

Augie Hansen's Spiral Passageways

Dave Thorpe

Like Leonardo Da Vinci, Augie Hansen was fascinated with the screw design. Many of his early-teen era patent designs for Justrite Manufacturing Co. featured screw-threads being used for things other than simple fasteners. Of particular interest to Hansen were sockets in which the threads were not an exact match. He discovered that when inner threads are flatter than those of the socket, a spiral channel is formed between them that can transmit gas or fluids. He would refer to this channel as the "spiral capillary passageway."¹

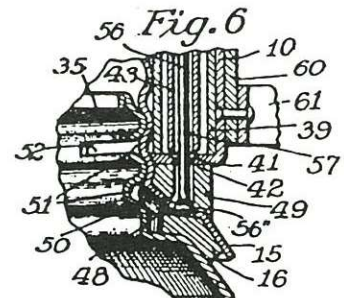
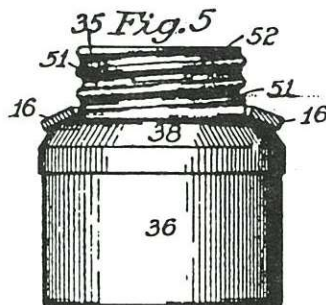
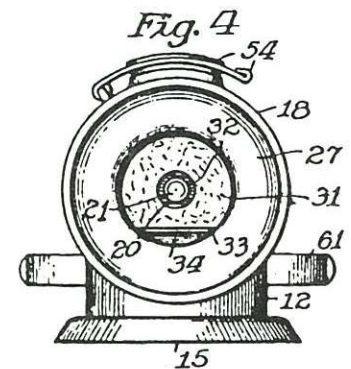
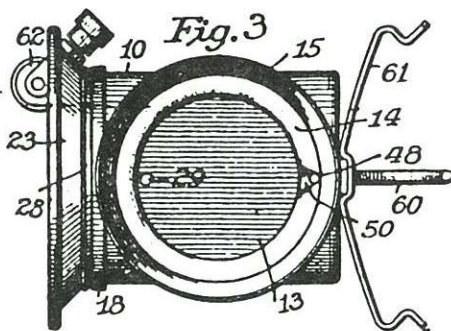
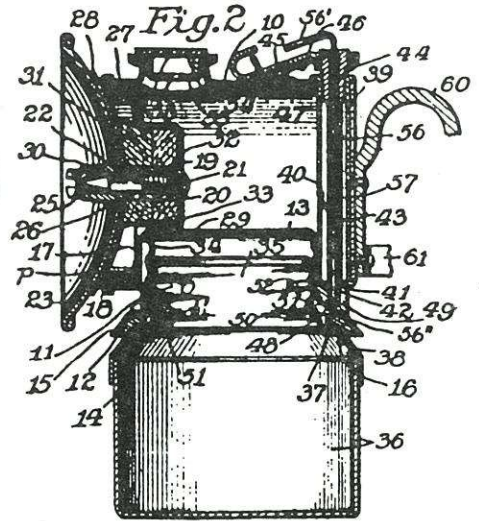
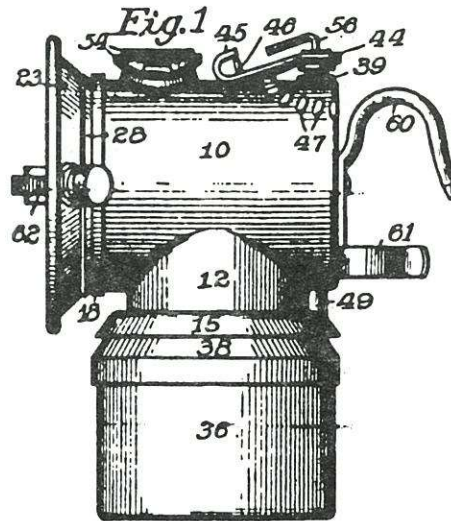
In 1914¹, he designed a carbide lamp in which the water reached the carbide by first running *down the back of the lamp*, then *up between the screw threads of the lamp*. Half-way up the threads, the water would spill onto the carbide through a slot cut in the threads.

