THE "SURE-LIGHT" CARBIDE CAP LAMP

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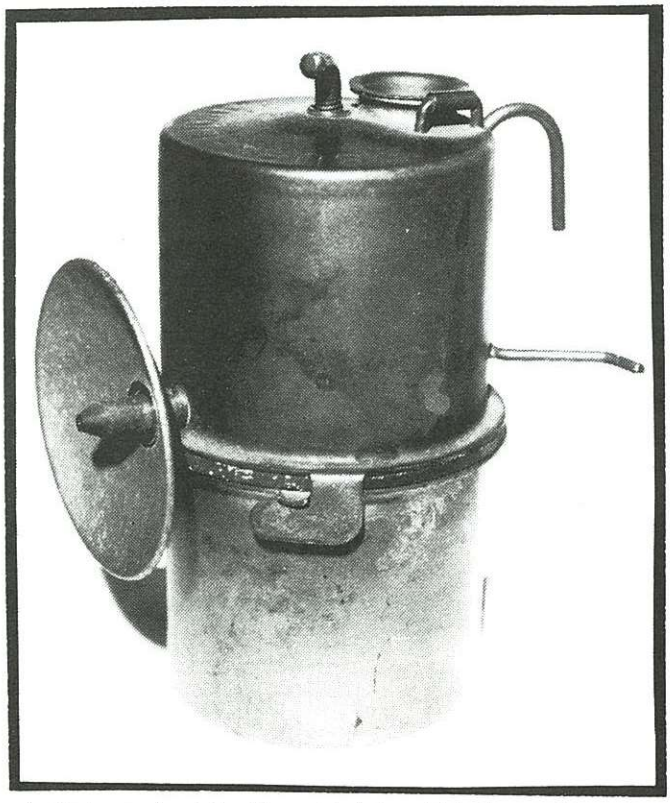
For many years, the inventor of the "Sure-Light" carbide lamp was unknown. Even if it was a U.S. manufactured lamp was of some question for many years. Then, while looking through a group of carbide lamp patents, I noticed one that I thought resembled the "Sure Light" lamp in some ways. The main feature that attracted my attention was the way that the lamp's top and bottom was locked together.

On December 6, 1911, Joseph Haskins of Catlin, Illinois, applied for a patent for a "certain new and useful Improvement in Generators. . ." with the patent being granted to Haskins on February 24, 1914.



A photograph of the "Sure-Light" carbide lamp. Note the water control valve and reflector with the brass insert and the locking device. (Dave DesMarais collection and photo)

There are many similarities between Haskins' patent and the "Sure-Light" carbide lamp. The main points are as follows:

In Haskins' patent, the water feed mechanism is a "shaft B^7 screw threaded in the sleeve B^6 terminates at one end in the thumb screw B^8 and at the other in the needle valve. . ."

In the "Sure-Light," the water control mechanism is also a needle valve, but it appears that the thumb screw has been eliminated as well as the complicated water and gas control device between the bottom of the needle valve and the water chamber.

On Haskins' patent, the gas discharge "pipe D^4 extends outwardly from the chamber D through the wall of the housing B, and is closed at the outer end by the cap D^5 having the burner hole D^6 through which the gas to be consumed escapes."

The burner tube on the "Sure-Light" is also basically a pipe that penetrates the lamp's wall and is soldered to the wall on the inside. The other end of the pipe is tapered with a small hole at the end for the gas to discharge. Also, note the length of the gas pipe in the patent as compared to the gas pipe on the "Sure-Light."

