Aug. 16, 1949. L. E. PERKINS 2,479,021

RETRIEVER FOR SUBMERGED ARTICLES

Filed Nov. 29, 1945

Fig. 1.

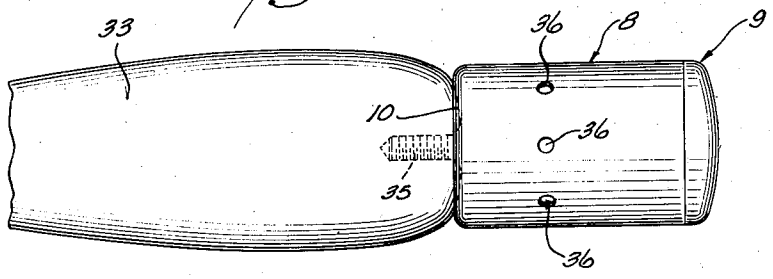


Fig. 2.

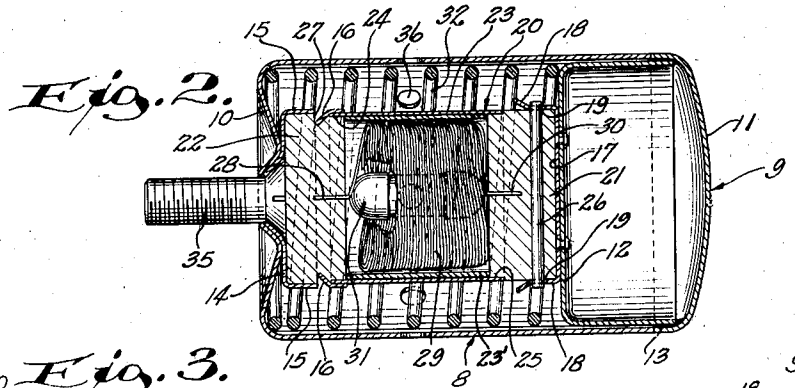


Fig. 3.

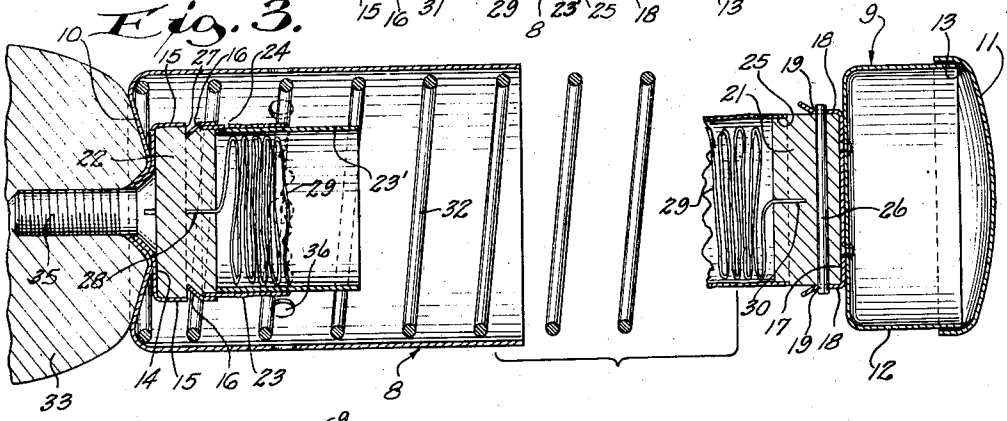
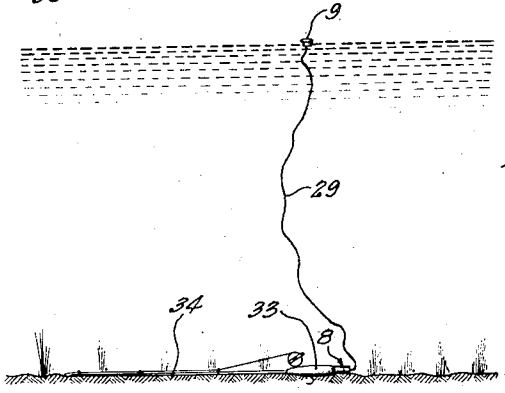


Fig. 4.



