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(54) KAYAK CAPSIZE RECOVERY SYSTEM

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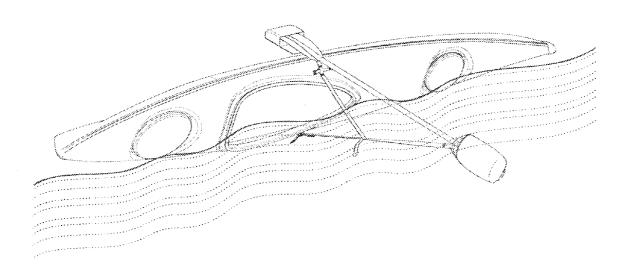
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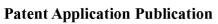
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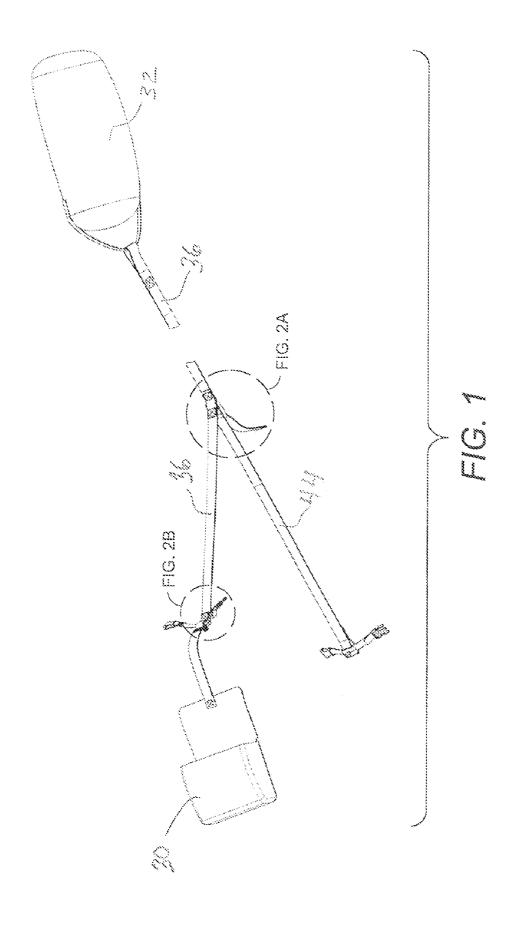
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(57) ABSTRACT

A kayak capsize recovery system. It includes a paddle with a blade on each end; a paddle float for releasable connection to one end of the paddle; a pouch connected to the kayak to receive the other end of the paddle; and a strap with inner and outer ends for releasable connection to kayak and paddle float. The pouch and said strap connect to opposite sides of the kayak cockpit. The length of strap and depth of pouch enable the system to stabilize a capsize orientation of kayak.







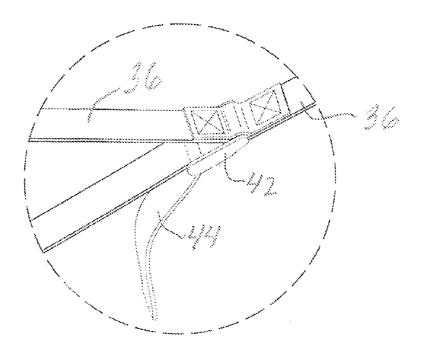


FIG. 2A

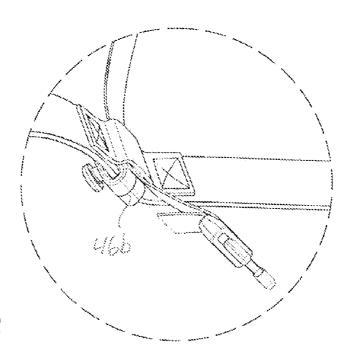
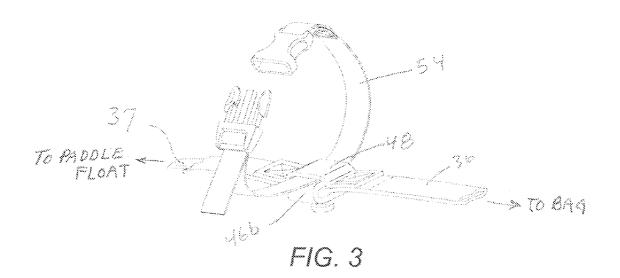
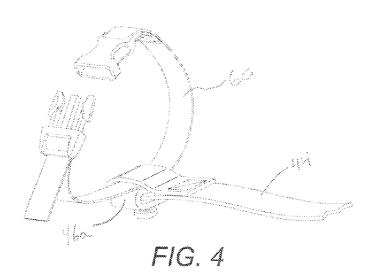
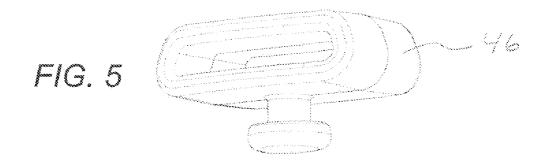