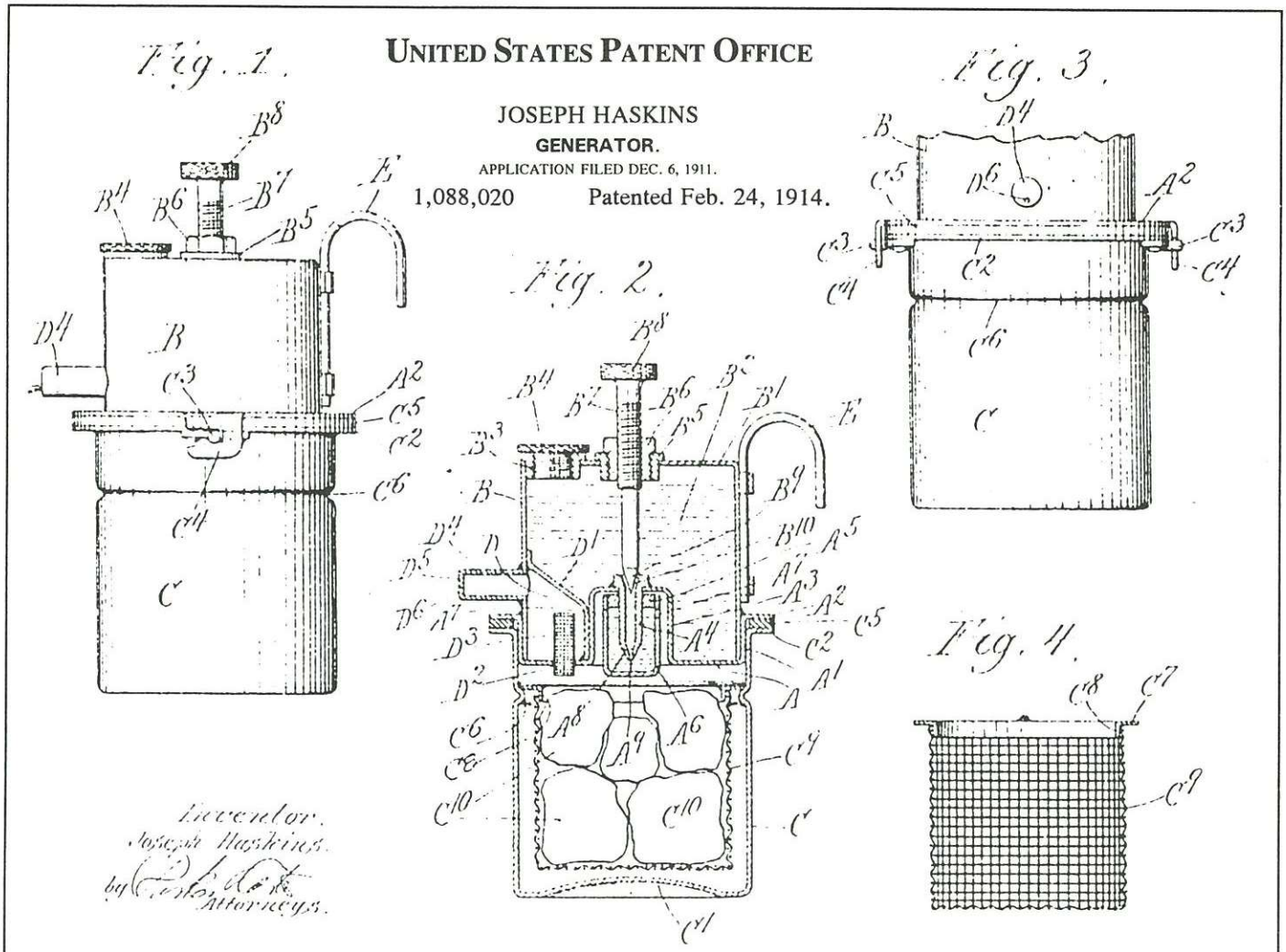
One of the two main features that is very similar between the "Sure-Light" and Haskins' patent is found in the carbide compartment. In Haskins' patent, the carbide chamber was provided with an "inwardly extending annular ridge or shoulder" located slightly below the top of the carbide chamber. A basket--shown in Figure 4 on the patent--with a collar rested on the ridge or shoulder. The patent states that: "The use of the basket within the pot forms a more convenient cleansing of it and permits freer circulation of the gas about the carbid. And,

moreover, since the basket and its contents are out of contact with the pot, there is less danger of heating of the pot and reservoir by the heat formed when the gas is generated. The use of a removable basket prevents the packing of the moistened and consumed carbid in the bottom of the reservoir, and thus permits convenient and effective cleansing of the generator chamber. Moreover, since the carbid mass is open at all points thereabout, it may more evenly be consumed, and will discharge its gas in a more even and regular manner than it otherwise would."

