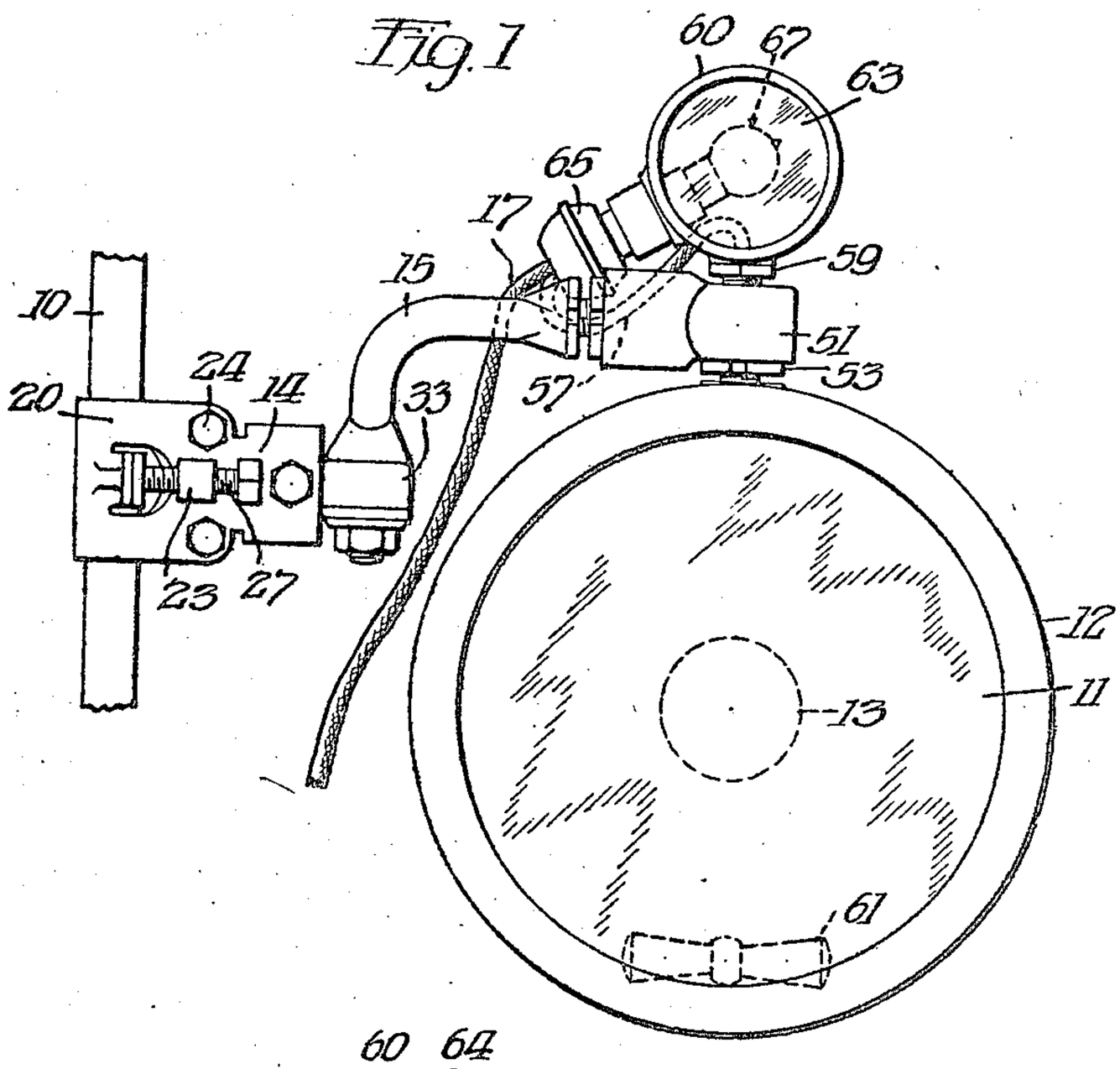
Jan. 2, 1923.

