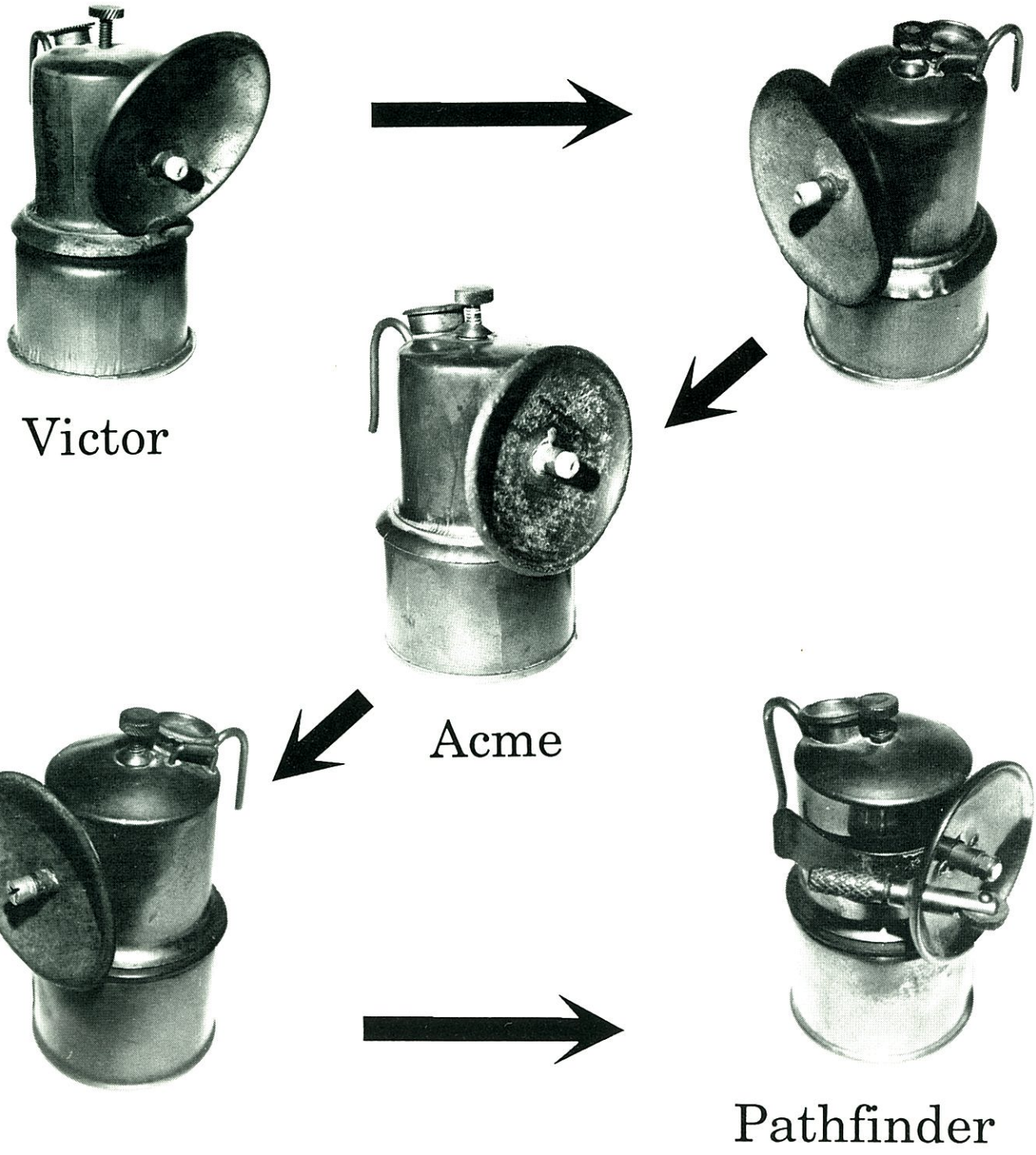
EUREKA!

THE JOURNAL OF MINING COLLECTIBLES

ISSUE 12 October 1994



General Information

SUBSCRIPTION POLICY: *EUREKA!* is published quarterly (January, April, July, October). Subscriptions are accepted for one year at a time. Price is $25 per annum in the US, $35 overseas. Back issues are available for $6.50 US, and $9 overseas delivery. A subscription form is included in the Fall issue. Requests should be mailed to: Jim Van Fleet, 222 Market St., Mifflinburg, PA 17844.

SUBMISSIONS: *EUREKA!* welcomes unsolicited articles, reviews, information, photos, and artwork. All photos and artwork need to be of high quality and should reach the the Managing Editor no less than six weeks prior to publication. Materials submitted for publication may be subject to alteration at the discretion of the editors.

EUREKA!

A PUBLICATION DEDICATED TO THE COLLECTING, PRESERVATION, AND HISTORICAL RESEARCH OF EARLY MINE LIGHTING AND COLLECTIBLES

Table of Contents

Cover: A chronologic transition of the Victor in its evolution to the Pathfinder. See article, page 29.

Back cover: Catalog ad for mule supplies including head lamp holder. See article page 8.

NEWS

TIME TO RENEW, AND A NEW ADDRESS.

Included in this issue of Eureka! is a renewal form for your subscription for 1995. $25 will still get you the best information published on mining artifacts and memorabilia of all sorts. We publish four issues a year, January, April, July and October, and we've already got some great information lined up for 1995.

Please note an IMPORTANT CHANGE: to renew your subscription for 1995, you must return the enclosed form and payment to David Des Marais, 1015 Woodland Ave., Menlo Park, CA 94025. Dave is helping to handle some of the administrative chores that take up a lot of the time of the editorial staff.

Requests for back issues, articles submitted for publication in Eureka!, free classified advertisements or display ads, and editorial correspondence should still be sent to yours truly, Jim Van Fleet, at 222 Market St., Mifflinburg, PA 17844. We hope this division of labor will not cause confusion or undue hardship for our readers!

A LETTER TO EUREKA!

A letter of mine to the staff at the Mining Artifact Collector was printed in their last issue without my knowledge. In it I said several things about the Eureka! that may be interpreted in the negative. This concerns me in two ways. First, my opinion of the Eureka! was unfairly represented, as was my full opinion of the MAC. If any of my criticism of the Eureka! is to be printed, I want it balanced with my compliments as well because overall, I think the Eureka! is a fine periodical. Secondly, *I was never asked if my letter to the MAC's staff should be printed.* That letter was sent with my subscription renewal and was meant to be private. I think it unfair that my criticism of Eureka! was printed and *my criticisms of the MAC were deleted!*

All things considered, I feel I owe the Eureka!, its staff and its contributors an apology. To balance the bad with the good, I feel the quality of Eureka's editing and presentation of its materials is outstanding. Its articles are professionally written in both style and depth of subject matter. Even though all of Eureka's subject matters are not necessarily "my bag," I can appreciate these qualities in Eureka!

Eric Twitty

OLD NEWS

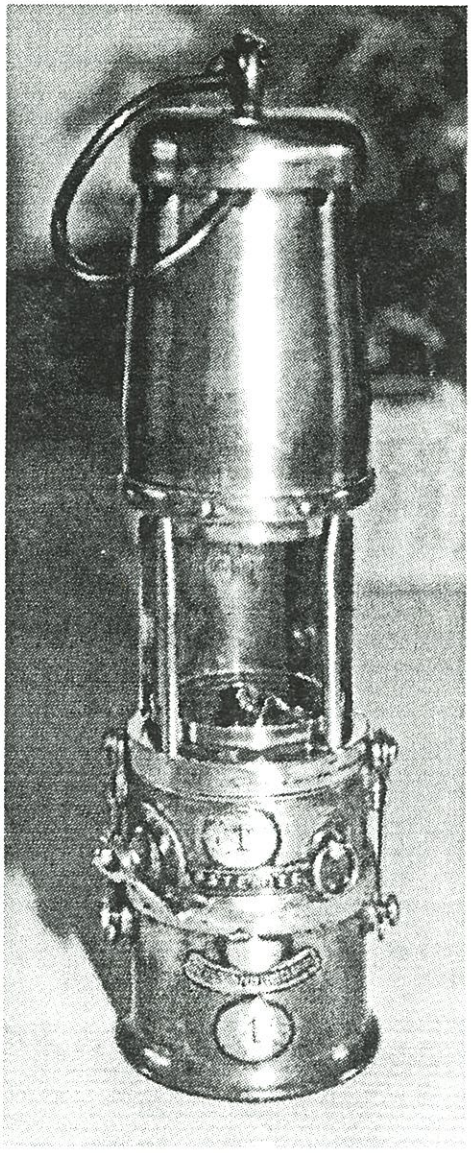
Not all news can be new, but we thought this was worth repeating. Our German editor Manfred Stutzer explains how he literally stumbled onto a world-class auction of mining equipment.

Every year I spend a week in April in England, to visit one of the biggest antique fairs at Newark - Nottinghamshire. From Newark, I traveled to Stoke-on-Trent to visit the Chatterly Whitfield Mining Museum. After the Colliery was closed in 1977, Chatterly Whitfield was reopened as a museum, with surface and underground tours, and lots of surviving equipment.

For instance, some old steam powered locomotives, three different head gears, and working pit machinery were still in place. I arrived at the museum on Wednesday April 13th, and noticed immediately that something was happening. An old miner explained to me that the museum had gone bankrupt, the museum shop had closed. Tomorrow, he mentioned, all the big and small equipment would be auctioned off!

In fact, the next day everything was auctioned off, with two auctioneers working at the same time; one to sell the large equipment, and one for the collection of mining artifacts. It is impossible to describe the mining artifacts auctioned over those six hours. I was happy to be successful with a single lamp; I missed a "Stephenson" clanny lamp made by Mills, Newcastle, but was the winner of a Wolf carbide safety lamp.

A remarkable day.



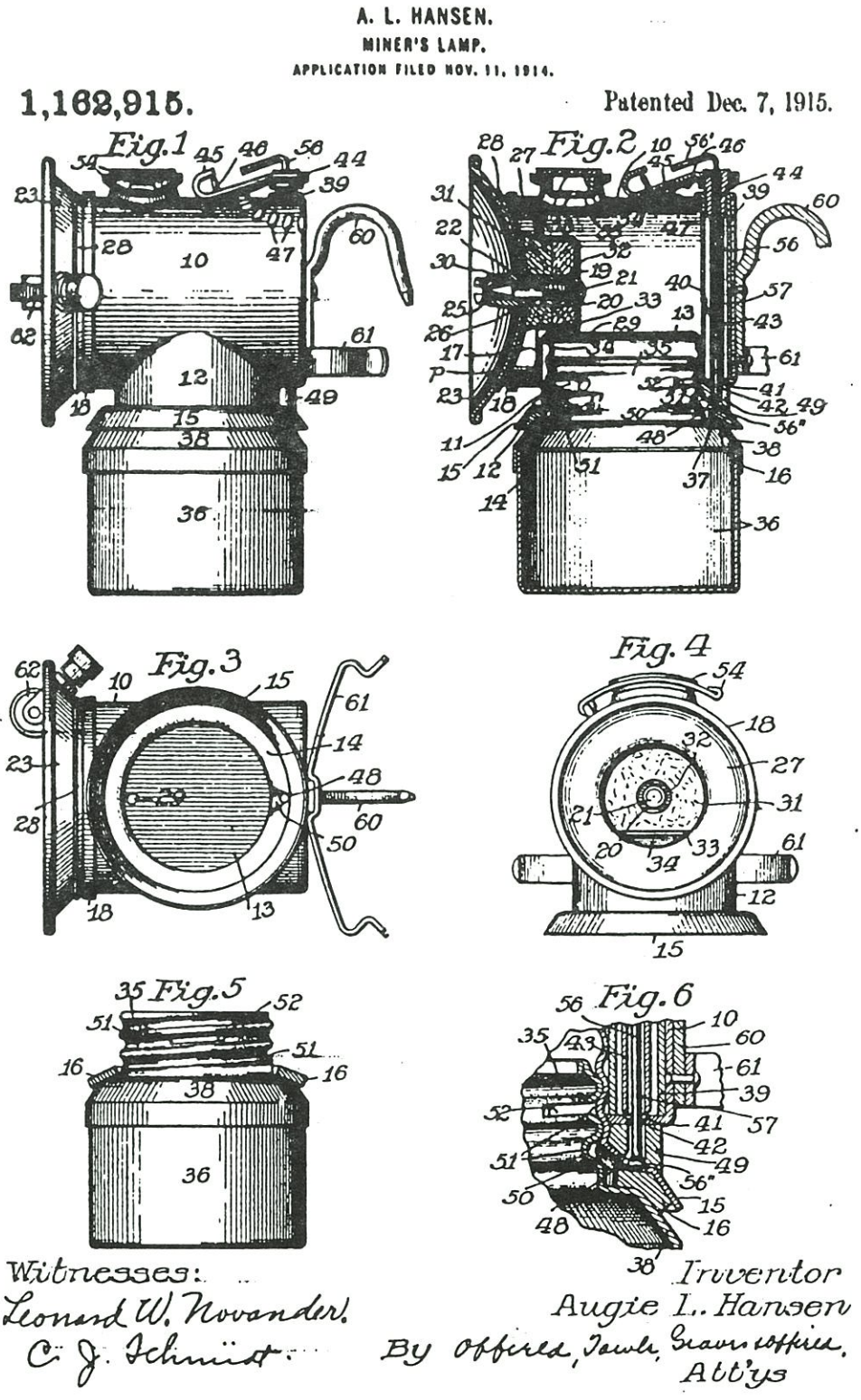
Augie Hansen's Spiral Passageways

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 1914[1], 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.

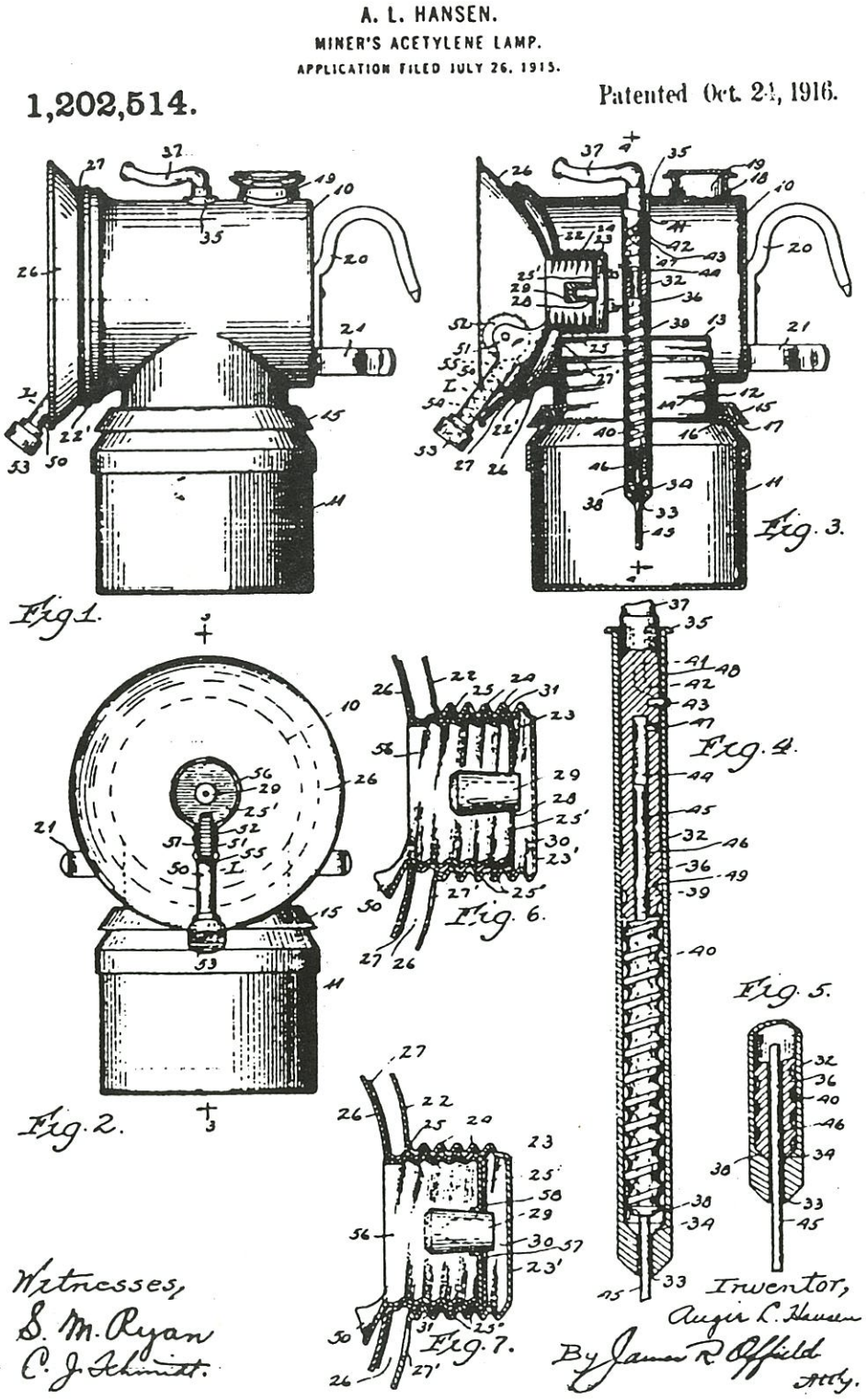
The aim of this was to prevent excess gas pressure from backing up through the water feed. He presumed that the spiral water channel would offer enough resistance to buffer moderate fluctuations in the gas pressure. Those who have used carbide lamps and are familiar with the amount of spent carbide that 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.



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 ¼ " 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.

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.

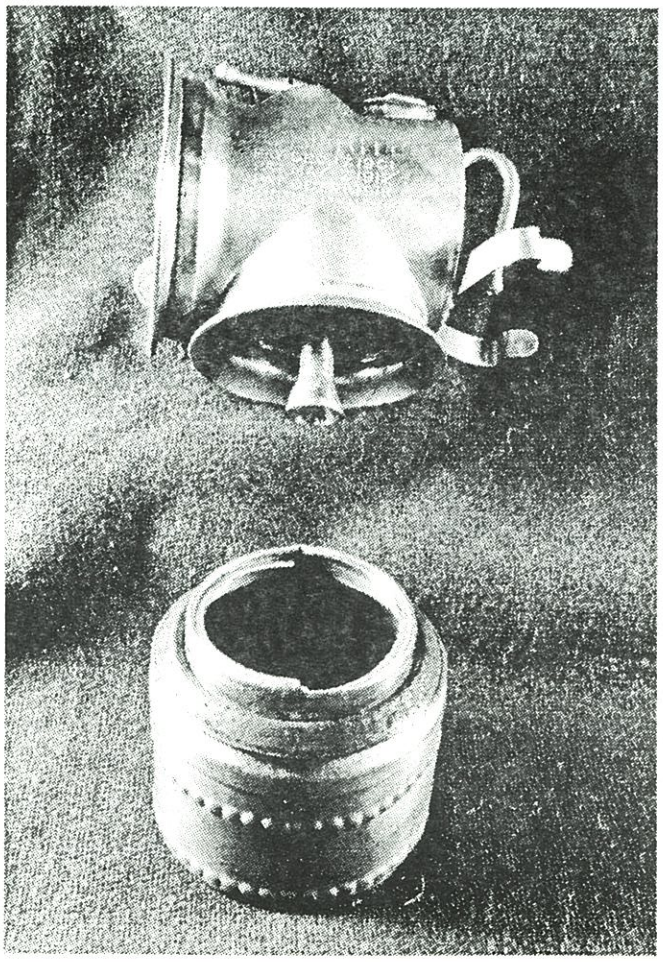
Many of Hansen's patents can only be viewed as eccentric intellectual exercises, and as such, were not practical enough to be produced. One can imagine the company's frustration with the manic inven-



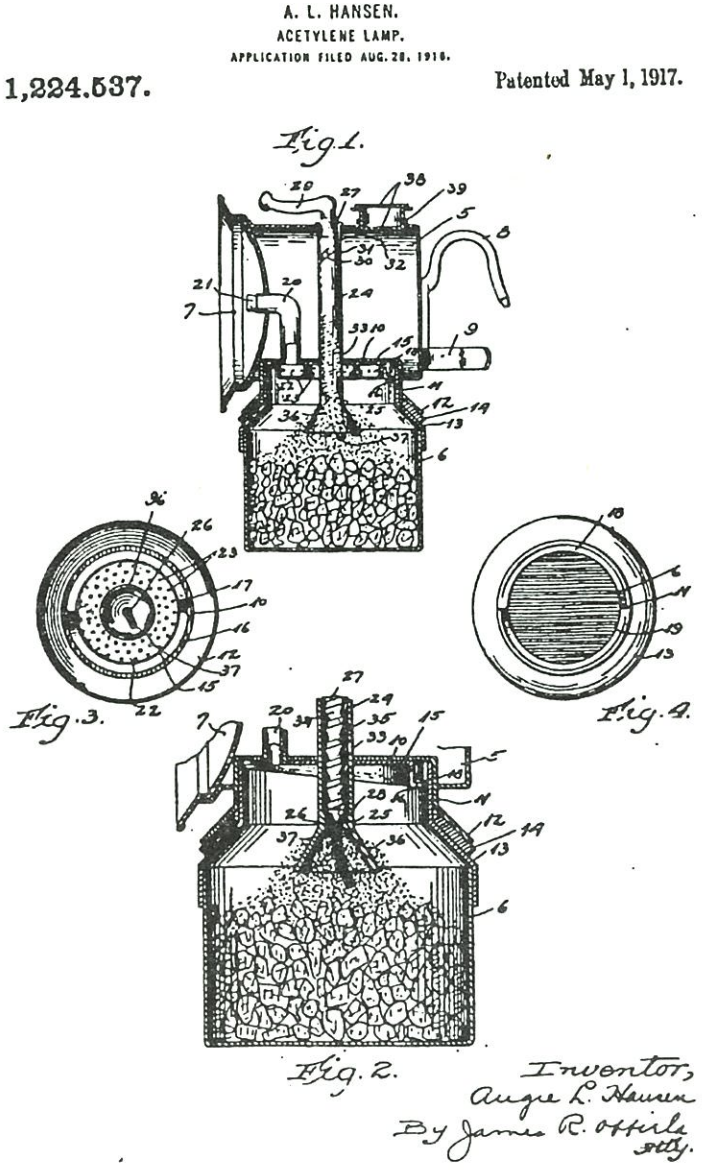
This patent not only covers the spiral water feed which was manufactured in considerable quantity, but also the spiral gas feed, in which gas flows around the screw-threads of the reflector. An example of this has yet to appear.