FIG. 2B







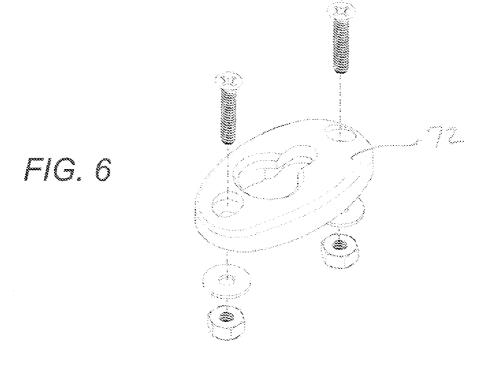
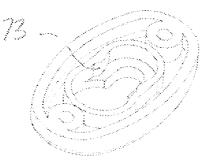


FIG. 7



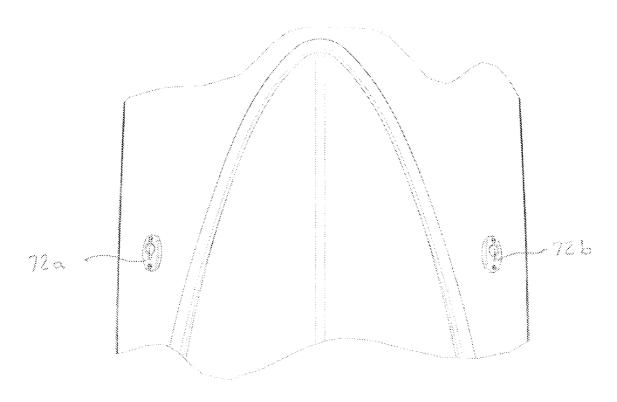
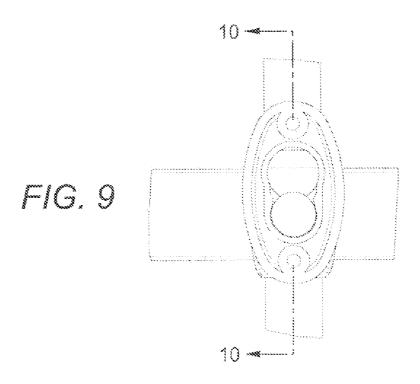
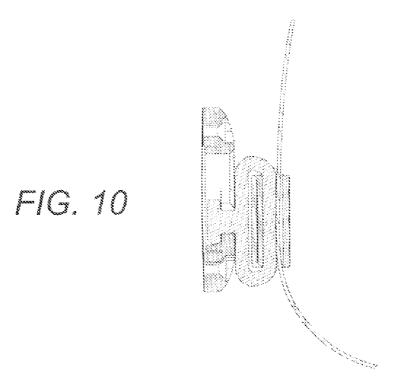
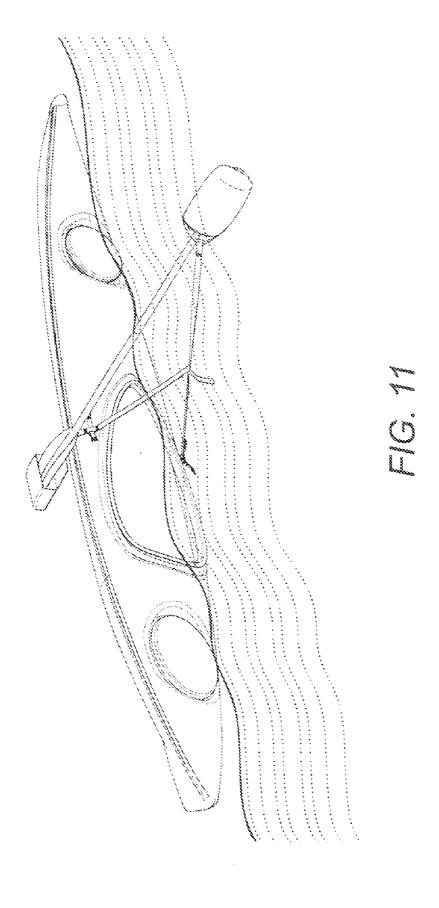
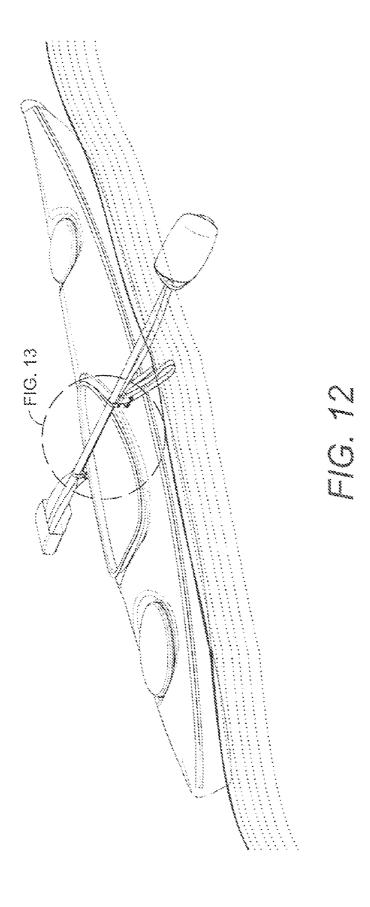


