United States Patent [19]

Moreschini

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[45] **Aug. 28, 1973**

[54] **EXTENSION LAMP BULB GUARD AND REFLECTOR**

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[21] Appl. No.: **206,299**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 67,714, Aug. 28, 1970, abandoned.

[52] **U.S. Cl.** ..... **240/54 A,** 240/108 R
[51] **Int. Cl.**..... **F21v 15/02,** F21v 21/00
[58] **Field of Search**..... 240/52.3, 54 R, 54 A, 240/108 R

[56] **References Cited**

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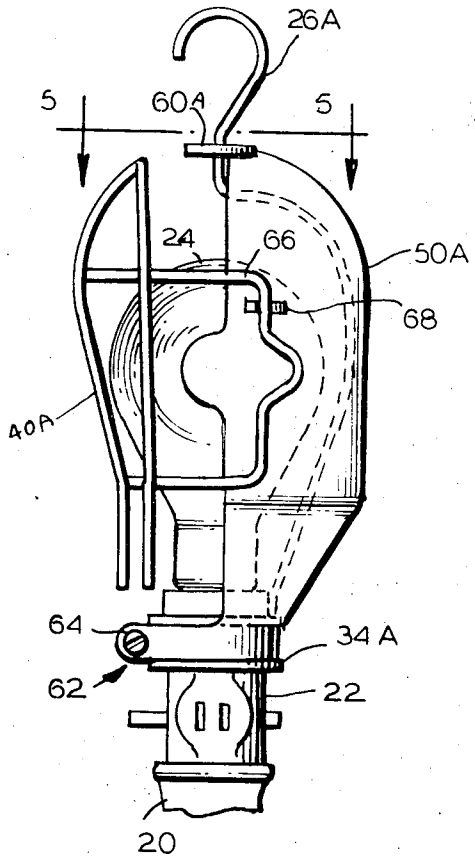
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[57] **ABSTRACT**

An extension lamp bulb guard and reflector of the type comprising a drop light, which includes a lamp bulb guard or cage unit and a suspension hook operatively associated with a handle and having a lamp bulb reflector. The hook is attached to a handle as a unit, and the reflector is mounted for independent rotation with respect to the unit. The unit consisting of the handle, guard, and hook, together with the associated extension cord, can be suspended from the hook, and regardless of stresses, tensions or torques on the cord, the reflector can be freely turned to focus the light on the work and out of a user's eyes, without the necessity of loosening or rearranging any parts with the exception of a free rotation or movement of the reflector.

6 Claims, 11 Drawing Figures



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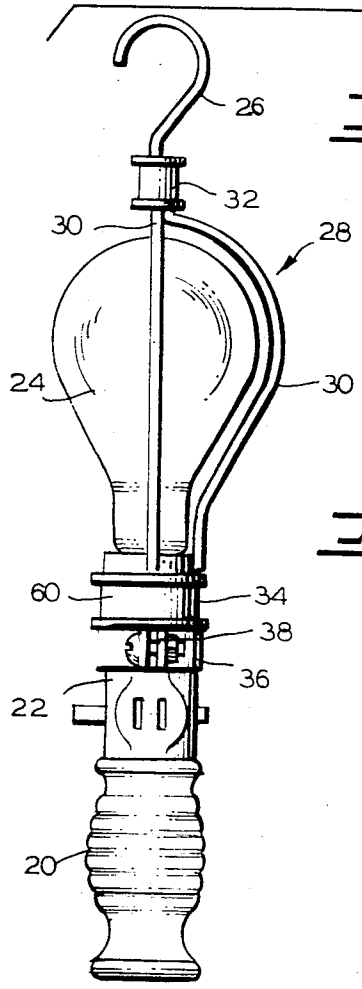
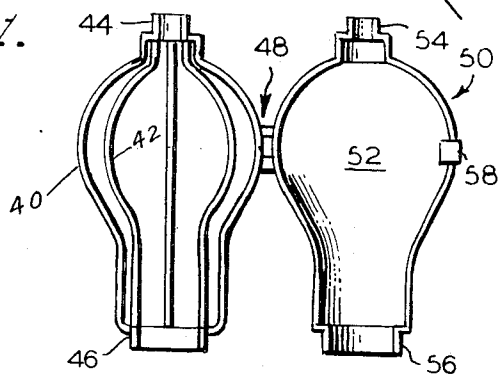


Fig 1.



