

No. 649,328.

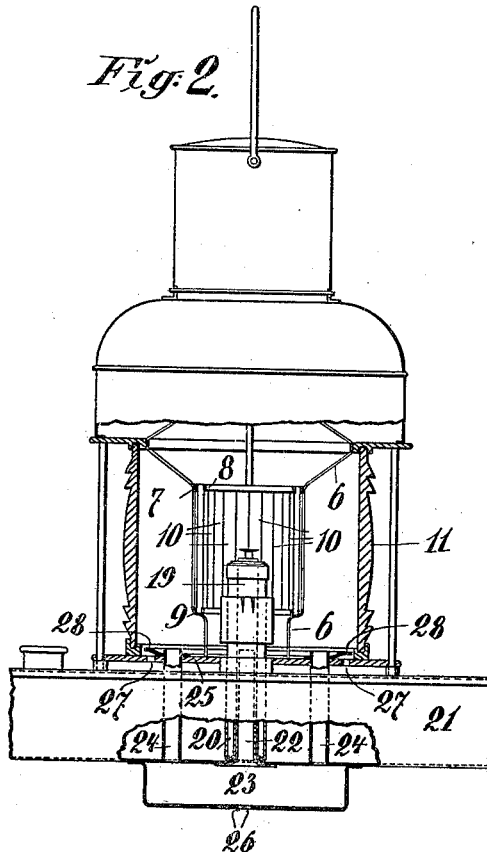
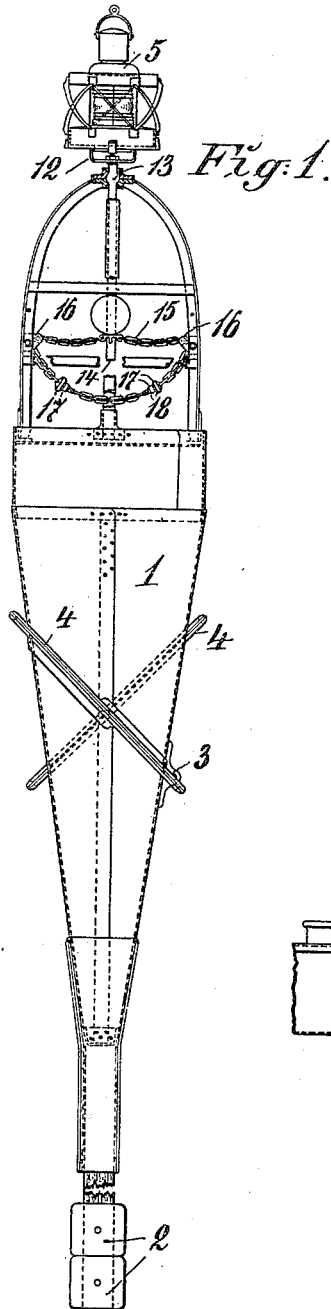
Patented May 8, 1900.

G. W. LYTH & C. H. RAMSTEN.

LIGHT BUOY.

(Application filed Dec. 28, 1897.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORG WILHELM LYTH, OF STOCKHOLM, AND CARL HENRIK RAMSTEN, OF
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LIGHT-BUOY.

SPECIFICATION forming part of Letters Patent No. 649,328, dated May 8, 1900.

Application filed December 28, 1897. Serial No. 664,012. (No model.)

To all whom it may concern:

Be it known that we, GEORG WILHELM LYTH, residing in Stockholm, and CARL HENRIK RAMSTEN, residing in Malmö, Sweden, subjects of the King of Sweden and Norway, have invented certain new and useful Improvements in Light-Buoys, (for which we have obtained patents in Sweden, No. 6,587, dated February 6, 1895, No. 7,927, dated November 6, 1896, and No. 8,250, dated July 22, 1896, and in Great Britain, No. 6,580, dated March 25, 1896,) of which the following is a specification.

This invention has reference to certain improvements in light-buoys, the object being to render the light of such a buoy easily distinguishable from other lights. For this purpose the lantern of the buoy is provided with colored strips or narrow pieces of glass, arranged around the light in such a way that it will, if viewed from a distance, show a light changing from white to colored, and vice versa when the light-buoy is moved to and fro around its axis. The lamp used is suitable for burning petroleum or the like, and ought to emit light all around and to burn with a steady flame even in a severe storm and to continue burning with the same intensity of light during a long time without attention. The oil-reservoir is located wholly beneath the lens arrangement of the lamp and is placed so near to it that the wick will be able to carry up sufficient oil during the whole of the time that the lamp has to burn without the reservoir having to be replenished. For that reason the reservoir must hold a considerable quantity of oil and be made with comparatively large horizontal dimensions and small depth in order to prevent the oil-level from sinking so low as to prevent the wick from carrying up the necessary quantity of oil with certainty.