FIG. 8









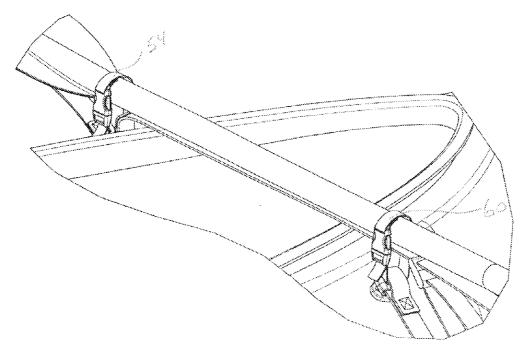


FIG. 13

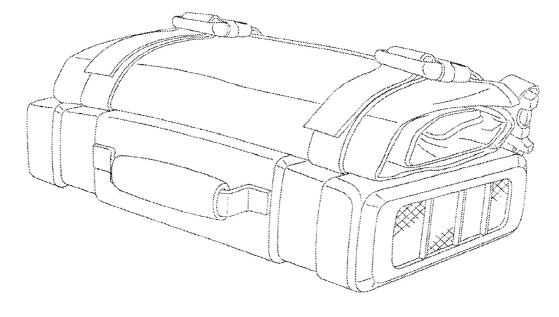
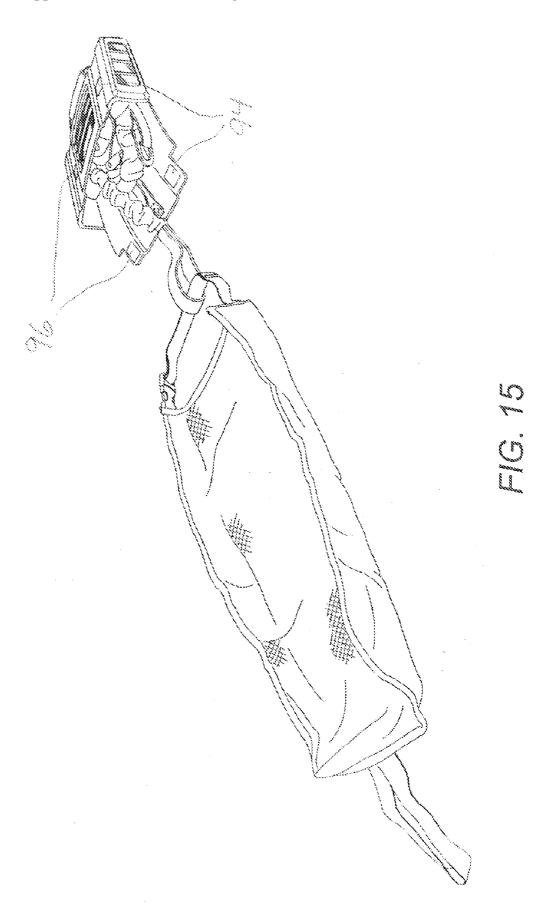
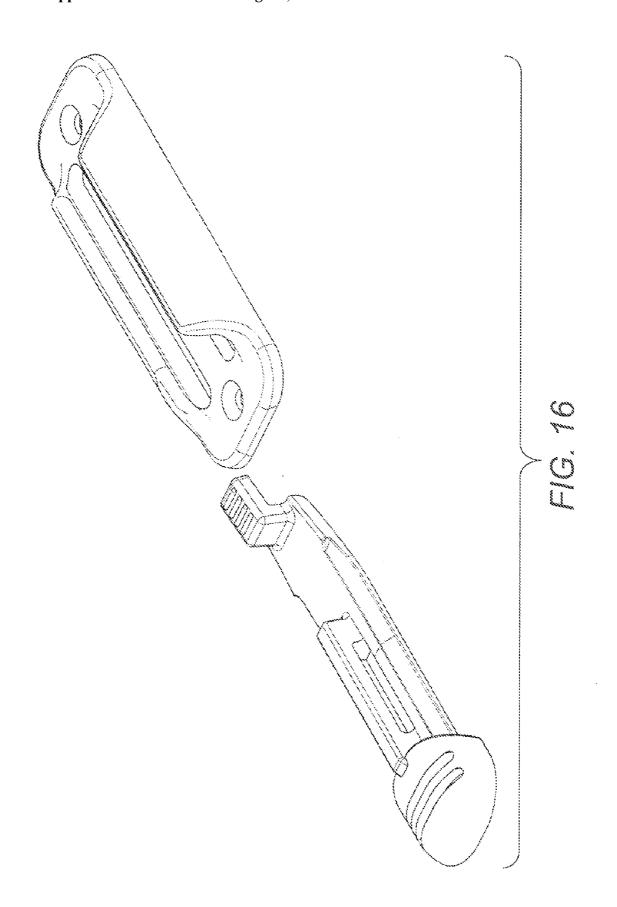


FIG. 14





KAYAK CAPSIZE RECOVERY SYSTEM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] Our related and copending Provisional Application No. 61/459,755 was filed on Dec. 20, 2010. That filing date is claimed for this application.

BACKGROUND AND PRIOR ART INFORMATION

[0002] Kayaking is a sport enjoyed by millions worldwide. It is relatively safe, but it is performed on water, and kayaks sometimes capsize due to paddler error, wind, waves and currents. Methods of re-entering a kayak have been developed for both solo and assisted rescues. Assisted rescues involve another kayaker or two kayakers coming to the assistance of the capsized and now swimming paddler. Some of these techniques are known as the T-Rescue, the H-Rescue, the X-Rescue, and the Scoop Rescue. There are also a series of techniques to re-right a capsized paddler who has remained in the kayak, holding his breath and awaiting nearby help. Two of these techniques are commonly called Eskimo bow rescue and Eskimo paddle rescue.

