pockets or cells within the foam that sit closely together without being interconnected to provide flotation. Different types of closed cell foam include polyethylene, polystyrene, expanded polyethylene, Volara®, Minicel®, neoprene, gymnastic rubber, polyvinyl chloride (PVC), ethylene vinyl acetate (EVA), and cross linked polyethylene (XPE). Closed cells foams represent a particularly beneficial material (though the concepts disclosed herein are not limited to the use of closed cell foam as a flotation material) to be used as a flotation material, as closed cell foams exhibit high structural integrity, high compressive strength, high resistance values, and low moisture absorption, while being lightweight, flexible, and resistant to most solvents, chemicals, air, water, fungi and mold. High quality closed cell foams are typically used in PFDs that have been U.S. Coast Guard approved (including devices rated for Types I, II, and III). As noted above, the closed cell foams (or other flotation materials) can be enclosed or encased within a waterproof layer. Exemplary waterproof materials include nylon, vinyl, and polyester. Durable materials, such as KEVLAR™ fibers or other high strength fibers can also be used to enclose the flotation materials, as well as to construct other portions of the survival backpack.

[0051] In an exemplary, but not limiting embodiment, closed cell foam is incorporated into shoulder straps **12**, to provide cushioning as well as additional buoyancy. In an exemplary, but not limiting embodiment designed for an average adult user, survival backpack **10** will include about three to about four pounds of closed cell foam. In at least one embodiment, the closed cell foam is integrated into the front panel, the rear panel, and the shoulder straps, generally as discussed above. In an exemplary, but not limiting embodiment designed for a child user, survival backpack **10** will include about one and a half to about two and a half pounds of closed cell foam. In an empirical implementation, successfully tested as a PFD to keep an adult or a child afloat in water, approximately 1.5 inches of closed cell foam was incorporated into substantially the entire front and back panel of an average sized backpack. It should be recognized that different types of flotation materials may require different thicknesses, and the described dimension is intended to be exemplary, and not limiting. With respect to closed cell foams, in general the denser the foam, the lower the required thickness of the foam to achieve desired buoyancy. Further, the denser the closed cell foam, the more rigid the material will be (thus, in embodiments where comfort and flexibility is a key design criteria, relatively thicker panels of less dense foam may be employed). Particularly where more rigid foams are employed, the material can be formed into an ergonomically shaped panel to achieve a more comfortable backpack. Cross Linked Polyethylene (XPE) closed cell foam is a relatively dense closed cell foam, which will provide a relatively longer service life (due to its relatively higher compression strength), while requiring a relatively thinner layer of material, as compared to less dense closed cell foams.

[0052] In an exemplary, but not limiting embodiment, the flotation material employed is U.S. Coast Guard approved. In an exemplary, but not limiting embodiment, survival backpack **10** includes sufficient flotation material to provide adequate buoyancy for an adult user weighing up to 300 pounds, having a chest size ranging from about 75 to about 130 cm (about 30 to about 52 inches), by providing about 15 to about 22 pounds of additional buoyancy (i.e., beyond the amount of buoyancy required simply to prevent the user from sinking). Buoyancy is the tendency of a body to float or sink in water or any other fluid. Adults typically need an extra seven to twelve pounds of buoyancy to keep easily their heads out of the water. In an exemplary embodiment, survival backpack **10** provides this additional lift, keeping victims afloat until rescue arrives, by providing a minimum adult buoyancy of 15 to 22 pounds (recognizing that such a range is exemplary and not limiting). Superior flotation materials within the back panel, front panel and shoulder straps may be used to provide users with even greater amounts of buoyancy, ranging from about 22 to about 34 pounds (about 100 to about 155 Newtons).

[0053] FIG. **4**A is a front view of survival backpack **10** (incorporating flotation materials as discussed above) being worn by a user, illustrating shoulder straps **12** containing flotation materials, and an optional torso harness assembly **34** securing the survival backpack to the user. FIG. **4**B is a rear view of survival backpack **10** being worn, illustrating an exterior portion of the survival backpack with multiple compartments. As noted above, the presence of multiple compartments will likely be desirable for users, however, only a single main storage compartment (i.e., internal storage volume **16**) is required. Also, as discussed above, incorporating flotation

material into the shoulder straps is an exemplary implementation. The flotation materials can be incorporated into one or more of the front panel (i.e., panel **28** in FIG. **3** partially defining internal storage volume **16**, facing outwardly and away from the user when survival backpack **10** is being worn), the rear panel (i.e., panel **26** in FIG. **3** partially defining internal storage volume **16**, facing toward a back of the user when survival backpack **10** is being worn), shoulder straps **12** and torso harness assembly **34**.

