

# THE UNDERGROUND LAMP POST

- MINERS WERE THE FIRST ECOLOGISTS -



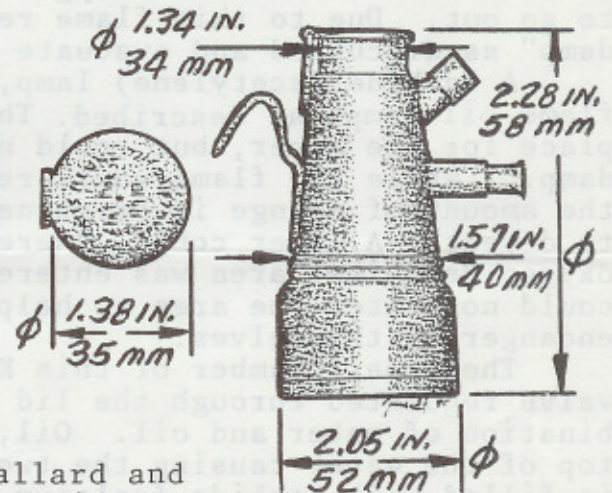
Vol. V, No.1

Fall, 1988

The Underground Lamp Post, devoted to old mine lamps, carbides, and candle-holders. Mini-editor: Henry Pohs, 4537 Quitman St., Denver, Colorado, 80212

LOUIS KLUN  
PAT. MAR. 29  
1910  
SPAULDING, ILL.

lid marking



LOUIS KLUN Carbide-oil cap lamp - by Mark Ballard and John Podgurski -

illustrations by Mark Mandrell. To a collector of mining artifacts finding a rare lamp as the one illustrated is a dream come true. It is comparable to a token collector finding an unlisted token from his home town. With the increasing popularity of mine lamp collecting, John Podgurski and I decided to provide articles of interest to our fellow collectors. While John and I are fairly novice to the hobby, we will do our best to provide accurate information. We may contact fellow collectors from time to time for their expert opinions.

One of the most frustrating parts of the hobby, for new collectors, has been the difficulty in finding a reliable source of information to help identify mine lamps. While most of the company's producing mine lamps flourished around the turn of the century, they quickly disappeared as well as the sales brochures and catalogues describing their products. Finding original copies of these brochures in many cases is rarer than the lamps themselves. For this reason obtaining copies of any literature describing mining artifacts is crucial to the collector. This first article is our initial attempt to share our information with fellow collectors.

The lamp featured in this article is not only rare, but is unique in principal as well. The lamp was invented by Louis Klun, whose name appears on the lid. The remaining identification is a patent date of March 29, 1910, and the location of Spaulding, Illinois. From the illustration it appears that the lamp came in two varieties, one with a reflector and one without a reflector. The lamp in my collection is all brass and is not provided with a reflector. An additional illustration is being provided with actual dimensions.

While the operation of the lamp is well described in the patent office file information, the following summation should provide useful data.

The cap lamp described is actually a combination lamp using two sources for fuel. As described by its inventor it also was to be used for two different purposes.

Early mine lighting was, at best, crude while also subjecting the miners to the danger of fire and explosion due to the open flame present with these

methods. An additional hazard to the miners of this period was a possible exposure to "black damp." This term is used broadly by miners to describe an atmosphere lacking sufficient oxygen for miners to breathe. The common elements of this oxygen-deficient atmosphere are carbon dioxide and nitrogen. These elements are heavier than air and accumulate closer to the mine floor resulting in suffocation of the miner due to a lack of oxygen. An atmosphere with lower than normal amounts of oxygen will affect the brightness of an open flame lamp. Initially, the flame will lengthen before the brightness decreases as the flame seeks oxygen. The amount of smoke will also increase as the amount of oxygen decreases. Further decreases in the amount of oxygen (below 16.5 percent) will cause the lamp to go out. Due to this flame reaction, a miner could be warned of "black damp" as discussed and evacuate prior to suffocation to warn others.

