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(54) **STORM LANTERN WITH PROTECTIVE CASING**

(57) **Abstract:**

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The present invention concerns a hurricane lamp with a protective housing.

Known hurricane lamps with protective housings comprise lamps inserted in cage-like housings. Such hurricane lamps are somewhat cumbersome in use because it is necessary to remove the lamp from the protective housing for lighting, adjusting and extinguishing the flame. For this purpose the protective housing is placed loosely over the lamp. The lamp is hung in position and may be protected against theft either by means of a pull ring situated on the flue of the lamp which thus passes through a cross-stirrup of the protective housing, or by means of the suspension stirrup of the lamp which passes through a closure cover of the housing embedded in a handle stirrup of the protective housing and adapted to be connected mutually therewith. Apart from the fact that storing these hurricane lamps with separate housing presents difficulties, it is obvious that operation of this lamp is cumbersome and takes considerable time.

It is an object of the present invention to remedy this known deficiency without undue modification to the proved basic structure of a hurricane lamp with a protective housing.

This problem is substantially solved by the fact that as protective housing there is used an all enclosed suspendible housing constructed in two sections and adapted to be opened out and closed having air inlet and outlet apertures and windows, one part of which being equipped with mounting and suspension means to receive the hurricane lamp and the other part serving as cover.

A preferred embodiment of the housing consists in that the housing is of circular cross-section having a perforated bottom



to act as lower closure and at the top is constructed to form a semi-spherical dome with ventilating apertures.

This shape provides the smallest areas exposed to the wind and is also more resistant to impact and vibration for rough
5 usage on building sites and so forth.

The basic configuration of the housing however forms the protective housing into a unit with the hurricane lamp which substantially simplifies servicing of the lamp. Now it is necessary only for the protective housing to be opened in order
10 to service the lamp. It is no longer necessary when changing the lamp, for example, from continuous operation to flashing, to take the lamp down from its hook. Even for storing away by day the lamp remains integral with the housing constructed in accordance with the invention.

15 In continued development of the invention concept it is now possible for simplifying the structure of the lamp itself.

Thus, a hurricane lamp suitable for such a housing is distinguished by the feature that as air inlet aperture to the gas space slots are arranged in the base of the lamp.

20 This configuration of the hurricane lamp dispenses with the hollow supporting arms serving the air supply which surround stirrup-like ordinary hurricane lamps, because the lamp no longer is a separate object independent upon the protective housing but is rigidly mounted in this housing.

25 To impart a suitable support to the lamp in the housing, a feature of the invention consists in that as support both for the flue and also the base of the lamp there are provided spring clips

mounted in one part of the housing, one enclosing the foot portion and the other the flue.

5 A further feature consists in the feature that the spring clip for the flue is so arranged that the latter may be raised for the purpose of lighting the lamp.

The omission of the supporting arms also provides the advantage that the lighting capacity of this lamp with housing is increased because the light ray is no longer obstructed by the wide web adapted to receive these supporting arms in the housing.

10 A further feature consists in the fact that the windows in the housing with the exception of narrow ribs are constructed as circular windows.

15 A further feature consists in that the housing is divided lengthwise, one part being connected with the other by means of hinges and adapted to be closed by means of spring catches with closure eyelets and the webs of the circular windows forming parts of the framework of the housing parts.

A final feature also consists in the fact that a hinge link is arranged above and a second hinge link below the window.

20 This arrangement substantially increases the stability of the housing.

25 One detail is distinguished by the feature that as glazing for the windows, semi-circular panes of transparent plastics material and similar materials are used which in height correspond to the level of the glass flue of the lamp and in width are adapted to the shape of the housing used, which panes on the outer surface have

concentric circular or semi-circular ribs about a central lens shaped illuminating bulls-eye.

This configuration of the panes affords an extraordinarily large and widely effective light diffusion. The stability of the panes is also substantially increased thereby.

A detail is also distinguished by the fact that the air inlet apertures are so arranged in the bottom of the housing that a number of them are situated in the free space between the housing wall and the base of the hurricane lamp.

An advantageous further development of a detail is characterised by the fact that at least three air inlet apertures in the bottom of the container are pressed out to form feet projecting downwardly towards the bottom, which possibly suffice as air inlet apertures.

An embodiment thereof is distinguished by the feature that the air inlet apertures in the bottom of the container acting as feet are formed by cutting and bending out flaps.

A further detail is characterised by the feature that the carrying stirrup is arranged on the section of the housing supporting the lamp.

A further feature consists in that the ventilating apertures are covered at the top and are uniformly distributed so that a number of them are always on the leeward side over the semi-spherical dome of the housing.

