L. L. PFEIFER.

VEHICLE LAMP DOOR.

APPLICATION FILED SEPT. 10, 1917.

1,354,512. **Patented Oct. 5, 1920.**

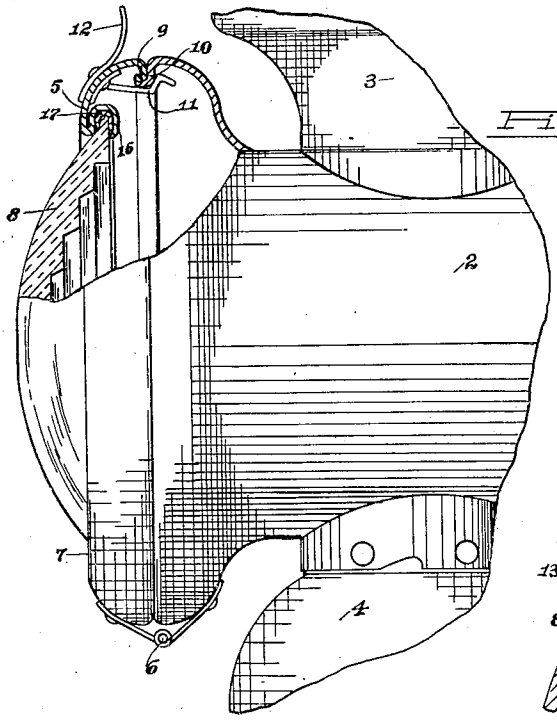


Fig 1.

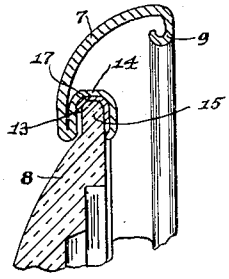


Fig 3.

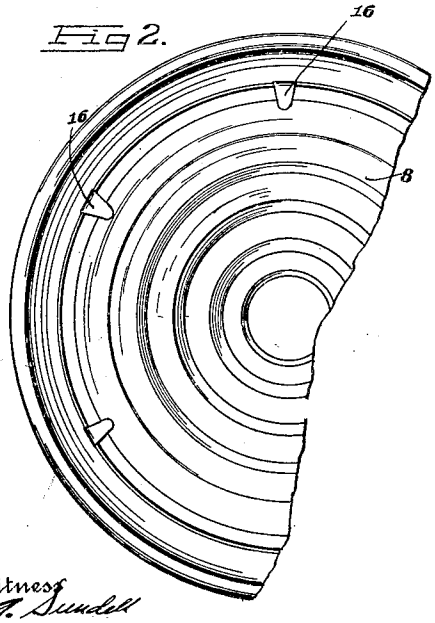


Fig 2.

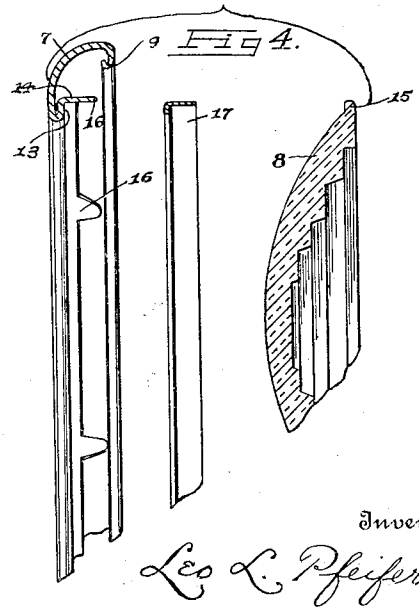


Fig 4.

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VEHICLE-LAMP DOOR.

1,354,512. Specification of Letters Patent. Patented Oct. 5, 1920.

Application filed September 10, 1917. Serial No. 190,519.

To all whom it may concern:

Be it known that I, LEO L. PFEIFER, a citizen of the United States, residing at 1194 Bryden road, Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Vehicle-Lamp Doors, of which the following is a specification.

This invention relates to vehicle lamps and has particular reference to the door construction thereof, the object of the invention being to simplify and improve the general method of connecting the lens of a lamp with a coöperating door frame, whereby the lens will be rendered removable from the frame so that in the event of the same becoming broken or injured, a perfect lens may be substituted in the frame in place thereof.

Another object of the invention resides in providing improved means for preventing air from passing through joints or connections, existing between the lens and the frame therefor, to thereby prevent the same from gaining access to the combustion chamber of the lamp and interfering with the source of illuminate carried therein.

A further object resides in a vehicle light wherein is provided a swinging door, which embraces an outer metallic ring having pivotal connection with the lamp body, said ring being formed with an inner overlapped portion forming an annular lens socket for the reception of a light diffusing lens or the like, parts of the socket forming portions being extended to provide securing fingers, whereby when the latter are in relative engagement with the lens, the same will be effectually retained within said door.

In the accompanying drawing Figure 1 is an elevation of a lamp provided with the door comprising the present invention, parts of the door and lamp being shown in section to disclose the underlying structure. Fig. 2 is a fragmentary rear elevation of the door. Fig. 3 is an enlarged detailed sectional view, disclosing more particularly the manner of uniting the lens with its associated ring. Fig. 4 is a vertical sectional view taken through the ring, the gasket member and the lens of the door, said elements being separated and shown in group formation.

