No. 683,238. Patented Sept. 24, 1901.

C. C. A. E. WIESE.

NIGHT LIGHT BUOY.

(Application filed Nov. 18, 1899.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

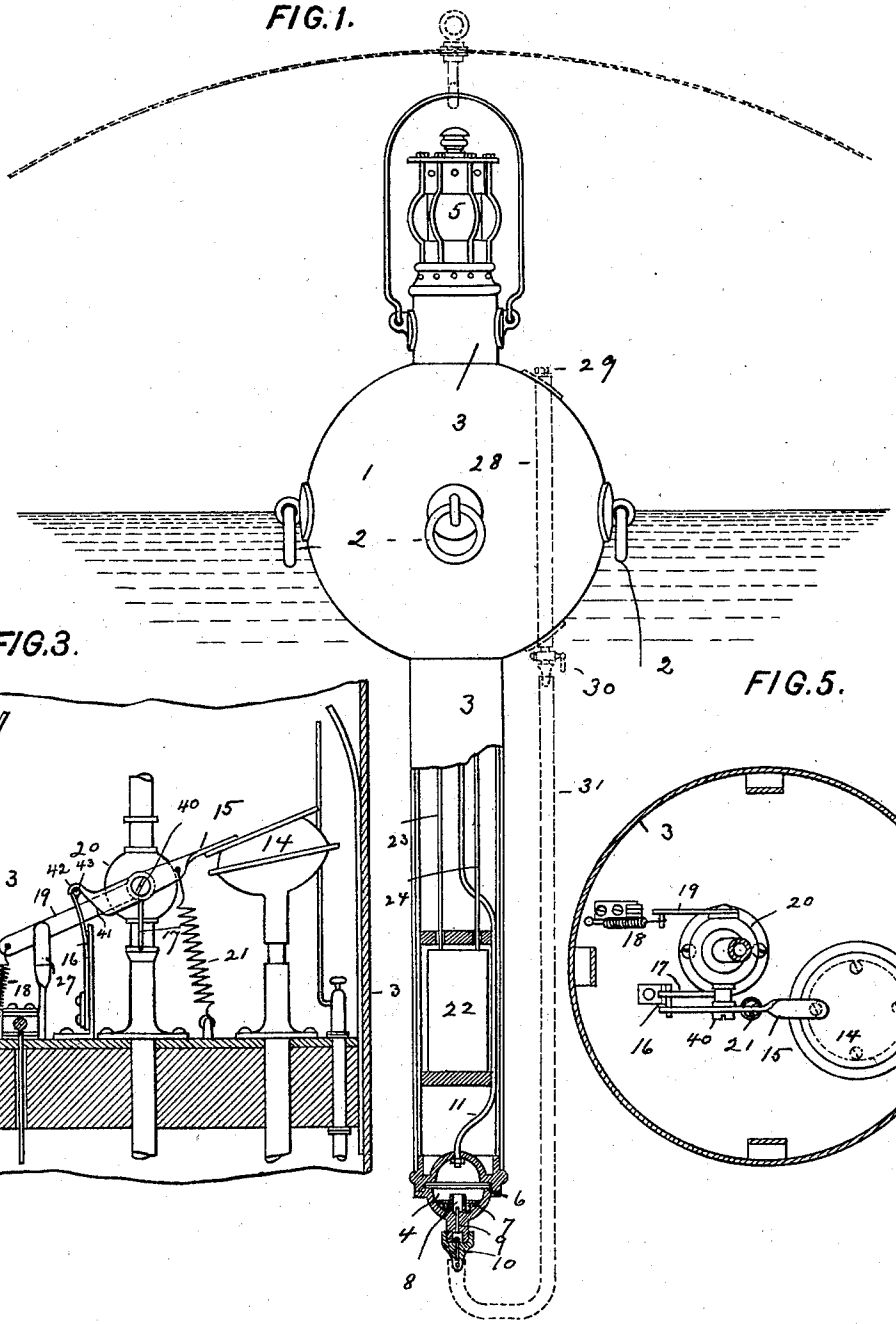


FIG. 3.

FIG. 5.

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Fig. 2.

