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CONCEALABLE SPOT LAMP

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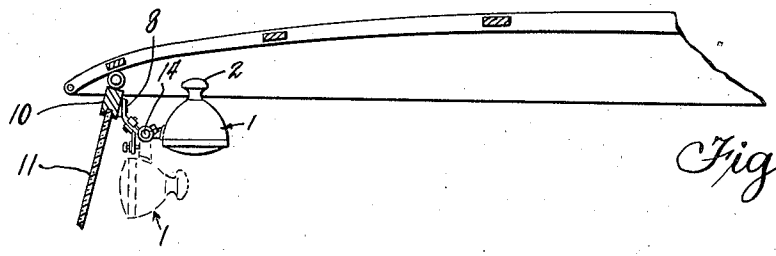


Fig. 1.

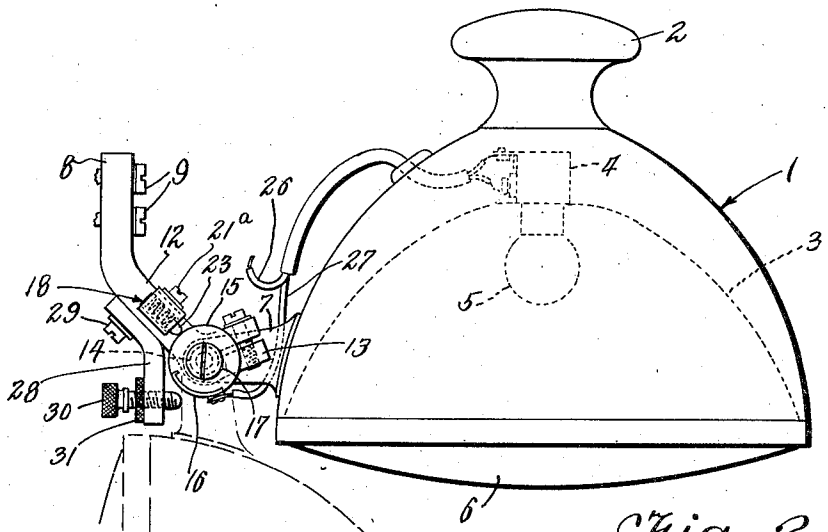
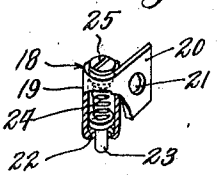


Fig. 2.

Fig. 3.



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CONCEALABLE SPOT LAMP

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5 Claims. (Cl. 177—329)

Our invention relates to spot lamps and has particular reference to the type of spot lamps employed on police cars for the purpose of indicating the nature of the vehicle and producing a warning indication during emergencies.

In connection with the operation of police cars, such as radio cars, riot squad cars and similar vehicles, it is the common practice for these vehicles to cruise through streets and roads until some emergency arises, whereupon it is necessary for these vehicles to travel at relatively high speeds through traffic to arrive at the scene of the emergency, or for the purpose of pursuing lawbreakers through traffic.

In order to warn other vehicles to give the right of way to such police cars, it is the common practice in many localities to provide such police cars with a characteristic spot light or signal lamp which when illuminated produces a distinctive color, warning all persons viewing the same that the vehicle carrying such lamp is a police car and must have the right of way over ordinary traffic.

However, if such lamp is employed normally in view the car may be located or "spotted" by criminals and lawbrakers at a sufficient distance away to permit them to escape. In other words, the criminal looks for a spot lamp of this character as a means of identifying the police vehicle, thereby reducing the chances of the police to apprehend the criminals.

Even when such lamps are extinguished, the lamp itself, being visible to persons looking at the car, will give knowledge of the fact that such vehicle is a police car and in many instances this warning or preknowledge permits the escape of criminals who might be apprehended were it not for the visible position or the distinctive spot lamp.

It is, therefore, an object of our invention to provide a spot lamp of the character set forth in the preceding paragraphs, wherein the same may be normally concealed from view and may be moved into position to exhibit its characteristic warning indication when such indication is desired.