A carbide (acetylene) lamp, however, burns much brighter than open flame oil lamps as described. This would provide more light in the working place for the miner, but could no longer be used to warn miners of "black damp." While the flame would react to the oxygen-deficient atmosphere, the amount of change in brightness prior to the lamp going out is difficult to detect. A miner could, therefore, be overcome without warning as the oxygen deficient area was entered and die before help could arrive. Others could not enter the area to help until the oxygen level was raised without endangering themselves.

The upper chamber of this KLUN lamp is provided with a water feed valve regulated through the lid opening. The chamber is filled with a combination of water and oil. Oil, being lighter than water, will float on top of the water causing the two liquids to separate. The bottom container is filled with carbide (calcium carbide). Upon contact with water, acetylene gas is produced. As more water is added, gas is generated at a faster rate resulting in a larger flame. This also results in less time of use as all the carbide and water is used quicker. The miner carried extra fuel and water for his shift.

As mentioned earlier, two common hazards of miners due to open flame lamps are fires and explosions. The explosive gas common to mining is methane, which being lighter than air, accumulates close to the top of the mine entry or working place. Many older miners, who used open flame oil lamps, tell tales of where they have walked into pockets of gas (methane) and had their hair burned as the "fireball" (ignited gas) rolled over their heads. These were the lucky survivors. Miners who walked into higher concentrations of gas rarely survived the explosion.

From the descriptions provided one can see how advanced in design and principle the KLUN lamp was for the time period. Certainly any attempt to warn the miner of "black damp" or other hazards was a pioneer achievement in the field of safety for the miner.

Mystery solved - Refer to the Lamp Post, Vol. IV, No. 6 (Spring, 1986), page 4, for an illustration by J. Roger Mitchell of Glenn, Riddle, Pennsylvania, of an unmarked "oil wick burner." Robert H. Fox, Box, 343, Coulterville, Illinois, 62237, now writes that he has found a similar item with the following 5 lines of markings stamped on the side: CHAMPION / PAT. 3-11-19, 8-25-25 / NO. 30 / LENK AUTOMATIC / BLOW TORCH.

More Brilliant Search Light - Tony Moon reports that Paul Johnson has a generator with a brass tag on the side that reads: CITY GUN STORE / R. C. KRUSCKE / DULUTH, MINN. (on three lines). Markings on the bottom show Matthews & Willard Mfg. Co. as the maker. The generator is nickel-plated with black paint on the top. Add this information which Tony provided in the last issue of the Lamp Post.

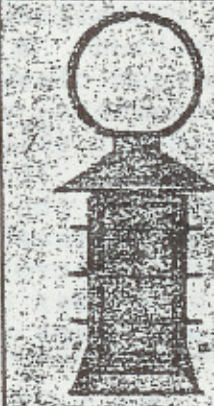
In memory - Mrs. Ralph Blankenbecler has requested this small notice so that all of Ralph's lamp collecting friends will know how much he enjoyed their visits and correspondence. He is well remembered.

Copper Queen - Nancy Van Scriber, 6632 Cerulean, Garden Grove, California, 92645, 714-898-2206, has a Bisbee Copper Queen hand carbide lamp for sale, no trades. Write or call her for more information.

Trades and needs - Prof. Rich Finch, Dept. of Earth Sciences, Tennessee Technological University, Box 5062, Cookeville, Tennessee, 38505, has sent the following lists.  
 Unused old parts for trade: lava tips of various sizes and shapes, including fishtail burners for Justrite lanterns, Uncle Sam, etc. lamps, and vented "windproof" tips; rare original style (brown rubber, round profile) "Bumpergrips"; Justrite valve stems; Spiral Feed, Liberty Feed, Wire Feed, and Polygon Feed; Shanklin wingnuts, lighter units, tips, etc.; original boxes for Auto-Lite lamps; Justrite water doors (round and oval); lighter units in unplated brass or Ni-plated; Hansen screw-in burner tips; Hansen flint holders; screw-on brass burner tips (for Baldwin lamps?), and many other miscellaneous parts.  
 Parts needed: lamp bottom for brass Elkhorn cap lamp; lamp bottom, reflector and burner tip for brass Springfield cap lamp; threaded burner collar and reflector for an Uncle Sam lamp; glass chimney and metal chimney ring for a Crestella hand lamp.