INVENTOR.
Layton E. Perkins
BY
Morsell & Morsell
ATTORNEYS.

Patented Aug. 16, 1949 2,479,021

UNITED STATES PATENT OFFICE

2,479,021

RETRIEVER FOR SUBMERGED ARTICLES

Layton E. Perkins, Milwaukee, Wis., assignor of one-half to Frank G. Fetzer, Milwaukee, Wis.

Application November 29, 1945, Serial No. 631,704

15 Claims. (Cl. 9—9)

1

This invention relates to improvements in retrievers for submerged articles.

Fishermen and others who use boats are quite likely to lose valuable articles overboard. Where the water is fairly deep it is often impossible to locate the submerged article and this is particularly true if the loss is not noticed until an interval of time has elapsed. It is quite common for valuable casting rods to be dropped in the water, and it is also quite common for outboard motors to become detached from the boat and fall overboard.

It is a general object of the present invention to provide an improved retriever for submerged articles which is in the nature of a relatively simple and inexpensive attachment, the retriever being so constructed that the submerged article can be located almost immediately and easily pulled into the boat.

A more specific object of the invention is to provide a device as above described which comprises two normally connected parts, one being permanently connected to the valuable article, and the other forming a cap for the first part and also being a float, there being means in the retriever responsive to the action of water for releasing the float from the first part of the unit, and there being a relatively long retrieving cord connecting said two parts.

A further, more specific object of the invention is to provide a device as above described in which the two parts of the device are normally held together against the tension of a spring by a replaceable cartridge, there being a retrieving line within the cartridge and the cartridge comprising spaced heads which are normally connected by material which is readily broken or releasable when submerged in water in response to the action of the water thereon.

A further object of the invention is to provide a retriever as above described, wherein the cartridge may include a capsule containing a dye or other material to color the water in the region of the submerged article.

A further object of the invention is to provide a device of the class described, which is small and compact, neat in appearance, inexpensive, and well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved retriever for submerged articles, and all its parts and combinations, as set forth in the claims, and all equivalents thereof.

In the accompanying drawing, illustrating one complete embodiment of the preferred form of

2

the invention, in which the same reference numerals designate the same parts in all of the views:

Fig. 1 is a fragmentary plan view of the end of the handle of a casting rod showing the improved device attached thereto;

Fig. 2 is a longitudinal sectional view on an enlarged scale of the retrieving device alone;

Fig. 3 is a view showing the two parts of the retrieving device in longitudinal section after the cartridge wall has broken; and

Fig. 4 is a view illustrating a casting rod on the bottom of a lake with one portion of the retrieving device connected thereto, and with the other portion of the retrieving device floating on the surface of the water and connected by a retrieving line with the casting rod.

Referring more particularly to the drawing, the device includes an outer container having two separable parts, 8 and 9. The part 8 is preferably cylindrical and is formed of metal, plastic material, or any other suitable substance. One end of the body portion 8 is preferably closed as at 10 and the other end is adapted to be closed by the cap part 9 when the device is in the assembled position of Figs. 1 and 2.

The part 9 includes a dished cover forming portion 11 secured to a cup-shaped member 12 by welding or the like as at 13. The arrangement is such that there is a water tight air chamber within the portion 9 so that the latter can act as a float as will be hereinafter explained. In lieu of the hollow float illustrated and described, wood, cork or other buoyant material may be employed.

Secured to the interior of the end wall 10 of the body portion 8 is a U-shaped spring steel clip 14 having oppositely disposed legs 15 which are yieldable. The legs 15 are formed with inwardly offset projections 16. Secured to the inner face of the float 9 is a spring steel clip 17 having spaced legs 18 formed with openings 19.

An important part of the invention is the replaceable cartridge which is indicated generally by the numeral 20. The cartridge includes oppositely disposed heads 21 and 22 which are preferably circular in shape. The heads are connected by a release member 23, preferably cylindrical, which is glued or otherwise secured to the heads as at 24 and 25.