[0003] Kayakers are sometimes without ready assistance because they are either paddling alone, or in a group that has split apart, or because no one in the group is capable of assisting. It is therefore important for kayakers to learn and perfect one or more self rescue techniques.

[0004] Best known of the self-rescue techniques, probably because it is the most fascinating to watch, is the Eskimo roll, in which the capsized paddler remains in the kayak and executes a re-righting of the boat with body movement or, more commonly, body movement aided by use of the paddle. The problem with this approach is that it is difficult for most people to learn and once learned, it must be practiced regularly to be reliable. Because of the frequency of capsizing in rapids, whitewater kayakers generally have a reliable roll, and those that can't master the technique usually abandon the sport. But this is not the case for flatwater recreational and touring kayakers whose demographic is skewed to older, less agile people than that of whitewater kayakers. Only a small percentage of recreational and touring kayakers have reliable rolls.

[0005] Self-rescue techniques commonly taught are the Cowboy, the Paddle Float, and the Reenter and Roll (with Paddle Float). In the Cowboy Technique the kayaker rights the boat, pulls himself onto the stern of the boat and swings around to straddle the kayak with a leg on each side. Then the kayaker works his way forward until he can lower his butt into the seat and pull his legs into the cockpit. This technique requires, agility, balance, and flexibility, and it can be very difficult to perform in narrow boats, boats with small cockpits, in high winds, or rough water conditions.

[0006] The most widely used self-rescue technique is the Paddle Float Technique. The paddle float is either an inflatable bladder, a foam bead filled bag, or a rigid foam bag, capable of being slipped over or connected to one blade of a kayak paddle.

[0007] Even recreational and touring kayakers who are capable of Eskimo rolling a kayak often carry a paddle float as their backup plan should their roll fail.

[0008] In a paddle float rescue, the capsized kayaker performs a wet exit by releasing any spray skirt and pushing

himself out of the overturned boat. He then rerights the boat, extracts the paddle float from its place, slips it over one blade of the paddle and inflates it by blowing into an inflation tube until the bag is substantially full and then closing the valve. Alternatively, if the paddle float is of the foam bead or rigid foam the inflation step is not necessary. When inflated, a paddle float typically produces about 15 pounds of buoyance. The kayaker, still swimming or floating beside the kayak then positions the kayak paddle over the rear deck of the upright kayak and at 90° to the keel line. In this position, the paddle float acts as an outrigger to stabilize the kayak as the kayaker pulls himself up and onto the rear deck and hooks a leg on the extended paddle shaft. At this point he is face down over the kayak. The kayaker next turns his head toward the stern of the boat and moves both legs over the paddle shaft and into the cockpit. The kayaker then swivels himself into an upright position and lowers his butt into the seat. It is usually necessary to pump water out of the cockpit area using a hand held, manually operated bilge pump or, if available, an electric or manual bilge pump built into the boat. The final steps are to remove and stow the paddle float, reattach any spray skirt the kayaker may be wearing and resume paddling.

[0009] The difficulty with the paddle float rescue is that it requires strength, agility, and balance. The paddle float only resists capsizing in the direction toward the float and does little or nothing to resist a capsize in the opposite direction. Limited upper body strength, bulky personal floatation devices (life jackets), large bellies, gear stored on the rear deck and high rear decks on some kayaks, often make the process of getting onto the rear of the kayak very difficult or impossible for some people. The movements required to move both feet over the extended paddle shaft and place feet and legs into the cockpit call for a high degree of agility and frequently the result of the attempt is a re-capsize. The step requiring the body to swivel and corkscrew into the cockpit requires balance and also often leads to a re-capsize. Finally, the steps involving pumping, reattaching spray skirts and removing and stowing the paddle float require at least one hand and sometimes both hands off the paddle, thereby leaving the kayaker little or no support from the paddle and more vulnerable to a subsequent capsize than if paddling forward.

[0010] The propensity for re-capsizing while attempting the paddle float rescue is so high that the failure has a universally recognized name—the Yellow Rainbow—alluding to the fact that the paddle float, typically yellow in color, arcs through the air as the kayak again capsizes on the unsupported side. Each attempt to reenter the kayak expends a certain amount of energy, and, if the water is cold, prolonged exposure leads to a loss of dexterity and the onset or aggravation of hypothermia. These factors combine to make subsequent attempts to re-enter even more difficult.

[0011] Numerous efforts have been made to rectify these deficiencies of the paddle float rescue or to propose alternatives. A stirrup sling is a commonly available accessory to facilitate the paddle float rescue. It includes a closed loop of rope and often a rigid stirrup. The sling is looped over the shaft of one end of the paddle, brought under the hull of the kayak and wrapped around the paddle shaft on the side bearing the float. A loose end hangs down as a stirrup, allowing the kayaker to insert one foot and boost himself onto the stern deck. This does nothing to alleviate the awkwardness of getting both feet and legs over the paddle shaft, the agility

required to swivel into the cockpit, and the lack of support while pumping, reattaching spray skirt, and deflating and stowing the paddle float.