A hurricane lamp having these features is substantially simplified in maintenance and storage and has a considerably improved durability, stability and efficiency

The invention will be described further by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a hurricane lamp showing a sectional view of the supporting part of the housing;

Fig. 2 is a plan view of the embodiment of Fig 1 in

cross-section;

Fig. 3 is a closed housing, and

Fig. 4 shows a detail view of an alternative embodiment partly sectional.

5 A conventional hurricane lamp 1, which can be suitable for continuous operation or for flashing, is completely enclosed by a housing 2. This housing 2 is divided lengthwise. A housing part 2a serves as a support for the lamp 1 which is retained therein by means of spring clips 3 and 4. The spring clip 3 embraces the
10 foot portion 5 of the lamp, whilst the spring clip 4 engages the flue 6. Spring clip 4 is arranged at such a level in the housing part 2a that the flue 6 can be raised together with the glass flue 7 to light the lamp.

A circular cross-section for the housing 2 appears to be the
15 best configuration in view of the circular lamp 1 and in view of the stability and streamline. A polygonal configuration of the housing 2 is also useful.

The housing part 2b serves as a cover to complete the enclosure of the lamp 1 when in operation. For lighting,
20 adjusting and extinguishing the lamp it is necessary now only for the housing cover 2b to be opened out to make the lamp accessible.

The housing 2 has a bottom 8 beneath which there are air inlet apertures 9 arranged in a circle. These air inlet apertures are so arranged that the apertures are not obscured by the foot portion 5
25 of the lamp 1.

At the upper end the housing 2 has a semi-spherical dome-shaped top. This semi-spherical dome is provided with ventilating apertures evenly distributed in the upper section, which apertures

are louvered to be covered at the top and open at the side. A number of these apertures 10 will always be on the leeward side thus ensuring a reliable escape of the spent gases.

Hinges 11 connect the two housing parts 2a and 2b. A spring catch 12 with closure eyelets 13 adapted to receive a padlock therein serves as a closure member.

The hurricane lamp 1 has been somewhat simplified. Thus conventional supporting arms which served for the air supply are omitted. Instead of these the gas mixing chamber 15 above the reservoir space 14 has slots 16 for the entry of air. The arrows shown in Fig. 1 indicate the air and gas flow.

The omission of the conventional supporting arms now allows the housing 2 to be adapted in that the light deflection apertures or window apertures 17, are increased in size except for the narrow webs at the closure of the two housing parts 2a and 2b.

Hence the useful width of the lamp has been substantially improved. Conventional panes may be used in the window apertures 17. In order, however, to increase the favourable effect of the lamp further, the semi-circular panes 18 curved in accordance with the housing 2 have a lens-shaped convex illuminating bulls eye 19, which bulls eye is surrounded by circular or part-circular ribs 20 over the whole pane. This configuration of the pane considerably increases the luminous width and the light yield.

A carrying stirrup 21 on the housing part 2a completes the lamp, which as such forms a single unit.

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Fig. 4 shows a modification, the bottom 8 of the container 2 having at least three air inlet apertures 9' uniformly distributed over the periphery and formed by cutting and bending out lugs 9''.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:-

1. A hurricane lamp arrangement comprising a lamp unit per se disposed in a protective housing constructed in two connectable and openable parts, at least one part having air inlet and outlet apertures and a window, one part of said housing being fitted with fixing and suspension means adapted to fixedly receive said lamp unit and the other part serving as a cover for said lamp unit.
2. A hurricane lamp arrangement according to claim 1, wherein the housing is of circular cross-section when in the closed condition, has a perforated bottom and a dome shaped top with ventilating apertures therein.
3. A hurricane lamp arrangement according to claim 1, wherein slots are formed in the base of the lamp unit to serve as air inlet apertures to a gas space.
4. A hurricane lamp arrangement according to claim 1, wherein spring clips are mounted in one part of the housing, one to engage a base portion and one a flue portion of said lamp unit and thereby serve as supports for said base and said flue portions.
5. A hurricane lamp arrangement according to claim 4, wherein said spring clip for said flue portion is so arranged on said housing part that said flue portion can be lifted for servicing the lamp unit.
6. A hurricane lamp arrangement according to claim 1, wherein said windows in said housing parts are designed as encircling windows except for narrow ribs.
7. A hurricane lamp arrangement according to claim 6, wherein said housing is divided lengthwise, one part being connected

with the other by means of hinges and adapted to engage each other by means of a spring catch and closure eyelets, the webs of the encircling windows forming part of the framework of the housing parts.

8. A hurricane lamp arrangement according to claim 7, wherein a hinge link is arranged at the top and another hinge link below the window.

