

Full Moon Saga

by Doug Miller

The following article is the product of the research that I did and the help that I received from several prominent collectors of mining artifacts, including their websites and books, during the course of deciding whether to purchase a Full Moon carbide lamp that was offered to me in July 2014. This research was initially the subject of my extended August 2014 post on the *Eureka Forum*. I was asked to follow up on that post with an article in order better to preserve the information that I gathered during my research. I have done my best to do that here. However, much of the credit for the content of this article belongs to those collectors who shared their invaluable knowledge, time, photographs and resources with me, and helped steer me in the right direction, in particular Neil Tysver, Tony Moon, Hal Post, Larry Click, Paul Kouts, and Dave Thorpe. Any errors or omissions in this article are mine alone.

Full Moon Acetylene Lamp.

The Full Moon acetylene lamp shown in the accompanying cut is manufactured by F. E. Baldwin, 101 Duane street, New York, and is specially designed for bicycles, carriages, etc. It is made of nickeled brass, is 5½ inches high, has a reflector 3 inches in diameter and weighs empty only 9 ounces. Water is introduced through a screw cap at the top and the flow controlled by turning the wire indicator right or left.

The main difficulty in burning carbide is to keep the channels clean and free from any obstructions. This is accomplished in the Full Moon lamp with regard to the water feed by a simple and ingenious contrivance, by means of which the water tube is automatically freed of any accumulations of carbide powder every time the water indicator is moved. Car-



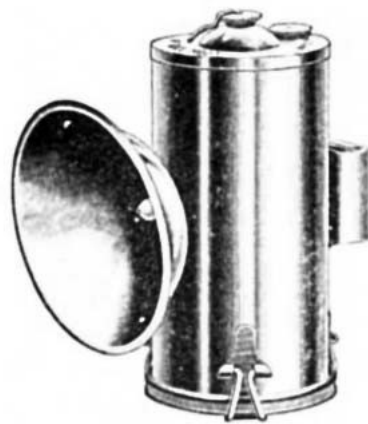
bide is placed in a cylinder fastened to the bottom, the cylinder being 2 inches high and 2 3-16 inches in diameter. Above the carbide is a perforated disk and tube, the latter wound with muslin and the charge held down by a brass spiral spring attached to a solid metal disk above. The carbide chamber is clamped to the bottom of the lamp by three hinged eccentric clamps, which keep it rigidly in position. It will be seen the flame is projected straight ahead from a lava tip and there is no lens or glass in front, the reflector being placed at a sufficient angle to throw the light on the road in front of the wheel. The main points made by the manufacturer are its extreme simplicity, lightness and ease with which it can be maintained.

The Full Moon Acetylene Lamp

This is the name of the lamp as it appears in the earliest, known literature. A July 29, 1899 issue of the periodical *Iron and Steel* included the above advertisement and illustration (*Iron and Steel* 1899, 13). *Iron and Steel* was a trade publication "Devoted to the Hardware and Metal Trades." The next earliest reference is found in an October 10, 1899 issue of *Hardware*, another trade publication that billed itself as "A Review of the American Hardware Market" (*Hardware* 1899, 30). I have enlarged this advertisement and converted it to Word format so that it is easier to read.

The Full Moon Acetylene Lamp

We present herewith an illustration of a new Acetylene Lamp which is manufactured by F. E. Baldwin, New York, and is placed upon the market and before the Hardware trade by Hermann Boker & Co. No. 101 Duane Street, New York, who are sole agents for the sale of the same. This lamp is specially designed for bicycles, carriages, etc. It is made of brass nicely nickeled, is 5 1/8 inches high, and has a reflector three inches in diameter and when empty, the lamp weighs only nine ounces. Through a screw cap at the top, water is introduced and the flow entirely controlled by turning the wire indicator, which is shown on the top of the lamp, either to the right or left. One of the principal difficulties in burning carbide is in keeping the channels clean and free from ordinary obstructions. In the "Full Moon" lamp this is accomplished with regard to the water-feed by a very simple and ingenious device by means of which the water tube is automatically freed of any ordinary accumulations of carbide powder every time the water indicator is used at all. The carbide is placed in a cylinder fastened to the bottom, the cylinder

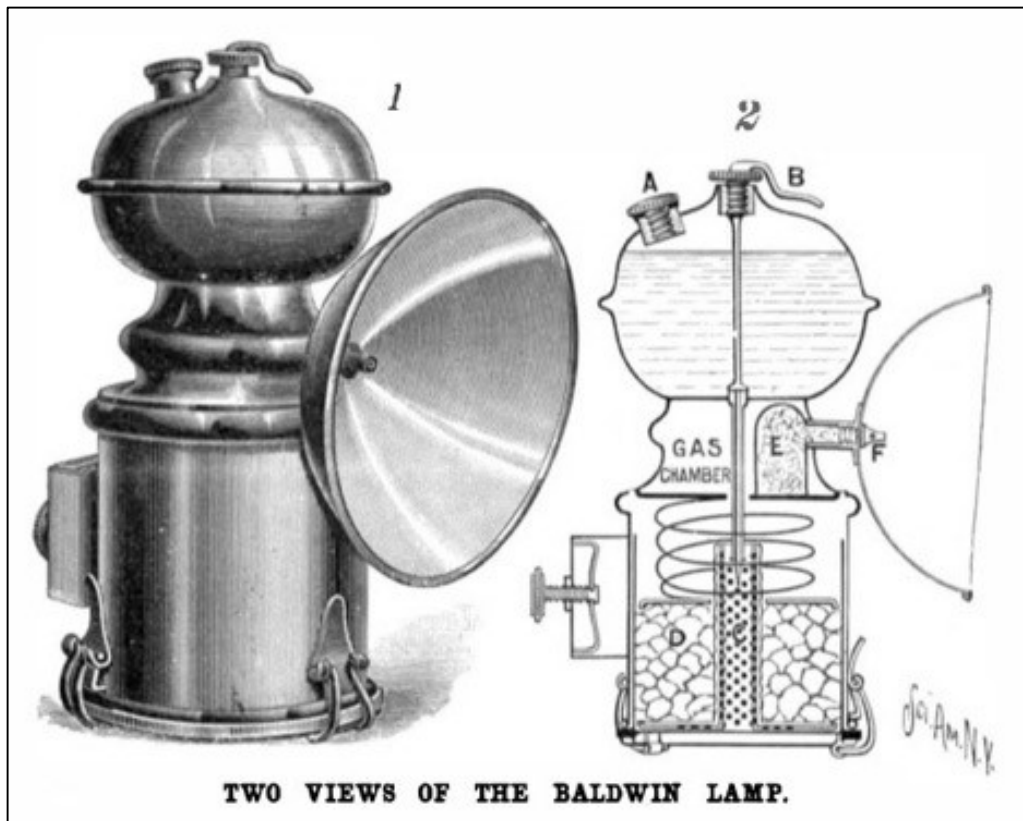
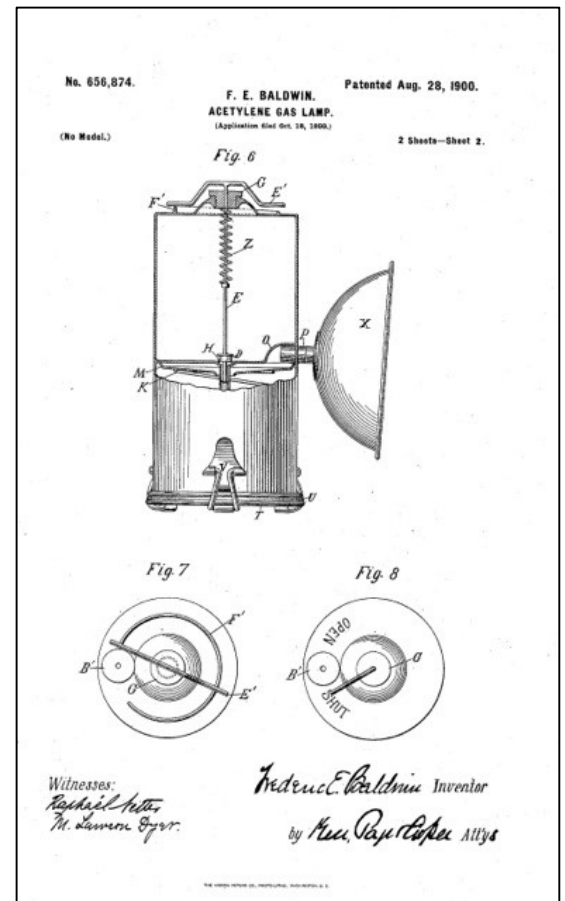


