

THE AUTO-LITE CARBIDE CAP LAMPS

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One of the most commonly found carbide cap lamp is the Auto-Lite manufactured by the Universal Lamp Company. According to trademark information, the Universal Lamp Company was started by Jacob S. Sherman around the first of May, 1913. The company was first located in Stauton, Illinois. By 1918, after being incorporated, the company was moved to Chicago, Illinois.

During the early production of the Auto-Lite carbide cap lamp, many of the lamp's parts were manufactured by the Chase Brass & Copper Company of Waterbury, Connecticut. These parts were then shipped to Stauton--and later Chicago--where the lamps were assembled.

The company experienced increasing prosperity enabling them to buy out the Shanklin Manufacturing Company of Springfield, Illinois, in 1932. The Universal Lamp Company gradually transferred their carbide lamp operations to the Springfield plant and continued to produce both the Auto-Lite and Guys Dropper Lamps until 1960, when the Universal Lamp Company discontinued the production of carbide lamps.



Figure 2. The patent drawings for the two-banded carbide container found on early Auto-Lite lamps. The knurled bands were designed to facilitate the gripping of the carbide container.

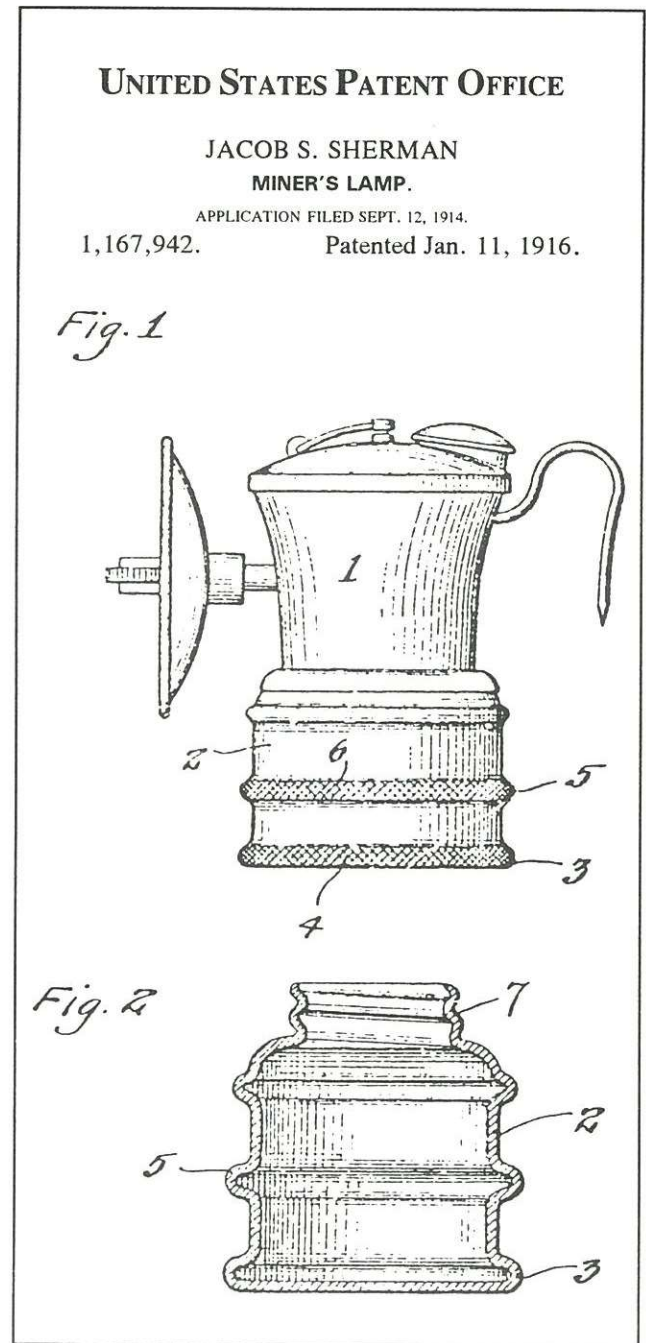


Figure 1. A photograph of an Auto-Lite carbide cap lamp showing the carbide container with the two knurled bands and the set-screw reflector. (Ted Bobrink collection)

There are two basic styles of Auto-Lite carbide cap lamps, the "early" Auto-Lites with a set-screw reflector and the "later" Auto-Lites that incorporated a reflector brace patented in 1924 by Adolph C. Recker.

