Nov. 7, 1950 C. LINHARDT, JR 2,528,837

MARINE TORCH

Filed June 12, 1947

FIG. 1

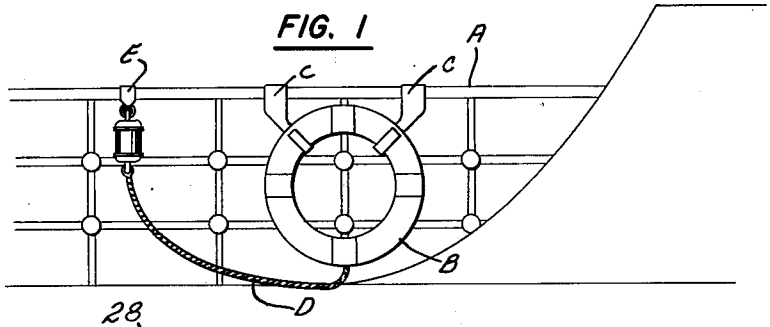


FIG. 3

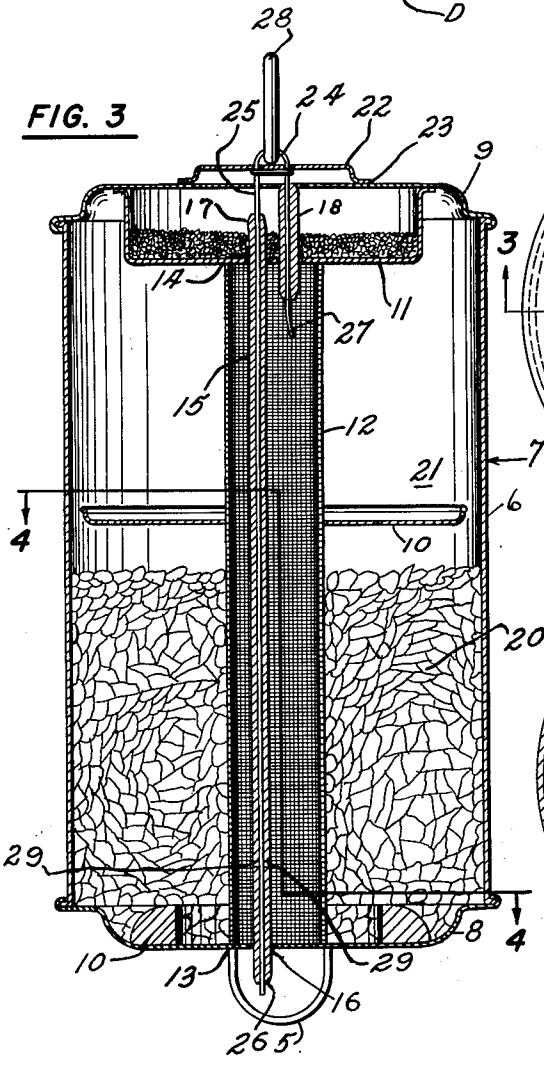


FIG. 2

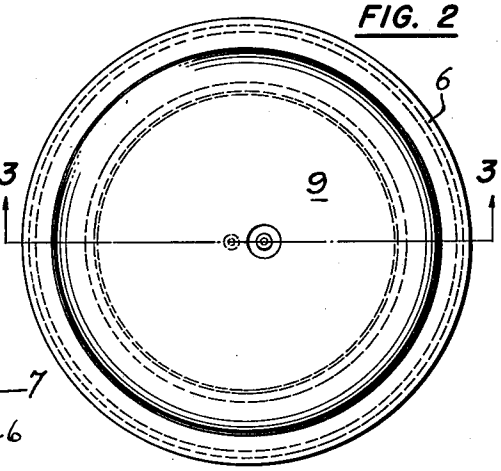
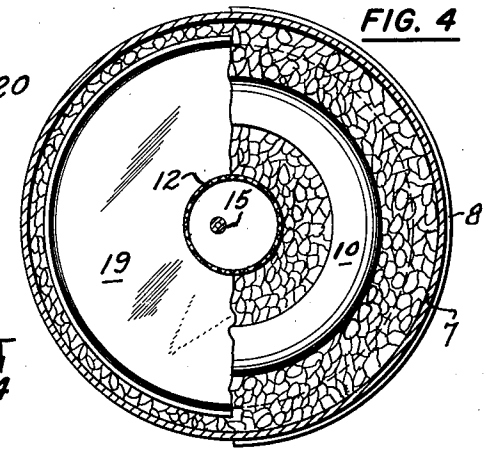


FIG. 4



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MARINE TORCH

Charles Linhardt, Jr., Baltimore, Md.

