Aug. 16, 1927. 1,639,497

C. E. GODLEY

COMBINATION TAIL LAMP

Filed March 16, 1923 2 Sheets-Sheet 1

Fig. 1

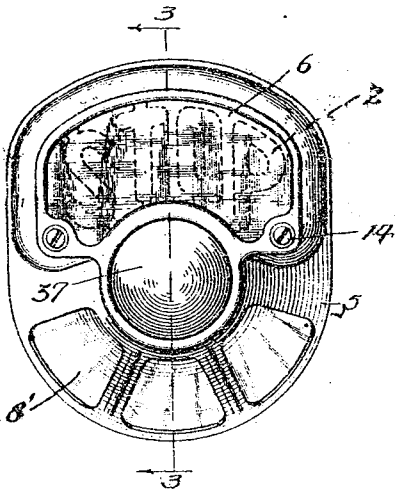


Fig. 11

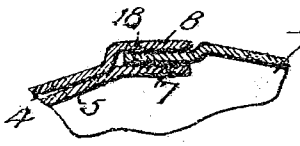


Fig. 2

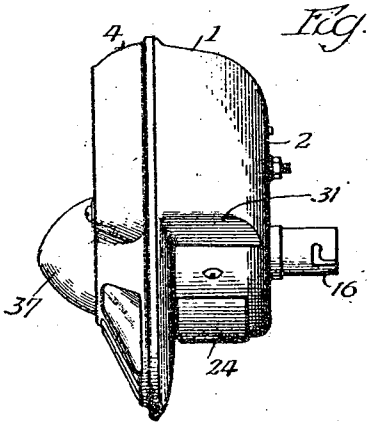


Fig. 3

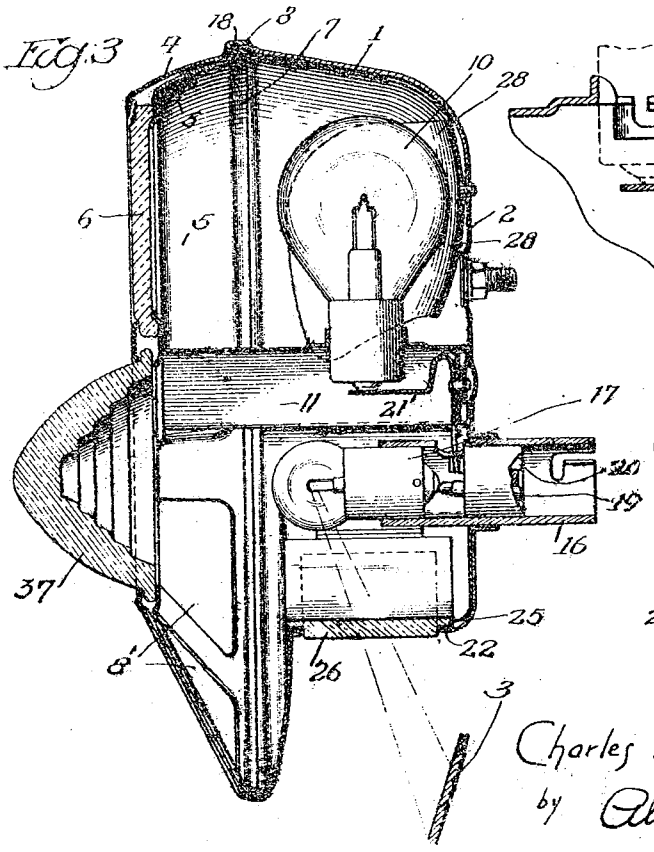
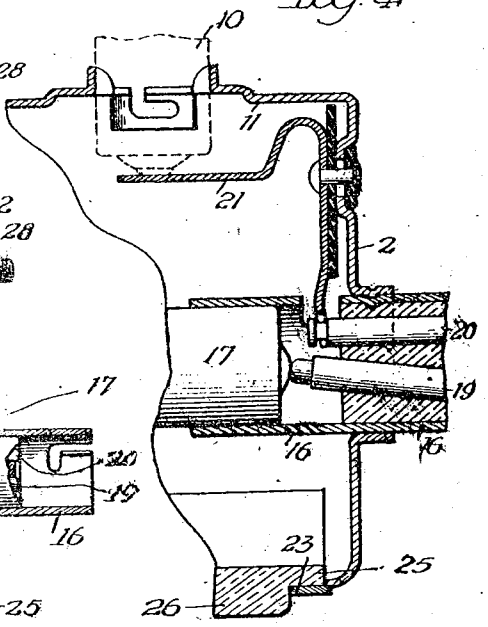


