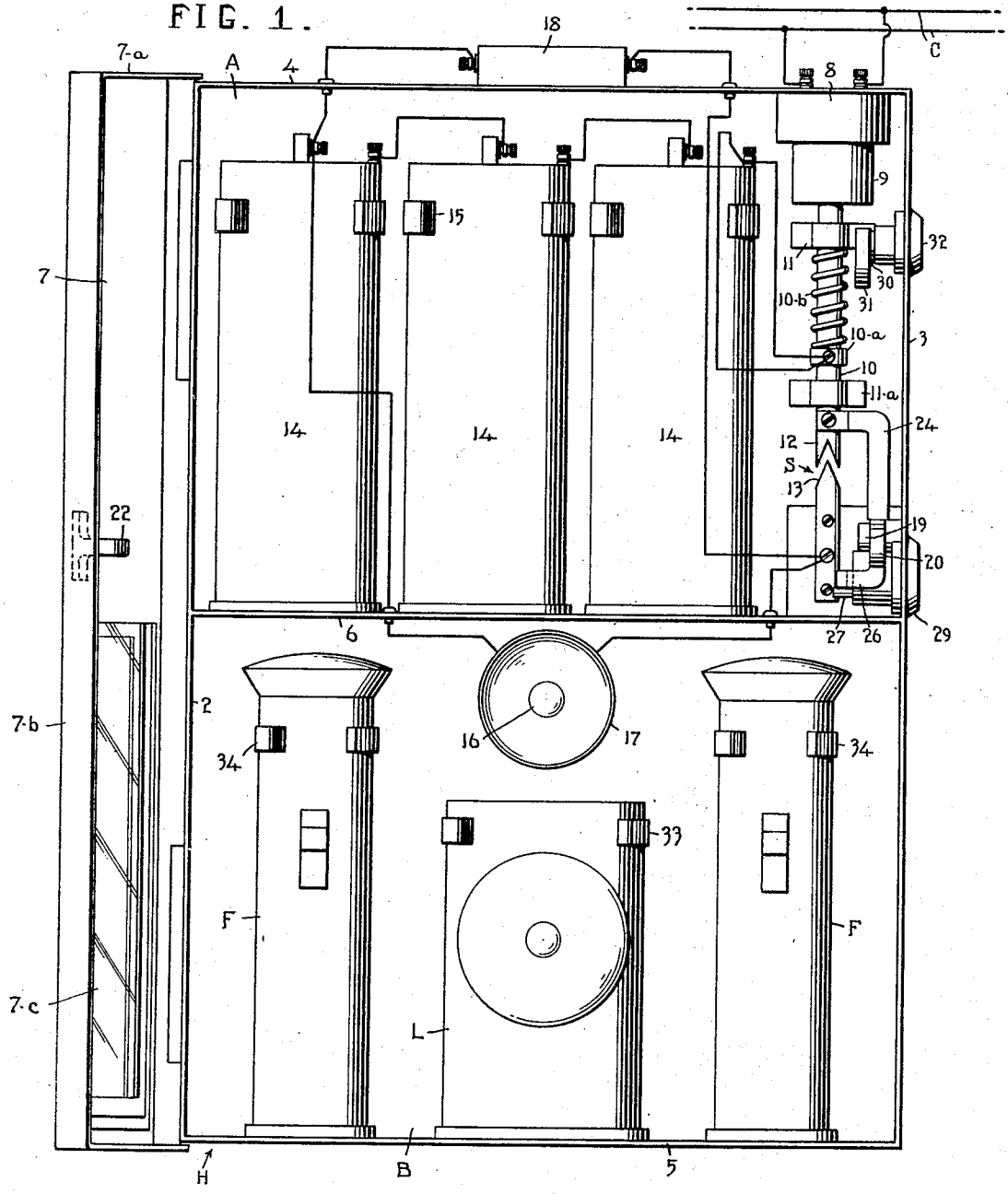
Oct. 26, 1937. C. P. HULST 2,097,236

EMERGENCY LIGHTING UNIT

Filed July 10, 1935 2 Sheets-Sheet 1

FIG. 1.