[0012] U.S. Pat. No. 6,129,600 discloses a triangular shaped float or a float with multiple fins to resist movement in the water as the paddler executes his various moves. This addresses only a minor problem with the general paddle float procedure.

[0013] U.S. Pat. No. 5,279,248 discloses use of a large bladder having a handle and actuated with compressed air that the kayaker can deploy while upside down, and use to re-right himself. This is a bulky item and requires recharging or replacement of the compressed air cylinder possibly rendering it useless in a subsequent capsize.

[0014] U.S. Pat. No. 6,769,378 discloses a telescopic arm bearing a collapsible container that when extended and filled with water offers a counter weight to a kayaker using a ladder platform on the opposite side of the kayak. These items are large, heavy and costly.

[0015] U.S. Pat. No. 5,542,369 discloses a very large inflatable bladder with an attached stirrup that when deployed enables the kayaker to climb back into the kayak. This arrangement is bulky as it must be large enough to support a large portion of body weight without the advantage of any leverage and is very time consuming to inflate, subjecting the kayaker to prolonged exposure in the water.

SUMMARY OF THE INVENTION

[0016] In summary, this invention is a kayak capsize recovery system. It includes a paddle with a blade on each end; a paddle float for releasable connection to one end of the paddle; a pouch connected to the kayak to receive the other end of the paddle; and a strap with inner and outer ends for releasable connection to kayak and paddle float. The pouch and said strap connect to opposite sides of the kayak cockpit. The length of strap and depth of pouch enable the system to stabilize a capsize orientation of kayak.

DRAWINGS

[0017] In the accompanying drawings:

[0018] FIG. 1 shows the arrangement of the components of the pouch and the paddle float.

[0019] FIGS. 2a, 2b show details of the attachment of components to the straps.

[0020] FIG. 3 is an expanded view of the assembly around on of the clips.

[0021] FIG. 4 is an expanded view of the assembly around the other clip.

[0022] FIG. 5 is a view of the clip

[0023] FIG. 6 is a view of the top of the receiver fitting

[0024] FIG. 7 is a view of the bottom of the receiver fitting.

[0025] FIG. 8 is a view of two receiver fittings attached to a kayak.

[0026] FIG. 9 is a bottom view of a clip engaged in a receiver fitting.

[0027] FIG. 10 is a cross-sectional view of the clip engaged in a receiver fitting.

[0028] FIG. 11 is a view of the apparatus attached to a kayak with the kayak in the water and on its side.

[0029] FIG. 12 is a view of an uprighted kayak with the paddle shaft clamped down.

[0030] FIG. 13 is a detail view of the paddle shaft of the paddle shaft clamped down.

[0031] FIG. 14 is a view of the apparatus packed in the pouch with a paddle float attached to the pouch.

[0032] FIG. 15 is a view of the initial stage of deployment of the pouch contents.

[0033] FIG. 16 shows alternative designs for the clip and receiver fitting.

GENERAL DESCRIPTION

[0034] The object of this invention is to provide a compact, quick, and reliable apparatus and method to re-enter a kayak after a capsize and subsequent wet exit. This apparatus and method is applicable only to kayaks with adequate bow and stern floatation, usually provided by bulkheads fore and aft creating dry compartments in the bow and stern or by floatation bags, large shaped bladders filled with air to occupy volume in the bow and stern. A kayak with floatation in only one end will not lie level and a kayak without any floatation will take on too much water. For this apparatus and method to succeed, a kayak must be able to lie level on its side with its cockpit open to the water.

[0035] The apparatus includes two receiver fittings fixed to the deck of the kayak, one on each side of the cockpit, a pouch containing a set of straps with two clips for engagement with the receiver fittings, and an inflatable paddle float (rigid or semi-rigid). These items are all together in a compact rescue kit. Upon capsize and wet exit, the kayaker retrieves the rescue kit, unrolls and slips the paddle float over one blade of the kayak paddle, inflates the paddle float, pulls on the handle of the pouch to release its contents and places the pouch over the other blade of the kayak paddle. Elasticity of the strapping provides tension to keep the paddle float and pouch engaged with their respective ends of the paddle. The kayaker then attaches the two clips to the two deck receiver fittings and rolls the boat on its side. Strap length, which is adjustable, is preset to the configuration of the kayak and paddle so that when turned on its side, the kayak is held in this slightly over-center position with a lower strap in tension and the paddle shaft in compression. In this position the kayak is stable and on its side, with the cockpit presented to the kayaker such that the kayaker can easily wiggle into the cockpit, contact his lower leg with the underside of the deck or thigh brace, and right the boat by easily rolling the hips and exerting a small pressure on the paddle shaft. With the kayak now in the upright position, small straps affixed to the clips are connected over the paddle shaft on each side of the cockpit to clamp the paddle horizontally against the cockpit rim. In this position the paddle, with paddle float still inflated and attached, serves as a rigid outrigger to stabilize the boat. This frees the kayaker's hands to retrieve and use his bilge pump to remove water from the cockpit area. As long as the kayaker biases his weight toward the outrigger, the boat will be stable.