The head 21 is positionable between the legs 18 of the clip 17 and a pin 26 extending transversely through the head 21 has projecting ends which are adapted to snap into the holes 19 of

the legs 18 of the spring clip 17, as is indicated in Figs. 2 and 3.

The opposite head 22 is formed with a peripheral groove 27 which is engaged by the projections 16 of the legs 15 of the spring clip 14 when the head 22 is pushed into position in the clip. Connected at one end to the head 22 as at 28 is a retrieving cord 29. The cord is wound up within the cartridge and has its other end permanently connected as at 30 to the head 21.

It is also contemplated that the cartridge may hold a capsule 31 containing a dye or other coloring material. The container for the capsule may be formed of any material which will quickly disintegrate or dissolve in water to release the dye. Where such a capsule is employed it may serve as a spindle on which the retrieving cord may be wound.

The cylindrical release member 23 may be formed of a material such as paper which will be strong enough to prevent the coil spring 32 from expanding when it is in the compressed position of Fig. 2. The paper or other material must also be of a type which will lose strength rapidly when submerged in water so that the force of the spring 32 will break the release member, in the manner shown in Fig. 3, when the latter is water soaked. To give greater rigidity to the cartridge a cardboard cylinder 23' may be used within the release member 23. The ends of the cardboard cylinder are not secured to the heads 21 and 22.

In lieu of having the release member 23 formed of material such as papers, it may be formed of some other suitable material and one of the ends may be so connected to one of the heads 21 or 22 that the connection will automatically release itself when exposed to the action of the water. This result may be obtained by using a water soluble glue for securing one or both of the ends of the release member 23 to one or both of the heads 21 and 22.

The retriever may be attached in any suitable way to a valuable article. The device illustrated is particularly adapted for connection to the handle 33 of a casting rod 34, by means of a screw 35 which extends through the clip 14 and end wall 10 and into the end of the handle in the manner shown in Fig. 3.

If the casting rod should be accidently dropped overboard, as is illustrated in Fig. 4, the water passing through the holes 36 on the body 8 will quickly act upon the cartridge to so weaken the release member 23 or its connection with one of the heads that the spring 32 can expand and separate the float portion 9 from the main body portion 8. The float portion 9 will immediately rise to the surface as is indicated in Fig. 4, pulling the retrieving line 29 with it. The other end of the retrieving line will, of course, remain connected to the head 22. The fish pole may, therefore, be readily retrieved by pulling in on the float 9 and the line connected therewith.

Where a cartridge with the capsule 31 containing dye is used, this capsule will also quickly disintegrate when submerged in water to release a dye for the purpose of coloring the water in the vicinity of the submerged article. This is particularly useful where the article is dropped in very deep water which may even be deeper than the length of line which it is possible to carry within the cartridge. In such a case, the float will rise as far as it can and will then remain somewhat below the surface of the water. However, the dye will mark the spot and by use of a suitable implement it is usually possible to engage and pull up the float 9, line connected therewith, and lost article.

When it is desired to use the device of the present invention in connection with an outboard motor it is preferable to secure two of the devices to the motor so that there will be two floats and two retrieving lines. This will facilitate the lifting of the relatively heavy object. The retriever may, of course, be made in various sizes, depending upon the type of article for which it is intended.

After an article has been retrieved, the old heads 21 and 22 are removed from the float and body portions and thrown away. A new replacement cartridge is then pushed into the body portion 9 with the head 22 being guided between the legs 15 of the yielding clip. By exerting a slight amount of pressure the yielding projections 16 will snap into the circular groove 27 of the head to lock the head in position. Next, the float portion 9 is pushed inwardly against the tension of the coil spring 32 to compress the latter. As the float portion nears the final position of Fig. 2, the ends of the pin 26 on the replacement cartridge will snap into position in the holes 19 of the yielding legs of the clip member 17 to lock the parts in the assembled position of Figs. 1 and 2.