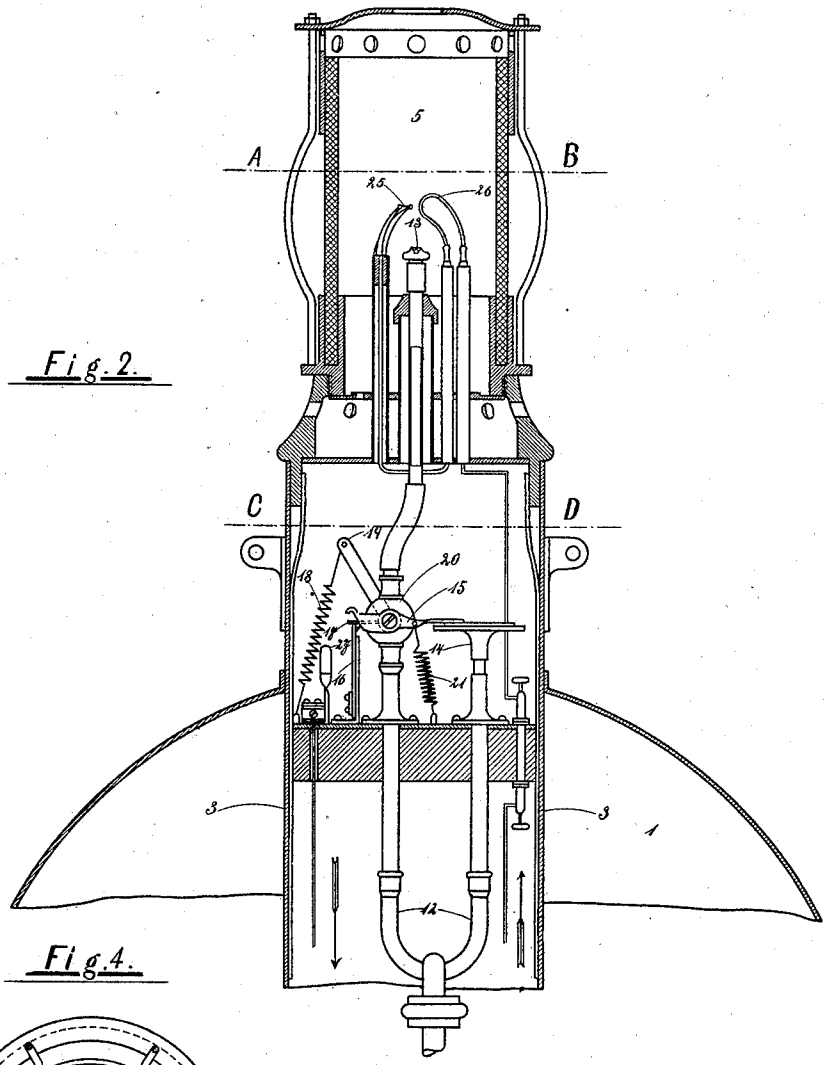
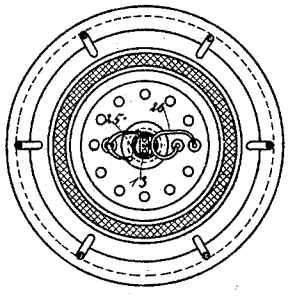


Fig. 4.



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UNITED STATES PATENT OFFICE.

CONRAD CARL ARTHUR EDWIEN WIESE, OF HAMBURG, GERMANY.

NIGHT LIGHT BUOY.

SPECIFICATION forming part of Letters Patent No. 683,238, dated September 24, 1901.

Application filed November 18, 1899. Serial No. 737,387. (No model.)

To all whom it may concern:

Be it known that I, CONRAD CARL ARTHUR EDWIEN WIESE, a citizen of the German Empire, and a resident of Maxstrasse 24, Hamburg, Germany, have invented certain new and useful Improvements in Night Life-Buoys, of which the following is a specification.

This invention relates to an improved night life-buoy illuminated by acetylene gas, the generation of which is automatically controlled in a novel manner.

In the accompanying drawings, Figure 1 represents, in elevation and partially in section, an example of a buoy constructed according to this invention. Fig. 2 is a vertical section through part of the buoy, showing the gas-cock closed. Fig. 3 is a similar section showing the gas-cock open. Fig. 4 is a horizontal section on line A B, Fig. 2; and Fig. 5, a similar section on line C D, Fig. 2.