[0054] For everyday use, shoulder straps **12** (attached to a top portion of the back panel and extending down to lower side portions of the back panel) are used to enable the user to wear survival backpack **10** over the shoulders. Particularly when survival backpack **10** is used as a PFD in an emergency situation (or whenever a user wants to more securely attach the survival backpack to their body) a chest harness assembly **36** extending over the user's chest is used to secure shoulder straps **12** in position. Chest harness assembly **36** includes a strap member connected to a front side of each shoulder harness, and a fastener enabling the user to connect the strap members together. Exemplary fasteners include (but are not limited to) quick release buckles, belt type buckles, and hook and loop fasteners. The strap portions of chest harness assembly **36** are attached perpendicularly and at a mid-section of the shoulder straps. When in use, chest harness assembly **36** holds the shoulder straps firmly together against the chest of a person wearing survival backpack **10**. Chest harness assembly **36** secures survival backpack **10** tightly to the user's body, so the survival backpack is not dislodged in an emergency situation (such as when the survival backpack is being used as a PFD). Torso harness assembly **34** similarly secures survival backpack **10** tightly to the user's body, so the survival backpack is not dislodged in an emergency situation.

[0055] FIGS. **5**, **6**, and **7** show different ways of using survival backpack **10** as a PFD. FIG. **5** schematically illustrates an individual floating in water on his stomach while wearing survival backpack **10** on the individual's back. FIG. **6** schematically illustrates an individual floating in water on his back while wearing survival backpack **10** on the individual's chest. FIG. **7** schematically illustrates an individual floating in water on his back while wearing survival backpack **10** on the individual's back.

[0056] Significantly, the survival backpacks disclosed herein that include flotation materials can be used as a PFD for victims that are conscious or unconscious (so long as another person places the survival backpack on the unconscious victim, or the unconscious victim secured the survival backpack to his body before losing consciousness). The buoyancy of the survival backpacks disclosed herein including flotation materials are such that the survival backpacks enable a victim immersed in water to float without sinking with the victim's head above water. Further, the victim does not need to tread water in order to float as shown in FIGS. **5**, **6**, and **7**. As discussed above, lower opening **18** enables users of survival backpack **10** to quickly remove heavy items such as books, laptops or other items from internal storage volume **16**.

[0057] For accessing food or water items stored in a waterproof sack or bag within an accessory compartment (i.e., a compartment other than internal storage volume **16**, which may have been emptied to reduce the weight of the backpack and increase the buoyancy effect), a victim can easily release chest harness assembly **36** and/or torso harness assembly **34** to reposition the survival backpack (perhaps from the posterior position of FIG. **5** to the anterior position of FIG. **6**). Such repositioning enables the victim to access any emergency supplies stored in an accessory compartment (or in internal storage volume **16**, if the main compartment has not been emptied to reduce the weight of the backpack). After accessing any such emergency items, the backpack can be again repositioned if desired. Significantly, survival backpack **10** can be instantly converted into a PFD in the event of an emergency without inflating any inflation based flotation element, so the user does not need to locate or use a dedicated PFD. Users can prepare for an imminent accident by emptying internal storage volume **16** and using chest harness assembly **36** and/or torso harness assembly **34** to secure the survival backpack to their person, to provide the user with a PFD even if the user loses consciousness in an accident.

[0058] While survival backpack **10** has been discussed in terms of including additional storage compartments, it should be recognized that such additional storage compartments in addition to internal storage volume **16** are optional.