being two inches high and 2 3/16 inches in diameter. Above the carbide is a perforated disk and tube the latter being wound with muslin and the charge of carbide held securely in its place by a brass spiral spring attached to a solid metal disk above. Three hinged eccentric clamps, which are shown in the illustration, secure the carbide chamber to the bottom of the lamp, and keep it rigidly in its position. It will be noticed that the flame is projected straight ahead from a lava tip, and there being no lens or glass in front, the reflector can be placed at a sufficient angle to throw the light on the road immediately in front of the wheel. The main points claimed by the manufacturer are its extreme simplicity, its great lightness, and the manifest ease with which it can be maintained when in use.

The physical descriptions of the lamp in these two short pieces are invaluable. They are almost identical. Both pieces are written much like press releases of today. They seem intended to market the Full Moon to potential buyers, in particular to distributors of tools and hardware for sale to their customers. That suggests that they were likely written by Fredric E. Baldwin, himself, the inventor of the lamp. Interestingly, the later piece, published in *Hardware* on October 10, 1899, notes that the lamp “is placed upon the market and before the Hardware trade by Hermann Boker & Co, . . . who are sole agents for the sale of the same.”

Another thing of note is that both of the advertising pieces describe the lamp as being specially designed for “bicycles, carriages, etc.” Both then go on to extol the virtues of the reflector, noting “the reflector can be placed at a sufficient angle to throw the light on the road immediately in front of the wheel.” Finally, the illustrations of the lamp show a square bracket on the back of the lamp, rather than a cap hook or handles.

At the same time as Baldwin developed and introduced the Full Moon, he also introduced the Baldwin Acetylene Bicycle Lamp, which was “noteworthy for its simplicity, cleanliness, and efficiency over earlier models” (Clemmer, 17; *Scientific American* 1900, 394). The same patent that was issued to Baldwin for the Full Moon covers that lamp as well.



In December 1899, Hermann Boker & Co. was marketing both lamps to cyclists and the bicycle industry. The December 21, 1899 issue of *The Wheel & Cycling Trade Review* (*The Wheel* 1899, 29) contains this beautiful advertisement for the lamps.

By June of 1900, A. H. Funke, 101-103 Duane Street, New York City, was marketing Baldwin’s Bicycle Lamp (*Scientific American* 1900, 394).

Baldwin did not patent his lamps until 1900, and did



not file his patent application until after his Full Moon lamp was already being marketed. His patent, No. 656,874, was issued on August 28, 1900, based on an application filed October 29, 1899. Based on the many carbide lamps that are marked "patent pending" or "patent appl'd for," it would appear to have been a common practice to manufacture and market a lamp before a patent was granted, but I was surprised to learn that in the case of the Full Moon that apparently occurred even before a patent application was filed. That might explain why there is no marking on the Full Moon referring to a patent or patent application.

Baldwin's patent application notes that he had invented certain "new and useful Improvements in Bicycle-Lamps." The application goes on to state "the invention [that is the] subject of my present application for patent is an improvement in lamps more especially designed for use as bicycle or carriage lamps, but capable also of general use and a

dapted to burn acetylene or similar gas." Baldwin was anticipating that the lamp might be marketed and used for other purposes.


1900
Specialties.

 Send for Catalogue
 and Prices. —

Hermann Boker & Co.,
101-103 Duane Street,
NEW YORK.
 Kindly mention The Wheel.



The Baldwin Gas Lamp.



Baldwin Brake No. 2.



PATENT APPLIED FOR.
 FELT
 Baldwin Brake No. 1.



Full Moon Gas Lamp.

All of this information, including the nature of the trade journals in which the descriptions of the lamp were first published (hardware journals rather than mining journals or catalogues), seems to show conclusively that the Full Moon originated as a bicycle or carriage lamp and only later was modified to serve as a mining lamp.

The earliest known reference to the marketing of the Full Moon as a mining lamp is contained in the September 15, 1900 issue of *The Engineering and Mining Journal*. *The Engineering and Mining Journal* contains an article entitled "The Baldwin Acetylene Lamp for Mines" (*The Engineering and Mining Journal* 1900, 312-13). The accompanying illustration of the Full Moon lamp is exactly like that shown in the 1899 issues of *Iron and Steel* and *Hardware*, which advertised the bicycle lamp. Nevertheless, *The Engineering and Mining Journal* describes the lamp as a "portable acetylene lamp adapted for use in mines" (*Engineering and Mining Journal*, 312). *The Journal* says that, "A handle - not shown in the drawing - is attached to the catch shown at one side." According to the *Journal*, Albert H. Funke of New York was making the lamp under the Baldwin patent. The *Journal* also contains a drawing that shows the internal parts of the lamp.

The description of the lamp is as follows:

"Fig. 2 [is] a section of the lamp. The lamp as usually made is 5 in. high, weighs about 9 oz. and will burn 4 hours with one charge. A handle - not shown in the drawing - is attached to the catch shown at one side. The construction is readily seen in the sectional cut, the upper chamber containing the water, the lower the carbide. The flame projects directly out of the front of the reflector. . . . The bottom fastens on with three clutches, which make an extremely tight joint, but are easily loosened by the fingers; thus it is never difficult to open these lamps, which so often happens where the bottoms are screwed on."

The article neither describes nor illustrates the "handle" for the lamp, but presumably it was secured to the lamp with the screw-down clamp at the back.

