

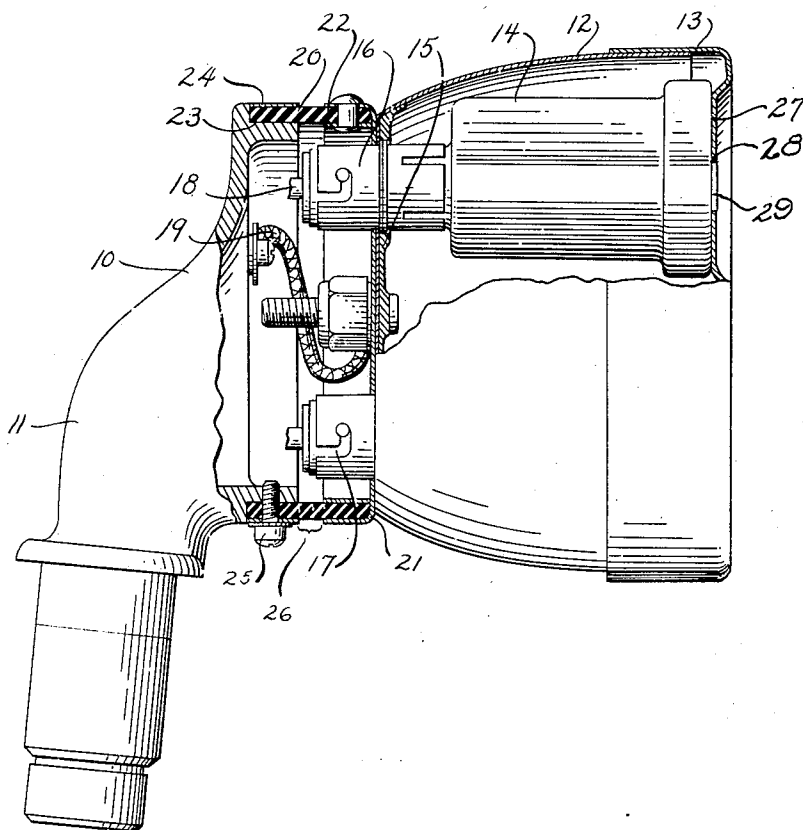
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LAMP MOUNTING

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LAMP MOUNTING

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3 Claims. (Cl. 240—90)

This invention relates to vehicle lamp mountings; and, more particularly, to a lamp mounting for rear and stop lights to be used on vehicles subjected to a very rigorous service.

The type of mounting shown herein is particularly advantageous in its application to military vehicles such as tanks, reconnaissance cars, mobile artillery and other mechanized ordnance units in which the vibrations encountered either in normal operation or during gunfire are extreme. In such cases, and particularly with reference to the smaller filament lamps used in rear and stop lights, it has been found that the normal life of the bulb is very short and some means must be adapted to protect it from the shock to which it is otherwise subjected. An advantage of the present mounting is that the apparent rigidity of the lamp itself is not adversely affected, at least within the limits permissible in a rear, stop or similar light; and it gives a practically continuous signal without noticeable deviation which is encountered when conventional flexible mountings are used. This is particularly important in connection with the use of black-out lamps or other restricted field signals which are very difficult to interpret if the lamp is resiliently mounted and can vibrate at comparatively high rate. Thus, the present invention while providing a resilient mounting which preserves the life of the filament, at the same time is sufficiently rigid to insure that the signal will not be obscured by rapid vibration of the lamp itself. Other advantages are the simplicity with which this is achieved and the additional accessibility which is given to the entire unit for inspection and repair.

With these and other objects in view, the invention consists in the arrangement, construction and combination of the various parts of the improved device, described in the specification, claimed in the claims and illustrated in the accompanying drawing in which:

The figure is an elevation, partly in section, of a lamp employing the improved mounting.

Referring to the drawing, 10 indicates generally a stop and taillight assembly for use with black-out lighting unit and includes the pedestal 11, shell 12, bezel 13, and a plurality of lamp units, one of which is shown at 14. The bezel 13 extends over the front of the shell as at 27 and is apertured as at 28 to accommodate an extension 29 of the lens of the lamp unit 14. The base 15 of the shell 12 supports the tube sockets 16 which receive the lamp units 14 at one end and engage the bayonet connectors 17

at the other. These connectors have the usual cables 18 which lead to the interior of the vehicle through the pedestal 11 and the electrical circuit is completed by a ground connection 19, in case of a one-wire system or appropriate direct connection for a two-wire circuit.

