S. MAZZEO.

HEAD LAMP.

APPLICATION FILED JAN. 31, 1916.

1,313,716. Patented Aug. 19, 1919.

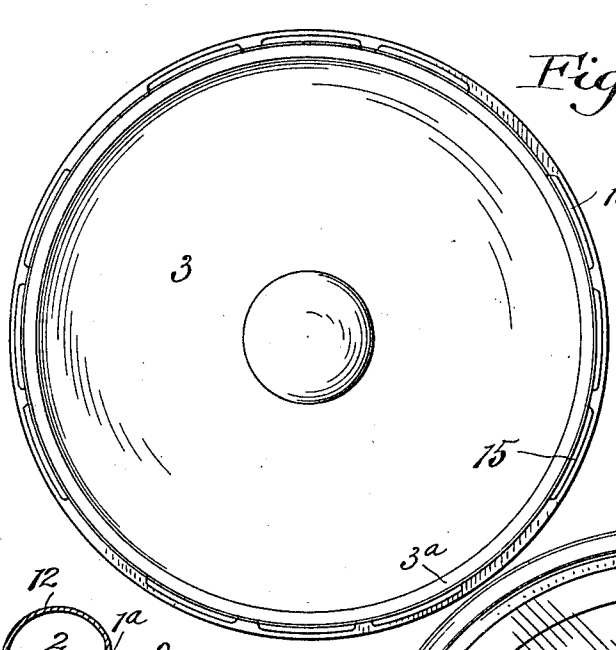


Fig. 2.

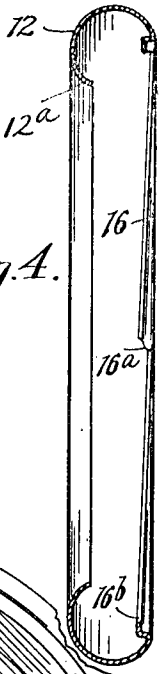


Fig. 4.

Fig. 3.

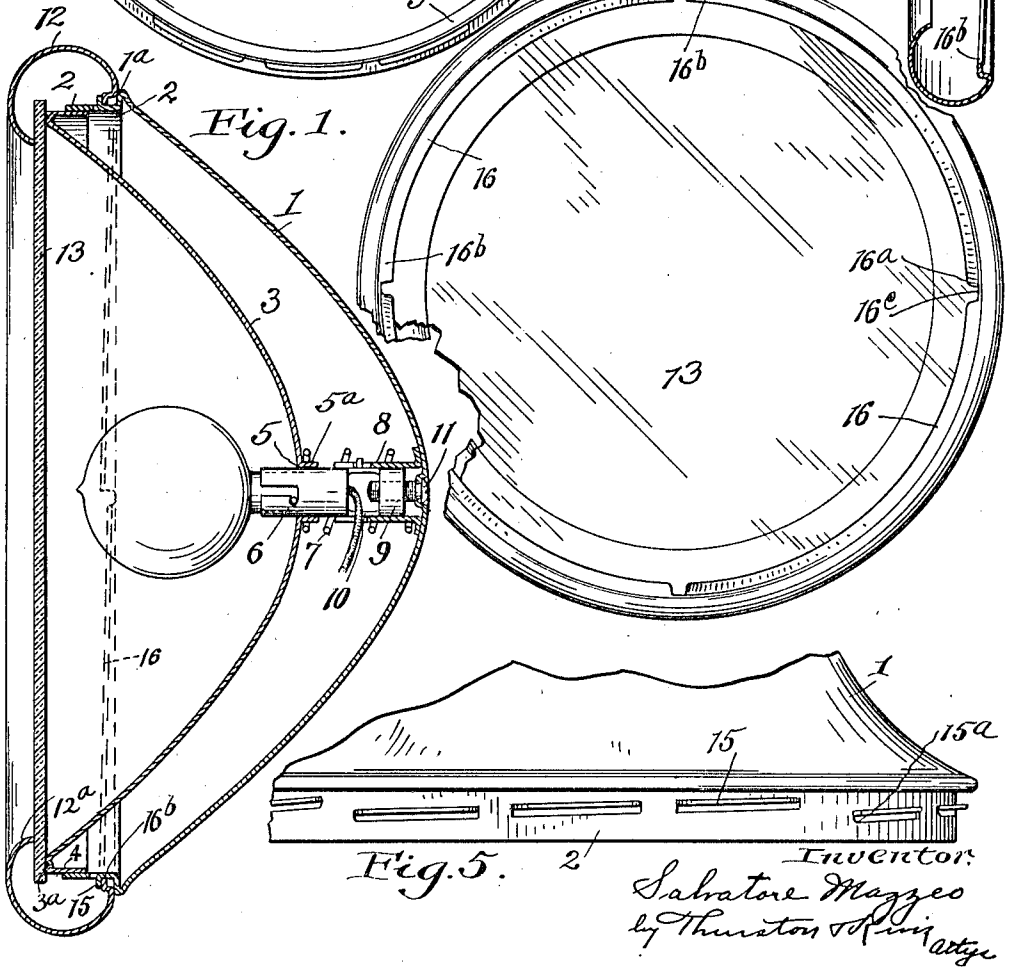


Fig. 1.

