

MINING

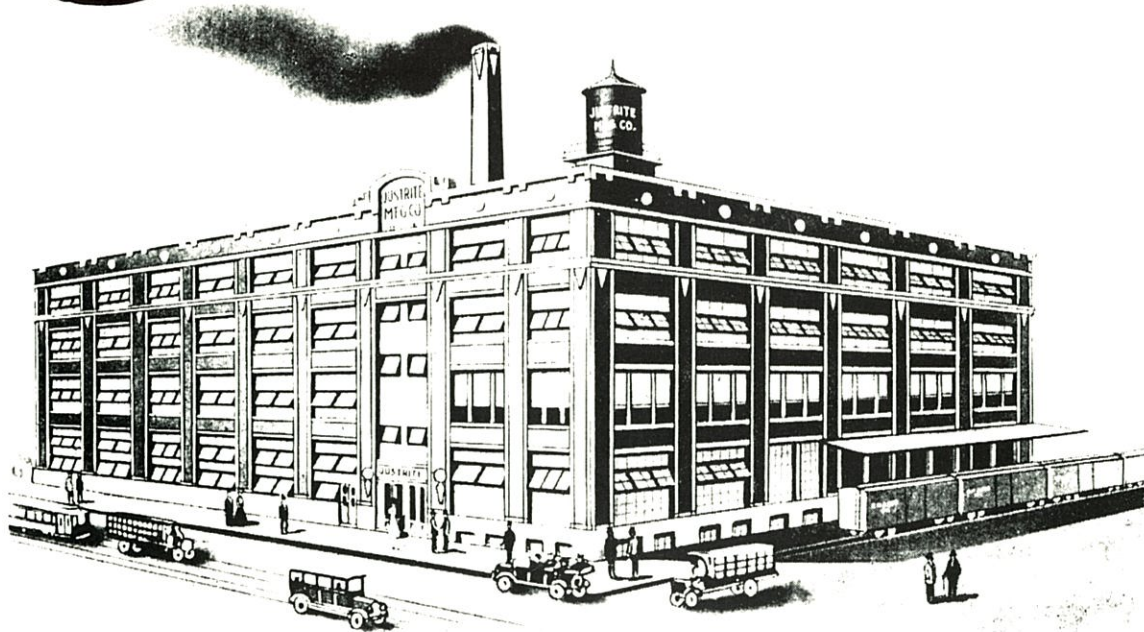
ARTIFACT COLLECTOR

Issue Number 10 Winter 1991

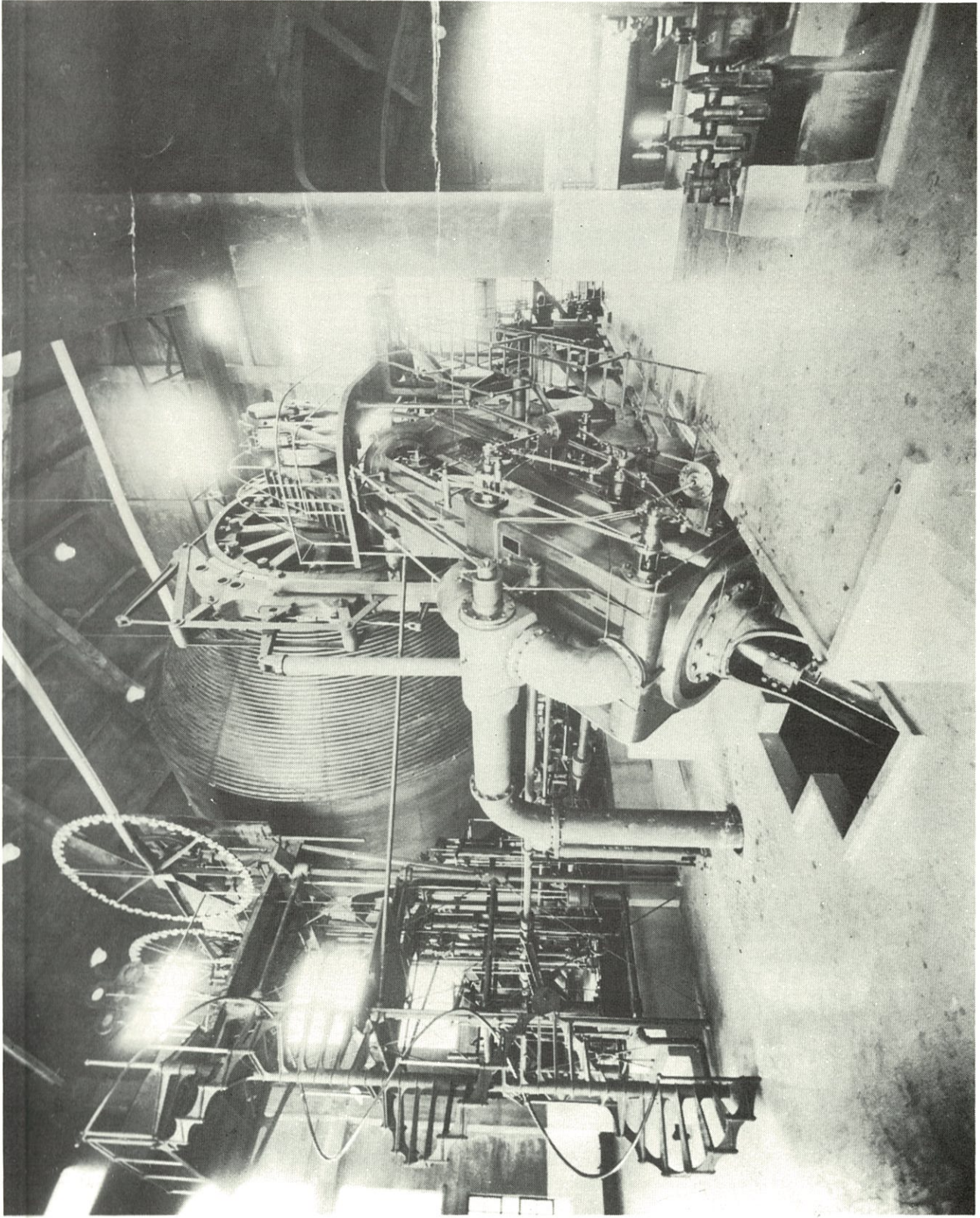


Justrite

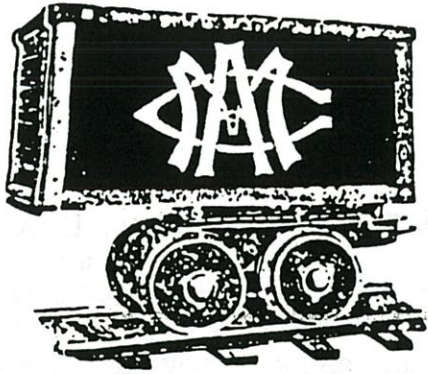
TRADE MARK



OFFICE and FACTORY
2061-2081 Southport Ave.
CHICAGO, U. S. A.



THE QUINCY MINE HOIST



MINING ARTIFACT COLLECTOR

On the Cover

The Justrite Mfg. Co. factory, located on Southport Avenue, Chicago Illinois. Illustration taken from 1919 catalog.

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Subscriptions

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Editor's Section

by Dave Thorpe

People

Dave Johnson of Indianapolis, Indiana has joined the MAC staff as oil-wick editor. Dave has one of the world's most complete collections of oil-wick lamps and has a keen interest in researching the more obscure manufacturers. Like many others, he has long sought a quality forum for sharing the history of mining artifacts. Dave's expertise in oil-wicks will be a valuable addition to the MAC. Jim Steinberg, remains on staff in an advisory capacity, now free to pursue his ambitions in the history of mine labor. Former editor, Len Gaska continues to be an active contributor and advisor to the MAC. Included in this month's mailing is a separate bound INDEX (compiled by Len) for all previous MAC journals (1-9).