The earliest style Auto-Lite lamps produced are like that shown in patent number 1,167,942. The lamps have a smooth gas tube with a fairly flat set-screw reflector and the carbide containers have two knurled bands as shown in patent 1,167,942 and Figure 1. They have a hat hook that is soldered to the interior of the water tank, a soldered hat brace, and the lettering on the top of the lamps is incused (see Figure 6a).

The next style of early Auto-Lite lamp is exactly the same as the incused style except that now the lettering on the top of the lamp is in raised letters (see Figure 6b).

The last style of early Auto-Lite lamp has the raised lettering on the top, a smooth gas tube with the set-screw reflector, the two-banded carbide container, and soldered hat brace, but the hat hook has been changed and is now riveted and soldered to the exterior of the water tank.

The reflectors on the early style Auto-Lites are very distinctive and came in two styles. The more desirable of the two is the style shown on the lamp in Figure 1. The other style is similar, except that the raised ring towards the center of the reflector has been replaced with a shallow indentation.



Figure 3. A copy of a lamp box for one of the first "later" style Auto-Lite lamps. Note the 1918 patent date next to the lamp. (Author's collection)

UNITED STATES PATENT OFFICE

JACOB S. SHERMAN
Staunton, Illinois

TRADE-MARK FOR MINERS' LAMPS.

Application filed July 24, 1914

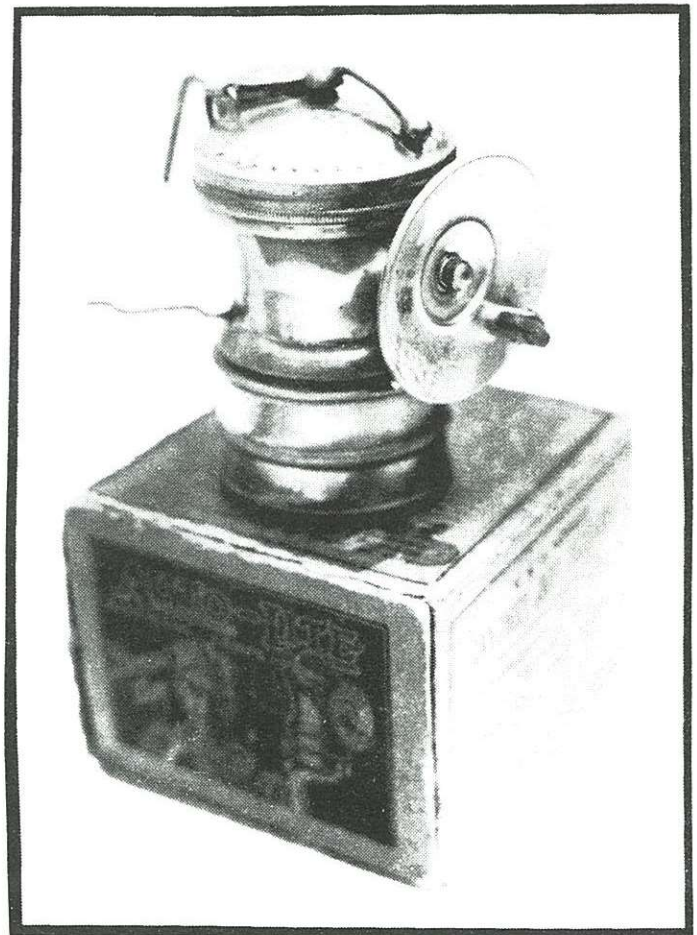
No. 102,191

Registered Jan. 26, 1915

AUTO LITE

Figure 4. On January 26, 1915, the trademark AUTO LITE was registered by Jacob S. Sherman of the Universal Lamp Company. Prior to being registered, this trademark had been used by the company since May 1, 1913.

Figure 5. A photograph of the first "later" style Auto-Lite with the box that it came in. (Ted Bobrink collection)



| | |
|------|--|
| 1913 | Lamps have two-banded carbide containers and set-screw reflectors. |
| 1918 | Lamps now have 8-sided carbide containers and set-screw reflectors. |
| 1923 | Lamps have 8-sided carbide containers and threaded gas tubes and reflector braces. |
| 1930 | Lamps have a bumpergrip on the bottom of the carbide container. |
| 1937 | Lamps now have the removable hat braces. |
| 1960 | The production of Auto-Lite cap lamps is discontinued. |

For those collector's who like to date their lamps, the accompanying chart may be of some help for the Auto-Lite cap lamps.

