B. J. GRIGSBY.

EXTENSIBLE SPOT LAMP.

APPLICATION FILED AUG. 2, 1917.

1,319,473. Patented Oct. 21, 1919.

Fig. 1.

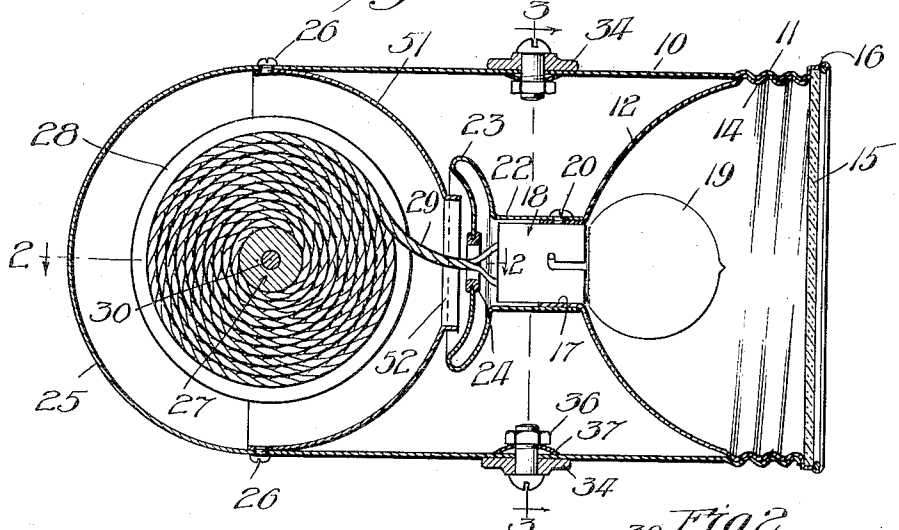


Fig. 2.

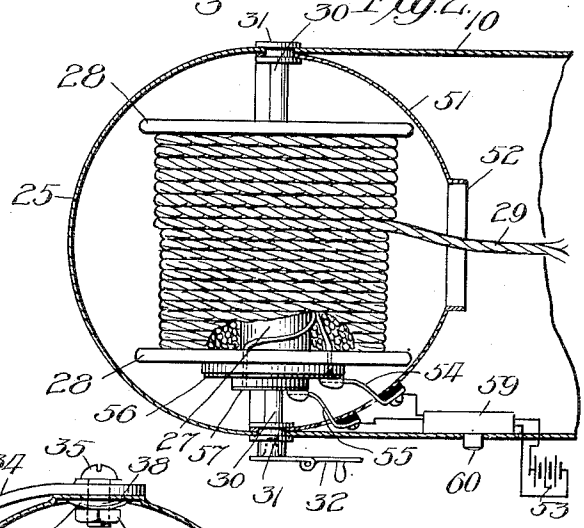


Fig. 4.

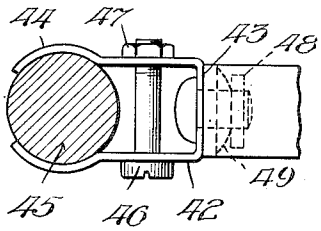
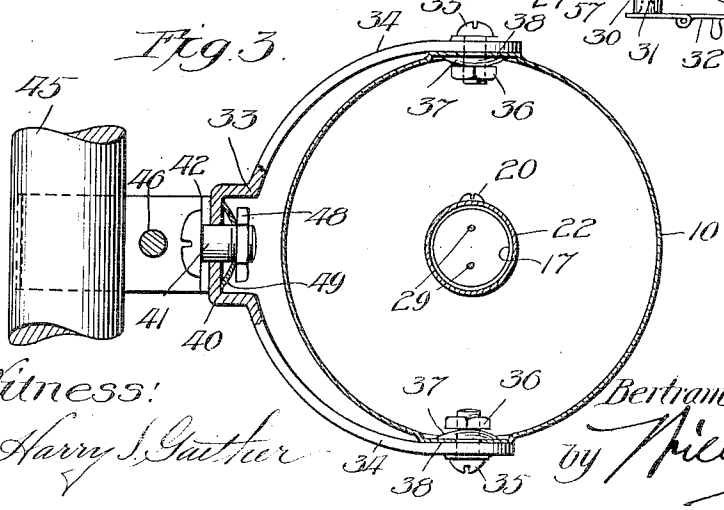


Fig. 3.



