

Jan. 1, 1935.

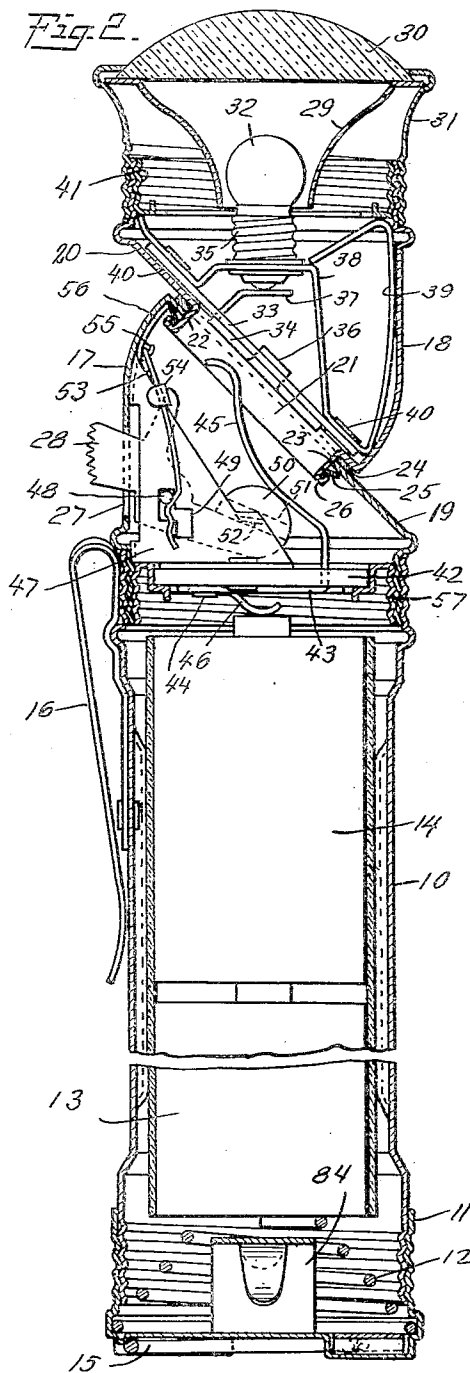
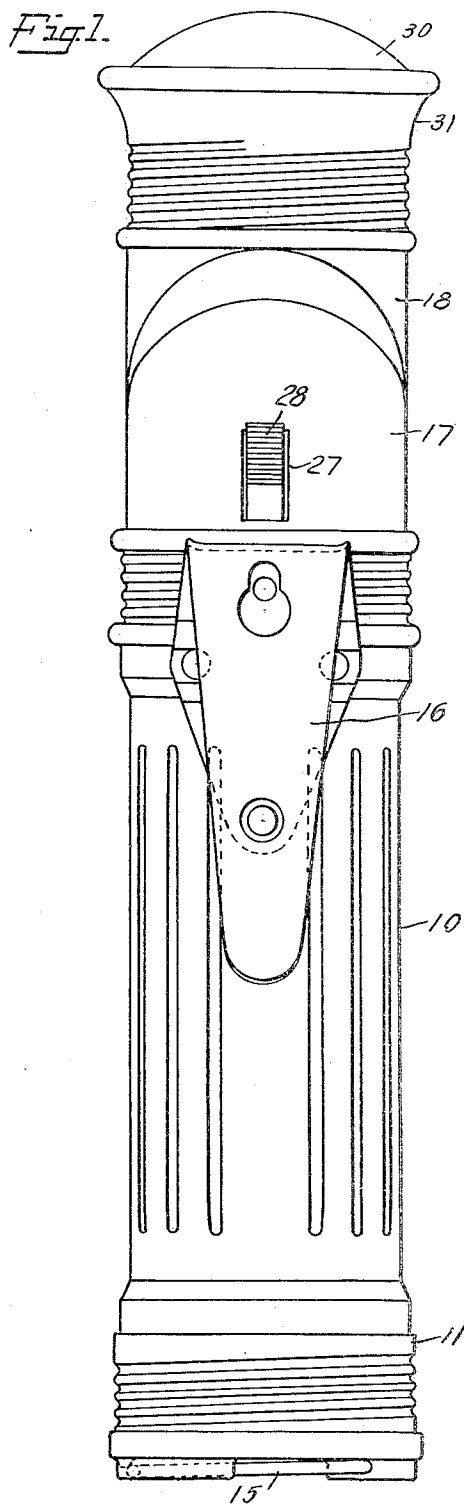
H. F. NYGARD