Clarence P. Hulst

Inventor

By Ogle R. Singleton

Attorney

Oct. 26, 1937. C. P. HULST 2,097,236

EMERGENCY LIGHTING UNIT

Filed July 10, 1935 2 Sheets-Sheet 2

FIG. 2.

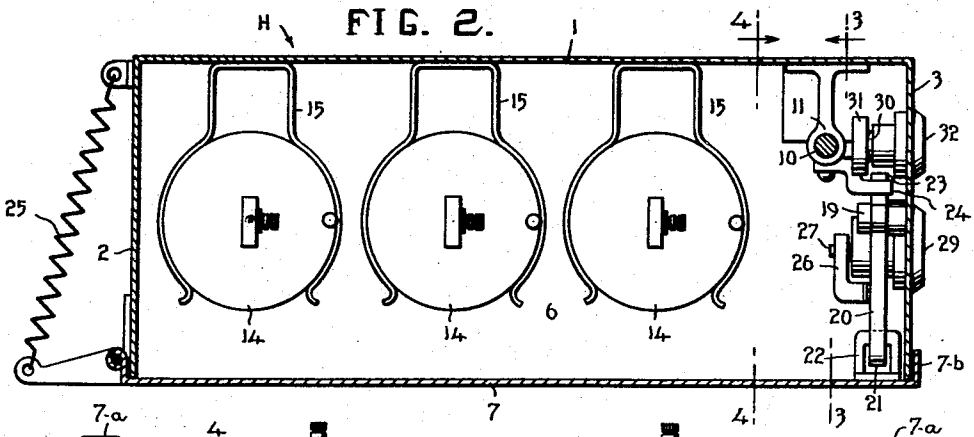


FIG. 3.

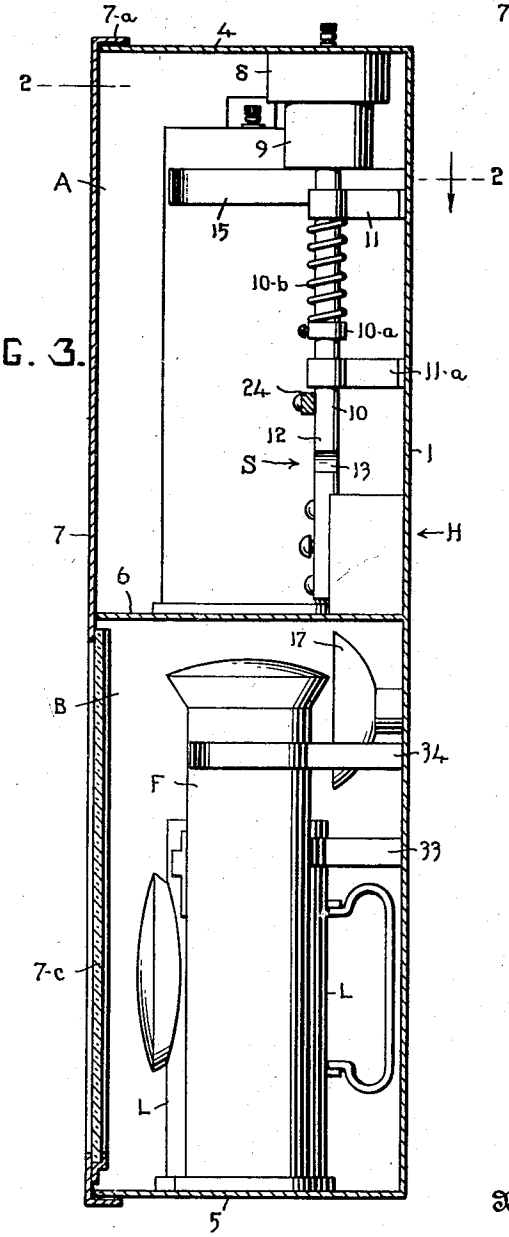
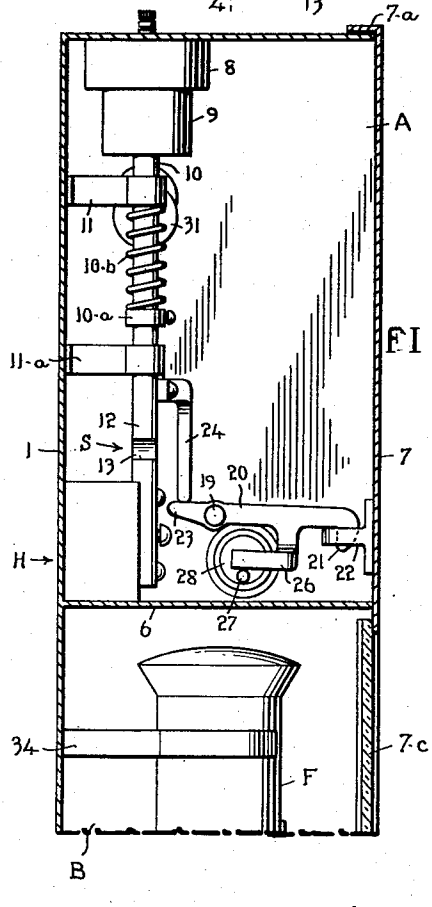