Fig. 4



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by Albert Scheibe, Attorney

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Fig. 5

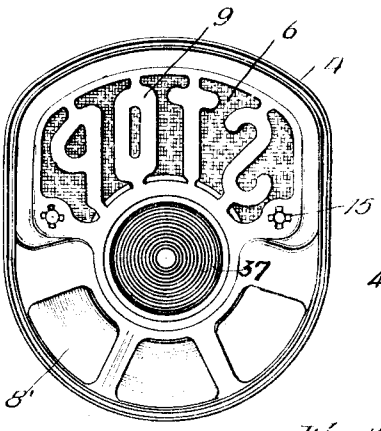


Fig. 6

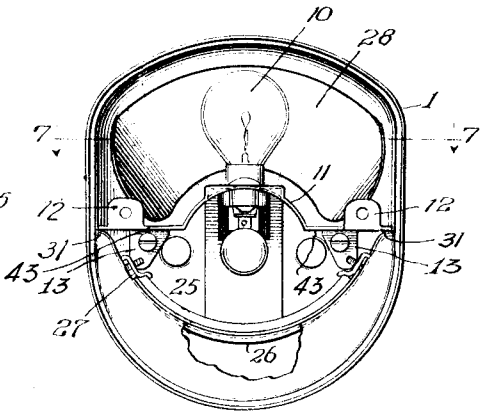


Fig. 12

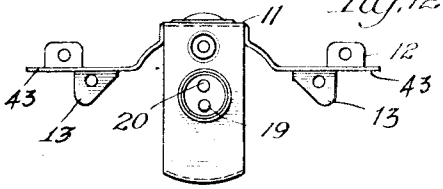


Fig. 7

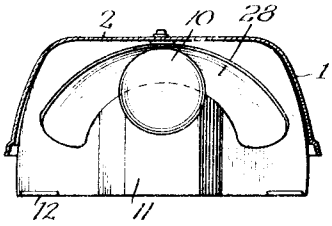


Fig. 8

Fig. 9

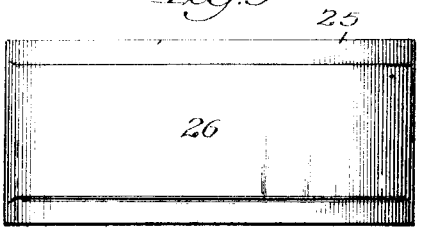
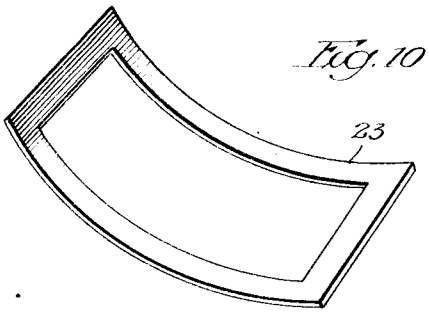


Fig. 10



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Patented Aug. 16, 1927. 1,639,497

UNITED STATES PATENT OFFICE.

CHARLES E. GODLEY, OF DETROIT, MICHIGAN, ASSIGNOR, BY MESNE ASSIGNMENTS, TO C. M. HALL LAMP COMPANY, A CORPORATION OF MICHIGAN.

COMBINATION TAIL LAMP.

Application filed March 16, 1925. Serial No. 15,847.

My invention relates to combination lamps of the general type in which separately controlled lamp bulbs are employed for illuminating different translucent parts of the lamp casing. Where lamps of this general class are used as the tail lamps of automobiles, it is highly desirable that a continuously lighted lamp bulb should continuously furnish an effective illumination for three different purposes; namely, for the usual tail indication, for lighting an adjacent license plate, and for furnishing a back-up light on the roadway. It also is important that another and intermittently lighted lamp bulb should effectively illuminate a signal indication, such as a lens displaying the word "Stop", and that this signal indication should be instantly and strikingly visible to the driver of any vehicle behind the car on which the lamp is installed.

In its general aspects, my present invention aims to provide a quite compact lamp construction which will be unusually effective for all four of these purposes. More particularly, my invention aims to provide a combination lamp of this class in which the continuously lighted tail signal will be effectively displayed by a relatively small portion of the lamp front; in which the intermittently lighted signal indication is displayed by a relatvely large part of the lens front and is of such size and shape as to attract instant attention when illuminated; also, to effect an adequate distribution of the light of the corresponding lamp bulb over such a large and distinctively shaped translucent signal portion, so that the signal indication will be clearly visible and legible at a considerable distance.

