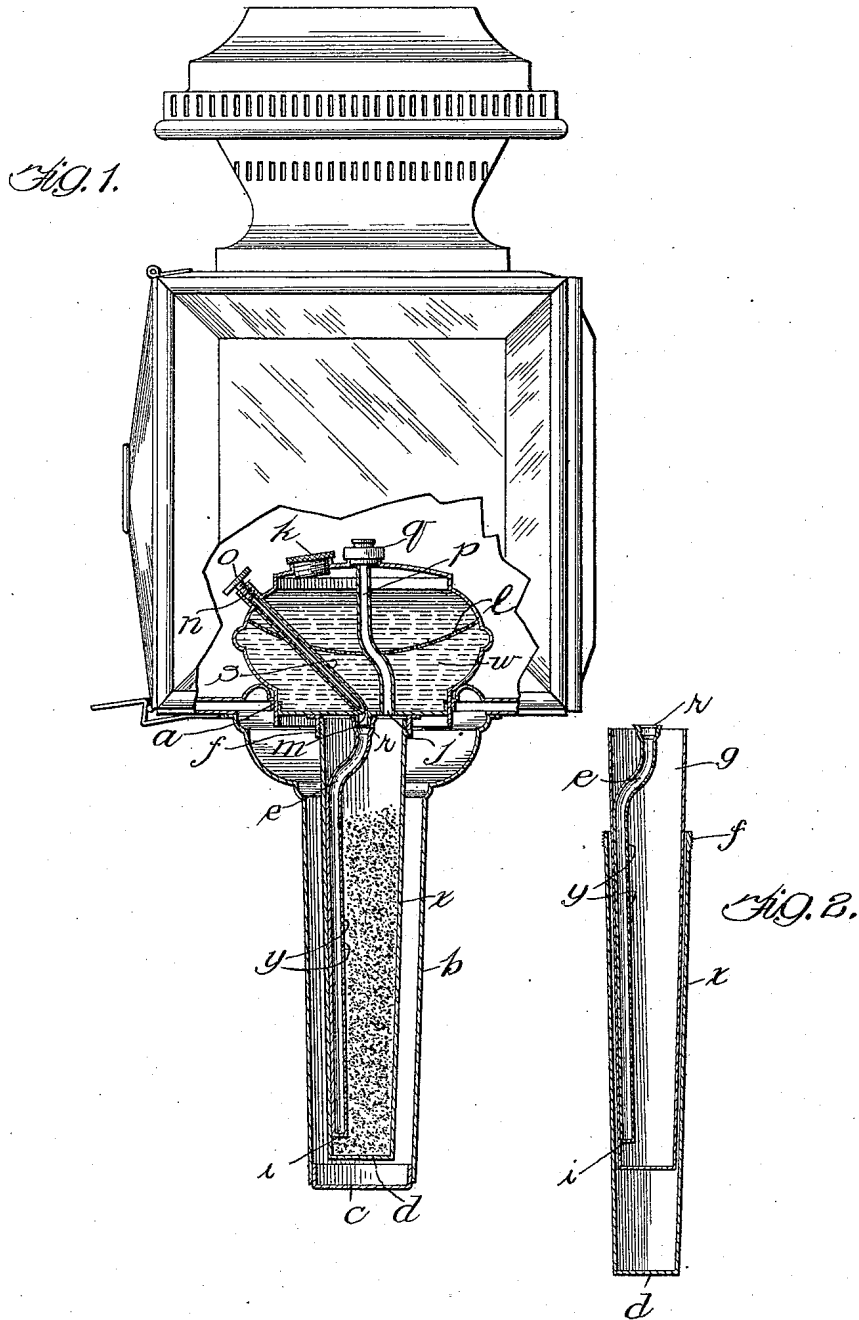


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 VEHICLE LAMP.
 APPLICATION FILED JUNE 11, 1909.

940,915.

Patented Nov. 23, 1909.



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VEHICLE-LAMP.

940,915.

Specification of Letters Patent. Patented Nov. 23, 1909.

Application filed June 11, 1909. Serial No. 501,523.

To all whom it may concern:

Be it known that I, FREDERICK C. AHRENS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Vehicle-Lamps, of which the following is a specification.

The objects of my invention are to furnish a cheap and convenient acetylene gas lamp for vehicles, especially carriages, to make it possible to easily and cheaply convert an ordinary oil burning carriage lamp into an acetylene lamp and to provide a lamp in which either acetylene gas or oil may be used with but slight alteration and expense. Said objects are attained by the means described herein, taken in connection with the accompanying drawings, and are then pointed out in the claims at the end of the description.

In the drawings, in which like letters of reference refer to the same parts throughout the views, Figure 1 is a view of an ordinary carriage lamp casing, partly broken away to show a view in section of my acetylene apparatus attached, and Fig. 2 is a view showing a modified form of the calcium carbide holder.