After two years of publication, we are impressed to have been acknowledged in Henry Pohs' venerable Underground Lamp Post (Not a Hippie Newsletter). We are grateful for his regular follow-up discussions of the articles we write. I guess you know that you've made it big when you start getting your own reviews!

Too Much On Mine Lighting?

We've recently had a few suggestions that the MAC is too heavily biased toward mine lighting. There is indeed a strong emphasis here, and to a certain degree, this reflects the interests of the editors and, of course, those who send us material. On the other hand, blasting items and mining signs have become much more popular due to their unprecedented and regular coverage in the MAC. Not to ignore other areas, we have decided to place renewed emphasis on publication of paper goods, memorabilia, large tools, photography, etc. Hopefully, this issue will not alarm the "non-light" readers with its two lengthy articles on Justrite carbide lights. Rather, we hope to receive a broader coverage of all items from the readers, and will promptly publish and give credits to whomever submits even the smallest bit of information on a subject of their interest.

Mining Artifacts: Quality or Quantity?

Lately, I am hearing a familiar expression: "I would rather have a few nice pieces in my collection, than a lot of rough items." I too have become victim to this current fad...and have joined the ranks of "quality freaks." Many collectors are currently paring down their behemoth collections to only the pristine material. Not long ago nearly everyone was more interested in variations than quality. If a lamp entered a collection with a slightly different water-door, it was essentially sealed in a tomb...no matter that it had been run over by a truck. That lamp was now "IN MY COLLECTION"...as if the phrase somehow implied it to be chained, cemented, and guarded by a dozen Israeli commandos.

This is a great time for those who are either starting a collection, or who are die-hard variation lovers and can live without perfection. The market is now infused with loads of average condition artifacts that are for sale at reasonable prices. Unfortunately, the current quality-fad has had its drawbacks: the price of "mint" condition items is sky-high. The value of a never-used piece is twice that of the same item in "good", but complete, condition. Take away even one part (say a reflector), and the value is halved again. If something is visibly broken, the discount is ridiculous.

Collecting variations has its benefits. Great historical information can be reconstructed by examining the chronologic changes of a product line. This month's article on the Horizontal

Justrite could never have been written had Mike Puhl, Len Gaska, and myself not hung onto and compared every Justrite we ever found. I will be happy to send anyone the raw tabulated data that went into the article on request.

Theft

In the last year, two major thefts of mining artifacts have taken place. We cannot print the specifics, but it is clear that mining antiques are no longer immune to thievery. Most homeowner's insurance policies *will* cover antiques if an itemized list is made with current dollar value. The additional cost is very little.

Acknowledgements

This month's **inside front cover** is a photo of the Quincy Mine Hoist, courtesy of Robert Fox of Oshkosh, Wisconsin. His article in this issue describes this incredible device which has become quite a tourist attraction in recent years. Robert has been a regular contributor of articles about mining in the Great Lakes region.

Due to a generous donation by **Keith Williams**, we were able to cover the extra materials and postage for this somewhat extended issue. Thanks also go to **Jack Ramsdell** and **Jim Van Fleet** for their material for publication, as well as to **Sharon Kautto** for proof-reading.

As ever, we are indebted **Wendell Wilson** for his superb illustrations. Wendell is the editor for *The Mineralogical Record*, which has provided us with our back covers.

