Oct. 15, 1968 R. R. ROSSI 3,406,375

MARKER LIGHT

Filed July 14, 1967

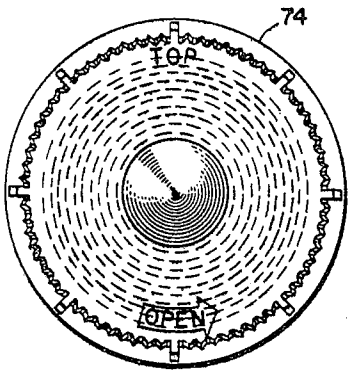


FIG. 1.

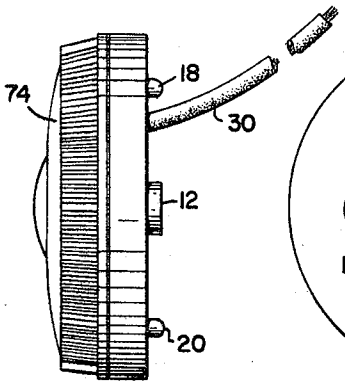


FIG. 2.

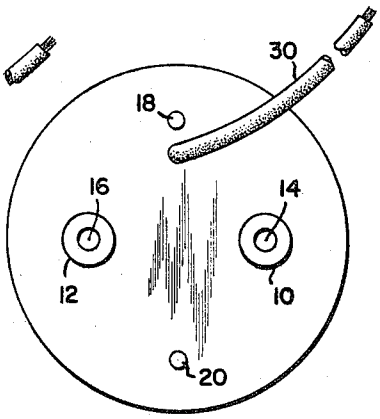


FIG. 3.

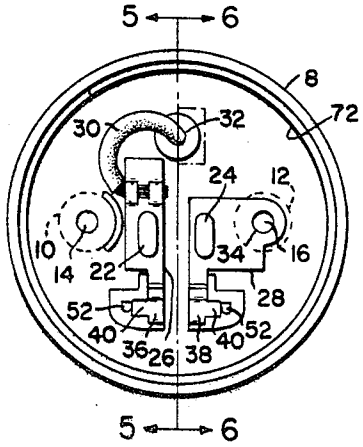


FIG. 4.

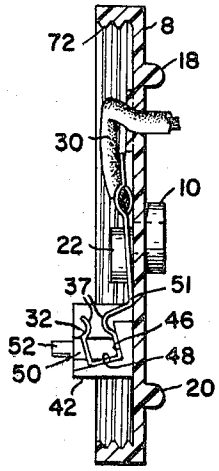


FIG. 5.

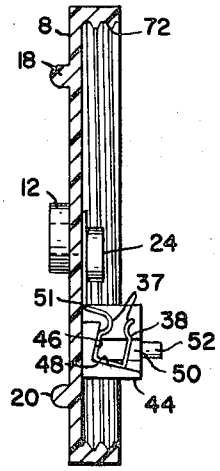


FIG. 6.

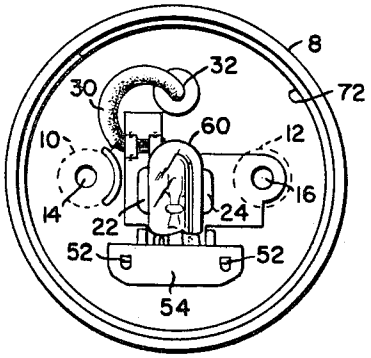


FIG. 7.

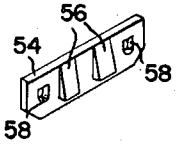


FIG. 9.

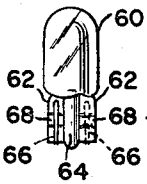


FIG. 8.

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MARKER LIGHT

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ABSTRACT OF THE DISCLOSURE

A molded plastic backing member is provided with a pair of integrally molded supporting members receiving conductive metal U-shaped clips for holding and delivering current to an incandescent bulb. Each supporting member is provided with a post, and both posts support a plate, which is held in place by expanding the ends of the posts. The plate prevents the clips from spreading apart when the bulb is inserted and removed. Slots provided in the supporting members are engaged by ears on the clips to provide further support.