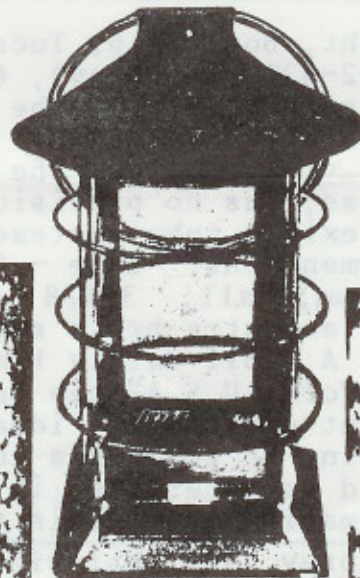
Candlestick trade - Ken Allen, 824 E. River Dr., Temple Terrace, Florida, 33617, writes that he has a "John Raab" miner's candlestick for trade if he can get something he needs for it; he is not desperate to make the trade.

Miner's candle lanterns - Virginia City candle lanterns had a very limited service during the Comstock heyday. A widely distributed photo of president U. S. Grant on a mine tour reminds us of their use in the town originally named Virginia, Nevada. Tony Moon has sent in these identifications of the two most well-known lanterns. The John Gillig patent of 5-20-1879 was number 215,449. Two other mining candle lanterns were the folding Stonebridge and an Abercrombie and Fitch made to the Stonebridge design.



Within this lantern you can place a light which will guide you safely thru the darkest drill or wetest shaft. It is the ideal shaft lantern every part of which is made and fitted by hand. The cost of this lantern is \$2.50.  
**A. Chenette,**  
 VIRGINIA CITY, NEVADA

JOHN GILLIG  
 VIRGINIA, NEV  
 PAT MAY 20, 1879



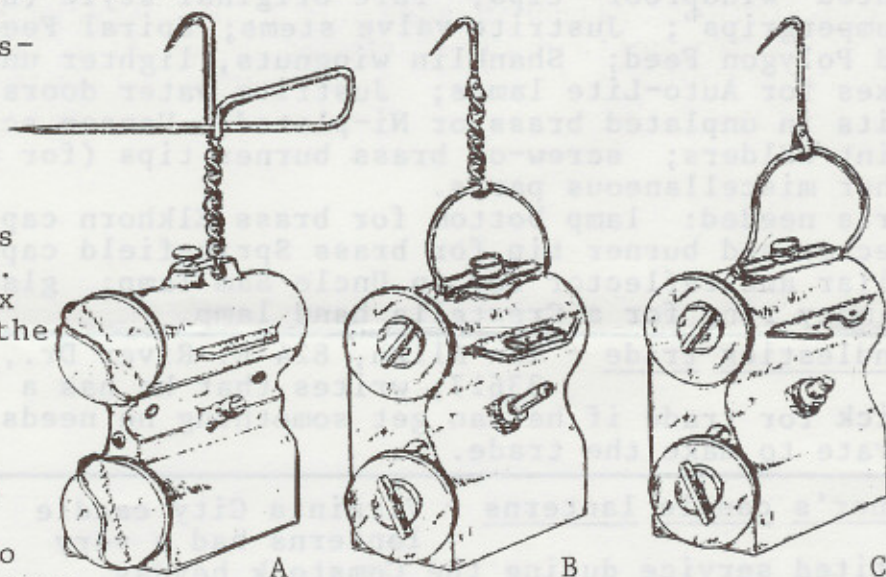
A. CHENETTE  
 MAKER  
 VIRGINIA, NEV.



Parts needed - Your mini-editor needs two parts for the Justrite cast aluminum Little Giant carbide hand lamp. The brass water door and the brass water feed stem are both missing on the lamp in our collection. Trade or buy, give us a holler if you can help. We realize that these parts may be hard to find, but they may show up in a parts box.

