R. E. WILLIAMS.

BRACKET AND LIMITING DEVICE FOR SPOTLIGHTS.

APPLICATION FILED DEC. 3, 1919.

1,419,431. Patented June 13, 1922.

2 SHEETS—SHEET 1.

Fig. 4.

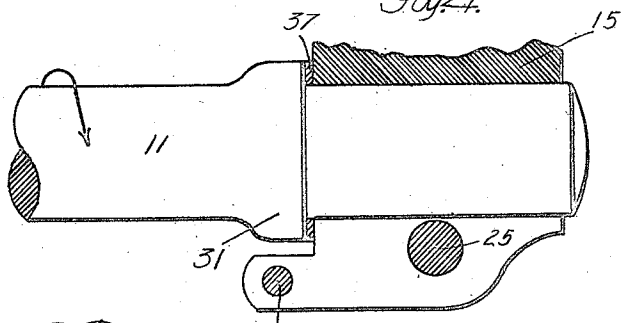


Fig. 1.

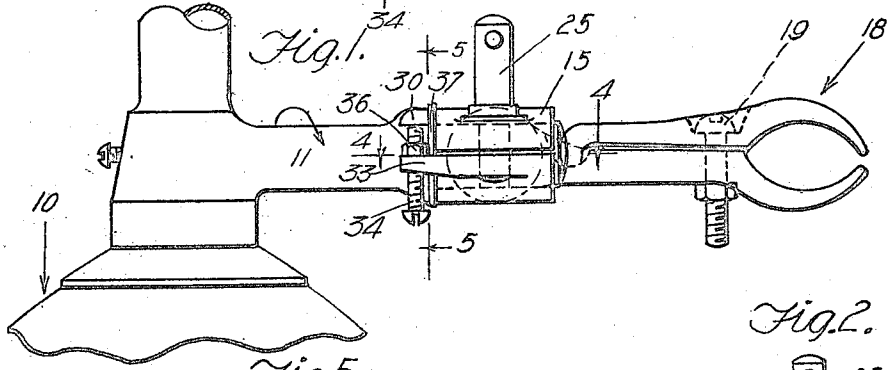


Fig. 2.

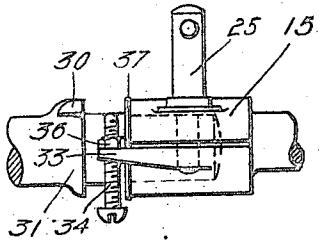


Fig. 5.

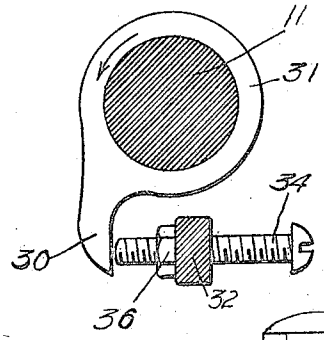
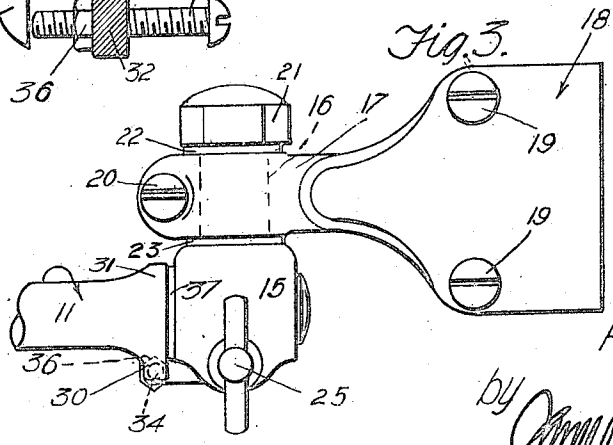


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 6.

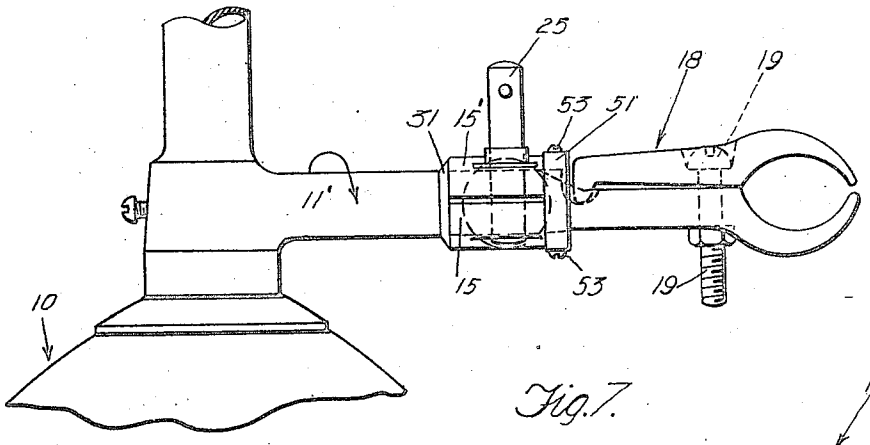


Fig. 7.

