July 10, 1923. 1,461,285

J. K. OLSEN

QUICK DETACHABLE SEARCHLIGHT MOUNTING

Filed June 21, 1922

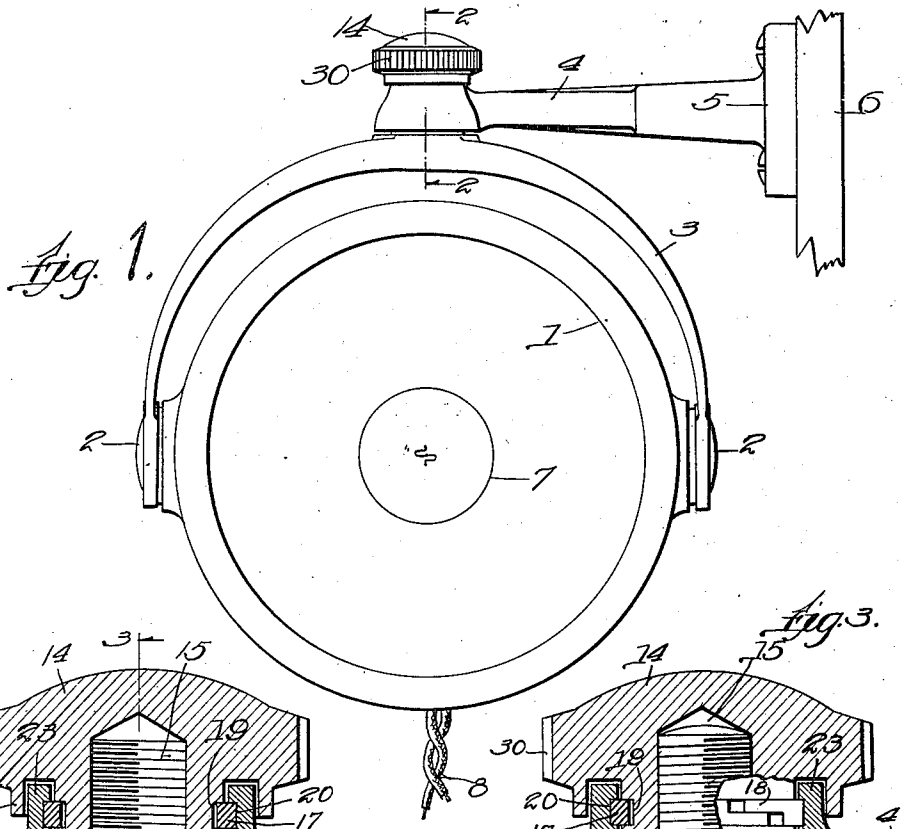


Fig. 1.

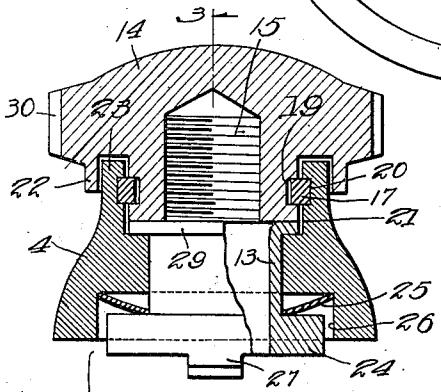
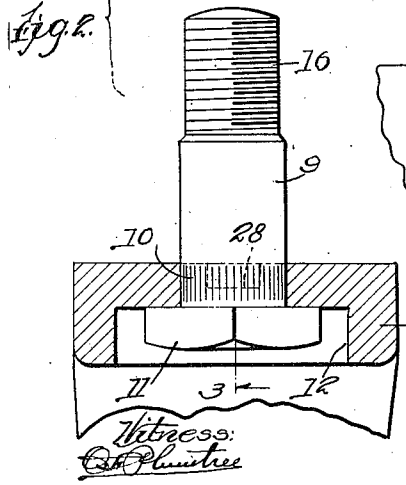


Fig. 2.



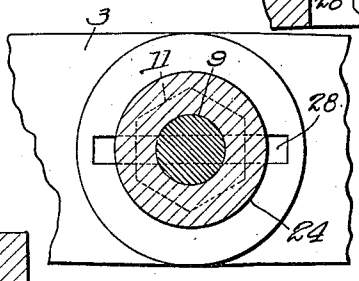


Fig. 4.