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."

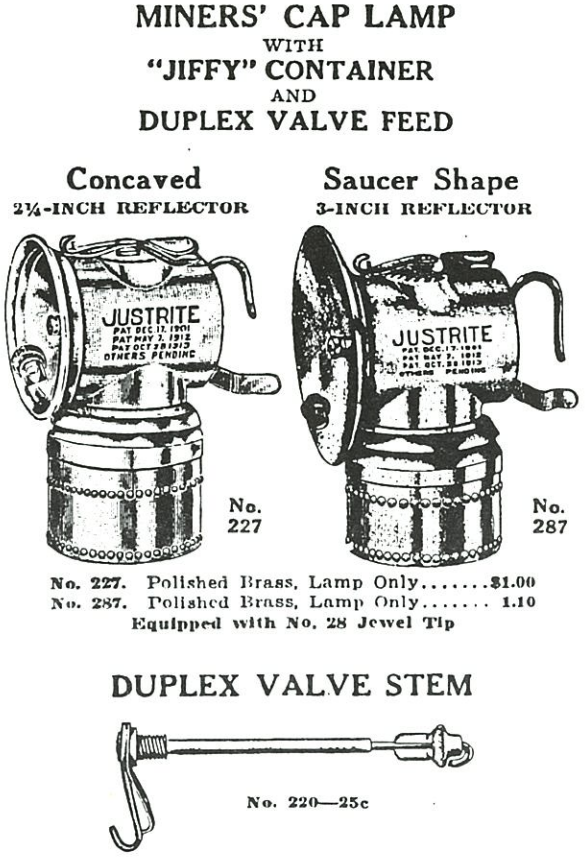


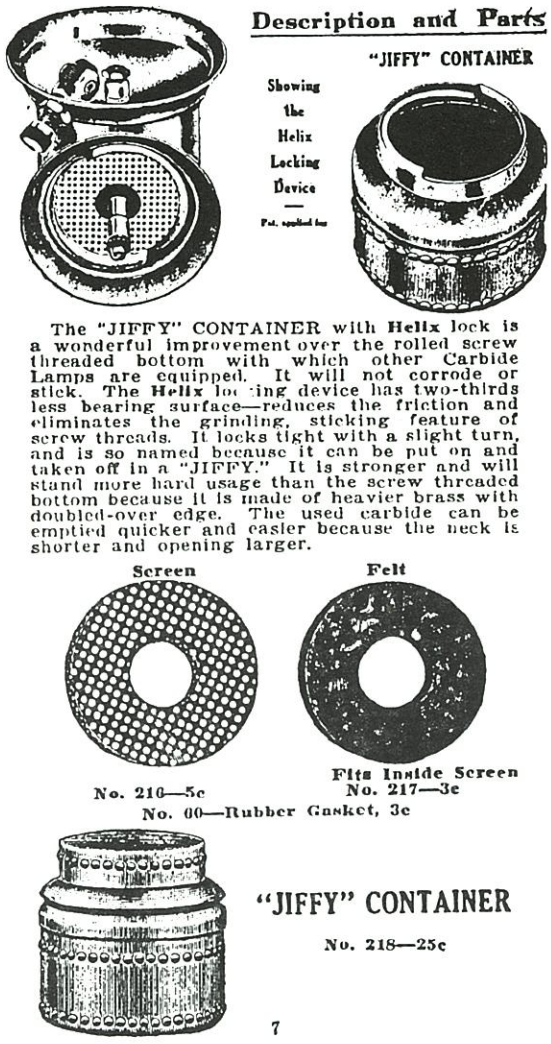
Patented or not, Justrite Manufacturing was impressed with this invention, for they dressed it up with a fancy logo on the base and marketed it heavily. Known as the "Jiffy" container, it appeared in Justrite's 1916 and 1919 catalogs. It is found *only* in the beaded-base design. Though the ribbed base 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.

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.***





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.

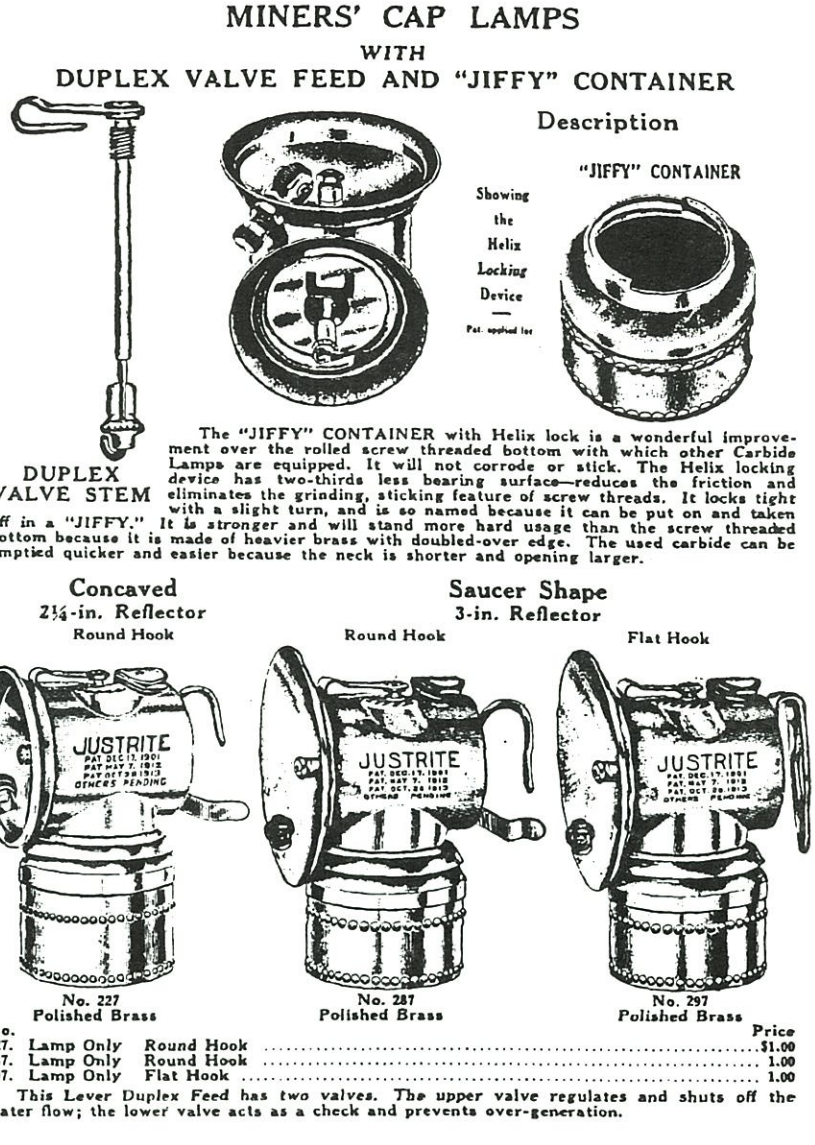
2. & 3. U.S. Patent No. 1,202,514. A.L. Hansen. Appl. Jul. 26, 1915. Pat Oct. 21, 1916.

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

DUPLEX VALVE FEED AND "JIFFY" CONTAINER

DUPLEX VALVE STEM

Description

"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.

Concaved 2¼-in. Reflector — Round Hook

Saucer Shape 3-in. Reflector — Round Hook — Flat Hook

JUSTRITE

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.

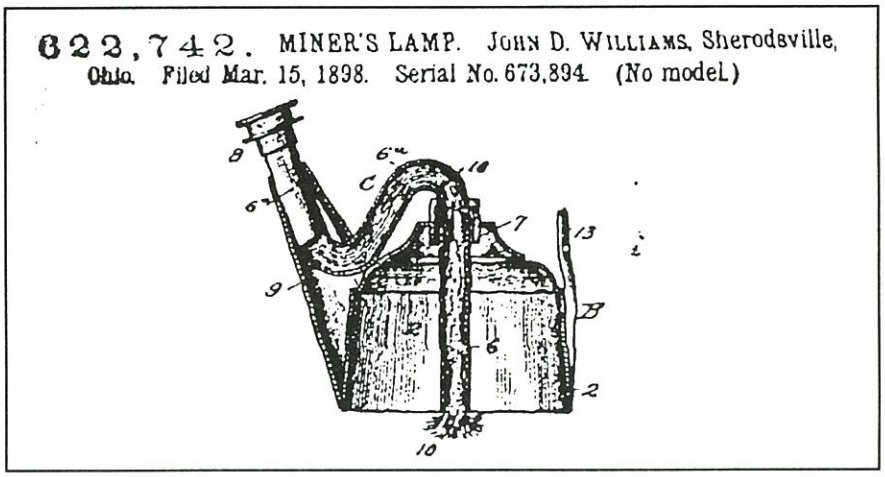
Leak-Proof Miners' Wick Lamp

Dave Johnson

This odd looking lamp has several unique features. Made of brass, the entire lamp is nickel-plated. Two features allow the lamp to be carried in one's pocket. First, there is a brass cap that fits tightly over the end of the spout to prevent the spillage of fuel. Second, the unique cap, which fits down over the majority of the font is threaded with a gasket at the top to form a tight seal. There is a serrated grip at the lower edge of the cap to screw the cap over the font. This arrangement contains the wick tube which itself has a unique shape. What appears to be the wick tube rising from the lower part of the font is actually a font brace. It is designed to simulate the appearance of a miners' oil wick tube. The actual wick tube in this case is the S-shaped tube that runs from the top of the lamp.

Jim Van Fleet has seen lamps very similar to this, but without the false spout or the hook. The lamps Jim had seen appeared to be alcohol lamps. For some time we held back this article in consideration that the lamp shown here may have been a modified alcohol lamp.

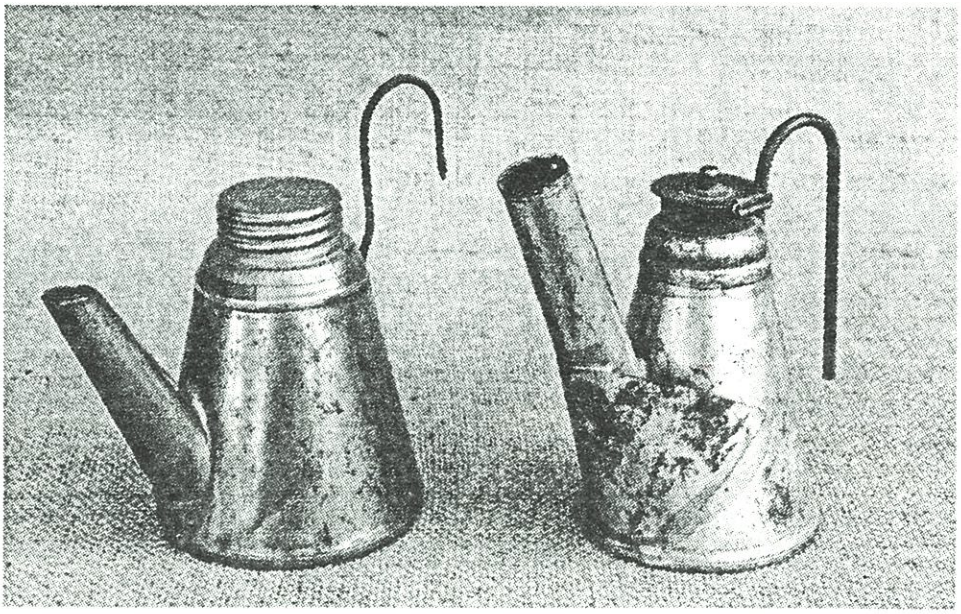
I have now located the patent (see illustration on right) for the lamp confirming it to be a bona fide miners' oil wick. It was patented by John Williams, of Sherodsville, Ohio on April 11, 1899. Another example of this lamp is in Tony Moon's collection. A lamp of this construction would have been expensive relative to the standard tin spout lamps. Perhaps this accounts for its scarcity today.


623,742. MINER'S LAMP. JOHN D. WILLIAMS, Sherodsville, Ohio. Filed Mar. 15, 1898. Serial No. 673,894. (No model.)

Mule Lamps

J. Roger Mitchell

Perhaps the most unusual and uncommon class of oil wick lamps collected today are those known as mule lamps. While these lamps were obviously made by the same manufacturers as their smaller sized cousins, and are as varied in form and shape, they are much more uncommon. Their scarcity can be attributed to the lack of demand for such lamps. While a mine might employ several hundred miners, the number of mules needed would be far less. Limiting the number of mule lamps produced even further was the fact that only the lead mule in each group needed to wear a lamp.



From Tony Moon's collection: Lamp on left has Winfield patent dates on lid, 5.1". Lamp on right has C. George patent dates on lid, 4.3".

As coal mines became deeper and the distance to the entrance became longer, the miner needed assistance in getting the coal he mined that day to the surface. Throughout history, a variety of animals were used to help the miner with this task. Horses, oxen, goats, and even dogs were used. In fact, dogs were used in the eastern Ohio coalfields well into the early 1900's. They were strong, loyal, and easily trained.

Goats and dogs presented a different problem. Because so many were needed to pull a loaded coal car, and because each miner was charged a boarding fee by the mine for his four-legged assistants, much of the miners' wages were spent on the "hired help."

Oxen proved to be too large and slow, and would not pass through the narrow passages. They were usually hitched side-by-side, which made it difficult for the oxen to straddle the rails. Horses posed another problem. Clydesdales and other larger work horses were too expensive and too big for the underground workings. Ponies were too light to pull the heavy loads. Through experimentation, mules were found to be the best adapted for use underground.

Mules were first introduced to America by George Washington through a gift of King Charles in 1785. They saw their first use in mining during the 1860's, and quickly became the animal of choice. The best mules came from Missouri and Kentucky. Coal company agents toured the south and mid-west where the mules were bred and purchased them as fast as they could be located. They were brought into the coal regions in cattle cars hundreds at a time.

Mules were preferred for many reasons. They lacked the high-strung nature of the horse, and had a more efficient power to weight ratio. The best mules had an average weight of 1200 pounds and a height of 16 hands. The easiest mules to train were from 4 to 6 years old.

While some mules would give absolutely no trouble when first taken underground, and would pull loads from the start, the average mule had to be trained to pull the heavy cars through the darkness. Many were not given enough time to adjust to their new surroundings, and became ill and deemed unfit for use in the mines.

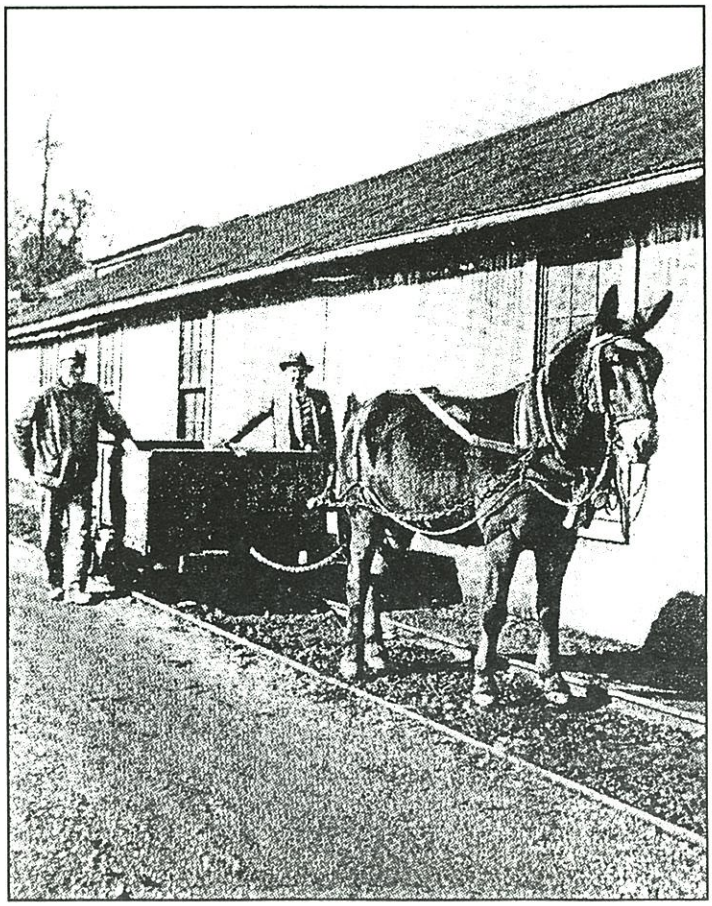
Those that were deemed fit were first

added to existing teams of more experienced mules until they became accustomed to their new surroundings and learned the routes. Another advantage of using mules was that they ate only two-thirds as much as a horse, a plus in the eyes of the cost-conscious superintendent.

Not only did the mine supply the mules, it also paid for their care. They actually placed the value of a mule over that of a miner. The mules were fed three times a day, although larger companies fed them only twice a day to cut costs. Twelve pounds of grain and fifteen pounds of hay were normally consumed by each mule per day. A feed of bran once a week was recommended as a laxative, and also a handful of pure coarse salt twice a week.

Postcard titled "Driver Boys' Friend, Shamokin, Pa.", author's collection.

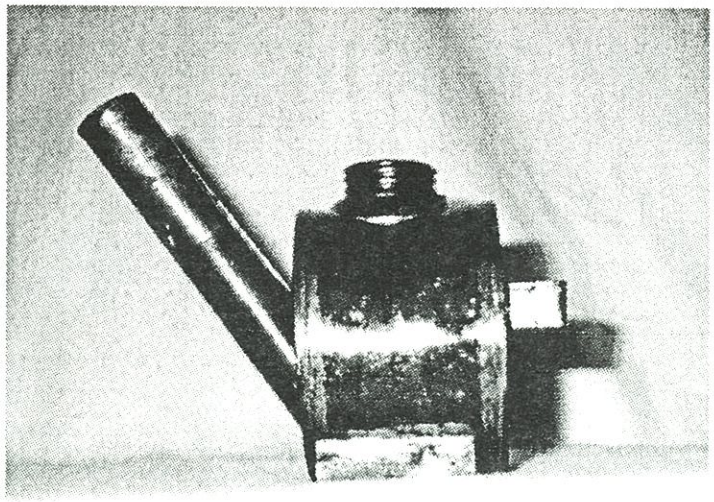
The two main disadvantages of using mules were their stubbornness and their life span. Mules have a much shorter life span than horses, and needed to be replaced more often. The records of the Fairmont Coal Company for 1905 show that in that year, 26% of their stock either died, was killed, or had to be disposed of on account of being sick, crippled, or worn out. The service dates of these mules indicated a working life of roughly five years.