The aim of this was to prevent excess gas pressure from backing up through the water feed. He presumed that the spiral water channel would offer enough resistance to buffer moderate fluctuations in the gas pressure. Those who have used carbide lamps and are familiar with the amount of spent carbide that builds up on the threads, can appreciate the inherent flaw in this design. To date, no examples of this patented device have been reported. If such a lamp is to be found, it would be identified by a water feed at the extreme rear of the lamp and a water door in the forward section.

A. L. HANSEN.
MINER'S LAMP.
APPLICATION FILED NOV. 11, 1914.

Patented Dec. 7, 1915.

1,162,915.



Witnesses:
Leonard W. Novander.
C. J. Schmidt.

Inventor
Augie L. Hansen
By O'Brien, Jewell, Grann, Coffey,
Att'ys

In 1915,² still obsessed with making the perfect spiral waterway, he designed the "Spiral Feed" (patent drawing this page). The entire system was now compressed into a central water feed assembly. Conventional water feeds of the day provided only 1 1/4" of water travel. With the new spiral feed, this was extended to 7 inches! These lamps are found in Justrite catalogs from 1916 through 1919. They are identified by the water lever which is shaped like a bull's horn. They are somewhat uncommon and are of moderate interest to collectors.

A. L. HANSEN.
MINER'S ACETYLENE LAMP.
APPLICATION FILED JULY 26, 1915.

Patented Oct. 21, 1916.

1,202,514.

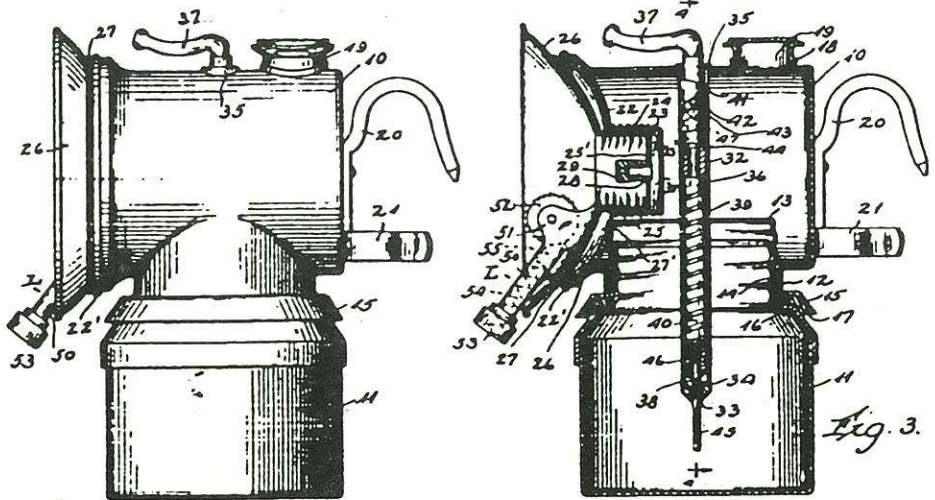


Fig. 1.

Fig. 3.

Hansen's spiral passageways were not limited to the channeling of water. In the same 1916 patent (this page) he described a screw-in socket reflector whose threads formed a passageway for acetylene gas. The freshly formed gas was first trapped between the reflector and the lamp body (a rubber gasket was necessary for a tight seal). It then traveled back through the threads before reaching a small chamber behind the burner. His reasoning: "the gas [flows] through a prolonged passageway in order that the inertia of flow will prevent flickering of the flame."³ An example of this invention has not been reported. Should one appear, it would feature a screw-in reflector on a horizontal cylinder tank.

