Oct. 19, 1937. C. H. BISSELL 2,096,604

ELECTRIC HAND LAMP

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Fig-1

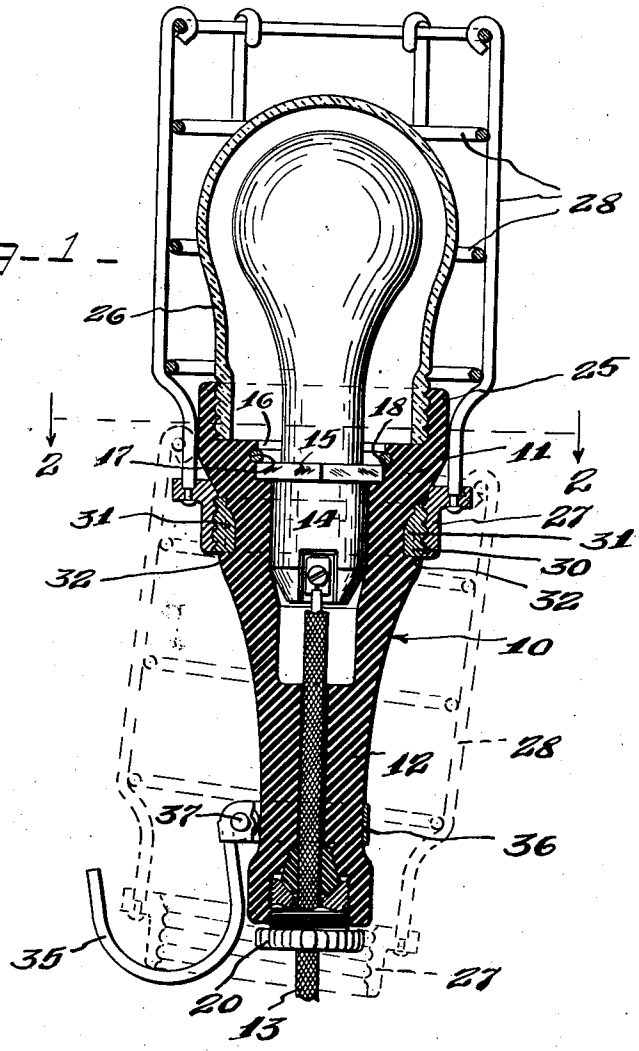
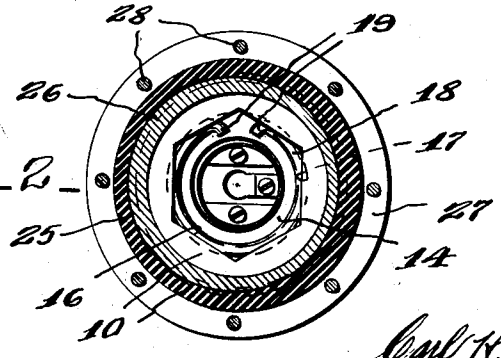


Fig-2



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ELECTRIC HAND LAMP

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4 Claims. (Cl. 240—54)

This invention relates to electric hand lamps of the type that may be carried about in the hand at the end of a flexible wire or cable, and consists generally of a body portion forming the handle, and a lamp receptacle mounted in one end of the body portion, and a glass globe and guard also carried by the same end of the body so as to produce an enclosed safety lamp for use in hazardous or semi-hazardous locations, such as in and about oil fields.

The invention has for an object a portable electric hand lamp of the type having a resilient insulating body and handle portion, a glass globe coacting with the body to form a dust and vapor-tight enclosure for the bulb, and a metallic guard for the globe and bulb which may be quickly and conveniently displaced, without the aid of any tools, to permit the outside of the glass globe to be cleaned.

When these portable electric hand lamps are used in and about oil fields, it is necessary to use the glass globe to effect a vapor-tight closure for the electric bulb. This glass globe quickly becomes smeared over with oil, with the result that the emission of light from the bulb is reduced to a point where the lamp is of no practical use. It then becomes necessary for the user to remove the metallic wire guard surrounding the globe, wipe the oil from the globe, and replace the guard, the guard being necessary to prevent mechanical injury or breakage to the glass globe.