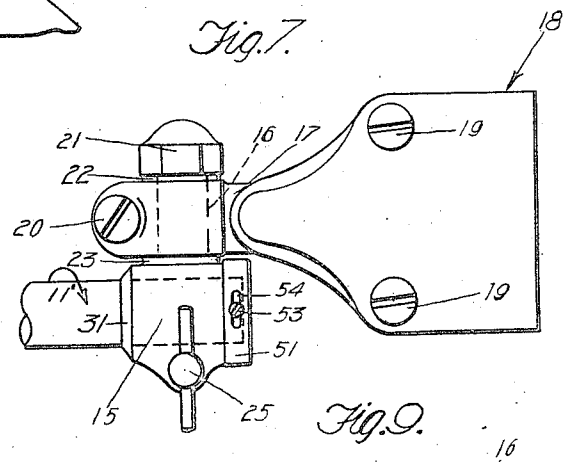


Fig. 8.

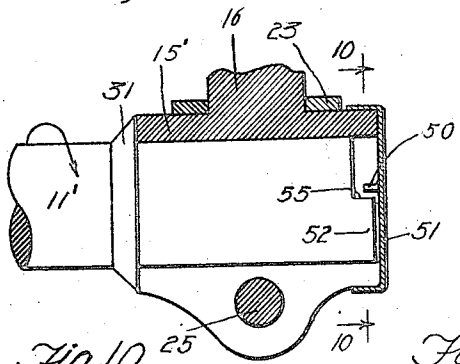


Fig. 9.

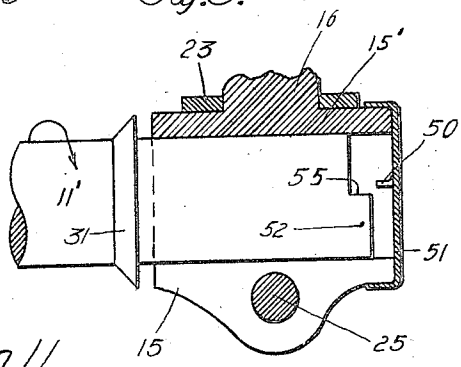


Fig. 10.

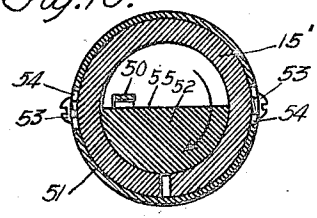
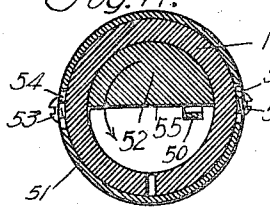


Fig. 11.



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UNITED STATES PATENT OFFICE.

RALPH E. WILLIAMS, OF LOS ANGELES, CALIFORNIA.

BRACKET AND LIMITING DEVICE FOR SPOTLIGHTS.

1,419,431. Specification of Letters Patent. Patented June 13, 1922.

Application filed December 3, 1919. Serial No. 342,127.

To all whom it may concern:

Be it known that I, RALPH E. WILLIAMS, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Brackets and Limiting Devices for Spotlights, of which the following is a specification.

This invention relates to mounting brackets for spotlights such as are used on automobiles and particularly to mounting brackets of this character which have embodied in them limiting or stop means. It is an object of the invention to provide a device or bracket which is simple, easily operated and effective.

The primary object of the invention is to provide stop or limiting means in a spotlight bracket to normally keep the light directed on the road or ground rather than in a direction which will cause it to shine in the eyes of oncoming motorists.

A particular feature of the invention is the provision of an adjustable, releasable positive stop or limiting arrangement in a bracket of the character above specified. The stop means provided by the present invention when in the set position limits the upward movement of the light regardless of the direction in which it is facing.

The arrangement provided by the present invention not only makes it possible to adjust or regulate the stop means so that the light can not be raised above a certain point but also makes it possible to move or shift the light so as to disengage or release the stop means and thereby allow the light to be turned or directed in any direction. A particular feature of this arrangement is that the light can be released from the stop means without removing it from the bracket.

The construction provided by the present invention also allows the light to be entirely removed or detached from the bracket. The arrangement is such that the light can be easily and quickly removed from the bracket at any time.

The simplicity of construction and arrangement are important features of the invention as they make it particularly inexpensive to manufacture, sightly, and simple to operate.