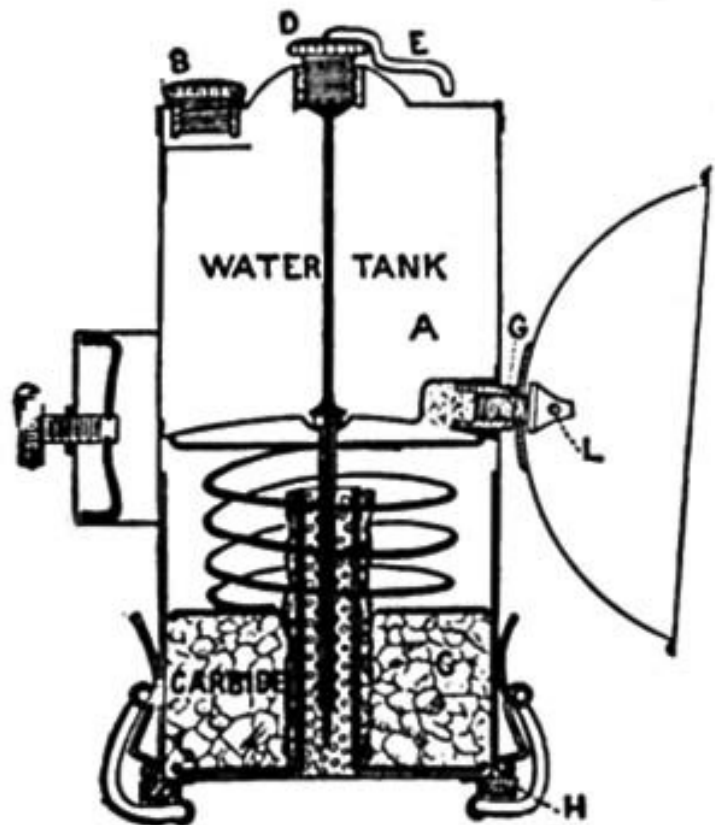
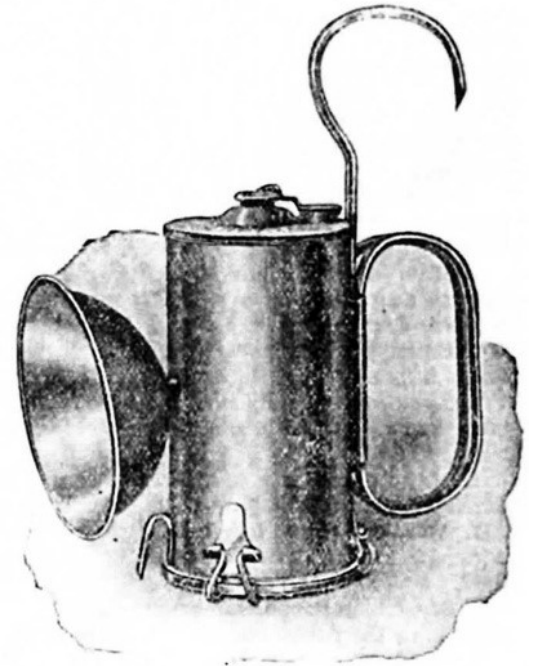


FIG. 2.
THE BALDWIN ACETYLENE LAMP.

The earliest known description and illustration of the Full Moon specifically in a mining version is in an article in the May 23, 1901 issue of *Iron Age* (Iron Age 1901, 66)

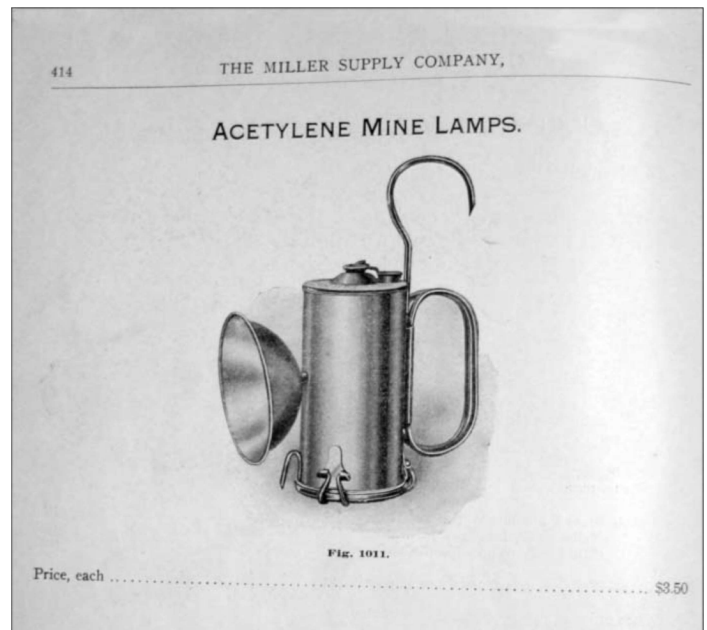
Baldwin Acetylene Mine Lamp

A. H. Funke, 101 Duane Street, New York, has recently put on the market the Baldwin acetylene miners' lamp, as here illustrated, which in construction is an adaptation of his Full Moon bicycle lamp. It is designed principally for use in coal mining and is particularly useful in surveying. The curled pointed wire under the reflector gives the center of the flame in running lines, &c., in the mine. When looked at through surveying instruments, the flame, pencil-like in appearance, gives certainty as to the exact point. The surveying pole can be seen distinctly for a long distance when the light is thrown upon it. At the back of the lamp are two swinging oval handles and a hook, which revolves laterally. The hook forms a handle with which to carry it, and also allows of the lamp being hung up in the mine or on the person at will. There is no smoke or odor, and the strong, brilliant white light, it is stated, makes possible examinations 50 feet distant. One charge of water and carbide lasts four hours, costing less than 2 cents, and it can be quickly recharged. The carbide is held in a removable inner chamber fast to the bottom, and held by three eccentric clamps. Water is introduced above and regulated by a movable indicator. The reflector has no glass, and the flame is projected horizontally an inch or more in length, according to the amount of water fed to the carbide. The lamp is very simple, is made of nicked brass, weighs 9 ounces, and has been tested for several seasons for other purposes.



The most distinct differences between this lamp and the bicycle lamp illustrated in the 1899 issues of *Iron and Steel* and *Hardware* are the “shepherd’s crook” style of hook, the swinging, oval handles, and the odd, little curled wire below the reflector – the “surveyors’ hook,” although the assertion that this little curved wire would aid in underground surveying seems dubious at best. Gone is the relatively bulky, square bracket at the back of the lamp. Instead, the mounting bracket for the hook and handles appears to be soldered on, like those of other superintendents’-style lamps collectors are familiar with. Otherwise, the profile and inner workings of the lamp remain unchanged.

Until Tony Moon’s recent discovery of the above article, it was believed that the earliest illustration of a mine version of the Full Moon was contained in an advertisement from an August 1902 catalogue published by *Miller Supply Company* of Huntington, West Virginia. Tony sent me a copy of this illustration, as well.



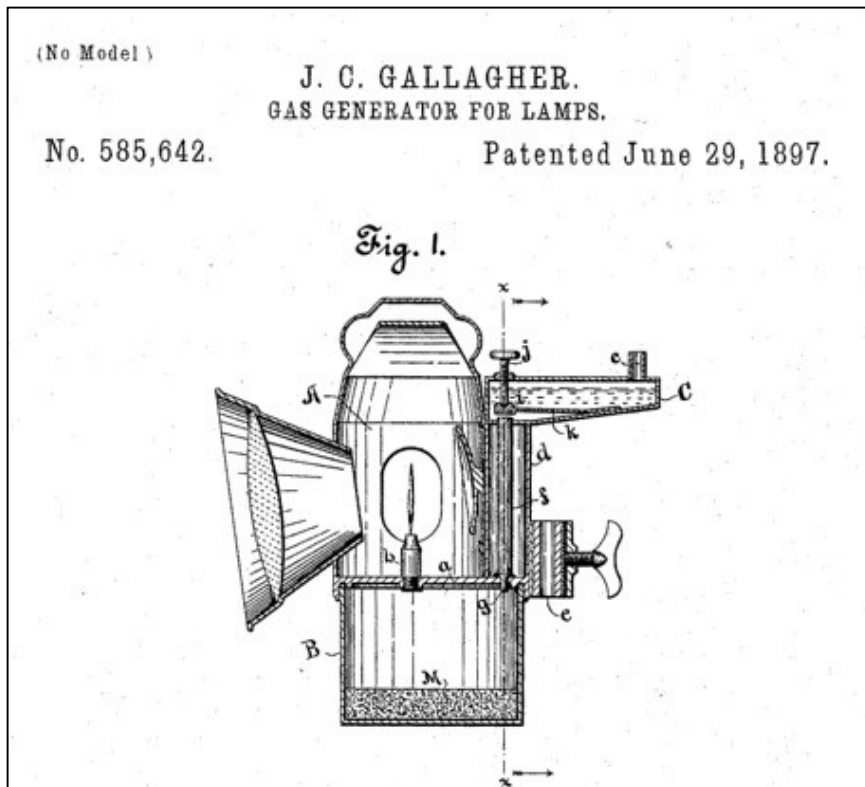
1902 Catalog page from Miller Supply Co., Huntington, WV

This appears to be same lamp that is described in the May 1901 issue of *Iron Age*. The price, \$3.50 apiece, seems somewhat high for a mining lamp of the time, especially in comparison to oil-wick lamps. For example, this same page of the *Miller Supply Company* catalogue also advertised the A.H. Funke “Indestructible” oil-wick lamp for \$1.50 apiece. This, together with the relative lack of utility of a superintendent’s lamp as compared to a cap lamp, may help explain the rarity of the Full Moon today.