As for their stubbornness, not much needs to be said. If a mule lowered his ears, the driver knew trouble was brewing. Many drivers were kicked or stomped on by angry mules. In a narrow tunnel, a mule might try to squeeze the driver against the rib or wall. Drivers in the Pennsylvania anthracite region around Plymouth would carry a "sprag," normally used as a brake for the wheels of coal cars. Sharpened at both ends, the sprag was just the thing to keep a mule from trying to push the driver against the rib. The mule also knew his route and his working hours. Any attempt to alter these usually resulted in resistance, and the driver again suffered the consequences.

Once the mules were purchased and given an examination by the mining company veterinarian, they were taken underground where they would spend the rest of their working lives. Most collieries with deep mines had stables located within them. Here the mules were fed, watered, and cared for each day. New mules were assigned to a driver boy also known as a "mule skinner." He was usually an advanced door boy, aged 14 to 15. Every mule driver was held strictly responsible for the safety of all the mules in his custody. If a driver lost a mule due to neglect or carelessness, he was fired immediately. Unlike earlier times when the miner purchased

(Left) Miners' mule. Note electric lamp on mule's breast.



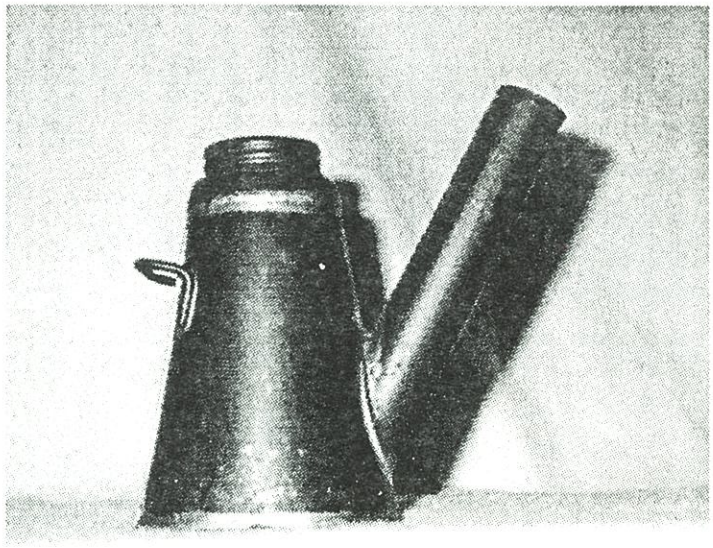
Mule lamp, oil wick. Diam - 2.5", Height to shoulder - 3 1/8", vert. height to spout tip - 5 1/8". John and Nancy Hyatt collection.

his own help, the companies owned the mules. While miners were expendable, mules were not. When a mule died or was injured, it was examined and a report was issued to the management.

As a new mule was introduced to mining, it was hitched in tandem with a more experienced mule in front of him. The lead mule wore a large oil wick lamp on his head to help guide the less experienced. Mules were taught four basic commands: "gee" meant to turn right, "wah-wah" meant to turn left, "whoa" to stop, and "giddap" meant to proceed.

Many of the mule drivers were European immigrants, and spoke little English. Most spoke to their mules in their native tongue. For this reason, many mules would not obey other drivers. Drivers also pampered the mules under their care. They fed them candy, sugar cubes and fruit, and some taught their mules to chew tobacco and drink beer. The mules were given biblical names or the names of girls the drivers admired. After a period of time, depending on the mule, they would learn their route and would advance to lead mule and earn the right to wear a lamp.

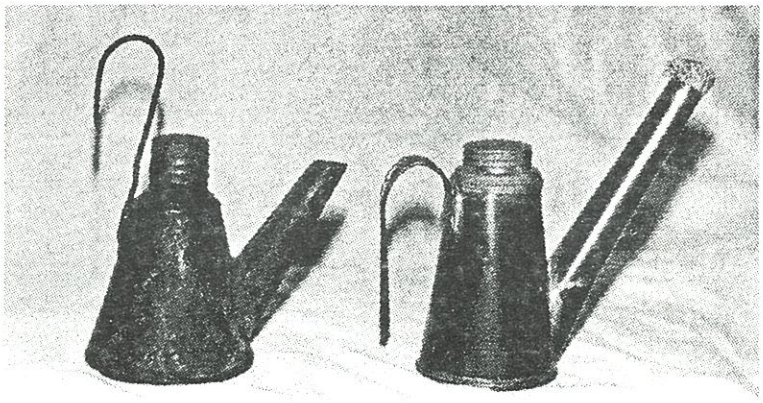
It is the opinion of the author that these lamps were not used to provide light for the lead mule, but used to help guide the trailing mules, much like Rudolph and his nose. Mules have a keen sense of vision in darkness; they knew every step of their route. Some were even blind from spending most of their lives in darkness.



(Above)Mule lamp, oil wick. Diam. - 3 3/8", height to shoulder - 4 3/8", vert. height to spout tip - 5 1/8", all tin, round stock strap bar instead of hook, unmarked. Hyatt collection.

A second reason for wearing a lamp was to warn others, such as miners or door boys, of their approach. Where the miner needed his own lamp for light, the mule did not. Because the lamps were mounted to the mule's harness, or attached to a leather cap on his head, there is no doubt that many a mule was burned or injured by his lamp. Burning of the mule's ears was common. The mule

(Left) Mule lamp, oil wick. Diam. - 2 1/2", height to shoulder - 4 1/4", vert height to spout tip - 5". Hyatt collection.



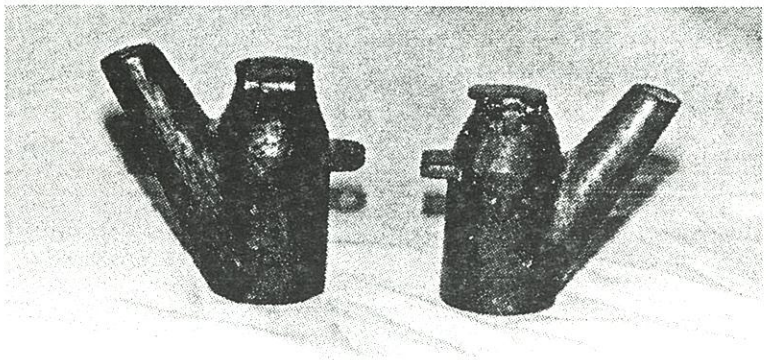
Mule lamps, John Podgurski collection.

probably did not like having the lamp on his head for other reasons. He used his ears to detect overhead obstructions, and surely did not like receiving a thump on the head as a substitute.

The size of these mule lamps can be attributed to several factors. Because the mules were exposed to many different air currents throughout the mine, a larger flame was needed, and was less likely to be extinguished. Also, since they were worn on long journeys, they were away from filling stations longer and needed a larger reservoir to hold more fuel and sustain the larger flame.

Many mule lamps were equipped with shields to protect the flame from air currents and dripping water. They also protected the mule from dripping fuel. Another feature found more frequently on mule lamps is a screw cap lid, as opposed to the standard oil wick lamp's hinged lid. This was probably to prevent the lid from popping open if the mule were to bump or jar the lamp. A larger screw-cap opening made it easier to refill the lamp.

While the screw-caps themselves were made of either tin or brass, there is a definite absence of all-brass or copper mule lamps, as found with their smaller cousins. Cost is the main reason. Although examples exist, because the companies purchased the lamps cheaper tin models prevail. There are a few examples of heavy cast brass lamps weighing almost two pounds! I'll bet the mules loved wearing these.



Cast oil wick lamps for mules. John Podgurski collection.

The other obvious difference in a mule lamp is the size and shape of the hook, or its absence. The hook needed to be larger and sturdier in order to stay secured to the harness or cap, and to withstand the larger size and weight of the lamp. About half of the examples the author has seen have harness loops instead of a hook. This style of lamp was probably more secure on the harness, but it took longer to refill as the driver had to remove it each time and then put it back on after filling.

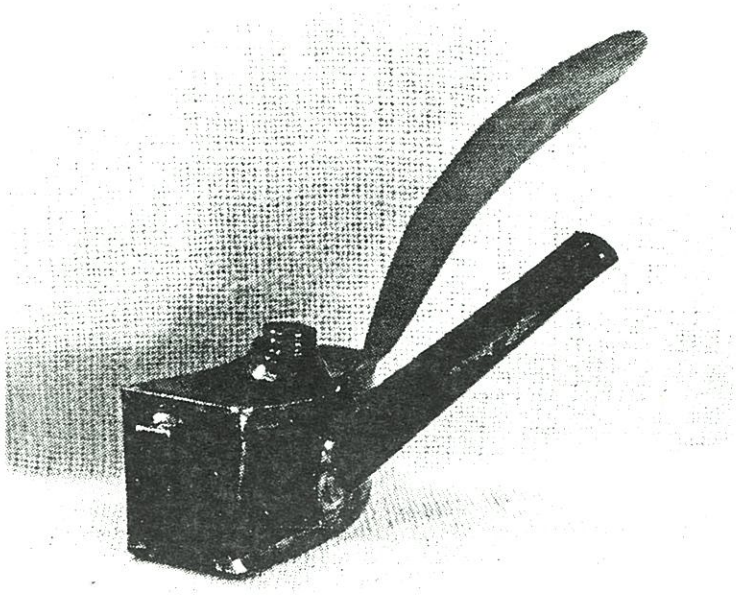
Mule lamp from John Podgurski's collection.

Perhaps the most disappointing aspect of mule lamps is the absence of the makers stamping. Even though some of these larger lamps look just like their smaller cousins, its difficult to tell who made them. Several lamps have the Crown patent dates on the lid, indicating that they may have been made by C. George. Some have the Crown boot guard also. The author's lamp has a lid identical to a Felix oil wick lamp. Others have the O'Keefe patented shoulder brace used by Trethaway Bros., while still others are unique designs. At least one mule lamp, complete with harness loops, is stamped "Tunnesen Mfg. Co, Scranton, PA."

Mule lamps, Podgurski collection.

With the advent of electric cap lamps for miners, so did the mule lamp change over to the much safer and efficient source of light. These new lamps were much like the miners' electric lamps but were fitted with special carriers to mount to the harness. These new lamps were attached near the breast of the mule, which provided more light on the tracks rather than the ceiling of the mine. They also eliminated the burning of the mule. One would expect these electric mule lamps to be produced by Edison, but in fact they were made by Koehler.

While researching this article it was the author's intent to find a picture of a mule wearing an oil lamp, but one was never located. Nearly one hundred museums, archives, and collections were searched to no avail. Several post cards depict mules with lamps, but none were secured for the article. If anyone knows of such a picture, please contact the author or Eureka!



Mule lamp with overhanging reflector. Dave Johnson collection.

Copper mule lamp with tin screw cap and steel hook. Dave Johnson collection.

Lastly, don't forget to celebrate Mule Day on October 26th of each year, to pay homage to the animal that helped make a miner's life a little easier (or difficult depending on which end you were on).

Sources:

Louis Poliniak. When Coal Was King. Applied Arts Publishers, 1970, pp.18-21.

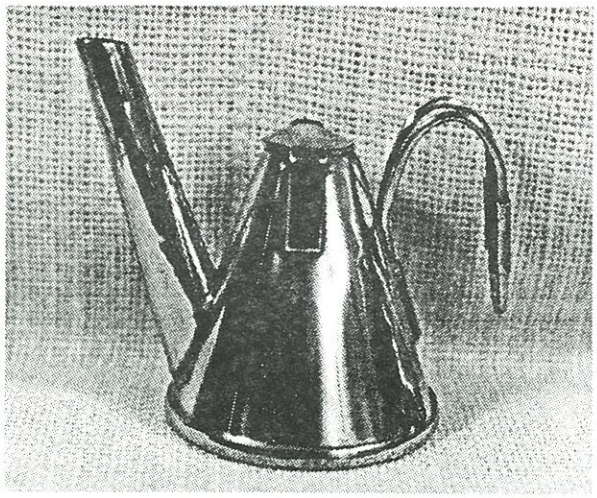
Michael Hansen. Ohio Geology, Fall 1990, pp.1-4.

Coal Miners Handbook. 11th Edition, 1916, pp.775-778.

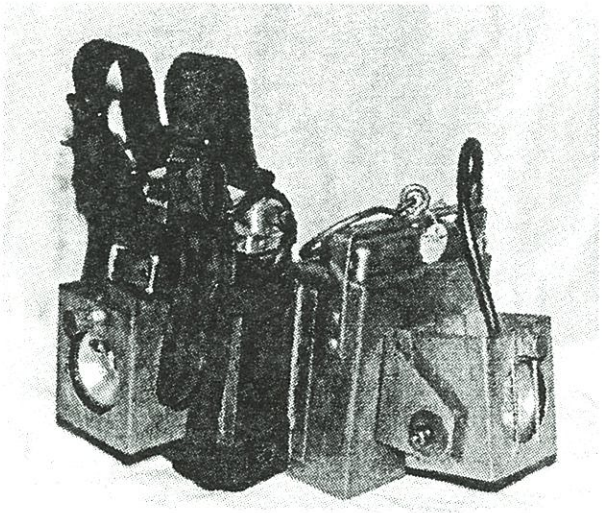
Stuart McGehee. "A Salute to the Mine Mule," Coal People Magazine, June 1988, pp.9-11.

Personal Communication:
Stuart McGehee, Craft Memorial Library, Bluefield, WV
Jean Gormley, Greater Hazleton Historical Society, Hazleton, PA
Florence Fisher, National Coal Assoc., Washington, DC
Betsy Hutchins, Editor, The American Donkey and Mule Society, Denton, TX

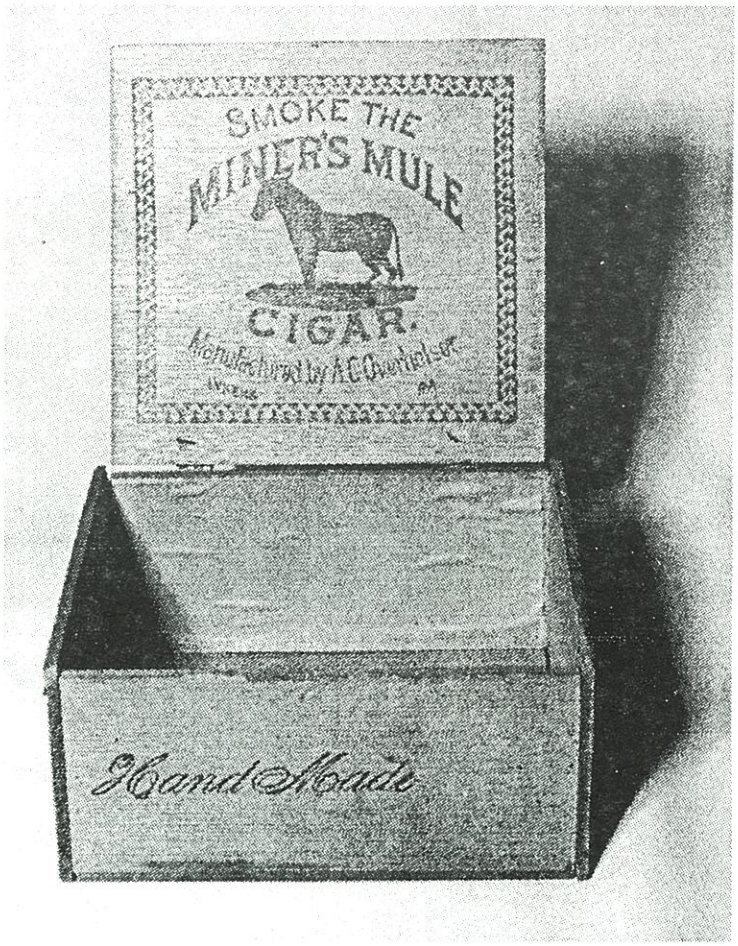
Special thanks to the following for help, photos, and ads:
Chuck Young, Tony Moon, Paul and Nancy Hyatt, Bill Lorah, Jeff Shanks, John Podgurski, Bob Henninger, Jim Van Fleet, Dave Johnson, and Nelson Ressler.



All brass mule lamp. Dave Johnson collection.



Electric mule lamps. Podgurski collection.



Miner's Mule cigar box. Made by A.C. Overholter, Lykens, Pa. Miner's Buffalo cigar boxes have also been seen, Harry Lyons, maker. Minersville, Pa. (Bill Lorah collection.)

MULE LAMPS.

FOR COAL MINERS.

FIG. 9666, NO. 7.

PRICES, FIG. 9666.

Half pints, per dozen. $9.00
Pints, per dozen..... 10.50
Quarts, per dozen... 12.00

FIG. 9667.

Made of best quality heavy sheet steel, brazed with hard spelter.

PRICES, FIG. 9667.

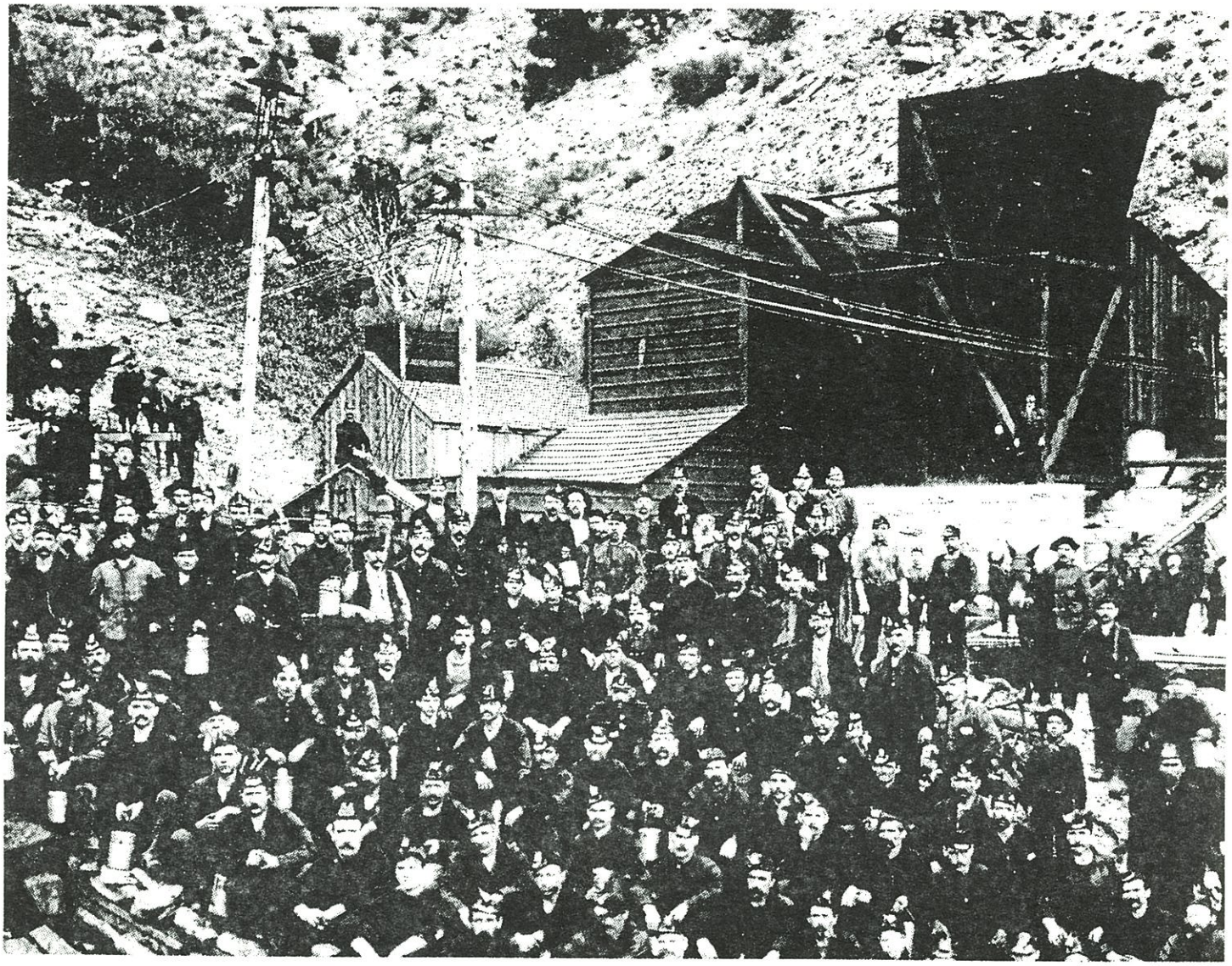
1 pint, per dozen.... $9.00
1 quart, per dozen... 10.00
3 pints, per dozen.... 11.00
2 quarts, per dozen.. 12.00

(Above) Ad from The Fairbanks Company catalog, 1906

(Left) Mule lamp, Tunnesen Mfg. Co., Scranton, Pa. (author's collection.)