1,440,870

W. FRENCH.
SPOTLIGHT BRACELET.
FILED APR. 20, 1921.

2 SHEETS-SHEET 1

Fig. 1



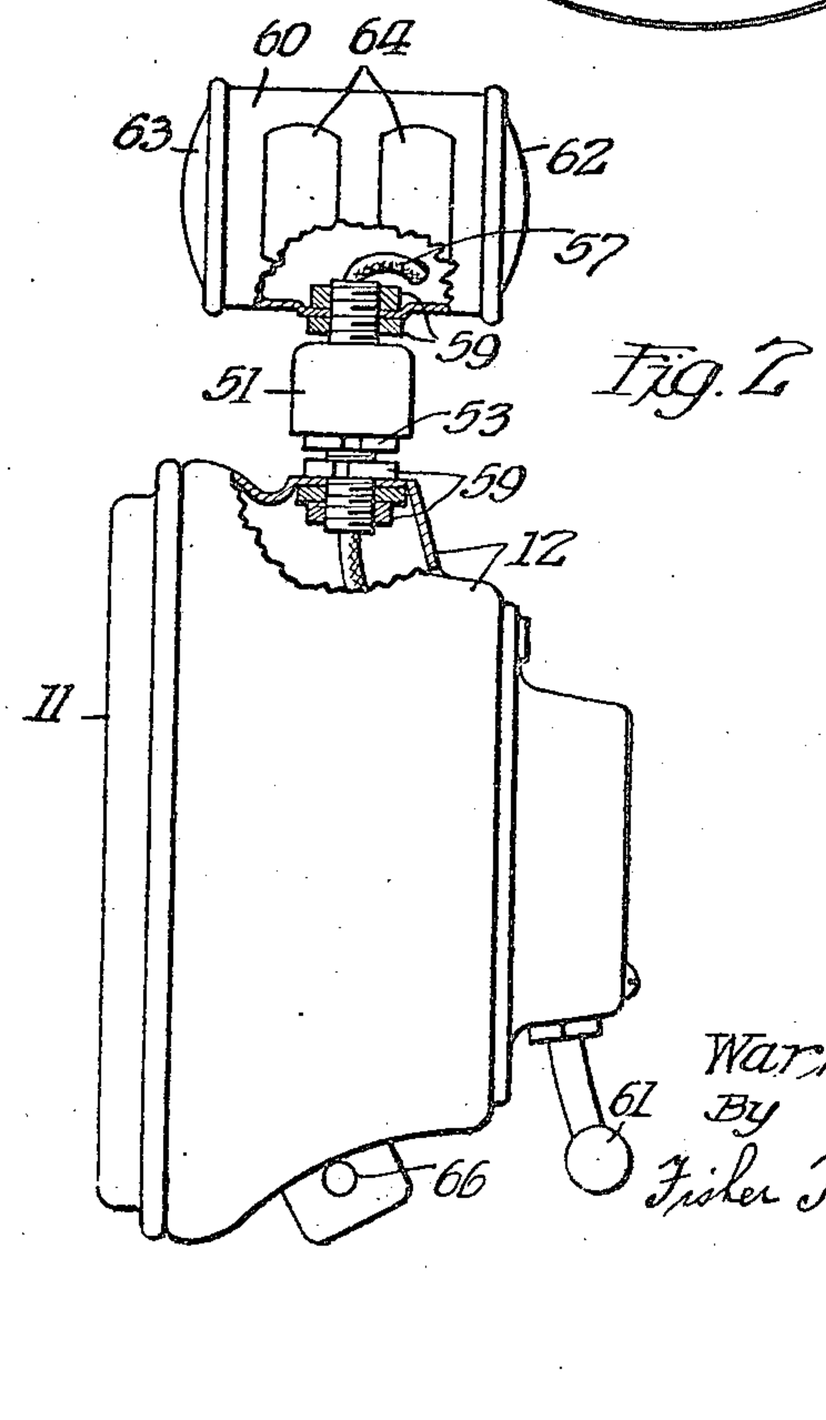


Fig. 2

Inventor.
Warren French,
By
Fisher Towle Clapp & Sears
attys.

