

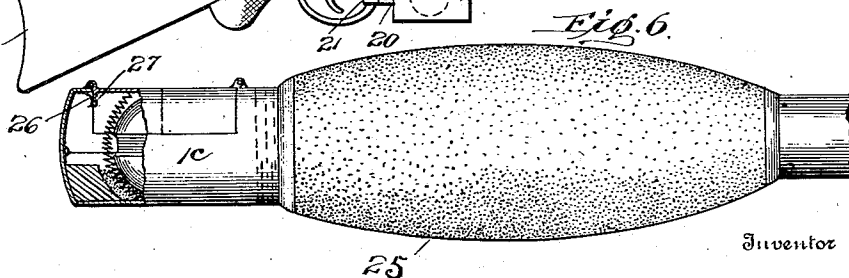
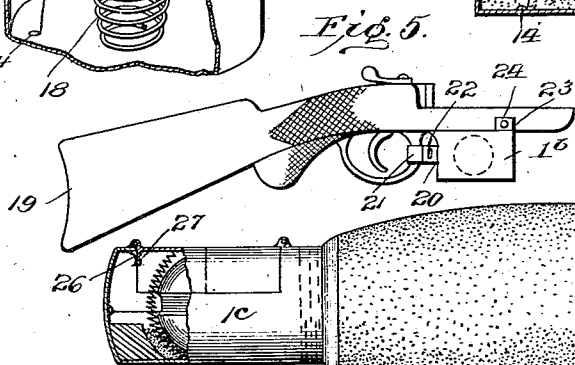
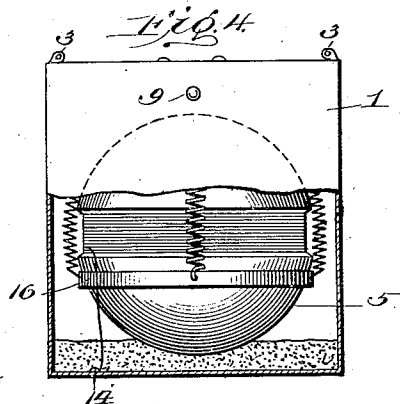
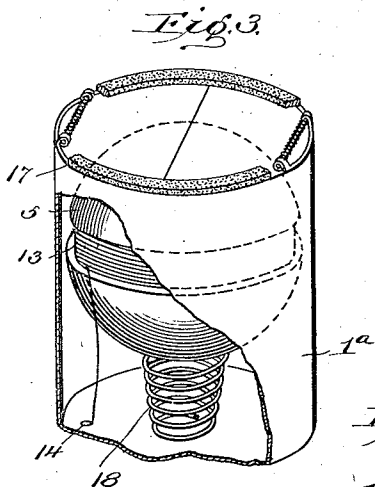
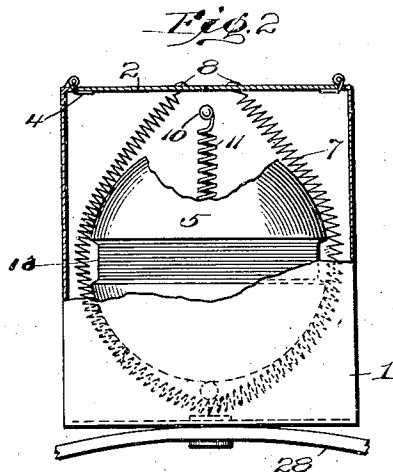
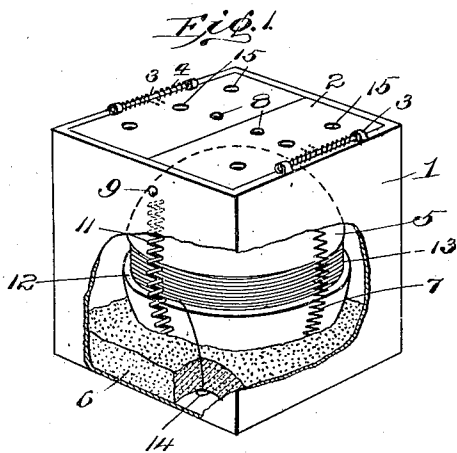
No. 806,730.

PATENTED DEC. 5, 1905.

F. D. ZOLL.

DEVICE FOR LOCATING AND RECOVERING SUNKEN ARTICLES.

APPLICATION FILED JAN. 6, 1905.



Inventor

Witnesses
Mr. F. Jones Low
William L. David

Frederick D. Zoll

UNITED STATES PATENT OFFICE.

FREDERICK D. ZOLL, OF FINDLAY, OHIO.

DEVICE FOR LOCATING AND RECOVERING SUNKEN ARTICLES.

No. 806,730.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed January 6, 1905. Serial No. 239,953.