While the use of a spring, such as the coil spring 32, is advantageous because it hastens the breakage of the cartridge after the retriever is submerged, nevertheless the use of a spring is not essential. It is also clear that other specific arrangements may be employed for releasing the float portion, as long as the arrangement includes means which is acted upon by water when the retriever is submerged. Various other changes and modifications may be made without departing from the spirit of the invention, and all of such changes are contemplated as may come within the scope of the claims.

What I claim is:

1. A retriever comprising a hollow body having one end open, a float portion normally forming a cover for said open end of said body portion, a coil spring normally housed within said body portion between said cover and the opposite end of the body portion, means within said body portion normally connecting said cover forming float portion to said body portion while maintaining said coil spring in compressed condition, said connecting means including releaseable means normally located within said coil spring which is so positioned as to be subjected to strains from the energy stored in said compressed spring and which is so constructed as to be unable to resist said strains when acted upon by water, and a retrieving line normally housed within said body portion and connected at one end to said body portion and at its other end to said float portion, said retriever having an opening for admitting water to the interior when the retriever is submerged.

2. A retriever comprising a body portion connectable to an article, a float portion, a renewable cartridge having opposite ends and including means releaseable when submerged in water in response to the action of water thereon for normally connecting said float portion to said body portion, a retrieving line within said cartridge and connected to opposite ends thereof, one of said cartridge ends being connected at one end to said body portion and at the other to said float portion, and a dye containing capsule

normally housed in said cartridge, said capsule being responsive to the action of water to release said dye.

3. A retriever comprising a hollow body portion connectable to an article and having one end open, a float portion normally forming a cover for said open end of said body portion, a coil spring normally housed within said body portion between said cover and the opposite end of the body portion, a cartridge within said body portion and spring normally connecting said cover forming float portion to said body portion while maintaining said coil spring in compressed condition, said cartridge having opposite ends and including releaseable means between said opposite ends which is so positioned as to be subjected to strains from the energy stored in said compressed spring and said releaseable means being constructed of fibrous material which is so weakened by water as to be unable to resist breakage when submerged, and a retrieving line normally housed within said cartridge and having its ends connected to the ends of said cartridge, said retriever having an opening for admitting water to the interior when the retriever is submerged.

4. A retriever comprising a hollow body portion connectable to an article and having one end open, a float portion normally forming a cover for said open end of said body portion, a cartridge having oppositely disposed ends and located within said body portion and normally connecting said cover forming float portion to the body portion and including a paper cylinder normally connecting said ends which is breakable when submerged in water in response to the action of water thereon, and a retrieving line normally confined within said paper cylinder and connected to said opposite ends thereof, said retriever having an opening for admitting water to the interior when the retriever is submerged.

5. A retriever comprising a body portion connectable to an article, a float portion, and a renewable cartridge having opposite ends readily connectable to said body portion and float portion and normally connecting said two portions together, said cartridge including means releaseable when submerged in water in response to the action of water thereon for breaking the connection between said body portion and float portion, and a retrieving line normally forming a part of said cartridge and having its ends connected to said ends of the cartridge, said retriever having an opening for admitting water to the interior when the retriever is submerged.

6. A retriever comprising a body portion connectable to an article, a float portion, and a renewable cartridge having oppositely disposed heads one of which is readily connectable to said body portion and the other of which is readily connectable to said float portion, said heads being normally connected by a release member which is releaseable when submerged in water in response to the action of water thereon, and a retrieving line normally confined within said cartridge and connected at one end to one of said heads and at its other end to the other of said heads.

7. A retriever comprising a body portion connectable to an article, a float portion, and a renewable cartridge, said body portion, float portion, and cartridge forming three separable units, and said cartridge having oppositely disposed heads one of which is readily connectable to said body portion and the other of which is readily connectable to said float portion, said heads being normally connected by a release member which is releaseable when submerged in water in response to the action of water thereon, spring means normally held under compression by said release member for aiding release, and a normally compacted retrieving line normally confined within said cartridge and forming a part of the cartridge unit and connected at one end to one of said heads and at its other end to the other of said heads.