Another object of the invention is to provide a spot lamp of the character set forth with an automatic switch mechanism which causes the lamp to become illuminated whenever it is moved into visible position.

Another object of our invention is to provide a simple mounting means for a spot lamp of the character set forth wherein the lamp may be mounted inside the vehicle in a position normally out of view of persons observing the car and which may be moved from such position to a second position at which the lamp will project its characteristic light through the windshield of the vehicle carrying the same.

Another object of our invention is to provide a lamp of the character set forth in the preceding paragraphs, wherein an automatic switching arrangement is employed to cause illumination of the lamp whenever it is moved to the position projecting its rays through the windshield.

Other objects and advantages will be apparent from a study of the following specifications, read in connection with the accompanying drawing, wherein

Figure 1 is a diagrammatic view, illustrating the sectional view of the top of an automobile with our lamp mounted in place therein;

Figure 2 is a detail enlarged view of the lamp shown in Fig. 1, illustrating the mounting means and the switching mechanism employed; and

Figure 3 is a detail, perspective view of a form of contact piece which may be employed in the switching mechanism shown in Fig. 2.

Referring to the drawing, we have illustrated in Fig. 1 a spot lamp 1 which may be of any suitable size and shape, preferably being constructed with a handle section 2 formed integrally therewith whereby the lamp may be moved to its various positions.

While the lamp structure itself may be of any desired shape or construction, such devices ordinarily include the outer casing 1 within which is mounted a suitable reflector 3 and through which projects a socket 4 carrying a lamp 5. The front end of the casing 1 is closed with a suitable lens 6 which may be colored red, amber, or any other suitable color selected by the police department as a particular designation of police vehicles.

The lamp casing 1 is preferably provided with an outwardly extending arm 7 by which the lamp may be secured to a suitable supporting bracket 8. The bracket 8 may be of any desired shape adapting it to be secured as by means of screws 9 to some portion of the body structure of the vehicle as, for example, the top rail 10 of the windshield 11 of the vehicle, as illustrated in Fig. 1. The bracket arm of the bracket 8 is preferably bent rearwardly, as indicated at 12, and is formed with a split or bifurcated end 13 constituting one-half of a hinge or pivot connection between the bracket 8 and the arm 7. The arm 7 has rigidly secured thereto a shaft 14 which projects through the hinge section 13 of the bracket 8 permitting the lamp to be swung from the full line position, illustrated in Figures 1 and 2 to the dotted line position illustrated therein.

With the construction thus far described, it will be apparent that the lamp may be normally swung to the full-line position, as shown in the drawing, in which position it will be substantially out of sight of persons viewing the vehicle while whenever it is desired to actively employ the lamp it will be swung to its dotted line position

at the rear of the windshield 11, in which position it will be adapted to project its illumination through the windshield to give the necessary or desired warning that such vehicle is a police vehicle and has the right-of-way over other vehicles.

In order to facilitate the operation of the lamp, suitable switching mechanism for automatically illuminating the lamp whenever it is swung to its active position should be provided. This may be readily accomplished, as is illustrated herein, by providing upon the shaft 14 a disc or drum 15 of insulating material having on its periphery a short contact segment 16 formed of metal. The drum 15 is rigidly secured by means of a screw 17 to the shaft 14 and will rotate with the shaft whenever the lamp is moved from one of its positions to the other.

A complementary contact member 18 is preferably mounted upon the bracket 8, this contact member being illustrated particularly in Figure 3 as including a socket 19 which may be formed from a strip of metal rolled upon itself, one end 20 of which extends outwardly to provide a means of attaching the same to the bracket, as by means of an opening or hole 21 through which a screw 21a may pass to engage the bracket 8. The socket 19 is preferably provided with a reduced lower end located at 22 through which projects the reduced section of a metal contact pin or brush 23, the brush 23 being normally urged outwardly of the socket 19 by means of a spring 24 bearing against an adjusting screw 25 screwed into the upper end of the socket 19.

