A rescue line device is provided which includes a casing member, a rescue line and a float member. The casing member includes an inner volume that stores the rescue line during non-emergency situations. The line is connected at a first end to the casing member and at a second end to the float member. The line includes a pair of loops near the second end to allow the rescued person to grab onto during rescue situations. One of the loops also allows the user to impart a whipping action of the float member and rescue line during the throw to achieve great length and accuracy on a rescue throw.
RESCUE LINE DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates generally to the field of rescue equipment and, more particularly, to a rescue line device for water stranded persons.

BACKGROUND OF THE INVENTION

[0002] Lakes, ponds, rivers and oceans have been a part of our folklore forever. Many recreationists travel to these waters for many activities including boating, fishing, swimming and ice fishing. All too often people are stranded in the water for many reasons.

[0003] For example, some people may fall overboard while boating, fall into a river while fishing, become too tired or panicky while swimming or fall through broken ice while ice fishing. Many times people are inadequately prepared with the proper safety equipment to perform rescue.

[0004] Boaters typically carry life preservers on board. These foamy circular devices are often difficult to target while throwing for several reasons. The circular shapes often cause a frisbee effect which decreases the chance of an accurate throw. With time being of the essence in such rescue situations, the device must either be retrieved and re-thrown or the swimmer must swim to the device itself, which presents obvious problems. Retrieving the preserver is slow because of the drag presented by the shape of the preserver as it is pulled through the water.

[0005] Also, storing the life preserver on board presents additional problems should the life preserver be connected with a line. If the line is wound about the preserver, then the line must be unwound prior to tossing. Should the line be unwound then the preserver must be stored in a closed location so that the line does not become moved and wound about itself. Further, for an unwound rope it is difficult to locate the loose end of the rope.

[0006] For the ice fishing and other situations in which the recreationist must travel on foot, the life preserver presents additional transportation problems because of its bulky shape and size. These pedestrian recreationists usually travel as light as possible so as to conserve energy for their activities.

OBJECTS AND SUMMARY OF THE PRESENT INVENTION

[0007] It is an object of the present invention to improve the art of rescue line devices.

[0008] It is a further object of the present invention to improve the art of throwing rescue line devices.

[0009] It is another object of the present invention to improve the art of storing rescue line devices.

[0010] It is a yet a further object of the present invention to improve the art of transporting rescue line devices.

[0011] It is a feature of the present invention to provide a self contained rescue line device.

[0012] It is another feature of the present invention to provide a self contained rescue line device which includes a float member, line and a casing which stores the line when not in use during rescue situations.

[0013] It is a further feature of the present invention to provide a rescue line device which does not require the use of a propellant having stored energy, such as a compressed gas, gunpowder or spring type mechanism to achieve great distances on a rescue throw. Without such stored energy, the rescue line device of the present invention is safely handled by children.

[0014] These and other objects and features are provided in accordance with a rescue line device which includes a float member, line connected to the float member and a casing. The casing includes an inner volume which stores the line folded thereinto. The line is connected at a first end to the casing so that it does not become lost during throwing. The second end of the line is connected to the float member.

[0015] The float member mates to the casing at the casing open end so that the entire device is self contained. Two loops are disposed in the line near the float member. The loops are used for throwing and also for holding by the person who is rescued.

[0016] A small loop which extends through the closed end of the casing allows for easier transport and visible storage of the device, by hanging the device from the small loop. The small loop also wraps around the throwers wrist to prevent disengagement during the throwing process.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The present invention will be understood and appreciated more fully from the following detailed description taken in conjunction with the drawings in which:

[0018] FIG. 1 is a front elevation view of the rescue line device of the present invention in accordance with a rescue situation;

[0019] FIG. 2 is a front elevation view of the rescue line device of the present invention in accordance with a non-rescue situation;

[0020] FIG. 3 is a perspective view of the rescue line device showing an alternative embodiment of a mating method between the float member and the casing;

[0021] FIG. 4 is a front elevation view of the rescue line device of the present invention depicting another alternative embodiment of a mating method between the float member and the casing; and

[0022] FIG. 5 is a front cross sectional view of the rescue line device of the present invention in which a handle is disposed at the bottom of the casing.