8. A retriever comprising a hollow body portion connectable to an article and having a float opening, a float normally positioned adjacent said opening, a spring normally housed in compressed condition within said body and having an end adjacent said float, a cartridge within said body having oppositely disposed heads one of which is connected to said body and the other of which is connected to said float to normally connect said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is so positioned as to be subject to strains from the energy stored in said spring and which is so constructed as to be unable to resist said strains when acted upon by water, and a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads.

9. A retriever comprising a hollow body portion connectable to an article and having a float opening, a float normally positioned adjacent said opening, a spring normally housed in compressed condition within said body and having an end adjacent said float, a cartridge within said body having oppositely disposed heads one of which is detachably connected to said body and the other of which is detachably connected to said float to normally connect said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is so positioned as to be subject to strains from the energy stored in said spring and which is so constructed as to be unable to resist said strains when acted upon by water, and a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads.

10. A retriever comprising a hollow body portion connectable to an article and having a float opening, a float normally positioned adjacent said opening, a coil spring normally housed in compressed condition within said body and having an end adjacent said float, a cartridge within said coil spring having oppositely disposed heads one of which is connected to said body and the other of which is connected to said float to normally connect said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is so positioned as to be subject to strains from the energy stored in said spring and which is so constructed as to be unable to resist said strains when acted upon by water, and a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads.

11. A retriever comprising a hollow body portion connectable to an article and having a float opening, a float normally positioned adjacent said opening, a spring normally housed in compressed condition within said body and having an end adjacent said float, a cartridge within

said body having oppositely disposed heads one of which is connected to said body and the other of which is connected to said float to normally connect said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is so positioned as to be subject to strains from the energy stored in said spring and which is so constructed as to be unable to resist said strains when acted upon by water, a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads, and a water soluble dye normally housed within said cartridge.

12. A retriever comprising a hollow cylinder having an open end and having a closed end formed with a hole, a float normally closing said open end, a coil spring normally housed in compressed condition within said cylinder and having one end adjacent said float and having its opposite end adjacent said closed end of the cylinder, a cartridge within said cylinder having oppositely disposed heads one of which has a bolt projecting therefrom through the hole in the closed end of the cylinder to provide for connection of the retriever to an article, the other head of said cartridge being detachably connected to said float, said cartridge normally connecting said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is releaseable when submerged in water in response to the action of water thereon, and a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads.

13. A retriever comprising a hollow cylinder having an open end and having a closed end formed with a hole, a float normally closing said open end, a coil spring normally housed in compressed condition within said cylinder and having one end adjacent said float and having its opposite end adjacent said closed end of the cylinder, a cartridge within said coil spring having oppositely disposed heads one of which has a bolt projecting therefrom through the hole

in the closed end of the cylinder to provide for connection of the retriever to an article, the other head of said cartridge being detachably connected to said float, said cartridge normally connecting said float to said body while maintaining said spring in compressed condition, said cartridge including releaseable means normally connecting said heads which is releaseable when submerged in water in response to the action of water thereon, and a retrieving line normally housed in said cartridge and having its ends connected to said cartridge heads.

14. A retriever comprising a body portion, a float portion, a renewable cartridge having opposite ends and including means releaseable when submerged in water in response to the action of water thereon for normally connecting said float portion to said body portion, and a retrieving line within said cartridge and connected to said opposite ends thereof, one of said cartridge ends being connected at one end to said body portion and the other of said cartridge ends being connected to said float portion.

15. A retriever comprising a body portion, a float portion, a renewable cartridge having opposite ends and including means releasable when submerged in water in response to the action of water thereon for normally connecting said float portion to said body portion, a retrieving line within said cartridge and connected to said opposite ends thereof, one of said cartridge ends being connected at one end to said body portion and the other of said cartridge ends being connected to said float portion, and a spring within said body portion within which energy is normally stored, said spring being positioned to act against said float.

LAYTON E. PERKINS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,860,327	Kuhn	May 24, 1932
2,190,531	Kaboskey	Feb. 13, 1940