FIG. 4



Clarence P. Hulst

Inventor

By Ogle R. Singleton

Attorney

Patented Oct. 26, 1937 2,097,236

UNITED STATES PATENT OFFICE

2,097,236

EMERGENCY LIGHTING UNIT

Clarence P. Hulst, New York, N. Y.

Application July 10, 1935, Serial No. 30,676

6 Claims. (Cl. 240—1)

My invention consists in a new and useful improvement in emergency lighting units and is designed to provide a device which will produce a light, in the event that the current in the regular lighting circuit fails, and will operate automatically upon failure of the current in the circuit. My device comprises a self contained unit adapted for use at any point at which a light may be desired, in the event of failure of lighting by the regular lighting circuit. This device is particularly adapted for use upon ship board where experience has shown that in the event of disaster such as fire, collision or wreckage by storm, the main and auxiliary dynamos are rendered inoperative causing the lights in the ship to fail and thereby creating panic and confusion, particularly among passengers, in the ensuing darkness. Since, as is obvious, these emergency lighting units may be duplicated indefinitely, it is possible by the use of my device to insure requisite lighting at all points. A particularly advantageous feature of my device is the fact that, in the provision of emergency lighting, all human factors have been eliminated, the device operating automatically to supply light at all points desired, immediately upon failure of the regular lighting system.

While these emergency lighting units are permanently fixed in position where light is desired, I have designed my device so that upon the functioning of the emergency lighting system of the unit, there is also rendered available for use portable lighting units, all of which will more fully appear from the detailed description of my device hereinafter set forth.

While I have illustrated in the drawings filed herewith and hereinafter fully described one specific embodiment of my invention, it is to be distinctly understood that I do not consider my invention limited to said specific embodiment, but refer for its scope to the claims appended hereto.

In the drawings:

Fig. 1 is a front elevation of my device, the door being shown in open position.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 3.

Fig. 3 is a vertical section on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary vertical section on the line 4—4 of Fig. 2.