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UNITED STATES PATENT OFFICE.

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EXTENSIBLE SPOT-LAMP.

1,319,473. Specification of Letters Patent. **Patented Oct. 21, 1919.**

Application filed August 2, 1917. Serial No. 184,014.

To all whom it may concern:

Be it known that I, BERTRAM J. GRIGSBY, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Extensible Spot-Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the acompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in spot lamps for motor and other vehicles, boats and the like, designed to be attached to any suitably located part of the vehicle or other frame in reach of the driver and mounted to be universally movable in substantially all directions, whereby the light rays may be directed to any point on, or at the sides of, the path of the vehicle.

The invention relates more particularly to improvements in lamps of this character, the parts of which are so arranged, in combination with a take-up device on which a long length of lamp cord is wound, that normally the lamp is sustained on its support as it is to be manipulated in the usual manner of a spot lamp, while permitting the lamp to be detached from its support and withdrawn therefrom so as to carry the lamp to any part of the vehicle within the range of the lamp cord.

A further object of the invention is to provide a lamp structure for this purpose in which the lamp and take-up device are supported on, and inclosed by, a unitary casing, thereby simplifying its structure and the mode of its attachment to the vehicle.

Another object of the invention is to provide a lamp structure for this purpose in which only the lamp and its reflector is removable from the support, thereby reducing the weight of the extension portion of the structure and contributing to ease and facility of handling the extension member.

Other objects of the invention are to improve and simplify lamps of this general character, and the invention consists in the combination and arrangement of the parts shown in the drawings and described in the specification, and is pointed out in the appended claims.

In the drawings:—

Figure 1 is an axial horizontal section of the lamp.

Fig. 2 is a detail section on the line 2—2 of Fig. 1, showing the reel in elevation.

Fig. 3 is a section on the line 3—3 of Fig. 1, with parts omitted.

Fig. 4 is a detail of the bracket by which the lamp is attached to a suitable support, as one of the members of a wind shield frame.

As shown in the drawings, 10 designates an elongated cylindric casing which constitutes an inclosure and support for the lamp proper and its reflector and also for the reel or take-up device on which the lamp cord is wound. Said casing is open at its front end and is provided with relatively large screw threads 11. 12 designates a reflector which is seated in the open end of the casing and is provided at its larger, open side, with screw threads 14 which engage the screw threads 11 of the casing whereby the reflector is held in position in the casing. 15 designates a lens which is supported in any suitable manner across the front, open end of the reflector, the margin of the reflector being herein shown as formed to provide a hollow bead 16 to engage over the edge of the lens. The manner of supporting the lens in the reflector, and the manner of connecting the reflector to the casing may be varied within the spirit and scope of the invention.

The reflector is provided around its axis with a rearwardly extending neck 17 which receives the socket 18 of an incandescent lamp 19. Said socket may be fixed to the neck in any suitable manner, preferably by means providing for focal adjustment. As herein shown, the socket is slipped endwise into the neck and is fastened thereto by a set screw 20. Extending rearwardly from, and attached to, the neck in any suitable manner, as by soldering, is an end piece comprising a cylindric member 22 and an enlarged hollow flange-like member 23 which serves as a handle when lamp is extended, and which is itself provided centrally with an opening for the passage of the lamp cord. Said opening is lined by a suitable insulating bushing 24.

The rear end of the casing is closed by a semispherical wall 25. This wall may be made an integral part of the casing, if de-

sired, or as herein shown, separately formed and applied over the rear open end of the casing 10 and attached thereto in any suitable manner, as by rivets 26. The structure shown is recommended by reason of simplicity of manufacture.