Jan. 2, 1923.

W. FRENCH.
SPOTLIGHT BRACELET.
FILED APR. 20, 1921.

1,440,870

2 SHEETS-SHEET 2

Fig. 3

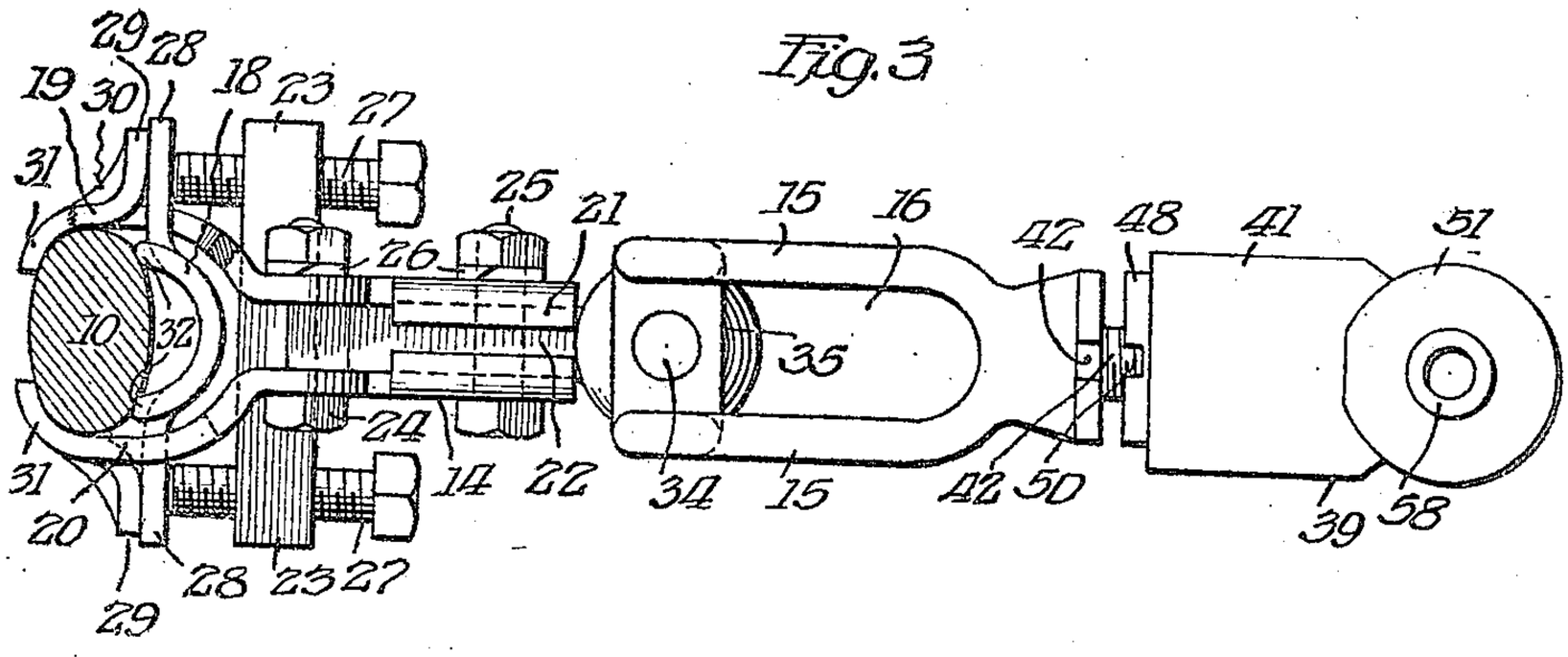


Fig. 4

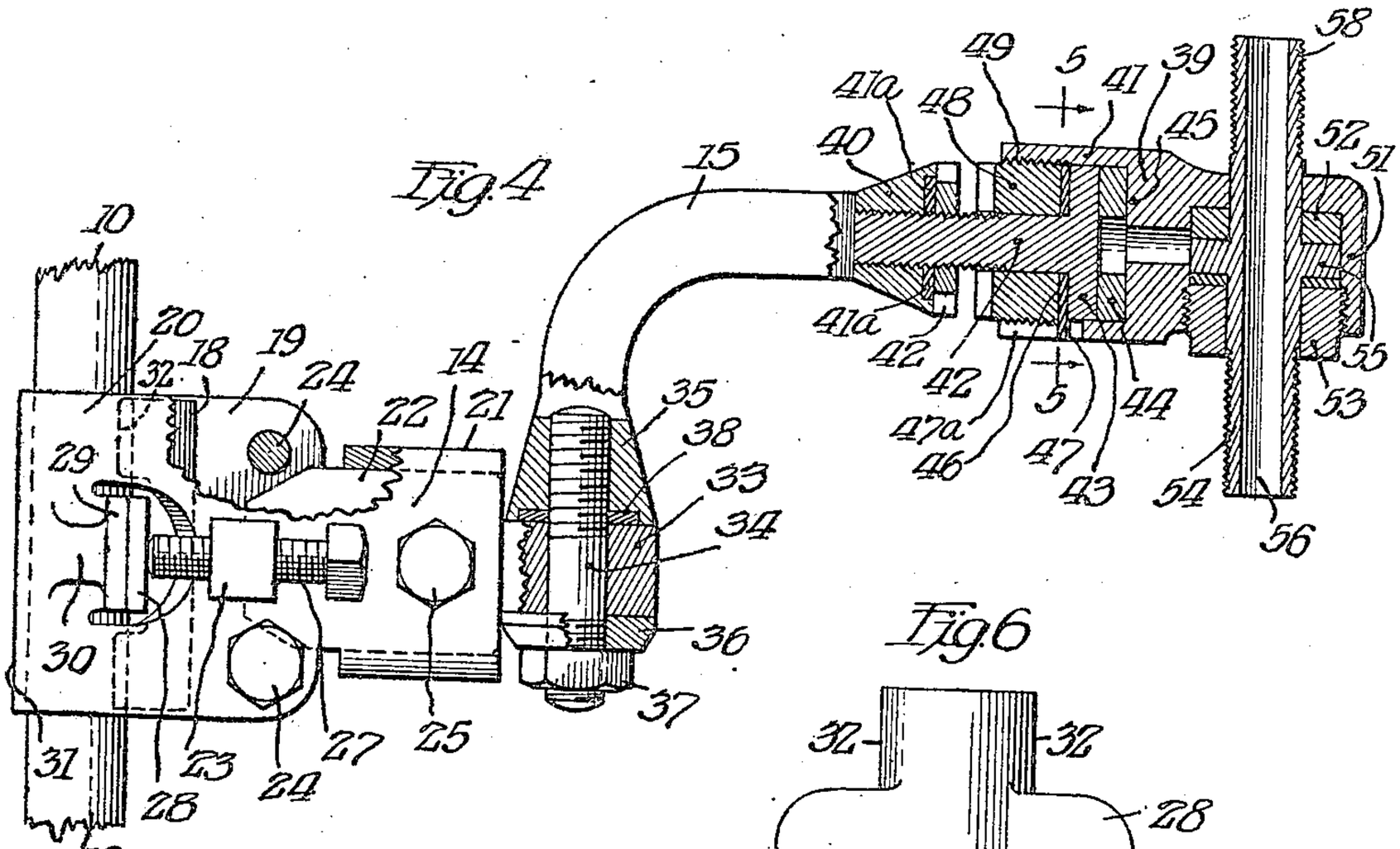


Fig. 5

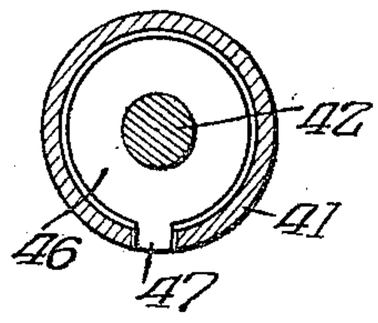
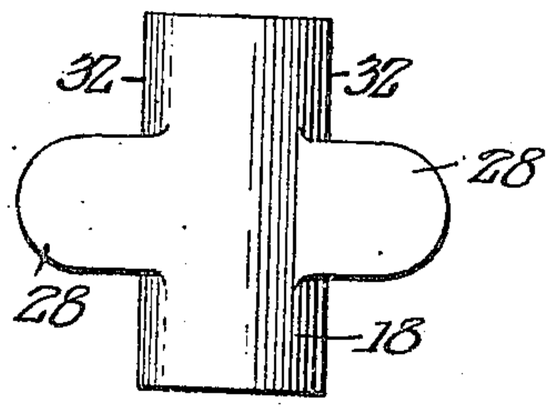


Fig. 6



Inventor:
Warren French,

By Fisher Towle Clapp & Soans
Attys.

Patented Jan. 2, 1923. 1,440,870

UNITED STATES PATENT OFFICE.

WARREN FRENCH, OF KENOSHA, WISCONSIN.

SPOTLIGHT BRACKET.

Application filed April 20, 1921. Serial No. 462,856.

To all whom it may concern:

Be it known that I, WARREN FRENCH, a citizen of the United States, and a resident of Kenosha, county of Kenosha, and State of Wisconsin, have invented certain new and useful Improvements in Spotlight Brackets, of which the following is a specification.

My invention relates to improvements in spotlight brackets and has particular reference to a bracket which can be mounted upon a wind shield frame or other convenient part of a self-propelled vehicle and is so arranged that the lamp supported thereby may be adjusted in any desired position.