[0059] FIG. **8** schematically illustrates an exemplary ergonomically shaped flotation member to be used in a rear panel of a survival backpack incorporating flotation materials. As discussed above with respect to FIG. **3**, rear panel **26** of survival backpack **10** can incorporate a flotation material. Flotation member **40** is incorporated into the rear panel of a survival backpack that can be used as a PFD (either survival backpack **10**, or some other embodiment of the survival backpacks disclosed herein). In an exemplary, but not limiting embodiment, flotation member **40** is formed of a closed cell foam (noting that other buoyant materials can also be used, generally as discussed above). The buoyant material is shaped into an ergonomic form factor, intended to enable the rear of the survival backpack to fit comfortably on a user's back. In at least one exemplary embodiment, the buoyant material is highly flexible, such that the flotation member **40** will mold itself to the user's body, regardless of whether the survival backpack is worn in the posterior or anterior position. In at least one exemplary embodiment, the buoyant material is less flexible, and initially formed to more readily to conform to a user's back than chest. Thus, in some embodiments, flotation member **40** is ergonomic in the sense that the material is highly flexible, and will conform to the shape of the user, whereas in other embodiments, flotation member **40** is ergonomic in the sense that it is pre-shaped to enable the survival backpack to be comfortably worn across a user's back (or a user's chest, if one desired to produce a chest pack normally worn across the user's chest, rather than the user's back). In at least one embodiment, flotation member **40** is sufficiently elastic to provide padding to increase user comfort, regardless of how the survival backpack (or chest pack) is worn. Note that the specific shape of flotation member **40** shown in FIG. **8** is intended to be exemplary, in that other shapes can certainly be employed. Further, while flotation member **40** is shown as a single piece of material, it should be recognized that multiple individual pieces of flotation materials (including mixtures of different types of flotation materials, having different properties, including different degrees of flexibility) could also be employed to incorporate flotation materials in the rear panel of a survival backpack. In one exemplary embodiment, portions **42** of flotation member **40** include indentations to accommodate the user's shoulder blades (in a related embodiment, portions **42** are formed from a relatively more flexible and conforming buoyant material than other parts of flotation member **40**). In one exemplary embodiment,

portions **44** and/or portions **46** are slightly curved to conform to a user's body shape (in a related embodiment, portions **44** and/or **46** are formed from a relatively more flexible and conforming buoyant material than other parts of flotation member **40**).

[0060] FIG. **9**A is a functional block diagram of the elements in a survival backpack to be used as a PFD. In accord with the concepts disclosed herein, a survival backpack **50** intended to be usable as a PFD in addition to being usable as a backpack must include integrated flotation material **54** (as discussed above, such material can be incorporated into one or more of a front panel, a rear panel, a torso harness and shoulder straps). Optional elements also include a lower opening **58** (discussed above with respect to survival backpack **10** of FIGS. **1**A-**3**), and a rescue ring **56** (enabling the survival backpack to also be used as a rescue harness coupling to a rescue line).

[0061] FIG. **9**B is a functional block diagram of the elements in a survival backpack to be used as a rescue harness. In accord with the concepts disclosed herein, a survival backpack **52** intended to be usable as a rescue harness in addition to being usable as a backpack must include a rescue ring **56** (discussed in detail below). Optional elements also include flotation material **54** (enabling the survival backpack to also be used as a PFD) and lower opening **58** (discussed above with respect to survival backpack **10** of FIGS. **1**A-**3**).

[0062] FIG. **10** is a rear view of an exemplary embodiment of a multi-purpose survival backpack **60** including a heavy duty rescue ring **62** that can be attached to a rescue line in an emergency. As discussed above in connection with FIG. **9**A, the concepts disclosed herein encompass survival backpacks that can be used as a rescue harness that can also include flotation materials. Thus, it should be understood that in some embodiments, survival backpack **60** incorporates flotation materials as does survival backpack **10** of FIGS. **1**A-**3** (enabling survival backpack **60** to be used as a backpack, as a PFD, and as a rescue harness), while in other embodiments survival backpack **60** includes no flotation materials (enabling survival backpack **60** to be used as a backpack and as a rescue harness, but not a PFD). As with survival backpack **10** of FIGS. **1**A-**3**, survival backpack **60** includes shoulder straps **12** that enable the backpack to be worn over the user's back, supported by the user's shoulder, as is customary for conventional backpacks. Survival backpack **60** also includes upper zipper **14** enabling the user to access main internal storage volume **16** (noting that some backpacks may also include smaller additional storage volumes accessed using different zippers or fasteners).