To all whom it may concern:

Be it known that I, FREDERICK D. ZOLL, a citizen of the United States, residing at Findlay, in the county of Hancock and State of Ohio, have invented certain new and useful Improvements in Devices for Locating and Recovering Sunken Articles, of which the following is a specification.

This invention relates to a device for locating and recovering articles which have been accidentally dropped and sunk in water. It is especially useful to any one working with instruments, guns, fish-rods, and the like near or over the water. Any article to which my device is attached may be recovered from the water within a very short time after it has been sunk.

My invention comprises, essentially, a casing adapted to be fastened in any convenient manner to the article to be recovered from the water, which casing contains a buoy or float about which is wound a cord secured at one end to the casing and at the other end to the float, the said float being normally retained in the casing by a cement or other soluble means, which by the action of water will dissolve or soften and permit the float to be ejected by the action of a spring, preferably located within the casing, and permit the cord to unwind and the said float to rise to the surface of the water.

Secondly, my invention comprises the combination of elements set forth in the claims accompanying this specification.

Reference is had to the accompanying drawings, forming a part of this application, in which—

Figure 1 is a perspective of one form of my invention, parts being broken away. Fig. 2 is an elevation, parts being broken away, showing a portion of an attaching-strap. Fig. 3 is an elevation, parts being broken away, showing one method of connecting the ejecting-springs to the float. Fig. 4 is a perspective view, parts being broken away, of a modified form of my invention. Fig. 5 shows a portion of a gun to which my device is attached. Fig. 6 shows a butt of a fishing-rod to which a slightly-modified form of my device is attached.

Reference being had to the details of the drawings, 1 designates a casing containing the buoy or float, which casing may be made of any material, preferably metal, and may be of

any size and shape—as cylindrical, prismatic, or may be cylindrical at the bottom and drawn square at the top. The casing is closed at the top preferably with two lids or trap-doors 2, hinged at the two sides at 3 3. These lids fit closely together when closed and are preferably made flush with the top of the casing. Springs 4 at the two hinges normally tend to open the lids for purposes which will presently appear.

Normally located within the casing is the buoy or float 5, made of some light material, as cork, wood, aluminium, &c. This float is preferably painted a bright color, so that it can be easily seen when floating at the surface of the water. In Figs. 1, 2, and 3 the float is shown as retained in the casing by a soluble cement 6, located in the bottom thereof and in which the said float is embedded. The retaining means consists of a single element (the cement) and is therefore a unitary retaining means.

Extending around and under the float 5 is a spring or other elastic device 7, which is attached at its two free ends at 8 to the two lids or doors 2, respectively. This spring 7 normally holds the said lids tightly closed to the top of the casing.

Attached to the two opposite sides of the casing and near the top at 9 and 10, Figs. 1 and 2, is the main ejecting-spring 11. This spring likewise extends around and under the float and tends to pull the latter out of the cement. This spring 11 may, if desired, be somewhat stiffer than the previously-mentioned spring 7.

In a groove 12 in the float is tightly wound a strong cord 13, the inner end of which is secured to the float and the outer end of which is secured, as at 14, to the casing. The size and length of this cord can be varied according to circumstances, depending on the weight of the article to which the casing is attached and the probable depth of the water in which the article may be sunk. It should be strong enough to support the sunken article as it is lifted to the surface.

In order that the water may enter the casing and soften or dissolve the cement, and consequently free the buoy from the same, the casing is perforated, preferably in the lids, as at 15, six perforations there being shown. In order that the water may not enter the casing if it

should be accidentally dipped under the water or dampened by rain, the perforations 15 may be covered or plugged with a soluble cement.

Instead of passing the springs 7 and 11 under the float and embedding them, with the float, in the cement I prefer to attach them at four points ninety degrees apart to a buoy seat or ring 16, (shown in Fig. 4,) the upper ends of the springs being connected to the lids and sides of the casing, as previously described. Thus the springs, not being embedded in the cement, will insure a quicker ejection of the float.

The operation of this device is easily understood. The float is placed over the springs and forced down into the cement when soft. In a short time the cement will set and retain the float in the casing against the tension of the springs 4, 7, and 11, the spring 7 holding the lids yieldingly but tightly closed. The device is then ready for use and may be attached in any convenient manner to any article which is in danger of being lost in the water. If the article to which the casing is attached is sunk, water will enter the latter through the perforations 15, attack the soluble cement 6, and free the float from the same. By the combined action of the springs 4, 7, and 11 the float will be ejected and will rise to the surface of the water, unreeling the cord as it rises. As soon as the float rises to the surface the sunken article can be lifted out of the water.