9. A hurricane lamp arrangement according to claim 4, wherein the glazing of each window comprises a semi-circular curved pane of transparent plastics material corresponding in height to the level of the glass cylinder flue of the lamp and adapted in width to the shape of the housing, the outer surface of each said pane having a central lens-shaped convex illuminating bulls eye surrounded by circular or part circular ribs.

10. A hurricane lamp arrangement according to claim 1, wherein the air inlet apertures are so arranged in the bottom of the housing that a number of them is situated in the free space between the housing wall and the base of the lamp unit.

11. A hurricane lamp arrangement according to claim 1, wherein at least three air inlet apertures in the bottom of the container are pressed out to act as downwardly projecting feet.

12. A hurricane lamp arrangement according to claim 11, wherein the air inlet apertures in the bottom of the container acting as feet are formed by cutting and bending out flaps.

13. A hurricane lamp arrangement according to claim 1, wherein a carrying stirrup is arranged on the section of the housing supporting the lamp unit.

14. A hurricane lamp arrangement according to claim 1, wherein the apertures are covered at the top and evenly distributed over the semi-spherical hood of the housing, thus causing some of them to be constantly to leewards.



Fig. 1

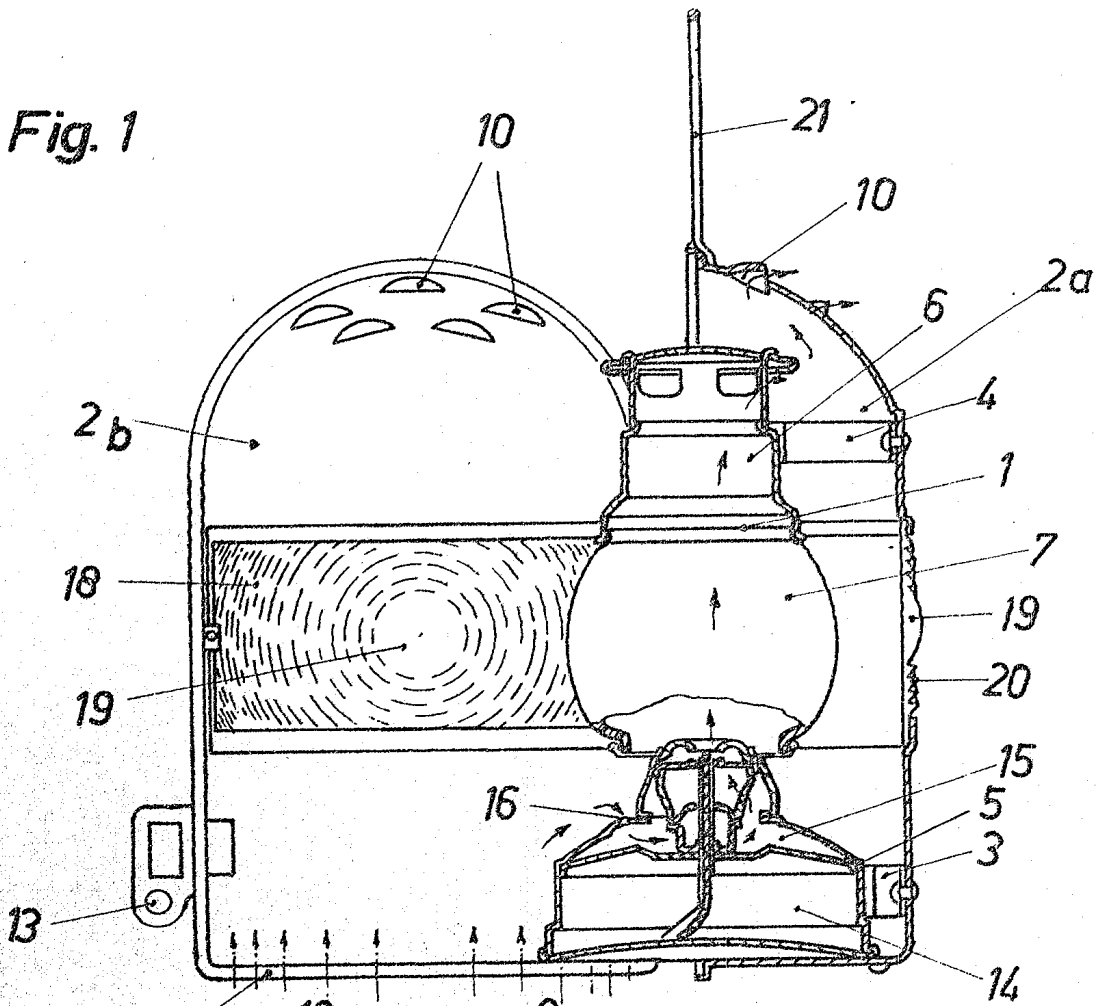
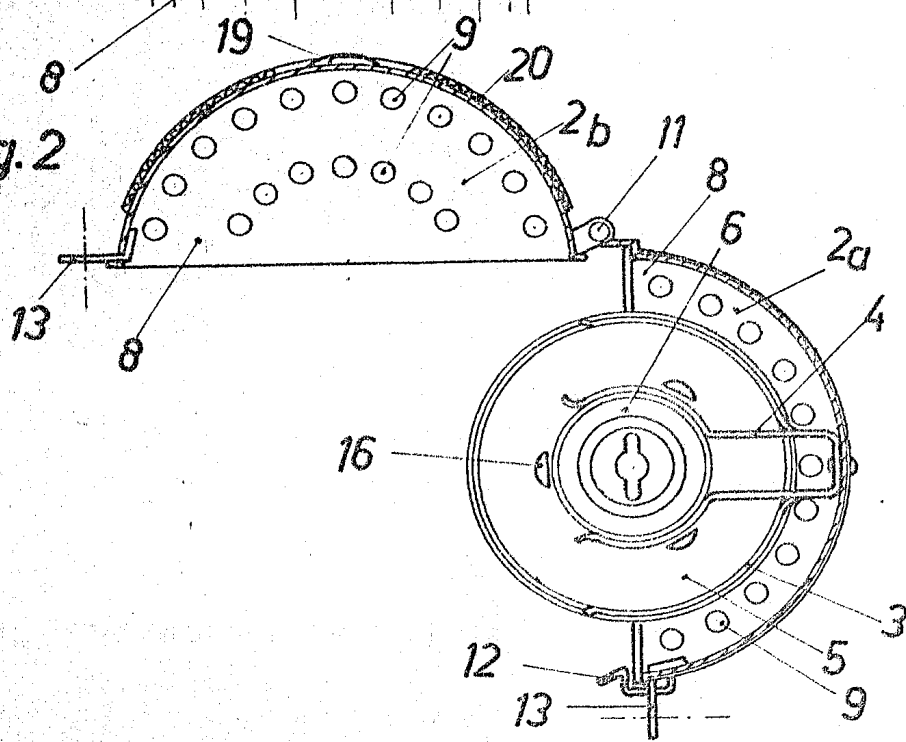