[0036] At this point, although the kayaker is back in the cockpit and upright, the recovery procedure is still in process, albeit in the "cleanup" stage. The kayaker now pumps out the boat, dismantles the paddle/outrigger, deflates the paddle float, and stores the apparatus. Now, during this cleanup stage, if the kayaker should for some reason capsize again, the cleated paddle shaft could interfere with his wet exit. In that event, the clips will disengage from the receiver fittings with a forward push on the paddle shaft. The kayaker can now free

himself from the cockpit and repeat the recovery procedure. This self-rescue technique can be performed from either side of the boat.

DETAILED DESCRIPTION

In which Certain Terms of Art May be Initial-Capitalized for Easy Reference

[0037] FIG. 1 shows the layout of straps and components used in the apparatus. Main strap 36 is made of 1" tubular webbing with a hollow core. The strap 36 is about 66" long. It includes a loop at one end for connection to the paddle float. Paddle floats commonly have straps, detachable on one end, to be passed through the loop and re-attached to the paddle float. The loop is sized to allow the paddle float strap and its connector to pass through it. In this manner, similarly equipped and currently available paddle floats can be used without modification. Other means of attaching the free end of strap 36 to the paddle float may also be employed, including making strap 36 an integral part of the paddle float.

[0038] Apparatus pouch 30 is attached to the other end of strap 36. The pouch 30 is made of cloth, plastic, compression molded foam or other material. The pouch has fixed sides and a closeable top flap. The pouch serves two functions, first to contain straps and attached components for storage and, second to constrain one paddle end when the apparatus is deployed for reentry.

[0039] At about the middle of strap 36, cam buckle 42 is attached by a short strap 44 which is 1" wide. It passes through cam buckle 42. It is length adjustable by depressing the cam buckle lever, repositioning strap 44 and releasing the cam buckle lever. Once set, the active length of strap 44 is fixed and will not slip. The effective length of strap 44 is about 20", but is adjustable to meet requirements of boat and paddle. The proper length of strap is what is necessary to tilt the kayak just a bit over center as it lies on its side. It is intended that this length is preset prior to use but it is important that it be adjustable during a reentry attempt if necessary. This situation might arise if the kayaker has forgotten to preset it, or is using a different length paddle than the preset condition, or if he shares the apparatus with other kayaks of different widths.

[0040] The free end of the strap 44 is passed through clip

[0040] The free end of the strap 44 is passed through clip 46a, folded back on itself, and sewn together to secure the clip 46a to strap 44.

[0041] Referring back to strap 36, clip 46b is attached to strap 36 about 22" from the bottom of the pouch. This length should be enough to extend from the tip of the paddle blade to the throat of the blade where it joins the paddle shaft, or longer. This is not adjustable, so this dimension must consider the population of kayak paddles and determine the length based upon that population.

[0042] The length of strap 36 determines the maximum length paddle that can be used with the apparatus, and it depends on the dimensions of the paddle float 32 and pouch 30. For recreational and touring kayaks, paddles longer than 240 cm (90.5") and shorter than 200 cm (78.8") are seldom used. In general the relationship for the length of strap 36 is:

[0043] Strap 36 length is greater than or equal to 90.5" minus paddle float length* minus pouch flap length**.

[0044] *from bottom of float to point of connection with strap 36.

[0045] **from open face of the pouch to point of connection with strap 36.

[0046] An elastic band 37 extends inside the hollow strap 36 from the end loop of strap 36 at the paddle float to clip 46b, about 22" from the pouch 30.

[0047] The elastic band 37 inside the strap 36 determines minimum paddle length to be used. Given a paddle at the short limit (78.8") the elastic band must still provide tension to retain the pouch over the end of the paddle. The elastic band may extend from the paddle float end of strap 36 to the attachment point of clip 46b. The general relationship for free length of the elastic band is:

[0048] Elastic band free length is less than or equal to 78.8" minus paddle float length minus 22" minus preload length**.

[0049] *from end of pouch to clip 46b

[0050] **length necessary to subtract to provide adequate preload an the minimum length.

[0051] The elastic band must not be stretched beyond its elastic range when used with a long paddle. The general relationship for the minimum extended length of the elastic band is:

[0052] Extended length of elastic band is greater than or equal to the length of strap 36 minus 22"* minus pouch flap length.

[0053] *from end of pouch to clip 46b

[0054] Summarizing for the stated conditions, the elastic band inside strap 36 must have a free length of no more than 32.8" and be capable of stretching to 48.5". This is an elongation of 48% and is achievable with available elastic materials.

[0055] It is the sole function of the elastic band to provide tension to retain the pouch on the paddle blade until the apparatus is fully installed and the kayak is rotated on its side.

[0056] It is the sole function of the strap 36 to provide a stiff (non-compliant) connection from paddle float to cam buckle, and from clip 46b to pouch flap. Other means to provide this function include a coiled leash similar to that used by stand up paddle boarders and surf ski paddlers.

[0057] FIG. 3 shows the connection of clip 46b to strap 36. Strap 36 passes through a slot of clip 46b. Strap 48, a section of 1" webbing, is sewn onto strap 36 forming a closed containment for the clip.

[0058] FIG. 4 shows the connection of strap 44 with clip 46a. Strap 44 passes through a slot feature of clip 46a and is folded back passing over the slot feature and sewn to itself.

