

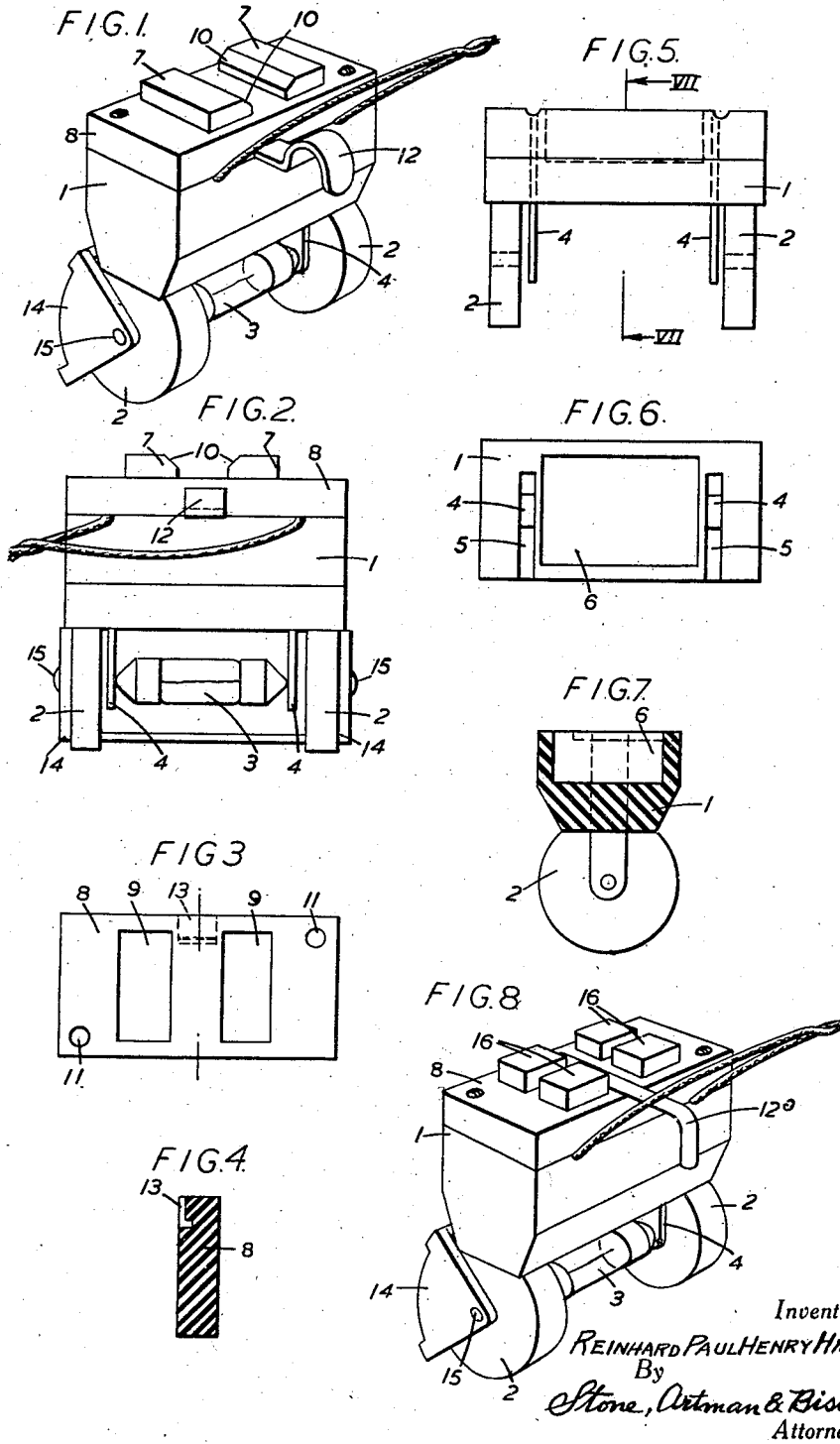
Dec. 31, 1946.