As illustrated in the drawings, my device is enclosed in a housing H comprising the rear wall 1, the side walls 2 and 3, the top wall 4 and the bottom wall 5, and the horizontally disposed shelf 6 dividing the housing H into the upper compartment A and the lower compartment B. Hingedly connected to the side wall 2 is the door 7 having the flange 7—*a* at its top and the flange 7—*b* at its outer edge, to overlie the walls 4 and 1 respectively, when the door 7 is in closed position. The door 7 is provided with a transparent panel 7—*c* of glass, or other suitable material, to render visible the interior of the compartment B of the housing H, when the door 7 is in closed position. Suitably positioned in the compartment A of the housing H is the electro-magnet 8 in circuit with the main and auxiliary dynamo circuits C so as to be energized and operative when current is flowing through said circuits. Suitably mounted adjacent the magnet 8 is the metallic mass 9 on rod 10 slidably mounted in aligned collars 11, 11—*a* mounted on the rear wall 1. The lower end of the rod 10 is formed as a jaw 12 co-acting with the tongue 13 suitably mounted in the bottom of the compartment A, the jaw 12 and tongue 13 forming a contact switch S, the parts being properly insulated. The rod 10 has a collar 10—*a* fixed thereon, at a point between the collars 11, 11—*a*, and there is a spiral spring 10—*b* disposed about the rod 10, between the collar 10—*a* and the collar 11. Suitably mounted in the compartment A are the electric batteries 14 resting upon the shelf 6 and held firmly in position by spring clips 15 fixed to the rear wall 1. Suitably mounted in the upper part of the compartment B on the rear wall 1 is the electric lamp 16 with reflector 17. As clearly indicated in Fig. 1, the batteries 14, lamp 16 and switch S are wired so that the lamp 16 is controlled by operation of the switch S. Mounted upon the outside of the top wall 4 is the annunciator buzzer, or bell, 18 also wired with the batteries 14 and switch S so as to be controlled by the switch S. Pivotally mounted on the pintle pin 19 on the side wall 3, adjacent the switch S, is the rock arm 20 carrying on one end the latch 21 to co-act with the eye 22 on the door 7, and on the other end the tongue 23. There is provided upon the rod 10 a depending finger 24 to co-act with the tongue 23 to rock the arm 20 to raise the latch 21 from the eye 22 to release the door 7 which is provided with the spring 25 to cause the door 7 to open when released. The rock arm 20 is also provided with a depending finger 26 adjacent which is the pin 27 eccentrically mounted upon the rotatable lock barrel 28 mounted in the side wall 3 and adapted to be rotated by a key inserted through the escutcheon 29. Suitably mounted in the side wall 3, adja-

cent the metallic mass 9, there is the rotatable lock barrel 30 carrying the cam 31 adapted to co-act with the mass 9 to raise it, so as to maintain the switch S in open position. The barrel 30 is rotated by a key inserted through the escutcheon 32. Suitably disposed in the compartment B, below the lamp 16 is the electric hand lantern L resting upon the bottom wall 5 and held firmly in position by a spring clip 33 fixed to the rear wall 1. Disposed on each side of the lantern L is the flash light F resting upon the bottom wall 5 and held firmly in position by the spring clip 34 fixed to the rear wall 1.

From the foregoing description of the details of construction of my device, its use and operation will be obvious. By the use of the cam 31 rotated by a key inserted through the escutcheon 32 into the barrel 30, the mass 9 may be raised into contact with the electro-magnet 8, and current flowing from the circuit C when functioning will energize the electro-magnet 8 to maintain the mass 9 in contact therewith. The cam 31 then being restored to normal position, as indicated in Fig. 1, the device is set to function, the switch S being inoperative so that current from the batteries 14 is not permitted to flow to lamp 16 and buzzer 18. Should the current in the circuit C fail for any reason, such as failure of the main and auxiliary dynamos, the electro-magnet 8 will be de-energized, and ceasing to function will release the mass 9, thus permitting it to move downwardly by force of gravity and the impulse of the spring 10—*b* expanding to force collar 10—*a* away from fixed collar 11, thereby moving rod 10 to bring the fork 12 into contact with the tongue 13, thus closing the switch S to permit current from the batteries 14 to cause lamp 16 and buzzer 18 to function. The depression of the rod 10 causes its associated finger 24 to depress the tongue 23, rocking arm 20 and raising the latch 21 from the eye 22, releasing the door 7 which is swung open by action of the spring 25, thus rendering accessible the portable electric lantern L and flash lights F. For purposes of inspection, the door 7 may be opened by rotating barrel 28 with a key inserted through the escutcheon 29, causing pin 27 to lift finger 26, rocking arm 20 to release latch 21 from eye 22 to permit door 7 to open.

