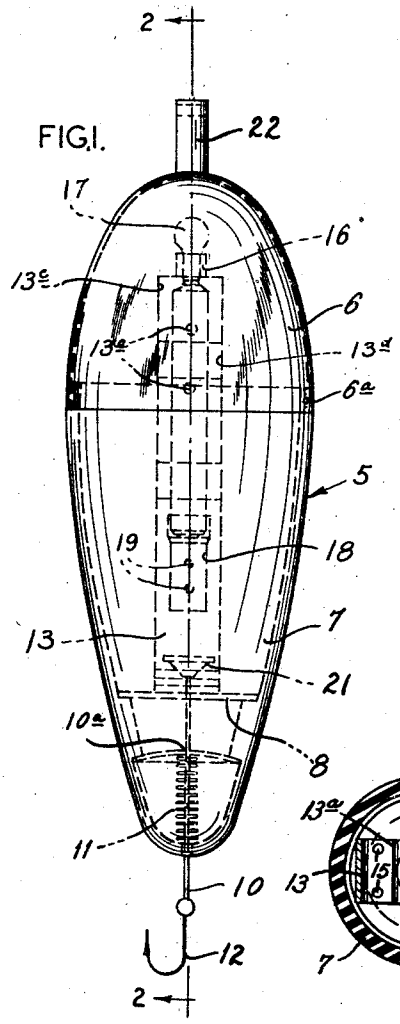
Aug. 19, 1947. M. L. PHILIPS 2,425,825

FLOAT FOR FISH LINES

Filed April 12, 1945

FIG. 1.



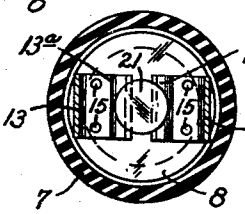


FIG. 2.

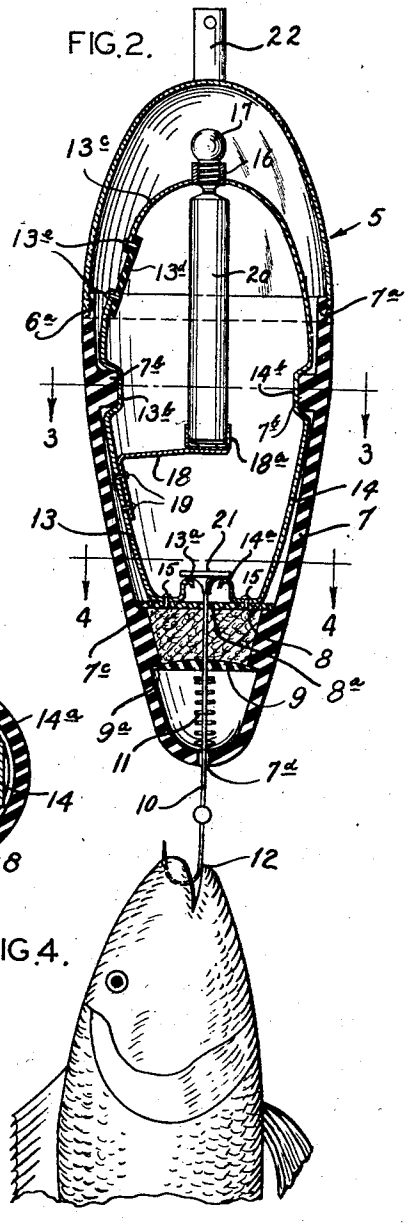


FIG. 3.

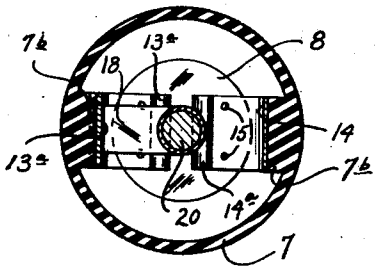


FIG. 4.

INVENTOR.
MORTON L. PHILIPS
BY A. L. Fisher
ATTORNEY.

Patented Aug. 19, 1947

2,425,825

UNITED STATES PATENT OFFICE

2,425,825

FLOAT FOR FISHLINES

Morton L. Philips, Ottawa, Kans.

Application April 12, 1945, Serial No. 587,901

1 Claim. (Cl. 43—49)

1

This invention relates to floats for fish lines, and the principal object of the invention is to provide a hollow float having a small electric bulb and an energizing dry cell mounted therein, together with suitable wiring and contacts operable through pull upon the fish hook at the end of the line for closing the circuit through the light bulb, the upper part of the float being of transparent material, whereby the fisherman may know when a fish has struck the hook of his line.