R. P. H. HINDS

2,413,628

PORTABLE ELECTRIC HAND LAMP SUCH AS AN INSPECTION LAMP

Filed Feb. 21, 1944



UNITED STATES PATENT OFFICE

2,413,628

PORTABLE ELECTRIC HAND LAMP SUCH AS
AN INSPECTION LAMPReinhard Paul Henry Hinds, Petts Wood,
EnglandApplication February 21, 1944, Serial No. 523,278
In Great Britain November 11, 1943

5 Claims. (Cl. 240—52.15)

1

The present invention relates to portable electric lamps, such as inspection lamps, and refers more specifically to those portable lamps which embody a magnet whereby the lamp is rendered adherent to an iron or steel surface, or other surface of magnetic material, adjacent to the area which the lamp is required to illuminate.

According to the invention the lamp comprises a U-shaped member moulded of an insulating material, such as one of the well-known plastics, with one or more magnets set into its bridge piece and projecting therefrom, an electric bulb spanning the two limbs of said member, and a part cylindrical shield or reflector which is supported by said limbs so as to run parallel to the lamp bulb and to be angularly adjustable in relation thereto. The part cylindrical reflector may be mounted on sector shaped arms rotatable on the outsides of the limbs of the U-shaped member about pivots co-axial with the axis of the lamp bulb.

In order that the invention may be more clearly understood and readily carried into practice two structural examples thereof are illustrated, by way of example only, in the accompanying drawing, in which:

Figure 1 is a perspective view of one construction of lamp according to the invention;

Figure 2 is a front elevation thereof;

Figure 3 is a plan view of the top plate removed from the body portion;

Figure 4 is a central cross-sectional view of said top plate;

Figure 5 is an elevation of the body portion of the lamp;

Figure 6 is a plan view thereof;

Figure 7 is a cross-sectional view of said body portion on lines VII—VII of Fig. 5, and

Figure 8 is a perspective view of a modified construction of lamp according to the invention.

Referring to Figures 1-7 the lamp comprises a main body portion 1 made of moulded insulating material, which has two depending spaced limbs 2, 2 of part circular shape. The lamp 3, which is of the well-known festoon type, is disposed between the limbs 2, 2 with its ends held by a pair of spring contact plates or strips 4, 4, which are disposed close to but spaced from the inner surfaces of the limbs 2, 2 and depend downwardly from the main body portion 1. The contact strips 4, 4 may be embedded at their upper ends in the insulating body 1, in the moulding thereof, or the necessary slots for them may be formed in the moulding operation. At their upper ends the slots for the contact members 4, 4

2

open into grooves 5, 5 which receive the conductor leads of the lamp, the ends of which are bared where they pass the contact strips 4, 4, the ends of which are bent over and soldered to the conductors.

In the upper surface of the body portion 1 is moulded a recess 6 to receive the yoke portion of a U-shaped magnet 7 which may be either a permanent magnet, or an electromagnet having a coil connected in parallel with the lamp, across the contact plates 4, 4. The top of the body is covered with a cover plate 8 of moulded insulating material which is formed with two apertures 9, 9 to pass over the limbs of the magnet 7 and hold the magnet in position. The magnet 7 constitutes a means whereby the lamp may be magnetically attached to a surface of magnetic material, and preferably, to facilitate adhesion to a rounded surface, such as a steel pipe or shaft, the inner edges of the magnet poles are chamfered or bevelled at 10, as shown in Figure 1. The cover plate 8 is held in position by screws for which holes 11 are provided in suitable positions.

As an alternative to the magnet 7 for supporting the lamp a suspension hook 12 may be provided, the shank of which is gripped between the cover plate 8 and the body 1, said shank being accommodated in and located by a recess 13 in the lower surface of cover plate 8.

On the outside of the limbs 2, 2 is fitted a trough shaped sheet metal reflector or glare shield 14 which is of part circular cross-section and has its sector shaped end plates pivoted to the limbs 2, 2 by axially located friction tight pivot screws or rivets 15. The inside of this reflector or shield is silvered or painted white to act as a reflecting surface when disposed behind the lamp, but when desired it may be rotated on its pivots 15 to lie in front of the lamp so as to screen or shield the direct rays of the lamp in any given direction and direct the light in the contrary direction. As will be appreciated the part circular shape of the limbs 2, 2 permits rotation of the reflector or shield 14 about the pivots 15 which are located axially of the limbs 2, 2.