The objects of my invention are to provide a bracket of the class described which may be rigidly and readily secured and mounted in place on a vehicle, and which will be substantially free from any tendency to become loosened or to move around on the support. A further object of the invention is to provide, in a bracket of the class described, a universal adjustment which will enable the lamp supported by the bracket to be moved or rotated into any position or direction at will, and which, when so adjusted in position, will permanently maintain its adjusted position without any tendency for it to slew around or become loose. A further object of the invention is to provide an efficient, neat, rigid, and substantial bracket and lamp adjustment of the character referred to.

A further object of the invention is to provide an arrangement which will permit of convenient application of a subsidiary side light or a combined side and tail light, and which will enable the leading-in wires to be conveniently applied.

In the drawings which illustrate a preferred embodiment of my invention,

Fig. 1 is a front elevation of the bracket on its support and showing the lighting instrumentalities adjustably supported thereby;

Fig. 2 is a side elevation of the parts shown in Fig. 1, certain portions of the casings being cut away in order to disclose the interior construction;

Fig. 3 is a plan view of the bracket, the lamps having been removed therefrom;

Fig. 4 is a front elevation of the bracket shown in Fig. 3, certain parts being shown in section;

Fig. 5 is a section taken on the line 5—5 of Fig. 4; and

Fig. 6 is an elevation of a part of the clamp.

Referring to the drawings, it will be observed that I have selected as a support for the spot lamp, the side bar or frame 10 of the wind shield of the self-propelled vehicle to which my improved bracket is applied. The lamp 11, which is supported thereby, may be of any approved style, usually consisting of an outer casing 12 containing a suitable electric lamp 13. It will be understood that the lamp 13 is located at the focal center of a parabolic reflector so that the lamp will throw a substantially condensed or approximately parallel beam of light.