1,986,281

HAND LAMP

Filed Sept. 21, 1931

3 Sheets-Sheet 1



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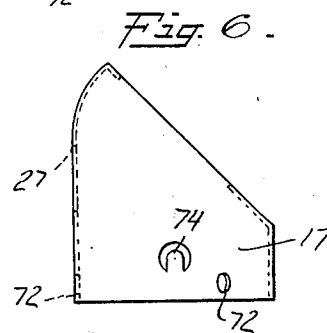
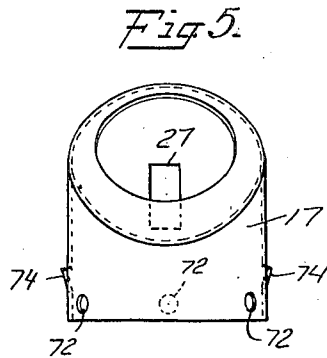
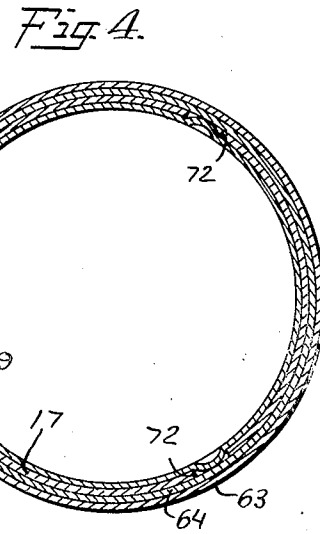
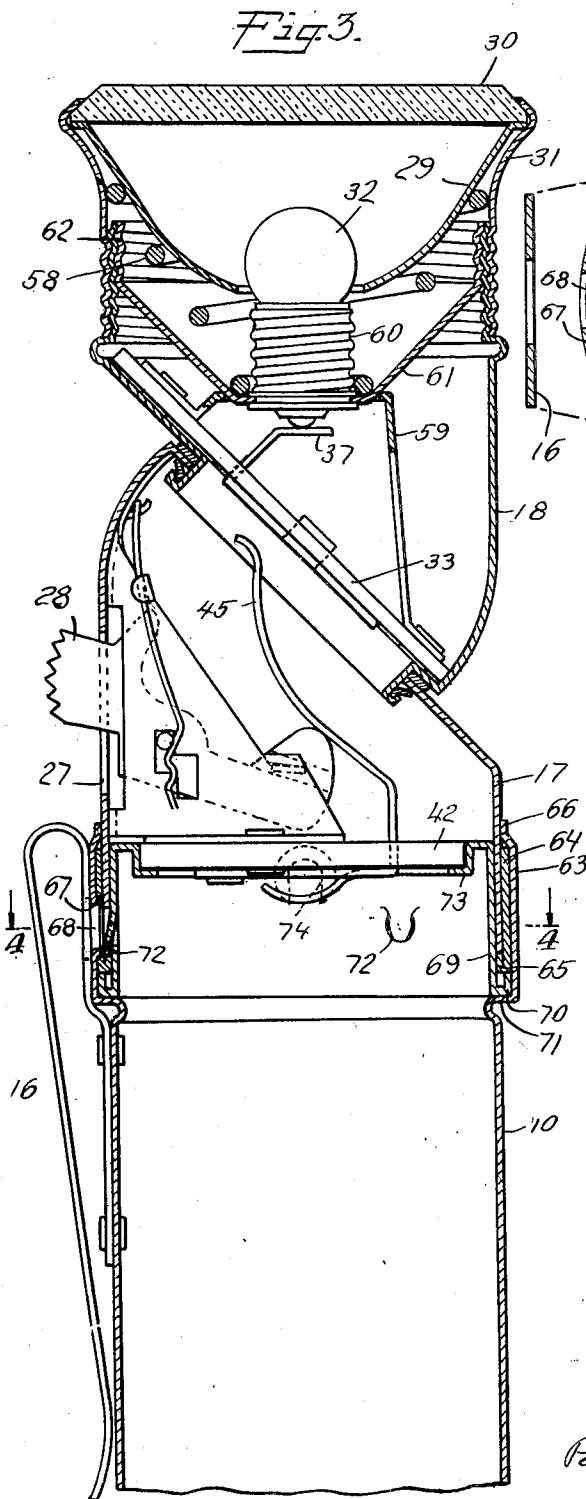
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3 Sheets-Sheet 2