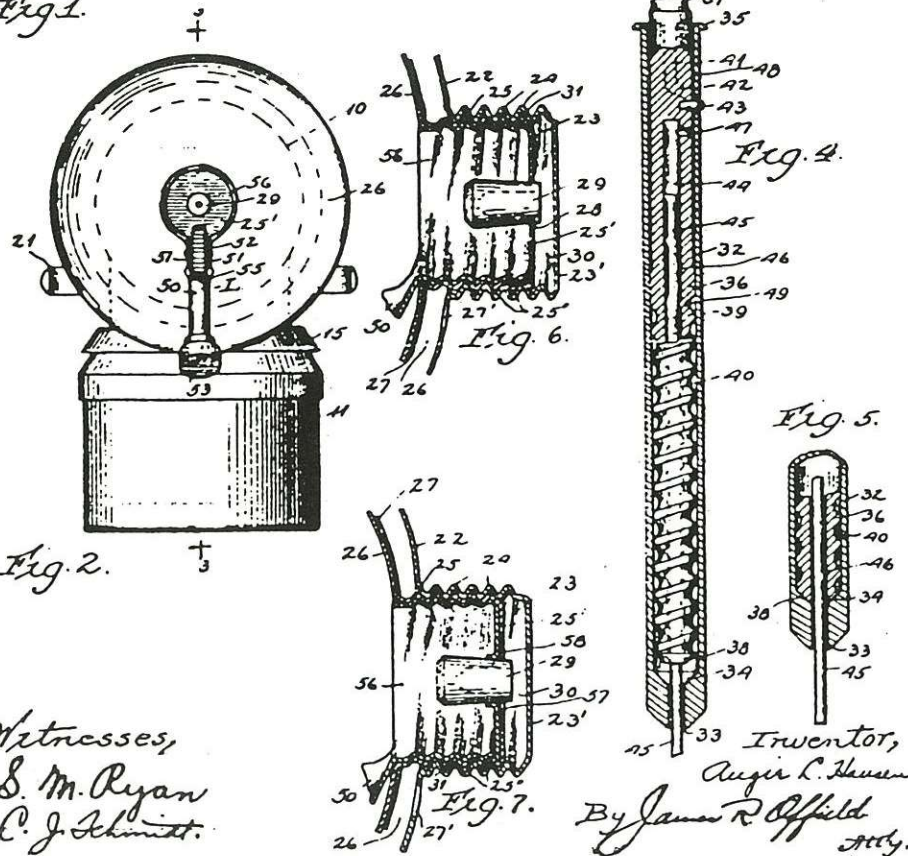


Fig. 2.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Witnesses,
S. M. Ryan
C. J. Schmitt.

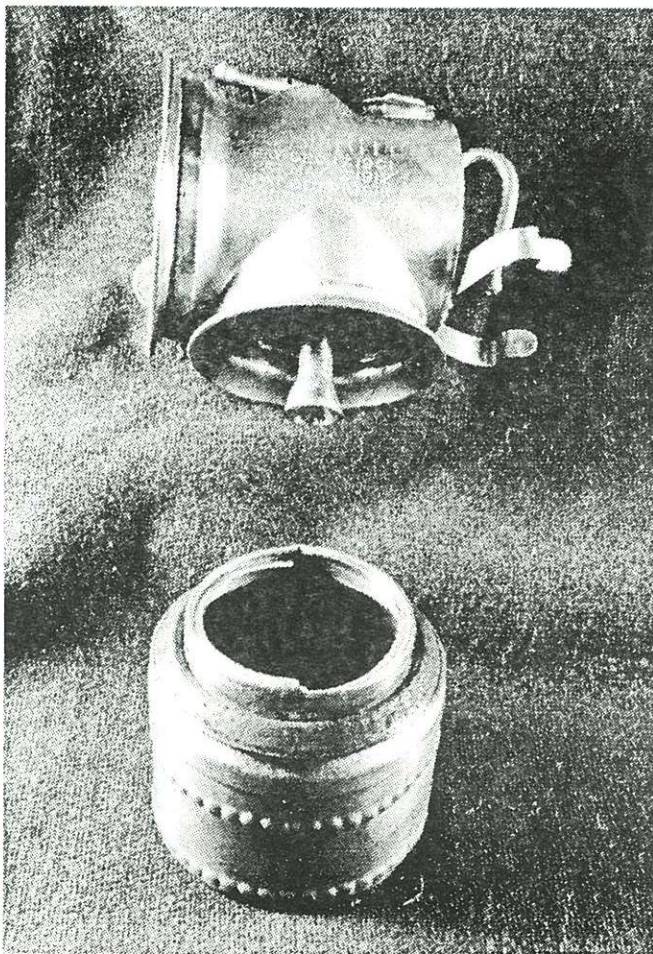
Inventor,
August L. Hansen
By James R. Offield
Atty.