Denver Lamp - A little-known carbide hand lamp design is the DENVER LAMP. It was made of die-cast aluminum which dates it in the late 1920's or the early 1930's. The Colorado School of Mines Geological Museum in Golden, Colorado, has a Denver Lamp in its original box; a reduced reproduction of the box label is shown at the right. The box is made from beige-colored manilla card stock and measures 2-1/4 in. (57.15 mm) x 5-1/4 in. (133.35 mm) x 5-3/4 in. (146.05 mm). The white paper label has black printing. The cast aluminum lamp body measures 2 in. (50.8 mm) x 5-1/8 in. (130.18 mm) on the bottom x 5-1/2 in. (139.7 mm) over the top of the casting. Three different types of DENVER LAMPS have been reported as shown. A has a narrow web at the middle, while B and C have a redesigned heavier midsection. A also has cast aluminum closure caps

for the two chambers, while B and C have fabricated caps. The bodies of A, B and C are all slightly different at the top where the bail and/or the chain is attached. The bail on lamp C is curved to fit around the top of the lamp body when the bail is folded down. The hook is attached to the bail with a small leather strap. The DENVER LAMP was designed by mining engineer George Bancroft (father of Colorado historian Caroline Bancroft) who was the organizer of the Denver Lamp Co. The name DENVER LAMP CO. is stamped on some lamps on the top of the small flange above the burner.