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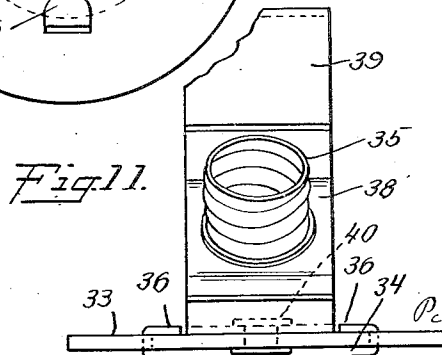
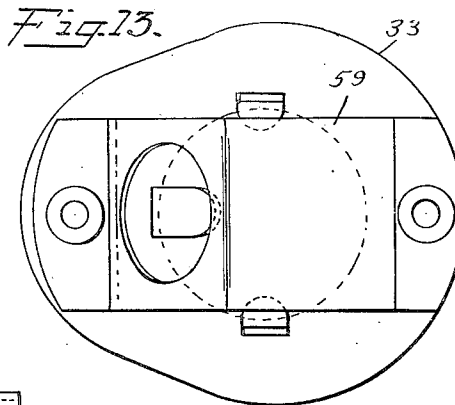
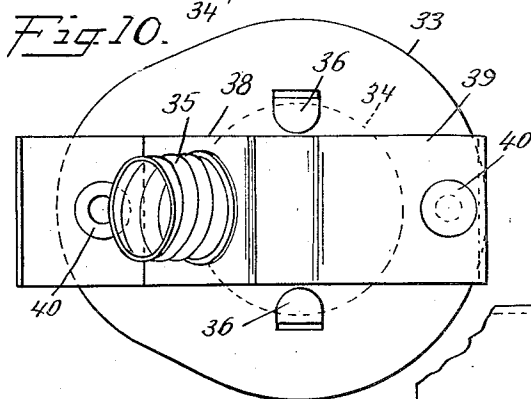
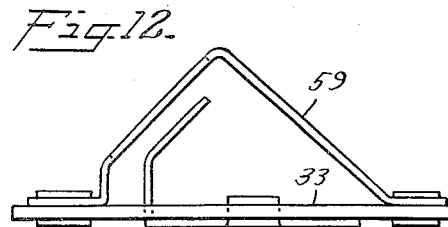
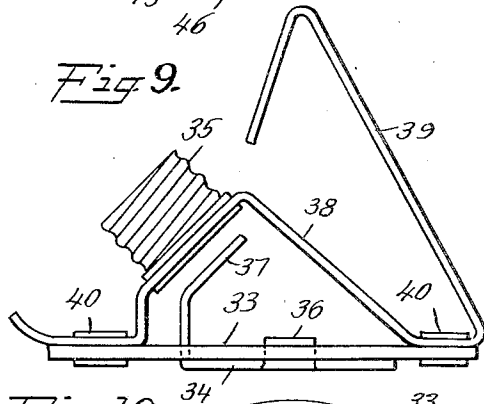
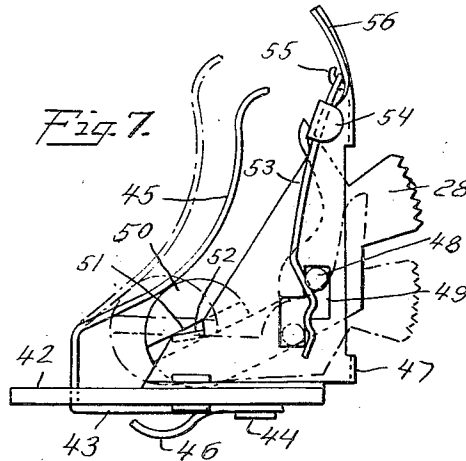
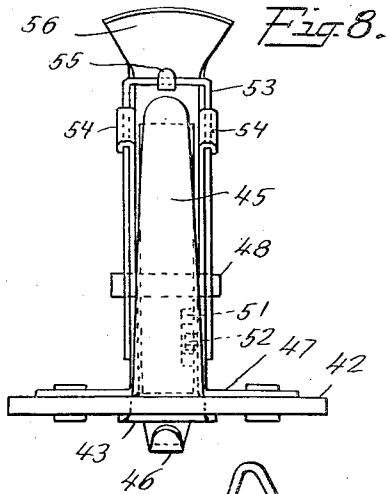
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1,986,281

HAND LAMP

Filed Sept. 21, 1931

3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

1,986,281

HAND LAMP

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Application September 21, 1931, Serial No. 564,074

15 Claims. (Cl. 240—10.67)

This invention relates to improvements in electric hand lamps of the type by which the light may be projected at various angles to the normal axis of the hand lamp casing, as described in the copending applications of George Kuhn, Serial No. 237,265, filed December 2, 1927 (now Patent No. 1,832,563 granted November 17, 1931), and Serial No. 266,364 filed March 31, 1928 (now Patent No. 1,832,564 granted November 17, 1931).

The hand lamp of this invention is constructed in three sections, the battery being housed in one of the sections, a switch being disposed in a second section, and a lamp being disposed in a third section, a swivel joint being provided between the light section and the switch section to allow the light section to be in alignment relative to the battery casing and switch housing or to allow the light section to be adjusted to various angles relative to the battery casing and switch housing, electrical connections being provided between the sections which are operative in any single relation of the sections.