The bracket is arranged to project laterally of the wind shield member 10 a sufficient distance to permit free movement of the spot lamp 11 in whichever direction may be desired, so that the beam of light emanating from the lamp can be thrown in all directions. Said bracket preferably comprises a laterally extending supporting portion 14 by means of which the bracket may be clamped to the support 10, and an L-shaped extension 15 the end of which is equipped with the necessary universal adjustment for supporting the spot lamp 11. I prefer to make the extension arm 15 with twin spaced limbs, the space 16 between said limbs serving to accommodate and locate the supply cable 17 leading to the lamp. Said duplex construction of the arm 15 is also materially stronger than in the case of a single arm and adds considerably to the appearance of the device.

The means by which clamping of the bracket to the bar 10 is effected, comprise an inner clamping member 18 and a pair of outer clamping members 19 and 20 which constitute bifurcations of the bracket. Said parts 19 and 20 may be separate twin punchings as shown in the drawings and at their outer ends are arranged with short turned down side flanges as at 21, the flanges being turned inwardly toward each other, as shown in Fig. 3 and being a sufficient distance apart to fit snugly around a body part 22. Said body part 22 may consist of a rectangular block of brass or other suitable metal and has at its inner end a transverse notch which accommodates a yoke or cross piece 23. It will be observed that the end of the block

22 adjacent the supporting bar 10 is pointed or beveled off to avoid a pair of clamping bolts 24 by means of which bolts the members 19 and 20 can be forced toward each other to clamp the bar 10 between the same. The outer ends of the arms 19 and 20 are securely clamped to the block 22 by means of a bolt 25. It will be understood that the pair of bolts 24 and the bolt 25 are equipped with suitable lock-washers as shown at 26 for preventing improper movements of the nuts due to the vibration of the support.

The arms 19 and 20 of the clamp are suitably apertured to admit the rectangular cross piece 23 which extends loosely through said arms. The ends of said cross piece 23 are tapped to receive a pair of parallel set screws 27, the points of which are adapted to engage a pair of lugs 28 extending from the inner clamping member 18 and through suitable openings in the clamping arms 19 and 20. The openings through which said lugs 28 pass are formed by shearing out of the arms 19 and 20 a pair of lugs 29 projecting laterally from the arms 19 and 20 a sufficient distance to bring them substantially in register with the lugs 28. Preferably, when forming the projections 29 on the arms 19 and 20, there is also formed a pair of ribs 30 which constitute a strengthening backing for the lugs 29.

It will be observed that the arms 19 and 20 are formed with inturned clamping jaws as at 31 which jaws embrace and extend partially around the inner side of the supporting bar 10. Normally in applying the clamp to the said supporting bar 10, the bolts 24 are tightened up as far as is practicable and then the set screws 27 which have previously been slacked off, are screwed home. The effect of screwing up the set screws 27 is twofold. In the first place, the inward pressure applied to the clamp member 18 causes the edges 32 to forcibly engage the outside surface of the supporting bar 10. It will be observed that the clamp 18 is made of such shape that the edges 32 are spaced apart a substantial distance and are disposed so as to contact with the bar 10 along narrow parallel spaced vertical zones of considerable depth. In the second place, the tightening up of the set screws 27 has a tendency to flex the lugs 28 permitting said lugs to contact with and bear strongly against the lugs 29 which project from the arms 19 and 20. This will result in a rocking action, or a tendency toward a rocking action, of the ends of the arms 19 and 20, and the jaw portions 31 will hence tend to approach one another thereby exerting a pronounced and positive clamping action upon the bar 10.