GEORGE EDWARD ANDERSON — WESTERN PHOTOGRAPHER

Deric English



"Coal Miners, Castle Gate, Utah, CA, 1897. Veteran miners remember this equipment -- the number one mine fan house, powered by steam which also generated electricity; the oil wick lamps; and the double-layered lunch pails with water on the bottom and food on top. Near this spot stood the miners' homes and the RGW depot where Butch Cassidy robbed the mine payroll in 1897." Description from The Utah Photographs of George Edward Anderson, page 109. (Print from Anderson original glass negative, author's collection.)

To borrow an overused cliche, a picture is worth a thousand words. As one stares at this miner, lunch bucket and candlestick in hand, one pleads for him to speak. His words could answer so many questions: who are you? where do you work? why aren't you smiling? Fortunately, studying the clues indicated in this photo may eventually appease one's curiosity. As it is, the silence of the miner weaves our imagination through fiction and reality.

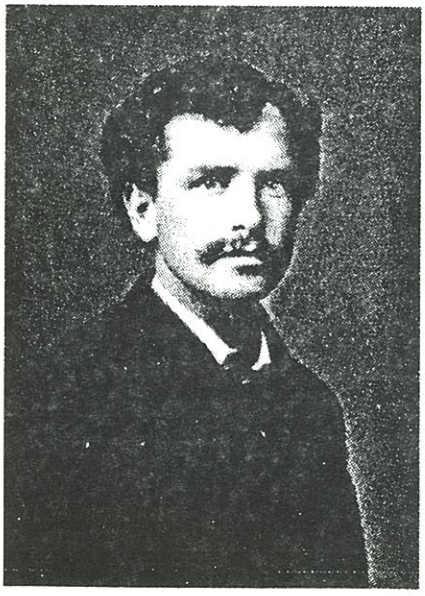
One might unravel these bits of information by studying the photographer, George Edward Anderson. He was born October 28, 1860, in Salt Lake City, Utah. As a teenager, George was an apprentice to the most prestigious photographer in the Utah Territory, Charles R. Savage.

Anderson's involvement in photography lasted from the mid-1870's up until his death in 1928. His work has been recognized for its historical

documentation of the Mormon Church, for the thousands of images he took of the common man, and for his images of the Scofield Mine disaster in Utah. Publication and exhibits of Anderson's work by the Smithsonian, the Boston Museum of Fine Arts, the Photokina of Cologne, Germany, and a current exhibit in Italy all attest to the growing appreciation of his work.

Anderson's day to day activities and enthusiasm for capturing the moment reflect his love of history and a strong desire to give something to posterity. At the age of 17, he had his own studio in Salt Lake City. In the 1880's, he established tent studios at Springville, Manti, and Nephi, Utah. He and his portable studio vans and tent galleries made their way through small communities of southern Utah, photographing the common folk. Two-thirds of Anderson's forty thousand photographs are studio portraits similar to that of the miner's photograph. He would move his gallery operations to the mining camps during the winter and arranged such visits to coincide with payday at the mines. A miner would have to pay about twenty-five cents for such a portrait.

(Below) George Edward Anderson, Salt Lake City, Utah, ca, 1884. "One of Anderson's earliest portraits using a gelatin dry plate is this self-image taken around the age of twenty-four." Description from The Utah Photographs of George Edward Anderson, page 3.



(Above) Miner, Utah, Ca, 1885. Hardrock miner posing with candlestick and lunch bucket in hand. (Original photograph in author's collection.)

On May 9, 1928, at the age of sixty-eight, George Edward Anderson died of dropsy, but his contribution to our view of the past has survived. One can be grateful that on many cold winter days, in small Utah communities, he stopped, unloaded, set up his tent, and captured glimpses of the past that would have otherwise been lost forever. If one looks and listens closely, the voice of these images can be heard.

Sources:

Francis, Rell G., The Utah Photographs of George Edward Anderson. University of Nebraska Press, 1979.

Dinner-Pail Lanterns

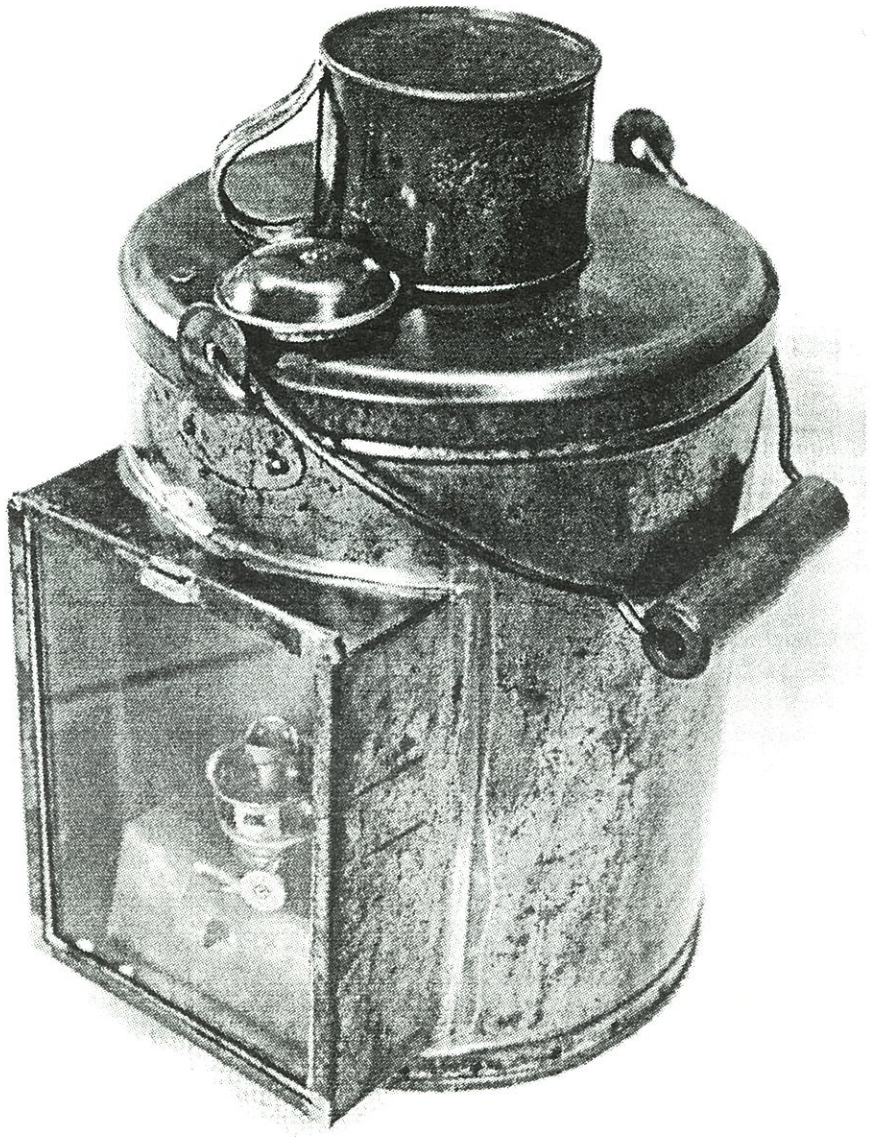
Dave Johnson

A unique type of mining collectible is the small variety of "Dinner-Pail" or "Dinner-Bucket" lamps, or more correctly lanterns patented prior to 1900. While nearly every miner carried a tin dinner bucket of some type and a very large number survive today, only a handful of dinner-pail lanterns are known to survive. I know of only five varieties, three of which I have been fortunate enough to obtain. They apparently weren't well received and failed to sell well to cost conscious miners. As well as providing an additional source of light, all examples were able, if desired, to heat the liquid compartment.

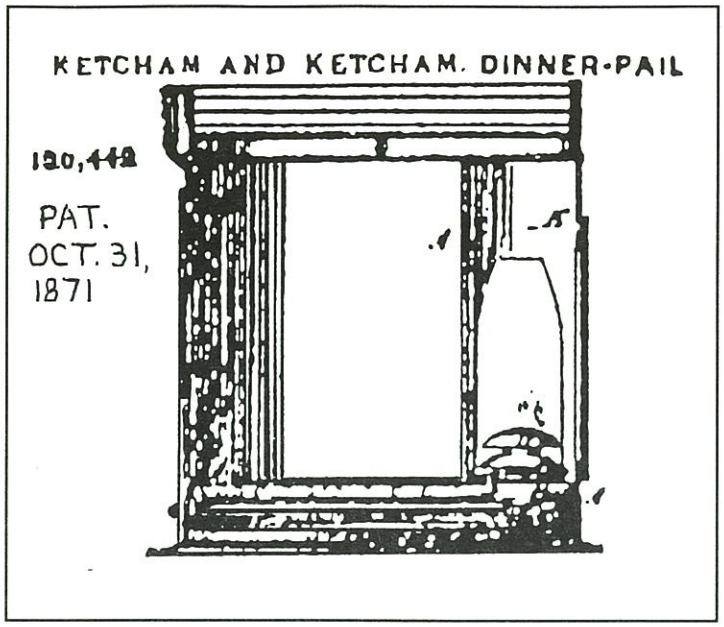
The three examples in my collection represent the three shapes of almost all other standard non-lantern dinner-pails: round, oval and oblong. To date, I have located four patents for these unique dual purpose lighting devices. The earliest of these patents, Number 120,442, was granted to Ketcham and Ketcham on October 31, 1871. This patent drawing shows a dinner-pail with a round lamp in a chamber in front of the food compartment and below one end of the liquid compartment which forms the cover.

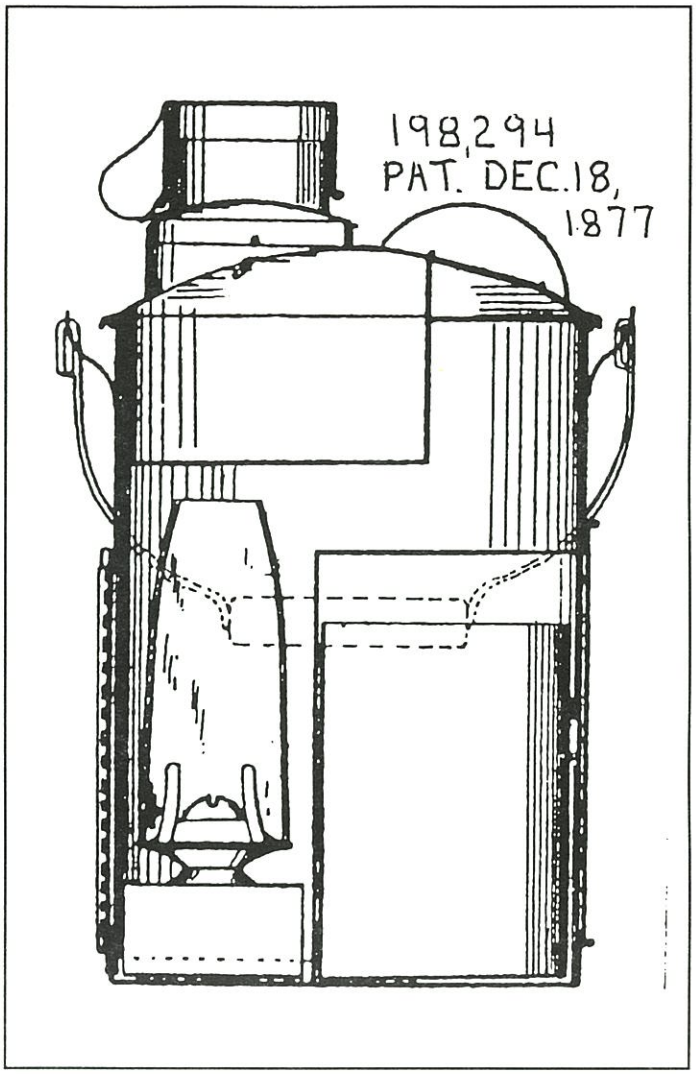
Patent Number 198,294, granted to Jos. Haight of Port Chester, NY on December 18, 1877 reads; "Upon one side of the cover is secured a receptacle for coffee, etc., and directly opposite this receptacle is an aperture for direct escape of smoke from the lamp. The cover may be turned so as to bring either the receptacle or the aperture directly over the chimney of the lamp."

Both the oval and cylindrical examples pictured here have the October 31, 1871 and December 18, 1877 patent dates stamped on them. Both have liquid containers that are reversible and the covered aperture described in the 1877 patent. While

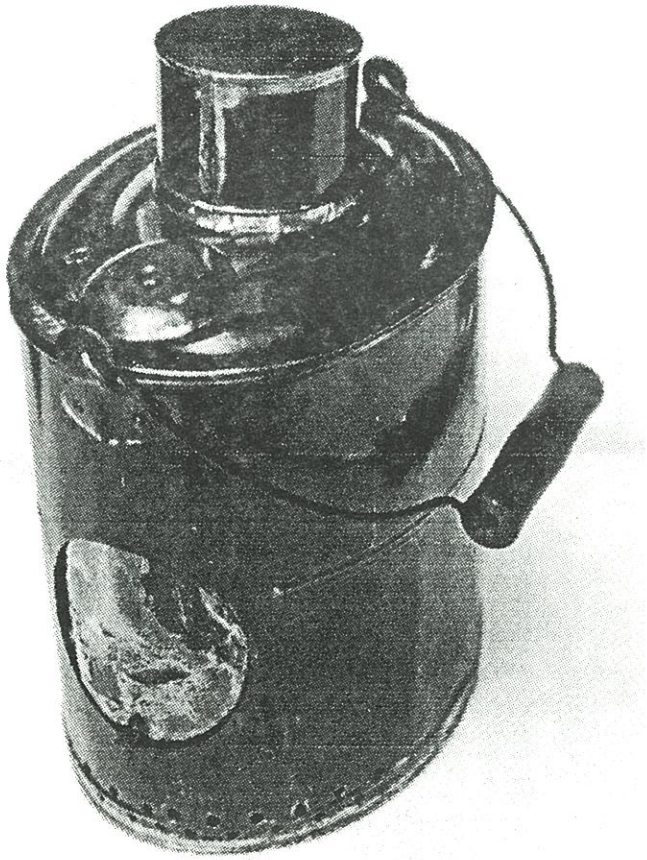


Cylindrical dinner-pail lantern, stamped with both 1871 and 1877 patent dates, (author's collection.)





Patent drawings corresponding to patents found stamped into both oval and cylindrical dinner-pail lamps.



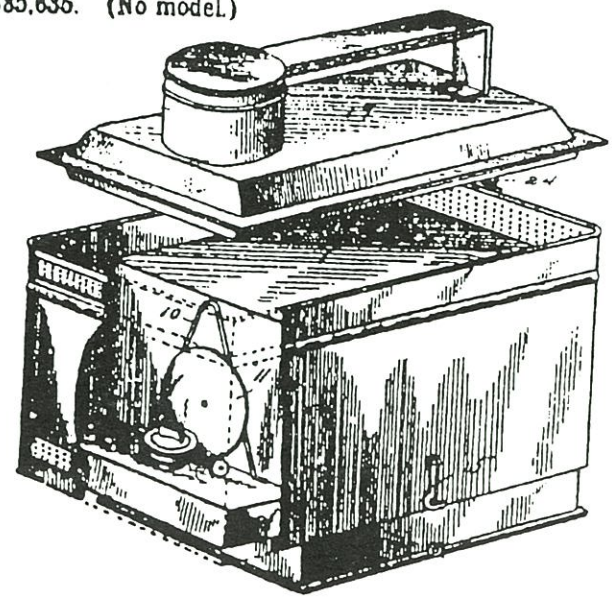
the vent covers are slightly different, the brass clip holding them in place is identical. Both have sliding doors in front of the lamp chamber to access the lamp. The oval dinner-pail has a curved door with mica, rather than glass. In order to slide the door up to remove the lamp the liquid chamber must be removed. On the cylindrical dinner-pail there is a sliding door with glass than can be slid up and out without removing the liquid compartment. The lamp in the second pail is larger and held in place by a brass clip. On this pail the food compartment slides out of the bottom and is held in place by a brass spring clip. The oval pail's food compartment is accessed by removing the liquid compartment and an inner lid that fits into the body of the pail. Both pails are well constructed. The oval pail was recently acquired from Roger Mitchell, who acquired it

(Left) Oval dinner pail stamped with both above patent dates, (author's collection, photo by Roger Mitchell.)

from a dealer who had purchased it more than 20 years ago at an auction south of Wilkes-Barre, PA. The cylindrical pail was acquired from Dave Gresko at the Louisville show.

The third pictured dinner-pail is rectangular in shape and features a heavy "bullseye" lens. The lamp wick can be adjusted by a removable brass knob that inserts through a hole in the side of the pail. The knob stores in the food compartment. This dinner pail is stamped with the patent date of April 20, 1897. On this date patent number 581058 was granted to Harry E. Bryan and William T. Harriman of Cadiz, Ohio. This is the only example of the three pictured that has a flame reflector and said reflector is described in the patent. The patent also indicates the lamp's ability to heat the removable liquid compartment. As with the cylindrical example, the food compartment drops out the bottom of the bucket and is held in place by a brass hook, as indicated in the patent drawing. The only differences are that on the actual pail the hook is located at the end of the pail opposite the lamp. The patent drawing indicates a tin handle soldered in place, while the pail as manufactured has a bail handle similar to the other two examples. Also on the actual pail the cup is located at the center of the liquid compartment rather than at one end. This pail was obtained from an auction of an old hardware store's stock near Brazil, in the Indiana coal mining region.

581,058. DINNER-PAIL AND LANTERN. HARRY E. BRYAN and WILLIAM T. HARRIMAN, Cadiz, Ohio. Filed Mar. 31, 1896. Serial No. 585,635. (No model.)