Mineralogical Record

magazine



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Justrite's first production cap lamp (Len Gaska collection)

The Rise and Fall of The Horizontal Justrite Cap Lamp

by Dave Thorpe

Though the Justrite Mfg. Co. made many different carbide cap lamps, the design they are most famous for is known as the "Horizontal Style" Justrite. ¹ Described by its inventor:

"The carbid receptacle is adapted to a water chamber which consists of a horizontally disposed cylinder having one end wall forming a reflector" - Augie L. Hansen May 20, 1911 ²

The "horizontal" cap lamp was the mainstay of Justrite's production from 1911 through the late thirties. Over this time, various changes and refinements of design occurred on an almost yearly basis. Tank shape, reflector, stamping, water-feed, water-door, base, attachment device...all evolved independently. It is not unusual for an avid collector to have dozens of horizontal Justrites on the shelf...each one subtly different from the other.

The following article will review the basic models as they developed over time. Although much data was obtained from various Justrite catalogs, advertisements, and patents, the hard core facts are a result of pooled information from the lamps in several large collections. ³

Additionally, I will try to answer the most often asked question: "What year was this lamp made in?" Although my answers will be unashamedly discrete, I acknowledge that this can be a very controversial subject. At the end of the article, a simple table is presented, such that any individual lamp may be charted according to its features. Once identified, the year in which it was made can be found at a glance.

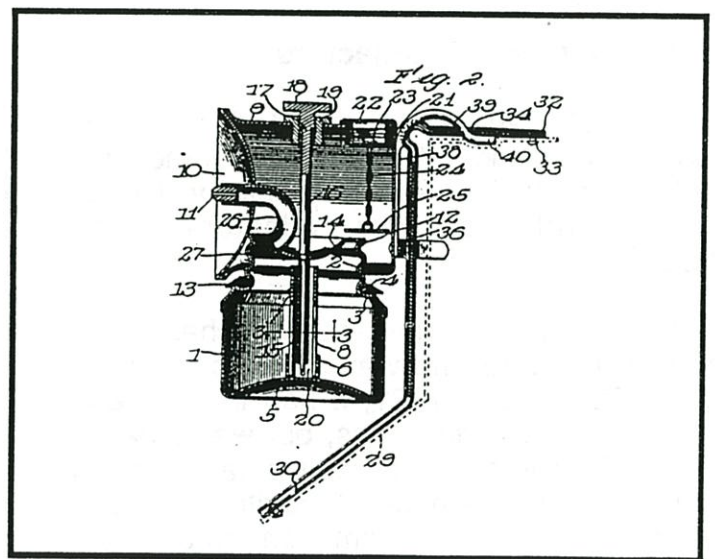
1911-1914: Undeveloped and Fragile

The Original

Justrite Mfg. Co. was organized in 1906, but they did not begin to make miner's cap lamps until 1911. ⁴ Shown in the photo (opposite page), is the first model produced. It is stamped simply:

THE
JUSTRITE
PAT. APLD. FOR

The hinged oval water door was characteristic of all early Justrites, however, the door on this model is unique in that it fits flush to the tank and is of single thickness. While the earliest patent application shows a round screw-in door, ⁵ its actual production is doubtful.



Hansen's first filed patent for Justrite. (#1,161,209 filed 5-20-11, granted 11-23-15). The round screw-in water-door was probably never produced.

Lamps with Dates

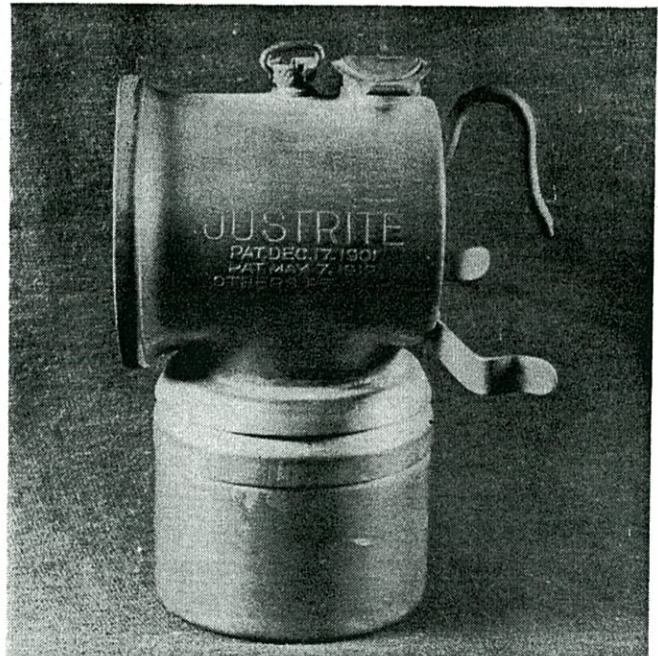
As soon as the 1912 patent was granted, Justrite began to display dates on the left side of their lamps. Tank stamping forms the broadest means of categorizing the various designs as they evolved. The first and second stampings are:

