

W. H. SMITH.
Railroad-Car Lamps.

No. 150,491.

Patented May 5, 1874.

Fig. 1.

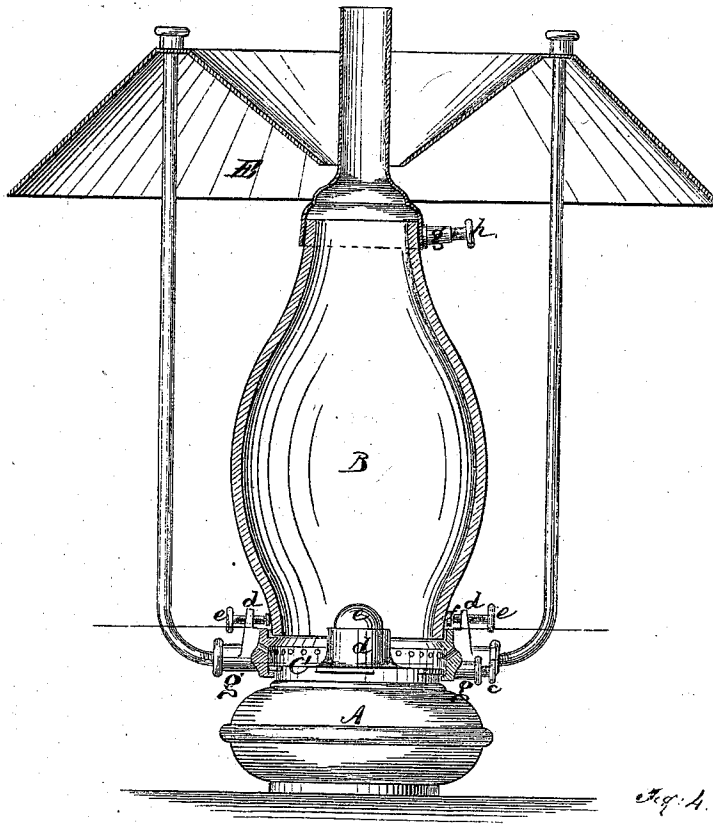


Fig. 4.

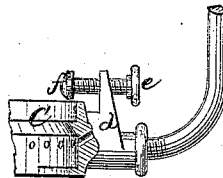
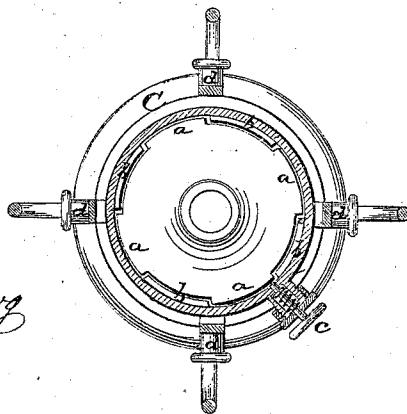


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLARD H. SMITH, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN RAILROAD-CAR LAMPS.

Specification forming part of Letters Patent No. **150,491**, dated May 5, 1874; application filed December 18, 1872.

To all whom it may concern:

Be it known that I, WILLARD H. SMITH, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Railroad-Car Lamps; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in lamps designed for use in railroad-cars; and the invention consists in the attachment of the globe of the lamp to the gallery and smoke-tube by elastic screws, in such manner as will enable the globe to be readily removed when broken, or for the purpose of cleaning the same. The invention further consists in providing the screw-stops with rubber tips, as will be hereafter set forth.

As is well known, great inconvenience is experienced when it becomes necessary to remove a globe from lamps, as now ordinarily constructed, for the reason that the globe is cemented to the metal, and until the cement is removed, it is impossible to replace the broken globe by a new one. To obviate this difficulty is one of the principal objects of this invention.

In the accompanying sheet of drawings, Figure 1 is a vertical section of my lamp; Fig. 2, a top view of same, showing elastic stop in section; Fig. 4, side view of screw with swivel-point on rubber tip.

Similar letters of reference indicate like parts in the several figures.

A represents a lamp, which may be of any desired size and shape, but preferably of a size and shape designed for use in railroad-cars. Secured to this lamp, in any desirable manner, are four lugs, *a a a a*. Surrounding these lugs is a gallery, C, having lugs *b b b b* formed thereon, which accurately fit into the spaces between the lugs *a a a a* on the lamp A, so that when the lamp is placed within the gallery C the lugs *a a a a* on the lamp A will be above, and will rest upon the lugs on the gallery, holding it in place. The globe B may be formed with a small flange or lip around its base, and also around its upper orifice. Passing through lugs *d d d d*, cast with the gallery

C, are four screws, *e e e e*, having secured to their inner ends swivel-points *f f f f*, so that as the screws are turned the ends will not grind into the glass globe. These points may be packed with india-rubber, or any other elastic substance, as a further safeguard against breaking the globe when the screws are forced in, and also to compensate for any expansion of the globe by heat when the lamp is lighted, thus preventing fracturing the same. The base of the smoke-tube is also formed with lugs *g*, through which pass screws *h*, having a small elastic or yielding plunger, *i*, passing through them, so that as the screw is forced inward the end of the plunger will abut against the glass with a yielding pressure holding it in place; but the stops with rubber tips may be there used also.

My lamp being constructed as above described, it will be clearly seen that in case it should be necessary for any reason to remove the globe, it is simply necessary to disconnect the upper and lower screws therefrom, when the globe may be readily detached from the gallery and smoke-tube, and a new globe replaced by inserting the base within the gallery, and the top within the base of the smoke-tube, and screwing in the stops until their points are brought snugly against the globe, when the globe will be held firmly in place, and yet the elastic pressure of the stops on it will prevent its being broken, either from screwing in the stops too tightly, or from expansion of the globe from heat when the lamp is lighted. The gallery C has also lugs *g*, into which are screwed, or otherwise secured, uprights for supporting the reflector E. These uprights have plates affixed to them for the purpose of attaching the lamp and reflector to the roof of the car, or otherwise, by means of screws.

The advantages arising from the use of the cushion rubber-headed screws are, first, that the screw or metal fastenings cannot be pressed or ground against the glass, so as to break it by the expansion of the glass or by the force of the screw; second, that when the globe is fastened in its place by these cushion-headed screws it cannot jar loose by the screw turning round, as all metal connections will do by the jar of the car, as the rubber cushion ad-

heres to the glass and prevents its turning around.

The screw *h*, which fastens the metal smoke-tube, is provided with shoulder or stop, which prevents the screw from being forced in so as to bring the bolts to a solid bearing, but leave it free, so as to give with the expansion of the glass, and at the same time hold the smoke-tube firmly to its place.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of elastic screw-stops *e*

h, with a lamp and smoke-tube, arranged substantially as described, for holding the glass globe at top and bottom without danger of breakage, and for permitting its detachment, as set forth.

2. The screw-stop *e*, having the rubber cushions secured at the ends bearing upon the glass globe, substantially as and for the purpose set forth.

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Witnesses:

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