DETAILED DESCRIPTION OF THE PRESENT INVENTION

[0023] The present invention shall now be described in accordance with a preferred embodiment. It shall become apparent to one skilled in the art that various modifications to the preferred embodiment can be made without departing from the spirit and scope of the claims.

[0024] Referring now to FIG. 1, there is shown a rescue line device 10 of the present invention in a rescue situation. The casing 12 is shaped to include an inner volume 14. Referring to FIG. 2, a cross sectional view of the casing 12 shows how a rescue line 16 is stored within the inner volume 14 during non-rescue situations.

[0025] Typically, the line 16 is simply stuffed within the inner volume 14. During the non rescue situation, a float member 18 mates with the casing 12, thereby closing the inner volume 14. Thus, the line 16 is not free to move about so that it does not become wound about itself.

[0026] The line 16 is connected at a first line end 20 within the casing 12. The first line end 20 is tied to an eyelet 22 within the casing 12. A lower exterior portion 24 of the casing 12
includes a second eyelet 26 which allows the rescue line device 10 to be strapped to a persons belt (not shown) or to be hung or strapped to various other objects (not shown). For example, on a boat the rescue line device 10 may be hung from various objects within the boat, thus providing greater visibility and access to the rescue line device 10.

[0027] Alternatively to the eyelets 22 and 26, the casing 12 includes an opening 28 in which the first line end 20 is fitted through the opening 28 and loop 30 is tied outside of the opening 28, depicted in FIG. 1. The loop 30 cannot fit back through the opening 28 so that it provides the desired strapping and hanging features described above. This loop 30 also is strapped about the user’s non-throwing hand, so that the casing does not become dislodged from the user’s non-throwing hand during a rescue throw or pull.

[0028] Turning back to FIG. 1, a second line end 32 is tied to the float member 18. Two loops 34 are provided near the second line end 32. These loops 34 allow the person who is being rescued to either hold onto, one for each hand, or to wrap their hands therein to prevent themselves from becoming disengaged from the rescue line device 10 during rescue. The loop 34 is also used for throwing as will be described herein. It should be obvious that the rescue line device 10 will operate with a single loop 34.

[0029] The are many ways to which the float member 18 may be mated with the casing 12. In the embodiment depicted in FIG. 2 the float member 18 is simply friction fitted to within a portion of the inner volume 14. In other embodiments, the float member 18 and the casing 12 may include mating threaded portions 36 and 38, depicted in FIG. 3. For example, the mating threaded portions 36 and 38 may be Acme™ thread which allows for dirt and dust to be accumulated in a vacant thread area so that mating the threaded portions 36 and 38 is not affected.

[0030] The float member 18 and casing 12, may also be fitted together using a pin 40 and groove 42 for a simple push and twist fit, depicted in FIG. 4. It should be apparent to one skilled in the art that many other types of fitting will mate the float member 18 to the casing 12.

[0031] In a preferred embodiment, the line 16 is a braided line having an appropriate tensile strength with a safety factor to rescue the desired weighted person. For example, a line for a one hundred and eighty pound adult requires a tensile strength of approximately 1800 psi with a ten percent safety factor. Other tensile strength lines may work as well. Stronger ropes are typically thrown less of a distance, but give greater pulling capability, while weaker strength ropes allow for greater throwing distance, but less pulling capability.

[0032] Alternatively, the line 16 may be a polypropylene line of similar strength that floats better and is less expensive. It should be obvious that various additional materials may be suitable to provide an adequate line.

[0033] In a preferred embodiment, the float member 18 preferably includes an elliptical portion 44 which provides for a more predictable and accurate flight pattern during rescue situations. The float member 18 is preferably hollow which provides for improved floating and also deforms to provide a stronger frictional fit as described above.

[0034] It is preferable that the float member 18 be a blow molded vinyl material. The float member 18 further includes an eyelet 46 through which the second line end 32 is tied. The float member 18 may also include an inflation valve 48 depicted in FIG. 1 which allows the user to maintain a constant pressure within the blow molded vinyl. A float member 18 may also be injected molded or be of a non-vinyl, rigid foam or other material, typically a plastic. It should be obvious that various additional materials are suitable for providing the float member 18 of the present invention.