In electric portable hand lamps heretofore used, it required an appreciable amount of time, and the use of at least a screw-driver, to remove the guard from the portable lamp in order to permit the globe to be cleaned. As above stated, an object of this invention is a hand lamp of such construction that the guard may be readily removed, the globe cleaned, and the guard replaced, in a matter of a few seconds.

A further object of the invention is a portable electric hand lamp of such construction that while the guard may be quickly and conveniently displaced from about the glass globe, it can not be entirely removed from the lamp. This feature prevents the guard from being misplaced, and prevents the hand lamp from being used without a guard. In many instances, when working about an oil well the operators have a tendency to dispense with the guard to avoid the inconvenience of manipulating the same during frequent cleaning of the globe. It is, of course, dangerous for the operators to use the hand lamp without the guard, inasmuch as the glass globe may be broken and if so, as a general rule, the electric bulb will also be broken and the usual flash accompanying the breaking of the bulb may ignite the inflammable gases present in the atmosphere.

The invention has as a further object a conveniently operated means for detachably securing the lamp receptacle in the body of the hand lamp.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a lengthwise, sectional view of the hand lamp with the parts in elevation.

Figure 2 is a view taken on lines 2—2, Figure 1.

This hand lamp comprises generally a body portion of resilient heat insulating material, such as rubber, and formed so as to serve as a handle and having a passage extending axially through the handle and communicating with a recess in one end in which a lamp receptacle is mounted.

The invention includes further means for detachably securing a glass globe to the end of the body so as to surround the globe to form a vapor-proof closure therefor, and a guard carried by the body and being displaceable to permit access to the globe for cleaning or the like, and means for preventing the complete removal of the guard from the hand lamp.

10 designates the body portion which is of conventional circular form and provided with an enlarged end or head portion 11, and a handle portion 12. The body is substantially tubular in that it is provided with an axial extending passage to receive the cable 13. The axial passage is enlarged in the head portion 11 to receive the lamp receptacle 14 which is provided, adjacent its open end with an outwardly extending annular flange 15. The flange 15 is preferably square or hexagonal, and the outer end of the enlarged recess is of complemental shape. This construction prevents relative rotary movement between the lamp receptacle 14 and the body 10.

As here shown, a hexagonal portion 16 of the receptacle receiving recess is formed with an annular groove or recess 17 to receive a snap ring 18 which, when seated in the groove 17, bears against the outer face of the flange 15 of the lamp receptacle and prevents it from coming out of the head portion 11. By pinching the free ends 19 of the snap ring 18 together, the ring may be readily removed from the recess 17 and

the socket removed outwardly from the head portion 11 to permit proper attachment of the conductors in the cable 13 to the terminals of the receptacle. The outer end of the handle is provided with a gland nut 20 which threads into the end of the handle and coacts with a suitable compression bushing to seal the cable 13 in the handle and prevent the entrance of moisture or vapors.

The head portion 11 is provided with an outwardly extending annular flange 25 which is formed with internal screw threads to receive the externally threaded base of the globe 26. A guard is carried by the body and consists of an annular base member 27, and a metallic cage 28 secured thereto. Means is provided for detachably connecting the guard, or the base 27 thereof, to the body of the lamp to permit the guard to be displaced, whereby access may be had to the globe 26 to remove the same during relamping of the device, or to clean the outer surface of the globe.

As here shown, a ring 30 encircles the head portion 11 below the flange 25 thereof, and is provided with external threads complemental to internal threads formed on the inner surface of the base 27 of the guard. The body 10 is formed with a peripheral groove or recess, and this recess is provided with one or more axially extending grooves to receive the ribs 31 extending radially inwardly from the inner surface of the ring member 30. Due to the fact that the body 10 is formed of rubber, or other resilient material, the annular member 30 may be seated in the peripheral groove of the body by sleeving the member 30 over the handle portion, the base of the head portion 11 having sufficient compressibility to permit the ring member to be forced over the shoulder or ledge 32 of the body. The purpose of the ribs 31 on the annular member 30 is to prevent relative rotary movement between the member and the body. It will be observed that the outer diameter of the ring 30 is less than the outer diameter of the head portion 11 adjacent the flange 25 thereof. Or, in other words, the diameter of the base 27 of the guard is smaller than the head portion 11 and accordingly, the guard is screwed upon the ring 30 by sleeving the guard over the handle 12 toward the head portion 11.