Figure 7. A photograph showing two styles of "later" Auto-Lite lamps. The lamp on the left is nickel plated and has the Recker reflector brace and removable hat braces, while the lamp on the right is brass. Both lamps have the top markings shown in Figure 6c. (Ted Bobrink collection)

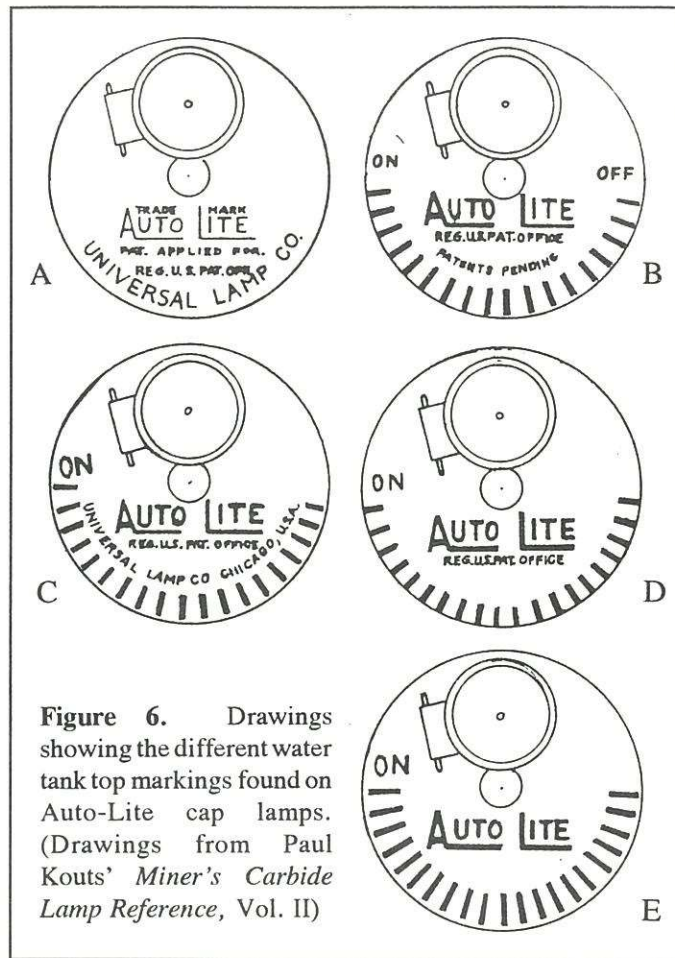
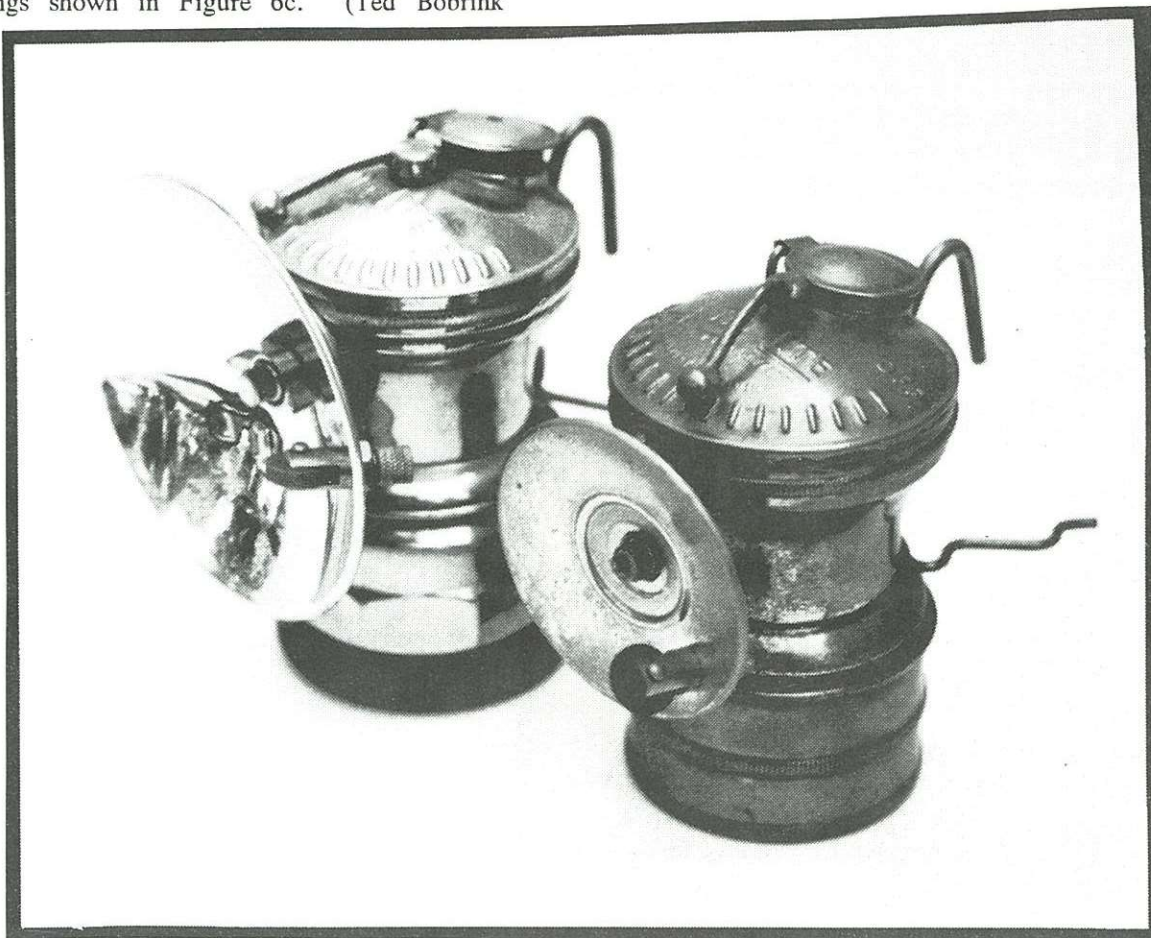