[0059] FIG. 5 shows a clip 46. The clip is molded, cast, or machined of metal or plastic, about 1.4" long, 1" wide, 0.5" high, with a stud-like feature that protrudes about 0.325" below. Clip 46 can be of plastic or metal. If metal, it must be passivated in some manner to protect it from water and salt corrosion. Two clips shown are designated 46a and 46b but are otherwise are identical.

[0060] FIGS. 6, 7 show top and bottom of the receiver fitting 72; about 2" long, 1.1" wide, 0.4" high. Receiver fitting 72 has a keyhole feature to receive the stud of clip 46 and to provide for its retention. Protrusions 73 create a detenting force that keeps the clip from inadvertantly slipping out of the receiver fitting. The receiver fitting also has countersunk holes for bolts used to attach it to the kayak. Because the two receiver fittings are permanently attached to the kayak, it is desirable that the receiver fittings be small and with smooth features to avoid causing injury if brushed against. Furthermore, the receiver fitting should have a very low possibility of snagging clothing or other articles of a paddler's attire or gear he may use. Receiver fitting 72 can be molded with simple

open-closed tooling using a water compatible, UV resistant, fiber-filled material such as carbon filled nylon or carbon filled acetal. The receiver fitting may also be machined from plastic stock. Design and choice of materials has to meet the strength requirements. Testing can determine these specifications. Receiver fittings 72*a*, 72*b* are identical.

[0061] FIG. 8 shows receiver fittings 72a and 72b attached to the deck of the kayak. Their location is somewhat arbritary, but ideally it is about a forearm's length in front of the seated paddler, near the cockpit rim and on a substantially horizontal portion of the kayak deck. This location gives adequate room for the paddler to reenter the kayak while it is resting on its side, and yet close enough for the kayaker to easily exert pressure on the paddle shaft during roll-up to the upright position. Mounting the receiver fittings in a substantially horizontal orientation facilitates the paddle strapping to the cockpit rim as part of the "cleanup" phase. Otherwise, the straps have to twist. The location of the receiver fittings on the boat should not interfere with the ability of the kayaker to attach his sprayskirt to the cockpit rim or to release it. Other considerations that may warrant adjustment to the location such as the presence of contours on the deck top or bottom sides that could interfere with the secure mounting. The orientation of the receiver fittings with the narrow portion of the keyhole facing aft is important.

[0062] Clip 46 and receiver fitting 72 cooperate to connect the associated straps to the kayak. FIG. 9 is a bottom view and FIG. 10 a cross-section view of the clip engaged into the receiver fitting. The engagement of clips and receiver fittings is done while the kayaker is in the water and is greatly facilitated by the configuration of these parts. First, the larger opening of the keyhole feature has a substantial chamfer around its periphery. Similarly the stud feature of the clip is also chamfered. These chamfers work together to facilitate positional alignments of the stud over the keyhole opening. Second, once the clip is positioned over the keyhole opening, pressing it down also aligns the plane of its bottom surface with the plane of the top surface of the receiver fitting. Finally, the action of sliding the clip toward the kayak stern snaps it into place as the stud pushes past the detent feature. In testing, the ease of making connection with the designs of clip and receiver fitting has been judged superior to other approaches, such as the linear slide shown in FIG. 16. This is important if water is cold, the kayaker nervous or fatigued, or other problems exist that diminish the kayaker's concentration and dex-

[0063] FIG. 11 is a view of the apparatus attached to the kayak and the kayak resting on its side. The view of the cockpit area shows the ample space allowed for the kayaker to insert his legs into that area. The preferred procedure for entry into the cockpit is for the kayaker to position himself vertically in the water near the rear of the cockpit with one arm, in the case shown, the left arm, draped over the kayak and the right hand on the paddle shaft. This provides support to the kayaker while he inserts both feet and legs into the cockpit, wiggles into place until he can obtain a contact of his right leg to the underside of the deck, or thigh brace if the kayak is so equipped. Once the right leg has this connection, an easy and simple roll of the hips while exerting a slight pressure on the paddle shaft brings the kayak into the upright position with the kayaker in the seat.

[0064] FIG. 12 is a view of the upright kayak. FIG. 13 shows two sets of straps engaged to clamp the paddle shaft against the cockpit rim. Referring back to FIG. 3, strap 54 is

a 5% inch wide woven strap of nylon, polyester or similar material. One end is terminated with the female end of a side release buckle. The other end is adjustably attached to the male end of a side release buckle. Side release buckles of this nature are readily available. Strap 54 passes through the opening formed by a patch of strap material, sewn as shown. It is free to slide within this constraint up to the limits of the side release buckle parts. The merits of this slideable feature are discussed below.

[0065] Referring again to FIG. 13, once the kayak is upright with the kayaker in his seat, he restrains the paddle shaft against the cockpit rim by wrapping straps 54 and 60 over the paddle shaft, snapping together the side release buckles of each strap and if necessary adjusting the strap length using the adjustment capability of the side release buckles. Because straps 54 and 60 can slide within the limits of their attachment to the clip, they can be positioned so that the buckle is facing the kayaker and more easily accessed. This can be done regardless of whether the kayaker reentered the kayak from left or right sides.