Fig. 5.

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UNITED STATES PATENT OFFICE.

SALVATORE MAZZEO, OF CLEVELAND, OHIO, ASSIGNOR TO THE ADAMS-BAGNALL ELECTRIC COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

HEAD-LAMP.

1,313,716. Specification of Letters Patent. Patented Aug. 19, 1919.

Application filed January 31, 1916. Serial No. 75,235.

To all whom it may concern:

Be it known that I, SALVATORE MAZZEO, a subject of the King of Italy, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Head-Lamps, of which the following is a full, clear, and exact description.

This invention relates to lamps, more particularly to that class thereof intended for use as headlights on motor vehicles, although not necessarily restricted to such use.

The object of the invention is the provision of an improved lamp comprising a body and a glass carrying ring adapted to be united to the body in an improved manner, whereby it may be readily and quickly attached or detached, and which, when attached, the rattling of the glass and its carrying ring or the accidental loosening thereof due to vibration will be prevented, and whereby the hinges and clamping devices usually employed to connect the glass carrying ring or cover to the body are entirely done away with.

In the accompanying drawings forming a part of this specification; Figure 1 is a sectional elevation through the lamp; Fig. 2 is a front elevation of the shell or body portion of the lamp with the cover removed; Fig. 3 is a rear elevation of the cover of the lamp; Fig. 4 is a sectional elevation of a portion of the cover showing parts of its construction; and Fig. 5 is a top plan view of a portion of the body or shell of the lamp.

Similar characters of reference indicate corresponding parts in the several figures of the drawings.

What are known in the trade as headlights for vehicles usually comprise a body portion or shell in which is a reflector having a surface which is substantially parabolic, and a cover having a window of glass or similar material, which cover portion coöperates with the shell of the lamp and protects the reflector against rain and dust. It has been usual to secure the cover upon the body portion by means of hinges and a clamp. This gives rather an unsightly appearance to the lamp and increases the expense of construction of the lamp.

The particular manner of construction by which the cover and body are attached to each other in the present improvement does away with the hinges and clamp for holding the cover to the shell. At the same time it provides a wedging action between these parts and also a resilient frictional engagement in that certain portions of the cover and shell which engage with each other are inherently resilient to a degree, and, therefore, as they engage each other this resilience increases the frictional pressure between the engaging parts so that the cover is retained in place against all forces which may tend to disengage the body and cover, such as vibration, etc., but the cover may be removed by the application of sufficient force as when it is desired to remove the cover.

In Fig. 1 of the drawings the shell or body of the lamp is represented at 1. The shell in the particular instance is substantially parabolic, although I do not confine myself to the particular shape shown. The body is provided at the front thereof with a flange 2, this flange extending outwardly and surrounds the front opening of the shell or body 1. Within the shell 1 there is a reflecting member 3. This reflecting member has a polished outer surface and at its outer ends is provided with a rearwardly extending flange 4, which engages with the inner surface of the flange 2, so that the reflector is in part positioned within the shell 1 by the engagement of the flanges 4 and 2.

At its central portion the reflector is provided with an opening 5 through which there extends a lamp socket 6. The opening 5 is surrounded by a flange 5^a which is adapted to receive one end of a spring 7. The other end of the spring 7 surrounds a casing 8 which at its inner end is secured to the shell 1. The lamp socket 6 is secured to a nut 9 by means of arms 10, the socket, arms and nut just mentioned being made as one body so that they move together. There is a screw 11 which extends through the shell 1 and engages with a nut 9. Turning the screw 11 will move the lamp socket 9 with relation to the reflector 3 and by this means the lamp which the socket carries may be brought in proper position with respect to the focus of the reflector 3.

The cover for the lamp comprises a glass carrying ring preferably formed of sheet metal carrying a plate of glass or similar material 13, this being held in proper posi-

tion so as to coöperate with inturned flanges of the cover, as illustrated at 12ª. This glass may be held in any desired manner in a central position. The rear side of the ring 12 is adapted to engage when in closed position with an upturned shoulder 1ª upon the body, thus presenting a substantially continuous surface from the portion of greatest diameter of the ring toward the rear of the lamp and which sloping surface tends to shed rain or snow.

Upon the flange 2 of the body 1 there are formed projections 15. These projections are shown arranged in groups and the groups are arranged in symmetrical order around the outer surface of the flange 2. In the present instance each group comprises three projecting portions, but obviously each group may consist of a greater or less number of projections. Each projection in the present instance is formed as a struck-up projection and one way of accomplishing this is to cut a rectangular portion of metal upon three sides, leaving it unsevered upon the fourth side and then bending the metal thus cut along its unsevered edge so as to form an upstanding projection. Such an upstanding portion 15 being of sheet metal possesses a certain amount of inherent resiliency, and this inherent resiliency is made use of in a manner which will be later described.