Another object of the invention is to provide in a device of the kind referred to, a two-part hollow float comprising an upper transparent portion threadedly connected with a lower portion not necessarily transparent, a small dry-cell supported centrally within the float and axially aligned therewith, a small light bulb seated at the upper end of the dry-cell and electrically connected therewith, the supporting elements of the dry-cell including resilient metal conductors disposed oppositely within the float and operatively connected with the light bulb and with the opposite or lower end of the dry-cell, the extended lower ends of these conductors being supported in a spaced relation upon a cross-web of insulating material, a flexible diaphragm seated transversely within the lower end of the float below the said insulating cross-web, a stiff operating wire passed slidably and axially through the lower end of the float and through the insulating cross-web but fixedly joined to the said flexible diaphragm through which it also passes, flexing the same as it reciprocates inwardly or outwardly of the float, there being a metallic closing element or switch rigidly supported upon the inner end of the operating wire adapted to close the circuit through the light bulb as the metallic switch or closing element is pulled outwardly or downwardly upon the lower ends of the said resilient metal conductors, these said ends being turned upwardly to resiliently engage the metallic switch piece, and a coil spring seated over the lower end of the operating wire and braced at its ends between the lower end of the float and the said flexible diaphragm, whereby the metallic switch piece is normally raised from contact with the ends of the resilient metal conductors and the electrical circuit thus opened and the light bulb made inoperative.

With the stated objects in view, together with such other and additional objects and advantages as may appear from the following specification, attention is directed to the accompanying drawing as embodying a preferred form of the invention, and wherein:

Figure 1 is an elevation of a float constructed in accordance with this invention, certain interior parts thereof being indicated in dotted lines.

2

Figure 2 is a longitudinal, axial cross section, taken on or through the axis of the assembly as shown in Figure 1.

Figure 3 is a cross-section on the line 3—3 of Figure 2.

Figure 4 is a cross-section on the line 4—4 of Figure 2.

The hollow float which is the subject matter of this invention, and is referred to generally at 5. The float 5 includes an upper hollow section 6 of any suitable transparent material such as a plastic, and being interiorly screw-threaded around its lower or open margin as indicated at 6a. The lower and hollow section 7 is somewhat more elongated, and matches at its upper open end the lower open end of the upper transparent section 6, being exteriorly threaded around its open margin as indicated at 7a for threadedly engaging the upper section or cap 6. For the sake of brevity the upper transparent section will hereinafter be referred to as the cap, and the lower section as the body, of the float. The body of the float may be constructed of any desired material, whether transparent or opaque. For the sake of appearance the ends of the float are shown as rounded off, with the lower body section brought taperingly to its lower rounded end, but this formation is purely a matter of design and is not an essential feature of the invention. Near its upper and open end, the body shell 7 is formed with the interior annular shoulder 7b, for a purpose to be explained later. The cap and body of the float should both be of suitable insulating material and light in weight. A stiff cross-web 8, also of insulating material is anchored at its margins upon an annular ledge 7c formed circumferentially around the inner side of the lower end of the body shell 7, and this cross-web is centrally apertured as at 8a, for a purpose later pointed out.

A flexible diaphragm 9 of rubber or other suitable material is secured at its margins as indicated at 9a to the under annular margin of the ledge 7c, in a leak-proof manner. The lower hollow body shell 7 is apertured through its extremity as shown at 7d, in axial alignment with the central or axial aperture 8a of the cross-web 8. A stiff operating wire 10 is passed into the body shell 7 through its apertured lower end, at 7d, and is pierced through the diaphragm 9 and extended up through the aperture 8a of the cross-web 8. The wire 10 is passed freely and slidably through the apertures 7d and 8a, but is cemented or otherwise locked to the diaphragm 9 through which it passes, as indicated at 10A. Thus this diaphragm moves with the wire as the latter reciprocates inwardly or outwardly of the body shell 7. A coil spring 11 is seated over the wire 10 and is braced under compression between the lower end wall of the body shell 7 and the lower side

of the flexible diaphragm 9, whereby this diaphragm as well as the connected wire 10 are resiliently held to their retracted or in-drawn positions, but the wire 10 as well as the fish hook 12 as attached to the extended outer end thereof, may be drawn substantially outward through the pull of a fish as the latter strikes the hook and moves away with same, with a resultant effect to be later described. The retracted and extended positions of the elements are shown in Figures 1 and 2 respectively.