Tony Moon has also discovered a wonderful photograph of a Full Moon in use in an underground mine. The photograph was taken underground in the Ontario Mine, Summit County, Utah, ca. 1902 (USGS Photographic Library). The miner’s lamp was included for scale.

As Gregg Clemmer notes, it is difficult to determine who developed the first portable acetylene lamps. However, the development of acetylene bicycle lamps appears to have preceded the development of acetylene mining lamps. In 1897, American inventor J. C. Gallagher patented one of the first acetylene bicycle lamps (Clemmer, 15). His patent, No. 585,642, shows a lamp that bears some similarities to later mining lamps.



To summarize, in 1899, the Full Moon was marketed as a bicycle lamp. By September 1900, however, the Full Moon was also being marketed to the mining industry, as the *Engineering and Mining Journal* article shows, though it did not appear with its hook or folding handles until 1901. In less than two years, the Full Moon went from bicycle lamp to mining lamp. By June of 1901, the Full Moon was probably in use in American mines. This likely makes the mining style of the Full Moon lamp the earliest American carbide, mining lamp. This, together with its funky, but cool, design, its rarity, and the fact that Baldwin designed the lamp, makes the Full Moon highly desirable among lamp collectors today.

My Quest for a Full Moon

In fairness, it can't truly be said that I went on a search, much less a quest, for a Full Moon. Instead, the Full Moon that I discuss in this article came to me. In June 2014, my long-time friend, Wendell Wilson, contacted me about a lamp that he described as a "Moon Lite." Wendell and I have known each other since college, and are fellow collectors, initially of mineral specimens, then of mining artifacts. Wendell is the Illustrator of Gregg Clemmer's book, *American Miners' Carbide Lamps*, and the coauthor with Ted Bobrink and illustrator of *Collector's Guide to Antique Miners' Candlesticks*. Among mineral collectors, Wendell is best known as the long-time editor of *The Mineralogical Record*, a preeminent and beautiful monthly periodical on minerals and mineral collecting.



Wendell (right) and Me (left) at the Harquahala Mine, ca. 1968

At the time Wendell contacted me, he was trying to decide whether to purchase the lamp he asked me about. After some back and forth, I told Wendell that the lamp was probably a Full Moon, that it was a very rare lamp, and that, depending on condition was potentially valuable and expensive. At that point, I didn't know whether a Full Moon was strictly a hand lamp or was also made in a cap lamp version. I asked Wendell to send me pictures of the mystery lamp, and I began to correspond with other collectors and to do some more research. I contacted Neil Tysver, Tony Moon, and Larry Click. I also consulted David Thorpe's invaluable *Carbide Light* and Hal Post's indispensable website.

All were tremendously helpful. Kudos especially to Neil, Tony, and Larry for the time they took advising me. All three told me that Full Moons were made only as hand lamps. From Neil I learned that Full Moons come in the "mine style" with the attached handles and hook, or the "carriage style" with the handles attached by a screw clamp in the bracket on the back. The following pages illustrate the Full Moon lamps in the collections of several prominent collectors who assisted me and contributed to this article.

It is likely that, of all the Full Moons for which I was sent or collected photographs, the one in Hal Post's collection is the earliest mining version of the lamp. Hal's Full Moon most closely resembles the one pictured and described in the September 15, 1900 issue of *The Engineering and Mining Journal*.



In this photograph, you can see the square bracket on the back that originally appeared on the bicycle version of the lamp, in which oval handles have been clamped. In fact, the handles are the only apparent difference between this Full Moon and Baldwin's bicycle lamp of 1899. *The Engineering and Mining Journal* calls this lamp "The Baldwin Acetylene Lamp for Mines," and describes it as a "portable acetylene lamp adapted for use in mines." Thus, while there may be a tendency among collectors to refer to this style of lamp as a "carriage" or "bicycle" style of Full Moon, it should probably still be regarded as a mining lamp. That was clearly Baldwin and Funke's intention.

This truly is a beautiful lamp. The top stamping is unique, quirky, and gorgeous. You can't help but admire the name of the lamp, "Full Moon," possibly referring to its large, round reflector, and you have to smile at the use of the words "Open" and "Shut" rather than "on" and "off," as are used in so many later lamps to indicate the way that the water valve operates. Baldwin added a "finger pointer" to show whether the valve is opened or closed (see *Scientific American* 1900, 394).



Another significant feature of Hal's lamp is the lack of the curious, little surveyors' hook, indicating that Hal's lamp belongs to the first generation of Full Moon mining lamps. The following photo also shows the bottom of the lamp, and how it is secured to the top by the three clasps on the base of the lamp.

Hals' website also shows the correct internal parts of the lamp. From the descriptions of the lamp in Baldwin's patent application and various journals, we can deduce their function.

The muslin-wrapped water feed protector, with the disk-like base, was first placed in the base of the lamp. Baldwin's patent says the purpose of the perforated cylinder and its muslin wrapping is to better distribute the water to the carbide. The base of the lamp, with the water feed protector in place, was then filled about half full with calcium carbide. The spring-actuated disks ("a spring-pressed follower") were placed over the water feed protector, to prevent the carbide from being jolted out of its base (Scientific American 1900, 394). The entire base was then inserted into the lamp body, being careful to thread the water feed inside the perforated cylinder of the feed protector. The base was then clamped to the top using the three clasps on the base of the lamp. The water tank was then filled with water. While it is claimed that this was a simple lamp to use, the filling and reassembly of the lamp must have been a bit tricky given the fact that the base of the lamp was under spring pressure when it was inserted into the lamp body. However, this is not unlike the spring pressure that must be overcome when reassembling modern semi-automatic firearms, and was probably a good deal easier.

The lamp in Tony Moon's collection probably represents the next generation of the Full Moon mining lamps. Tony's lamp matches the lamp described and pictured in the May 23, 1901 issue of *Iron Age* and the August 1902 *Miller Supply* catalogue. The lamp has the "shepherd's crook" style of hook and handle, folding handles as well, and the surveyors' hook below the reflector. Tony tells me that the "shepherd's crook" handle is removable if it is first rotated by 180 degrees. This was necessary in order to fit the lamp into the neat wooden box that it came in.



Note the hook and handle style and the surveyors' hook below the reflector. Note, too, the height of the lamp in comparison with the lamp box when the shepherd's crook handle is in place.

The photograph on the following page shows the lamp with the shepherd's hook removed and the oval lamp handles folded against the sides of the lamp. (The shepherd's hook is in the background and is partly visible between the lamp and its box, showing how both the lamp and hook fit into the box.)