[0063] As shown, survival backpack **60** includes lower opening **18** (and quick release buckles **22** that cover lower opening **18**), which enables a user to remove items from internal storage volume **16** while wearing the backpack (although it should be recognized that such a feature is not required for survival backpacks to be used as a rescue harness in addition to being used as a backpack). Survival backpack **60** also includes handle **30** and additional storage compartment **32** (noting that such additional features are optional, and not required).

[0064] FIG. **10** illustrates a webbing or strap **64** attached at a mid-section of survival backpack **60**. The webbing or strap is coupled with rescue ring **62** (i.e., a link member), and provides sufficient structural integrity to survival backpack **60** to enable the survival backpack to be used as a rescue harness (note that without the additional structural support of such a webbing/strap, simply adding a rescue ring to a conventional backpack would likely result in the rescue ring ripping free of the backpack under load). When a safety line or rescue line **66** is coupled with rescue ring **62**, strap **64** enables the rescue ring/backpack to withstand the load applied when the user is hoisted or dragged out of an emergency situation via the rescue line. The rescue ring/rescue line provides a mechanism by which a person can be lifted up or rescued by simply attaching a spring snap member with an elongated rope to the link member/rescue ring. In an exemplary embodiment, the rescue ring is a quick link connector, which is a single chain link including a nut engaging a threaded element. The nut can be loosened to open the link, enabling a connector attached to a rescue line to be coupled to the quick link/rescue ring. In other embodiments, the rescue ring is a solid ring with no openings, and a snap ring connector or quick link connector must be used to couple the rescue ring to a rescue line. The rescue ring is secured through a hoop of strap **64**. A heavy duty carabiner, snap hook, or spring snap can also be used to implement rescue ring **62**.

[0065] As shown in FIG. **10**, a distal end of rescue line **66** is coupled to a spring snap **68** (having a 400 pound rating in an exemplary, but not limiting embodiment; such items also being referred to as carabiners, snap hooks, snap springs, and other terms), and the spring snap is coupled to the rescue ring. Victims without special training may be unable to connect a rescue line directly to rescue ring **62**. Emergency personnel often equip their rescue lines with carabiners, snap hooks, snap springs, and/or spring snaps to enable rescue lines to be rapidly connected to rescue harnesses.

[0066] The webbing (i.e., strap **64**) attached to survival backpack **60** is preferably made of polyester, however, other durable and rugged high strength materials can also be employed. In an exemplary, but not limiting embodiment, strap **64** has a breaking strength of about 2500 pounds, and a load rating of about 833 pounds. In an exemplary embodiment, the rescue ring is a quick link/carabiner type fastener made from a corrosion resistant material capable of supporting loads of up to about 1760 pounds.

[0067] FIG. **11** schematically illustrates survival backpack **60** being used as a seat while the user is hoisted out of a dangerous situation. In this Figure, the victim removes survival backpack **60** from their back, attaches the spring snap member on the distal end of rescue line **66** to rescue ring **62**, and then sits on the backpack while holding tightly to the rescue line, while being lifted up to safety (or in some situations, being lowered to safety).

[0068] FIGS. **12**A-**16**C relate to an embodiment of a survival backpack incorporating flotation material enabling the survival backpack to be used as a PFD (as well as a backpack), where the survival backpack includes a central zipper that separates the survival backpack into a front portion and a back portion. A flotation material is similarly incorporated into this embodiment of a survival backpack. In an emergency, the user manipulates the central zipper to empty the contents of the backpack, and to separate the survival backpack into the front and rear portions. The user places one of the front portion and the back portion of the survival backpack over his chest, and the other of the front portion and the back portion of the survival backpack over his back, and uses straps to secure the survival backpack to his body.