Many of Hansen's patents can only be viewed as eccentric intellectual exercises, and as such, were not practical enough to be produced. One can imagine the company's frustration with the manic inven-

This patent not only covers the spiral water feed which was manufactured in considerable quantity, but also the spiral gas feed, in which gas flows around the screw-threads of the reflector. An example of this has yet to appear.

tor whose imagination, as they viewed it, overlooked the simple practical necessities of doing business. They, like most, viewed the screw as only a means for connection.

Hansen was contrary. He envisioned screw-threads as passageways more than fasteners and went as far as to *abandon* the rolled screw as a means for connection. One of his more prominent inventions, known as the "Jiffy" lamp, did away entirely with the threads connecting tank to base. Using a "helix lock" instead, the base needed only a quarter turn to secure it. Although a patent was applied for (as stamping on the base indicates), I have been unable to ascertain that one was ever granted, and no base has been reported yet bearing a "Patented" stamp. The helix lock *is* described in the introductory remarks of a 1917 patent (illustration right), but that patent pertains only to a flared water feed tip. Hansen makes little of the innovation saying "Any means may be provided for securing the containers together, [but in this case] helically extending ledges [engage] helically extending flanges."⁴

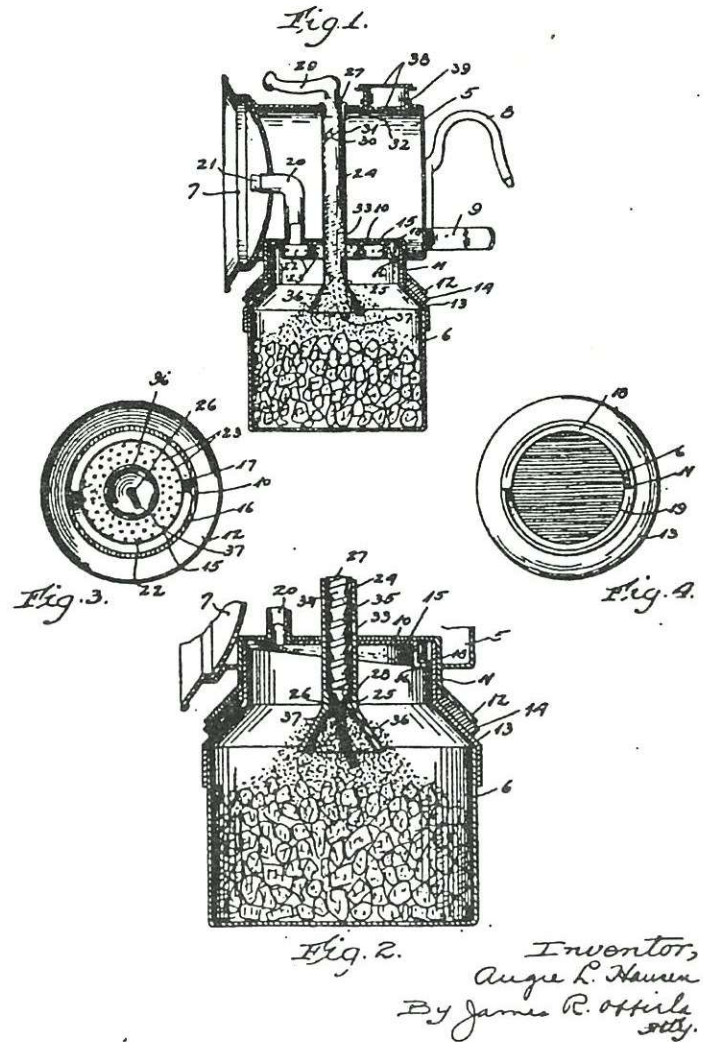


The patent below is of special interest in that it is the first showing the "helix lock" or "Jiffy" design for attaching tank to base. That, however is not the object of this patent which pertained only to the flared tip of the water-feed. Though this particular design was never offered in Justrite catalogs, several examples exist that follow the patent exactly....that is a combination of Jiffy base, Spiral waterfeed, and flared dropper tip (see photo lower left). Some call this lamp the "platypus."

A. L. HANSEN.
ACETYLENE LAMP.
APPLICATION FILED AUG. 28, 1916.

1,224,537.

Patented May 1, 1917.



Patented or not, Justrite Manufacturing was impressed with this invention, for they dressed it up with a fancy logo on the base and marketed it heavily. Known as the "Jiffy" container, it appeared in Justrite's 1916 and 1919 catalogs. It is found *only* in the beaded-base design. Though the ribbed base was introduced in 1919, the beaded Jiffy was carried on concurrently into the early 1920's.⁵ Some of the later examples are found without the bottom stamping. Justrite Jiffy's are of