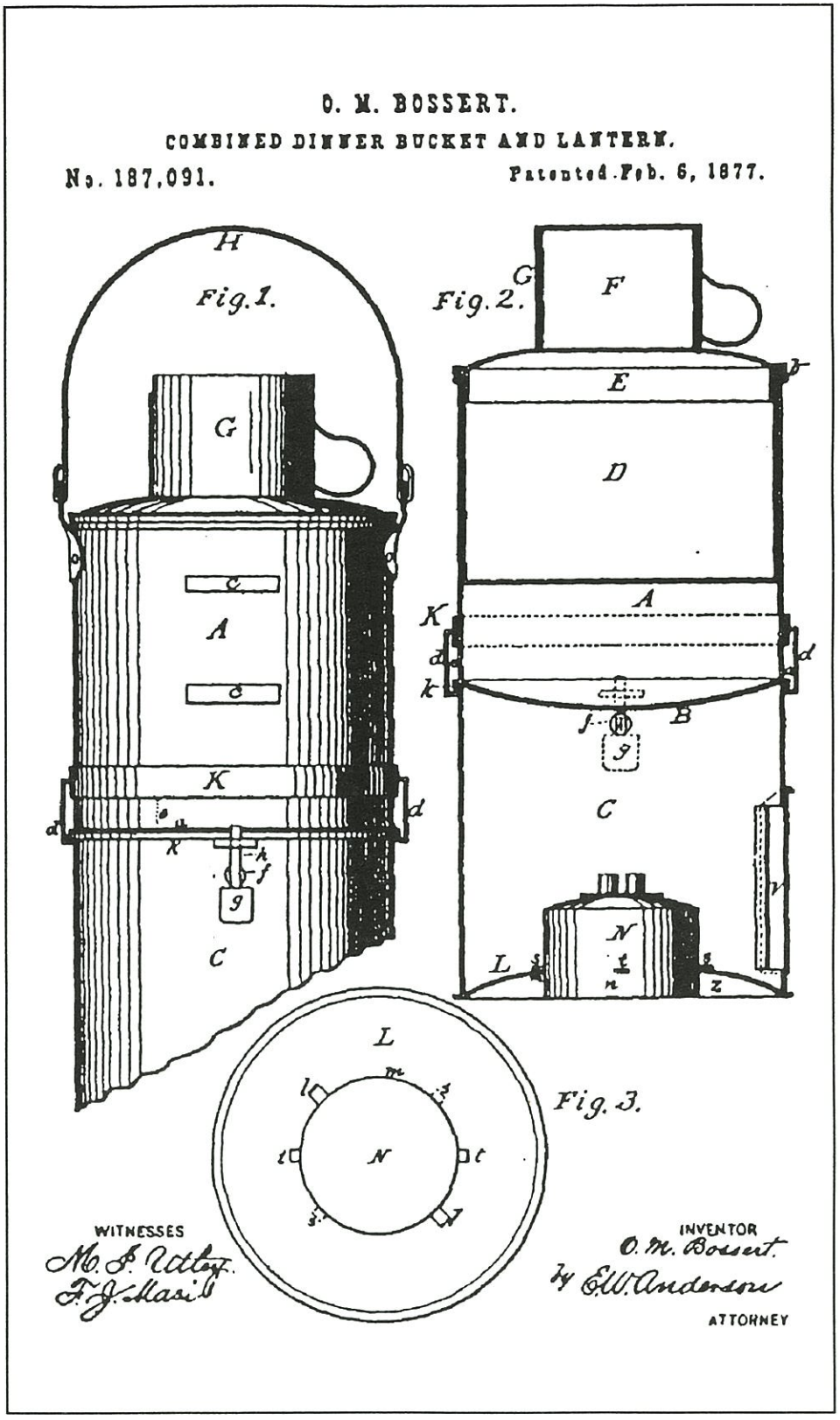
Rectangular dinner-pail lamp and corresponding patent, (author's collection.)

A fourth patent for a "combined dinner-bucket and lantern" number 187,091, was granted to Obadiah M. Bosert of Parnassus, PA on February 6, 1877. This is the only patent that states that the pail is specifically for the use of miners, serving two purposes: first, to heat the food and drink contained therein and, second, to "serve as a lantern guide for such persons, many of whom have to start out before day, and do not return home, especially in the winter months, until after nightfall."

According to the patent for this pail it differs from the others because; "when the device is raised by its bail, the lantern case drops as far as the arm correcting it with the bucket will allow, thus affording draft space. This space is closed and the vent opened when the apparatus is set down". I know of no example of this pail that exists and do not know if it was ever manufactured.

Of the other three pails which are pictured here, I have no information on who the manufacturer of each actually was. Since the two earlier examples have patents issued to different parties in different states either party could be the manufacturer, either could have contracted with a jobber to produce them or a firm could have purchased both patents and manufactured the pails on their own.

I would appreciate any information that any of our readers might have regarding these or other varieties of dinner-pail lanterns.



A fourth patent for a dinner-pail lantern is the only one found thus far which is specifically designed for the use of miners. A stamped example is yet to be found.

SECOND INTERNATIONAL MINING ARTIFACT COLLECTORS TRADE AND SALE MEETING

by Manfred Stutzer

On June 4, 1994 the second meeting of European collectors of mining artifacts was held in the town hall of the small village of Wilnsdorf, Germany. As with last year's event, Henner Schardt and Heinz Zander were responsible for organizing the event.

On this occasion, for the first time, a new German collector's magazine was sold, titled Grubenlampen Info (Mine Lamp Info). It will be issued in the future once a year, always on the occasion of the annual meeting.

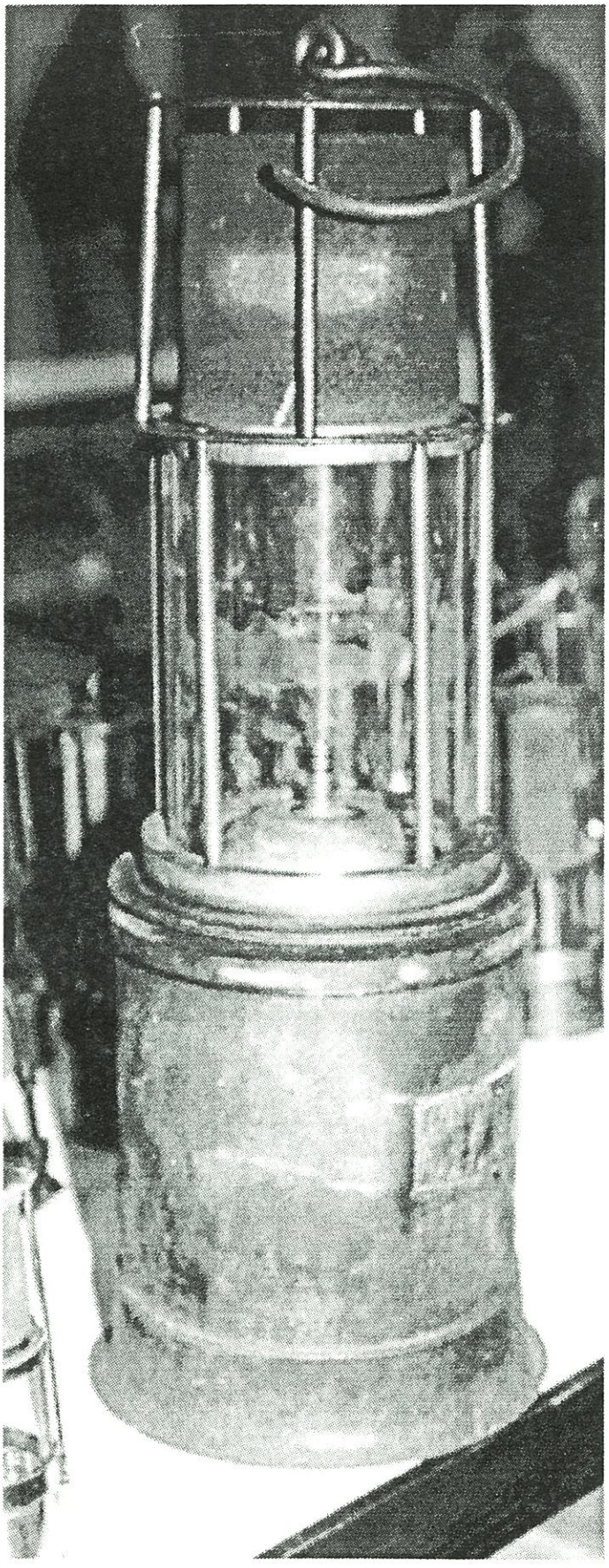
[*Editors Note: Manfred was kind enough to send me a copy of Grubenlampen Info, and it includes numerous high-quality black and white photographs of mining lamps and memorabilia.*]

About 30 mining artifact collectors offered a wide range of items for trade or sale, mainly lamps of course, displayed on tables throughout the hall. Collectors came from many European countries; France, Belgium, Sweden, Holland, Italy, the Czech Republic, Germany, etc., and David Gresko made the trip from the United States to attend the show. For traveling the longest distance he was awarded a lamp book.

Over 300 additional visitors attended the show, making it a big success. The third international meeting will return to Wilnsdorf on June 3, 1995. The new collector's magazine, Grubenlampen Info, is still available. Another show highlight was the introduction of a new lamp book:

Michel D. Dupont and Gil Lobois, Les Lampes de Mines.

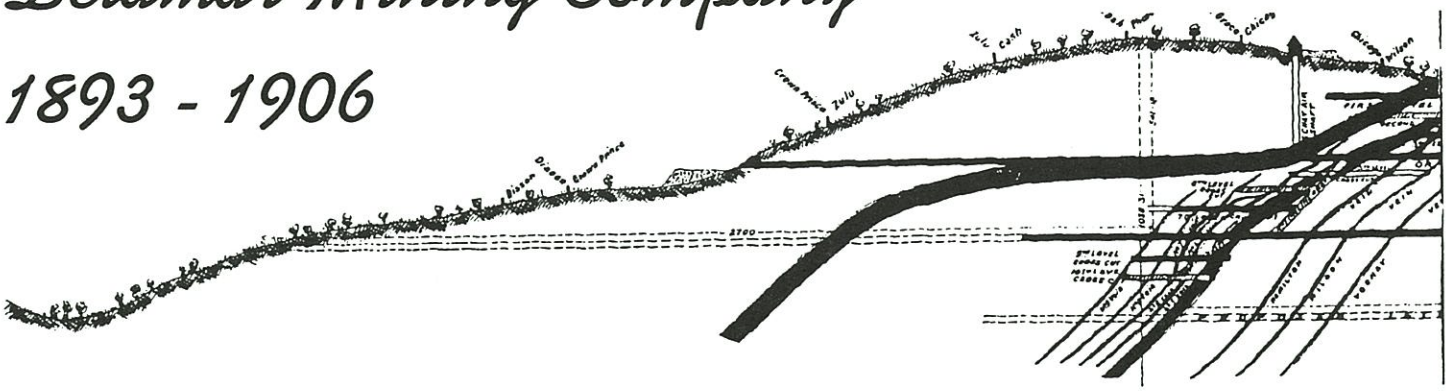
It is a very fine effort, with many coloured pictures of safety lamps.



The tallest carbide safety lamp made by Seippel/ Germany was displayed at the Wilnsdorf show.

A very old wooden miner.

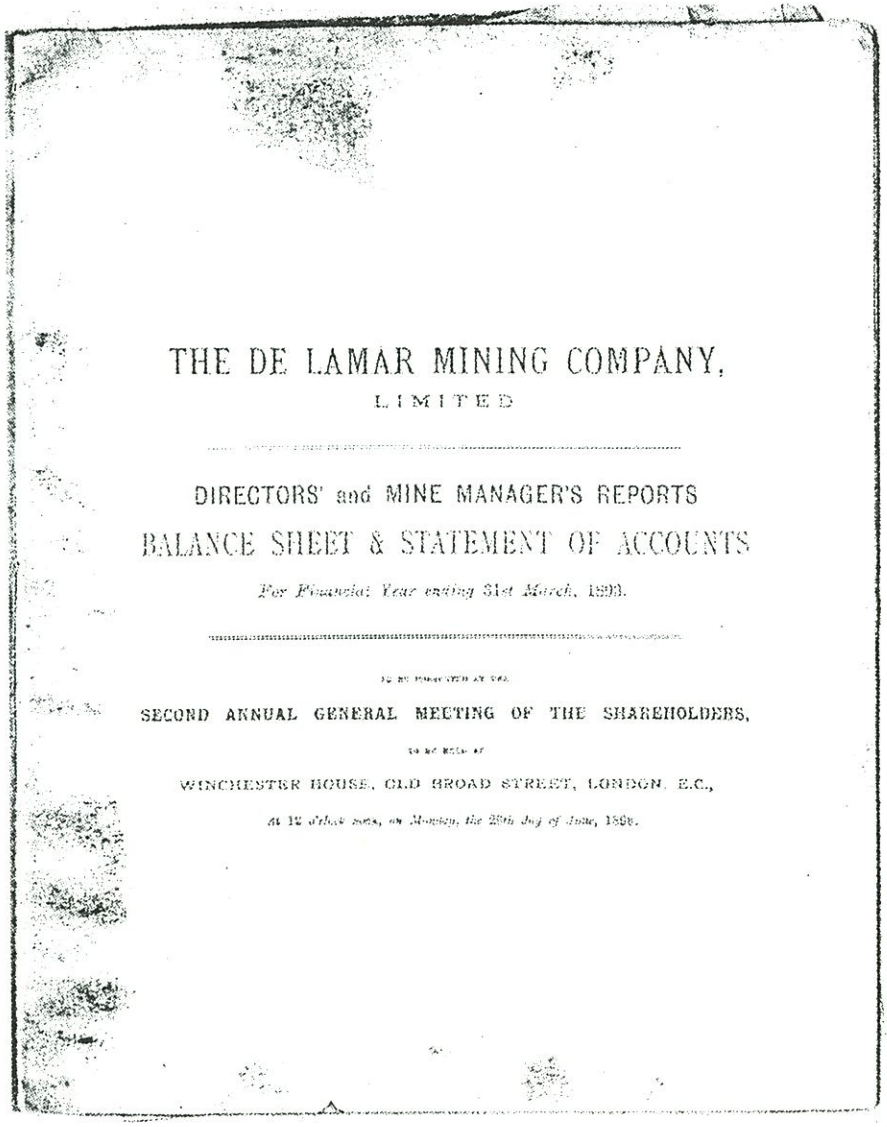
Annual Reports of the Delamar Mining Company 1893 - 1906



by Larry Radford

Mining in what is now Owyhee County, Idaho, began in 1863 when gold was discovered in Jordan Creek by Michael Jordan. Hardrock mining soon started in the district, with the primary town being Silver City.

Mining at the DeLamar Mine started in 1886 after Captain J.R. DeLamar paid $30,500 for the property. Milling was done in Silver City until 1889 when the mill was moved to the DeLamar site. Captain DeLamar was proficient at raising capital and making a profit; in 1891 Captain DeLamar sold out to the DeLamar Mining Company of London for about $2,000,000. A town was built near the mine and was named DeLamar. The mine operated until 1914. The following excerpts are from DeLamar Mining Company Annual Reports from my collection. I have annual reports for 1893, 1895, 1896, 1903, and 1906. The reports have detailed color cross-sections, some of which I have framed. The plan maps are at an odd scale, 1" = 112'.

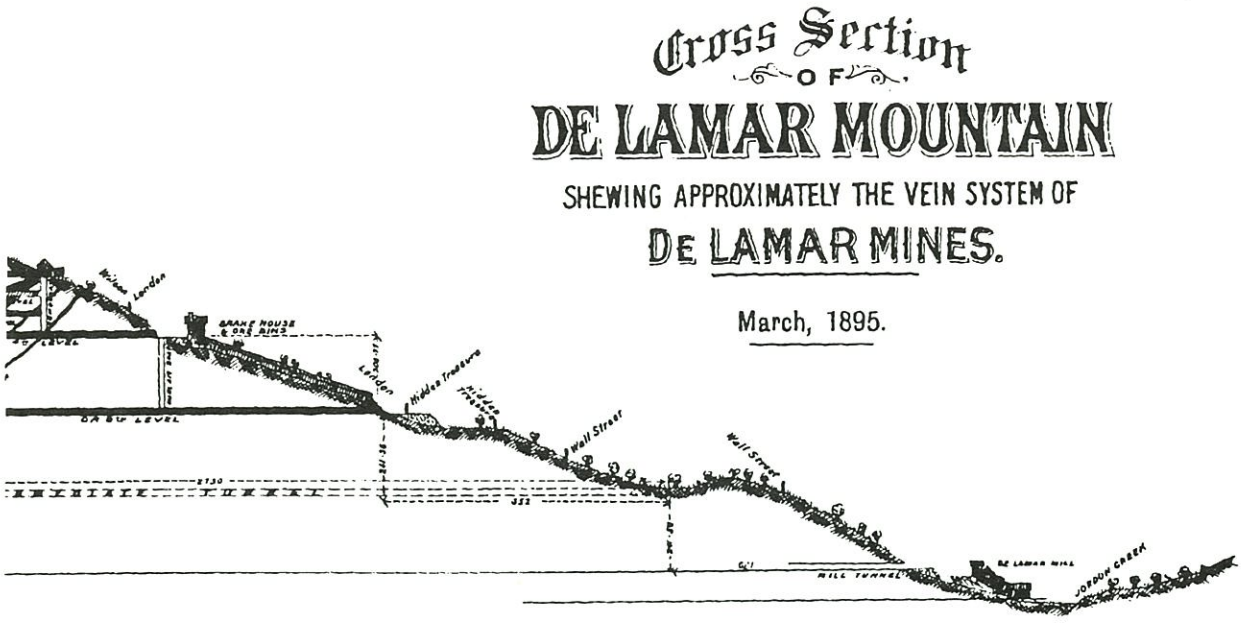


THE DE LAMAR MINING COMPANY,
LIMITED

DIRECTORS' and MINE MANAGER'S REPORTS
BALANCE SHEET & STATEMENT OF ACCOUNTS
For Financial Year ending 31st March, 1893.

SECOND ANNUAL GENERAL MEETING OF THE SHAREHOLDERS,

WINCHESTER HOUSE, OLD BROAD STREET, LONDON, E.C.,



[*Editors Note: Especially interesting are the comments on the installation of a Pelton Water Wheel. This device was featured in an article in Eureka! #2*]

The mine was reopened in the late 1970's as an open-pit mine and is operating today. I worked at the mine in 1989.

References:

Hanley, M., History of the DeLamar Area. Unpublished, 1977.

Hanley, M. and Lucia, E., Owyhee Trails: the West's Forgotten Corner. Caxton Printers, 1974.

Wells, M.W., Gold Camps & Silver Cities: Nineteenth Century Mining in Central and Southern Idaho. Idaho Department of Lands, 1983.

Excerpts on the Pelton Wheel:

A contract has been entered into for the erection of a Pelton water wheel and attachments, with the view of utilising the water from Jordan Creek during the months when there is sufficient available. The water power will drive the whole Mill, or supplement the Steam Engine power according to the volume of water at the time, and it is believed the result will show an important saving in the consumption of fuel and good interest on the outlay.

later

The saving effected by the employment of the Pelton Wheel during the year was 707 cords of wood, or approximately $6,363. Another Pelton Wheel purchased last autumn, of much smaller dimensions, will be harnessed to the waters of Louise Creek when required.

The stocks of fuel and mining timbers have been gradually increasing, the yearly purchases being in excess of the consumption; in consequence of this, the amount of purchases for the coming year will be less than usual.

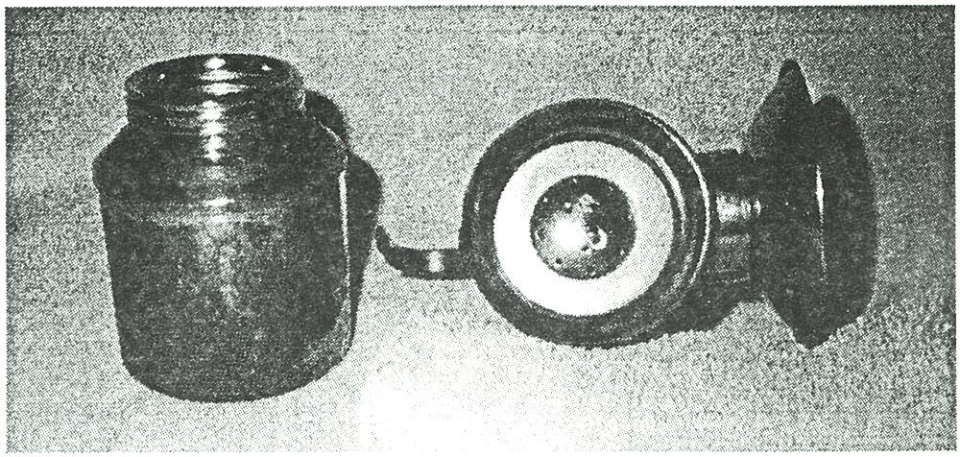
Baldwin Ore Car Lamp

Paul and Nancy Hyatt

Recently in a pair of fine articles, Dave Des Marais expressed serious concern about the virtual extinction of certain carbide hand lamps. Many of our fraternity have wondered on numerous days full of baseball cards, "happy meals," dishes, etc. if everything is extinct! Then, once in a while, there are those days when we see the light! (pun intended).

We are happy to report that while perhaps on the endangered species list, the Baldwin ore car lamp is still with us. Although it may not be as aesthetic as the pinchwaist cap lamps of Fred Baldwin, this is still a beautiful and well-made lamp. How the authors and the subject came together is a tale for another time. For now, let's bring the particulars to grass.

Baldwin ore car lamp with stamping shown above.



"Baldwin Lamp
Patented Under
Pat. Aug.28, 1900 Dec.17, 1901 Mch.11,
1913 Jan.6, 1914.
John Simmons Co. MF'R. N.Y."