[0069] FIG. **12**A is a top view of survival backpack **70**, which includes flotation materials integrated into the backpack, generally as discussed above (i.e., included in one or

more of a front panel, a rear panel, or shoulder straps **12**, noting that such locations are exemplary of this and other embodiments, and not limiting). Survival backpack **70** includes a separation means enabling the backpack to be separated into a front portion **74** to be worn over the user's chest, and a rear portion **76** to be worn over a user's back. An exemplary separation means is a heavy duty zipper **72**, as shown in FIG. **12**A. When zipper **72** is closed, survival backpack **70** can be used as a conventional backpack to store and carry personal belongings. In an exemplary embodiment, zipper **72** extends around the periphery of survival backpack **70**. As with survival backpack **10** of FIGS. **1**A-**3**, zipper **14** enables the user to access main internal storage volume **16** (noting that some backpacks may also include smaller additional storage volumes accessed using different zippers or fasteners). In at least some embodiments, when open zipper **72** exposes internal storage volume **16** (see FIG. **12**B), such that the contents of internal storage volume **16** is emptied, so the user's torso can occupy that volume. Optional handle **30** can be included in survival backpack **70**.

[0070] FIG. **12**B is a side view of survival backpack **70**. A side strap **78** including a quick release buckle **80** provides addition support to keep the front and rear portions of survival backpack **70** together in normal situations (note that the addition of side strap **78** to survival backpack **70** is exemplary, and not limiting, and in at least one embodiment survival backpack **70** will include zipper **72** but not side strap **78**/buckle **80**). If desired, side strap **78** and buckle **80** can be implemented on both the right and left sides of survival backpack **70**. In addition to providing additional support, side straps **74** also facilitate securing survival backpack **70** to a user's torso when survival backpack **70** is used as a PFD, thus their use is desirable, while not being required.

[0071] FIG. **12**C is a bottom view of survival backpack **70**. Note that if desired quick release buckles **22** can be used to provide additional support to the lower portion of the backpack, ensuring that heavy items in the backpack do not cause zipper **72** to fail. Manipulating zipper **72** and any side/bottom buckles allows the backpack to split into half, so that front portion **74** can be placed over a user's chest, and rear portion **76** can be placed over a user's back, or vice versa.

[0072] In at least one embodiment, one or more of zipper **72**, side straps **78**/buckles **80**, and buckles **22** can be made inconspicuous by covering such elements with removable cover (for example, fabric matching or coordinating with the backpack can be employed) so that such elements are not displayed under normal use.

[0073] FIG. **13**A is a top view of survival backpack **70**, with zipper **72** having been manipulated to separate survival backpack **70** into front portion **74** and rear portion **76**. When zipper **72** is thus manipulated, the contents of internal storage volume **16** is emptied, so the user's torso can occupy that volume, and survival backpack **70** can now be used as a PFD. Upper support members **82** couple front and back panels of the backpack to each other, and when the survival backpack **70** is being used as a PFD, support members **82** are placed over the user's shoulders. In an exemplary embodiment, support members **82** are implemented using an elastic strap. With zipper **72** in the closed position and survival backpack **70** is being used as a conventional backpack (i.e., not a PFD), the elastic support members are inconspicuously disposed in an upper portion of internal storage volume **16**. An opening between the two elastic support members allows a person to put the backpack over their head, so that the elastic support members sit over the shoulders of the person. In an exemplary embodiment, the elastic support members can be made in sizes ranging from about one to about three inches in width, and are configured to accommodate a wide range of head sizes and chest widths. Significantly, support members **82** are attached to both the front and rear portions of survival backpack **70**, to keep the front and back portions from completely separating (thus, even if side strap **78** and buckles **80** are not engaged, the front and rear portions cannot float completely away from one another). Note that in FIG. **13**A, lower quick release buckles **22** have been released.

[0074] FIG. **13**B is side view of survival backpack **70**, with zipper **72** having been manipulated to separate survival backpack **70** into front portion **74** and rear portion **76**. As shown in FIG. **13**B, side strap **78** and buckle **80** are used (along with upper support members **82**) to keep front portion **74** and rear portion **76** properly positioned relative to each other. In an exemplary embodiment, both front portion **74** and rear portion **76** include flotation materials. Exemplary flotation materials have been discussed above.

