

T. LONGSTAFF & S. C. MOORE.
ACETYLENE LAMP.
APPLICATION FILED AUG. 21, 1911.

1,053,516.

Patented Feb. 18, 1913.

Fig. 1.

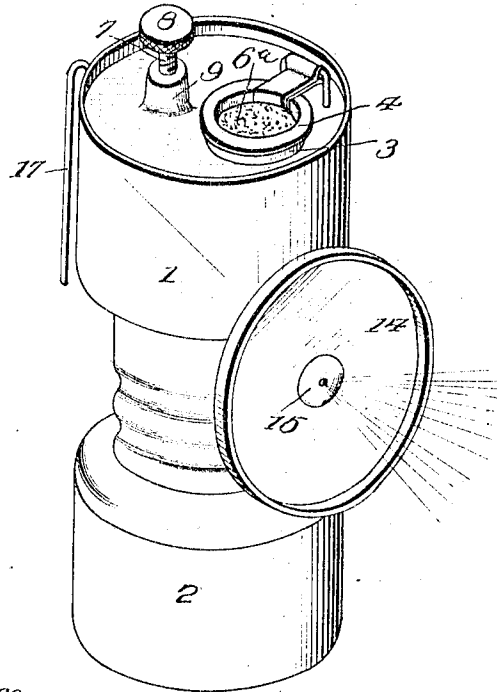


Fig. 2.

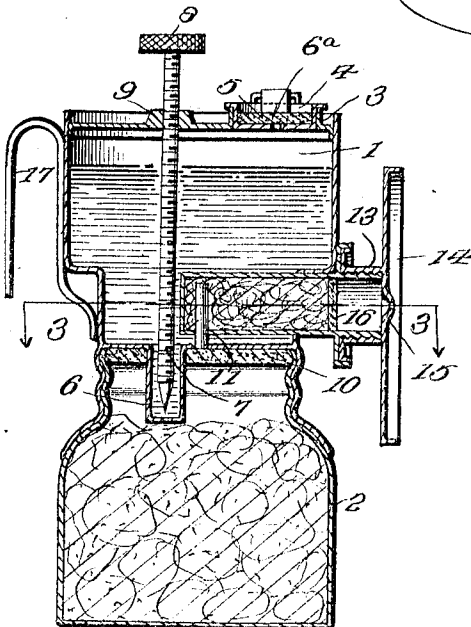
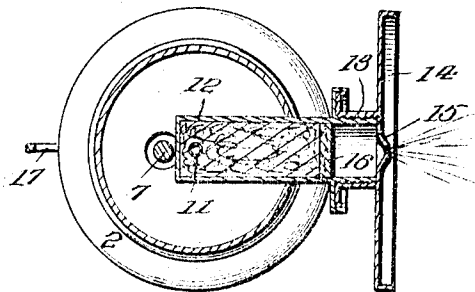


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ACETYLENE-LAMP.

1,053,516.

Specification of Letters Patent.

Patented Feb. 18, 1913.

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To all whom it may concern:

Be it known that we, THOMAS LONGSTAFF and STILLMAN C. MOORE, citizens of Australia and the United States, respectively, residing at Fromberg, in the county of Carbon and State of Montana, have invented certain new and useful Improvements in Acetylene-Lamps, of which the following is a specification.

This invention relates to acetylene gas lamps and has as its primary aim to provide a gas lamp of this type having a combined reflector and burner which may be formed from a single piece of material and will consequently be inexpensive to manufacture, although possessing all of the advantages of a complicated structure.

For a full understanding of the invention reference is to be had to the following description and accompanying drawings in which corresponding and like parts are referred to and indicated in all the views by the same reference characters.

Referring to the drawing: Figure 1 designates a perspective view of our improved acetylene lamp; Fig. 2 is a vertical section of same; and Fig. 3 is a longitudinal section on the line 3—3 of Fig. 2.