To accommodate banging around on an ore car, the body is constructed of tinned (spelter-coated) steel. With a slightly domed top, the lamp stands 5 5/8" tall at the shoulder and has a 2 3/4" diameter bottom. The carbide chamber (bottom) has an applied brass rim supplying male screw thread connection and gasket flange. Effectively the top half is a lamp within a lamp. It is entirely brass lined, comprising the water chamber and feed tube, and is formed with the corresponding upper screw threads and flange.

Basically, the water feed mechanism is the same as those found on Baldwin pinchwaist cap lamps with an "L" shaped wire lever, except of course with larger dimensions. A threaded reflector, without striker assembly, is reinforced by a small tinned steel brace which slides over the threaded gas tube as a separate piece.

Completing the specs is a flat steel hook. Nicely topping off the picture on this unfired lamp is a brass name plate which reads:

Anybody got an ore car available?

Collecting The Canadian Blasting Cap Containers

by Don Blyth
reprinted from the
Bulletin of the Association of Canadian Cartridge Collectors, #35, Fall 1993,
with permission of the author.

A hobby that has become quite popular lately is the collecting of the tins and boxes that contained blasting caps. In this list we shall attempt to cover all of the known Canadian ones, and assign them a number. Since I am interested only in the products I am not going to go into Company history very heavily.

No. 1

Curtiss & Harvey Canada Ltd.

Curtiss & Harvey of England operated a division from 1911 - 1917, see the article by Will Ady-White in Bulletin #30. Only one can is known from this operation and it is blue in color with white print for the No.6 cap. It is quite probable that they produced other sizes of caps in different colored cans, but at this point it is all that is known to exist.

Dominion Cartridge Co., 1886 - 1927 Canadian Explosives Ltd., 1910 - 1927
Canadian Industries, 1927 - 1976

This organization produced many different tins and cardboard boxes over the years. The containers for No.4 and No.5 caps were green in color. No.6 cap tins were red, No.7 an orangy color and the No.8 cans are yellow.

No. 2

No. 3

The beaver in the trademark on the first Dominion tin is very well defined and has a sort of scroll each side of the beaver oval. Known in No.4, No.5 green and No.6 red.

The next can in the line has a beaver that is not as well defined, and each side of the beaver oval has a series of lines. These exist in green and red.

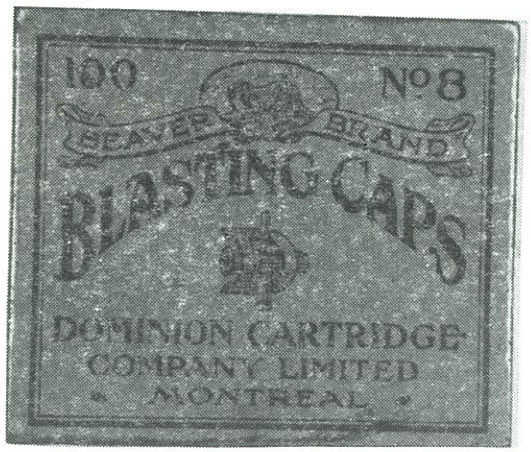
No. 4

The first of the Canadian Explosives tins followed the Dominion's lead with the fancy beaver and the scroll lines. Known in No.4 & No.5 green without number and red No.6 with number showing.

No. 5

Following Dominion again, CXL's next can showed a less ornate beaver logo and the series of lines. Exists in green, red and one tin known for No.7 cap in a sort of orange color.

No. 6

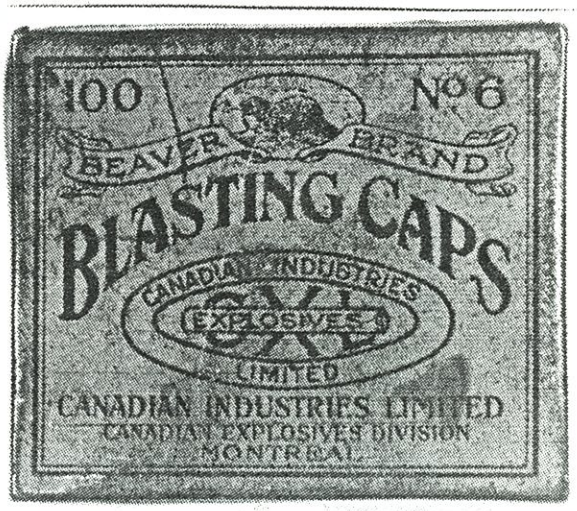


The first of the rectangular tins by Dominion Ctg. Co. retain the "Beaver Brand" as well as the "bent D" trademark c.1907 - 1910, and come in red No.6 and yellow No.8. All yellow tins are much scarcer than the red ones.

No. 7

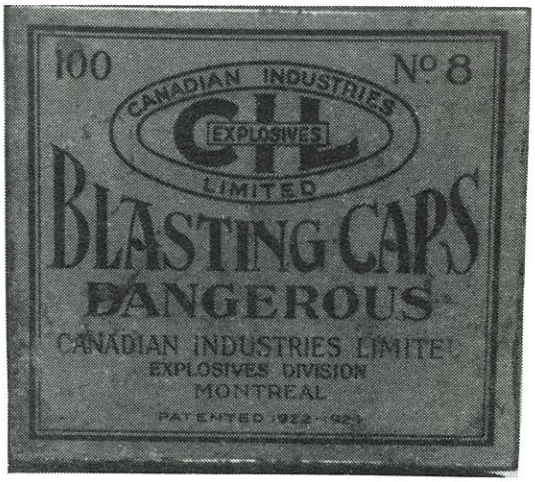
The next tin shows a Beaver CXL and CIL and would be the last of the CXL tins probably 1927 era. Known in red and yellow.

No. 8



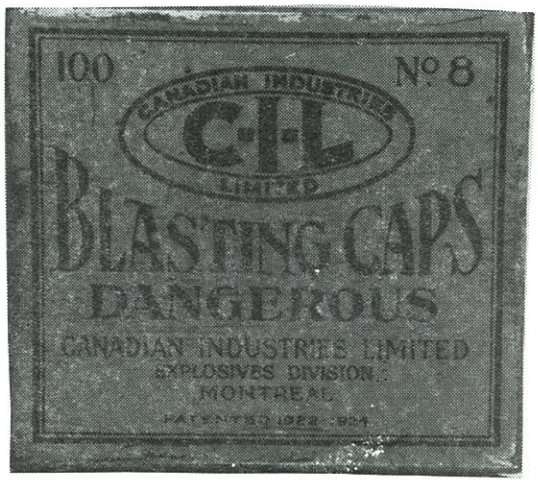
The first of the Canadian Industries LTD. tins still showing the Beaver and CXL logos. Known in red No.6, and there should be yellow one as well.

No. 9



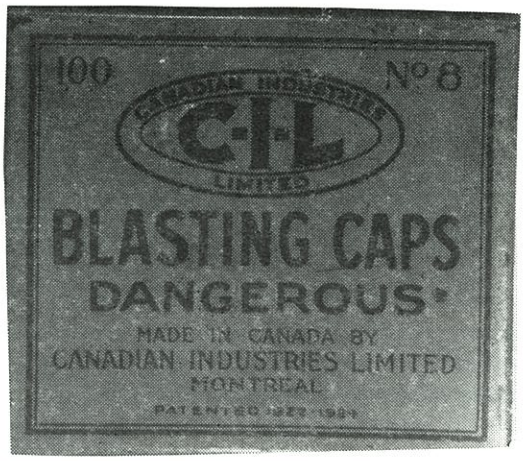
The next tin by CIL retains the dynamite stick in the logo, and "Blasting Caps" print is larger at each end. Exists in red and yellow.

No. 10



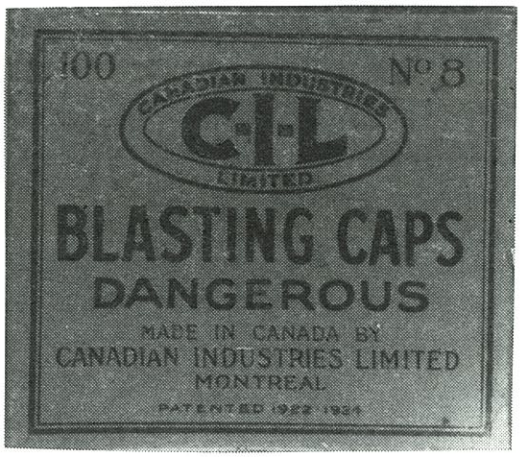
The next CIL tin has the same "Blasting Cap" printing but the dynamite stick is gone. Again found in red and yellow.

No. 11



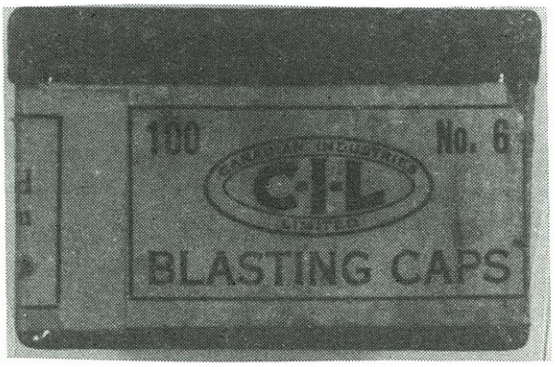
On the next tins, the "Blasting Caps" wording is now in even letters. Known in red and yellow colors.

No. 12



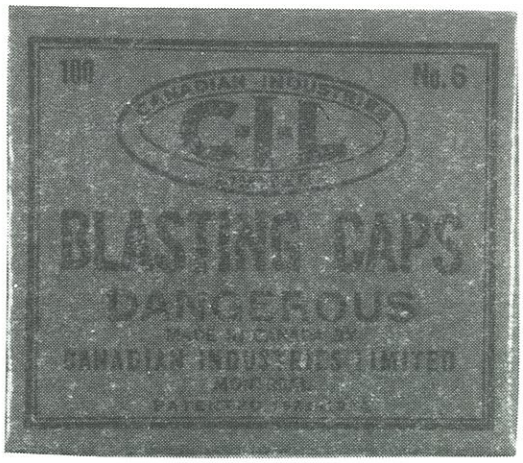
Tin variety #12 has the exact same top as #11, but has different side wording, starting "Do not leave blasting caps lying around . . ." Found in red and yellow colors.

No. 13



The next is an odd rectangular tin, the only one known with a paper label around the sides only. Perhaps a special order, there is only one tin known, a No.6 cap with a red label.

No. 14



The first of the cardboard CIL boxes are square, and the corners are reinforced with steel. Exists in a tan color No. 6 and a yellow No. 8 from the 1940's.

No. 15

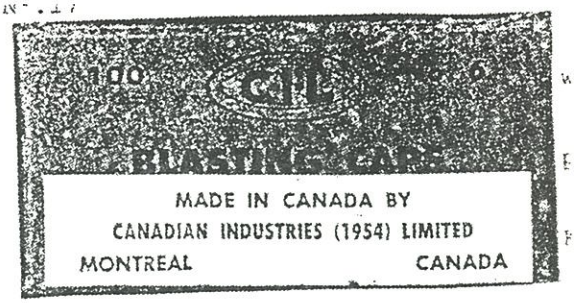
Tan color 1950 era cardboard boxes are rectangular in shape. Known only in No.6.

No. 16

Again known in a tan No. 6, the next box has the 1950 - 1953 company logo.

It is hoped that others will respond to the Association with additions to the list so that our knowledge will be expanded. Write to Don Blythe, R.R. # 5, Guelph, Ontario, N1H6J2, CANADA.

No. 17

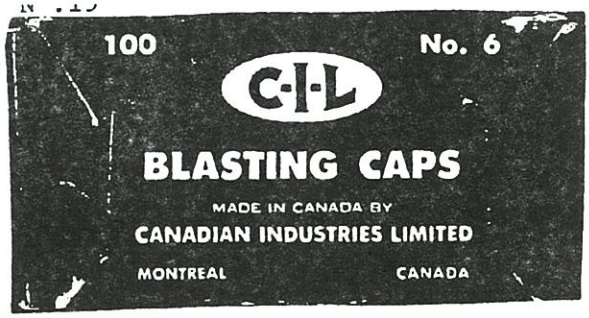


The same box appears with the 1954 company address on a paste-on label. Known in tan colored No.6.

No. 18

A cardboard box is known in tan No.6 with the logo CIL used from 1955 - 1976.

No. 19



A cardboard box known in red No.6 is thought to be CIL's last caps. The bottom is marked CAN PAT 574,285.

DuPont Canada

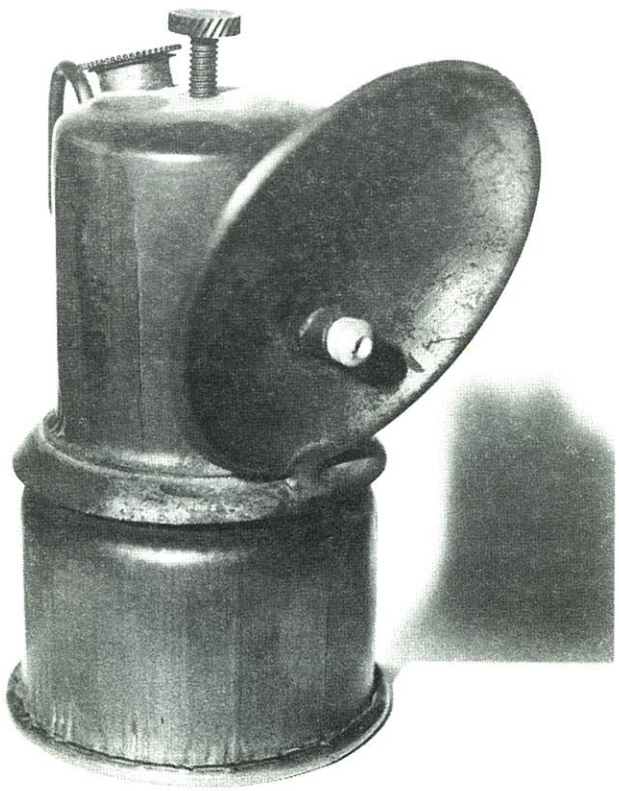
Little is known of DuPont's blasting cap business in Canada. Only one tan No.6 cardboard box, dated 1956 is known at this time.

No. 20

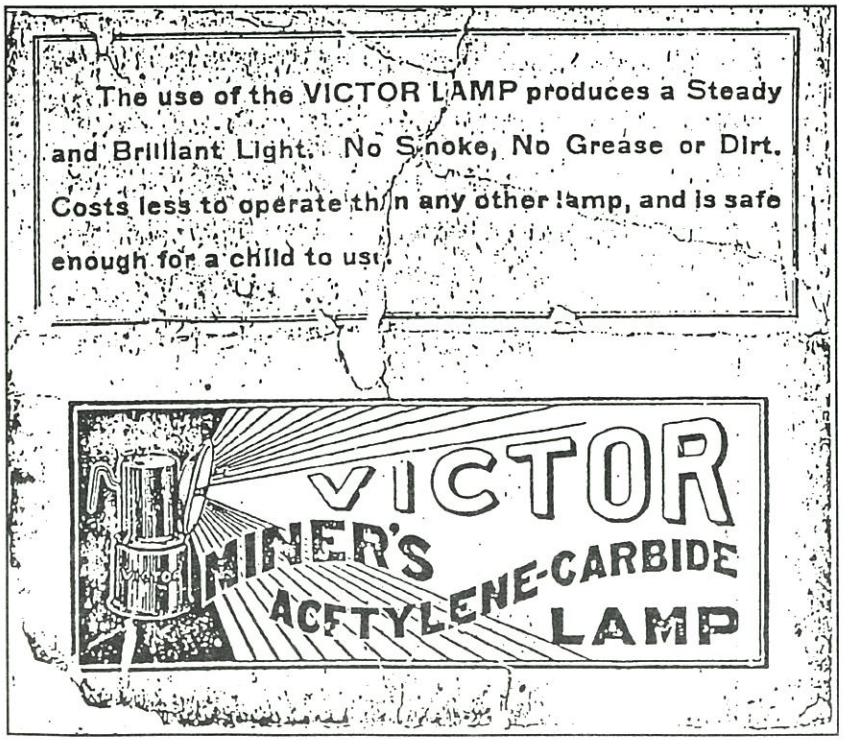
Victor - Acme - Pathfinder

Cap Lamp Series

David J. Des Marais

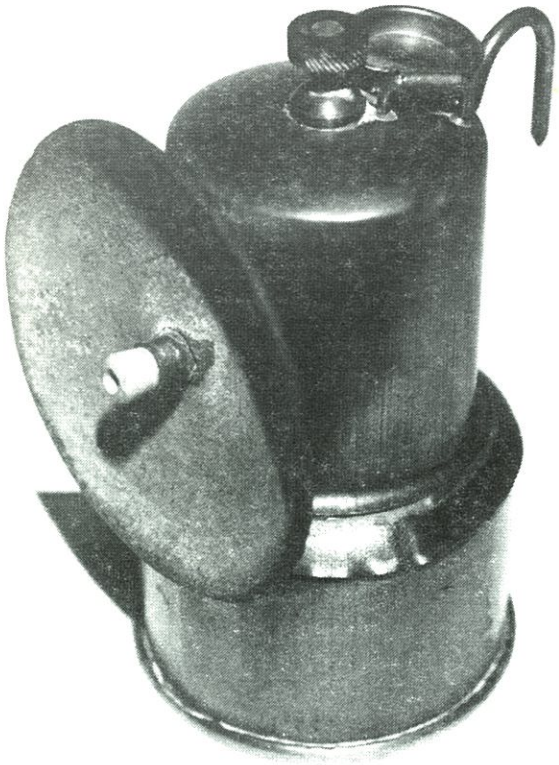


Victor cap lamp, E. Christman collection. The lamp's threaded water door and slanted reflector distinguish it from the later lamps in the sequence. The Victor and Acme cap lamps have virtually identical water tanks, water feed assemblies, and bases.



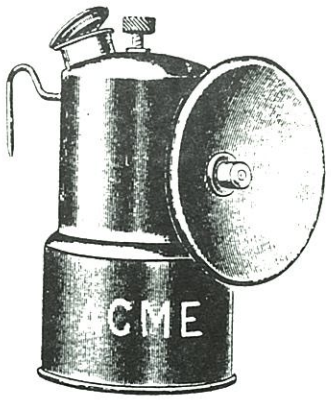
Mining carbide lamps from North eastern Pennsylvania are fascinating because of their distinctive, early designs and also because little is known about the history of their manufacture. Some of the design features resemble those of early Baldwin lamps, however the relationships between these lamp companies are obscure. Certain lamp features are characteristic of carbides from the Scran-

(Left) Two sides from a box for the Victor cap lamp. The lamp's distinctive water tank design, slanted reflector, cap hook, and vertically ridged metal exterior can be seen, but unfortunately no information about the company is given.[1]



Acme I cap lamp, K. Deem collection. Although the reflector is vertically oriented instead of slanted, it resembles the Victor's reflector in all other respects (e.g., diameter, curvature, etc.). All of the features on the Acme lamps can be found on either the Victor or the early Pathfinder.

ACETYLENE MINER LAMPS



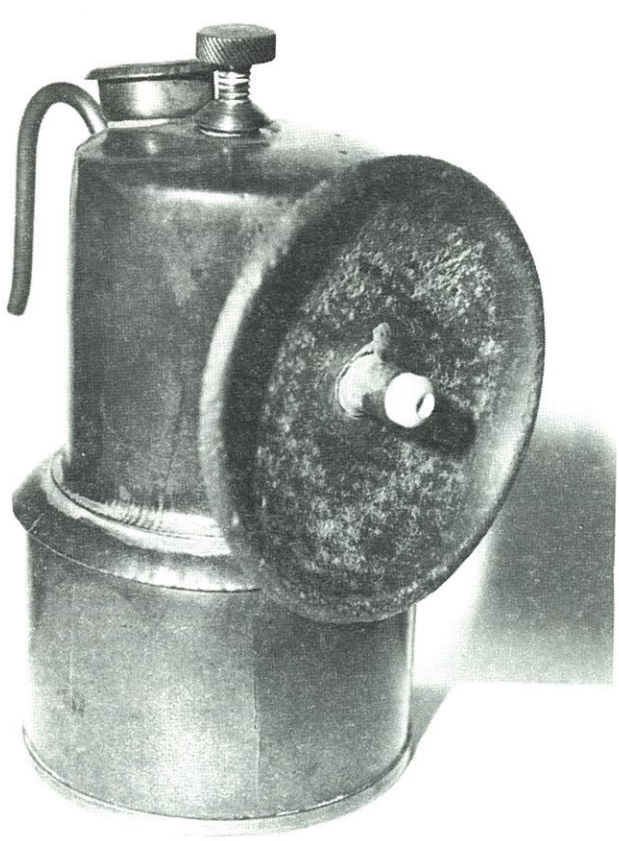
Made of brass. Nickeled reflector. Brass screw top carbide can with each lamp.

