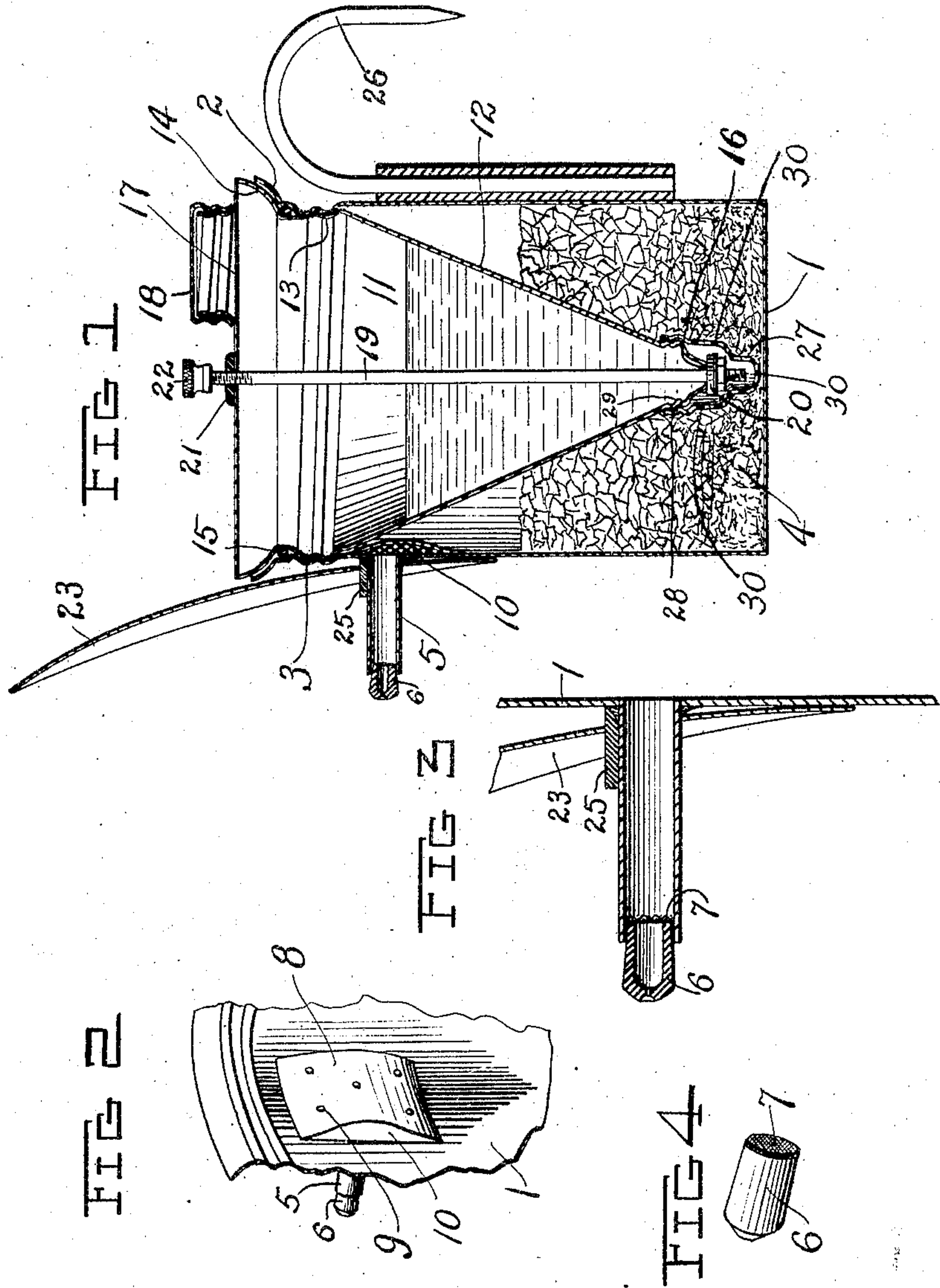


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MINER'S ACETYLENE LAMP.
APPLICATION FILED OCT. 22, 1909.

996,950.

Patented July 4, 1911.



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UNITED STATES PATENT OFFICE.

JAMES TAYLOR, OF PEORIA, ILLINOIS.

MINER'S ACETYLENE-LAMP.

996,950.

Specification of Letters Patent.

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Application filed October 22, 1909. Serial No. 524,676.

To all whom it may concern:

Be it known that I, JAMES TAYLOR, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Miners' Acetylene-Lamps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has reference to acetylene lamps and particularly to miners' acetylene lamps, although the structure of the lamp might be so modified that it could be used for various and other purposes.

One of the objects of the present invention is to improve and simplify the construction of lamps of this character that their cost may be reduced to a minimum and that they may be used by the most inexperienced person without danger.

A further object of the invention is to provide a new and improved water-valve which will insure an absolute closure between the water receptacle and carbide receptacle, and which may be adjusted for absolutely controlling the supply of water to the carbide receptacle.

