Aug. 1, 1939. B. E. WHITE 2,167,789

PORTABLE ELECTRIC LAMP

Filed Feb. 21, 1938

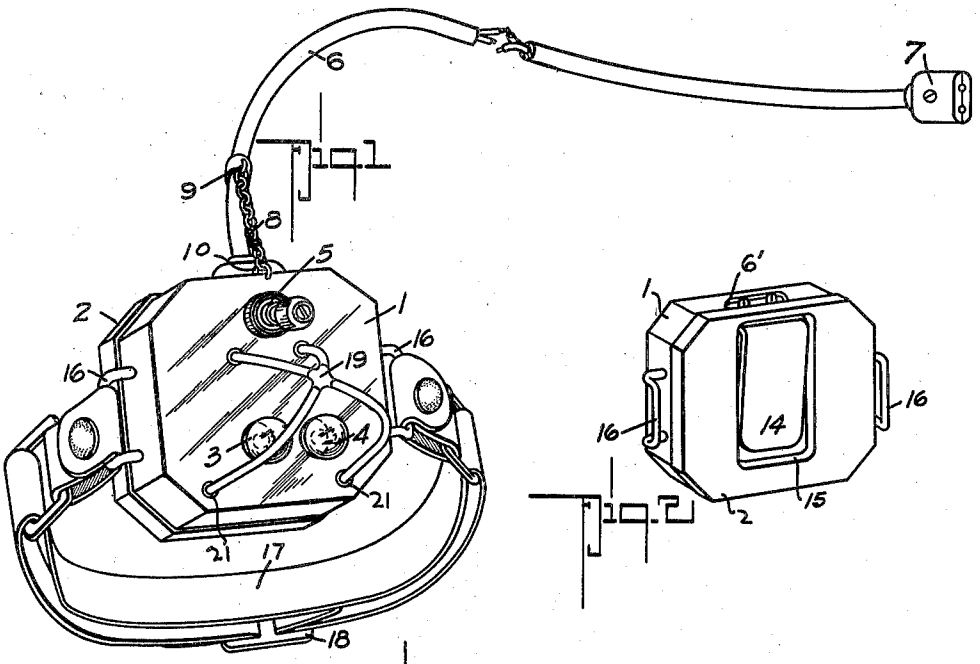

Fig. 1

Fig. 2

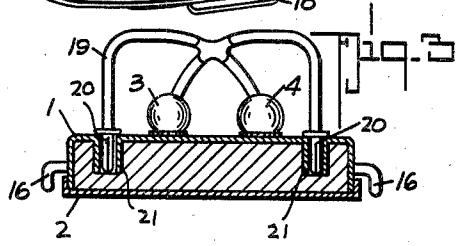

Fig. 3

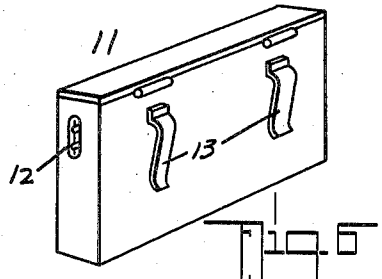

Fig. 6

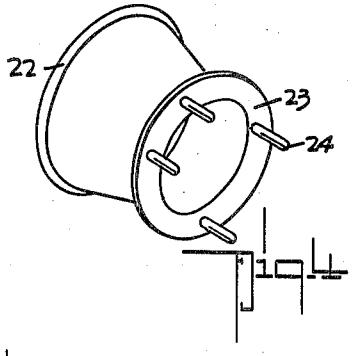

Fig. 4

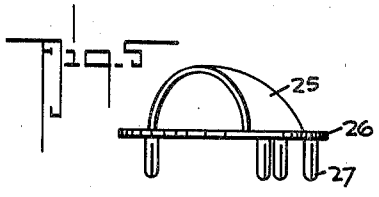

Fig. 5

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PORTABLE ELECTRIC LAMP

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3 Claims. (Cl. 240—59)

My present invention relates to an improved portable electric lamp of the type comprising a unitary structure that is self-contained and provided with a convenient source of electric energy.

While the lamp is adapted for various uses, it is especially designed as a hand lamp, or railway hand signal lantern. As is well known, railway trainmen, and particularly freight trainmen, require the service at all times of a lamp or lantern, and therefore it is imperative that the lamp or lantern shall not be misplaced, nor lost; but on the other hand, the signal lamp or lantern must at all times accompany the trainman. The primary object of my invention is the provision of a self-contained lamp or lantern of this type that may conveniently be carried on or in the hand, or on the arm of the trainman in position where it is readily accessible for use, and in such manner that it will not be a burden, nor a handicap to the trainman in the performance of his duties. To this end the portable electric lamp is compactly arranged and shaped so that it may be carried on the hand or arm, or suspended at the edge of a pocket or other convenient support when the services of both hands are required; and in addition to its use for a signal lamp or lantern, means are provided whereby the lamp may quickly be converted for use as a reflector for inspection and other services.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawing I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to one mode I have thus far devised for the practical application of the principles of my invention, but it will be understood that changes and alterations may be made in the exemplifying drawing, within the scope of my claims, without departing from the principles of my invention.

Figure 1 is a perspective view of the self-contained lamp or lantern, adapted to be carried on the hand or on the arm.

Figure 2 is a perspective view at the rear of the lamp-casing, the hand-strap or arm-strap of Figure 1 being omitted, and disclosing a suspending clip by means of which the lamp may be supported, as for instance on the edge of a pocket of a garment.

Figure 3 is a sectional view of the lamp casing showing particularly the cruciform-guard for the lamp-bulbs.