The basket, as shown in the patent , was probably quickly realized to be of a greater nuisance than a help. It was probably difficult to get out (it looks to me like you would have to turn the whole carbide chamber over into your hand to retrieve the basket!) and the holes of the basket would probably clog up fairly quickly.

It appears that in the "Sure-Light," this basket has been eliminated and replaced with a disc and tube device that rests on the bottom of the carbide chamber. The tube has four holes in it at the bottom for the discharge of water into the carbide. (The water feed pipe from the water reservoir extends down inside the tube.) Used carbide is removed by lifting the disc and tube device out of the carbide chamber.

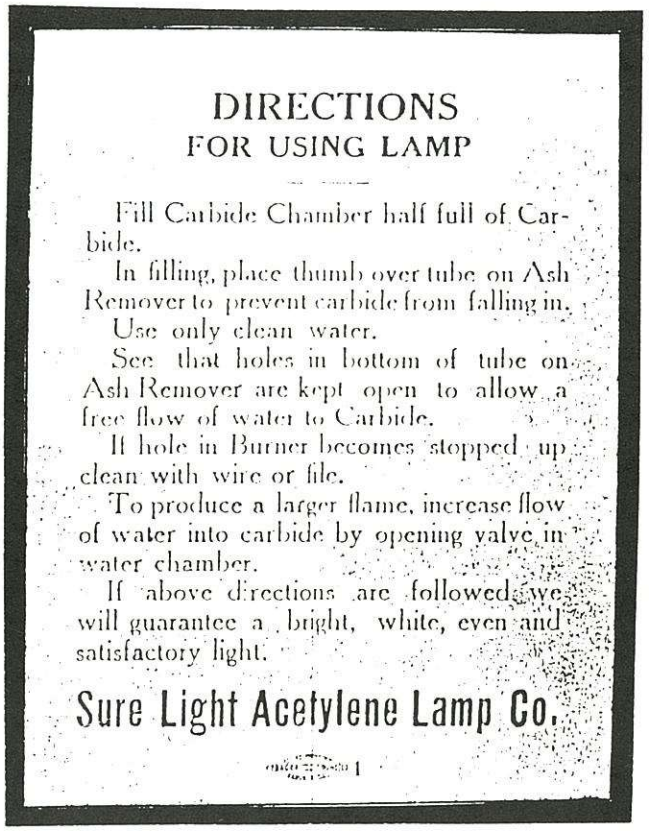
The main feature that caught my eye on Haskins' patent was the lamp's locking device. This locking device is described in the patent as follows: "The gas or generating pot or chamber C, provided with the closed bottom C^1 and the annular flange C^2 about the open top is in slidable engagement with the collar A^1 and is provided with the lug C^3 in opposition to the inclined holding hook C^4 projecting from the flange A^2. The packing C^5 is compressed between the flanges C^2 A^2 when the pot C is



The original patent drawings for Joseph Haskins' carbide lamp patented on February 24, 1914. Note the carbide basket in Figure 4 and the locking device shown in Figure 1 on the patent.

provided with the lug C^3 in opposition to the inclined holding hook C^4 projecting from the flange A^2. The packing C^5 is compressed between the flanges C^2 A^2 when the pot C is rotated to cause the lug C^3 to ride up on the inclined hook C^4." This is basically the exact same type of locking device used on the "Sure-Light." The "Sure-Light" is the only lamp that has this unique type of locking device (the Lu-mi-num carbide lamp uses a bayonet type of locking device) and the Haskins' patent is the only carbide lamp patent that I know of that features this type of locking device.