[0035] The casing 12 may be blow molded or injected molded as well. The casing 12 may also include a handle member 50 depicted in FIG. 4, for grasping during throwing operations. The handle member 50 may be placed at various location along the casing 12, including at the lower exterior portion 24, as depicted in FIG. 5.

[0037] In use, the user disengages the float member 18 from the casing 12. The user then grabs one of the loops 34, whichever is the most comfortable for throwing. The loop 34 allows the user to impart a whipping action of the float member 18 and rescue line 16 during the throw to achieve great length and accuracy on a rescue throw. The user whips the float member 18 backward and releases as the float member 18 comes forward to provide for lift and distance. By whipping the float member 18 back and forth prior to release, a greater release speed is achieved, thus multiplying the force at which the float member 18 is released. As such, great throwing distances are accomplished by novice, weak or young throwers.

[0038] The underhand whipping action of the float member 18 is the best method for achieving great distances and easily outpaces an overhand throw because of the great speeds generated by such whipping action.

[0039] One advantage of this whipping action is that a propellant is not required to achieve great distances on the throw. As such, the rescue line device 10 is able to be safely handled by children.

[0040] Once the float member 18 lands, in the water the stranded person grabs the float member 18 and pulls the line 16 until he reaches the loops 34. The stranded person then wraps the loops 34 about each hand and holds the line 16 and float member 18.

[0041] The user then pulls the line 16 in hand over hand action until rescue is complete.

[0042] After rescue, the user simply stuffs the line 16 back into the inner volume 14 and mates the float member 18 the casing 12 for storage.

[0043] The rescue line device 10 of the present invention may be of various sizes depending on the applicability. For on boat uses, the rescue line device 10 will typically be of larger size than for pedestrian type uses, such as ice fishing.

[0044] Various changes and modifications, other than those described above in the preferred embodiment of the invention described herein will be apparent to those skilled in the art. While the invention has been described with respect to certain preferred embodiments and exemplifications, it is not intended to limit the scope of the invention thereby, but solely by the claims appended hereto.

What is claimed is:

1. A rescue line device comprising:
a casing member having an inner volume;
a line which fits within said inner volume during non-rescue situations, said line including a first end which is mated to said casing member and a second end; and
a float member which mates with said casing member during non-rescue situations, wherein said second line end mates with said float member.
2. The rescue line device of claim 1, further including at least one line loop disposed in said line in proximity to said second line end.

3. The rescue line device of claim 1, further including at least one casing loop which extends from an exterior portion of said casing member.

4. The rescue line device of claim 1, wherein said float member includes at least one elliptically shaped portion.

5. The rescue line device of claim 1, further including mating means for mating said casing member with said float member, wherein said mating means is selected from the group consisting essentially of a friction fit, a pin and groove fit and a threaded fitting.

6. The rescue line device of claim 1, wherein said casing member includes at least one eyelet within its inner volume and wherein said first line end is mated to said eyelet.

7. The rescue line device of claim 1 wherein said float member includes at least one eyelet which mates with said second line end.

8. The rescue line device of claim 1, wherein said casing member includes at least one eyelet on its exterior surface.

9. The rescue line device of claim 1, wherein said casing member includes an opening therethrough.

10. The rescue line device of claim 9, wherein said first line end fits through said opening, wherein said first line end includes a loop adjacently disposed exteriorly to said opening.

11. The rescue line device of claim 1, wherein said casing member further includes a handle disposed thereon.

12. A rescue line device comprising:
   a casing member having an inner volume;
   a line which fits within said inner volume during non-rescue situations, said line including a first end which is mated to said casing member and a second end;
   a float member which mates with said casing member during non-rescue situations, wherein said second line end mates with said float member;
   mating means for mating said float member to said casing member; and
   at least one loop disposed in said line proximate to said second line end.

13. The rescue line device of claim 12, wherein said at least one loop further includes pair of loops spaced less than two feet apart from each other.

14. The rescue line device of claim 12, further including handle means disposed on said casing member.

15. The rescue line device of claim 12, wherein said casing member further includes an inner eyelet disposed within its inner volume and said first line end is secured to said inner eyelet.

16. The rescue line device of claim 12, wherein said casing member includes an opening therethrough.

17. The rescue line device of claim 16, wherein said first line end fits through said opening, wherein said first line end includes a loop adjacently disposed exteriorly to said opening.

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