Fig. 2



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Fig. 3

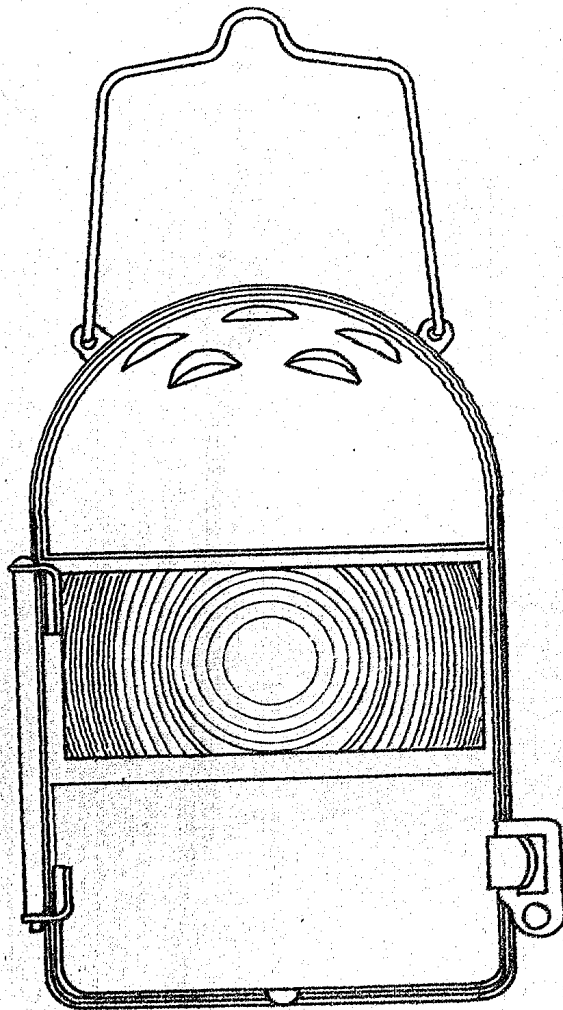
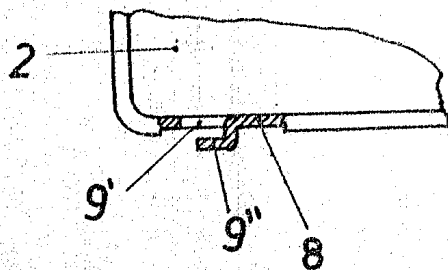


Fig. 4



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