[0075] FIGS. **14**A-**14**D schematically illustrate how a user converts survival backpack **70** into a PFD. In FIG. **14**A, the user manipulates bottom buckles **22** and side buckles **80** so that such buckles no longer secure front portion **74** to rear portion **76**. In FIG. **14**B, the user manipulates zipper **72** to separate the survival backpack into front portion **74** and rear portion **76**. Note that in FIG. **14**A, one side buckle **80** is shown in the open position, while in FIG. **14**B one side buckle **80** is shown in the closed position, indicating that the exact sequence of releasing buckles **22** and **80** is not critical. In FIG. **14**C, all buckles **22** and **80** have been released, zipper **72** has been fully opened, and the user places survival backpack **70** over their head (note that upper support members **82** are now the only element coupling front portion **74** to rear portion **76**). In FIG. **14**D the user manipulates buckles **80** to secure the survival backpack to their torso.

[0076] FIGS. **15**A-**16**C schematically illustrate survival backpack **70** being worn as a PFD. In each of these Figures, the user is wearing survival backpack **70** with front portion **74** over their back, and rear portion **76** over their chest. It should be understood that survival backpack **70** can also be worn with front portion **74** over the user's chest, and rear portion **76** over the user's back; thus the orientation of survival backpack **70** in FIGS. **15**A-**16**C is exemplary, and not limiting. FIG. **15**A is a front view of a user wearing survival backpack **70** in a PFD configuration. Shoulder straps **12**, upper support members **82**, side strap **78**, lower buckles **22**, and rear portion **76** can be seen in this view. FIG. **15**B is a rear view of a user wearing survival backpack **70** in a PFD configuration. Zipper **72**, upper support members **82**, lower buckles **22**, and front portion **74** can be seen in this view. FIG. **15**C is a side view of a user wearing survival backpack **70** in a PFD configuration. Shoulder straps **12**, upper support members **82**, side strap **78**, side buckle **80**, front portion **74**, and rear portion **76** can be seen in this view. When worn by a user as a PFD, the side straps and buckles are attached and tightened according to the user's chest size, to secure the survival backpack to the user.

[0077] FIG. **16**A schematically illustrates an individual using survival backpack **70** as a PFD, while floating in an upright position in water without treading water. The side buckles are tightened so that the backpack converted to a PFD cannot fall off of the person using the PFD while in the water waiting for rescue. FIG. **16**B schematically illustrates an individual using survival backpack **70** as a PFD, while the user is generally floating on their stomach (as opposed to the more upright position of FIG. **16**A). The user wearing survival backpack **70** as a PFD can float in this position for hours without having to tread water. FIG. **16**C schematically illustrates an individual using survival backpack **70** as a PFD,

while the user is generally floating on their back (as opposed to the positions shown in FIGS. **16**A and **16**B). Note that if survival backpack **70** is worn with front portion **74** over the user's chest, then while floating in water on their back, the user can access any emergency supplies stored in supplementary compartments on the front of survival backpack **70**.

[0078] With respect to the survival backpack **70** of FIGS. **12**A-**16**C, in at least one embodiment, support members **82** are either omitted or modified to enable a first person to use front portion **74** as a first PFD, while a second person uses rear portion **76** as a PFD. Relatively longer support members **82** will enable the first person using front portion **74** to remain close to the second person using rear portion **76**. In at least one embodiment, the relative lengths of support members **82** are adjustable, enabling the user to configure survival backpack **70** to be used as a single PFD for just one person, or as two PFDs for two individuals. Similarly, in at least one embodiment, support members **82** can be selectively disconnected from one or more of front portion **74** and rear portion **76**, so that the first person using front portion **74** as a PFD is free to move independently of the second person using rear portion **76** as a separate PFD.

[0079] As noted above, another aspect of the concepts disclosed herein relates to non-wearable luggage into which flotation material is incorporated. In an emergency, the user can empty the luggage of non-necessities (the more of the contents that are discarded, the more weight the luggage will support as a PFD). FIGS. **17**A-D relate to that aspect of the concepts disclosed herein.

[0080] FIG. **17**A is a rear view of an exemplary embodiment of non-wearable luggage **90** incorporating flotation materials enabling the luggage to be used for infant rescue. FIG. **17**B is a side view of non-wearable luggage **90**, while FIG. **17**C is a bottom view of non-wearable luggage **90**. FIG. **17**D is a top view of non-wearable luggage **90**. The astute reader will recognize that non-wearable luggage **90** is based on a rolling soft sided suitcase that can be placed in the overhead bin of a passenger aircraft. While such a size is exemplary, it should not be considered to be limiting, as flotation materials can be incorporated into relatively larger pieces of luggage.

