L. B. KING.

ACETYLENE GAS LAMP.

APPLICATION FILED DEC. 31, 1908.

944,789. Patented Dec. 28, 1909.

Fig. 1.

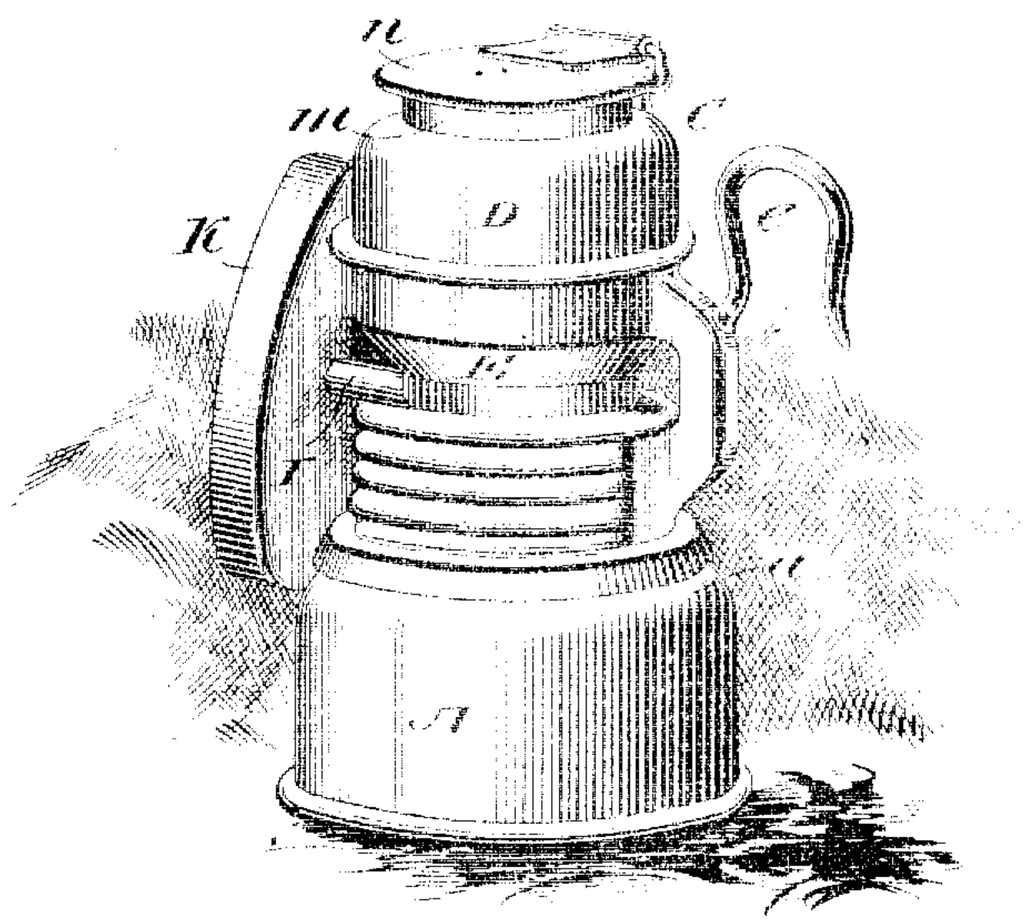
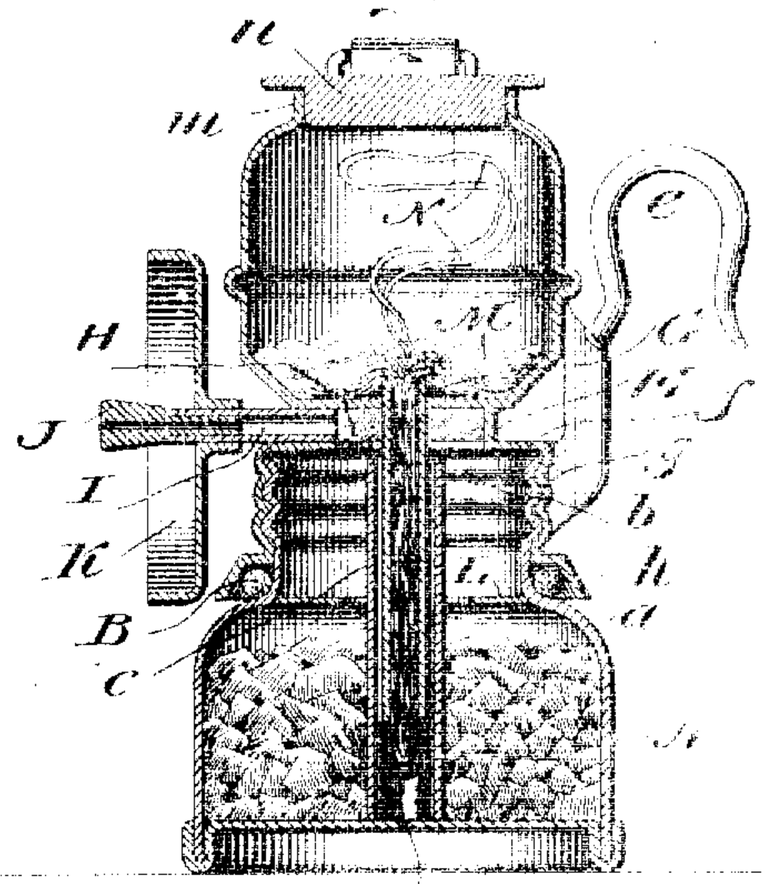


Fig. 2.