[0066] When the paddle with the inflated paddle float is secured to the kayak, paddle and float together act as an outrigger. The kayaker simply biases his weight toward the outrigger to obtain a very stable condition. Without this feature, a kayak partially full of water is much less stable and is more prone to capsize than an empty kayak. With this feature, the kayaker is secure and both hands are free to attend to getting settled in the kayak and pumping water out of the cockpit area.

[0067] FIG. 14 shows straps and clips of the apparatus enclosed in the pouch, and the paddle float rolled and connected to the pouch. The entire package is about 9" wide, 4" high, 3" deep. This small and compact package facilitates stowage in the kayak in locations having ready access. One preferred spot is immediately behind the kayak seat. The pouch may be made from fabric such as a heavy duty nylon, or a compression mold of plastic foam, or other materials. Cutouts or vents in the material allow for drying of the contents

[0068] FIG. 15 shows an initial deployment of the contents of the pouch. Fasteners 94, 96 are patches of the Velcro hook and loop fastener system. For storage, the pouch flap is held closed by hook patches engaging to loop patches attached to the pouch. During deployment, with the paddle float attached to a paddle blade and inflated, pulling on the handle of the pouch causes fasteners 94, 96 to release thereby opening the pouch and freeing the contents. With one hand still pulling on the pouch handle, the pouch is then placed over the blade at the opposite end of the paddle.

[0069] FIG. 16 shows another design for a clip and a receiver fitting, in which engagement is made by sliding the clip 96 into the receiver fitting 94.

[0070] In the following claims, any terms indicative of orientation (e.g. top, bottom; left, right; horizontal, vertical) are meant only to correspond with the illustrations thereby to facilitate an understanding of the claimed invention. Such terms are not intended as positive limitations.

[0071] The foregoing description of a preferrred embodiment, including any dimensions, is illustrative. The scope of the present invention is not limited by such details, but only by the following claims.

- 1-5. (canceled)
- **6**. A kayak capsize recovery system for a kayak having a cockpit and deck, said system including:
 - a paddle including a paddle shaft with a paddle blade at each end thereof:
 - a paddle float for releasable placement on one of said blades:
 - a pouch for releasable placement on the other of said blades;
 - a first strap for connection to said float and to said pouch to releasably hold said float and said pouch in place on their respective blades; said first strap, at a portion thereof adjacent to said pouch, adapted for releasable connection to a first connection point on said kayak deck at one side of said cockpit;
 - a second strap for operative connection to said float and for releasable connection to a second connection point on said kayak deck at the opposite side of said cockpit from said first connection point;
 - said paddle, paddle float, pouch, and first and second straps, all together forming an outrigger to stabilize a semicapsize orientation of said kayak to facilitate kayaker reentry thereinto.
- 7. A kayak capsize recovery system as defined in claim 6, wherein said first strap is length-adjustable, thereby to secure said paddle float and said pouch to said paddle.
- **8**. A kayak capsize recovery system as defined in claim **6**, wherein said first strap is elastic to stretch over said paddle float and said pouch, thereby to secure said paddle float and said pouch to said paddle.
- **9.** A kayak capsize recovery system as defined in claim **6**, wherein strap connections at said first and second connection points are quick-releasable in response to thrust, lengthwise of said kayak, against said paddle shaft by a kayaker in said cockpit.
- 10. A kayak capsize recovery system for a kayak having a cockpit and deck, said system including:
 - a paddle including a paddle shaft with a paddle blade at each end thereof;
 - a paddle float for releasable placement on one of said
 - an apparatus pouch for releasable placement on the other of said blades;

- strapping including a main strap connected to said paddle float and to said apparatus pouch, and a branch strap extending from an intermediate point of said main strap;
- said main strap, at a portion thereof adjacent to said apparatus pouch, adapted for releasable connection to a first connection point on said kayak deck at one side of said cockpit:
- said branch strap adapted for releasable connection to a second connection point on said kayak deck at the opposite side of said cockpit from said first connection point;
- said paddle, paddle float, pouch, and strapping, all together forming an outrigger to stabilize a semicapsize orientation of said kayak to facilitate kayaker reentry thereinto;
- said paddle float including an inflatable air bag, said paddle float in a deflated condition thereof being packable with said strapping into said apparatus pouch.
- 11. A kayak capsize recovery system as defined in claim 10, wherein said first strap is length-adjustable, thereby to secure said paddle float and said pouch to said paddle.
- 12. A kayak capsize recovery system as defined in claim 10, wherein said first strap is elastic to stretch over said paddle float and said pouch, thereby to secure said paddle float and said pouch to said paddle.
- 13. A kayak capsize recovery system as defined in claim 10, wherein strap connections at said first and second connection points are quick-releasable in response to thrust, lengthwise of said kayak, against said paddle shaft by a kayaker in said cockpit.
- **14**. A kayak capsize recovery system for a kayak having a cockpit and deck, said system including:
 - a paddle including a paddle shaft with a paddle blade at each end thereof;
 - a paddle float for releasable placement on one of said blades;
 - a pouch for releasable placement on the other of said
 - strapping to secure said paddle float and said pouch to said paddle to form a temporary outrigger for said kayak; and first and second securing straps to releasably secure said paddle shaft to respectively first and second connection points on opposite sides of said kayak deck.

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