Moreover, my invention aims to provide a casing construction which will afford a non-rattling closure between front and rear sections of the casing, aims to provide simple and effective means for securing the frontal translucent parts of the lamp in effective position and simple means for affording the lettering of the signal indication. It also aims to provide a novel and unusually effective partition construction for a compartmental lamp, and a casing formed for enabling the partition to prevent the light from each lamp bulb from entering the other compartment. Still further and also more detailed objects will appear from the following specification and from the accompanying drawings, in which

Fig. 1 is a front elevation of a compartmental automobile tail lamp embodying my invention.

Fig. 2 is a side elevation of the same.

Fig. 3 is an enlarged central, vertical and longitudinal section through the same lamp.

Fig. 4 is an enlargement of a lower right-hand portion of Fig. 3 showing details of the mounting of the lower lens window and of the mounting of the conducting member which carries current from one of the circuit terminals to the upper lamp bulb.

Fig. 5 is a rear elevation of the detached front section of the lamp.

Fig. 6 is a front elevation of the lamp with the front section of the lamp detached and with a casing portion broken away to show how the lower lens window projects beyond the adjacent bottom portion of the lamp casing.

Fig. 7 is a horizontal section taken through Fig. 6 along the line 7—7.

Fig. 8 is a front elevation of the lower lens window, showing this when detached, and Fig. 9 is a bottom view of the same.

Fig. 10 is a perspective view of the frame-like packing member interposed between this bottom lens and the adjacent bottom portion of the casing.

Fig. 11 is an enlargement of the upper portion of Fig. 3, showing the interfitting of the flanges on the front and rear casing sections.

In the illustrated embodiment, my lamp includes a casing having a forwardly open rear section 1 provided with a substantially flat back and with a bottom opening through which light can be directed on a license plate 3 disposed outside the lamp and lower than this opening. The casing also includes a front section which has metal parts comprising an outer portion 4 and an inner portion 5, these two portions being arranged for clamping an upper signal pane or lens 6, a more central tail signal lens 27 and a back-up-light-transmitting celluloid sheet 8 between them. The metal parts 4 and 5 have at their rear end rearwardly projecting flanges 7 and 8 between which the forward or mouth end 18 of the back member 1 fits slidably as shown in Fig. 11, thereby affording a tight seal and a non-rattling connection between the front and rear sec-

tions of the casing. The lower half of each of the metal front parts is desirably of a semi-frusto-conical shape coaxial with the axis of the tail light lens 27, this lens being desirably of a beehive formation and disposed with its axis horizontal.

The meaning of the signal or stop indication is desirably indicated by a corresponding stencil formation on the upper part of the inner front portion 5, thereby causing the shadows of corresponding letters to appear when the upper signal pane 6 is lighted. To present this indication in a relatively large form in proportion to the size of the casing, I desirably form this signal pane or lens with an arcuate bottom extending relatively close to the top of the beehive lens 27, thereby providing this pane or lens with lower wing portions extending partly along opposite sides of the tail signal lens 27.

To light the various translucent portions of the lamp effectively, I provide two lamp bulbs, the upper and desirably higher candle-powered lamp bulb 10 being disposed in the rear section of the casing behind the upper frontal lens 6. This lamp bulb has its base extending through and supported by the upwardly arched portion 11 of a partition, which portion is transversely medial of the partition and extends longitudinally of the casing from the back 2 of the stencil-carrying part of the inner metal front portion 5 to the back of the casing, this partition being desirably secured to the back 2 of the casing by screws passing through integral lugs 12. This partition also has two lateral portions 43 which extend from the arched portion 11 respectively to the opposite sides of the lamp casing. The entire partition projects forwardly beyond the mouth of the rear casing section 1 into the front section of the casing and the partition desirably has at its front end a pair of lugs 23 for receiving screws 14 by means of which the forward casing section is normally secured in position. These screws desirably extend through eyelets 15 which have their front ends engaging the front of the metal part 4 and their rear ends engaging the rear of the metal part 5, thereby clamping the three translucent portions of the front member between the parts 4 and 5 into a rigid assembly.

Extending through the back of the casing is a lamp socket 16 provided at its forward end with means for interlocking with the base of a lamp bulb 17, this socket and lamp bulb being preferably disposed coaxial with the tail signal lens 37. The socket 16 has one circuit terminal 19 contacting directly with the basal terminal of the lower lamp bulb 17, while a circuit connection is made from the other circuit terminal 20 of the socket to the basal terminal of the upper lamp bulb 10 after the manner disclosed in my copending application No. 12,383, filed February 28th, 1925 on an auxiliary socket connection, by a resilient connecting member 21.