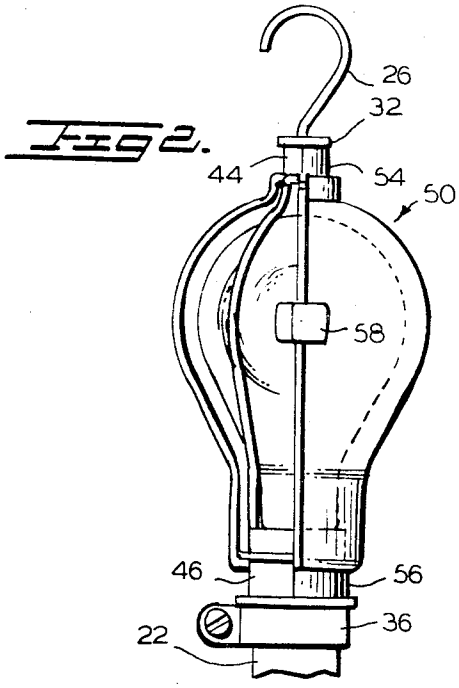


Fig 2.

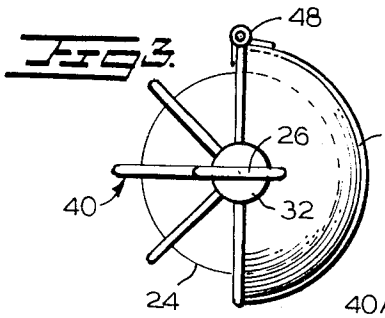


Fig 3.

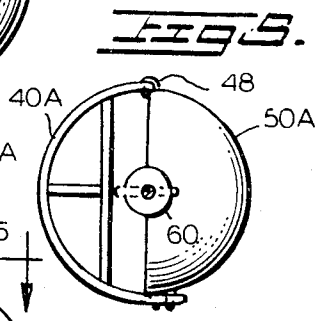


Fig 5.

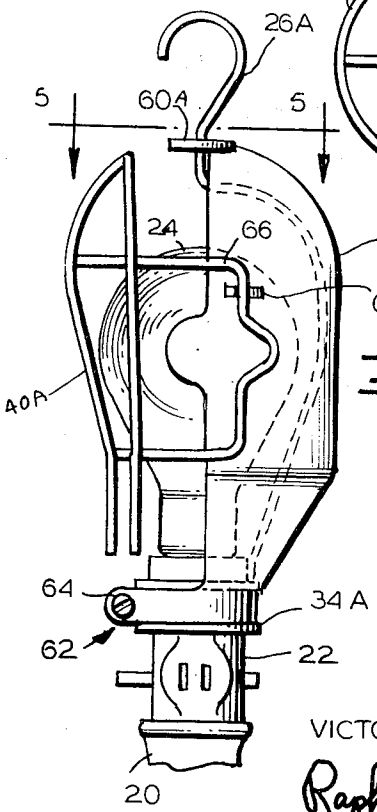


Fig 4.

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Fig 6

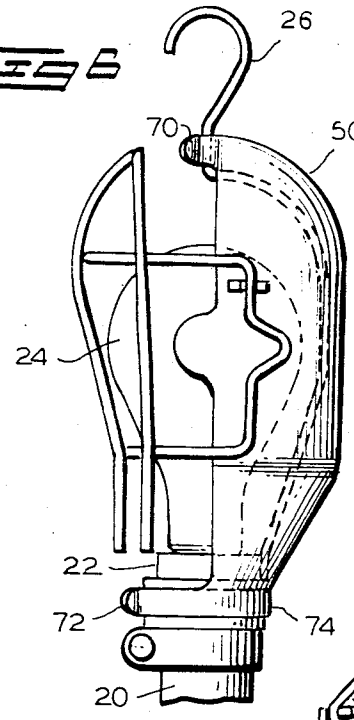
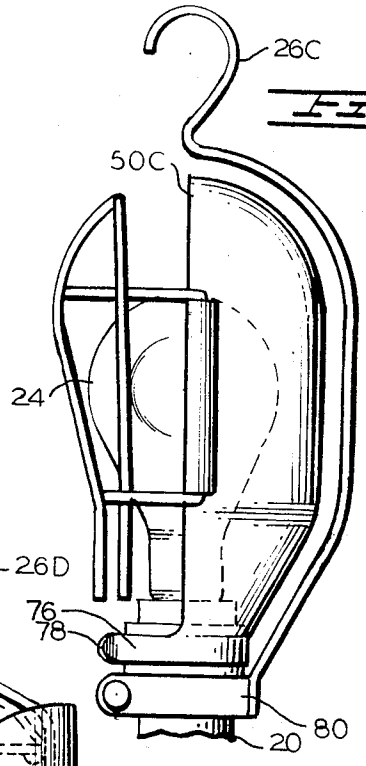