The valve does not extend down into the carbide and block the water supply. The valve stem is larger than any other lamp. It has a ground seat and shuts off the water absolutely; can be opened to the desired amount, giving a steady light of the desired quantity of the best quality. Every lamp is tested and warranted perfect.

Advertisement for the Acme cap lamp which appeared in the L. H. Smith Woodenware Co. General Catalogue #28, Pittsburgh, PA.[2] This ad shows the distinctive tank design, water feed, water door, cap hook and vertically oriented reflector. As with the Victor, no information about the manufacturer is provided.

ton, Pennsylvania area. The lamp water feeds typically had knurled finger wheels. Some of the lamps have reflectors slanted to protect the flame from dripping water, which was commonly encountered in the region's anthracite mines with their steeply-dipping beds of rock. The lamps' simple water doors resembled those of some early Baldwin lamps. These doors were shaped from a single disk of brass and their open tops resemble a small cup.

This article presents the evidence that the early (non Justrite) Victor, Acme and Pathfinder lamps are part of a single manufacturing sequence. That is, the manufacturer of the Victor subsequently changed the lamp to produce the Acme, and the Acme later led to the Pathfinder. Other examples of manufacturing sequences are Augie Hansen's Drylite, Force Feed and Hansen; and the Scranton Acetylene Lamp Company's Scranton and Scranto. A sequence typically embodies several manufacturing improvements. In the case of the Victor-Acme-Pathfinder sequence, improvements were made for convenience (e.g., the water door change from Victor to Acme), strength (better metal quality, stronger seams and edges, and reflector bracing), and appearance (streamlining the water tank, adding a manufacturer's label).



Acme II cap lamp, D. Des Marais collection. This differs from Acme I only in the reflector. Acme II and early Pathfinder lamps have identical hooks, water feeds (except for length of rod inside carbide tank), reflectors, and dimensions of the bases (except for thread diameter). Both lamps even share a distinctive tapered button which is situated on the top of water tank and is penetrated by the water feed.

This article also proposes a manufacturing chronology for the Victor, Acme and Pathfinder cap lamps, and it documents some of the details about the competition waged between Hughes Brothers of Scranton, PA, very likely the manufacturers of all three of these lamps, and their nearby rivals, the Scranton Acetylene Lamp Company, makers of the Scranton and Scranto cap lamps.

Evidence for the Victor-Acme-Pathfinder manufacturing sequence

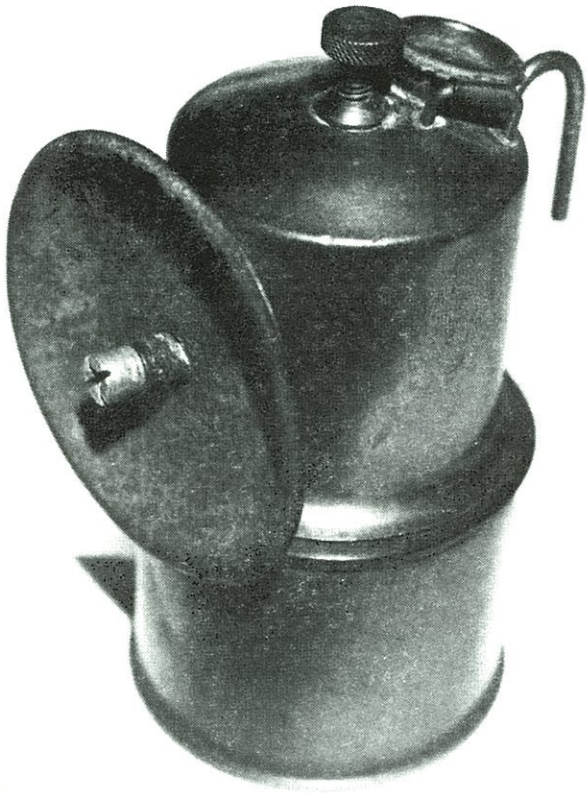
Little published documentation exists on the production of these lamps, therefore the best evidence lies in the details of the lamps themselves. Table 1 lists 21 features about the style of construction and measured dimensions. Many of these features are also visible in the accompanying photographs and advertisements.

Water tank. The construction of the water tank shell is the most distinctive difference between the Victor and Acme lamps versus the Pathfinder lamps. The changes included the thicker brass on the Pathfinder, the relocation of the main seam between the tank shell and the threaded insert, and the Pathfinder's larger diameters on its tank shell and threads. However, the diameter of the Pathfinder's gas burner tube is the same as those on the Acme and Victor. Also, the cap hooks of the Victor, Acme and early Pathfinder are identical; they have the same wire diameter and hook shape, and they all penetrate the water tank. Small numbers have been stamped on the water tank beneath the cap hook (on the Victor: numbers 1 and 3 have been found; on the Acme: 1 and 2; and on the later Pathfinder: 1, 2 and 3). Mike Puhl has observed these numbers on the later Pathfinder lamps, and notes that the numbers frequently are obscured by the solder used to attach the cap hook.

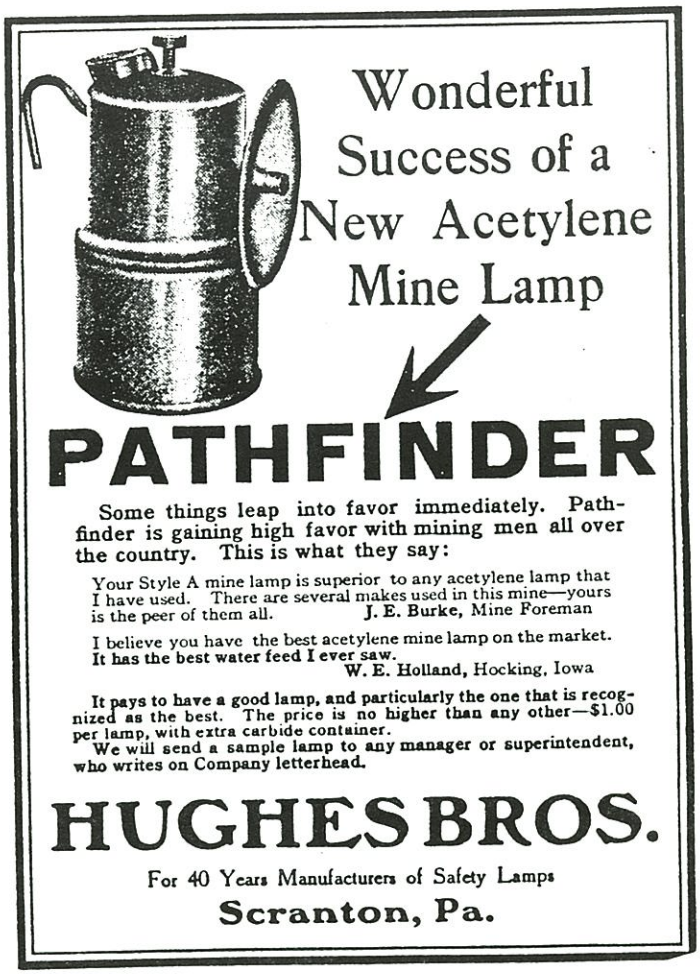
Water feed. The feeds are remarkably similar across the entire lamp sequence. The diameters of the various components, the feed rod, water tube and knurled finger wheel, are identical. One minor change involves the knurling pattern on the finger wheels, however, the pattern used in the early Victors was restored in the latest Pathfinders. Thus even the changes that were made in knurling pattern demonstrate that the Victor and Pathfinder are ultimately related! The Pathfinder's feed rod extends to the bottom of the carbide chamber, an "improvement" which was duly noted in the advertisements. However, another key detail which links the Acme with the early Pathfinder, as well as some of the later Pathfinders, is that these lamps share an identical brass button which secures the water feed rod to the top of the water tank.

Water door. The Victor's threaded water door is unique in the sequence. Thereafter the water door is hinged and is absolutely identical in both design and dimensions on all of the Acme and Pathfinder lamps examined.

Reflector. The reflector was changed repeatedly to strengthen it. Between the Victor and Acme I, the reflector itself is identical, but its orientation changed from slanted to vertical. The diameter decreased between Acme I and II, and was soldered to the lamp in two places on the Acme II. The reflectors on the Acme II and early Pathfinder are identical. The reflector on the later Pathfinder is unique in the sequence, with its metal strap attachment, tightly rolled edge, and its availability in two diameters and two metal compositions.



Early Pathfinder cap lamp, K. Deem collection. This lamp shares at least as many details with the Acme II as it does with later Pathfinders! The big differences with the Acme are the design of the water tank shell and the diameter of the threads which join the base to the water tank. The early and later Pathfinders differ most prominently in their hook attachments, buttons on top of water tank and reflectors and reflector attachments.



Base. The Victor and Acme bases are virtually identical and are interchangeable. The difference between these and the Pathfinder base lies principally in the redesigned threads which were associated with the changes in the water tank. The body diameters are identical and other dimensions are very similar.

In summary, although several changes indeed occurred between the Victor, Acme and Pathfinder lamps, their similarities outweigh their differences. For example, of the 22 features catalogued (21 in Table 1, plus the small stamped numbers on the water tanks), only 6 features changed between the Victor and Acme lamps, 6 other features changed between the Acme and early Pathfinder, and 7 features changed between the early and later Pathfinders. The many aspects of the design and dimensions which are shared by these lamps indeed demonstrate their common origin.

Chronology and Competition

In ads published in the April and July, 1912 issues of the magazine *Mines and Minerals*, the Hughes Brothers Company of Scranton, PA boasted of their 40 years of experience as manufacturers of safety lamps. Although they certainly existed during the period when Victor and Acme lamps were made, it is not clear whether Hughes Brothers actually manufactured these lamps or, instead, they assumed ownership of the lamps' manufacture and then introduced the Pathfinder lamp.

Only a box for the Victor lamp establishes its name;[1] its dates of manufacture remain a mystery. The identity of the Acme comes only from an advertisement in catalog #28 of the L. H. Smith Woodenware Company of Pittsburgh.[2] However, both the manufacturer and the chronology of Pathfinder lamps are well established by several Hughes Brothers advertisements.

The early Pathfinder was introduced in April, 1912, and ads in the magazine *Mines and Minerals* depicting the early Pathfinder's soldered reflector persist until 1914. The first ad showing the later Pathfinder, with its reflector attached by a metal strap, appears in 1915, and ads persist until at least 1922. As late as 1931, the Hughes Brothers listing in the City Directory of Scranton mentions carbide lamps.[3]

Despite the sparse published record about carbide lamps manufactured by the Hughes Brothers and Scranton Acetylene Lamp companies, evidence of their competition does exist. In ads in both the June and July, 1912 issues of *Mines and Minerals*, the Scranto lamp is claimed to burn a long time on a single carbide charge. However, in their June, 1912 ad, Hughes Brothers claim that "The question of carbide economy doesn't count," and they extol instead the durability and bright, dependable flame of their own Pathfinder lamp.

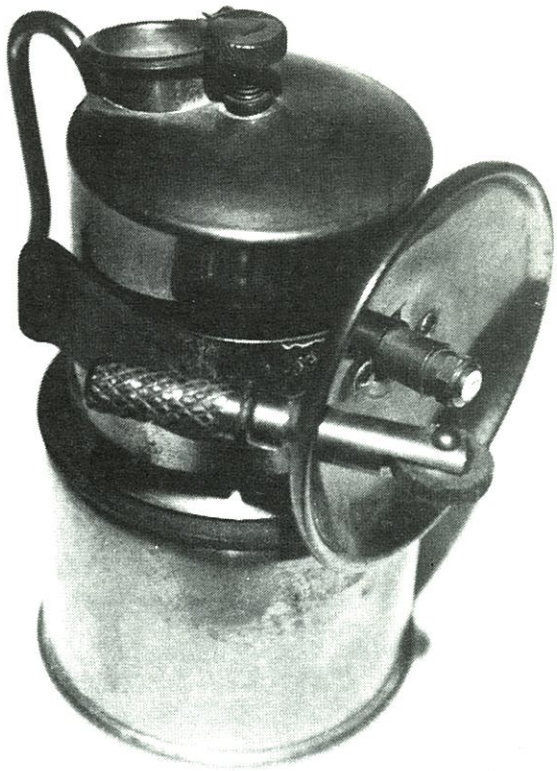
Advertisements for the early Pathfinder lamp (above and previous page) with its characteristic soldered reflector and redesigned water tank. These lamps appeared in advertisements in Mines and Minerals *magazine from April, 1912 up until 1914.*

The competition is also apparent in the close correspondence between the design changes instituted between 1911 and 1915 by the two Scranton, Pennsylvania companies. In both lamp sequences, the flanges at the base of the water tanks became narrower from the earliest models to those introduced in 1912.

The water tanks were improved (metal strengthened and seams redesigned) between September, 1911 and late spring of 1912. In a 1912 ad, Hughes Brothers extols the superiority of their new lamp's internal solder seam over lamps with external seams. This comment must have been aimed at their competitor's Scranton and earliest Scranto lamps, which had external solder seams.

It also might be evidence that Hughes Brothers had recently modified their own Acme lamp, with its external seam, to the stronger Pathfinder lamp design.

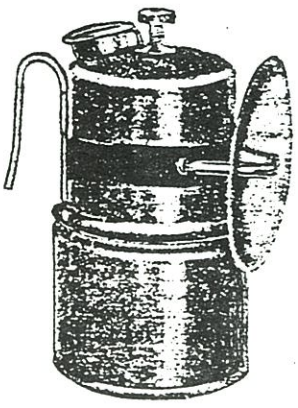
Both companies improved reflector bracing between 1912 and 1915. By 1915, the reflectors made by both companies were significantly strengthened and were easily removable and replaceable. However, despite these improvements, the fortunes of both lines of acetylene lamps suffered severely during the 1920's. A declining market for carbide mining lamps, together with competition from other manufacturers outside the region, proved to be more significant sales factors than the cross-town rivalry between these two manufacturers.



Later Pathfinder cap lamp, K. Deem collection. This lamp's reflector (clip-on attachment, variety of compositions and diameters, and striker), its externally-soldered hook, and its (occasional) manufacturer's label are unique in the sequence. On some of these lamps, the brass button on top of the water tank (which secures the water feed) is identical to the button found on the Acme and early Pathfinder. The later Pathfinder is by far the most common cap lamp in the series.

Acknowledgements

I thank K. Deem and E. Christman for permission to photograph lamps, A. Moon for the Pathfinder advertisements, and Al Quamen for measurements of his Acme lamp. I thank these and many other individuals for sharing their knowledge about these fascinating carbide lamps.



Pathfinder Acetylene Lamps

The Lamp shown is our Cap or Head Lamp. It is constructed of extra heavy sheet brass, drawn into solid shells. There are no seams or joints on the outside to cause leaks. The valve seat is also a drawn shell, and the needle valve is made from a solid piece of rod, in such a way that it conducts the water to bottom of carbide chamber, without any possibility of choking off the water supply. Our claims for these lamps are that they are the strongest upon the market, and will burn more steadily than any other made.

Advertisement for the later Pathfinder lamp, showing its characteristic steel reflector clamp. Ads for these lamps appeared from 1915 into the early 1920's.

References

1. Thorpe, D. (1992) A Brief Review of Scranton, Victor and Black Diamond. *Eureka! 4*, 11-13.

2. The Editors (1994) Acme Cap Lamp. *Eureka! 9* , 27.

3. Clemmer, G. (1987) American Miners' Carbide Lamps. Westernlore Press, Tucson, AZ, p. 75.

Table 1. Dimensions (inches) and other details of the "Early" Victor, Acme and Pathfinder cap lamps.

	Victor	Acme I	Acme II	Pathfinder, early	Pathfinder, later
Water tank					
Solder seam: on side or bottom?	side	side	side	bottom	bottom
Diameter of body	1.57	1.5+	1.58	1.72	1.72
Diameter at bottom edge	2.08	2.06	2.07	2.04	2.00
Hook attachment	enters tank	enters tank	enters tank	enters tank	external
Burner tube diameter	0.252	0.25	0.248	0.252	0.249
Water feed					
Finger wheel, diameter	0.381	0.382	0.382	0.382	0.380
Finger wheel, knurling ridges*	URtoLL or ULtoLR	UL to LR	UL to LR	UL to LR	URtoLL or ULtoLR
Button on tank top at feed rod, dia.	No button	0.375	0.374	0.374	0.370 or 0.236
Feed tube inside carbide tank, dia.	0.248	0.25	0.246	0.252	0.25
How far feed rod extends past tube	0.1	0.1	0.1	1.3	usually 1.14
Water door					
Outer diameter of widest part	0.58	0.73	0.73	0.72	0.73
Outer diameter of inserted part	0.375	0.54	0.543	0.543	0.542
How attached to lamp	threaded	hinged	hinged	hinged	hinged
Reflector					
Orientation	angled	vertical	vertical	vertical	vertical
Diameter	2.39	2.375	2.217	2.224	2.1 or 2.7
Attachment to lamp	solder	solder	solder	solder	removable clip
Base					
Manufacturer's label?	never	never	never	never	sometimes
Threads, outer diameter	1.49	1.49	1.49	1.61	1.60
Body, outer diameter	2.04	2.04	2.04	2.04	2.04
Bottom seam, outer diameter	2.2	2.13	2.08	2.13	2.16
Height, bottom to top of threads	2.05	2.04	2.04	2.18	2.15

*Example: "UL to LR" indicates that, when the water feed is viewed from the side, the knurled ridges on the finger wheel are oriented from upper left to lower right. Most Pathfinder and early Victor lamps have the "UR to LL" orientation.

BITS

The Last XRAY?

This ad was sent to us displaying a very unusual version of an XRAY-like lamp. The lamp was probably made in the early 1920's. Unlike the standard XRAY, there are no scalloped indents on the tank. The base is a standard 1920's vintage style. The reflector brace looks more like a Hansen than that of the pre-20's XRAY. What a find this would be!

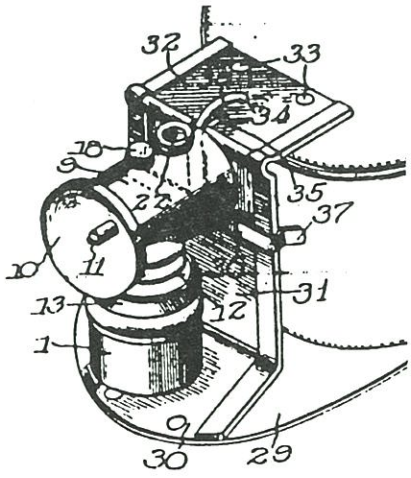
Hunter's Special Carbide Lamp

Is made of the best quality brass, hand soldered and perfect in workmanship. Equipped with round hook, spring cap holder, and enclosed chamber, water door. Has regulating water feed and polished brass reflector with sparker attachment.

Price, postpaid.....$0.85

The First Justrite?

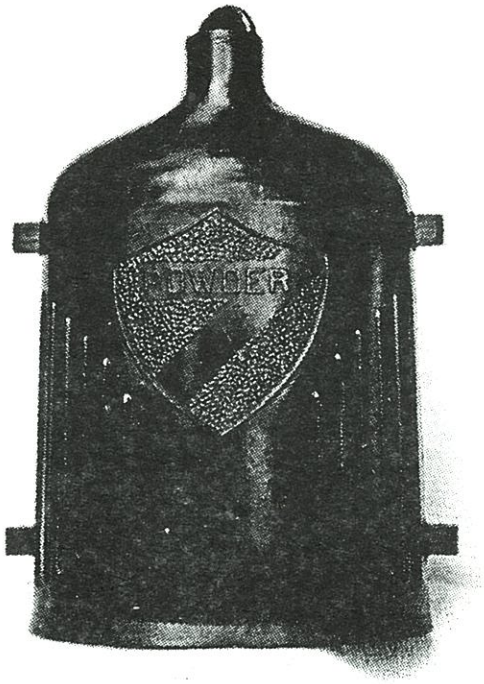
What's unusual here is the round screw-in water-door. This lamp would appear to pre-date the lamps shown in Justrite's first catalog, for they all appear to use the oval door. It sure looks a lot like the first Justrite patent though:



Patent applied for in 1911.