Contained within the rear end of the casing and partially inclosed by the semi-spherical end wall 25 is a reel 27 provided with end flanges 28, upon which is adapted to be wound the lamp cord 29, which latter extends through the central opening of the hand piece flange for connection in any well known manner to the terminals of the lamp socket. Said reel 28 is fixed to a shaft 30 that is rotatively mounted in any suitable manner in bearings 31 at opposite points of the casing 10. Said shaft and the reel axis are disposed at a right angle to the central axis of the reflector. The said reel may be either an automatically operated or hand-power reel. When automatically operated it may be provided with the type of spring motor such as is shown in the prior U. S. Letters Patent to Anderson, No. 1,175,498, dated March 4, 1916. As herein shown the reel is manually operated, and for this purpose its shaft 30 is provided at one end, exterior to the casing, with a crank 32 and, preferably said crank is composed of two members hinged between their ends so that the outer member may be swung over the inner member in the manner of the hand crank of an ordinary measuring tape so as to occupy but little space when not in use and to thereby improve the appearance of the lamp.

Current is carried to the conductor of the cord 29 from battery 53, or other source of current supply, through fixed contact fingers 54, 55 that are connected to the battery and bear respectively on conductor rings 56, 57 that are fixed to the reel and rotate therewith, and said rings are separately connected to the conductors of the cord, as shown in Fig. 2. A cut-out switch 59, having a push button 60, is inserted in the connections between the battery and fingers to open and close the lamp circuit.

The casing 10 is supported on the vehicle by means which permits the lamp to be universally adjusted so as to direct the rays thereof at substantially all angles with respect to the longitudinal axis of the casing. The particular means herein shown for dirigibly attaching the casing or support to a fixed part of the vehicle is made as follows:

33 designates a bail, the arms 34, 34 of which extend outwardly above and below the casing 10; and said arms are provided at their ends, in the plane of the axis of the casing, with bearing openings through which, and other registering openings in the casing wall, extend pivot studs 35 which afford a pivotal support about which the casing may be horizontally swung. The studs are threaded at their inner ends to receive nuts 36, and preferably spring washers 37 are interposed between the nuts and the casing wall, which latter is depressed at the points through which the pivot studs extend to form plane faces 38.

The bail is provided at its center with an offset or recessed portion 40 which is apertured to receive a pivot stud 41. 42 designates a generally U-shaped bracket which has a flat transverse seat 43 to engage the flat faces of the off-set portion 40 of the bail; and the ends 44 of the arms of said bracket are curved to conform to the curvature of the fixed support 45 which, as herein shown may be assumed to be one of the members of a wind shield frame. The said bracket 42 is clamped on said support 45 by means of a bolt 46 which extends through registering apertures of the bracket arms and a nut 47 screw threaded to one end of the bolt. The closed end of the bracket 42 is provided with an aperture which registers with an aperture in the off-set portion of the bail and through which the pivot stud 41 extends. The bail is clamped to the bracket 42 by a nut 48 threaded to the stud 41; and in order to provide a reliable joint between the bail and bracket and one which will permit the bail to be readily turned on the bracket about the axis of the stud 41, a spring washer 49 is interposed between the nut 48 and the bottom of the recessed or off-set portion 40 of the bail. The joint thus formed between the bail and bracket permits angular adjustment of the lamp casing or support through a large range of vertical movement. This vertical angular adjustment in connection with the horizontal adjustment afforded by the pivot studs 35 permits the lamp to be universally adjusted about its fixed support 45 so that the rays of the lamp may be directed throughout large angular vertical and horizontal adjustments.

The detachable connection between the lamp mounting, consisting of the reflector 12 and the support for the socket, embracing screw threads 11 and 14, as herein shown, permits the lamp and its mounting to be detached from the casing or support 10 so that the lamp may be carried to distant parts of the vehicle, boat or the like, on which the lamp is mounted, within the range of the length of the lamp cord 29. The construction shown is such that a reel of large capacity for the cord may be used so that it is practical to carry the detached lamp and its mounting to any part of the vehicle. The flange 23, in connection with the cylindric member 22, constitutes a convenient hand piece by which to handle and direct the lamp when so detached. When the lamp

is to be again attached to the casing or support 10, the cord is wound upon the reel, either automatically by the use of suitable spring mechanism, or manually through the medium of the hand crank 32.