Fig 7.



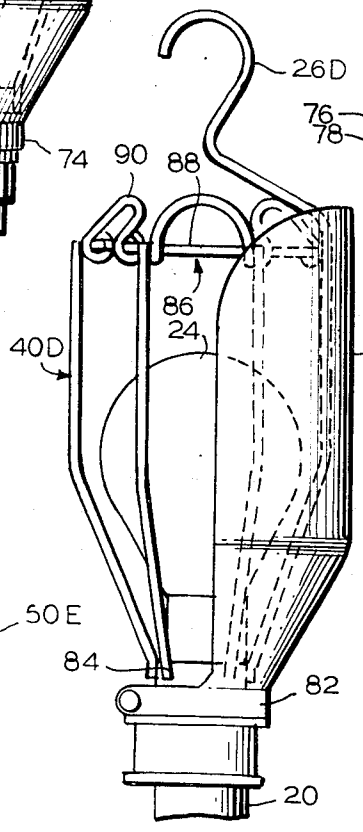


Fig 9

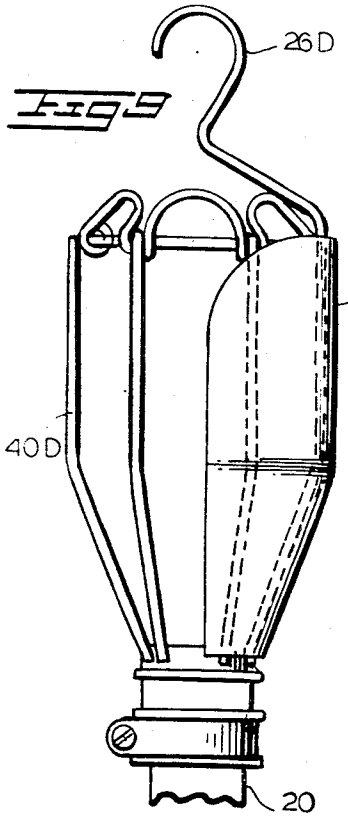


Fig 8

Fig 10.

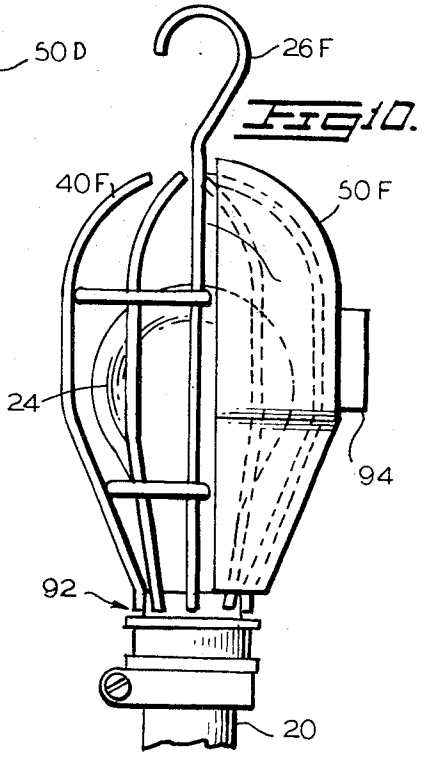
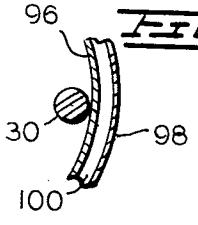


Fig 11



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EXTENSION LAMP BULB GUARD AND REFLECTOR

CROSS-REFERENCE TO RELATED APPLICATION

A continuation-in-part of application Ser. No. 67,714, entitled "Rotating Shade Drop Light Roto Shade," filed Aug. 28, 1970, now abandoned.