Flat strips of spring metal, 13 and 14, are positioned longitudinally at diametrically opposite sides of the lower body shell 7, interiorly of the float, and by means of rivets 15 are secured by their inturned lower ends to the upper face of the cross-web 8, in a spaced relation and with their extremities upraised and hooked over to form the spaced terminals 13*a*, 14*a*. The elements 13 and 14 are looped inwardly as at 13*b*, 14*b*, for tightly embracing the opposite margins of the shoulders 7*b* of the body shell, by which arrangement the elements are firmly held in upright position and proper transverse alignment. The strip 14 is extended upward and turned inwardly at its upper end and is screw threaded thereat to form one-half of a threaded socket 16. The opposite half of the socket 16 is formed by a metal strip 13*c* formed complementally at its outer end with the outer end of the strip 14. A short strip of insulating material 13*d* is secured by rivets 13*e* to the aligned and spaced ends of the metal strips 13, 13*c*, thus holding the several parts together in relatively stiff and operative alignment, and whereby the completed socket 16 may receive and operatively support in position the small electric light bulb 17 of conventional form. An L-shaped bracket of strip metal 18, also resilient in character, is secured by one leg by means of rivets 19 to the strip 13 in such manner that the extremity of the other leg will fall in suitably spaced alignment below the socket 16. This extremity of the free leg of the bracket 18 is formed with a socket 18*a* adapted to receive the lower end of a small dry-cell 20, the latter being clamped and held in place between the lamp bulb 17 as seated in the socket 16, and the free leg of the bracket 18 carrying the socket 18*a*, by virtue of the resilient quality of the strip material of which the elements are made. A switch piece in the form of a metallic disk 21 is rigidly mounted at the upper or inner end of the operating wire 10, this switch piece or disk being adapted to contact the terminals 13*a*, 14*a*, when the wire 10 is pulled outward, thus closing the circuit through the dry-cell and light bulb. A connecting link 22 is provided at the upper closed end of the cap 6, to which the end of a fish line (not shown) may be attached in usual form. The two parts of the socket 16 are soldered together or otherwise locked together to provide a rigid threaded socket or receptacle for the threaded shank of the light bulb. If preferred the cross-web 8 may be seated freely upon the ledge 7*c*, so that the cross-web, and all attached elements including the dry-cell and light bulb, may be inserted or removed as may be found desirable or necessary. The spring metal strips 13, 14, are biased or tensioned to urge outwardly, so that when these strips and attached elements are inserted into the body shell 7, the loops 13*b*, 14*b*, will readily snap outwardly and seat over the

shoulder 7*b*, for sustaining the parts in operative position and alignment. While the hollow parts 6 and 7 are here shown as circular in cross section, same might be made ovate or rectangular in cross section if desired. In the structure as shown the lower portion of the metal strip 13 together with the bracket 18 comprises the conductor for one side of the circuit, while the opposite metal strip 14 carries the other side of the circuit.

In use, when a fish strikes the hook 12 and pulls on same, the wire 10 is drawn outward, thus drawing the switch piece 21 down into contact with the terminals 13*a*, 14*a*, and closing the light circuit. Otherwise the switch is held raised by the spring 11, and the circuit in open relation.

While there is here shown and described a specific embodiment of the invention, and specific structural features thereof, it is to be understood that the described assembly and the elements thereof, may be changed or modified as may be found desirable, within the scope however of the appended claim.

I claim:

In a device of the kind referred to, a two-part hollow float comprising an upper transparent portion threadedly connected with a lower portion, a small dry-cell supported centrally within the float and axially aligned therewith, a small light bulb seated at the upper end of the dry-cell and electrically connected therewith, the supporting elements of the dry-cell including resilient metal conductors disposed oppositely within the float and operatively connected with the light bulb and with the opposite or lower end of the dry-cell, the extended lower ends of these conductors being supported in a spaced relation upon a cross-web of insulation material, a flexible diaphragm seated transversely within the lower end of the float below the said insulating cross-web, a stiff operating wire passed slidably and axially through the lower end of the float and through the insulating cross-web but fixedly joined to the said flexible diaphragm through which it also passes, flexing the same as it reciprocates inwardly or outwardly of the float, there being a metallic closing element or switch rigidly supported upon the inner end of the operating wire adapted to close the circuit through the light bulb as the metallic switch or closing element is pulled outwardly or downwardly upon the lower ends of the said resilient metal conductors, these said ends being turned upwardly to resiliently engage the metallic switch piece, and a coil spring seated over the lower end of the operating wire and braced at its ends between the lower end of the float and the said flexible diaphragm, whereby the metallic switch piece is normally raised from contact with the ends of the resilient metal conductors and the electrical circuit thus opened and the light bulb made inoperative.

MORTON L. PHILIPS.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,153,750	Goertzen	Apr. 11, 1939
2,179,873	Dietrich	Nov. 14, 1939