Some would argue that this generation of the Full Moon is the first true mine style of Full Moon lamp, and perhaps it is. The September 15, 1900 issue of *The Engineering and Mining Journal* says that a "handle," not handles, was added to the bicycle version of the lamp, and describes that lamp, so modified, as a mining lamp. While the singular "handle" was used in the 1900 description, it nevertheless seems likely that Baldwin and Funke added oval handles to the bicycle lamp of 1900 in an attempt to market the carriage style of lamp (with the superintendents' style handles) to miners and the mining industry. Hal Post tells me that the handles on his lamp do not fold against the side of the lamp. They are clamped in place, and so are difficult to move unless the clamp is loosened. Hal tells me that the handles on his lamp were in place when he acquired his lamp, and they certainly appear to be original to the lamp. But the 1901 elimination of the square bracket in the back, and the addition of the shepherd's style hook and folding oval handles undoubtedly made the lamp much more versatile and useful underground. It is this version that is seen in the 1902 USGS photographs of the Ontario Mine in Utah.





XMAS PRESENTS
Mannlicher Repeating Rifles,
Luger Automatic Pistols,
Climax Hammerless Shot Guns,
Baldwin Acetylene Searchlights,
Full Moon Acetylene Camp Lamps,
Acetylene Bicycle Lamps,
Princess Candle Lamps
for Table Decoration.

Separate Catalogues of above on application.

A. H. FUNKE, 101-103 Duane St., New York.

In December 1901, Funke attempted to market the Full Moon to hunters and campers, as well. This advertisement appeared in the Christmas editions of several periodicals. I am indebted to Tony Moon for chasing this information down.

Although there is no picture of the lamp advertised, it seems likely that it is the lamp with the hook and handles that was also marketed to the mining community.

Dave Thorpe writes in his beautifully illustrated book, *Carbide Light*, that:

“Baldwin’s interest in bicycle lamps was short-lived, as was his relationship with Funke. An article in the October 1901 *Engineering and Mining Journal* reveals that Baldwin’s lamps were now ‘being offered’ by the Ingersoll Sergeant Co., a manufacturer and supplier of drilling equipment. In this article, the Full Moon superintendent’s lamp appears beside a new, large, stationary ‘gang lamp’ . . . By the spring of 1902, Ingersoll Sergeant declared themselves the ‘sole agent’ for the Baldwin mine lamp.” (Thorpe 2006, 20, footnotes omitted).



Sometime between mid-1902 and the fall of 1906, the Full Moon superintendent’s lamp underwent further modification. The Full Moon in Neil Tysver’s collection probably represents this version of the lamp, what I would call the third generation of “mine style” lamps. The next three photographs are of Neil’s mine style Full Moon and a box that Neil found for it on eBay. With its more traditional looking hook, as you would find on a later Baldwin hand lamp, Neil believes that his Full Moon was made slightly later than Tony Moon’s lamp, and based on the documentation that has been found, I would tend to agree.



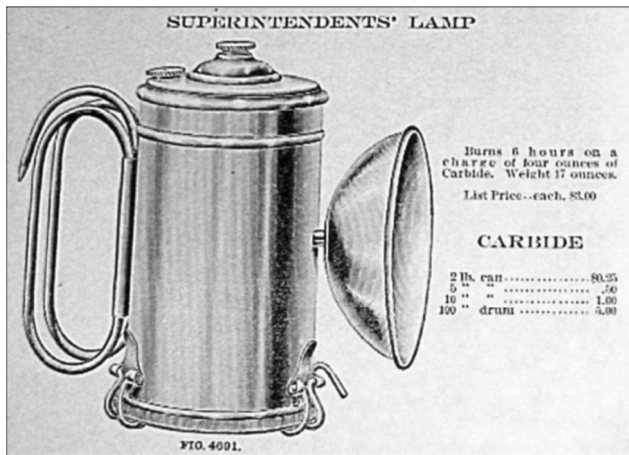
Note that, on Neil's lamp, the superfluous surveyors' hook has been eliminated and that the shepherd's crook style of hook has been replaced with a simple wire hook.



This configuration is much like that seen on later Baldwin hand lamps, one of which is shown to the right. Although difficult to see in the above photographs, Neil's version of the Full Moon lamp also has a spade hook. The folding oval handles have been retained, but they are housed in a bracket that is soldered to the back of the lamp, like those found on Baldwin's Superintendent's Lamp.



Baldwin Superintendent's Lamp
Ca. 1910
David Thorpe collection



A lamp very similar to Neil's version of the Full Moon is listed in a 1906 *Pittsburg Gage & Supply Co.* catalogue (Pittsburg Gage & Supply Co. 1906, 1340). That illustration, from Hal Post's website, is shown left.

Note the folding handles and simple, curved cap hook, like other superintendents' lamps that collectors are familiar with. Like the second generation of Full Moon lamps, it appears to have the surveyors' hook. Unlike the Full Moon, this version of the Baldwin lamp has a more artfully shaped top, a circular ring just blow the top, and a more traditional style of cap hook. It is also about twice as heavy as a Full Moon; it weighs 17

ounces as opposed to nine ounces, and is a larger lamp. Hal Post's website notes that Baldwin developed this lamp after the Full Moon. Hal writes: "Baldwin teamed with Ingersoll-Sergeant Drill Co. to produce the unmarked Superintendent's Lamp, somewhat larger but nearly identical to the Full Moon, but with both handles and a hook. An ad in the 1906 *Pittsburgh Gage and Supply Co. Catalogue* shows this lamp, but the earliest manufacturing date for the lamp is unknown." This larger lamp has come to be known as the Ingersoll Baldwin. A side-by-side photograph of an Ingersoll Baldwin and a "mine style" Full Moon is shown below. I am indebted to Neil Tysver for this photograph. Neil tells me that the reflectors are the same on the two lamps, but that the Ingersoll Baldwin lacks the top stamping of the Full Moon.



The curved, wire cap hook of the Full Moon is the same as the Ingersoll Baldwin, suggesting that this Full Moon is a later version of the mine style lamp that sported the "shepherd's crook" hook.

It is interesting, too, that the Full Moon lamp pictured above also has a spade hook as well as a wire hook, and that the wire hook can be turned to the side so that the spade hook may be used instead, thus

potentially giving the lamp more versatility and marketability. Entrepreneurs of the late 19th and early 20th Centuries behaved much like those of today.

Other versions of the lamp (and they exist) are more difficult to date. For example, the Full Moons pictured on Larry Click’s website lack wire hooks, folding handles, and the surveyors’ hook, but are said to have spade hooks. Larry believes these lamps to be carriage style lamps, but their exact genealogy is anybody’s guess. Using the advertisements and articles that collectors have discovered over the years, it is possible to piece together a tentative chronology for the Full Moon.

Lamp Style	Date	Key Features	Marketing Agent
Bicycle / Carriage	1899	Square Bracket, No Handles	Hermann Boker & Co.
Mine – First Gen.	1900	Square Bracket, Oval Handles	A.H. Funke
Mine – Second Gen.	1901-1902 (?)	“Shepherd’s Crook,” Oval Handles, Surveyors’ Hook	Funke / Ingersoll
Mine – Third Gen.	1902-1905 (?)	Wire Hook, Oval Handles, No Surveyors’ Hook	Ingersoll



Hermann Boker & Co, 101 & 103 Duane St., NYC

My assignment of what I refer to as “Marketing Agents” to each generation of Full Moon lamp is somewhat arbitrary. I have been faithful to the information given in the various advertisements and articles referred to herein. However, it may be misleading to refer to Hermann Boker & Co. and A. H. Funke as separate entities. An early guide to New York City links the two. This reference describes Hermann Boker & Co. as “wholesale dealers in cutlery, hardware, guns and metals” (King 1893, 902). It goes on to say that Hermann Boker, a lineal descendant of an old family of Prussian merchants, founded the business in 1837. In 1872, a new building was constructed to house the firm, and the business was relocated to a “large iron-front business building, 101 and 103 Duane Street, extending through to 10 and 12 Thomas Street, just west of Broadway.” In 1893, the partners in the firm consisted of Ferdinand A. Boker and Carl F. Boker, both sons of Hermann Boker, and Albert H. Funke, the son of Hermann Funke, and brother of Hermann Funke, Jr., two former partners, who died in 1890. Carl F. Boker and Albert H. Funke entered the firm in 1891, “the former adding his business in steel and metals, which he then conducted in John Street under his own name” (King). The Bokers and the Funkes appear to have been partners in the firm from early on; however, their partnership ended on December 30, 1899, when the partnership “expired by limitation.”