THE
JUSTRITE
PAT. DEC, 17, 1901
PAT. MAY 7, 1912
OTHERS PENDING



Early "Superintendent Lamp" is shown here with the "Adjustable Hood" reflector. The lamp still retains the stamping "THE JUSTRITE", but now has two patent dates. (Len Gaska collection)

JUSTRITE
PAT. DEC, 17, 1901
PAT. MAY 7, 1912
OTHERS PENDING



The "Miners' Pit Lamp". The primitive raking wire is still present, but the knurled wheel water cut off is now deeply notched. The stamped name has been shortened to simply "JUSTRITE". (Dave Thorpe collection)

The Need for Larger Reflectors

The tiny 2" reflectors provided minimal shielding and would not accommodate the flint wheel lighter which was popular by 1913. Thus, several accessory reflectors were offered. ⁶

The "Matchless" reflector was attached by a three-armed clamp and was equipped with a lighter. Patented in 1901, it had been used previously on Baldwin lamps, but was ideally suited for attachment to the horizontal Justrite. After purchasing the patent, Justrite stamped the date, along with their name, on the back of the reflectors, *as well as on the early lamps themselves*. This has led some to mistakenly believe that the lamp was developed at that time.

JUSTRITE REFLECTORS

The Matchless Reflector



Lights the gas with a rub of the hand.

Size 2½ inches, has lighter attached, is made of polished brass, weighs one ounce, is adjustable to fit any lamp, and held firmly around tip holder by means of tightening screw in collar.

NO MATCHES NEEDED.

No. 26. Brass. Price25c

No. 27. Nickel Plated. Price .30c

Patented

The "Matchless" detachable reflector as seen in Justrite Catalog #1 (1913).

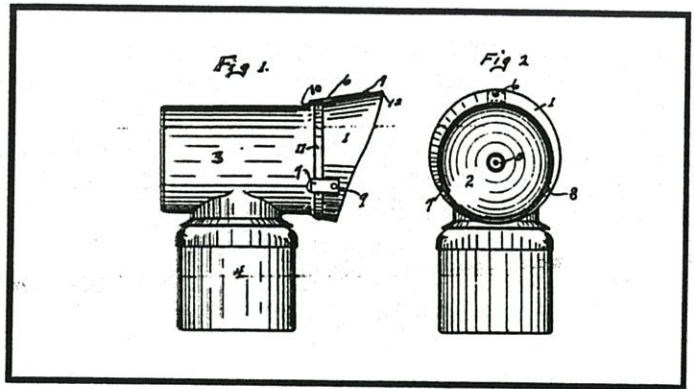
Adjustable Hood

The Reflector Hood is made of 24-gauge German silver, slips over the tip and held firm by a spring clasp. Concentrates the light directly in front of the lamp and protects the flame. Prevents the light from flashing in the Miners' Buddies' eyes. Can be used on any Justrite lamp.

No. 15. Price.....15c



Patented



Advertisement in the 1913 catalog, the "Adjustable Hood" reflector was offered separately and as standard equipment on the supervisor's model. The "Adjustable" (not shown) was sold as accessory only.