[0081] Referring to FIGS. **17**A-D, non-wearable luggage **90** includes a rear panel **92**, side panels **94** and **96**, a top panel **98**, a bottom panel **100**, and a front panel **112**, which generally define a main storage compartment **106**. Optional elements include a handle **102** and wheels **104**. One or more of the flotation materials discussed above are incorporated into one or more of rear panel **92**, side panels **94** and **96**, top panel **98**, and bottom panel **100**, in any permutation or combination thereof, to provide sufficient buoyancy to support an infant or small child disposed in main storage compartment **106** (note more flotation material can be used if one wishes to provide buoyancy for an adult, noting that when used by an adult, the adult will not likely be able to fit inside the main storage compartment of non-wearable luggage **90** as would an infant or small child; rather the adult user would simply hang onto to the external surfaces of non-wearable luggage **90** for buoyancy). In an exemplary, but not limiting embodiment, flotation materials are incorporated into each of rear panel **92**, side panels **94** and **96**, top panel **98**, and bottom panel **100**.

[0082] As shown in FIG. **17**C, a zipper **108** (or some other type of fastening system) is used to access main storage compartment **106**. In an emergency situation, where an infant or small child needs a PFD, zipper **108** is manipulated to expose main storage compartment **106**, generally as shown in FIG. **17**D (enabling top panel **112** to be moved to access main storage compartment **106**). One or more straps **110** are included in main storage compartment **106** for securing the infant/child inside main storage compartment **106** after its contents have been removed (noting that some clothing may remain in main storage compartment **106** to provide cushioning and/or warmth for the occupant). If the person requiring the PFD is too large to fit inside main storage compartment **106**, then that person can simply hang onto the external surfaces of non-wearable luggage **90**. Straps or handles can be incorporated into the external surfaces for users too large to fit inside main storage compartment **106** (including straps and or harness such as those discussed above that enable a user to secure one of the survival backpacks to their person). When used by an adult user, the contents of main storage compartment **106** can be emptied to increase the buoyancy provided by non-wearable luggage **90** (by eliminating unnecessary weight). When an infant or small child is strapped into non-wearable luggage **90**, the item of luggage acts as a lifeboat that floats in the water.

[0083] Including flotation material in top panel **112** will not provide much benefit when non-wearable luggage **90** is used as a PFD (or life boat) for an infant/child, but will be of more value if non-wearable luggage **90** is used by an adult user or large child that clings to an external surface, rather than occupying main storage compartment **106**.

[0084] The exterior materials of the item of luggage can be any durable material typically used for suitcases such as polyester, canvas, nylon, KEVLAR™, or other similar materials (noting that such materials are exemplary, and not limiting). Particularly desirable materials will be waterproof. If waterproof materials are not used, the item of luggage can be lined with a waterproof material to prevent non-wearable luggage **90** from taking on water and losing buoyancy. It should be understood that if desired the rescue ring and reinforcing strap of FIG. **10** can be included in non-wearable luggage **90**.

[0085] It should be noted that some terms used in this specification are meant to be relative. It should be noted that relative terms (e.g. first and second) are meant to help in the understanding of the device and are not meant to limit the scope of the invention. Similarly, the term "front" is meant to be relative to the term "back" and the term "top" is meant to be relative to the term "bottom."

[0086] Although the concepts disclosed herein have been described in connection with the preferred form of practicing them and modifications thereto, those of ordinary skill in the art will understand that many other modifications can be made thereto within the scope of the claims that follow. Accordingly, it is not intended that the scope of these concepts in any way be limited by the above description, but instead be determined entirely by reference to the claims that follow.

The invention in which an exclusive right is claimed is defined by the following:

1. A survival backpack comprising:

(a) flotation material sufficient to provide buoyancy to enable a user to float in water, the flotation material being inherently buoyant, rather than requiring inflation while in the survival backpack to achieve buoyancy;

(b) a user accessible internal volume for containing items; and

(c) a pair of shoulder straps enabling the survival backpack to be worn by the user.

2. The survival backpack of claim **1**, wherein the internal volume is large enough to accommodate a ream of letter sized paper.