Application June 12, 1947, Serial No. 754,284

1 Claim. (Cl. 9—8.3)

1

This invention relates to certain improvements in marine torches, and particularly is an improvement of my marine torch illustrated in Patent No. 1,445,222, issued to me as of February 13, 1923, also Patent No. 1,737,424, issued November 26, 1929, and Patent No. 2,322,716, issued June 22, 1943.

The principal object of my present invention is to provide a torch which may be conveniently carried on ships, either on the water on in the air, and may be safely and conveniently stored without material deterioration, and the parts of which may be quickly put in operative position so that a light will burn for a considerable length of time and will be automatically re-ignited after the flame has been put out by being submerged beneath the waves.

The present invention is similar to my patented structure and carries the following improvement, i. e., a casing divided to provide a carbide chamber and gas chamber, and an auxiliary phosphite or ignition chamber, and of such construction as to have no connection with each other so as to prevent any explosion due to the mixing of the gases.

A further object of the invention is to provide a marine torch, equipped with means whereby the gases may be immediately utilized to provide a continuous flame and one wherein the flame, when extinguished, may be readily ignited and at the same time provided with a safety means to prevent explosion, and also a means whereby the tubes conveying the gas are kept free from carbide or slush.

A further object of this invention is to provide the torch with a screen which constitutes a fire arrester in event that the flame is blown through the tubes into the interior of the casing.

A further object of this invention is to provide a marine torch capable of being manufactured and sold at a comparatively small cost and one which will be durable at all times.

With these and other objects in view, the invention consists of certain novel features, combination and arrangement of parts as will be hereinafter more fully described, pointed out in the accompanying drawings, and claimed.

In the drawings,

Figure 1 shows the complete apparatus, comprising the torch, a life buoy, its connecting lines, and all supported from a rail of a ship;

Figure 2 is a top plan view of the torch, having its protecting cap removed;

Figure 3 is a sectional view, taken on the lines 3—3 of Figure 2, looking in the direction of the

2

arrows, and showing the protecting cap and bottom seal in place; and

Figure 4 is a sectional view, taken on the lines 4—4 of Figure 3, illustrating the baffle plate and the lead weight in the bottom of the container.

It is the aim of this invention to provide a more efficient marine torch, one which can be manufactured and sold at a comparatively small cost and one, when constructed as illustrated and described, will provide a non-explosive torch, positive in operation, and equipped with all means for safety in the use of the device.

Referring to the drawings, A represents the rail of a ship, to which the life buoy B is supported, preferably by hooks C, it being understood that any type of supporting means may be used.

D represents the line connecting the life buoy to the anchoring loop 5 of the casing 6 of my improved torch. The casing 6 is preferably composed of a cylindrical shell 7, having a bottom 8 and top 9, all soldered and welded firmly together to form a water-tight receptacle, as illustrated in Figure 3. In order to keep the buoy in proper upright position when in the water, an annular weight 10 is provided in the bottom 8 thereof, and is secured to the interior of the bottom and centrally thereof, as illustrated in Figures 3 and 4 of the drawings.

Secured concentrically to and depending from the inner side of the top 9 of the casing 6, is an auxiliary chamber 11, and the purpose of this chamber will be hereinafter more fully described.

Mounted in the center of the casing 6 is a reticulated tube or screen member 12 having one end secured centrally to the inner face of the bottom 8, as at 13, and its upper end secured as at 14 concentrically to the bottom of the auxiliary chamber 11.

A water conveying tube 15 extends upwardly through the bottom 8 centrally thereof, as at 16, has its upper end extending through the bottom of the chamber 11 and terminating therein, as at 17.