The objects of this invention are to provide: an improved switch for an electric hand lamp and especially for the above described swivel-head handlamp, an improved frictional swivel joint between sections of the swivel head which will not become loose with constant use, a simplified lamp mounting, an improved focusing construction, an improved hanger, an improved spare bulb holder, and a joint to prevent removal but allow rotation of the lamp head. Further objects and advantages will become apparent from the following detailed description which is to be considered in conjunction with the accompanying drawings wherein:

Fig. 1 is a side view of one form of the improved hand lamp;

Fig. 2 is a partial cross sectional view of the hand lamp on line 2—2 of Fig. 1;

Fig. 3 is a vertical, sectional view of the upper portion of another form of the hand lamp;

Fig. 4 is a horizontal, sectional view through the joint between the battery housing and the switch housing on line 4—4 of Fig. 3;

Fig. 5 is an elevation of the switch housing employed in the form of hand lamp shown in Fig. 3.

Fig. 6 is a side elevation thereof;

Fig. 7 is a side elevation of the switch employed in the form of hand lamp shown in Figs. 1 and 2;

Fig. 8 is a similar view at right angles to Fig. 7;

Fig. 9 is a side elevation of the lamp mounting employed in Figs. 1 and 2;

Fig. 10 is a plan view thereof;

Fig. 11 is an elevation at right angles to Fig. 9;

Fig. 12 is an elevation of the lamp mounting employed in Fig. 3; and

Fig. 13 is a plan view thereof.

In the embodiment of my invention shown in Figs. 1 and 2, I employ a battery casing 10 of the usual metallic tubular type, closed at its lower end by means of end cap 11, which is threadedly engaged to the lower end of the casing. The end cap contains a coil spring 12 to constantly urge dry cells 13 and 14 toward the upper end of casing 10. The coil spring, also electrically connects casing 10 with one pole of the dry cell battery. A ring 15 on the end cap may be employed for suspending the hand lamp from a suitable support. The casing may be provided with a clip 16 for the same purpose. A head comprising a switch housing 17 and a lamp housing 18 is mounted at the top of casing 10, in any suitable manner as by screw threads as shown, or by a bayonet joint, or it may be riveted or otherwise attached thereto.

The head comprises two similar housing sections 17 and 18, each truncated at a suitable angle, preferably 45° to its axis, to form adjacent coacting faces 19 and 20, respectively. The two housings are connected by an improved swivel joint to enable lamp housing 18 to assume various angles with respect to the axis of battery casing 10 and switch housing 17.

The face 20 of housing 18 is formed with a circular opening 21, the material struck out of this opening being bent outwardly as shown to form a flange 22. Co-acting face 19 of housing 17 is also formed with a corresponding circular opening 23 into which flange 22 is inserted, metal washer 24 first being placed between the coacting faces 19 and 20 to allow smoother adjustment of light housing 18 relative to switch housing 17. In the assembling operation, flanged spring washer 25 is then slipped over and outside of the flange 22 which projects through opening 23 and is made to bear on the inner surface of face 19 with spring pressure. Pressure is applied by beading over or beading out flange 22 sufficiently at 26 to cause flanged spring-washer 25 to be flexed or sprung inwardly. A coiled spring may be sub-

stituted for the flanged spring washer. This pressure by flanged spring-washer 25 constantly maintains a pressure between the adjacent faces 19 and 20 of the housings, thereby preventing an unrestricted movement of light section 18 relative to switch housing 17 and also compensating for wear of faces 19 and 20.

The side wall of switch housing 17 is apertured as at 27 to allow the operating lever 28 of the switch to project therethrough. Reflector 29 and lens 30 are mounted in a cap 31 which forms the top closure for housing 18. The reflector, lens and cap are independent of the incandescent bulb 32. These are threadedly engaged to housing 18 as shown, thereby allowing the light beam to be focussed.

The lamp mounting (see Figs. 9 to 11) comprises an insulating disc 33 upon which is mounted a switch contact plate 34 and a bulb socket 35. Disc 33 is shaped so as to bear on the inner surface of face end 20 when in position in housing 18 as shown in Fig. 2. Contact plate 34 is mounted on the under side of disc 33 by any suitable means as by lugs 36 which project through insulating disc 33 and are clinched over on the upper side thereof. The contact plate 34 is provided with a tongue 37 which projects through and above the disc to contact with the lower terminal of the bulb 32 when mounted in socket 35. Bulb socket 35 is mounted above disc 33 by means of a bridge comprising a resilient metallic strip 38 having a bent-up continuing portion 39. The axis of socket 35 is at such an angle to the plane of insulating disc 33 that it coincides with the axis of lamp housing 18. Metallic strip 38 is fastened on disc 33 by any suitable means such as grommets 40. The extension 39 of strip 38 contacts with housing 18 with spring pressure as shown in Fig. 2 to make good electrical contact therewith and to thereby electrically connect socket 35 with housing 18 and casing 10. It also simultaneously holds the lamp mounting firmly in position in lamp section 18. A retaining ring 41 is screwed interiorly into the upper end of housing 18 and butts against and locks the lamp mounting securely therein.