There are further objects and features of the invention which will be readily understood from the following detailed description of a preferred embodiment of the invention throughout which reference is had to the accompanying drawings, in which—

Fig. 1 is a bottom view of the device provided by the invention; Fig. 2 is a view of a portion of the parts shown in Fig. 1, showing them in position so that the stop means is released; Fig. 3 is a side elevation of the operating parts shown in Figs. 1 and 2; Fig. 4 is an enlarged section taken as indicated by line 4—4 on Fig. 1; Fig. 5 is an enlarged section taken as indicated by line 5—5 on Fig. 1; Fig. 6 is a view similar to Fig. 1 showing another form of the invention; Fig. 7 is a view similar to Fig. 3 showing the form of invention shown in Fig. 6; Fig. 8 is a section similar to Fig. 4 showing the form of the invention shown in Figs. 6 and 7; Fig. 9 is a section similar to Fig. 8, showing the stop or limiting means disengaged; Fig. 10 is a section taken as indicated by line 10—10 on Fig. 8; and Fig. 11 is a section similar to Fig. 10 showing the parts arranged to limit the upward movement of the light when it is mounted on the opposite side of an automobile to that shown in the previous figures.

Throughout the drawings numeral 10 designates the spotlight which is provided with a trunnion 11. It will be understood, that the spotlight 10 may be of any design or construction and that the invention is not in any way limited to the particular type or design shown in the drawings. The trunnion 11 which extends from the lamp 10 is normally carried in a socket 15. The socket 15, as shown in the drawings, is provided with a vertical trunnion 16 which is carried by arm 17 extending from clamp 18. The trunnion 16 is carried in the arm 17 so that it can be turned, thereby allowing the light to be turned in a horizontal plane. The clamp 18 is preferably of the type common to devices of this character and is adapted to be locked or secured to a windshield standard by screws 19. Arm 17 which carries the trunnion 16 is preferably split and adapted to be clamped or tightened on the trunnion 16 by clamping screw 20. The clamp screw 20 is preferably normally kept sufficiently tight to prevent movement or shifting of the trunnion in the arm due to vibration or jarring of the machine but is loose enough to allow the trunnion to be moved by hand. The trunnion 16 preferably extends through the arm 17 and has screw threaded on its upper end a nut 21. The nut 21 holds the

trunnion 16 in place laterally in the arm 17. Suitable washers 22 and 23 are preferably interposed between the nut 21 and the arm 17 and the socket 15 and the arm 17, respectively, as clearly shown in Fig. 3.

The socket 15 which carries the trunnion 11 is preferably split as shown in Fig. 2 and is provided with a suitable clamping screw 25. It will be readily understood how regulation of the clamping screw 25 will vary the tightness with which the trunnion is gripped by the socket, regulating, thereby, the ease with which it can be turned. The clamping screw 25 is preferably normally regulated so that the trunnion 11 is held in the socket 15 sufficiently tight to prevent it from being moved by vibration or jarring of the machine while at the same time allowing it to be movable by hand. The construction herein so far described has been more or less common to devices of this character and has been set forth as typical construction of a bracket in which the present invention may be embodied. It will be understood therefore, that the invention is not limited to embodiment in this particular form of bracket but that it can be readily used in connection with practically any bracket of this general character.

In the form of the invention shown in Figs. 1 to 5 a projection or lug 30 extends from a shoulder 31 formed on the trunnion 11. A lug 33 extends from the socket 15 and has carried in it a set screw 34. The lug 33 projects from the socket 15 and carries the set screw 34 so that it will engage lug 30 when the shoulder 31 is in engagement with the socket 15 and when the trunnion 11 is rotated to the position shown in Fig. 1. The manner in which the set screw engages the lug 30 is clearly shown in the drawings, particularly in Figs. 1 and 5, and it will be understood how adjustment of the set screw in the lug 33 regulates the amount that the trunnion 11 can be moved in the direction indicated by the arrow in Fig. 5. The set screw and lug 30 are arranged so that they are in engagement when the light is shining in the desired horizontal plane. The lug 30 and the set screw 34 positively limit the upward movement of the light in the direction indicated by the arrows in the figures regardless of the direction in which it is facing. A lock nut 36 is preferably arranged in connection with the set screw 34 and lug 33 so that the set screw can be firmly locked in the proper position. In the preferred form of construction a washer 37 is provided between the shoulder 31 and the socket 15 as clearly shown in the drawings.