A gas conveying tube 18 has one end secured to and extending through the top 9, and its opposite end extending down through the bottom of the chamber 11 into the reticulated member 12.

A baffle plate 19 is secured to the screen or reticulated member 12, substantially midway the top and bottom of the casing, and its diameter being of a diameter smaller than the interior of the casing 6, and divides the casing into a carbide chamber 20 and a gas chamber 21.

A sealing cap 22 is secured to the outer face

of the top 9, as at 23, with suitable soft solder, which permits this cap to be readily removed, as will be hereinafter more fully described.

Extending through the cap 22, centrally thereof, is the cleaning wire 24, which is substantially U-shaped, having its longer portion 25 extending downwardly through tube 15, out beyond the lower end thereof and sealed therein by soft solder, as at 26. The shorter portion 27 of the U extends through the gas tube 18 beyond the lower end thereof, as illustrated in Figure 3, and to the bight portion of the U 24 is a supporting ring 28, and this ring 28 permits the same to be supported by a hook E to the ship rail and at the same time provides a means whereby the cap 22 may be torn from the top 9, pulling the wires from their respective tubes by virtue of the breaking of the seals 23 and 26, thus permitting water to enter the tube 15 and pass into the carbide chamber 20 through openings 29 formed in the lower part of the tube adjacent the bottom 8 thereof.

All the elements of the invention have been described, and the purpose of these elements when assembled, as described, will now be explained.

When the device is in use and the cap 22 has been torn from the cover 9 by virtue of the ring 28, the wires are pulled from their respective tubes 15 and 18, water enters through the bottom of tube 15, enters into the carbide chamber 20 through the openings 29, causing gas to be generated which passes upwardly into chamber 21 through the reticulated tube 12, out through the gas tube 18, and at the same time water has passed up the tube 15 into chamber 11, in which is arranged calcium phosphide, and gas rising therefrom through the opening in the top 9 meets the gas passing through tube 18, igniting the same to produce the flame.

It can be readily seen, that if the flame is put out by the waves washing thereover, that when the waves recede the gases will again meet and ignite, and this operation will be continuous as long as the carbide remains in the chamber 20 and the calcium phosphide in the chamber 11.

It is also to be understood that the water sloshing over the top 9 of the casing 6 will enter the opening through which the gases from chamber 11 pass, thus mixing with the calcium phosphide to assure the generation of sufficient gas to cause a constant igniting action when meeting the carbide gas passing through tube 18.

The bottom 8 may be provided with a cone-shaped member equipped with fins, so that in the event the device is dropped from an air ship or the like, it will be held in upright position until it strikes the water.

The reticulated tube or screen member 12, which constitutes a fire arrester, also performs the function of preventing the carbide and slug therefrom from interfering or getting in the tubes 15 and 18, respectively. This reticulated tube will prevent the flame from being forced back into the chamber 21 and causing the gas therein to become ignited.

It might also be well to mention that the baffle 19, being of a diameter smaller than the interior of the casing 6, is a passageway for gas to pass around its peripheral edge from the carbide chamber into the gas chamber 21.

Having thus described my invention, what I claim as new is:

A marine torch of the class described, comprising a casing having a top and a bottom, a seal at the top, a re-igniting chamber fixed to the inner face of said top and located in said casing, a reticulated flame resisting member located centrally in the casing and secured to the opposing faces of the casing and the re-igniting chamber, a baffle carried by the reticulated member and located in the casing thereby dividing said casing into upper and lower chambers, said lower chamber providing a space for gas forming material, a water tube extending throughout the length of the casing and located in the reticulated member and having one end terminating in said re-igniting chamber, said water tube having apertures through its wall providing for water flow into said lower chamber, a gas conveying tube extending through said re-igniting chamber and into said reticulated flame resisting member, and having one end secured to said top, a cleaning wire, a portion of said cleaning wire extending throughout the length of said water tube, a portion of said cleaning wire extending through said gas tube, an end portion of said cleaning wire being U-shaped, and a ring in engagement with the said U-shaped end portion of said cleaning wire, thereby assuring positive withdrawal of both wire portions when the cleaning wire is withdrawn.

CHARLES LINHARDT, JR.

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