Such a buoy comprises a floating body 1, (shown in the drawings, by way of example, as a spherical body,) which is provided with suitable means, as rings 2, for attaching a larger common life-ring or several small life-belts or the like. Passed through the floating body 1 or attached thereto above and below there is provided a pipe 3, which carries at its lower end a gas-generator 4 and at its upper end a lamp 5. The gas-generator 4 is divided by a sieve or filter-plate 6 into two chambers, of which the lower is intended to contain the calcium carbid, which is covered by a plate 7, with sieve-tube 8 surrounding a fine and, if necessary, adjustable nozzle 9, through which the water necessary for the production of the gas enters when the buoy is immersed. Beneath the nozzle 9 there is provided a ball check-valve 10, which is intended to prevent dust and the like from entering the buoy when not in use. The space above the plate 6 serves for collecting the gas, which passes upward through a pipe 11, that discharges into a forked pipe 12, one branch of which leads to a burner 13 and the other to an expansible bulb 14. The bulb 14 when inflated turns a lever 15, which embraces loosely the spindle 40 of the gas-supply cock 20. One end of this lever is provided with a cam-surface 41 and with a hook 42 above such surface. When the lever is turned by the bulb 14, its cam 41 will bend aside a spring 16, into the coiled upper end of which is placed a pin 43, the lateral movement of the spring being limited by the hook 42, Fig. 3. The spring 16 on being thus displaced will liberate a pin 17, fast on spindle 40, which spindle also carries a lever 19, placed at an angle to pin 17. The lever 19 is influenced by a spring 18, and as soon as the pin 17 has been liberated in the manner described the spring 18 will draw the lever 19 down, so as to open the gas-cock 20. When the gas-pressure is reduced, a spring 21, acting on the lever 15, draws it back to its original position, and thereby causes the bulb 14, which acts also to a certain degree as an expansion and safety device for the piping and the gas-reservoir, to collapse. This arrangement is shown in Figs. 2 to 5.

The igniting device comprises (*a*) a source of electricity, which is, in the example shown, a dry element or battery 22, and is placed in the lower portion of the pipe 3, (*b*) conducting-wires 23 and 24, (*c*) an igniter 25, and (*d*) a contact-breaker 26. The igniter consists of a platinum wire interposed in the circuit and the contact-breaker of a lead wire traversed by the electric current.

The mode of operation of the apparatus is as follows: As soon as gas is evolved when the buoy is immersed in the water the said gas flows through the pipe 11 and simultaneously under the closed gas-cock 20 and into the bulb 14, which becomes inflated and by means of the lever 15 presses back the retaining-spring 16, which releases the pin 17 on the plug. As soon as this has occurred the spring 18 draws down the plug-lever 19, and thus opens the gas-cock 20. The lever 19 now enters a forked contact-piece 27 and closes the circuit, which has hitherto been broken, whereby the platinum strip 25 above the burner 13 is caused to glow and ignite the acetylene gas (whose flame has a very high candle-power) issuing from the burner. The lead wire 26, which is also located above the burner, is very soon melted by the heat produced, and by this means the circuit is broken, so that the battery 22 goes out of operation again after a very short period of activity. Except for occasional renewal of the calcium carbid used all that is necessary

after each use of the buoy is to close and secure the cock 20, which is readily accessible from the outside, and to insert a new lead wire 26, which can be done with little trouble and at a scarcely appreciable cost.

This apparatus can even be used on board for purposes of illumination in consequence of the ease with which it can be handled and attended to. In this case it is placed permanently under a protecting-shade, as shown by dotted lines in Fig. 1, which serves at the same time as a reflector and from which it can be easily removed when required. For this purpose a water-reservoir may advantageously be arranged in the interior of the floating body 1, so that this reservoir can be connected with the nozzle 9 by a flexible tube. Such an arrangement is indicated by dotted lines in Fig. 1. This comprises a pipe-like reservoir 28, that is placed in the floating body 1 and has an upper closing-screw 29 for filling it, a lower outlet-cock 30, and a flexible tube 31. In the case of buoys which are not provided with such an arrangement the small quantity of water necessary for the generation of the gas can be supplied to the nozzle 9 by other means.

In consequence of its small weight the buoy described can be used everywhere as a portable makeshift lighting apparatus, which for the general introduction of the same is of a value not to be underestimated.

What I claim is—

1. A life-buoy composed of a float, a carbid-receptacle having a water-inlet, an expansible bulb communicating with the carbid-receptacle, a lever actuated thereby and adapted to close an electric circuit, a platinum igniting-wire in circuit, a burner, and a lead wire in proximity to the burner and also in circuit, substantially as specified.

2. A life-buoy composed of a float, an upwardly-extending tube, a carbid-receptacle and a battery within the lower end of the tube, a circuit and contact-points, a burner within the upper end of the tube, an expansible bulb communicating with the carbid-receptable, a lever actuated thereby and adapted to close the circuit, a platinum igniting-wire and a lead wire in circuit and arranged in proximity to the burner, substantially as specified.

3. A life-buoy composed of a float, a carbid-receptacle, an expansible bulb communicating therewith, a lever actuated thereby, a spring engaged by the lever, a gas-cock having a pin adapted to be engaged by the spring, a spring-influenced lever mounted upon the gas-cock, a contact adapted to be engaged by the lever, a burner, and a platinum wire and lead wire in circuit and arranged in proximity to the burner, substantially as specified.

Signed by me at Frankfort-on-the-Main this 4th day of November, 1899.

CONRAD CARL ARTHUR EDWIEN WIESE.

Witnesses:
WILHELM STOCKMEYER,
JEAN GRUND.