A further object of the invention is to provide a screening means between the carbide receptacle and the burner for retarding or arresting sediment or impurities which quickly clog the burner if not arrested in some such manner as I provide during the passage of the gas to the burner. As a further provision for the prevention of clogging of the burner I cover the inner end of the burner-tip with a suitable fabric or other suitable screening means, which, while it will not retard the flow of gas, will insure a uniform supply, and retard or arrest sediment and other impurities which travel with the gas. The fabric on the burner-tip may be used independent of the screening means between the carbide chamber and burner and accomplish all that is desired, but the latter means is recommended in addition to the fabric on the burner-tip.

The invention has for a further object to provide a cap for the lower end of the water receptacle for inclosing the water-valve and protecting the same against the carbide, said cap having perforations to allow the water

released from the water receptacle to find its way to the carbide.

That the invention may be more fully understood reference is had to the accompanying drawings, in which—

Figure 1 is a vertical section view through the lamp showing the interior construction of the same; Fig. 2 is a perspective view showing the screening means between the carbide chamber and the burner; Fig. 3 is an enlarged sectional detail showing how the reflector is held on the tube supporting the burner-tip; the burner-tip and the fabric on the inner end of said tip, and Fig. 4 is a perspective view of the burner-tip and fabric attached thereto.

Like numerals of reference indicate corresponding parts throughout the figures.

In the drawings the lamp is shown composed of a round receptacle 1, preferably much longer than it is wide and having its upper end formed with a flared concave portion 2 merging into the threaded portion 3. The lower portion of the receptacle 1 serves as a carbide chamber 4.

Attached to and communicating with the interior of the receptacle 1 or chamber 4 is a transverse tube 5, of suitable length, which is open both at its inner and outer end. In the outer end of the tube 5 may be inserted a burner-tip 6, which, in itself is not unlike similar tips used on acetylene burners, but to its inner end is attached a screen 7, which may be of fabric or other material suitable for the purpose intended. Providing the burner-tip with a screen not only insures a uniform feed of the gas but retards or arrests all sediment or other impurities which travel with the gas and which clog the burner-tip in a very short space of time. As an additional screening means, which may or may not be used, I cover the opening in the receptacle 1 communicating with the inner end of tube 5 with a shield 8 having a plurality of perforations 9, and between the shield and wall of the receptacle place a suitable porous screening material 10. The gas leaving the chamber 4 passes through the perforations 9 in the shield 8 and through the screening material 10, which will retard and arrest the sediment. Should any of the fine dust from the carbide pass through the material 10, the screen 7 on the burner-tip will retard or arrest such dust, thus insur-

ing long use of the tip before clogging, and thereby increase the efficiency of the lamp.

11 denotes a water receptacle, the larger body portion of which is preferably cone-shaped, as at 12, while the upper end corresponds in outline to the top of receptacle 1, having the threaded portion 13 to adapt the same to be screwed into the receptacle and the flared convex portion 14 having a seat in the flared concave portion 2 of the receptacle. A gasket 15 prevents the escape of gas from the receptacle, other than through the tube 5. The lower end of the receptacle 11 is open, as at 16, for the egress of water from the said receptacle into the chamber 4 containing the carbid. Water is introduced into the receptacle 11 through an opening 17 in the top thereof, which is closed by the cover or cap 18. For regulating the discharge of water from the receptacle 11 or for shutting the supply off entirely, I provide a valve including a stem 19 which passes through the receptacle, and on its lower end has a gasket 20 which may be drawn up against the open end 16 of the receptacle 11 for shutting off the discharge of water, or moved away to regulate and control the flow of water from the receptacle. The upper end of the stem 19 is threaded and has engagement with a nut 21 arranged in the top of receptacle 11, whereby the stem 19 may be screwed down or up, for opening or closing the valve, in the manner specified. On the outer end of the stem 19 is the knob or button 22, serving as a finger hold for the operator in regulating the valve.

To protect the water-valve from the carbid and thereby insure its perfect operation, I provide a cap 27 which has a threaded portion 28, whereby the said cap may be screwed onto the threaded portion 29 of the receptacle 11. The cap 27 is provided with a plurality of perforations 30, both in its lower end and in its side walls for the escape of water into the carbid chamber when the valve is open.

To the rear side of the lamp is attached

the hook 26, see Fig. 1, for attaching the lamp to the miner's cap or other suitable support.

While I have herein described what I believe to be a preferred embodiment of my invention, yet it will be obvious that certain details thereof may be modified to some extent without departing from the spirit of the invention and without involving more than ordinary mechanical skill. I do not, therefore, wish to be limited to the precise details described except as made the subject of specific claim.

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

A miner's acetylene lamp comprising a cylindrical carbid receptacle formed from sheet metal and having its upper end screw threaded, a laterally extending burner tube attached to said carbid receptacle near its upper end, a conical shaped water receptacle formed with screw threads on its body portion in such manner as to cooperate with the screw threads at the upper end of the carbid receptacle, the conical portion of said water receptacle extending downwardly in the form of an inverted cone to substantially the bottom of said carbid receptacle, the lower end of said conical shaped water receptacle being provided with screw threads, a perforated cap provided with screw threads and adapted to engage the threads on the lower end of said water receptacle, a valve member located within said perforated cap and adapted to be seated against the tip of said conical water receptacle, means for adjusting said valve, said perforated cap surrounding the valve in such manner as to prevent its contamination from hydrated carbid.

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

JAMES TAYLOR.

Witnesses:

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ROBERT PLOWE.