By making the partitioning member of such a length that it extends beyond the rear casing section to the stencil carrying part of the lamp front, I provide an effective light-intercepting partition between the lower lamp bulb and the signal lens of my lamp. Also, by arching the medial portion of this partition throughout its length and brightening its lower surface I secure an effective reflection of light from the lower lamp bulb through both the celluloid panes 8 and the bottom window 26.

I also desirably brighten all the inner surfaces of the upper compartment, but even this may not be sufficient for causing the upper lamp bulb to illuminate the unusually large signal lens sufficiently so as to make it strikingly visible at considerable distances, as is now demanded by the authorities in some States. To augment this illumination, I preferably provide an auxiliary reflector 28 behind the upper lamp bulb. This reflector desirably forms a portion of a paraboloid of revolution having its axis at right angles to the face of the signal lens 6 and its focus at the source of light, the reflector being of a contour which corresponds approximately in front view to the shape of the signal lens. That is to say, I provide the reflector with wings increasing in height towards their ends and having their tips reach considerably downward below the bottom of the reflector portion which is directly behind the source of light, so that the lower ends of these wings extend considerably below the raised medial portion of the partition. By so doing, I greatly intensify the illumination of the end portions of the signal lens. Hence, both the size, shape and intense illumination of this signal lens and of the lettering silhouetted on the same will cooperate in making my lamp afford a decided difference in appearance, whenever current is supplied to the upper lamp bulb, even when seen from considerable distances.

By providing the partition with an upwardly arched central portion, I am also able to bring the stop signal indication much closer to the beehive lens of the tail signal than I could otherwise do, thereby permitting a more compact lamp construction. At the same time, the concaved form of the lower face of this partition aids in redirecting light from the lower lamp bulb effectively both through the bottom window pane and through the celluloid portions 8, thereby increasing the effectiveness with which light from this lower lamp bulb is employed, and also increasing the effectiveness of the lens

formation employed for the rearward bottom window.

The lower part of the rear casing section is desirably narrower than the upper part of this section and connected to the latter by outwardly extending portions 31 affording shoulders overhung by the lateral ends of the partition and having these shoulders rest on them. With the partition ends thus overhanging these shoulders and with the forward and rear ends of the partition abutting respectively against the frontal member and against the back 2 of the rear section, I effectively close each compartment against the entrance of light from the lamp bulb in the other compartment.

By forming the two metal members 4 and 5 of the lamp front as above described, I not only secure an integral stencil together with a simultaneous clamping of the translucent parts of this front member and a tight approaching of the stencil to the upper or signal lens 6, but also secure concentric and slightly spaced flanges 7 and 8 at the rear ends of the parts 4 and 5 for receiving the correspondingly shaped forward end 18 of the rear casing section between these flanges 7 and 8 so as to insure a tight seal and a non-rattling connection between the two sections of the lamp casing.

However, while I have illustrated and described my invention as including various highly desirable shapes of different parts and highly desirable details of construction and arrangement, I do not wish to be limited to these, since many changes might obviously be made without departing either from the spirit of my invention or from the appended claims.

I claim as my invention:—

1. In a lamp, a casing comprising a forwardly open rear section and a rearwardly open front section; the front section comprising an outer part provided with a plurality of openings, translucent means disposed behind the outer part and closing the said openings and having portions extending beyond the edges of the openings, an inner part disposed behind the said portions of the translucent elements, and means connecting the said inner and outer parts to clamp the translucent means between them in a rigid assembly; the inner and outer parts of the front section having at their peripheries rearwardly projecting flanges disposed one within the other and separated by a substantially uniform space, the forward end of the main member being socketed between the said rear flanges in the said space.

2. In a lamp, a casing comprising a rear section including a back and a peripheral casing portion projecting forwardly from the back; and a front section including inner and outer parts both extended at their peripheries to afford casing portions projecting rearwardly from the said face portion and terminating in spaced flanges between which the forward end of the said peripheral casing portion is socketed, one of the said parts having a shoulder against which the forward end of the said lateral casing portion abuts; a partition extending longitudinally of the casing and secured to the rear section, and means for detachably fastening the front section to the partition to retain the forward end of the said peripheral casing portion in its said socketed disposition.

Signed at Detroit, Michigan, March 11th, 1925.

CHARLES E. GODLEY.