BACKGROUND OF THE INVENTION

Heretofore, extension lamps of the drop light type which include a suspension hook, lamp bulb guard and handle, together with a reflector, have not satisfactorily provided for light reflection focusing due to their construction. The position of the reflector in such constructions has been affected by torque or pulling on the cord, or the weight of the guard, or position where hung. The cord torque or weight causes the free swiveling hook to turn, for example, or result in a misalignment of the reflector with reference to the work location. In some constructions, adjustment of the reflector could be effected by loosening components of the combination and adjusting the same, with a subsequent fixing by tightening of loosened members. Such constructions preclude, or in any event detract from, facile use of the light for work conditions and positions.

The present invention overcomes these drawbacks and deficiencies in the prior devices.

SUMMARY OF THE INVENTION

An extension lamp bulb guard and reflector of the drop light type consisting of a handle, a lamp bulb guard, a suspension hook, and a light reflector wherein the handle, suspension hook, and sometimes the guard, are connected as a unit, and the reflector is mounted for independent rotation. The construction eliminates twisting, misalignment or misdirection of light focusing which might otherwise occur due to weight stress, torque, or tension on the cord in use. In the present construction, since the cord, handle and hook are a fixed or stabilized unit, the reflector can be freely and readily turned to any desired light reflection angle and can be easily varied for different working positions, regardless of placement or suspension of the lamp.

Other and additional objects and advantages of the invention will be more readily apparent from the following detailed descriptions of embodiments thereof when taken together with the accompanying drawings in which:

FIG. 1 is an exploded elevational view of an extension lamp incorporating the lamp bulb guard, suspension hook and light reflector in accordance with the invention, the lamp bulb guard and reflector being shown in disassociated relation;

FIG. 2 is an elevational view of the structure of FIG. 1, with the lamp bulb guard and reflector in associated operable relationship with the remaining structure;

FIG. 3 is a top plan view of the structure of FIG. 2;

FIG. 4 is a side elevational view of a modified form of the invention embodying the principles of the invention in a structurally different manner;

FIG. 5 is a view taken on line 5—5 of FIG. 4;

FIG. 6 is an elevational view of an additional modification of the invention utilizing spring clip attachment means for the lamp bulb guard and reflector;

FIG. 7 is an elevational view of a further modification wherein the suspension hook is mounted exterior of the lamp bulb guard and reflector assembly;

FIG. 8 is an elevational view of a further embodiment of the invention incorporating a lamp bulb guard having bulb access means at the free end of the guard and a separable reflector unit;

FIG. 9 is an elevational view of a still further embodiment of the invention similar to FIG. 8, but with the reflector consisting of magnetized material, permitting selective adjustment and positionment on the guard unit;

FIG. 10 is an elevational view of a still further embodiment of the invention wherein the reflector has a permanent magnet attached thereto, for adjustment with respect to the guard, and incorporating an insulating air space in the reflector; and

FIG. 11 is a fragmentary sectional view through the reflector of FIG. 10 disclosing in greater detail the insulating air space.

This application is a continuation-in-part of my copending application Ser. No. 67,714, entitled "Rotating Shade Drop Light Roto Shade," filed Aug. 28, 1970, and incorporates the basic principles and structures of this preceding application and further discloses additional specifically different structures for accomplishing the overall end result thereof.

Referring now in more detail to the drawings, the invention is directed to an extension lamp bulb guard and reflector of the type usually associated with and referred to as a drop light or trouble light. Such constructions include a handle **20**, fragmentarily shown, a lamp bulb socket **22**, and a detachable or removable bulb **24**. The electric cord or extension cord, not shown, extends operatively into handle **20** and is electrically connected with the lamp bulb socket **22** in a usual manner. Such constructions are usually provided with a suspension hook, generally indicated at **26**, adapted for suspending the lamp from any convenient means in proximity to a work location. In heretofore known constructions, these hooks are freely rotatably mounted with respect to the remainder of the unit, with the result that the angular position of a reflector unit associated therewith is affected by torque or pulling of the cord or the weight of the guard or position where hung. Such forces with a free swiveling hook tend to affect the position of the reflector and accordingly focusing of the light on the work area. The present invention, in all embodiments shown and described, eliminates this drawback.