Figure 6. Drawings showing the different water tank top markings found on Auto-Lite cap lamps. (Drawings from Paul Kouts' *Miner's Carbide Lamp Reference*, Vol. II)



According to the patent dates on early Auto-Lite lamp boxes, sometime prior to 1918 the design of the water tank was changed. The earlier style water tank has a narrower waist as can be seen in patent number 1,167,942. The later water tank style--which remained virtually the same until the production of the Auto-Lite cap lamp was discontinued in 1960--has a wider waist and a flattened, sometimes banded, portion towards the top of the tank as can be seen in design patent number 72,075 and in Figure 7.

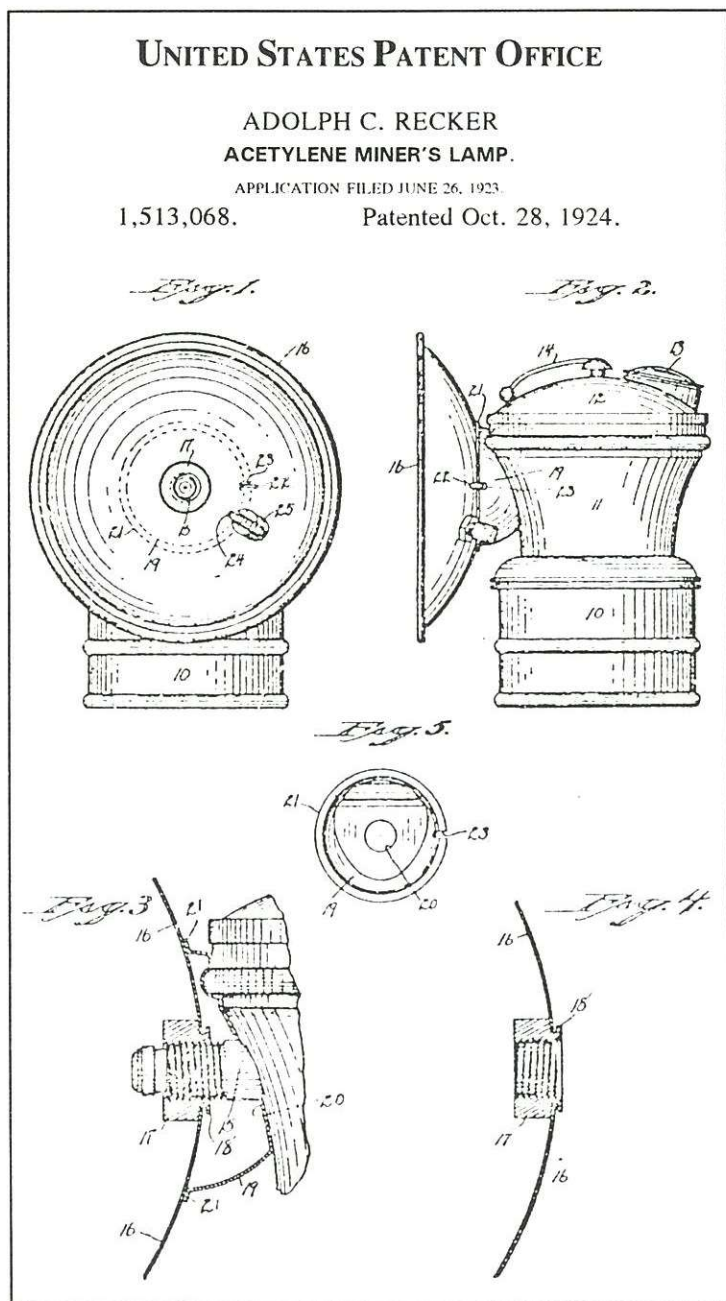


Figure 8. The patent drawings for the reflector brace patented by Adolph C. Recker on October 28, 1924, and assigned to Chase Co's, Inc., of Waterbury, Connecticut.

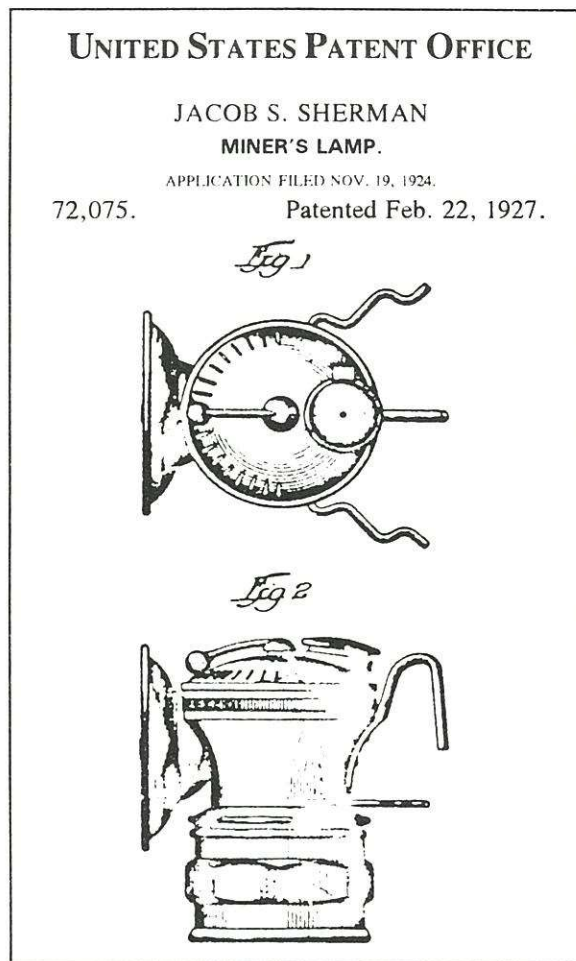


Figure 9. Design patent filed on November 19, 1924, by Jacob S. Sherman for the "later" style Auto-Lite Lamp.

The first "later" style Auto-Lite cap lamps (see Figure 1) have the raised lettering on the top shown in Figure 6b, a smooth gas tube with the set-screw reflector, two-banded carbide container and a hat hook that is riveted and soldered to the exterior of the water tank with a soldered hat brace.

The next change, probably just prior to 1923, was in the lettering on the top of the water tank (Figure 6c). The lamps still came with a smooth gas tube and set-screw reflector, the two-banded carbide container and a hat hook that is riveted and soldered to the exterior of the water tank and a soldered hat brace.

Then, on June 26, 1923, a patent application was filed by Adolph C. Recker of Oakville, Connecticut, for a reflector with a "swivelled nut non-removably mounted therein" to be used on a threaded gas tube in conjunction with a reflector brace. Adolph Recker's invention was granted a patent on October 28, 1924, and was assigned to the Chase Company of Waterbury, Connecticut.

The introduction of the threaded gas tube and reflector brace and the eight-sided carbide container constitute the last major changes in the design of the Auto-Lite cap lamp.