Background of the invention

This invention relates to marker and clearance lamps of the type conventionally mounted on the exterior of trucks and other vehicles. In the past, screw-type sockets and bayonet sockets have been used in order to mount bulbs in these lamps, but these type of sockets, while reliable, are costly to manufacture. Where sockets have been formed from clips, careful insertion and removal of bulbs has been necessary in order to avoid deformation of the clips, since removal of a bulb at the wrong angle would ordinarily impart a very large force to the mounting clips, and would cause them to be bent beyond their elastic limit, thus necessitating their replacement.

Summary of the invention

In order to overcome the problems inherent in spring clip bulb mounting devices a plate is provided, in accordance with this invention, which allows a degree of deformation of the bulb mounting spring clips necessary for insertion and removal of the bulb, but which limits the deformation of the clips to an extent within their elastic limit. The invention necessitates removal of the bulb in a direction such that the elastic limit of the clips is not exceeded.

The principal object of the invention, accordingly, is to provide a marker or clearance lamp in which a reliable contact is made with the incandescent bulb. It is a further object of the invention to provide a simple and economical construction for marker and clearance lamps. Other objects will be apparent from the following description read in conjunction with the accompanying drawings.

Brief description of the drawings

FIGURE 1 is a front elevation showing the lens of a marker lamp in accordance with the invention;

FIGURE 2 is a side elevation of the marker lamp;

FIGURE 3 is a rear elevation of the marker lamp;

FIGURE 4 is a front elevation of the marker lamp with the lens, bulb and plate for preventing deformation of the clips removed;

FIGURE 5 is a vertical section taken on the plane indicated at 5—5 in FIGURE 4;

FIGURE 6 is a vertical section taken on the plane indicated at 6—6 in FIGURE 4;

FIGURE 7 is a front elevation of a marker lamp in accordance with the invention with the lens removed, and showing the plate for preventing deformation of the spring clips;

FIGURE 8 is an elevation of an incandescent lamp used in conjunction with the invention; and

FIGURE 9 is a perspective view of the plate which prevents the clips from being deformed.

Description of the preferred embodiment

Referring to FIGURES 4, 5 and 6, the molded plastic backing member **8** is provided with a pair of bosses **10** and **12**, integrally molded thereon, and holes **14** and **16** for mounting screws extend from the front side of member **8** through the bosses. The lamp stands off slightly from the body of the vehicle on which it is mounted, and integrally molded standoff posts **18** and **20** provide support for the body of the lamp against vibrational movement.

Elements **22** and **24**, which are integrally molded on the front side of the backing, are arranged to receive metallic contact elements **26** and **28**. These contact elements are provided with similarly shaped perforations which are engaged by elements **22** and **24** respectively. The elongation of element **22** prevents rotation of its associated contact member **26** within the interior of the lamp assembly.

Wire **30**, which delivers electrical current to the lamp, passes through hole **32**, and its stripped end is clamped or soldered to contact member **26**, which is prepared in a conventional manner by cutting a pair of parallel slots and bending the parts of element **26** separated by the slots in order to form a passage capable of being crimped and of gripping the stripped end of wire **30** firmly.

The return connection is made through the body of the vehicle, which is connected to contact **28** through the mounting screw which passes through hole **16** and through hole **34** in element **28**.

It will be noted that, because the backing member stands off from the vehicle body, wire **30** is not required to pass through the vehicle body, but may run parallel to the body on its outside.

The end of contact member **26** is bent to form a substantially U-shaped clip **36** having three sides, and having a narrowed portion **37** at its opening. A similar clip **38** is formed in the end of contact member **28**. Each clip is porvided near its free end with an ear **40** which extends laterally from the edge of the side nearest the free end of the clip.