The inner or free ends of the glass carrying ring 12 is likewise provided with a series of projecting portions 16. These projecting portions are symmetrically arranged about the rear edge of the ring. Each projection is so formed as to extend diagonally with respect to the transverse axis of the ring. One end of each projection, as indicated at 16ª, is toward the outer portion of the opening, while the other end of each projection, as indicated at 16ᵇ, is more toward the inner portion of the cover. Between each projection there is a slight space, as indicated at 16ᶜ. The projections 16 are formed upon the flange comprising that portion of the ring which surrounds the rear or inner opening of the ring. The ring is made of sheet metal, and, therefore, the projections 16 may be conveniently formed by dies and likewise may have certain resiliency.

When the ring is brought into contact with the flange 2 of the body 1, the ring is given a right hand turn and when this is done the outer ends 16ª of the projections 16 upon the ring will coöperate with the end projections 15ª of each group of projections 15. Continued turning will cause the projections 16 to engage upon the inner side of the projections 15, or, in other words, that side of the projections which are toward the body 1. The ring may be turned until the rear or inner portion of the ring 12 engages with the shoulder 1ª formed on the body 1, as previously described. During this turning of the ring the projections 15 upon the body of the lamp, as well as the projections 16 upon the ring, will be placed under tension which of course is permitted because there is a certain amount of inherent flexibility in the metal projections, and this increases the friction between the engaging projections 15 and 16 and thus greatly assists in holding the ring and body together against vibration, which, of course, is always present when such a lamp as here described is used on a vehicle. However, application of sufficient force by one wishing to remove the cover will easily accomplish the result by turning the cover in a lefthand direction.

The reflector 3 is provided with a packing 3ª at that portion which bears against the inner surface of the glass plate 13. The reflector is held in its most forward position with the packing against the glass plate by means of the spring 7. It will thus be seen that through the reflector and glass plate 13 the spring 7 is always exerting an outward pressure upon the ring 12 and exerting a rearward pressure or a pressure in a direction opposite to that exerted upon the ring, upon the body portion 1 of the lamp. This is in a measure assisting in increasing the frictional engagement between the projections 15 upon the body of the lamp and the projections 16 upon the cover.

Inasmuch as the shell and ring of the lamp are made of sheet metal which is drawn by dies, and inasmuch as the engaging portions upon the shell and ring are formed by dies, the cost of production of the lamp is greatly reduced over that of a lamp in which the cover is secured to the body by hinges and held in place upon the body by a clamp.

Having described my invention, I claim:

1. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a diagonally located laterally extending projection, the projection of one of said parts being located at and formed by the free edge thereof.

2. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a plurality of spaced diagonally located laterally extending projections, the projections of one of said parts being located at and formed by the free edge thereof.

3. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a plurality of spaced diagonally located laterally extending projections, one set of projections having a resilient formation and the projections of one of said parts being located at and formed by the free edge thereof.

4. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a plurality of diagonally located laterally extending projections, the projections of one of said parts being located at and formed by the free edge thereof and the projections of one of said parts being located in spaced groups a plurality of projections to each group.

5. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a plurality of diagonally located laterally extending projections, the projections of one of said parts being located at and formed by the free edge thereof and the projections of one of said parts being located in spaced groups a plurality of projections to each group, the spaces between the groups being greater than the spaces between the projections.

6. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange having a plurality of diagonally located projections extending laterally therefrom to form a mutilated thread and said ring having its inner free edge bent inwardly to form a plurality of coöperating diagonally located spaced projections symmetrically arranged.

7. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange having a plurality of diagonally located struck-up projections extending laterally therefrom and arranged in spaced groups, a plurality to each group to form a mutilated thread and said ring having its inner free edge bent inwardly to form a plurality of coöperating diagonally located spaced projections symmetrically arranged.

8. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange having a plurality of diagonally located struck-up projections extending laterally therefrom and arranged in spaced groups, a plurality to each group to form a mutilated thread and said ring having its inner free edge bent inwardly to form a plurality of coöperating diagonally located spaced projections symmetrically arranged, the projections of the body flange being partially severed from and struck up from said flange.

9. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said body flange having a plurality of projections extending laterally therefrom and diagonally located relatively to the depth of said flange and arranged in spaced groups, the spaces between the groups being greater than the spaces between the projections and forming a mutilated thread and said ring having its inner free edge bent inwardly to form a plurality of projections corresponding with the number of groups of projections on the body flange and symmetrically arranged and diagonally located with small spaces therebetween.

10. In a lamp, a body terminating at the front in a flange, and a glass carrying ring adapted to fit over said body flange, said flange and ring having each a plurality of diagonally located laterally extending projections, the projections of one of said parts being located in spaced groups, a plurality of projections to each group and the projections of the other part corresponding in number to the number of groups of projections of its companion part.

In testimony whereof, I hereunto affix my signature.

SALVATORE MAZZEO.