Referring to the drawing the numeral 1 indicates the water chamber and 2 the carbide retainer of our improved lamp. Water can be poured into the chamber 1 through the water intake port 3 which is kept closed by the hinged cap 4. The cap 4 is formed with an aperture 5 to allow the air to enter chamber 1 thus permitting the water to feed from chamber 1 to the carbide receptacle 2. Attached to the cap 4 and covering aperture 5 is a preferably felt pad 6^a firmly secured to the cap 4 in some effective manner. This covering of the air inlet 5 by the pad prevents the coozing out of the water, known as "boiling over", which commonly occurs if undue gas pressure is exerted in the carbide retainer.

In the bottom of the water tank 1 and integral with said tank is the hollow tube 6, which extends into the carbide chamber 2 and connects the tank 1 with said chamber. Within this tube 6 and extending to without the water tank 1 is the valve stem 7 which at one end is provided with a conical point which seats within tube 6 and at the other end is rigidly connected to an adjusting nut 8 which is provided with external threads engaging with the internal threads

of the valve stem guide 9. Adjusting said nut raises or lowers the stem 7 and causes the opening between the conical point of stem 7 and the walls of tube 6 to be increased or decreased as the case may be, thus controlling the flow of water from the tank 1 to the carbide chamber 2.

The carbide chamber 2 is detachably connected to the body of the lamp by screw threads or other suitable means; said chamber being superimposed by a preferably felt pad 10 loosely placed to effectively filter the gas passing from this chamber. Opening above this pad 10 is the open-ended tube 11 which extends at right angles into, and is rigidly connected with the larger tube 12. This tube 12 is placed partly within and partly without the water tank 1 and is closed at its inner end. Its outer end is provided with an external thread which affords opportunity to attach the internally threaded cap 13, the same being integrally connected with the preferably metal reflector 14 from the center of which is the slight protuberance 15, perforated by a small orifice through which the gas is fed, thus composing the burner.

Attention is particularly called to the construction of the reflector 14 which is stamped from a single piece of sheet metal and upstruck at its center to form a concavo-convex protuberance which is perforated and thus forms the burner 15, the concave side of the burner serving as a gas pocket from which the gas reaches the burner. In order to guard against gas leakage, the gas tube 12 is provided with a laterally extending annular collar 18 having on the outer edge thereof a rim 18^a disposed at an angle to said collar, which latter is adjacent to the reservoir 1. The cap 13 is provided at its inner end with a similar collar 19 having a similar rim 19^a and adapted to fit tightly into the first mentioned collar and thus afford an air tight joint.

From this description it will be clearly seen that were it not for the pad 10 there would be unobstructed communication between the carbide chamber 2 and the burner 15. The said packing 10 acts as a sieve or filter for the gas in its passage to the burner and to further facilitate the filtration process. The space within tube 12 between the vertical tube 11 and the preferably felt pad 16, which is located just inside of the threaded end of tube 12, is filled with cotton

packing or other suitable material. This arrangement of pads and packing acts as a filter to remove moisture from the gas. At some point in the periphery of the lamp, preferably to the water tank 1, is attached the hook handle 17 or other suitable means for carrying or suspending our improved lamp.

From the above description it is clear to those familiar with the working of carbide lamps that when tank 1 is filled with water through opening 3, chamber 2 filled with carbide by unscrewing or unfastening same from lamp body and the water allowed to drop through tube 6 by adjusting the valve stem 7 by means of nut 8, the uniting of the carbide and water will produce a gas whose own pressure will force itself through pad 10 into tube 11 from whence it will enter tube 12, where after being filtered and purified by passing through the packing there placed and the pad 16 it will reach the burner 15. Upon ignition at this point the light produced will be reflected in advance of the lamp and the operator by means of the reflector 14.

While the accompanying drawings and

foregoing description disclose what we believe to be the preferred embodiment of our invention, it is to be understood that the invention is not limited thereto, but that various changes may be made in the details of construction, arrangement and proportion of parts without departing from the scope of the invention defined in the appended claim.

Having thus specifically described and set forth the merits of this invention we hereby claim as novel the following features:

As a new article of manufacture, a combined burner and reflector comprising a body having reflecting surface and indented to form a centrally located forwardly bulged portion, the said bulged portion having a fuel outlet opening and the said bulged portion and the opening therein constituting the burner.

In testimony whereof, we affix our signatures in presence of two witnesses.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."