The three-position switch assembly (Figs. 7 and 8) comprises a circular insulating disc 42 upon which the various other parts are mounted. A metallic strip 43 is mounted on the under side of disc 42 by means of grommet 44. One end of this strip is preferably threaded through a slit in disc 42 and terminates in a flexible switch member 45 which projects from the upper side of disc 42. A cut out tongue 46 of strip 43 forms a flexible bumper block and contacts with the central positive terminal of cell 14. Switch member 45 is adapted to be placed into contact with contact plate 34 of the lamp mounting to complete the circuit. Bracket 47 comprising two parallel, spaced apart, triangular shaped side members is mounted on the upper side of disc 42 by suitable means as by grommets. Operating lever 28 of insulating material is supported between the parallel side-members of bracket 47 by means of pin 48 passing therethrough and operating in stepped slots 49 in said side members. The movement of pin 48 and the outer end of operating lever 28 is guided thereby. The inner end 50 of lever 28 is provided with a groove 51 which receives a lug or flange 52 on a side member of one of brackets 47. This permits sliding movement of lever 28. An inverted U-shaped spring 53,

preferably made of spring wire, prevents the unrestricted movement of operating lever 28. The spring is held in position by out-turned ears 54 on the side members of bracket 47. The free ends of said spring bear against pin 48. The base portion of spring 53 is clipped firmly at 55 at the top projection of bracket 47. The switch assembly is mounted in switch housing 17 as shown in Fig. 2, the curved top portion 56 of bracket 47 conforming with the top curved-in portion of the housing and the circular insulating disc base 42 fitting in the circular lower end portion thereof. Retaining ring 57 is screwed interiorly into the lower end of housing 17 and butts against and locks the switch assembly securely therein. Operating lever 28 projects through opening 27 of housing 17.

The switch may be placed in and locked in closed circuit position as shown in dotted lines in Fig. 7 by a downward and inward pressure on the outer end of lever 28. This urges end 50 of lever 28 against contact member 45 to the position shown by the broken lines in Fig. 7. Member 45 then contacts with plate 34 of the lamp holder to complete the circuit and energize bulb 32. The switch tends to remain in the locked position because spring wire 53 is bent inward to accommodate pin 48 in the closed circuit position and prevent its upward motion. This tendency is accentuated by the friction of the pin against the vertical edges of the slots with which it contacts. To open the circuit a slight upward pressure on the lever is required until pin 48 reaches the horizontal portion of the stepped slots 49. The spring member 53 then forces the lever back to the open circuit position. If it is desired to have the switch in "flash" position the lever 28 is urged downward until it reaches the horizontal portion of the stepped slots 49. By urging the lever forward but not downward the contact strip 45 is moved forward to complete the circuit but this position is maintained only as long as the lever is kept pressed forward. The spring is also shaped to pocket the pin 48 in this intermediate position and it tends to prevent any upward or downward movement thereof. The peculiar operation of lever 28 as described is such that it is very difficult to cause the switch to be closed and locked accidentally. This is an advantageous feature of my improved construction.

In the construction described above the lens cap 31 is threadedly engaged with lamp housing 18. Since the reflector is attached to the lens cap and has an opening through which the bulb 32 can pass, it is possible to change the focus of the beam of light by screwing lens cap 31 up or down on the lamp housing 18. However, since there is no restriction on the movement of the lens cap except the friction of the screw threads, this focusing arrangement is not entirely satisfactory. By applying sufficient axial pressure against the lens cap or the reflector the frictional resistance of the threads becomes great enough so that the movement of lens cap 31 is restricted and the focus of the light beam remains fixed with ordinary handling. This pressure may be applied by means of a spring 58 as shown in Fig. 3 which also shows a modified lamp mounting to accommodate the spring. A soft, resilient rubber collar may be substituted for the spring. In this form I provide a bridge 59 which is mounted on insulating disc 33 and is provided with a circular