The mounting comprises essentially a tubular section 20 of flexible material such as rubber or a fabric reinforced with a resilient plastic material one end of which is preferably riveted between the rim 21 secured to the base 15 of the shell 12 and the lining ring 22. The other end of the mounting tube is releasably secured within the recess 23 in the pedestal by a retaining ring 24 which is removably secured in place by the bolt 25.

Inspection of the drawing will show that the mid-portion of the mounting tube indicated at 26 is unconstrained either by the pedestal or the shell structure, and it is this unconstrained portion which permits the absorption of vibratory forces and yet, if properly proportioned, will be subjected to a minimum distortion by flexural stresses which would result in deviation of the signal of the lamp with consequent disruption of the apparent signal given. The exact extent of this unconstrained portion will, of course, vary with the vibratory characteristics of the lamp housing and in general some experiment may be required to determine the proper width for any particular installation. This, however, is a relatively simple matter and it is only necessary to start with a tube of flexible material somewhat longer than is reasonably expected to be necessary, mount it, test it, and successively reduce the length of the tube (which, of course, will reduce proportionately the unconstrained portion) until a mounting is obtained in which the vibration is dampened without injurious instability resulting in the lamp itself.

The tube, unsupported, is relatively thin and highly flexible, but the circumferential method of attachment provides requisite rigidity without sacrifice of damping characteristics. Some guide as to the approximate proportioning of the structure may be determined in the lamp shown in Fig. 1 which is more or less representative of the class of lamps to which this mounting may best be applied. However, it may be necessary to increase the unconstrained portion with lamps of lesser weight and decrease it, correspondingly, when heavier lamps are used. The essence of the mounting resides in the use of the continuous, tubular, flexible member to provide the necessary absorption while resistant to flexural dis-

tortion. In this respect, the present construction varies markedly from those lamps which have long been used in the automotive art in which springs, inserts, cushions and other devices have been liberally used to reduce the vibration imposed on the lamp filament. While these served their purpose under ordinary circumstances, they are worthless when applied to vehicles undergoing the extreme service contemplated here and in which, because of the nature of the signal generally used, any extreme vibration of the lamp itself must be rigorously curbed.

Some changes may be made in the arrangement, construction and combination of the various parts of the improved device without departing from the spirit of the invention and it is the intention to cover by the claims such changes as may be reasonably included within the scope thereof.

The invention claimed is:

1. In a vehicle lamp mounting to project a horizontal beam, a pedestal having a circumferentially disposed mounting surface, said mounting surface being substantially horizontal, a lamp housing having a substantially similar circumferentially disposed mounting surface secured to the base thereof, a mounting means extending between said mounting surface and secured thereto, said mounting means comprising a continuous tubular extent of resilient material permanently fixed to one of said mounting surfaces, said tubular extent being supported by a circumferential band fixing the resilient material to the mounting surfaces, said lamp housing being displaced laterally from said pedestal whereby the tube extending therebetween is substantially unconstrained throughout said extent of displacement, said extent of displacement being so proportioned as to restrict the scope of movement of said lamp with respect to said pedestal while affording a vibration dampener between said pedestal and said lamp.

2. In a vehicle lamp mounting, a pedestal having a circumferentially disposed and substantially horizontal mounting surface, a lamp housing having a substantially similar circumferentially disposed mounting surface on the base thereof, a continuous tube of resilient and flexible material engaged on said mounting surfaces of said pedestal and said housing and extending therebetween, means securing said tube in position on said mounting surfaces, one of said securing means being releasably fixed, said lamp housing being displaced laterally from said pedestal whereby the tube extending therebetween is substantially unconstrained throughout said extent of displacement, said extent of displacement being so proportioned as to restrict the scope of movement of said lamp with respect to said pedestal while affording a vibration damper between said pedestal and said lamp.

3. The structure of claim 2 which is further characterized in that said lamp housing has a base adjacent said mounting surface, a tube socket extending through said base, an enclosed lighting unit disposed within said housing and engaged in one end of said tube socket, a bezel at the other end of said housing and engaging the other end of said unit, and a chamber formed between said base and said pedestal to accommodate electrical connections engaging the other end of said tube socket.

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