moderate rarity, but are highly sought by collectors. This is hard to explain since the lamps are externally identical to conventional Justrites. One must pick the lamp up to view the fancy stamping on the bottom or disassemble the lamp to appreciate the helix locking mechanism.

Arguably more desirable than the lamp itself is the separate spare base with cap, or better yet, the Jiffy three-base carrier. The screw-caps are decorated with a row of beading that tells you it's a Jiffy just by sitting on the shelf. A trivial point? Indeed. But trivia is *everything* to a collector. Be it a spare base or a complete lamp, *some* form of the Justrite Jiffy is a vital component in a good collection of coal miners' lamps. It gives another glimpse into Augie Hansen's inventive and twisted mind.

"Jiffy" Containers



FOR CARBIDE ONLY.

No. 219. Polished Brass\$0.75

The three-base carrier shown above is a nice item for any collection. Known examples have nickel-plated beaded caps with brass bases. The two dates shown in the illustration (Aug. 19, 1914 and May 4, 1915)⁶ are for the ornamental design and the function of the carrier respectively, *not* the Jiffy mechanism.

MINERS' CAP LAMP WITH "JIFFY" CONTAINER AND DUPLEX VALVE FEED

Concaved
2 1/4-INCH REFLECTOR



No. 227

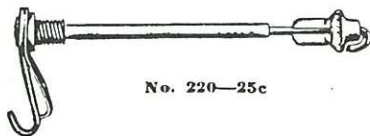
Saucer Shape
3-INCH REFLECTOR



No. 287

No. 227. Polished Brass, Lamp Only.....\$1.00
No. 287. Polished Brass, Lamp Only..... 1.10
Equipped with No. 28 Jewel Tip

DUPLEX VALVE STEM



No. 220-25c

This Lever Duplex Feed has two valves. The upper valve regulates and shuts off the water flow; the lower valve acts as a check and prevents over-generation.

For description of "Jiffy" Container and repair parts, see opposite page.

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Description and Parts

"JIFFY" CONTAINER

Showing
the
Helix
Locking
Device
—
Pat. applied for



The "JIFFY" CONTAINER with Helix lock is a wonderful improvement over the rolled screw threaded bottom with which other Carbide Lamps are equipped. It will not corrode or stick. The Helix locking device has two-thirds less bearing surface—reduces the friction and eliminates the grinding, sticking feature of screw threads. It locks tight with a slight turn, and is so named because it can be put on and taken off in a "JIFFY." It is stronger and will stand more hard usage than the screw threaded bottom because it is made of heavier brass with doubled-over edge. The used carbide can be emptied quicker and easier because the neck is shorter and opening larger.