An ordinary carriage lamp, such as shown in Fig. 1, has an opening *a* in its base leading into a hollow slightly tapering tube or candle socket *b*, closed at its bottom *c*, which candle socket is made onto the base of the lamp casing. In this opening *a* the oil cup is screwed or held by a spring when the lamp is used for burning oil. In changing such a lamp to an acetylene gas burner, I remove the oil cup and then insert through the opening *a* into the candle socket the hollow tube *x* closed at its bottom *d*. This tube *x* is made of approximately the same length as the candle socket and conforms to its shape, so that it fits in said candle socket and its upper end is flush with the opening *a*.

The tube *x* bears rigidly attached to its interior surface the small tube *e*, which opens at *i* near the bottom of the tube *x* and also bears throughout its length various small holes *y*. The tube *e* is bent away from the inner surface of the tube *x* near the top of said tube *x* and opens at the center of said tube *x* and at the top thereof in a cup *r*. The tube *e* is exteriorly threaded at its top as shown at *f*.

Fig. 2 shows a modification of the tube *x*

and its attachments, which consists simply in attaching the tube *e* to a cylindrical casing *g* which conforms to the shape of *x* and is adapted to fit therein. In the drawing *g* is shown only partly pushed into position in the tube *x*.

Onto the top of the tube *x* is screwed the water chamber *w*, by means of the exterior threads of the tube *x* and the interior threads *j* on the base of the water chamber *w*. The water chamber is preferably for convenience screwed onto *x* before *x* is inserted in the candle socket. This water chamber is in the form of an ordinary oil cup. It preferably contains a perforated, inclined diaphragm *l* to minimize shaking of the water. The water is poured into *w* through the opening *k* covered by a screw cap. The chamber *w* is provided with a tube *m* extending from some convenient point on the upper surface of *w* to the center of the base of *w*, where it, the tube *m* opens directly over the cup *r*. This tube *m* has a small opening *s* near its lower end and is fitted with a screw *n* extending throughout *m* which is operated by the hand piece *o* and is adapted to open and close and increase or decrease the water outlet of the tube *m*.

Extending through the water chamber *w* is the tube *p*, which opens at the base of the chamber *w* into the tube *x* and bears at its upper end any ordinary acetylene gas burner *q*.

The operation of the apparatus will be readily apparent. Water introduced at *k* into the chamber *w* passes through the opening *s* into the tube *m* and thence out of said tube through an opening the size of which is regulated by the screw valve *n*. The water will thus drip into the cup *r* and pass through the tube *e*, whence, through the openings *y* it will reach the calcium carbide in the tube *x*. The acetylene gas thus generated will pass through the tube *p* to the burner *q*. When desired the tube *x* and water chamber *w* can be removed from the lamp casing and an ordinary oil chamber and burner inserted in the opening *a*.

While I have described my apparatus with special reference to the form of lamp casing shown in the drawings, it is obvious that various changes may be made without departing from the spirit of my invention, the essential features of which are the combined burner and water chamber adapted to

be mounted in a tube containing calcium carbid, which in turn is placed in the lamp or candle socket of a carriage lamp.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a vehicle lamp the combination of a lamp casing having a candle socket, a calcium carbid tube fitting in said socket, a perforated water tube attached to the side of said calcium carbid tube and a combined water chamber and acetylene gas burner mounted on said calcium carbid tube, said burner opening into said carbid tube and said water chamber having extending through it a tube bearing an opening into the water chamber, an opening into said perforated water tube and a screw passing throughout its length to regulate the size of the opening into said perforated water tube, substantially as described.

2. In a vehicle lamp the combination of a lamp casing having a candle socket, a calcium carbid tube fitting in said socket, a perforated water tube attached to the side of said calcium carbid tube, bent away at its upper end from said calcium carbid tube and opening upward at the center of the mouth of said calcium carbid tube, and a combined water chamber and acetylene gas burner mounted on said calcium carbid tube, said burner opening into said carbid tube and said water chamber having extending through it a tube bearing an opening into the water chamber, an opening into said perforated water tube and a screw passing throughout its length to regulate the size of the opening into said perforated water tube, substantially as described.

3. In a vehicle lamp the combination of a lamp casing having a candle socket, a calcium carbid tube fitting in said socket and containing a closely fitting removable inner tube, a perforated water tube attached to said inner tube and a combined water chamber and acetylene gas burner mounted on said calcium carbid tube, said burner opening into said carbid tube and said water chamber having extending through it a tube bearing an opening into the water chamber, an opening into said perforated water tube and a screw passing throughout its length to regulate the size of the opening into said perforated water tube, substantially as described.

4. In a vehicle lamp the combination of a lamp casing having a candle socket, a calcium carbid tube fitting in said socket and containing a closely fitting removable inner tube, a perforated water tube attached to said inner tube, bent away at its upper end from said inner tube and opening upward at the center of the mouth of said calcium carbid tube, and a combined water chamber and acetylene gas burner mounted on said calcium carbid tube, said burner opening into said carbid tube and said water chamber having extending through it a tube bearing an opening into the water chamber, an opening into said perforated water tube and a screw passing throughout its length to regulate the size of the opening into said perforated water tube, substantially as described.

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