opening. The incandescent bulb 32 is mounted in lamp socket 60 which in turn is fastened in the apex of a cone-shaped or cup-shaped sheet-metal holder 61 having its peripheral end 62 threaded and in engagement interiorly with the screw threads at the top of housing 18. As the holder 61 is screwed down into the top of the housing the apex thereof enters into the opening in bridge 59, the opening being sufficiently large for this purpose. The holder is screwed down as far as it will go thereby forcing the apex into firm contact with the edge of the opening. This fixes the position of lamp socket 60, also centers it and helps hold it firmly in place. The base of the bulb contacts with flexible end 37 of contact plate 34. Contact plate 34 in turn makes contact with flexible switch member 45 and one terminal of the battery. Since socket 60 is permanently mounted in holder 61 which is threadedly engaged with housing 18, electrical connection is made with the other pole of the battery through the casing. Conical spiral spring 58 is inserted between holder 61 and reflector 29 and compressed when lens cap 31 is screwed onto housing 18. The increased frictional resistance of the threads produced thereby prevents free movement of the lens cap. This improved focusing arrangement may be applied to types of flashlight cases other than the herein described swivel-head type as will be apparent to those skilled in the art. Where a swivel head is not used the lamp housing may be formed by an extension of the casing 10 of Fig. 2 instead of by the use of a separate head. The cone-shaped sheet metal holder 61, if polished, may be used as a reflector to produce a diffused light in the absence of lens cap 31, lens 30 and reflector 29.

The head comprising switch housing 17 and lamp housing 18 is mounted at the top of casing 10 in Fig. 2 by means of screw threads, a bayonet joint or by riveting to produce a fixed relation between the head and casing. I prefer however to mount the swivel head at the top of the casing with a rotatable joint by means of an end thrust bearing so that the position of switch operating lever 28 and the direction of the turning movement of lamp housing 18 may be varied through 360° with respect to the clip 16 and the hanger 15. This is an advantageous feature especially when combined with the swivel head as it allows the user to direct a beam of light in any direction at 90° or a greater angle to the axis of the casing 10 regardless of how or in what position the casing is supported, whether by hanger 15 or clip 16 or lying on the ground in fixed position on the flat portion of clip 16. This rotatable joint, shown in detail in Figs. 3 and 4 is formed at the interior of the casing 10 and formed so that the head is non-removable. In the construction shown in these figures the top end of casing 10 is slightly enlarged as shown at 63. In this enlarged portion an interior cylindrical sleeve 64 is fastened. This sleeve has its bottom end flanged inwardly and upwardly as shown at 65 to form the track for the thrust bearing. This sleeve is locked in place by turning in the top edge 66 of the enlarged portion 63 of casing 10. Sleeve 64 is also provided with an opening registering with an opening 68 in the enlarged end of the casing. The material at the edge of opening 68 is turned into the opening in the sleeve, as at 67 to further lock the sleeve in place. These holes are preferably concealed by clip 16. The bottom end of light housing 17 fits closely and rotatably within

sleeve 64 and rests on track 65. Within the bottom end of housing 17 and attached thereto is a second sleeve 69 having a bottom edge flanged outwardly and upwardly as shown at 70. This flanged portion rests on shoulder 71 of casing 10. The bottom flanged-over part 65 of sleeve 64 rests on the turned-up portion of the flanged-out part 70 of sleeve 69. The space between the bottom end of housing 17 and the upwardly flanged edge 70 therefore constitutes the race in which the track 65 runs to thereby form the end thrust bearing. Sleeve 69 is attached to the bottom part of housing 17 by offsetting the metal of the sleeve into several holes 72 in the housing, about 3 spaced about the circumference being sufficient (see Figs. 4 to 6). These holes are so spaced axially that they may be made to register with hole 68 as shown. The rotatable joint then may be disassembled for repair by punching back the offset metal in holes 72 by means of a punch operated through registering openings in clip 16. The top end of sleeve 69 is turned inwardly to form a ledge 73 in which the insulating disc 42 of the switch assembly of Fig. 7 seats as shown. The rotatable joint formed by the end thrust bearing as described prevents housing 17 from being removed by the operator and also prevents any axial movement of this housing or the swivel head with respect to the casing 10. The unrestricted rotation of the light housing is prevented and controlled by providing frictional resistance with sleeve 64 as by offsetting tongues 74 in housing 17 slightly as shown in Figs. 5 and 6. The rotatable joint is assembled by first inserting sleeve 69 into the enlarged top portion 63 of casing 10 until the portion 70 rests on shoulder 71. Sleeve 64 is then inserted so that it rests on the turned-up portion of flanged-over portion 70 of sleeve 69. Sleeve 64 is then locked in place by turning in rim 66 and turning in edge portion 67 of hole 68. The switch assembly is then inserted in housing 17 after which the bottom end thereof is inserted into the annular space between sleeves 64 and 69 until the bottom end touches upwardly flanged edge 65 of sleeve 64. The bottom end of housing 17 is then locked into place by offsetting the metal of the interior sleeve 69 outwardly into holes 72 in the housing.

The end cap 11 is also provided with an improved and simplified spare bulb holder or clip 84, (see Fig. 2).

Although specific examples of my invention have been described these may be varied as will be understood by those skilled in the art. Some of the improvements also may be used in flashlights or hand lamps in which a swivel joint is not used and it is intended to cover such constructions generally in the claims in which the swivel-joint is not specifically a part thereof.