With this construction, the user can readily unscrew the guard from the ring member 30, sleeve it downwardly over the handle 12, thus displacing the guard or the cage 28 from about the globe 26, and can then clean the globe, or remove it, as the case may be.

In practice, the operators, in oil fields and the like, where frequent cleaning of the globe is necessary, displace the guard by unscrewing the same from the ring member 30, and wipe off the globe 26 on their clothing, and replace the guard.

It will be observed that with the construction described, the guard is displaceable from the body by sleeving it over the handle 12. This feature is of importance as it avoids the necessity of having to remove the guard and hold the same in one hand, or lay it down while the globe is being cleaned, and there is accordingly less likelihood of an operator not putting the guard back on the hand lamp. However, to avoid all probability of the operator leaving the guard off from the hand lamp, means is provided to prevent the complete removal of the guard from the hand lamp. As here shown, this comprises a hook 35 secured to the handle 12. The hook 35 also serves the useful function of permitting the lamp to be hung up, if desired. The hook 35 is of such dimensions, relative to the handle 12, that it is impossible to remove the guard from the hand lamp. Preferably, the hook is permanently attached to the handle 12, and as here shown a metallic band 36 encircles the handle, and the base of the hook is pivoted between the free ends of the band 36 which are joined together by a rivet 37. As here shown, the ends of the band 36 beyond the rivet 37 are bent over the shank of the hook, thereby preventing any pivotal motion of the hook 35. The guard is shown in displaced position by the dotted lines in Figure 1, from which it will be readily apparent that it is impossible to move the guard any further off from the handle 12.

Often these hand lamps are used when the operator is situated on a high ladder, or in a similar position, where at least one hand is necessarily employed. With the construction described, the operator can grip the guard under his arm, and by turning the handle 12 can displace the guard from about the globe 26, and without any fear that he may drop the guard. The operator may then wipe off the globe 26 on his clothing, and again replace the guard by manipulating it under his arm.

With hand lamps usually employed, it is necessary to release the guard by means of a screwdriver, which obviously could not be done under certain situations, as the one above referred to.

While possessing the novel features above pointed out, the hand lamp retains all of the desirable features common in hand lamps now used.

What I claim is:

1. In a portable electric hand lamp, the combination of a tubular body formed with an enlarged head portion and a handle portion, a lamp receptacle mounted in the head portion, a guard carried by the head portion and arranged to encircle the bulb carried by the lamp receptacle, said guard and head portion having coacting means operable to permit displacement of the guard from the head portion toward the handle portion upon relative rotatable movement of the body and the guard, and means carried by the body to prevent complete removal of the guard from the hand lamp when displaced from the head portion.

2. A portable electric hand lamp comprising a tubular body formed with a head portion and a handle, a lamp receptacle mounted in the head portion, a globe carried by the head portion and forming an enclosure for the bulb carried by the lamp receptacle, an annular member detachably secured to the head portion below the bulb and provided with external screw threads, a guard including a base provided with complemental internal threads, whereby the guard may be unscrewed from the annular member and sleeved over the body toward the handle, and a hook member carried by the handle for hanging the lamp and being cooperable with said guard to prevent complete removal of the guard from the hand lamp.

3. A portable electric hand lamp comprising a body provided with a head portion and a handle, a lamp socket detachably secured in the head portion, an annular member encircling the body intermediate the head portion and the handle, and being provided with external threads, a guard having a base provided with internal threads complemental to those on said annular member, said annular member and said guard base being

of lesser diameter than the head portion of the body, whereby said guard base may be detached from said annular member and moved toward the handle, and a hook member carried by the handle for hanging the lamp and being cooperable with said guard to prevent complete removal of the guard from the hand lamp.

4. A portable electric hand lamp comprising a tubular body provided at one end with an enlarged head portion and at the other end with a handle portion, a lamp receptacle detachably mounted in the head portion, a guard detachably mounted on said head portion and being displaceable therefrom upon relative rotatable movement between the body and the guard, and being movable over the handle portion, a hook member carried by the handle portion and being cooperable with said guard to prevent removal of the guard from the handle portion when the same is displaced from the head portion.

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