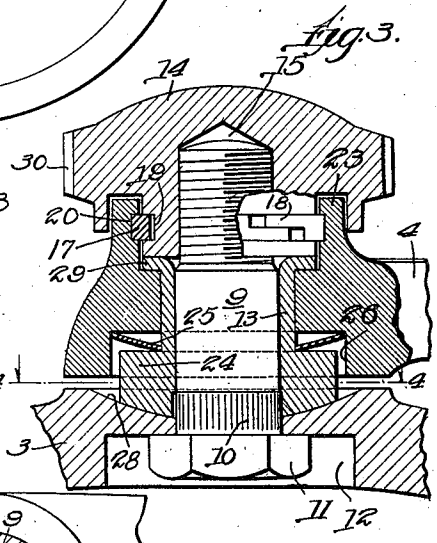


Fig. 3.

Witness:

Inventor:
John K. Olsen,
by Burton & Burton
his Atty's.

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UNITED STATES PATENT OFFICE.

JOHN K. OLSEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO STEWART-WARNER SPEEDOMETER CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF VIRGINIA.

QUICK-DETACHABLE SEARCHLIGHT MOUNTING.

Application filed June 21, 1922. Serial No. 569,812.

To all whom it may concern:

Be it known that I, JOHN K. OLSEN, a citizen of the United States, residing in the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Quick-Detachable Searchlight Mountings, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide a simple and quickly adjustable connection for detachably and swivelly mounting a lamp body such as that of a vehicle searchlight of the type carried on automobiles. It consists of certain features and elements of construction in combination as herein described and shown in the drawings and as indicated by the claims.

In the drawings:—

Figure 1 is a front elevation of a lamp body and mounting bracket therefor embodying this invention.

Figure 2 is a vertical detail section taken as indicated at the line 2—2 on Figure 1, but showing the parts disassembled.

Figure 3 is a transverse vertical section taken as indicated at the line 3—3 on Figure 2, but with the parts assembled.

Figure 4 is a detail section taken as indicated at the line 4—4 on Figure 3.

In the drawings the lamp body or casing is shown at 1 horizontally pivoted or trunnioned at 2, 2, in a bail, 3, which is vertically swiveled and supported upon a bracket arm, 4, whose base or foot, 5, may be secured to any convenient part of the vehicle body such as the windshield frame or other upright member indicated at 6. It may be understood that the casing, 1, encloses an incandescent electric bulb, 7, to which current is supplied through suitable lead wires, 8, entering the casing independently of its mounting and extending to a source of electrical energy on the vehicle, not shown. The present invention relates to a quick detachable connection between the lamp casing, 1, and the bracket arm, 4, so as to permit the lamp to be used for inspection of the vehicle or any other purpose within such range as the length of the lead wires, 8, will permit.

To this end the detachable connection is included in the vertical swivel by which the bail, 3, is attached to the bracket arm, 4, while the trunnion connections, 2, 2, between the bail, 3, and the body or casing, 1, may be of a permanent nature. At the middle of its length directly above the lamp body, 1, the bail, 3, is provided with a stud bolt, 9, whose shank is corrugated by knurling at 10 adjacent its head, 11, so that when forced tightly into the opening in the bail, 3, it will be held non-rotatably therein and operate as an integral part of the bail. The head, 11, is accommodated in a counterbored portion, 12, of the bail, 3, and the smooth portion of the shank slips snugly into a sleeve or bushing, 13, rotatably mounted in the outer end of the bracket arm, 4.

A special captive nut, 14, is also rotatably engaged with the bracket arm, 4, just above the bushing, 13, and axially aligned therewith so that the threaded bore, 15, of said nut, 14, may engage the threads, 16, of the stud bolt, 9, for holding the parts in assembled relation. The nut, 14, is permanently associated with the bracket arm, 4, by means of a spring ring, 17, split and lapped as indicated at 18 and engaging grooves, 19 and 20, in the nut and bracket arm, respectively. It will be understood that the groove, 19, is deep enough so that in assembling the parts the ring, 18, may be compressed to lie wholly within this groove, while the reduced portion of the nut is entered in the counterbore, 21, of the arm, 4; and that as the ring, 17, arrives in registration with the groove, 20, it will expand to engage said groove and thus lock the nut in position while leaving it free to rotate. Preferably the nut is formed with a depending skirt or flange, 22, overhanging the upstanding flange, 23, of the bracket arm, 4, in which the counterbore, 21, is formed so as to exclude dust and water from the joint as far as possible.