I claim:

1. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said faces whereby said axes of said sections are caused to assume different angular relations, said swivel joint comprising a struck-out flange of the turned-in face of the first of said sections projecting through said opening of the adjacent turned-in face of the second of said

sections, means on said struck-out flange locking the turned-in face of said second section in place, and means for constantly maintaining pressure between said sections.

2. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, said swivel joint comprising a struck-out flange of the turned-in face of the first of said sections projecting through said opening of the adjacent turned-in face of the second of said sections, a turned-out edge on said struck-out flange locking the turned-in face of said second section in place, and spring means compressed between said turned-in face of said second section and said turned-out edge for constantly maintaining pressure between said sections.

3. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said faces whereby said axes of said sections are caused to assume different angular relations, said swivel joint comprising a struck-out flange of the face of the first of said sections projecting through said opening of the adjacent face of the second of said sections, a turned-out edge on said struck-out flange locking the turned-in face of said second section in place, and a flanged spring-washer compressed between said turned-in face of said section and said turned-out edge for constantly maintaining pressure between said sections.

4. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, an incandescent bulb mounted in one of said sections, an electric switch mounted in the other of said sections, said swivel joint comprising a struck-out flange of the turned-in face of one of said sections projecting through said opening of the adjacent turned-in face of the other of said sections, a turned-out edge on said struck-out flange locking the turned-in face of said second section in place, spring means compressed between said turned-in face of said second section and said turned-out edge for constantly maintaining pressure between said sections, an insulating bridge across said openings, and a conductor passing through said insulating bridge to connect the incandescent bulb with one terminal of said switch.

5. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel

planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, an incandescent lamp mounting arranged in one of said sections, said mounting comprising an insulating disc bridging said superimposed openings, a contact plate mounted on the under surface of said disc, an incandescent bulb socket mounted above the upper surface of said disc and insulated from said contact plate, a conductor electrically connected to said contact plate and projecting above said disc and adapted to make contact with the base terminal of an incandescent bulb mounted in said socket, and means electrically connecting said socket with the section housing it.

6. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, an incandescent lamp mounting arranged in one of said sections, said mounting comprising an insulating disc bridging said superimposed openings, a contact plate mounted on the under surface of said disc, a conductive bridge mounted on the upper surface of said disc and insulated from said contact plate, a bulb socket carried by said bridge, the axis of said socket coinciding with that of the section in which it is mounted and being at an angle to the plane of said disc, means electrically connecting said socket with the section housing it, and a flexible strip connected to said contact plate and projecting through said disc and making contact with the base terminal of an incandescent bulb mounted in said socket.

7. An electric hand lamp comprising in combination a tubular battery casing, a battery therein, a housing above said battery, an incandescent bulb mounted in said housing, a closure for the bottom of said casing, a switch assembly mounted in said housing, said switch assembly comprising an insulating disc mounted in the end of said housing adjacent said casing, a metallic contact mounted on the under side of said disc adapted to make contact with one pole of a battery, said contact terminating in a resilient metallic strip extending through and above said disc, a second contact in said housing normally spaced from the end of said strip, the end of said strip being adapted, when flexed, to close the electric circuit of said hand lamp with said contact, and means operable from the exterior of said housing for flexing said strip into engagement with said second contact.

8. An electric hand lamp comprising in combination, a tubular battery casing, a battery therein, a housing above said battery, an incandescent bulb mounted in said housing, a closure for the bottom of said casing, a switch assembly mounted in said housing, said switch assembly comprising an insulating disc mounted in the end of said housing adjacent said casing, a resilient metallic contact on the under side of said disc adapted to make contact with one pole of

said battery, a resilient metallic strip extending above said disc and electrically connected with said metallic contact and adapted to close the electric circuit of said hand lamp, and means operable from the exterior of said housing for flexing said strip into said operative contact, said means comprising a lever of insulating material slidably pivoted at the end in contact with said resilient strip, a member having a stepped slot adjacent the opposite end of said lever, means carried by said lever cooperating with said stepped slot, and a spring to control the movement of said lever.

9. An electric hand lamp comprising in combination, a tubular battery casing, a battery therein, a housing above said battery, an incandescent bulb mounted in said housing, a closure for the bottom of said casing, a switch assembly mounted in said housing, said switch assembly comprising an insulating disc mounted in the end of said housing adjacent said casing, a metallic contact mounted on the under side of said disc adapted to make contact with one pole of said battery, a resilient metallic strip extending above said disc and electrically connected with said metallic contact and adapted to close the electrical circuit of said hand lamp, means for flexing said strip into said operative contact, said means comprising a lever of insulating material, a bracket having a stepped slot therein, a pin carried by said lever and arranged in said slot, means on said lever cooperating with means on said bracket to pivot and guide the end of said lever contacting with said resilient metallic strip, the opposite end of said lever projecting through an opening in said housing, and spring means pressing against said pin in a direction opposite to that taken by the lever in going from the operative to the inoperative position.