Similar characters of reference denote corresponding parts throughout the several views of the drawing.

The lamp shown in the drawing, consists of a body 2, top 3 and a font 4, all of which being constructed and associated in the usual manner. Connected with the body 2 is a door 5, which forms the basis of the present invention, but it should be understood however, that the same may be employed with equal facility upon other styles of lamps, if desired. In this instance, the door 5 is hinged as at 6 to the body 2 of the lamp, so that by opening the door, the interior of said body will be rendered accessible.

The door preferably consists of an annular, metallic lens ring 7, which is adapted to retain and support a transparent or translucent lens 8 in a rigid and substantial manner whereby the lens will be maintained in an operative position within said door. The outer circumferential edge of the ring is provided with an annulated crimp 9, which is adapted to engage, when the door is closed, with a semi-resilient shoulder 10, formed upon the outer flared end of the body 2, this construction permitting the door to be firmly associated with the body, and is of a character to prevent air from passing through the joints formed thereby. A resilient catch 11 is also employed to establish and insure close relation between the door and the lamp body when the former occupies a closed position. A handle 12 is secured to the ring 7 and is utilized in the manipulation of said door.

In order that the aims and achievements of the present invention will be more clearly understood, it is thought advisable to state at this juncture that hitherto it has been a common practice in lamp manufacture to rigidly secure the lens 8 to the ring 7 by providing a circular groove in the crimped inner circumferential edge of the ring for the reception of the annular marginal edge of said lens, the edge of said ring being pressed tightly into engagement with the lens so as to completely encircle the latter. While the aforesaid construction afforded a substantial method of connecting a lens with a coöperating ring, it possessed an important disadvantage or defect, namely, that in the event of the lens breaking or becoming injured, it has been practically impossible to remove the same from the ring, so that a new one could be substituted in place thereof. This usually necessitated the discarding of the ring with its damaged lens,

thereby considerably adding to the expense of repairing or manufacturing a lamp.

To overcome the above disadvantage, and others, the door 5 comprising the present invention, provides a structure whereby a lens will be rendered interchangeable or removable with regard to said ring, thereby eliminating the usual unitary or rigid construction found in similar doors of previous manufacture.

To this end, the ring 7 is provided with an overlapped inner circumferential edge 13, which terminates in a substantially circular horizontal shoulder 14, the portions 13 and 14 in the ring defining a socket for the reception of the outer reduced margin 15 of the lens 8. The shoulder 14 is provided with integral pliant fingers 16 which, when the lens is positioned within the ring, are adapted to be turned inwardly to engage with the inner surface of the lens, and to retain the latter in a securely held and locked position within said door. This construction is a decided improvement upon the ordinary method of turning down the entire edge of the shoulder portion 14, in order to secure the lens, as it will be obvious that to remove a lens when thus held, it will be necessary to mutilate the ring to such an extent that the same can not be successfully employed again. By use of the finger 16 however, the lens may be removed from the ring by simply bending the fingers outwardly, then by forcing the lens out of said ring, this being an exceedingly simple operation and can be quickly and easily performed.

In order to prevent air or the like from passing through the connections, existing between the lens and the ring, and thereby interfering with combustion taking place within the body 2, the present invention contemplates the provision of a gasket member 17, which is turned to receive the reduced marginal edge 15 of the lens. The member 17 will thus be positioned between the lens and the shoulder 14, and due to the action of the locking finger 16, the gasket will be wedged into engagement with the portions 13 and 14 in the ring 7, thereby effectually preventing said fluid from passing through the door, and also eliminating vibration between the parts thereof.

From the foregoing it will be evident that there is provided mechanism whereby the objects of the invention have been achieved, that all of the advantageous features above mentioned are, among others, present. The door embodies relatively few parts, all of which may be quickly assembled in operative relation and rigidly and substantially retained therein. In the event of injury to a lens, the latter may be quickly removed from correlation with the ring and a perfect one inserted in place thereof; this action may be accomplished without removing the ring from the lamp. The use of the gasket member effectually prevents air from passing through the door and thereby insures uniform combustion within the lamp when the latter is of a fuel burning character; it of course being understood that the door may be employed upon other forms of vehicle lamps or lights other than that shown and described.

Having described the invention, what is claimed as new and patentable is:

A lamp door comprising an annular metallic ring having a lens opening formed therein, an annular lens seat integrally formed with said ring by bending the portions of the latter from the bounding edges of said opening inwardly upon said ring so that said inwardly bent portions will lie substantially parallel with the adjacent outer portions of said ring, said inwardly bent portions terminating in a right angularly extending annular flange, a lens having its circumferential edge seated in the pocket formed by bending said ring inwardly and angularly, and a plurality of plying fingers formed with said angularly disposed flange, said fingers being capable of being bent inwardly to engage with the inner side of said lens to retain the latter within said pocket.

In testimony whereof I affix my signature.

LEO L. PFEIFER.