In FIG. 1, a partial bulb cage **28** includes a plurality of shaped wires **30** adapted to partially surround bulb **24**, which terminate and are fixed at their upper ends to a spool or thimble **32**, with hook **26** being fixed with respect to spool **32** and accordingly wires **30**. The lower ends of wires **30** are secured to a cylindrical attachment member **34** which can be in the nature of a split sleeve adapted to pass over the end of socket **22** and can be rigidly secured thereon by means of a conventional split clamp **36** with tightening nut and bolt combination **38**. When mounted as shown in FIG. 1, the hook is rigidly fixed with respect to handle **20**, or, in other words, is non-rotatable with respect thereto. The partial cage **28** is also non-rotatable with respect to the handle.

In the embodiment of FIG. 1, the lamp bulb guard **40** consists of a plurality of bent wires **42** attached at their upper ends to a semi-cylindrical collar **44**, and at their lower ends to a semi-cylindrical collar **46**. The guard **40** is pivotally attached at **48** to a light reflector, generally designated **50**, which includes a formed reflector sur-

face 52 in a usual manner for placement about a bulb, with upper and lower semi-cylindrical collar portions 54 and 56 constituting end terminal portions of a similar and coacting construction with collar portions 44 and 46 of guard 40. A snap latch 58 is secured to the edge of the reflector remote from hinge 48.

In use, the hinged guard and reflector are mounted on the bulb and handle unit by coaction of the semi-cylindrical members 44, 54 and 46, 56 slidably surrounding spool 32 and cylindrical portion 60 of connector 34. Latch 58 is then operatively engaged with an abutting wire 42 to fasten the combination guard and reflector unit in a freely rotatable manner with respect to a unit formed by the handle, bulb and suspension hook. Due to this freely rotatable mounting, regardless of the position assumed by the handle and hook unit due to forces on the cord or the like, the reflector can be appropriately adjusted to reflect light to the work area.

The embodiment of FIG. 4 functions in the same manner as the preceding embodiment but varies slightly in structure. The hook 26A is again rigidly secured to a connector 34A fixed with respect to handle 20. Reflector 50A is again generally configured for partial surrounding of bulb 24 and has at the upper end thereof an apertured disc 60A which fits over the stem of hook 26A in a freely rotatable manner. A split sleeve 62 engages around connector 34A, and tightener 64 is provided. Guard 40A is hingedly attached at 48 to the reflector and has a bale portion 66 engageable with a friction lock 68 on reflector 58. The association and function is the same as in the previous embodiment, permitting free rotation of the reflector and guard unit with respect to the handle, hook combination.

In FIG. 6, the modification shown is quite similar to that of FIG. 4, but the reflector 50B is provided with a spring clip 70 at its upper end and a spring clip 72 on collar 74 at its lower end for free rotatable mounting on the hook, handle unit.

In FIG. 7, reflector 50C includes only a lower collar 76 and spring clip 78 for association with the handle. The hook 26C terminates at its lower end in a split collar 80 for rigid securement on handle 20. Again the reflector, guard is freely rotatable with respect to the fixed handle, hook combination.

In FIG. 8, the reflector 50D has a lower cylindrical collar 82 similar to FIG. 7, with the body of the reflector and hook 26D having a slightly different configuration and of a generally upper cylindrical configuration. The guard 40D has a lower attachment collar 84 for fixed engagement with respect to handle 20, but with an open cylindrical upper end 86 formed of wire member 88 on which are pivotally engaged and mounted a plurality of segments 90, which collectively form an end closure, or, when in opened position, permit access to bulb 24. Again, the operation is identical with the above embodiments.

In FIG. 9, the hook and cage 26D and 40D are the same as in FIG. 8. The reflector 50E, however, consists of magnetized material which, through coaction with the wires of guard 40D, permit freely adjusting the relative positions thereof.