In order to prevent tendency of the cord from jumping over the flanges 28 of the reel, a suitable guide is interposed between the normal position of the lamp and the reel. This guide consists, in the present instance, of a wall or diaphragm 51 that extends across the casing in front of the reel and is provided with a guide opening 52 in axial alinement with the lamp socket. Said wall or diaphragm 51 is herein shown as semicylindric to conform to the semicylindric end wall,—but may be of other shape, the essential feature being the central guide for the cord with some means to support the guide upon the casing wall.

It will be understood that the structural details of the lamp shown and described may be considerably varied without departing from the spirit of the invention, and the invention is therefore not limited to such details except as to claims wherein they are specifically set forth, or as imposed by the prior art.

While my improvements have been herein described in respect of a dirigible spot lamp, it will be understood that it may be also applied to lamps for other uses, where the extension feature herein disclosed is required.

I claim as my invention:

1. The combination with a lamp and its reflector and a rotative rewinding reel for a lamp cord in rear of the reflector, the axis of rotation of the reel being transverse to the central axis of the reflector, of a combined inclosure and support for the lamp, its reflector and said reel, and means for detachably fixing the lamp and its reflector within said casing.

2. The combination with a lamp, its reflector and a rewinding reel for a lamp cord rotative on an axis transverse to the central axis of the reflector, of a combined inclosure and support for the lamp, its reflector and said reel, a lamp cord windable on said reel and adapted to be electrically connected to a source of current through terminals rotating with said reel and coacting fixed terminals, and means for detachably fixing the lamp and its reflector within said casing.

3. A lamp for the purpose described comprising a unitary casing open at its front end and closed at its rear end, a lamp and its reflector wholly within the casing, with means to removably attach the open end of the reflector to said open end of the casing, permitting it to be removed through said open end of the casing, and a rotative rewinding reel supported within the closed end of the casing in rear of the reflector and adapted to receive the lamp cord.

4. A lamp for the purpose set forth comprising a unitary casing open at its front end and closed at its rear end, a lamp cord rewinding reel supported within the closed end of the casing to rotate on an axis at a right angle to the longitudinal axis of the casing, a lamp and its reflector wholly within said casing, and means to removably attach the reflector to said casing at the open end of the latter.

5. A lamp for the purpose set forth comprising a unitary casing open at its front end and closed at its rear end, a lamp cord rewinding reel rotatively supported within the casing, a lamp and its reflector wholly within said casing in front of said reel, means to removably attach the reflector to the casing at the open end of the latter, and a fixed cord guide coaxial with said reflector between the lamp and said reel.

6. A lamp for the purpose set forth comprising a casing open at its front end and closed at its rear end, a lamp cord rewinding reel supported within said casing, and a reflector within said casing in front of said reel, with means to removably fix it to the open end of the casing and provided with an axial, rearwardly directed neck to receive a lamp socket the axis of which is in the plane of the axis of rotation of said reel.

7. A lamp for the purpose set forth comprising a casing open at its front end and closed at its rear end, a lamp cord rewinding reel supported within the closed end of the casing, and a reflector wholly within said casing, with means to removably fix it in the open end of the casing, and provided with a rearwardly directed lamp socket supporting neck exteriorly formed to constitute a hand piece for said reflector when removed from the casing.

8. A universally adjustable spot lamp comprising a combined inclosing casing and lamp support open at its front end, a reflector and a lamp socket wholly within said casing, means to removably attach the reflector to the open end of the casing, a lamp cord rewinding reel inclosed by and mounted within said casing in rear of said reflector, a supporting bail having its ends exteriorly pivoted to the casing between the ends of the latter, and a member having means of attachment to a vehicle and rotatively connected to the central portion of said bail on an axis at a right angle to the axes of the bail pivots.

9. The combination with a lamp and its reflector and a rotative rewinding reel for a lamp cord, of a casing open at its forward end and having a rounded, closed rear end, means for detachably securing the lamp reflector within the open end of the casing, the reel being located within the closed end

of the casing, with its axis of rotation transverse to and in the plane of the longitudinal axes of the casing and reflector, a support for the casing and a universal connection between the support and the casing.

In witness whereof I claim the foregoing as my invention, I hereunto append my signature in the presence of two witnesses at Chicago, Illinois, this 10th day of July, 1917.

BERTRAM J. GRIGSBY.

Witnesses:
W. L. HALL,
A. E. WALBRIDGE.