In Fig. 3 I have shown a modification of my device. A casing 1^a is shown cylindrical in shape. In this modification instead of placing the soluble cement in the bottom of the casing I cement the lids themselves, as at 17. A float similar to the one described above is normally pressed upward against the closed lids by a coiled spring 18. The operation of this device last described is in some respects simpler than of the one first described. The water acting on the cement 17, which normally holds the lids closed, will soften the same, and the spring 18 will force the lids up and eject the float. As is obvious, a single lid may be employed instead of the two lids 2 2. If desired, the springs 4 at the hinges may be dispensed with.

In view of the fact that hunters' and fishermen's boats are very frequently upset and valuable guns and fishing-rods lost or ruined by remaining in the water a long period before being recovered my device will be especially useful as an attachment to a gun or rod. It is necessary that my device be conveniently attached to such articles in a manner as not to interfere with their use. Accordingly in Fig. 5 I have shown the device attached to the trigger-guard of a gun, the stock only being shown at 19. The casing 1^b has a rear extension 20, secured to the trigger-guard by a clamp 21. A thumb-screw 22 may be employed to tighten the same. A clamp 23 ex-

tends under the fore-stock and may be adjusted in position by set-screws, one of which is shown at 24. Other set-screws or clamps may be employed, as desired, to properly adjust the casing to the trigger-guard. I prefer to line the inner sides of all the clamps so used with felt in order that the stock and trigger-guard may not be scratched or marred. The float is adapted to be ejected in a forward direction in the manner previously described. It will seen that the float can be ejected no matter in what position the gun may alight, which is a very important feature.

In Fig. 6 I have shown the device attached to a fishing-rod 25. I have found it most convenient to unscrew the butt-cap and screw the casing to the butt, the forward part of the casing being internally threaded. Thus the casing can be easily attached to the rod whenever desired and will in no manner interfere with the use of the same. As a rod usually alights butt downward in the water, an ejection of the float may be impossible in case there is a muddy bottom. I therefore propose to arrange the trap-doors or lids in the side of the casing, as is clearly shown in Fig. 6. In this modification of the device there will be a lateral ejection of the float. To assist the main ejecting-spring, I have shown an auxiliary leaf-spring 26 attached to the casing and normally pressing against a downwardly-extending lug 27 on the rear part of the lid. It is understood that both lids are thus normally pressed upward. These auxiliary springs are of course not essential and may be dispensed with.

It is my purpose to utilize my device in connection with various articles, and the manner of attaching the same to the articles may be varied. A convenient manner of so doing is by means of a strap or band, a portion of which I have illustrated in Fig. 2 at 28, which strap may be secured to the casing by a rivet.

The usefulness and value of my invention are readily apparent. I wish it understood that I am not to be confined to the specific details shown, but my device is capable of considerable variation without departing from the spirit of the invention. For example, the springs 4 may be dispensed with, the lids being maintained closed by the spring 7, or, if desired, the spring 7 may be dispensed with, the springs 4 then being arranged to normally press the lids downward. In the latter case the spring 11 when ejecting the float will force the lids open against the action of the said springs 4, which may be made relatively much weaker than the ejecting-spring.

In the modification shown in Fig. 4 it is obvious that a single lid may be employed instead of the two lids.

It is obvious that the arrangement of springs shown in Figs. 2 and 3 could be changed still further. For example, all the four upper ends of the springs could be attached to the sides of the casing instead of at-

taching two of the ends to the casing and the other two to the lids. When the springs are so arranged, I may, if desired, maintain the lid closed by a soluble cement or by comparatively weak springs at the hinges.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination, a receptacle, a buoy or float therein, unitary means for normally retaining said float in said receptacle, means for ejecting said float, said ejecting means being permitted to operate by the direct action of water on said retaining means.

2. In combination, a receptacle, a float, rigid means in contact with said float, for normally retaining said float in said receptacle, flexible connecting means between said float and said receptacle, means for ejecting said float, said ejecting means being adapted to operate through the action of water on said retaining means.

3. In combination, a casing, a float therein, a cord connection between said float and said casing, means soluble in water for retaining said float in said casing, said float being adapted to be released from said casing, when the latter is sunk in water.

4. In combination, a casing, a float detachably held therein, a cord connection between said float and said casing, means for ejecting said float, said ejecting means being adapted to operate by the dissolving or softening action of water on said float-holding means.

5. An attachment for a gun, fish-rod or the like, comprising a receptacle or casing, a float normally retained therein by means soluble in water, a cord of suitable length connected at one end to the casing, and at its other end to the float, means for ejecting said float when the casing is sunk in water.

6. In a device for locating and recovering sunken articles, a casing, a buoy or float therein, a cord wound on said float and attached at its inner end to the same and at its outer end to the said casing, unitary means for normally retaining said float in said casing, means for ejecting said float, said ejecting means being permitted to operate by the direct action of water on said retaining means.