Figures 4 and 5 are perspective views of reflectors or light concentractors for concentrating the light rays adapted for alternate use with the lamp-guard of Figures 1 and 2.

Figure 6 is a perspective view of a dry-battery as the source of electric energy for the lamp, the battery being adapted for convenient suspension on the garment of the trainman.

In carrying out my invention I preferably employ a compactly arranged, flat casing 1 with a removable lid 2 that is removed for access to the interior of the casing, and the electric lamp bulbs 3 and 4 are mounted in usual sockets in the upper or outer face of the casing. The lamp-bulbs are preferably located near one edge of the casing, and near the opposite lateral edge a control switch 5 is arranged in connection with the light-wires contained in the cable or cord 6, which is provided with a usual socket-connector 7. To prevent breaking of the wire connections to the lamp, a safety chain 8 is anchored on the fixed hook 9 of the cord or cable, and this chain is also attached to a loop or ring 10 fastened to the lamp casing.

In Figure 6 a typical, flat, dry-battery is indicated as a whole by the numeral 11, as the source of electrical energy for the lamp, and the socket-connector 7 is attached in usual manner to the studs or pins 12 forming the terminal or connection to the battery. On the rear face of the battery are provided spaced fastening clips 13 which are adapted to slip over the edge of a belt worn by the trainman, or the spring clips may be slipped over the edge of an inner pocket of a garment worn by the trainman. When the lamp is carried on the hand or arm, the connector 7 and the cord or cable 6 may be passed up through the sleeve, and the connector 7 then plugged in to the battery, wherever it is conveniently located about the person of the trainman, and the lights 3 and 4 are under control of the switch 5.

In order that both hands may be left free for use, the lamp may be suspended or supported in desired position by means of a spring-clip 14, which is mounted in a recess 15 in the rear face of the casing. Thus the clip may be slipped over the edge of the breast pocket of a jumper or coat of the trainman, with the front face of the casing and the lamp bulbs exposed for illuminating purposes.

For train signalling, and for other purposes of the trainman, the lamp is preferably carried at the back of a hand, or on the arm, and for this purpose, the casing is provided with a pair of ears or attaching loops 16, 16, one at each side of the

casing, for use with a strap 17 having a usual buckle or fastener 18.

The strap 17 is adjusted to form a supporting band around the palm of the hand, and the lamp may be carried at the back of the hand, or, as will readily be apparent, the strap may be passed around the arm, and the lamp carried thereon.

As a detachable device for use in protecting the lamp bulbs 3 and 4, I provide a guard 19, preferably of strong wire, and cruciform shape, and the four legs of this guard terminates in split pins 20 that are adapted to slip into the sockets 21 of the casing, and the guard is retained by friction, due to the resiliency of the split pins in engagement with the walls of the sockets.

When it is desired that the light rays from the lamp bulbs shall be concentrated and projected, as for instance when the portable lamp is to be used for inspection service, trouble-shooting, or other similar work, the cruciform guard is detached, and a reflector or light concentrator is substituted for the guard.

Two reflectors that may alternately be used are illustrated in Figures 4 and 5. In Figure 4 a tapering or frusto-conical reflector 22 is fashioned with a base ring 23, and split pins or studs 24 are mounted on the ring. These pins 24 are arranged to correspond to the pins 20 of the guard, and when the latter is removed, the pins 24 of the reflector are slipped into the sockets 21. Another type of reflector, in the form of a hood 25 is illustrated in Figure 5, and this reflector is equipped with a ring 26 and split pins 27, the latter adapted to fit in and be frictionally retained in the sockets 21 of the portable lamp.

The apparatus thus illustrated and described, while simple in construction, and therefore easy to manufacture and assemble, is also compactly arranged for convenience in use, and is capable of performing various functions usually requiring complicated and inconvenient arrangements of parts. The spaced relation of the light-bulbs and the control switch, provides for a double use of the cruciform wire-guard, in that the guard protects the bulbs, and at the same time two of the adjoining legs of the guard act as guides in directing the finger to the control switch 5. Thus the switch may readily be found by the guided finger or thumb, without necessity for feeling for the switch, nor for looking at the lamp, thereby enabling the trainman to devote his attention to other duties.

The two reflectors 22 and 25 may be carried as part of the equipment for the lamp or lantern, and while they displace the wire-guard in the performance of their primary functions as reflectors of light rays, these reflectors also act as guards for the lamp bulbs enclosed thereby.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a self-contained, portable, electric lamp, the combination with a casing having a recessed spring clip on its rear face, a light-bulb and a spaced control-switch on its front face, and said casing having a number of sockets arranged around the light-bulb, of a detachable guard for the light-bulb, and split resilient pins on the guard fitted in said sockets.

2. In a self-contained, portable, electric lamp, the combination with a casing having a recessed spring clip on its rear face, a light-bulb and a spaced control-switch on its front face, and said casing having a number of sockets arranged about the light-bulb, of a detachable wire-guard of cruciform shape, the ends of said wire-guard terminating in split pins frictionally engaged in said sockets, and a reflector also having split-pins for engagement in said sockets for alternate use with the casing.

3. In a convertible, self-contained, portable, electric lamp, the combination with a casing having an attaching strap at opposed sides thereof, a light-bulb mounted on the front face of the casing, and a control-switch mounted on said face and spaced from the light-bulb, of a wire-guard for said light-bulb, said wire-guard terminating in split-pins frictionally engaged in sockets in the front face of the casing, and a reflector also having split-pins for engagement in said sockets for alternate use with the casing.

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