The first Auto-Lite lamps with the newly incorporated threaded gas tube and reflector brace have the eight-sided carbide container and the markings on top of the water tank as shown in Figure 6c.

This style lamp came with four types of mounting hooks. The three earliest are the hat hook that is riveted and soldered to the exterior of the water tank with a soldered hat brace, a narrow spade mount, and probably later, a wide spade mount.

Many miners did not like the soldered hat braces on their lamps and often times broke them off. Around 1937, the Universal Lamp Company decided to accommodate these miners by providing their lamps with a hat brace that could be attached to the lamp with a small set-screw if the miner desired. This new invention--filed for on February 3, 1937--was patented by James H. Horsley of the Universal Lamp Company on March 21, 1939.

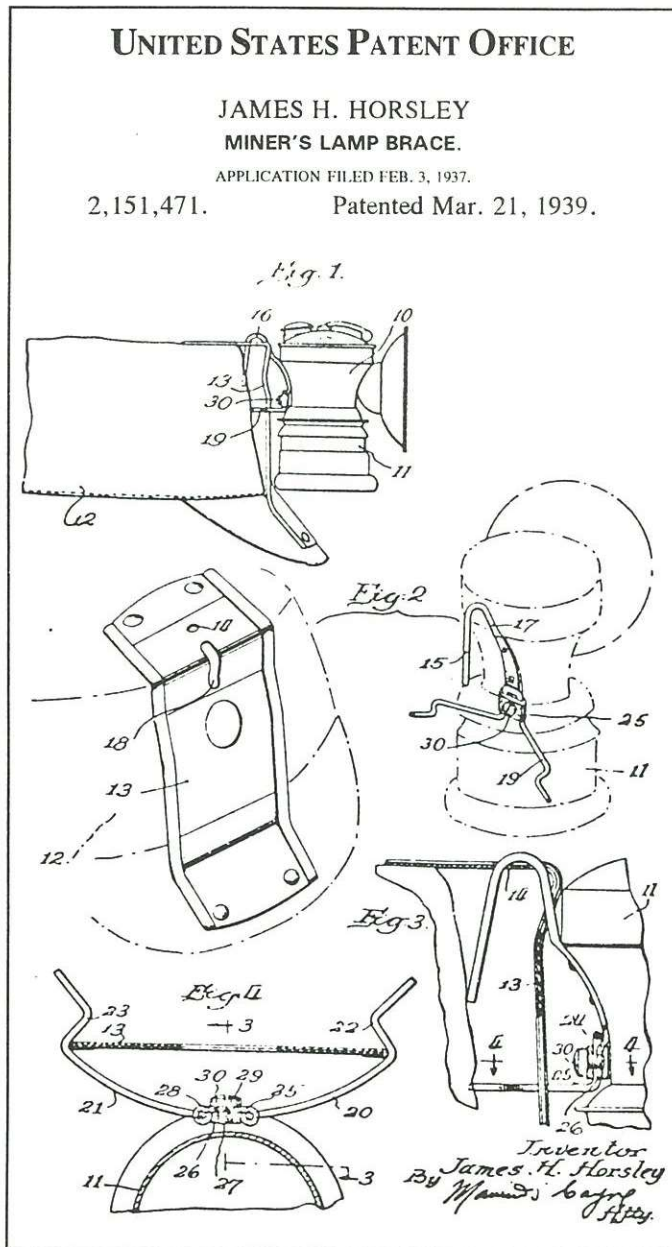


Figure 10. The patent drawings for the removable hat brace patented by James H. Horsley of the Universal Lamp Company on March 21, 1939.