Witnesses

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ACETYLENE-GAS LAMP.

944,789. Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed December 31, 1908. Serial No. 470,239.

To all whom it may concern:

Be it known that I, LESTER B. KING, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Acetylene-Gas Lamps, of which the following is a specification.

This invention relates more particularly to that type of acetylene gas generators, in which the burner is carried by the generator, and the primary object in view is the provision of a small, compact, durable and easily adjusted device that is reliable and economical in operation, and is peculiarly adapted for the use of miners and others working in dark places.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of the device. Fig. 2 is a vertical sectional view.

Similar reference letters designate corresponding parts in all the figures of the drawings.

In the embodiment disclosed, a combined carbid holder and gas generating chamber A is employed, preferably circular in cross section, and having an upstanding threaded neck *b* of less diameter than the holder, said neck being connected to the main body of the holder by a breast *a*. Arranged within the holder and carried by the bottom thereof, is an upstanding imperforate pipe *c* that extends into the neck *b* and has an open upper end.

The above described structure constitutes one member of the device, and the other member, designated C, consists of a liquid reservoir D carrying a depending cap *f*, which is threaded, as shown at *g*, and detachably screws upon the neck *b*. This cap terminates in a flared depending flange *h*, and interposed between said flange and the breast of the carbid holder, is a packing ring B that is covered by the flange and serves to prevent leakage at the joint produced between the members. The reservoir D carries a depending pipe G that extends below the cap, and loosely engages within the imperforate pipe *c*, terminating short of the lower end thereof, as clearly illustrated in Fig. 2. The upper end of the reservoir D has an opening surrounded by an upstanding flange *m*. The opening is normally closed by a plug *n*, hinged at one side to the reservoir by the link connection, illustrated more particularly in Fig. 1.

Arranged within the depending pipe G is a packing M having a reserve portion that occupies the lower portion of the reservoir, and has secured to its upper end a cord N that is loosely located within the reservoir, so that it is freely accessible when the closure plug *n* is removed from the opening. The said reservoir and the cap are connected by a filter casing E, from one side of which projects a gas delivery pipe I, carrying at its outer end a burner tip J. Surrounding this burner tip is a deflector K, which is carried by the pipe I, and also constitutes a protector for the tip. The inner end of the supply pipe I communicates with the filter casing, and arranged within said casing and surrounding the depending pipe G, is filter material H.

Arranged within the carbid holder at the lower end of the neck, is a diaphragm L surrounding the telescoping pipes, but spaced therefrom to permit the free flow of gas.

It will be noted by reference to Figs. 1 and 2 that the reservoir D and the cap G are connected by a reinforcing bracket, and carried by this bracket is a hook *e*, that constitutes means for suspending the lamp from a belt or cap.

In using the device, the cap is first unscrewed from the carbid holder and carbid is placed in said holder, the cap is then replaced, and the reservoir D filled with water. The water passes down the wick, and will fill the pipe *c* to overflowing, and the overflow passing down into the holder, will attack the carbid and cause a generation of gas. This gas will find its way through the filtering material H into the pipe I and escape from the tip J where it is ignited. The amount of gas generated of course depends upon the amount of water supplied to the carbid, and this can be readily regulated by tamping some of the before mentioned reserve portion of the packing M in the tube G when it is desired to increase the obstruction in said tube, or by drawing the packing M upwardly, through the medium of the string N, when it is desired to lessen the obstruction in the tube G. To extinguish the light, it is only necessary to remove the closure plug *n*, and pour out the water from the reservoir. The diaphragm L prevents the filtering material from becoming caked, and said filtering material

prohibits the passage of small particles into the delivery pipe, and thus prevents the same becoming clogged.

From the foregoing, it is thought that the construction, operation and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

In an acetylene gas generating lamp, the combination of a carbid holder, a liquid reservoir arranged above the carbid holder and having an opening and means for closing the same, a tube depending from the bottom of the reservoir, for supplying the carbid holder with liquid, a piece of packing material arranged in the tube and having a reserve portion occupying the lower portion of the reservoir, and a string attached to said reserve portion of the piece of packing material and normally contained in the reservoir.

In testimony whereof I affix my signature in presence of two witnesses.

LESTER B. KING.

Witnesses:
F. J. HEALY,
WM. G. LIDDELL.