Carl F. Boker continued the business of the firm in steel, metals, cutlery, and hardware. A. H. Funke continued the business of the Gun Department and “Bicycle Sundries” under his own name at the same address (Hardware 1900, 19). Funke apparently became the sole marketing agent for the Full Moon at that point, although there was a period of time between 1901 and 1902 during which Funke and Ingersoll-Sergeant probably both marketed the lamp. The point at which

Funke ceased to offer Baldwin's Full Moon mine lamp and whether and when Ingersoll-Sergeant may have become the exclusive marketing agent for Baldwin's mine lamps is unclear.

As noted above, an October 1901 article in the *Engineering and Mining Journal* reported that Ingersoll-Sergeant had begun to sell Baldwin's mine lamps. The article carries a photo of both the Full Moon and Baldwin's newly developed gang lamp. The article describes the gang lamp as coming in two sizes, a larger No. 8 lamp and a smaller No. 7 lamp. Dave Thorpe notes that by the spring of 1902, Ingersoll-Sergeant had declared itself the "sole agent" for Baldwin's mine lamp (Thorpe 2006, 20).



Portable Acetylene Lamps

A similar article in the November 1901 issue of *American Machinist* contained this illustration and reported as follows:

"The half-tone shows two sizes of Baldwin acetylene lamp, the smaller being known as the 'Superintendent's lamp' and the larger as the 'Gang' lamp. The relative sizes are indicated by the 2-foot rule which stands between them. The small lamp has swinging handles for carrying in the hand, and both lamps have a hook for suspending the lamp where desired. The hook turns to come over the center of the lamp and then becomes a convenient handle for carrying. The small lamp weighs 9 ounces and burns with full brilliancy for four hours at a cost of two cents. The lamps here shown are designed for mines, tunnels and other underground work, . . . The sole agents for the lamps are the Ingersoll-Sergeant Drill Company . . ." (American Machinist 1901, 1256.)

A 1902 New York City business directory lists Funke at the 101 Duane Street address under "Acetylene Gas Lamps" (Trow 1902, 4), but by 1903, Funke has relocated to 325 Broadway, where he is listed under both "Acetylene Gas Lamps" and "Gun & Pistol Importers" (Trow 1903, 6, 648). A January 1903 "Trade Notice" in *Mines and Minerals* indicates that Funke continued to sell Baldwin's mine lamps from his new address. This Trade Notice reported as follows:

Acetylene, next to the sun, has the greatest actinic power, that is it gives the whitest and most powerful light, other things being equal, of any artificial forms of light. A. H. Funk (sic), 325 Broadway, New York, has taken advantage of this property of acetylene, and uses this form of light in his Baldwin mine lamps, which he states have now been shipped all over the world; 100 No. 8 lamps, he advises, have just been shipped to one party in South Africa, where these lamps seem to be doing good work. (Mines and Minerals 1903, 267.)

The No. 8 lamp referred to in the 1903 notice must be the large Baldwin gang lamp. A similar notice, published in the June 21, 1901, issue of *The Engineering and Mining Journal* reports:

Ira A. Shaler, contractor for the 34th Street section of the New York subway, has ordered from A. H. Funke, of New York, 15 No. 8 Baldwin acetylene mine lamps having found them efficient and economical, a 50-candle-power lamp costing but 7c. for each 12 hours of lighting. Mr. Funke has also received an order from the E. G. Spillsbury Engineering Company for a number of the hand acetylene mine lamps for the men in some of the mines in which that company is interested. (*The Engineering and Mining Journal* 1901, 790).

This June 1901 notice distinguishes between the No. 8 lamp, a lamp of greater capacity, and a Baldwin hand lamp, which is almost certainly the Full Moon, most likely the version pictured in the May 1901 issue of *Iron Age*, the lamp with the shepherd's crook hook and folding handles, what I've called the second generation Full Moon.

My conclusion that the No. 8 lamp referred to in the January 1903 issue of *Mines and Minerals* and the June 1901 issue of *The Engineering and Mining Journal* is the Baldwin gang lamp also seems to be borne out by a later article in a March 1902 issue of *The Engineering and Mining Journal*. There, a half page article reports on the use of Baldwin acetylene lamps in the construction of the New York subway. The article includes a photograph that shows four workmen working by the light of what appears to be one Baldwin gang lamp. The article reports that the contractor, Ira A. Shaler, "uses the new light with much satisfaction." (*The Engineering and Mining Journal* 1902, 420.)

In contrast to the notices and advertisements for the Baldwin gang lamp, the following July 1901 notice can only refer to the Full Moon hand lamp:

The Baldwin acetylene mine lamp is described in a little pamphlet sent out by A.H. Funke of New York City. The lamp is stated to weigh but 9 oz., to give no smoke or smell and to throw such a strong light that examinations can be made at a distance of 50 ft. The lamp, it is claimed, will burn 4 hours on one charge at a cost of 2c. per charge, and can be recharged in 2 minutes. (*The Engineering and Mining Journal* 1901, 75.)

Where does all of this leave us? I believe that it largely confirms the table shown above, which sets forth a tentative chronology of and marketing agents for the Full Moon. Hermann Boker & Co. began marketing the bicycle version of the lamp in 1899. Funke began marketing the first generation of Full Moon mining lamp in about September 1900, and the second generation of Full Moon mining lamp by May 1901. This lamp was probably in use in the mines by June 1901. Funke probably continued to market the Full Moon lamp in its second-generation configuration at least through December 1901. In October 1901, Ingersoll-Sergeant also became a marketing agent for Baldwin's mine lamps, but I think that this new research shows that Ingersoll-Sergeant was not the exclusive agent for Baldwin's lamps, despite Ingersoll-Sergeant's claims to the contrary. Funke appears to have been marketing Baldwin's gang lamp for use in

the mines and elsewhere as late as January 1903. I do believe, however, that Ingersoll-Sergeant likely became the exclusive agent for the sale of Baldwin's hand lamps beginning in 1902.

By 1904, Funke was probably out of the business of marketing lamps for use in the mines and was devoting his attention exclusively to marketing acetylene lamps for automobiles. A February 1904 issue of *Motor Age* contains this beautiful, half-page ad by Funke (*Motor Age* 1904).

ACETYLENE GAS LAMPS 1904

No. 23. Price \$20.00.
Diam. 5¾ in. Depth 10¼ in. Height 13 in.

BAUSCH & LOMB
Lens Mirror Searchlights.
No. 26. Price \$27.50. Diam. 7 in.
No. 27. Price \$40.00. Diam. 8 in.

No. 24. Price \$27.50.
Diam. 7 in. Depth 12 in. Height 13½ in.
No. 25. Price \$35 00.
Diam 8½ in. Depth 13½ in. Height 14½ in.

Send for Catalogue H showing full line of Lamps and Imported Horns.