The base block 22 is formed with an integral head or lug 33 centrally apertured to receive a clamping bolt 34 which is screwed into the base 35 of the L shaped extension arm 15. Usually I make the bolt 34 in the form of a stud which is screwed tightly into the bottom of the arm 15 and is carried permanently thereby, the lower end of the said stud 34 being equipped with a suitable washer 36 and nut 37. If desired, a lock washer 38 may be inserted into a recess in the bottom of the arm portion 35 so that there will be no tendency for the bolt 34 to become loosened. It will be understood that the arm 15 is intended to be permanently locked in a definite angular position of adjustment when the installation of the bracket is first effected, the clamp bolt 34 being employed to lock the arm in the best position to suit the particular arrangement of each individual installation. Ordinarily the clamping portion 14 of the bracket and the arm 15 are arranged in line as shown in Fig. 3.

The lamp 11 is capable of being rotated around a horizontal axis and around a vertical axis, both movements being with reference to the L shaped extension arm 15 of the stationary or permanently adjusted portion of the bracket. To this end I employ a socket member 39 arranged intermediate between the outer or upper end 40 of the arm 15 and the lamp 11 which is to be supported. Said socket member 39 is formed with a substantially cylindrical portion 41 having its axis horizontal and is bored out to form a concentric cylindrical recess for the reception of suitable friction clamping members. The said clamping members include a stem 42 the outer end of which is formed with a disc-like head 43 slidably arranged in the inner end of the socket, its outer surface engaging a perforated friction disc 44. Said friction disc 44 is preferably made of fiber and is interposed between the head 43 of the said stem 42 and the bottom 45 of the socket 41. The inner end of the stem 42 is threaded and is screwed into the upper end 40 of the arm 15, a lock-washer 41^a and lock nut 42 serving as means for permanently securing said stem 42 into the arm 15 and thereby preventing rotation of the stem in the arm.

Surrounding the stem 42 there is placed a thin steel washer 46 of substantially the same diameter as the head 43 and having a small tongue 47 projecting into a keyway or slot 47^a cut into the bottom wall of the socket 41. Said tongue 47 is for the purpose of preventing rotation of the washer 46 when the lamp is being adjusted. Pressure is applied to the washer 46, head 43 and friction disc 44 by means of an adjustable plug 48 surrounding the stem 42 and having on its exterior threads 49 fitting corresponding threads formed in the interior of the outer portion of the socket 41. In order to enable said plug 48 to be turned or adjusted to give more or less friction between the said parts, I prefer to slot the outer face

of the plug as shown at 50 to accommodate a suitable wrench or spanner.

It will be observed that by reason of the plate 46 being keyed to the socket, relative rotary movement of the stem and socket will have no tendency to rotate the plug 48 in the socket. Hence the plug 48 will maintain its adjustment indefinitely independently of movement of the lamp.

The outer end of the member 39 is formed with a second socket designated as 51 similar to the socket 41, but having its axis at right angles to the axis of the socket 41, so that when the member 39 is in the position shown in the drawings, the lamp may be rotated around a vertical axis. Said socket 51 is provided with a friction member 52 and adjustment plug 53 and a stem 54 provided with a head 55, said parts serving the same purpose as similar parts contained within the socket 41.

The main spot lamp 11 is carried on the lower end of the stem 54 which is made tubular to provide a conduit 56 for the leading-in wires or cable indicated at 57, (see Figs. 1 and 2). The said stem 54 is also formed with an upper extension 58 which extends through a central aperture in the friction washer 52 and through an aperture formed in the bottom wall of the socket 51. Both extremities of the tubular stem 54 are threaded to accommodate lock nuts as at 59 by means of which the spot lamp 11 and auxiliary lamp 60 may be clamped on the ends of the stem. It will be seen by reference to Fig. 2 that the ends of the stem are inserted respectively through apertures in the upper wall of the main casing 12 and the lower wall of the casing of the auxiliary lamp 60, the lock nuts 59 being disposed on either side of the wall of the casing. It will be understood that when the lamps 11 and 60 have been once properly locked or clamped to the ends of the stud or stem 54, no further adjustment is required.