In the modified construction illustrated by Figure 8 the main difference from the construction described above, is that instead of a single U-shaped magnet 7, a pair of U-shaped magnets 16, 16 are fitted into a pair of side by side recesses in the top of the moulded body portion 1 with opposite poles adjacent to one another, the cover plate 8 being correspondingly formed with four

55 holes instead of two to fit over the four limbs of

3

the two magnets. A further difference is in the form of the suspension hook, which consists of a wire 12a bent over at its two ends. One end serves as a hook and the other end fits into a hole in the surface of the cover plate 8 and is enlarged or rivetted over in a recess in the lower surface of the plate 8 to retain it in position. The wire 12a is located and held against lateral movement by a groove in the surface of plate 8 in which it is lodged.

Various modifications in the above described construction may be made without departing from the invention. For example, the contact plates 4, 4 may be double cranked so that their upper ends are level with the interior surfaces of the limbs 2, 2 and their lower parts spaced therefrom. Also the reflector or glare shield 14 may be modified in form or construction. Thus, for example, it may consist of an open ended trough of part circular cross-section soldered to a wire, the ends of which are bent over at right angles to fit radially on the outside of the limbs 2, 2 with the extreme ends again bent over to form pivot pins for insertion in axial pivot holes in the limbs 2, 2.

I claim:

1. A portable electric lamp comprising a U-shaped member made of insulating material consisting of a body portion connecting a pair of limbs, a magnet mounted in said body portion and having its poles extending outwardly thereof, a pair of conductors each having one end mounted in said insulated body portion for holding a light source between said limbs, an elongated light source having a line axis held between said conductors and positioned between the limbs so that the axis of the light source is substantially parallel to the body portion connecting the pair of limbs, and a cylindrical reflector segment pivotally mounted on said limbs so that the axis of the reflector coincides with the axis of the light source.

2. A portable electric lamp comprising a U-shaped member made of insulating material consisting of a body portion connecting a pair of limbs, a magnet mounted in said body portion and having its poles extending outwardly from that side of the body portion opposite to the limbs, a pair of conductors each having one end mounted in said insulated body portion for holding a light source between said limbs, an elongated light source having a line axis held between said conductors and positioned between the limbs so that the axis of the light source is

4

substantially parallel to the body portion connecting the pair of limbs, and a cylindrical reflector segment pivotally mounted on said limbs so that the axis of the reflector coincides with the axis of the light source.

3. A portable electric lamp comprising a body portion, a magnet mounted in said insulating body portion and having its poles extending from one side thereof, a pair of flat circular segments mounted on said body portion in parallel relationship with their circular edges outward, a pair of spaced electric conductor means for holding a light source positioned in the axis of said circular segments, a part cylindrical reflector having its axis coincident with the axis of said segments, arms on the ends of said reflector extending parallel to said segments and pivot means in the axis of said segments connecting said arms to said segments, whereby said reflector may pivot around a light held between the arms.

4. A portable electric lamp comprising a casting of plastic material, a pair of spaced arms formed integrally with the casting and having aligned, circular outer walls, a pair of slots through said casting and opening into the space between said arms, a groove in the surface of the casting away from the arms opening into each slot, an electric conductor seated in each slot and extending from the groove to a transverse axis through the arms, a non-conductive plate positionable over said grooves for clamping lead wires to the electric conductors, a magnet having outwardly directed poles mounted in said plate, and a reflector mounted on the arms and pivotal around said axis.

5. A portable electric lamp comprising a U-shaped member made of insulating material consisting of a body portion connecting a pair of limbs, means for holding a light source between said limbs, conductors connecting said holding means to a common surface of the body portion, grooves in said surface from the conductors to an outer edge, a magnet, a plate carrying the magnet so that its poles are outwardly directed from one surface thereof, another surface on said plate complementary to the surface of the body portion carrying the grooves, leads for the conductors, a bracket a recess in the plate for receiving the bracket, and means for assembling the complementary surfaces of the body portion and the plate in abutting relationship whereby they may hold the leads and the bracket.

REINHARD PAUL HENRY HINDS.