Although the patent does not show a reflector, most "Sure-Lights" have a tin reflector 1 $^7/_8$ inches in diameter with a brass insert as shown in the photograph. This does not mean that <u>all</u> "Sure-Light" carbide lamps were sold with a reflector. About fifteen years ago, Ted Bobrink bought an unfired "Sure-Light" in the box with instructions that was without a reflector. The lamp box was a plain cardboard box with no writing anywhere on the box.



DIRECTIONS
FOR USING LAMP

Fill Carbide Chamber half full of Carbide.

In filling, place thumb over tube on Ash Remover to prevent carbide from falling in.

Use only clean water.

See that holes in bottom of tube on Ash Remover are kept open to allow a free flow of water to Carbide.

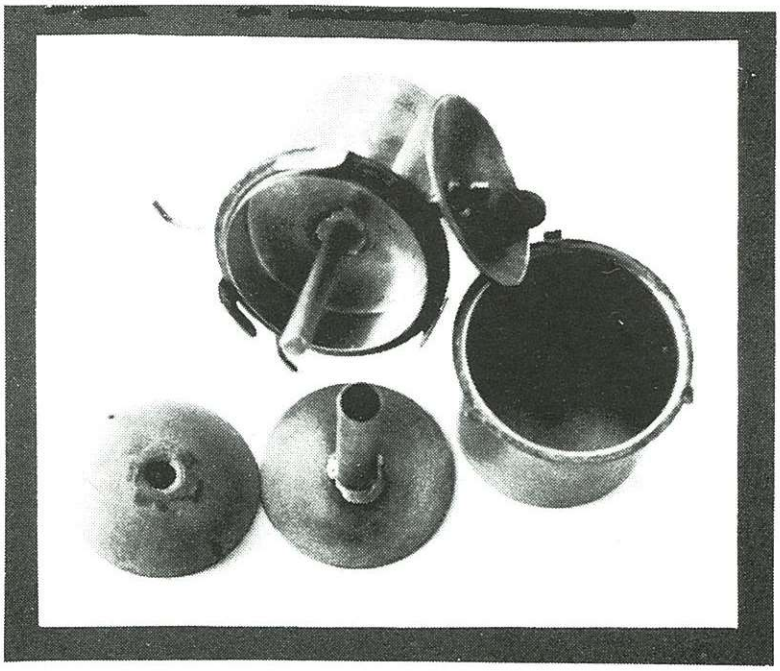
If hole in Burner becomes stopped up, clean with wire or file.

To produce a larger flame, increase flow of water into carbide by opening valve in water chamber.

If above directions are followed we will guarantee a bright, white, even and satisfactory light.

Sure Light Acetylene Lamp Co.

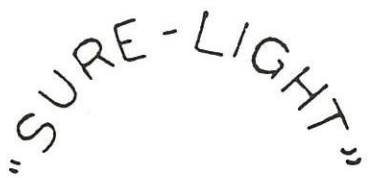
A copy of a direction sheet for the "Sure-Light" carbide lamp from the Sure Light Acetylene Lamp Company.



A photograph of the insides of the "Sure-Light" carbide lamp. The item at the left foreground is a hard, red rubber gasket that fits up into the bottom portion of the water reservoir to help keep carbide particles from entering the gas tube. The disc and tube device is shown in the middle foreground. (Mark Bohannan collection)

The "Sure-Light" carbide lamp is 3 $^5/_8$ inches tall (4 $^1/_4$ inches to the top of the water valve) and is 1 $^{15}/_{16}$ inches in diameter. Around the outer edge, on top of the water reservoir, the words "Sure - Light" in quotes is stamped with incuse letters.

There is almost nothing known at this time about the Sure Light Acetylene Lamp Company. All that is known from the company are the instruction sheets that came with the lamps.



The incused lettering found on the top of the "Sure - Light" carbide cap lamp.