The main lamp 11 is equipped with a suitable handle 61 by means of which the lamp may be swung around a horizontal axis or vertical axis, or both, so as to direct the beam of light toward any desired object. It will be understood that the friction adjustment plugs 48 and 53 are tightened up to such an extent that enough friction is provided to prevent movement of the lamp due to vibration of the support. The shape of the casing of the auxiliary lamp 60 is preferably cylindrical, the axis of the cylinder being located parallel with the axis of the main lamp 11, and the ends of said cylinder are closed by a pair of lenses, one of said lenses, viz, 62, being usually of red glass, and the front lens 63 being of clear glass so that the auxiliary lamp 60 may serve both as a tail light and as a front light.

The side of the auxiliary lamp casing 60 may be made with a pair of glazed apertures as at 64, casting a small amount of light to the side of the vehicle in order to facilitate getting in or out of same.

As shown in the drawings, the cable 57 which feeds the main lamp 13 is taken from the auxiliary lamp connector 65 where it is connected in multiple to the main supply wire 17. Usually, I find it desirable to locate a switch 66 at the base of the main lamp whereby the main spot lamp may be switched off while the parking light 60 is burning. Also in order to utilize the main lamp 13 without consuming current in the bulb 67 of the parking light, the socket 65 may be of such construction that a slight rotary movement of same will disconnect the supply circuit from the terminals of the bulb 67.

The described details of construction are merely illustrative of a single phase of my invention, the scope of which should be determined by reference to the appended claims, said claims being construed as broadly as possible, consistent with the state of the art.

I claim as my invention:

1. In combination, a bracket, a member rotatable on said bracket around a horizontal axis and capable of maintaining any desired position of angular adjustment, a stem rotatable in said member on an axis located at substantially right angles to the first axis and a lamp carried by each end of said stem.

2. In combination, a bracket, a member rotatable on said bracket around a horizontal axis and capable of maintaining any desired position of angular adjustment, a stem rotatable in said member on an axis located at substantially right angles to the first axis and a lamp carried by each end of said stem, said stem being tubular, and a cable in said stem for supplying electric energy to one of said lamps.

3. In a device of the class described, the combination of a pair of relatively movable parts, one of said parts having a tubular projecting stem and the other part having a substantially cylindrical socket co-axial with the stem, a circular head on the outer end of said stem and seated in the inner end of the socket, and a plug closing and located in the outer end of the socket, adjustable toward said head for forcing the latter toward the inner end of the socket, the arrangement including a part non-rotatable in the socket surrounding said stem and interposed between the outer face of the head and the plug.

4. In a device of the class described, the combination of a pair of parts relatively rotatable at will, one of said parts having a tubular extension, the extension being formed with a circular head, the other part being

formed with a cylindrical socket adapted to slidably receive said head, a plug screwed into the outer end of the socket for forcing the head towards the bottom of the socket, a key-washer interposed between the head and the plug, and being nonrotatable relative to the socket, the bottom of the socket being apertured to receive said stem, a lamp casing rigidly connected to and communicating with said stem, and an electric conductor located within said stem for supplying current to the lamp.

5. In a bracket adapted to be detachably mounted on a wind shield frame bar of a self-propelled vehicle, the combination of an arm having spaced bifurcations, the ends of which bifurcations are formed to constitute a pair of opposed jaws adapted to be moved toward each other, a part carried by the bracket and adapted to be forced toward said jaws, the supporting frame bar being interposed between said part and the jaws, and means coacting with said part to cause the same to be forced toward the jaws and said jaws to approach each other.

6. In combination, a bracket arm having spaced resilient parts adapted to be moved toward each other, turned-in jaws on the extremities of said resilient parts to clamp a frame part, means for moving said resilient parts toward each other, a complementary clamping member located between said resilient parts and provided with extensions projecting laterally through said resilient parts, projections on said last named parts registering with the said extensions, a cross bar carried by the bracket and screw means on the ends of said cross piece and acting on said extensions for forcing the complementary member toward the frame part and incidentally tending to force the extremities of said resilient parts toward each other.

WARREN FRENCH.