When it is desired to direct the light higher than is allowed by the set screw 34 and lug 30 the clamping screw 25 can be slightly released or the trunnion 11 can be worked in the socket to allow the trunnion 11 to be partially withdrawn from the socket 15 until it is in the position shown in Fig. 2. Withdrawal of the trunnion 11 in this manner causes the lug 30 to be moved out of line with the set screw 34 and thereby allows the trunnion and light to be rotated to any desired position. It will be particularly noted that when the trunnion is withdrawn to the position shown in Fig. 2 it is still carried in the socket 15 so that the light is firmly and securely supported. When the trunnion 11 is partially withdrawn from the socket 15 the clamping screw 25 may be regulated so as to lock the trunnion in any desired position or the clamping screw may be regulated so as to allow the lamp to be adjustable by hand.

The invention provides stop or limiting means in the bracket which allows the light to be moved or turned freely in a horizontal plane but positively limits its upward movement regardless of its horizontal position, while at any time it can be moved relative to the bracket so as to be free to be moved in any direction.

In the form of the invention shown in Figs. 6 to 11, the upward movement of the light is limited by a stop or projection 50, extending inwardly from a cap 51 mounted on the socket 15, co-operating with a projection 52 extending from the end of the trunnion 11'. The cap 51 is preferably pressed metal and is arranged on or over the end of the socket 15 as clearly shown in the drawings. The cap may be attached or connected to the socket 15 in any suitable manner. For instance, screws 53 may extend through slots 54 in the cap 51 and screw-thread into the socket. It will be readily understood how the slots 54 allow the cap 51 to be adjusted relative to the socket 15, thereby making it possible to regulate or adjust the position of the projection 50. The projection 50 which extends inwardly from the cap 51 is not centrally located relative to the cap or the socket 15 but is arranged considerably off center as shown in Figs. 8, 9 and 10. The projection 50 may be formed in any suitable manner, although it is preferred that it be a tab stamped or formed in the cap 51 as clearly shown in the drawings. This construction is particularly simple, inexpensive and effective.

The projection 52 is formed on the end of the trunnion 11' by cutting approximately one-half of the trunnion away for a short distance in from its outer end. The projection 52 when formed in this manner provides a shoulder 55 adapted to co-operate with, or engage, the projection 50 and thereby limit the movement or rotation of the trunnion 11 in the direction indicated by the arrow in Figs. 6, 7, 8, 9 and 10.

It will be noted in the drawings, and particularly in Fig. 8, that the shoulder 55,

formed by the projection 52, is in a position to co-operate with the projection 50 when the shoulder 31, formed on the trunnion 11, is in engagement with the end of the socket.

It will be readily understood how longitudinal movement of the trunnion 11′ in the socket 15, so that the trunnion and socket are in the relative positions shown in Fig. 9, causes the shoulder 55, formed by the projection 52, and the projection 50 to clear or not engage each other and thereby allowing the trunnion to be rotated to any position or any desired amount. It will be noted that in this form of the invention, as well as in in the other form, that the trunnion is firmly and securely carried in the socket 15 when it has been moved as shown in Fig. 11.

A particular and very important feature of this form of the invention is that the parts do not have to be made in rights and lefts in order to allow the device to be used or supported on the left hand or the right hand side of a machine. In Figs. 6, 7, 8 and 9 the parts are arranged so that the upward movement of the light 10 will be limited when it is mounted or carried on the left hand side of a machine or the like. In Fig. 11 is shown the position in which the part may be arranged when the device is arranged or carried on the right hand side of the machine. In order to change the light from the left-hand to the right-hand side of an automobile, and, at the same time, limit its upward movement, it is merely necessary to remove the cap 51 from the socket 15, turn it through an angle of 180°, and place it on the socket 15 as shown in Fig. 11.

When it is desired to detach the lamp from the bracket or supporting means, and use it independent of the bracket, the clamping screw 25 is released so that the trunnion can be entirely withdrawn from the socket 15. The construction makes it possible to easily and quickly detach the lamp from the supporting bracket and does not interfere with or change the adjustment of the top means.

Having described a preferred form of my invention, I claim:

1. In a lamp mounting a socket, a lamp carrying trunnion extending into the socket from one end to be rotatable therein, a shoulder on the end of the trunnion which is in the socket, a cap on the other end of the socket, and a projection extending from the cap into the socket to cooperate with the shoulder to limit the rotary movement of the trunnion in the socket.

2. In a lamp mounting, a socket, a lamp carrying trunnion extending into the socket from one end to be rotatable therein, a shoulder on the end of the trunnion which is within the socket, a cap adapted to be attached to the other end of the socket in different rotative positions, and a projection extending from the cap into the socket so that it is removed from the axis of the socket and cooperates with the shoulder to limit rotation of the trunnion in the socket.

In witness that I claim the foregoing I have hereunto subscribed my name this 20th day of November, 1919.

RALPH E. WILLIAMS.

Witness:

VIRGINIA I. BERINGER.