Having described my invention, what I claim is:

1. In an emergency lighting unit, the combination of a housing; a movable closure for said housing provided with a locking means and a spring opener; an electric lamp fixed in said housing; a plurality of portable electric lamps positioned in said housing; means controlled by a standard electric lighting circuit and adapted to operate the fixed electric lamp and release the said locking means, whereby when the lighting circuit is broken the fixed electric lamp is lit and the movable closure opens to render accessible the portable electric lamps.

2. In an emergency lighting unit, the combination of a housing; a movable closure for said housing provided with a locking means and a spring opener; an electric lamp fixed in said housing; a plurality of portable electric lamps positioned in said housing; an electro-magnet so connected as to be energized by a standard electric lighting circuit; a contact switch for controlling said fixed electric lamp and adapted to be held in open position when said electro-magnet is energized, and to close when said electro-magnet is de-energized; and means adapted to release said locking means to permit said closure to open, said releasing means being inoperative when said switch is in open position and operative when said switch is in closed position.

3. In an emergency lighting unit, the combination of a housing; a movable closure for said housing provided with a locking means and a spring opener; an electric lamp fixed in said housing; a plurality of portable electric lamps positioned in said housing; an electro-magnet so connected as to be energized by a standard electric lighting circuit; a contact switch for controlling said fixed electric lamp and adapted to be held in open position when said electro-magnet is energized, and to close when said electro-magnet is de-energized; means adapted to release said locking means to permit said closure to open, said releasing means being inoperative when said switch is in open position and operative when said switch is in closed position; and manually operated means adapted to actuate said releasing means independently of the operation of said switch.

4. In an emergency lighting unit, the combination of a cabinet provided with a swinging door having a glass panel and a spring opener; a series of dry batteries in said cabinet; an electric lamp fixed in said cabinet and so positioned as to be visible through said panel; an electro-magnet in said cabinet and connected with a standard electric lighting circuit; a rod slidably mounted in said cabinet and having a metallic mass on one end and a contact point on the other; a cam operated by a key inserted through the wall of the cabinet, for moving the rod so that the mass will contact the electro-magnet; a second contact point in said cabinet; a spring on said rod to move the rod to bring the two points into contact; wiring connected with the batteries, contact points and electric lamp, so that when the points are brought into contact the lamp will light; an eye on said door; a rock arm pivoted on said cabinet and having a latch adapted to engage said eye; and a finger on said rod adapted to rock said arm to cause the latch to be disengaged from said eye to permit the door to open.

5. In an emergency lighting unit, the combination of a cabinet provided with a swinging door having a spring opener; a series of dry batteries in said cabinet; an electric lamp fixed in said cabinet; an electro-magnet in said cabinet and connected with a standard electric lighting circuit; a rod slidably mounted in said cabinet and having a metallic mass on one end and a contact point on the other; a cam operated by a key inserted through the wall of the cabinet, for moving the rod so that the mass will contact the electro-magnet; a second contact point in said cabinet; a spring on said rod to move the rod to bring the two points into contact; wiring connected with the batteries, contact points and electric lamp, so that when the contact points are brought into contact the lamp will light; an eye on said door; a rock arm pivoted on said cabinet and having a latch adapted to engage said eye; a finger on said rod adapted to rock said arm to cause the latch to be disengaged from said eye to permit the door to open; a finger on said rock arm; a barrel rotatably mounted in said cabinet and adapted to be operated by a key inserted through the wall of the cabinet, and provided with an eccentrically

mounted pin adapted to engage said finger on the rock arm to rock said arm to cause the latch to be disengaged from said eye to permit the door to open.

6. In an emergency lighting unit, the combination of a cabinet; an electro-magnet mounted in said cabinet and connected with a standard electric lighting circuit; a metallic mass reciprocably mounted in said cabinet; a rotatable lock barrel mounted in the wall of said cabinet and operable by a key inserted through said wall; a cam on said barrel, the electro-magnet, mass and barrel being so related that when the barrel is rotated the cam bears against the mass, reciprocating it and causing it to contact the electro-magnet; and an electric switch operated by the reciprocation of the mass.

CLARENCE P. HULST.