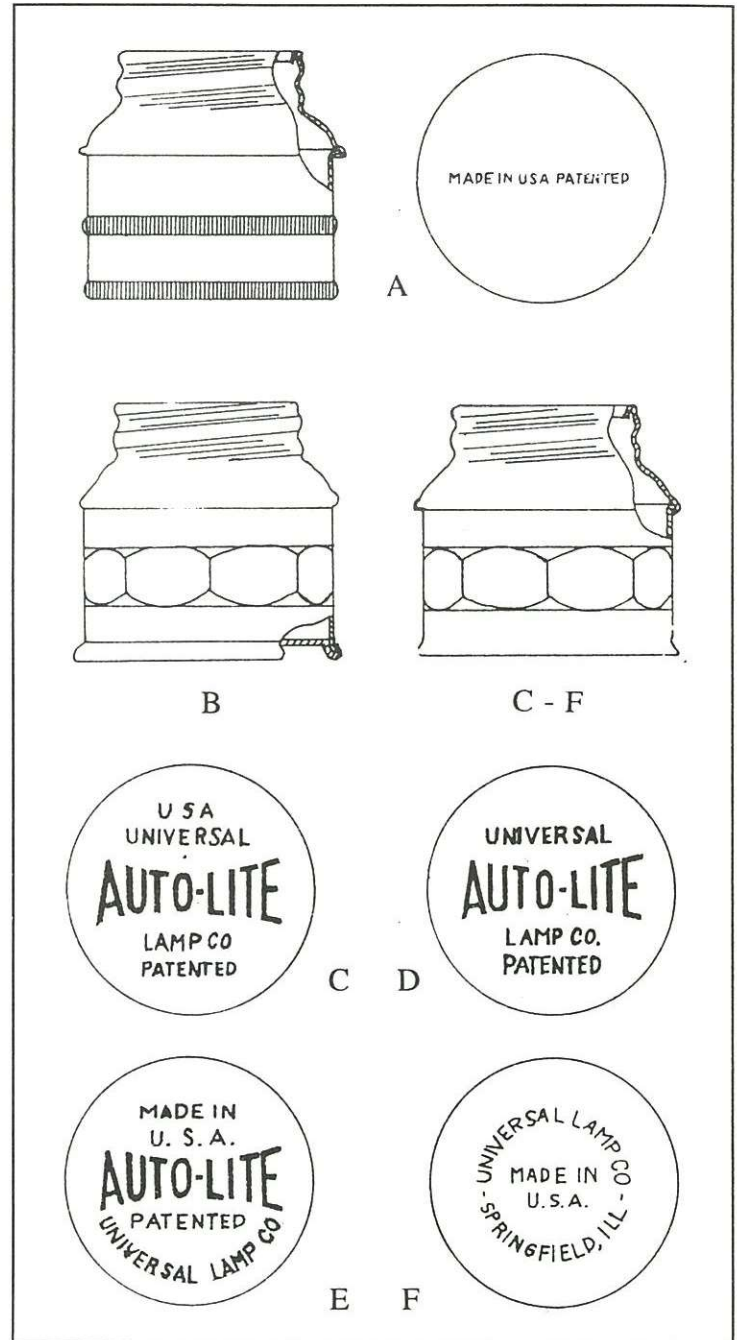


Figure 11. Drawings showing the different carbide containers and their respective bottom markings found on Auto-Lite cap lamps. (Drawings from Paul Kouts' *Miner's Carbide Lamp Reference*, Vol. II)