In FIG. 10, a still further modification is shown, again including a guard 40F affixed at its lower end 92 with respect to the handle 20. The hook 26F, together with guard 40F, is rigid with respect to the handle. The reflector 50F, of a shaped configuration, has a permanent magnet 94 secured thereon. The operation of this embodiment is similar to that of FIG. 9. Additionally, however, the reflector 50F consists of a double wall construction, including inner wall 96 and spaced outer wall 98, which form an air space 100 therebetween. The air space 100 serves to insulate the outer shade wall to keep it cool.

While preferred embodiments have been hereinabove described and shown in the drawings, manifestly minor changes in details of construction can be effected without departing from the spirit and scope of the invention as defined in and limited solely by the appended claims.

I claim:

1. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:
   a. a suspension hook fixedly attached to said unit;
   b. a bulb guard operatively attachable with said unit;
   c. a reflector rotatably mountable on said unit, in angular position retaining engagement therewith and rotatable with respect to the fixed position suspension hook for adjustable positionment with respect thereto;
   d. said reflector and said bulb guard being formed as hingedly interconnected semi-bulb encircling units for at least partial bulb encirclement and as an interconnected unit being jointly rotatable with respect to said hook;
   e. upper and lower spools fixed with respect to said hook and said handle; and
   f. said guard and said reflector having upper and lower semi-cylindrical sleeves thereon adapted for rotatably mounting said guard and said reflector as a unit when in closed assembled relationship and mounted on said spools.

2. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:
   a. a suspension hook fixedly attached to said unit;
   b. a bulb guard operatively attachable with said unit;
   c. a reflector rotatably mountable on said unit, in angular position retaining engagement therewith and rotatable with respect to the fixed position suspension hook for adjustable positionment with respect thereto;
   d. said reflector and said bulb guard being formed as hingedly interconneced semi-bulb encircling units for at least partial bulb encirclement and as an interconnected unit being jointly rotatable with respect to said hook;
   e. said reflector having an apertured disc at the upper end thereof rotatably journalled on the stem of said fixed hook;
   f. a clamp at the lower end of said reflector adjustably engageable with said unit; and
   g. said disc and said clamp conjointly permitting rotation of the combined reflector and guard with respect to said handle.

3. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:
   a. a suspension hook fixedly attached to said unit;
   b. a bulb guard operatively attachable with said unit;
   c. a reflector rotatably mountable on said unit in angular position retaining engagement therewith and rotatable with respect to the fixed position suspen-

sion hook for adjustable positionment with respect thereto;

d. said reflector and said bulb guard being formed as hingedly interconnected semi-bulb encircling units for at least partial bulb encirclement and as an interconncted unit being jointly rotatable with respect to said hook; and

e. said reflector including spring clips at the upper and bottom ends thereof in operative engagement with said hook and said handle, whereby said reflector and combined guard are rotatably positionable around and with respect to said bulb and with respect to hook positionment.

4. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:

a. a suspension hook attachable to said unit as a fixed position non-rotatable integrated component thereof;

b. a bulb guard fixedly mounted with respect to said handle and encompassing said bulb;

c. a reflector rotatably mountable on said unit and freely and independently rotatable with respect to the fixed position suspension hook;

d. said reflector having a clamp at the bottom thereof rotatably adjustably mounting said reflector in angular position retaining engagement with respect to said handle and said guard and to facilitate independent adjustable positionment with respect to said fixed position suspension hook.

5. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:

a. a suspension hook attachable to said unit as a fixed position non-rotatable integrated component thereof;

b. a bulb guard fixedly mounted with respect to said handle and encompassing said bulb;

c. a reflector rotatably mountable on said unit and freely and independently rotatable with respect to the fixed position suspension hook; and

d. magnetic means connected with said reflector, said reflector being magnetically attachable to said guard whereby said reflector is angularly adjustable with respect to said guard.

6. A lamp bulb guard and reflector for a combination extension cord, handle and bulb socket unit comprising:

a. a suspension hook attachable to said unit as a fixed position non-rotatable integrated component thereof;

b. a bulb guard fixedly mounted with respect to said handle and encompassing said bulb;

c. a reflector rotatably mountable on said unit and freely and independently rotatable with respect to the fixed position suspension hook; and

d. said reflector being composed of magnetized material for magnetic attachment to said guard whereby said reflector is angularly adjustable with respect to said guard.

* * * * *