

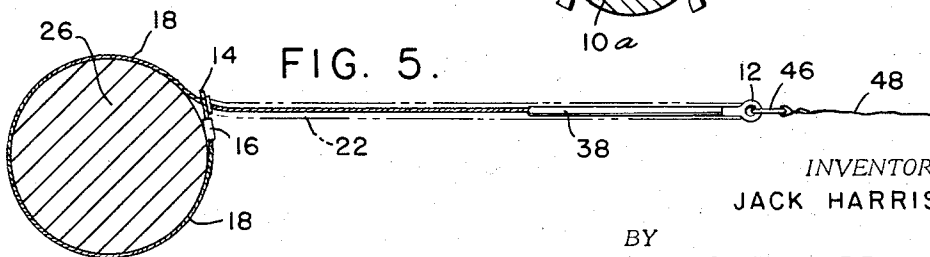
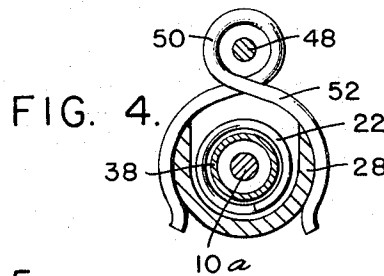
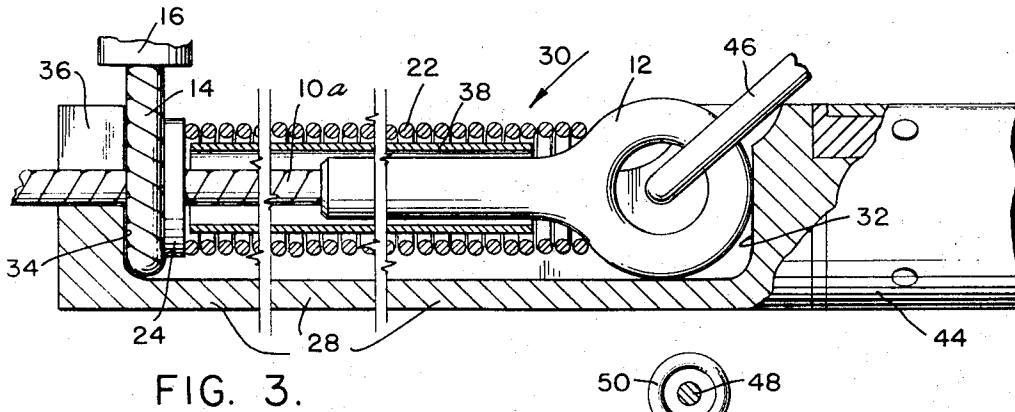
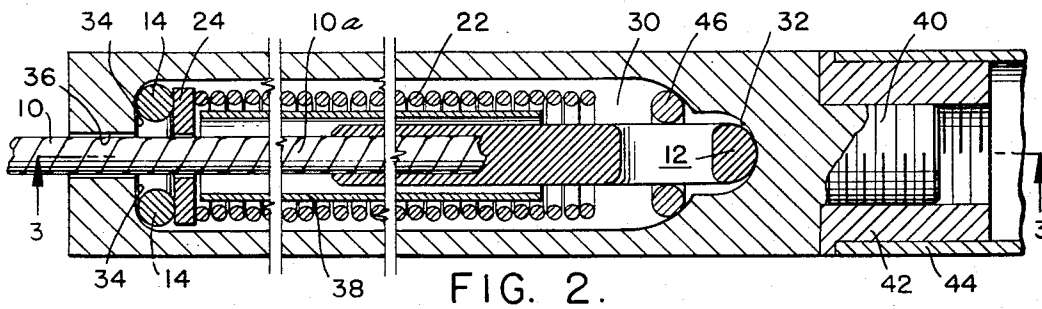
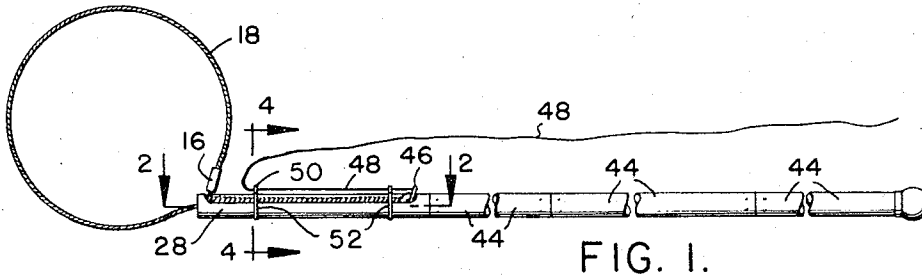
Sept. 24, 1968

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3,402,959

TORPEDO RETRIEVING SNARE

Filed Jan. 13, 1967



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3,402,959

TORPEDO RETRIEVING SNARE

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Filed Jan. 13, 1967, Ser. No. 609,725
6 Claims. (Cl. 294-19)

ABSTRACT OF THE DISCLOSURE

A snare for attachment to a floating object, such as a torpedo, comprising a cable loop urged toward closed position by an extensible spring, and a removable pole having abutments for retaining the spring compressed until the loop is disposed around the object.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

This invention relates to apparatus for recovering floating objects, such as torpedoes, which rise to the surface of the sea after a test or other run.