The bushing, 13, is formed at its lower end with a head, 24, against which a dished spring washer, 25, reacts from the base or counterbore, 26, in the arm, 4, to furnish sufficient friction to insure that the lamp body, 1, will remain at any position at which it may be adjusted upon the vertical swivel. When the parts are assembled, the bushing, 13, is positively locked to the bail, 3, by means of a diametrically located tongue, 27, formed on the lower side of its head, 24, and engaging a milled groove, 28, in the top of the bail, 3. But at all times the bushing,

13, remains permanently associated with the bracket arm, 4, a flange, 29, at the upper end of the bushing being spun over into the counterbore, 21, of the arm as shown clearly in Figure 2.

Thus to release the lamp body from the bracket, 4, it is only necessary to unscrew the nut, 14, thus permitting the stud, 9, to slip down through the bushing 13, as indicated in Figure 2. To reassemble the parts, the stud, 9, is moved up through the bushing, 13, and the nut, 14, is engaged with the threads, 16, until the bail, 3, is drawn tightly against the flange, 24, of the bushing, 13, the nut, 14, at the same time engaging the upper flange, 29, of said bushing as shown in Figure 3. By virtue of the rib or tongue, 27, and its co-operating groove, 28, in the bail, the angular adjustment of the lamp with respect to the bracket, 4, will remain unchanged by the removal or replacement of the lamp. It will also be noted that the adjustment of the nut, 14, does not affect the tension of the spring washer, 25; thus the friction of the swivel mounting is independent of the detachable feature.

I claim:

1. In combination with a lamp body and a supporting bracket therefor, a stud associated with the lamp body and a captive nut carried rotatively on the bracket, together with a spacer sleeve rotatively mounted in said bracket in axial alignment with the bore of the nut, said nut being threaded to fit the stud, and the sleeve being formed to fit said stud whereby the sleeve may be fixedly associated with the lamp body while rotatively engaged in the bracket when the parts are assembled.

2. In the combination defined in claim 1, means positively interlocking the sleeve with the lamp body to insure that said parts shall turn together when assembled.

3. In the combination defined in claim 1, means permanently retaining the sleeve against axial removal from the bracket.

4. In the combination defined in claim 1, frictional means acting between the sleeve and the bracket in which it is rotatively mounted for holding said sleeve and the lamp body at any desired position of adjustment in the bracket.

5. In the combination defined in claim 1, said sleeve being flanged at both ends for retention in the bracket, and friction means acting between said bracket and one flange of the sleeve to hold the sleeve in adjusted relation.

6. In combination with a lamp body, a supporting bracket therefor and a bail in which the lamp body is pivotally mounted, means pivotally connecting said bail to the bracket comprising a threaded stud fitted in the bail, a captive nut rotatively carried in the bracket and threaded to fit the stud, and a sleeve journaled in the bracket in axial alignment with said nut, and having a bore to fit the stud.

7. In the combination defined in claim 6, the bail having a diametral groove or slot, and the sleeve being ribbed at one end for interlocking engagement with said slot of the bail when the parts are assembled.

8. In the combination defined in claim 6, the sleeve being also captive in the bracket so that the sleeve and nut shall remain with the bracket, and the stud shall go with the bail and lamp body when the latter are detached from the bracket by unscrewing the nut.

9. In the combination defined in claim 1, the bracket having a bore for the sleeve counterbored at both ends, said sleeve having a head in the counterbore adjacent the lamp body with a spring washer under said head for frictionally retaining the sleeve in adjusted relation, the opposite end of said sleeve being formed with a flange in the other counterbore of the bracket, the said nut having a portion entering said other counterbore, said portion of the nut and the counterbore of the bracket having registering grooves with a yieldingly expansive locking ring therein to retain the nut, and the nut being dimensioned to bear upon the flanged end of the sleeve.

10. In the combination defined in claim 1, said bracket having an upstanding annular portion counterbored to receive a cylindrical portion of the nut, said annular part of the bracket and the entering portion of the nut being mutually engaged for retention of the nut on the bracket, and the nut having a skirt portion laterally overhanging said annular part of the bracket to exclude dirt and moisture therefrom.

In testimony whereof, I have hereunto set my hand at Chicago, Illinois, this 16th day of June, 1922.

JOHN K. OLSEN.