The lantern may be either fixed directly to the buoy or attached to it by means of a ball-and-socket joint and be fitted with a balance-weight.

The buoy, which may be of conical or other shape, is kept in a vertical position by a weight attached to its lower part and is provided with inclined planes or with sections of a

screw-thread, placed in such a way as to cause the buoy to turn to and fro about its vertical axis as it is moved up and down by the waves or affected by the currents. The buoy should be secured on its station by a slack mooring, so that its movements may be as free as possible.

If the lantern is kept upright by a balance-weight, the pendulum of the latter is steadied by means of chains running over rollers and provided with elastic stoppers or springs to soften the working of the balance in a rough sea.

In the accompanying drawings a form of the buoy is shown.

Figure 1 is an elevation, partly in section, of the buoy; and Fig. 2, an elevation of the lantern to a larger scale and in part in section.

1 is the buoy; 2 2, weights on the lower part of it; 3, the part on the buoy to which the mooring-chain is to be fixed, and 4 4 the inclined planes on the outside of the buoy.

5 is the lantern.

Inside the lens system of the lantern there is erected a framework 6, that carries two rings 7 and 8 and a grooved ring 9.

10 10 are the narrow pieces of glass inserted between the rings 7 and 8 and resting in the ring 9. If dark screens are used, they may be arranged in a like manner, but should leave a space between each other. The glass pieces 10 may be arranged outside the lens 11, if desired.

The lantern is supported by a balanced framework 12, mounted on the superstructure of the buoy by means of a ball-and-socket joint 13. To the lower part of the weighted arm 14 of said framework is fixed a suitable number of chains or ropes 15, preferably wire ropes, passing through guiding-eyes 16, preferably provided with rollers fixed to the inside of the buoy at a suitable level. The parts of the ropes below the eyes should have a sufficient weight or be provided with special weights 17, and the ends may be connected as shown.

18 are india-rubber buffers.

The burner 19 of the lamp consists of an annular wick-tube 20, perforated at the bot-

tom. The bottom of the oil-reservoir 21 has an opening from which extends a tube 22 into the central air-tube of the burner.

23 is a vessel below the bottom of the oil-reservoir, and 24 24 tubes passing through said reservoir 21 and through the bottom plate 25 of the lantern in order to allow air to pass from the inside of the lens arrangement to the vessel 23. 26 26 are two small holes pierced through the bottom of said vessel 23, which are of use sometimes for the steady burning of the lamp.

27 27 are holes in the bottom plate 25, and 28 a deflector above said holes.

The reservoir 21 is provided with radially or almost-radially arranged partition-walls, perforated at its lower part (not shown in the drawings) in order to lessen the movements of the oil in the reservoir.

The strips of glass 10 may be either placed apart from each other, so that the uncolored light shines forth between them, or close together, in which latter case two adjacent strips ought to have different colors.

In the words "colored strips of glass" in the following claims we mean "dark screens," too.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a buoy, a lantern, colored strips of glass around the light, and inclined surfaces on the body of the buoy, substantially as and for the purpose set forth.

2. The combination of a buoy, a lantern mounted on a balance, colored strips of glass around the light, and inclined surfaces on the

body of the buoy, substantially as and for the purpose set forth.

3. The combination of the buoy 1, the lantern 5, mounted on a weighted balance 12, the ball-and-socket joint 13 between the balance and the buoy, the steadying-chains 15, the colored strips of glass 10 around the light, and inclined surfaces 4 on the body of the buoy, substantially as and for the purpose set forth.

4. The combination of the buoy 1, the lantern 5, the oil-reservoir 21 of the lamp, the central air-tube 22, the vessel 23, the tubes 24, 24, the perforated plate 25 and the deflector 28, the colored strips of glass 10, the weighted balance 12, the ball-and-socket joint 13, the steadying-chains 15, and the inclined surfaces 4, substantially as and for the purpose set forth.

5. A buoy having a weight to keep it in a vertical position and at its upper end a lantern provided with colored strips around the light, means for attaching slack mooring to the side of the buoy and inclined surfaces on the body of the buoy to cause the buoy to turn to and fro about its vertical axis as it is moved up and down by the waves, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

GEORG WILHELM LYTH.

CARL HENRIK RAMSTEN.

Witnesses:

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