In the testing of torpedoes it is common practice to recover same at the surface of the sea after the termination of a test run. The torpedo, if buoyant, rises to the surface after the run, and if nonbuoyant, ballast is dropped from it at the termination of the run, to render it buoyant. The floating torpedo may be located by helicopter which hovers over it and from which personnel attach the snare and a buoy, after which the entire apparatus is recovered by a surface ship.

One of the objects of the invention is to provide a cable snare which may be attached to a torpedo from a helicopter.

Another object is to provide a pole for attaching the snare to a torpedo which is readily removable from the snare after it is attached.

Still further objects, advantages, and salient features will become apparent from the description to follow, the appended claims, and the accompanying drawing in which:

FIG. 1 is an elevation of the subject of the invention, portions being broken out;

FIG. 2 is an enlarged cross section taken on line 2-2, FIG. 1, portions being broken out;

FIG. 3 is a cross section taken on line 3-3, FIG. 2;

FIG. 4 is a cross section taken on line 4-4, FIG. 1; and

FIG. 5 is an elevation, similar to a portion of FIG. 1, illustrating the invention attached to a captured object.

Referring now to the drawing, the invention comprises a cable 10 having an eye 12 secured to one of its ends, such as by swaging, and an eye 14 at its other end formed as a loop swaged to a sleeve 16. Prior to forming one of the eyes, an intermediate or bight portion of the cable is disposed within eye 14. The cable is thus provided with a conventional snare loop 18, FIG. 1, which may be contracted by pulling end 10a, FIGS. 2 and 3, through eye 14.

A compression spring 22 surrounds end 10a, one end abutting eye 12 and the other abutting a washer 24 which abuts eye 14. As shown in FIGS. 1 to 3, the spring is fully compressed and loop 18 is at its maximum size which is somewhat larger than the object to be snared. FIG. 5 illustrates the spring in its extended position with loop 18 engaging an object 26.

The apparatus for retaining the spring compressed, and the snare loop at its maximum size, comprises a member 28 in which is milled an open channel 30, having an abutment 32 at one end and a bifurcated abutment 34 at the other end. As best shown in FIGS. 2 and 3, eye 12 abuts

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abutment 32 and eye 14 abuts bifurcated abutment 34, the cable passing through an open slot 36 in the outer end of member 28. A tube 38 surrounds cable portion 10a, and prevents the spring from buckling which would tend to eject it from its compressed position shown in FIGS. 2 and 3.

Member 28 is provided with a threaded end 40 which engages a threaded plug 42 in one end of a tubular pole, formed of a plurality of section 44, FIG. 1, which may be joined together in like manner.

A chain link 46 engages eye 12 to which is secured a nylon line 48, an intermediate portion passing through an eye 50, FIGS. 1 and 4, on spring clips 52 which prevent the parts shown within channel 30 from accidentally moving out of same.

In operation, a helicopter hovers over the floating torpedo and personnel lower the pole and snare, to a position in which the open snare surrounds the torpedo. The nylon buoy line 48 is then pulled which removes spring clips 52. The spring may then be released from its abutments by jerking the pole, twisting it, or pulling on the buoy line. When so released, the snare loop closes on the torpedo as illustrated in FIG. 5 and the pole is withdrawn into the helicopter. A buoy (not shown) is then attached to an end of the buoy line and dropped into the water which serves to locate the captured torpedo by a surface ship or to prevent it from sinking in case it should for any reason, such as flooding, later become negatively buoyant.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A snare comprising:
 - (a) a flexible line, such as a cable or the like, having a first eye at one end through which an intermediate portion of the line is threaded to form a snare loop which may be passed over an end of an object to the captured,
 - (b) a second eye at the other end of the line,
 - (c) a compression spring surrounding the line and extending between the first and second eyes, operative to tighten the loop,
 - (d) a member for retaining the spring in compressed condition and in which the loop is larger than the object, whereby the loop may be readily passed over same, said member having a first abutment against which said first eye abuts and a second abutment against which said second eye abuts, said abutments being so constructed to release said member from the line and spring when either abutment is moved away from abutting relation with its abutting eye.
2. A snare in accordance with claim 1 wherein said member includes an elongated open channel, said abutments being disposed at opposite ends thereof, said channel housing said spring.
3. A snare in accordance with claim 2 including a removable spring clip engaging said member and preventing accidental movement of the spring out of the channel.
4. A snare in accordance with claim 2 including a tube disposed within the spring for preventing it from buckling while disposed within the channel.
5. A snare in accordance with claim 1 wherein said member forms the end portion of a pole.
6. A snare in accordance with claim 1 wherein said member includes an elongated open channel, said abutments being disposed at opposite ends thereof, said channel housing said spring, a tube disposed within the spring for preventing it from buckling while disposed within the

channel, said member forming the end portion of a pole, a removable spring clip engaging said member and preventing accidental movement of the spring out of the channel, a flexible cord or the like having one end affixed to said second eye and an intermediate portion engaging said spring clip, its other end being accessible at the end of the pole remote from said member, said spring clip being removable from said member by tensioning the cord, the member and pole being removable as a unit from the line and spring by movement of the pole relative to the line and spring.

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