A.H. FUNKE 325 BROADWAY NEW YORK

Dave Thorpe summarizes much of this history in his newest book, *Beneath the Surface*. Dave writes:

Baldwin's Full Moon was featured in an article in the June 1901 issue of *Scientific American*. Within months, Baldwin realized his lamp was better suited to less windy conditions of a mine and began advertising to the mining industry. By 1901 he had cultivated a relationship with the mine-equipment manufacturer Ingersoll-Sergeant Drill Company which sold Baldwin's Full Moon acetylene lamp equipped with [folding] handles and a hanging hook for mine use. (Thorpe 2010, 6, footnote omitted).

Why Baldwin and Funke parted ways and Baldwin formed a new relationship with Ingersoll-Sergeant for the marketing of his mining lamps is nowhere explained, but it probably had everything to do with the changing business interests of the two men. Again, Dave Thorpe notes:

[From the point at which Baldwin formed a relationship with Ingersoll-Sergeant], Baldwin pursued only the mining industry, while Funke's interests moved in the direction of motor sports. Based on Baldwin's design, Funke marketed an open-faced motor lamp called the

Auto-Lyte. The name was first trademarked by Baldwin in 1903, but was later acquired by Funke . . . (Thorpe 2010, 6).

The period between 1902 and 1906 is largely a mystery so far as the Full Moon is concerned. But by 1905, the Full Moon was probably out of production, although it may have continued to be sold from existing stocks held by wholesalers and retailers. Dave Thorpe writes that, as early as December 1905, Baldwin had developed a new water feed and a cap lamp for working miners that was put on the market early in 1906 (Thorpe, 21). A 1906 article in *The Engineering and Mining Journal* makes reference to this lamp and a “full-shift lamp.” The article also refers to a superintendent’s lamp, which is not pictured, but I suspect the article is referring to the Ingersoll-Baldwin shown in the 1906 *Pittsburg Gage & Supply Co.* catalogue. Here is an extended excerpt from the article that appeared in Volume 82 of *The Engineering and Mining Journal* (Parsons 1906, 111). The entire article is well worth reading when you have the opportunity.

“The accompanying illustrations were furnished by F. E. Baldwin, . . .

“Fig. 1 shows a lamp designed for use on a miner’s cap; it weighs 4 oz., when charged, is 4 in. high, and burns 4 hours on a charge of 1 $\frac{3}{4}$ oz. of carbide. Fig. 2 illustrates a full-shift lamp weighing 18 oz. when charged, burning 12 hours on 6 oz. of carbide, and having a height of 6 in. Fig. 3 shows a section through the full-shift lamp. Besides the lamps shown here, there is a slightly larger one called a superintendent’s lamp, and a safety lamp which Baldwin has not yet attempted to introduce.”



Fig. 1

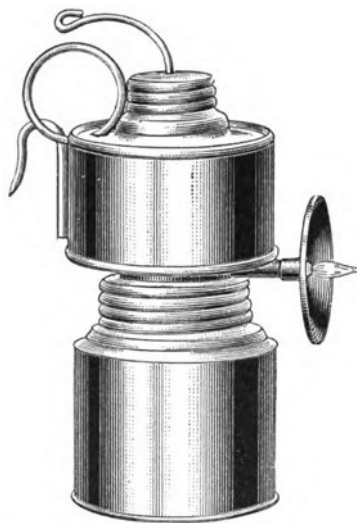


Fig. 2

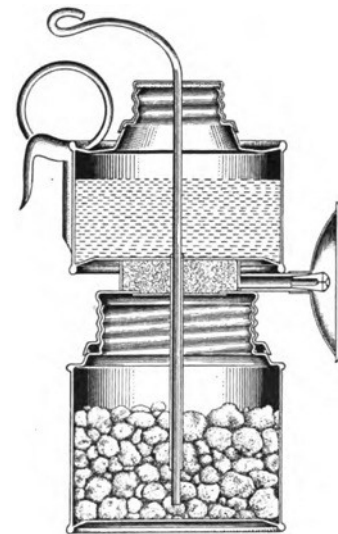


Fig. 3

By the time I had corresponded with the other collectors, gotten pictures from them, and examined their websites, Wendell Wilson had sent me photos of the lamp that was being offered to him, told me he wasn't interested in the lamp, and asked me if I was. Here is the first set of photos that was sent to me of the mystery lamp:



I forwarded these to Neil, Tony, and Larry and asked for their opinion. Neil said: "The hook on this lamp appears to be two smaller wires. Without having [the lamp] in my hand, I have no way of knowing if this is yet another style of hook or just a bad attempt at making a replacement for a missing hook. The other consideration is that you need to see if the internal parts are present when the bottom is removed." Tony

said: "The lamp you are considering has good news and bad news. The good news is that the reflector looks correct (it screws on and off – carefully!). The bad news is that the hook looks to be a replacement." Larry gave me some additional information about the Full Moon, and told me he might be interested in the lamp if I decided to turn it down. Neil and Tony also recommended that I get pictures of the internal parts of the lamp and of the handles folded against the sides of the lamp. All three told me not to worry much about the out-of-round reflector or the small dings in the top. I consulted Hal Post's website to find a picture of the correct internal parts, and found the photograph shown at the bottom of page 12, above.

I then asked the seller to send me some additional photos of the lamp that showed the things that Neil and Tony had told me about. The seller sent these to me:



The lamp that was offered to me appears to be a second generation Full Moon mining lamp. It has the folding oval handles, and the surveyors' hook below the reflector. The handles correctly fold against the side. However, it lacks the shepherd's crook style of hook and the internal parts are incomplete (the disk-like plates above and below the coil spring are missing). Because of the condition problems, especially the questionable hook and incomplete internal parts, I turned the lamp down. Larry also passed on the lamp. As of the date of the writing of this article, I do not know whether the lamp is still available for sale. However, if are interested in the lamp, you may contact me and I will give you the seller's contact information.

The search for all of this information was intensely enjoyable. Thanks so much to everyone who helped me along the way. As of today, I still haven't found my Full Moon, but having now studied the lamp with some care and seen the pictures of the beautiful Full Moons in the collections of others, my quest will begin in earnest.

References

Other collectors, listed in the Preface, kindly made me aware of many of these references. I am indebted to them. References to materials found on Google Books include a bracketed reference that shows the relevant page number of the PDF document that may be downloaded from the Google Books website. To use Google Books, you must first register with a user name and password, but it is well worth it. Once you have found the document you are looking for, you may save it to your on-line Library and download a complete PDF version to your personal computer. I suggest that you do both. You may edit pictures in the PDF document in Adobe Photoshop (copy the PDF page or picture you're interested in and paste it into a new document in Photoshop). The Smithsonian Institution Libraries also maintain a wonderful website where many documents and illustrations in the public domain may be downloaded and used, with appropriate reference and attribution to the Smithsonian Libraries that includes the URL of the on-line document referred to. One of those references, *The Wheel and Cycling Trade Review*, is noted below.

Books

- Clemmer, Gregg S. 1987. *American Miners' Carbide Lamps: A Collector's Guide to American Carbide Mine Lighting*. Tucson, Ariz: Westernlore Press.
- King, Moses. 1893. *King's Handbook of New York City*. 2nd ed. Boston, Mass: Moses King. Excerpt and illustration from W. K. Fine Tools.com. Accessed August 22, 2014.
<http://www.wkfinetools.com/hus-bortools/Boker&Co/history/history-01.asp>.
- Thorpe, Dave. 2006. *Carbide Light: The Last Flame in American Mines*. Washington, D.C.: Bergamot.
- . 2010. *Beneath the Surface: Inventors and Marketeers of the Miners' Carbide Light*. Washington, D.C.: Bergamot.