10. An electric hand lamp of the character described, comprising a head formed of two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, said swivel joint comprising a struck-out flange of the turned-in face of the first of said sections projecting through said opening of the adjacent turned-in face of the second of said sections, a turned-out edge on said struck-out flange locking the turned-in face of said second section in place, and spring means compressed between said turned-in face of said second section and said turned-out edge for constantly maintaining pressure between said sections, an incandescent lamp mounting in said first section, said mounting comprising an insulating disc bridging said superimposed openings, a contact plate mounted on the under surface of said disc, an incandescent bulb socket mounted above the upper surface of said disc and insulated from said contact plate, means electrically connecting said bulb socket with the tubular section housing said mounting, a conductor electrically connected to said contact plate and projecting above said disc and making contact with the base terminal of said incandescent bulb, and a switch assembly mounted in said second section, said assembly comprising a second insulating disc mounted in the end of said tubular section removed from the turned-in face, a

metallic contact mounted on the under side of said second disc adapted to make contact with one pole of a battery, a resilient metallic strip extending above said second disc and electrically connected with said metallic contact and adapted to contact with said contact plate of said first disc to close the electric circuit of said hand lamp, and means operable from the exterior of said second section casing for flexing said strip into said operative contact.

11. In an electric hand lamp, the combination with a cylindrical battery casing, a battery therein, and a closure for the bottom of said casing, of a sleeve mounted interiorly of and locked in place at the top end of said casing, said sleeve having its bottom edge flanged inwardly, a revoluble non-removable head mounted at the top of said casing, the bottom end of said head fitting closely and rotatably within said sleeve with the bottom edge of said head resting on the flange of said sleeve, and a second sleeve mounted interiorly of and integrally with said bottom end of said head, said second sleeve projecting below the bottom end of said head and having a shoulder projecting outwardly and underneath the flange at the bottom of said first sleeve to prevent removal of said head from said casing.

12. In an electric hand lamp, the combination with a cylindrical battery casing, a battery therein, and a closure for the bottom of said casing, of a revoluble non-removable head mounted on said casing, a switch assembly mounted at the top of said casing in said head, the bottom end of said head fitting closely and rotatably within the top end of said casing, means on said casing cooperating with means at the bottom end of said head to prevent axial movement of said head, and means comprising an inwardly projecting flange in said head for supporting said switch assembly.

13. In a cylindrical electric hand lamp of the character described, a head comprising two sections having adjacent turned-in faces in parallel planes at angles to the axes of said sections, said faces having openings having a common axis, a swivel joint connecting said sections, said sections being adapted to be rotated relatively about an axis perpendicular to the plane of the said adjacent faces whereby said axes of said sections are caused to assume different angular relations, an incandescent lamp mounting arranged in one of said sections, said mounting comprising an insulating disc bridging said superimposed openings, a contact plate mounted on the under surface of said disc, an incandescent bulb socket mounted above the upper surface of said disc and insulated from said contact plate, and a conductor electrically connected to said contact plate and projecting above said disc to make contact with the base terminal of an incandescent bulb mounted in said socket, a cone-shaped sheet metal holder having its peripheral edge in threaded engagement with the housing and forming a support for said socket, and a metal bridge mounted on said insulating disc, said bridge having an opening engaged with the apex of said holder whereby said lamp socket holder is held firmly and the position of said lamp socket is fixed with respect to said housing.

14. An electric hand lamp comprising a cylindrical battery casing, a battery therein, a closure for the bottom of said casing, a revoluble non-removable head mounted at the top of

said casing, said head comprising two sections, a swivel joint connecting said sections whereby said sections are adapted to be rotated relatively about an axis perpendicular to the plane of the adjacent ends of said sections to cause said axes of said sections to assume different angular relations, said swivel joint comprising spring means preventing unrestricted movement of said two sections with respect to each other, a switch assembly mounted in the section of said head next to said casing, means projecting through said section housing for operating said switch, an incandescent bulb mounted in the second of said sections, a lens cap in threaded engagement with the housing of said second section, a lens and a reflector held in position by said lens cap, said reflector having an opening through which said bulb will pass, and spring

means supported in said housing and pressing against said reflector to prevent free movement of said lens cap on said housing.

15. In an electric hand lamp, the combination with a cylindrical battery casing, a battery therein, a closure for the bottom of said casing and a revolvable non-removable head mounted at the top of said casing, said head being adapted to revolve through 360° about the axis of said casing, of means to prevent axial displacement of said lamp head comprising an interior circumferential inwardly projecting rib within the upper end of said casing and an exterior outwardly opening circumferential slot upon the bottom end of said lamp head, said rib being retained in circumferentially slidable relation within said slot.

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