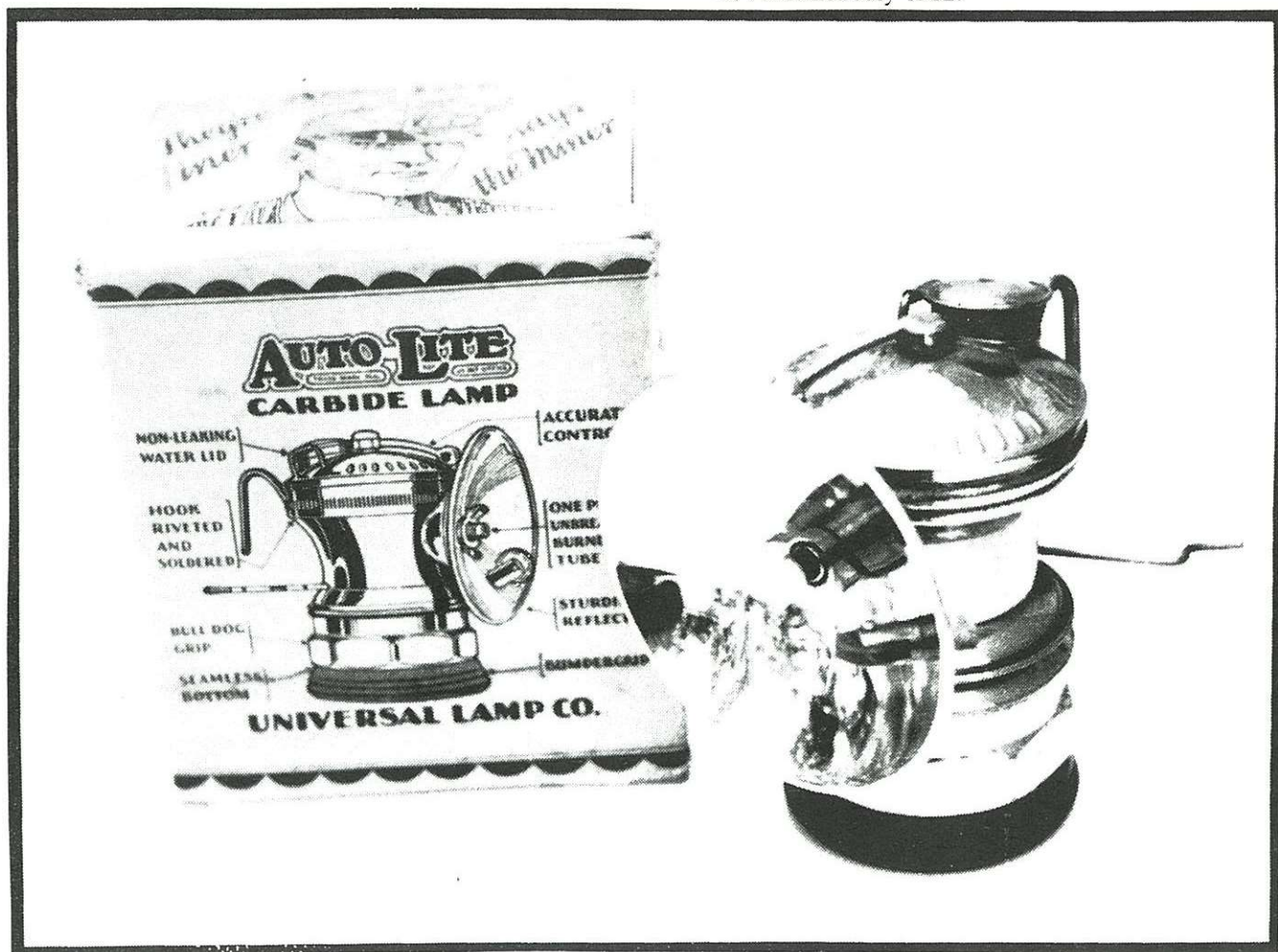
The first lamps with this attachable hat brace probably came with the hat hook riveted and soldered to the exterior of the water tank. Later, these attachable hat braces came with a hat hook just soldered to the exterior of the water tank. The first lamps with this attachable hat brace have the top water tank markings shown in Figure 6c.

The next style of Auto-Lite lamp was produced with the top water tank markings shown in Figure 6d. These lamps all have a threaded gas tube with a reflector brace. The lamps came with either a hat hook soldered to the exterior of the water tank and the attachable hat brace, a narrow or a wide spade mount.

The last style of Auto-Lite lamp manufactured by the Universal Lamp Company still came with either the soldered hat hook and attachable hat brace, a narrow or a wide spade mount. But the markings on top of the water tank have been changed to that shown in Figure 6e.

At this time, all styles of Auto-Lite cap lamps are known to have been sold in brass, but only those with water tank top markings shown in Figures 6b and 6c are known to have come nickel plated.

Figure 12. A photograph of a "later" style Auto-Lite with the box that it came in. (Ted Bobrink collection)



There are a number of different markings found on the bottoms of the carbide containers. The carbide container shown in Figure 11a--the earliest Auto-Lite container known--came marked as shown and unmarked. The carbide container shown in Figure 11b is an eight-sided base that is crimped and soldered at the bottom of the container and was probably made for a very short time and was not ever marked.

The last style of carbide container made by the Universal Lamp Company was still an eight-sided base, but now had a seamless bottom and a crimped and soldered seam near the top of the container. There are four different markings found on the bottom of this style carbide container as shown in Figures 11c through 11f. The bottom markings of Figure 11c, 11d, and 11e are all in raised letters, while the bottom marking for Figure 11f is in incused letters. There are no definite dates for the carbide containers in Figures 11c through 11e, but the container in Figure 11f would date after the buy-out of the Shanklin Manufacturing Company of Springfield, Illinois, in 1932.

References:

Clemmer, Gregg s., *American Miners' Carbide Lamps: A Collector's Guide to American Carbide Mine Lighting*, Westernlore Press; Tucson, Arizona, 1987.

Kouts, Paul L., *Miner's Carbide Lamp Reference*, Volume II; Published July 1982.