Screen



No. 210-5c

Felt



Fits Inside Screen
No. 217-3c

No. 00—Rubber Gasket, 3c

"JIFFY" CONTAINER

No. 218-25c



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Items shown on this page are from Justrite's 1916 catalog. The Jiffy three-base carrier never appeared again, even though the Jiffy lamp does in the 1919 catalog. Notice the early style water lever seen with the first Jiffys (most Jiffys are not found with the Duplex Valve Stem as shown here, although some do have them). The earlier Jiffys are found with the perforated felt retainer as shown here.

References and Footnotes

1. U.S. Patent No. 1,162,915. A.L. Hansen. Appl. Nov. 11, 1914. Pat Dec. 7, 1915.

2. & 3. U.S. Patent No. 1,202,514. A.L. Hansen. Appl. Jul. 26, 1915. Pat Oct. 21, 1916.

4. U.S. Patent No. 1,224,537. A.L. Hansen. Appl. Aug. 28, 1916. Pat. May. 1, 1917.

5. Jiffy lamps have been found with the Polygon water feed which is stamped "Patent Appld. For" (Author's collection). That patent belonged to W.J. Frisbie, and was applied for in 1920: U.S. Patent No. 1,407,141. Appl. May 3, 1920. Pat. Feb 21, 1922.

6. U.S. Patent No. 46,280. A.L. Hansen. Appl. Apr. 10, 1914. Design Patent Aug. 18, 1914. U.S. Patent No. 1,137,755. A.L. Hansen. Appl. Apr. 10, 1914. Letters Patent May. 4, 1915.

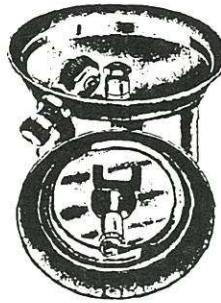
(Right) A page from Justrite's 1919 catalog. The felt retainer is now a solid piece with a grab bracket, and the water lever is heavier.

MINERS' CAP LAMPS

**WITH
DUPLIX VALVE FEED AND "JIFFY" CONTAINER**



DUPLIX VALVE STEM



Description

Showing the Helix Locking Device — Pat. applied for

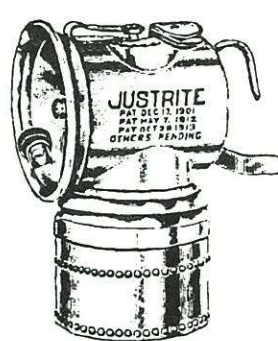
"JIFFY" CONTAINER



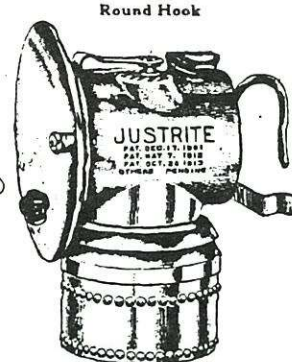
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**Concaved
2 1/4-in. Reflector
Round Hook**

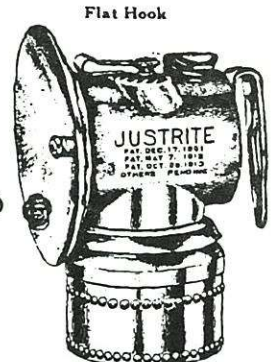
**Saucer Shape
3-in. Reflector
Flat Hook**



**No. 227
Polished Brass**



**No. 287
Polished Brass**



**No. 297
Polished Brass**

No.		Price
227.	Lamp Only Round Hook	\$1.00
287.	Lamp Only Round Hook	1.00
297.	Lamp Only Flat Hook	1.00

This Lever Duplex Feed has two valves. The upper valve regulates and shuts off the water flow; the lower valve acts as a check and prevents over-generation.



The Jiffy container with screw-cap.



The best part of a Jiffy: the bottom stamping.