Articles

- American Machinist. 1901. *American Machinist*, Vol. 24, No. 45 (Nov. 7, 1901), 1256. [Google Books, page 611 of American_Machinist.pdf.]
- Hardware. 1899. "Full Moon Acetylene Lamp." *Hardware*, Vol. 20, No. 1 (Oct. 10, 1899), 30. [Google Books, page 39 of Hardware.pdf.]
- . 1900. *Hardware*, Vol. 20, No. 9 (Feb. 10, 1900), 19. [Google Books, page 590 of Hardware.pdf.]
- Iron and Steel. 1899. "Full Moon Acetylene Lamp." *Iron and Steel*, Vol. 75, No. 5, (July 29, 1899), 13. [Google Books, page 110 of Iron_and_Steel.pdf.]
- Mines and Minerals. 1903. "Trade Notices." *Mines and Minerals*, Vol. 23, No. 6 (January 1903), 267 [Google Books, page 290 of Mines_and_Minerals.pdf.]
- Motor Age. 1904. *Motor Age*, Vol. 5, No. 6 (February 11, 1904). Unfortunately, I have not been able to obtain a page reference for this striking illustration, which I purchased off of eBay in August 2014.
- Parsons, F. W. 1906. "Acetylene Lamps for Mines," *The Engineering and Mining Journal*, Vol. 82, No. 3 (July 21, 1906), 111. [Google Books, page 148 of Engineering_and_Mining_Journal.pdf]
- Scientific American. 1900. "Baldwin Acetylene Bicycle-Lamp." *Scientific American*, Vol. 82, No. 25 (June 23, 1900), 394.
- The Engineering and Mining Journal. 1900. "Baldwin Acetylene Lamp for Mines." *The Engineering and Mining Journal*, vol. 70, No. 11 (September 15, 1900), 312-13. [Google Books, pages 341-42 of Engineering_and_Mining_Journal.pdf.]

- . 1901. "Industrial Notes." *The Engineering and Mining Journal*, Vol. 71, No. 25 (June 21, 1901), 790 [Google Books, page 803 of [Engineering_and_Mining_Journal.pdf](#).]
 - . 1901. "Trade Catalogues," *The Engineering and Mining Journal*, Vol. 72, No. 2 (July 20, 1901), 75 [Google Books, page 108 of [Engineering_and_Mining_Journal.pdf](#).]
 - . 1901. "A New Mine Lamp Using Acetylene Gas." *The Engineering and Mining Journal*, Vol. 72, No. 15 (October 12, 1901), 465-66. [Google Books, pages 494-95 of [Engineering_and_Mining_Journal.pdf](#).]
 - . 1902. "Acetylene Lamps in New York Subway." *The Engineering and Mining Journal*, Vol. 73, No. 12 (March 22, 1902), 420. [Google Books, page 452 of [Engineering_and_Mining_Journal.pdf](#).]
- The Iron Age. 1901. "Baldwin Acetylene Mine Lamp." *The Iron Age*, Vol. 67 (May 23, 1901), 66. [Google Books, page 1471 of [Iron_Age.pdf](#).]

Advertisements

A. H. Funke

Motor Age. 1904. *Motor Age*, Vol. 5, No. 6 (February 11, 1904). Unfortunately, I have not been able to obtain a page reference for this striking illustration, which I purchased off of eBay in August 2014.

Hermann Boker & Co.

The Wheel and Cycling Trade Review. 1899. Advertisement by Hermann Boker & Co. *The Wheel and Cycling Trade Review*, Vol. 20, No. 19 (December 21, 1899), 29. [Page 496 of [The Wheel and Cycling Trade Review.pdf](#), from the Smithsonian Libraries. Accessed September 21, 2014. <http://library.si.edu/digital-library/book/wheelcyc4301889211890newy>.]

Directories

- Trow Directory, Printing and Bookbinding Co. 1902. *Trow's Business Directory of Greater New York*, Vol. 5 (1902).
- . 1903. *Trow's Business Directory of Greater New York*, Vol. 6 (1903).

Patents

- Baldwin, Fredric E. 1900. "F. E. Baldwin Acetylene gas Lamp." Patent No. 656,874. Accessed August 11, 2014. <http://www.google.com/patents/US656874>.
- Gallagher, J. C. 1897. "Gas Generator for Lamps." Patent No. 585,624. Accessed August 6, 2014. <https://www.google.com/patents/US585642?dq=585,642&hl=en&sa=X&ei=XnHiU-LtNtCuyAT66oGYAg&ved=0CBwQ6AEwAA>.

Photographs

- Boutwell, J. M. 1902. "Banded black and white coarsely crystalline marble; looking west; first mouth of drift on first hanging wall vein east of No. 2 shaft; 1500 level, Ontario Mine. Miner's lamp for scale. Park City District. Summit County, Utah. ca. 1902." U.S. Geological Survey Photographic Library. Accessed August 11, 2014. http://libraryphoto.cr.usgs.gov/cgi-bin/show_picture.cgi?ID=ID.%20Boutwell,%20J.M.%20%20192
- . 1902. "Barren fissure in quartzite in main Ontario fracture zone; 50 feet above 1500 level, Ontario mine. Lamp for scale. Park City District. Summit County, Utah. ca. 1902." U.S. Geological Survey Photographic Library. Accessed August 11, 2014. http://libraryphoto.cr.usgs.gov/cgi-bin/show_picture.cgi?ID=ID.%20Boutwell,%20J.M.%20%20191.

Other photographs were provided to me by the contributors to this article or downloaded from their websites unless otherwise noted.

Christmas Advertisements for Full Moon Camp Lamp

Colliers Illustrated Weekly, Vol. 28, No. 10 (Dec. 7, 1901), 36. [Google Books, page 269 of Collier_s.pdf.]

Outing, Vol. 39, No. 3 (Dec. 1901), 380 [Google Books, page 489 of Outing_Sport_Adventure_Travel_Fiction.pdf.]

The American Monthly Review of Reviews, Vol. 24 (Dec. 1901), 156 [Google Books, page 953 of The_American_Monthly_Review_of_Reviews.pdf.]

Other Materials

Pittsburgh Gage & Supply Company. 1906. *Pittsburgh Gage and Supply Company – Mill, Mine, Machinists and Railroad Encyclopedia of Supplies Catalogue, No. 10, Pittsburgh, PA*. Catalog Publisher: Russell De Wolfe Co., Chicago, IL. ca. 1906. Hal Post collection. Accessed August 11, 2014.
<http://halslamppost.com/Mining%20Catalogs%20and%20Brochures/Pittsburgh%20Gage%20%26%20Supply%20Catalogue%20%2310%2C%20ca.1906.pdf>.

The Miller Supply Company. 1902. *Illustrated Catalogue and Price list of the Miller Supply Company, Huntington, W. VA., Bluefield, VA. : Supplies and Machinery for Mines, Mills, Machine Shops, Railroads and Contractors*. August 1902. Copies provided by Tony Moon.

Websites

Click, Larry. *Clickster's Mining Artifacts*. Accessed August 11, 2014.
<http://www.clickstersminingartifacts.com/index.html>.

Post, Hal. *Hal's Lamp Post*. Accessed August 11, 2014. <http://www.halslamppost.com>.

Personal Communications

In addition to the above, I benefited from and relied upon numerous personal communications with Neil Tysver, Hal Post, Tony Moon, Paul Kouts, and Larry Click during the course of researching the Full Moon and writing this article. Without their help, and the help of Dave Thorpe and his wonderful books, writing this article would not have been possible for me.