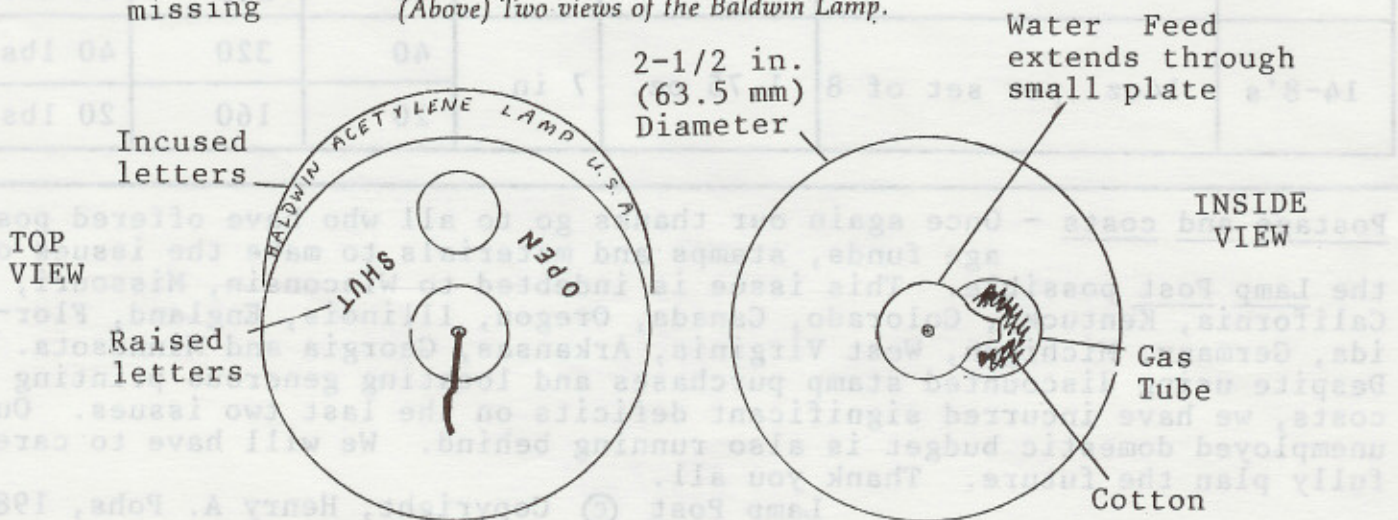
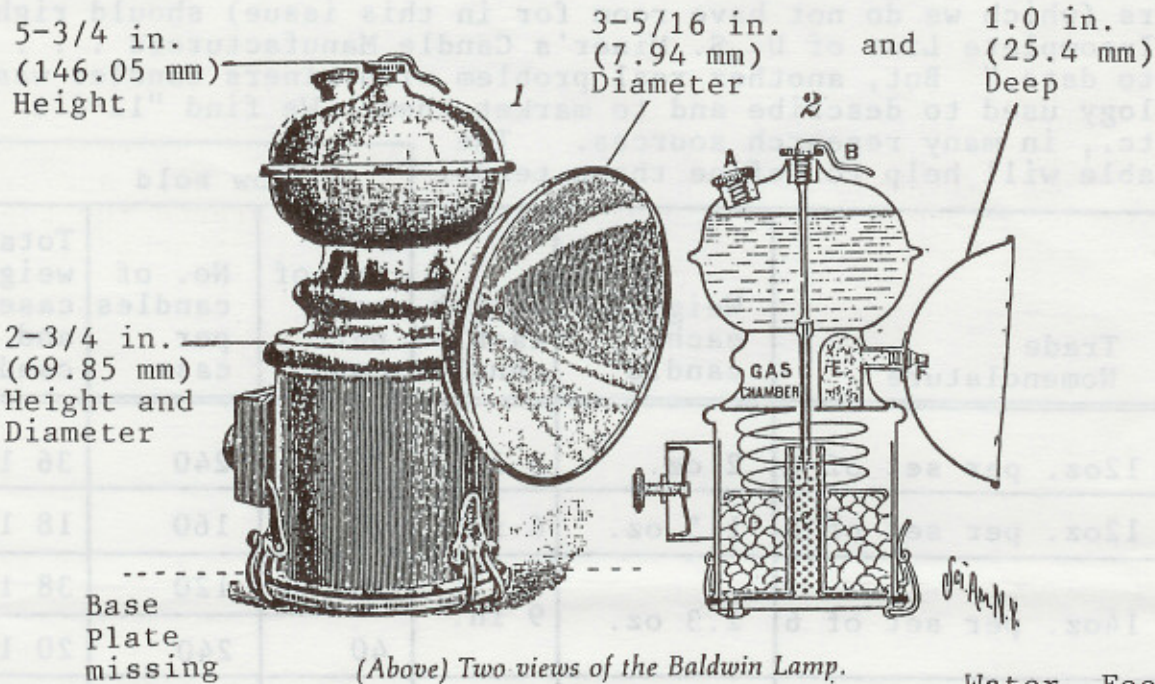
Carbide area lamp - Gene Wright, Box 26116, Tucson, Arizona, 85726, 602-621-1955 (day), 602-326-4293 (night), writes about the brass carbide lamp he has which is similar to the Domingo Anglada U. S. Patent No. 2,214,546 dated September 10, 1940, one view shown at the right. Gene says his lamp is all brass, has no provision for mounting a bail, and has a flexible tube instead of a pipe supporting the reflector. Dimensions: tube - 6 in. (152.4 mm) long; 7-1/4 in. (184.15 mm) tall; 3-1/8 in. (79.38 mm) diameter. The mid portion is an extra brass section soldered to the standard type bottom. A "Wolf Safety Lamp Co. of America, Inc., Brooklyn, New York, U S A" tab is on the side of the carbide bottom. The patent covered the idea of cooling the hot acetylene gas by passing it through a tube through the water chamber. Gene would be interested in hearing from anyone who has any information about this type of lamp.

Collector Needs - James W. Storey, 3221 Valarie Dr., Decatur, Georgia, 30033, writes that he needs a glass globe for his No. 10 Justrite lantern. He also needs a copy of the "Nearly Complete Bottom Guide" by Wendell L. Wilson. Finally, Jim wants a LU-MI-NUM cap lamp with the lug locks in very good condition. Send Jim your offers.