As is illustrated particularly in Fig. 2 the location of the contact strip 16 on the drum 15 is such that whenever the lamp is in its concealed or full-line position the brush 23 will bear upon an insulated portion of the drum, while when the lamp is moved down to its dotted line position, or its active position, the brush 23 will bear upon the metal contact piece 16.

By connecting the socket 4 in a suitable electric circuit which extends from the battery of the automobile by way of a conductor 26 to the socket 4 and from the socket 4 by way of conductor 27, the conductor 27 may be connected to the contact strip 16 so that the circuit for illuminating the lamp will be completed whenever the contact piece 16 engages the metal brush 23, grounding the contact piece 16 and thereby providing a ground return to the automobile battery.

In order to insure that the lamp when moved to its active position will stop at the most desirable location for it to project its beams through the windshield, I prefer to provide an adjustable stop upon the bracket 8, such stop being illustrated herein as including an auxiliary bracket arm 28 secured as at 29 to the main bracket 8 and disposed in such position relative to the arm 7 that a screw 30 passing through the auxiliary bracket 28 will abut the arm 7 when the lamp is moved into its active position.

By properly adjusting the screw 30, the movement of the lamp may be stopped at any desired position and a suitable locknut 31 may be employed to fix or hold the screw 30 in its adjusted position.

It will be observed that the construction herein described provides a simple means whereby a police warning lamp may be mounted upon a police vehicle in a position which is normally concealed from observers, but which, when emergencies arise, may be swung into active position to project its light exteriorly of the vehicle to give the desired warning and also, at the movement of the lamp from its inactive position to its active position automatically illuminate the lamp only at such times as the lamp has been moved from its concealed position.

While we have shown and described the preferred embodiment of our invention, we do not wish to be limited to any of the details of construction shown herein, except as defined in the appended claims.

We claim:

1. In a concealable spot lamp for police cars, a spot lamp, hinge means for mounting said lamp upon the interior of said vehicle for movement from a concealed position to an active position at which the lamp may project its light exteriorly of the vehicle, and means for automatically illuminating said lamp when said lamp is moved to its active position.

2. In a concealable spot lamp, a spot lamp including a casing and an electric lamp contained therein, bracket means mounting said casing upon the interior of a vehicle for movement from a concealed position to an active position at which the lamp may project its light exteriorly of the vehicle, said bracket means including a hinge, an electric circuit for said lamp, and switch means actuated by movement of said hinge when said lamp is moved to active position for closing the circuit for said lamp.

3. In a concealable spot lamp, a spot lamp including a casing and an electric lamp contained therein, bracket means mounting said casing upon the interior of a vehicle for movement from a concealed position to an active position at which the lamp may project its light exteriorly of the vehicle, said bracket means including a two-part hinge, an electric circuit for said lamp including a contact brush carried by one part of said hinge, and a contact piece carried by the other part of said hinge movable into engagement with said brush when said lamp is moved to its active position.

4. In a concealable spot lamp, a spot lamp including a casing and an electric lamp contained therein, bracket means mounting said casing upon the interior of a vehicle for movement from a concealed position to an active position at which the lamp may project its light exteriorly of the vehicle, said bracket means including a hinge, an electric circuit for said lamp, switch means actuated by movement of said hinge when said lamp is moved to active position for closing the circuit for said lamp, and adjustable stop means for limiting the movement of said lamp toward its active position.

5. In a concealable spot lamp for police vehicles, a spot lamp including a casing and an electric lamp contained therein, bracket means for mounting said lamp upon the interior of a vehicle and including a hinge adapting said lamp to be moved from a concealed position to an active position immediately at the rear of the windshield of the vehicle to project its light through said windshield, switch means actuated by movement of said hinge means when said lamp is moved to said active position for illuminating said lamp, and stop means for limiting the movement of said lamp toward said active position to fix the active position of said lamp.

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