3. The survival backpack of claim 1, further comprising a torso harness for releasably securing the survival backpack to the user's torso.

4. The survival backpack of claim 1, further comprising a lower opening enabling a user to remove the contents of the internal volume in an emergency while wearing the survival backpack.

5. The survival backpack of claim 4, wherein the lower opening is accessible via at least one of a zipper and a quick release buckle.

6. The survival backpack of claim 1, wherein at the flotation material is incorporated into at least one of the following elements:

(a) the shoulder straps;

(b) a front panel that partially defines the internal volume; and

(c) a rear panel that partially defines the internal volume.

7. The survival backpack of claim 1, further comprising a rescue ring enabling the survival backpack to be coupled to a rescue line in an emergency.

8. The survival backpack of claim 7, further comprising a reinforcing strap enabling the survival backpack to withstand an increased load associated with using the survival backpack as a rescue harness, and wherein the rescue ring and reinforcing strap are configured such that the user can use the survival backpack as a seat while being moved out of an emergency situation via a rescue line coupled to the rescue ring.

9. The survival backpack of claim 1, further comprising a central zipper, the central zipper separating the survival backpack into a first portion to be worn over the user's chest, and a second portion to be worn over the user's back, wherein the central zipper extends about an entire circumference of a main body of the survival backpack.

10. The survival backpack of claim 9, wherein the central zipper provides access to the internal volume, such that when the user separates the survival backpack into the front and rear portions, the contents of the internal volume are emptied.

11. The survival backpack of claim 9, further comprising first and second straps securing the first portion to the second portion when the central zipper is in an open position and the first and second portions are separated, the first and second straps being configured to rest on the user's shoulders when the survival backpack is used as a personal flotation device.

12. The survival backpack of claim 1, wherein the flotation material comprises at least one ergonomically shaped panel configured to conform to a user's body.

13. A survival backpack that can be used as a rescue harness in an emergency, the survival backpack comprising:

(a) an internal volume in which a user can store items;

(b) a pair of shoulder straps enabling the survival backpack to be worn by the user; and

(c) a rescue ring enabling the survival backpack to be coupled to a rescue line in an emergency.

14. The survival backpack of claim 13, further comprising a reinforcing strap enabling the survival backpack to withstand an increased load associated with using the survival backpack as a rescue harness, and wherein the rescue ring and reinforcing strap are configured such that the user can use the survival backpack as a seat while being moved out of an emergency situation via a rescue line coupled to the rescue ring.

15. The survival backpack of claim 13, further comprising flotation material sufficient to provide buoyancy to enable a user to float in water, to enable the survival backpack to serve as a personal floatation device, the flotation material being inherently buoyant, rather than requiring inflation while in the survival backpack to achieve buoyancy.

16. The survival backpack of claim 13, further comprising a bottom opening enabling access to the internal volume, the bottom opening being secured in a closed position by a set of reinforcing outer elements disposed perpendicularly over the bottom opening to provide support, the bottom opening enabling the internal volume to be emptied during an emergency.

17. An item of luggage defining a user accessible internal storage volume, comprising:

(a) flotation material sufficient to enable the item of luggage to float in water when an infant or small child is disposed in the internal storage volume, the flotation material being integrated into the item of luggage, the flotation material being inherently buoyant, rather than requiring inflation while in the item of luggage to achieve buoyancy; and

(b) a harness disposed in the internal storage volume to enable the infant or small child to be secured in the internal storage volume.

18. The item of luggage of claim 17, wherein the flotation material is enclosed in a waterproof layer to prevent the flotation material from being saturated with water when the item of luggage is used as a flotation aid.

19. The item of luggage of claim 17, further comprising a rescue ring enabling the item of luggage to be coupled to a rescue line in an emergency.

20. The item of luggage of claim 17, wherein the internal storage volume is defined by:

(a) a back portion containing flotation materials enclosed in a waterproof layer;

(b) four side walls attached to the back portion, each side wall containing flotation materials enclosed in a waterproof layer; and

(c) a top portion fixedly attached to at least one side wall, the top portion securing items disposed in the internal storage volume when in a closed position, and allowing access to the internal storage volume when in an open position.

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