7. In a device for locating and recovering sunken articles, a casing, a lid therefor, a buoy or float in said casing, a cord wound on said float and attached at one end to the same and at its other end anchored to the casing, unitary means in contact with said float, for normally retaining said float in said casing, means for opening said lid and releasing said float, said opening and releasing means being permitted to operate by the action of water on said retaining means.

8. In a device for locating and recovering sunken articles, a casing, a float therein, a cord wound on said float and connected at its inner end to the float and at its outer free end to the casing, means soluble in water for retain-

ing said float in said casing, and means for ejecting said float from said casing when the latter is sunk in water.

9. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at its inner end to the same and at its outer free end to the casing, a soluble cement for retaining said float in said casing, means for opening said lid and ejecting said float when the casing has been sunk in water and the cement dissolved or softened.

10. In a device of the class described, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at the other end to the casing, means comprising a soluble cement for retaining said float in said casing, means for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened.

11. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, means in said casing for ejecting said float when the device has been sunk in water; means for attaching said device to the article to be recovered from the water.

12. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed hinged lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, elastic means normally under tension for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened.

13. In a device for locating and recovering sunken articles, a casing, said casing having a normally closed lid, a float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, means comprising a soluble cement for retaining said float in said casing, a spring in said casing, normally under tension for opening said lid and ejecting said float when the device has been sunk in water and the cement dissolved or softened; means for attaching said device to the article to be recovered from the water.

14. In a device for locating and recovering sunken articles, a casing, a buoy or float in said casing, a cord wound on said float and attached at one end to the same and at its other end to the casing, said float being retained in said casing by a soluble cement located in the bottom thereof, a spring in said casing for

releasing the float from the cement and ejecting the same from the casing when the cement has been softened or dissolved in water.

15. In a device for locating and recovering 5
sunken articles, a casing, said casing having
a normally closed cover or lid and having one
or more perforations for the admission of wa-
ter, a buoy or float in said casing, a cord wound
on said float and attached at one end to the
10 same and at the other end to the casing, said
float being partially embedded in a soluble ce-
ment located at the bottom of the casing and
thereby retained therein, a spring attached to
the casing near the top thereof and normally
15 under tension to eject the float when the cas-
ing has been sunk in water; means for attach-
ing the casing to the article to be recovered
from the water.

16. In a device for locating and recovering 20
sunken articles, a casing, said casing having
two perforated lids hinged thereto at opposite
sides thereof, said lids being normally main-
tained closed, a buoy or float in said casing,
a cord wound thereon and attached at one end
25 to the float and at its other end to the casing,
a soluble cement located in the bottom of the
casing, said float being partially embedded in
said cement, and thereby normally retained in
said casing, a plurality of springs attached at
30 their upper free ends to the casing and con-
nected to the float in such a manner as to eject
the same when the casing has been sunk and
said cement softened or dissolved by water;
means for securing said device to the article
35 to be recovered from the water.

17. In a device for locating and recovering
sunken articles, a casing, said casing having
two perforated lids hinged thereto at opposite
sides thereof, said lids being normally re-
40 tained closed, a buoy or float in said casing,
a cord wound thereon and attached at one end
to the float and at its other end to the casing,

a soluble cement located in the casing near the
bottom thereof, said float being partially em-
bedded in the cement and thereby normally 45
retained in said casing, a buoy seat or ring of
smaller diameter than said float and in which
said float is seated, a plurality of springs nor-
mally under tension, attached at their upper
ends at or near the top of the casing and at 50
their lower ends to said buoy seat or ring and
adapted to eject the float when the casing has
been sunk and the said cement has been soft-
ened or dissolved by water; means attached
to said casing for securing the same to the ar- 55
ticle to be recovered from the water.

18. In a device for locating and recovering
sunken articles, a cylindrical casing compris-
ing a body portion and two substantially semi-
circular spring-hinged lids, said casing hav- 60
ing holes or perforations for the admission of
water, a buoy seat or ring, a plurality of
springs connected to the casing at or near the
top thereof and at their other ends to the buoy
seat or ring at spaced points, a circumferen- 65
tially-grooved buoy or float, slightly larger
in diameter than said buoy or ring, a cord
wound in said groove and attached at one end
to the float and anchored at its other end to
the casing, a soluble cement in the bottom of 70
the casing, said buoy or float being seated in
said ring and partially embedded in said ce-
ment, said springs being normally under ten-
sion and adapted to eject the float when the
device has been sunk in water; means for se- 75
curing the device to any article to be recov-
ered from the water.

In testimony whereof I affix my signature in
presence of two witnesses.

FREDERICK D. ZOLL.

Witnesses:

WILLIAM L. DAVID,
T. GLEN CARPENTER.