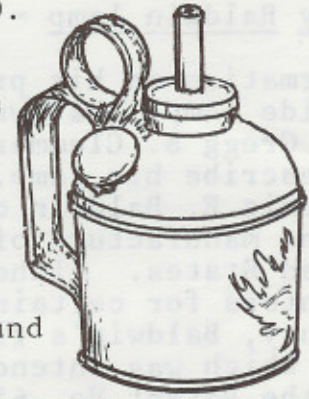
Early Baldwin lamp - James Van Fleet, 1571 Walker Ave., Union, New Jersey, 07083, 201-851-2326, has sent photos, drawings and information on his prized latest find . . . one of the earliest Baldwin carbide lamps that was manufactured. He has used illustrations (below) from Gregg S. Clemmer's book American Miner's Carbide Lamps, ©1987, p. 17, to describe his lamp.

Frederic E. Baldwin of New York City is generally acclaimed as the pioneer in the manufacture of applied underground acetylene carbide lighting in the United States. Although numerous U. S. patents had been granted to various inventors for certain other styles of carbide lamps before the turn of the century, Baldwin's first U. S. mechanical patent application for a carbide lamp which was intended for underground use was filed on October 18, 1899, and the Patent No. 656,874 was issued on August 28, 1900, to cover 14 mechanical claims for acetylene carbide gas generation features. The patent drawings show both a typical bicycle-type lamp and a new underground-type canister shaped lamp; no ornamental, design, or trade mark patent claims were made for these two lamps. This tends to support the common historical claim that miner's carbide lamps evolved from bicycle lamp designs. The canister design in this patent eventually was marked with the brand name FULL MOON. The Ralph Blankenbecler collection includes a FULL MOON lamp. Jim Van Fleet's lamp is the bicycle-type, which is illustrated below along with Jim's diameter drawings.





Trade Mark - Errol Christman, P. O. Box 313, Cedar Ridge, California, 95924, has sent some photos of odd lamps. One, a brass hand lamp with an oil wick spout on the top filler cap, has the trade mark shown to the left in raised lines and letters on its side. It is a typical railroad torch design. But the name in the trade mark is also found on carbide cap lamps.



Miner's Candles - There were many candle manufacturers in the United States in the nineteenth century. Whether known (or unknown) to us now as shown on our lists and in collecting data, these numerous enterprises produced and distributed the millions of candles used in the underground mines. One of our problems is to decide what is 'known' in terms of today's research and knowledge. A writer can claim 'known' only for what he knows at the time of his writing . . . for, information unknown to a writer now certainly was well-known to someone (or many others) at times in the past. Thus, in a formal sense, our list of 28 U. S. miner's candle manufacturers (which we do not have room for in this issue) should rightly be titled "Incomplete List of U. S. Miner's Candle Manufacturers . . . as researched to date." But, another real problem with miners candles was the terminology used to describe and to market them. We find "12-6's" and "14-8's", etc., in many research sources. The following table will help to define these terms.

Trade Size	Trade Nomenclature	Weight each candle	Length each candle	How sold		
				No. of sets per case	No. of candles per case	Total weight case and candles
12-6's	12oz. per set of 6	2 oz.	8 in.	40	240	36 lbs.
12-8's	12oz. per set of 8	1.5 oz.	6 in.	20	160	18 lbs.
14-6's	14oz. per set of 6	2.3 oz.	9 in.	20	120	38 lbs.
				40	240	20 lbs.
14-8's	14oz. per set of 8	1.75 oz.	7 in.	40	320	40 lbs.
				20	160	20 lbs.

Postage and costs - Once again our thanks go to all who have offered postage funds, stamps and materials to make the issues of the Lamp Post possible. This issue is indebted to Wisconsin, Missouri, California, Kentucky, Colorado, Canada, Oregon, Illinois, England, Florida, Germany, Michigan, West Virginia, Arkansas, Georgia and Minnesota. Despite using discounted stamp purchases and locating generous printing costs, we have incurred significant deficits on the last two issues. Our unemployed domestic budget is also running behind. We will have to carefully plan the future. Thank you all.

Lamp Post © Copyright, Henry A. Pohs, 1988