Members **42** and **44**, which are molded integrally with the backing, receive the respective clips, which rest against oblique walls **46** and **48**. The open sides of the clips face in a direction oblique to the backing. Ears **40** (shown in FIGURE 4) ride in slots **50**, and prevent the clips from being bent at bend **51** in such a way that they are removed from walls **48**. This is otherwise likely to occur when the bulb is removed.

Posts **52**, which are shown in FIGURES 4, 5 and 6 as part of molded elements **42** and **44**, are arranged to receive plate **54**, which is illustrated in FIGURES 7 and 9. Plate **54** is molded so that a pair of wedge-shaped elements **56** are formed, and these engage the sides adjacent the free ends of clips **36** and **38** in order to prevent their springing when the plate is in position. Plate **54** is held in position by posts **52** which pass through holes **58** in the plate, and which are either peened or expanded by the application of heat after plate **54** is placed in position.

Bulb **60**, which is shown in FIGURES 7 and 8, has its base formed of glass which is molded to provide a pair of flattened portions **62**, which are separated by rib **64**. Wire loops **66**, which form the bulb contacts, pass through the flattened portions **62** of the bulb, and are bent in opposite directions so that they lie against the flattened portions of the bulb base. Indentations **68** are provided on both flattened portions of the bulb **66**, and these indentations

are engaged by inwardly extending portions **37** (FIGURES 5 and 6) of clips **36** and **38**. The bulb is thus prevented from being jarred loose.

Backing member **8** is provided with a cylindrical threaded portion **72** as shown in FIGURES 4, 5 and 6, and the lamp assembly is closed by lens **74** (FIGURES 1 and 2), which is provided with threads (not shown) which engage threads **72** in the backing.

In the assembly of the lamp, wire **30** is inserted through hole **32**, and is inserted and crimped in contact member **26**. Contact members **26** and **28** are positioned over elements **22** and **24**, and heat is applied to elements **22** and **24** in order to cause their ends to expand and thereby to hold the contact members in place. Member **54** is then positioned over posts **52** so that the posts extend through holes **58**, and the ends of the posts are caused to expand by heating or peening. The backing member **8** may then be mounted on the vehicle body by mounting screws, and the bulb may then be inserted.

The insertion of bulb **60** results partly in the separation of the two flat sides of each clip from each other, and partly in the separation of rounded portions **37** of the clips. It will be apparent that the bulb cannot be removed by being pulled out in a horizontal direction, and that the bulb must be inserted and removed substantially in the direction in which the openings of the clips face. Members **56** on plate **54** prevent the clips from being spread, and the engagement of ears **40** in slots **50** prevents the clips from being pulled out of members **42** and **44** when the bulb is removed.

It will be apparent that various modifications can be made to the invention described without departing from its scope as defined in the following claims.

I claim:

1. A lamp comprising a backing member, at least one metallic electrical contact having a substantially U-shaped clip formed in one of its ends, means securing said clip to said backing member, seating means fixed to said backing member and providing at least one wall against which rests a side of said U-shaped clip and a bulb having at least one electrical contact held in said clip, wherein the improvement comprises means fixed to said seating means and engaging a side adjacent the free end of said clip to provide a limit to the degree of spreading of said clip.

2. A lamp according to claim **1** in which the open end of said U-shaped clip is provided with at least one portion bent inwardly toward the contact of said bulb and in which the contact portion of said bulb is provided with an indentation engaged by said bent portion of said clip.

3. A lamp according to claim **1** in which the open side of said clip faces in a direction oblique to said backing and in which said means engaging a side adjacent the free end of said clip is a plate fastened to said seating means and having at least one wedge-shaped portion engaging said side adjacent the free end of said clip.

4. A lamp according to claim **1** in which said side adjacent the free end of said clip is provided with an ear extending laterally from one of its edges and in which said seating means is provided with a slot substantially perpendicular to said backing, said slot engaging said ear to permit expansion of said clip but to prevent the pair of adjacent sides of said clip from being disengaged from the walls of said seating means.

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