Stamped THE JUSTRITE, PAT. APPLD. FOR.

Hardsocg Powder Flask



The Hardsocg Manufacturing Co. was founded by Martin Hardsocg in Avery, Iowa in 1878. In 1885 Hardsocg moved his business to Ottumwa. His firm was at one time the largest single manufacturer of mining tools and supplies in the work (See EUREKA NO. 1 for complete history). In 1894 the firm expanded its operation by opening a manufacturing branch in Pittsburgh, Pennsylvania. This operation was known as the Martin Hardsocg Co.

Among the items produced in Pittsburgh was the black Bakelite powder flask with a threaded cap. The flask measures 10 1/2" in height and its oval base measures 4" x 6 1/2". There are 4 loops to attach a rope strap or handle. The flask is marked "POWDER" in a large crest on one side and "MARTIN HARDSOCG CO. PITTSBURGH, PA." on the other side in raised letters. I am aware of two other varieties of Bakelite power flasks manufactured by Hardsocg, both cylindrical. Dave Johnson

L. B. Prichard Oil Flask

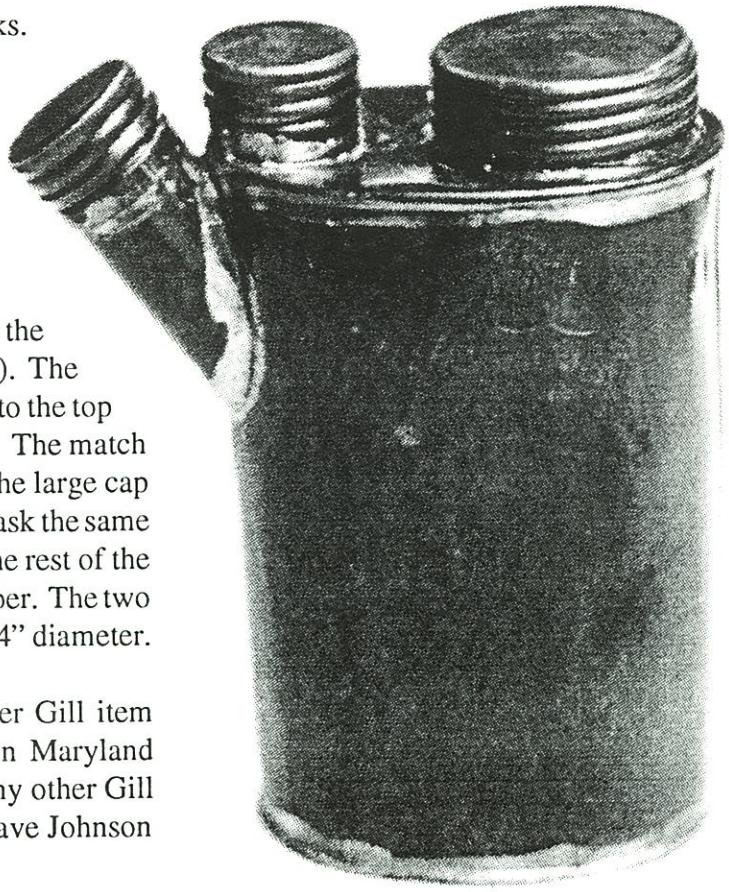
L. B. Prichard & Co. was a hardware retailer in Frostburg, Maryland. Prichard had driver and face lamps manufactured with their own label, as seen in the accompanying photo. The Prichard lamps are identical to lamps produced by Morris and George Zais, sons of Fred B. Zais, an early oilwick manufacturer, also of Frostburg, Maryland.

I recently acquired an oil flask made of galvanized tin with the same Pritchard label found on their oilwick lamps. The flask has a single belt loop and a threaded cap made of an alloy material. The flask is horseshoe shaped and measures 5 1/8" tall to the top of the cap, which is 7/8" in diameter. The body is 4 1/2" wide at its widest part and is 2" thick. The body is flat on the back side where the belt loop is attached and is slightly bulged outward on the front. The body is constructed of three pieces - front, back and single piece wrap around sides, with separately attached cap threads. This a very well and heavily constructed flask.

Dave Johnson

Gill Carbide Flask

The Gill name is well known to collectors of oilwicks. The Gill family firm of Philipsburg, Pennsylvania, is known for producing a variety of oilwick lamps, as well as other mining related items (see article in April 1993 EUREKA). Apparently the Gill firm continued to produce and sell mining items in the carbide lamp period.



The pictured three compartment flask is marked with the John D. Gill's Sons shield stamp (see April '93 Issue). The body of the tin flask measures 5 5/8" tall, 6 5/16" tall to the top of the caps. The oval base measures 3 1/2" x 2 3/8". The match safe is the small center cap, the carbide chamber is the large cap with a cylinder going down through the body of the flask the same diameter as the cap. The water chamber makes up the rest of the body and surrounds the match safe and carbide chamber. The two small caps are 1" in diameter and the large cap is 1 3/4" diameter.

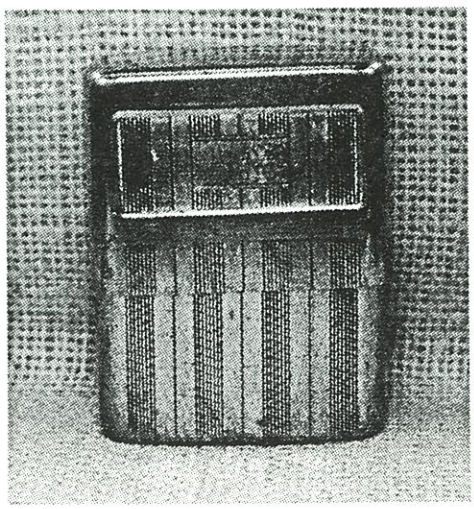
This collector had never seen or heard of any other Gill item related to carbide lamps until I found this piece in Maryland recentlly. Do any of our readers have or know of any other Gill carbide items?

Dave Johnson

Shanklin Manufacturing Co. Cigarette Case

The Shanklin Manufacturing Co., producer of the well-known Guy's Dropper carbide lamp, produced a variety of items in addition to carbide lamps. Among these was the aluminum cigarette case pictured here. Most likely produced in the 1920's, as lamp sales declined industry-wide this type of item can be conjectured as an attempt to diversify the firm's produce line. How many other items can be found with the Shanklin Manufacturing Co. name?

Dave Johnson



Addendum to Mining Book List

Tony Oldham writes: Re The Mining Collector's Bookshelf, I can add a few more!

Miner's Carbide Lamp Reference by Paul Kouts, Vol 1 1981 20 pp, A search of US Patent Records (Has anybody found a copy of Vol 10 Justrite?)

Hooker, A.B. 1944, Construction and care and use of Permissible Flame Safety Lamps. US Bureau of Mines 18 pp illus.

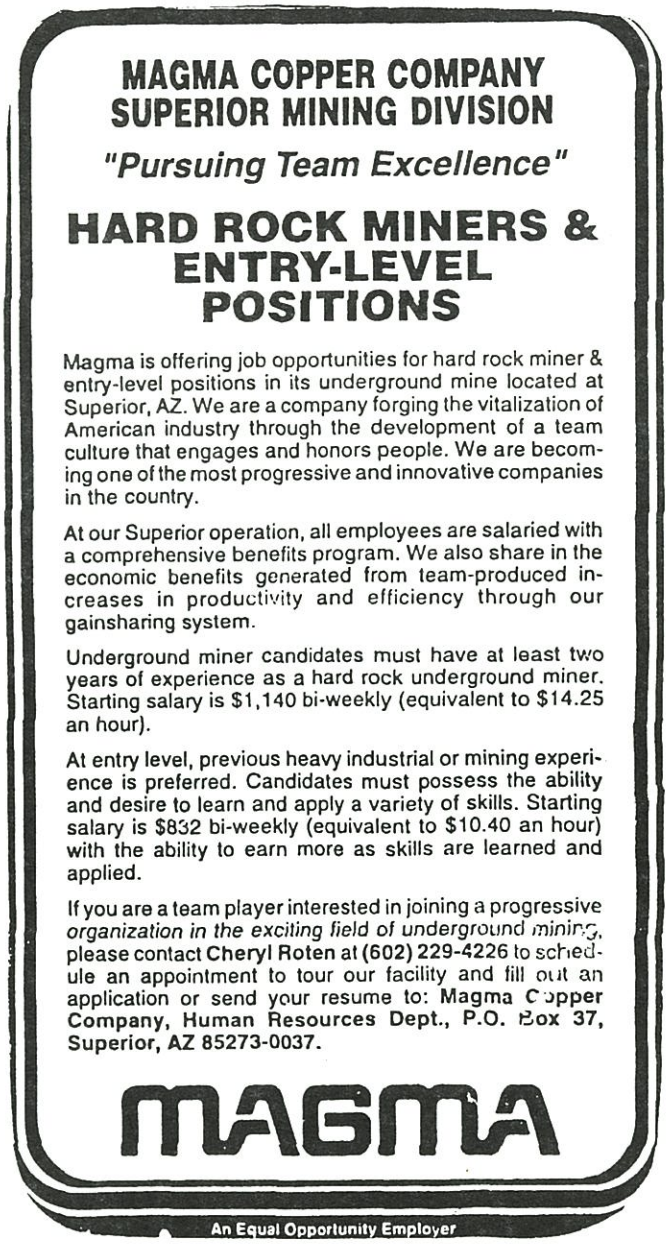
Offenes Grubengeleucht des Sauerlandes by Dr. Walter Tane. I have ordered some copies. As soon as I know the price I will let you know. I might even do an English summary if the author does not object.

Des Lumieres dans la Nuit [Lamps of the Night] by Michel Dupont, 1983 285 pp, 100's of B & W photos. A history of flame safety lamps in coal mines from the beginning of the XIXth century till now. Long out of print and highly sought after. $110 U.S.

La Lamp de Mine by A de Bruyn and W. Lambert 1992, 79 pp, 30 B & W photos of Belgium coal mining lamps. A short guide for collectors, about lamps, makers and museums. $16.80 U.S.

Tony has two of these books for sale. See classified ad section!

Hiring Miners:



MAGMA COPPER COMPANY
SUPERIOR MINING DIVISION

"Pursuing Team Excellence"

HARD ROCK MINERS & ENTRY-LEVEL POSITIONS

Magma is offering job opportunities for hard rock miner & entry-level positions in its underground mine located at Superior, AZ. We are a company forging the vitalization of American industry through the development of a team culture that engages and honors people. We are becoming one of the most progressive and innovative companies in the country.

At our Superior operation, all employees are salaried with a comprehensive benefits program. We also share in the economic benefits generated from team-produced increases in productivity and efficiency through our gainsharing system.

Underground miner candidates must have at least two years of experience as a hard rock underground miner. Starting salary is $1,140 bi-weekly (equivalent to $14.25 an hour).

At entry level, previous heavy industrial or mining experience is preferred. Candidates must possess the ability and desire to learn and apply a variety of skills. Starting salary is $832 bi-weekly (equivalent to $10.40 an hour) with the ability to earn more as skills are learned and applied.

If you are a team player interested in joining a progressive *organization in the exciting field of underground mining*, please contact **Cheryl Roten** at **(602) 229-4226** to schedule an appointment to tour our facility and fill out an application or send your resume to: **Magma Copper Company, Human Resources Dept., P.O. Box 37, Superior, AZ 85273-0037.**

MAGMA

An Equal Opportunity Employer

Tod Town sent us the above advertisement from his local newspaper. He would like to add:

"Quit your day job and get a real job. Hard rock miners wanted. You've collected their hats, lamps, and pie cans. Now collect the experience that will last a life time. Be ready and get a job you can tell your grand kids about. THE ROMANCE of a MINER!"

TRADES & SALES

RATES

All classified ads up to 75 words are free to subscribers. **For subscribers,** quarter-page ads are $25, half-page $50, and full-page ads $95. The fee for **non-subscribers** is $15 for ads up to 75 words. For larger ads, add $25 to fee for subscribers. Fee includes custom computer layout.

Higher prices will not be published. Contact seller for prices if not listed.

No reproductions of any type will be knowingly advertised unless so stated.

No member of the staff will act upon an advertisement in EUREKA! prior to its mailing.

CONDITIONS

Ads must be submitted for each issue in which they will appear. Send all ads to Jim Van Fleet prior to Dec 10, Mar 10, Jun 10, and Sep 10 for publication in the following issue. Ads are accepted on a space available, first-come first-served basis. We reserve the right to refuse any ad. Eureka! assumes no responsibility or liability for the contents of ads; however, every effort will be made to assure a high standard of honesty in advertising.

If any advertiser is contacted about an item in their ad prior to the publication being mailed, they are asked to report the incident to the Managing Editor. Remember that it is to the advertiser's benefit to wait until Eureka! is in the hands of all subscribers before disposing of a trade or sale item. Please keep in mind that a trade or sale conducted through the mail is not complete until both parties are satisfied!

Wanted: Carbide cap lamps, blasting cap tins and other mining oddities. Also books on mines and minerals. Call (609) 223-1607 or write to William Vis, 35 S. Main St., Apt. 2S., Mullica Hill, NJ 08062.

For Sale: Des Lumieres dans la Nuit [Lamps of the Night] by Michel Dupont, 1983 285 pp, 100's of B & W photos. A history of flame safety lamps in coal mines from the beginning of the XIXth century till now. Long out of print and highly sought after. $110 U.S. Also can supply: La Lamp de Mine by A de Bruyn and W. Lambert 1992, 79 pp, 30 B & W photos of Belgium coal mining lamps. A short guide for collectors, about lamp, makers and museums. $16.80 U.S. I will accept personal checks in US $$. Tony Oldham, Rhychydwr, Drymych, Dyfed, SA41 3RB, AUSTRALIA. Tel 0239 831 371 (24-hour answering machine.)

Wanted: Gee Bee reflector and reflector brace. Larry McReynolds. (703) 762-7318

Wanted: Original issues No. 2 and No. 5 of EUREKA. Write: Ray Hanning, Box 245, Dexter, MI 48130.

Excellent Videos For Sale: When Copper was King (covers Michigan copper mining.) $22.50. Keweenaw Copper (covers the C & H Mine.) $24.95. Alaska Gold: Placer Mining in Interior Alaska $29.50. Gemstones of America $24.95. **New Books:** Calumet & Hecla: the Final Chapter $8.00. Machines and Contraptions Used to Mine Lake Superior Copper and Silver $5.50. And In Whose Hills You Shall Mine Copper $6.50. Pstpaid in USA. Send for free book newsletter. Robert Fox, 1235 N. Westfield Street Oshkosh, Wisconsin 54901.

For Sale or Trade: W.E. Teale & Co. safety lamp, Hughes Bros. Davy, ten oil wick lamps, 3 UMWA badges/fobs, Pickands Mather/Cary Mine nickel ID badge, Oliver Iron Mining Co./D Shaft brass check tag, Calumet & Hecla/Tamarack Shaft brass check tag. Dave Johnson, (502) 327-7559.

Mine Lamps
D. H. Davis, Jr.
P.O. Box 806
Columbia, SC 29202
(803) 791-9000 (daytime)

*** = $25.00 ea.**
+ = Make offer

Will sell as complete lot, make offer!

Cap Lamps

* 20 - Guy's Droppers
* 20 - Auto-Lite
\+ 1 - Premier
* 6 - Justrite
\+ 1 - New Justrite in blue box
\+ 1 - New Justrite plastic
\+ 1 - Justrite large reflector
\+ 1 - Justrite medium reflector
\+ 1 - Old Justrite 1917,1912, 1913
\+ 1 - Copper wick lamp
\+ 2 - Brass wick lamps, home made
\+ 2 - Steel wick lamps
\+ 1 - Dunlap (milk can style)
\+ 1 - Eagle wick lamp
\+ 1 - Steel with large spout
7 - New Safesport Butterfly ($20 ea.)
\+ 1 - 8" dia. canteen (no cap)
\+ 1 - New tin cup
\+ 3 - Boxes Justrite flints
\+ 1 - Wood taper holder 12" X 3"
\+ 3 - Carbide containers (tapered)
\+ 1 - Carbide container similar to tobacco tin

Safety Lamps

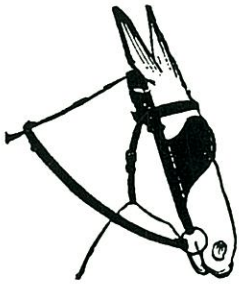
\+ 3 - Koehler No. 209
\+ 1 - Koehler no. 20
\+ 1 - ? No. 88
\+ 1 - E. Thomas & Williams no. 42637

PITTSBURGH HARNESS SUPPLY CO.

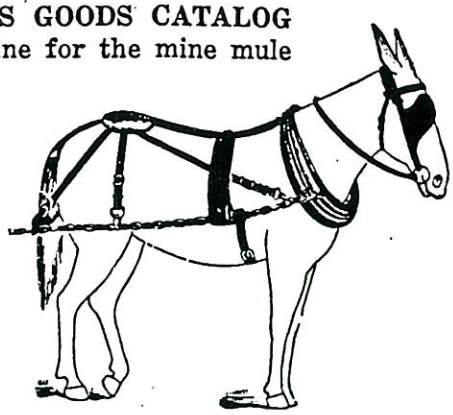
325 PENN AVENUE, PITTSBURGH, PA.

Bell Phone 507-508 Court

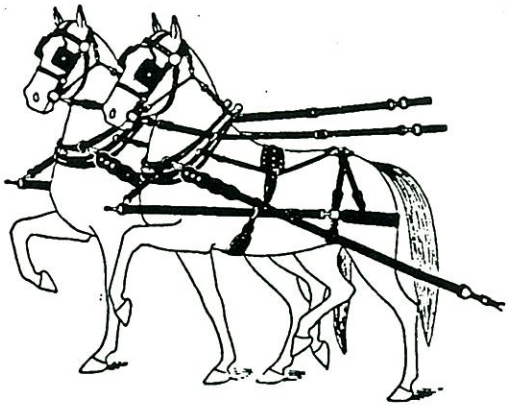
WRITE FOR HARNESS GOODS CATALOG
Showing our complete line for the mine mule and stable.



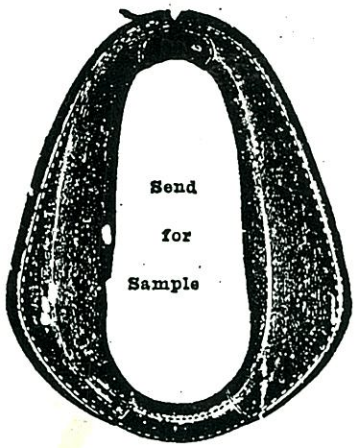
No. 168
PIGEON-WING MINE BRIDLE



No. 1 MINE HARNESS
Adjustable to fit any size mule.

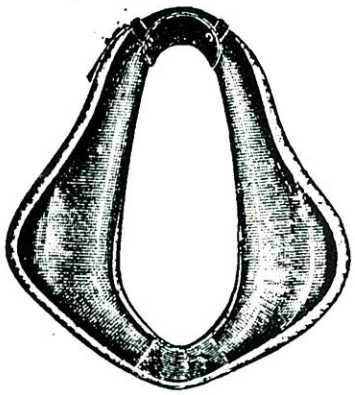


No. 1908 HEAVY TEAM HARNESS



This is the King of All Mine Collars
No. 1—Double Throat Mine Collar.

Over 1,000,000
Pairs in Use.

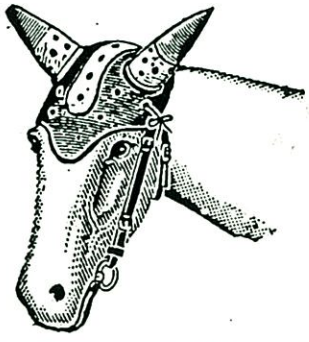


No. 352
PIPE MINE COLLAR

MINE BELLY BANDS

MINE BACK BANDS

No. 127 LEATHER MULE HALTER



USE ELECTRIC MINE CAPS AND PROTECT THE LIFE OF THE MULE