Early versions of the hood resemble this original patent model by attaching to the tank rim with three clips. (A.L. Hansen # 1,093,128. Filed 1-10-12. Patented 4-14-14)

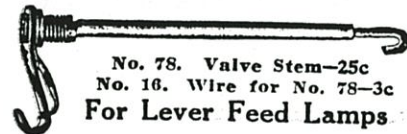
By 1913, Justrite was manufacturing lamps with larger 2 1/4" reflectors that were permanently attached.⁷ A flint wheel lighter was included. By 1915 the 2 5/8" and the 3" saucer sizes were also offered.⁸

Early Lever Feeds

The first lamps with water-levers became available in 1913.⁹ This allowed the water flow to be regulated as the lever could be set between any of the 12 raised bumps. These early style levers were made until around 1917. Shortly after the introduction of the new lever, the words "ON" and "OFF" were stamped on the left and right of the tank. Later, the "ON" stamping was eliminated.



1914 vintage cap lamp, now with 2 1/4" integral reflector and the words "ON" and "OFF" stamped either side of the lever. This lamp also introduces the next change in tank stamping (right).



No. 78. Valve Stem—25c
No. 16. Wire for No. 78—3c
For Lever Feed Lamps

Catalog illustration of early Lever Feed.

JUSTRITE
PAT. DEC. 17, 1901
PAT. MAY. 7 1912
PAT. OCT. 28, 1913
OTHERS PENDING

1915-1919: Elegant Designs

1915 marks a time when the Justrite Mfg. Co. began to diversify and upgrade their product. Several changes were introduced to the line. Briefly, they were¹⁰:

- 1-Lamps available with three different reflector sizes
- 2-The beaded bottom base¹¹
- 3- The "Jiffy" Container
- 4- Two new water feeds:
 - The "Duplex Valve Feed" (sold only with the "Jiffy" base)
 - The "Spiral Feed"¹²

The lamps made from 1915 through 1919 can be immediately identified by the bases which are adorned with two rows of beads for gripping. From a purely aesthetic point of view, lamps from this short era represent Justrite at its peak. They combined the many patents of Augie Hansen...Justrite's eccentric and nearly manic inventor. His designs were both elegant and functional. No lamp better illustrates this than the Spiral Feed Justrite.

The Spiral Feed Justrite

One of the problems with acetylene generators was that of gas backing up through the dropper and bubbling out through the water tank. In an attempt to solve that problem, Augie Hansen developed the Spiral Valve Stem. Resembling a long thick-threaded screw, the system:

"...forces the water to travel around the spiral a distance of 7 inches while in other lamps it travels in a straight course only 1 1/4". This increases the gas resistance about six times, prevents waste of gas and produces an even, steady burning flame."¹³

The earliest Spiral Feed, introduced in 1915, is identified by a feed lever which rides free of any notches.¹⁴ By 1916, the more familiar model was available, in which the lever carries a wire spring over 17 tiny bumps.¹⁵ The model was available in this unchanged form through at least 1922.¹⁶ To keep a single style in the line-up for so long was unusual for Justrite, and may have represented the sale of remaining stock which had been overproduced and poorly accepted.



Above: Valve stem for Spiral Feed Lamp from 1916 catalog.

Right: Spiral Feed Lamp from Dave Thorpe collection, showing 2 1/4" reflector.



The "Jiffy" Container with its Duplex Feed

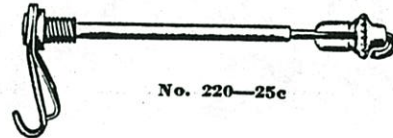
Introduced in 1916, the "Jiffy" Container was an innovation to allow the miner to remove the base from the lamp with only a half twist.¹⁷ Lamps with this base are highly prized by collectors due to the fancy scrolled writing in the bottom of the base (see MAC #8, page 7). Almost all "Jiffy" lamps are found as they are advertised: with the Duplex Feed.



Showing
the
Helix
Locking
Device
—
Pat. applied for



DUPLEX VALVE STEM

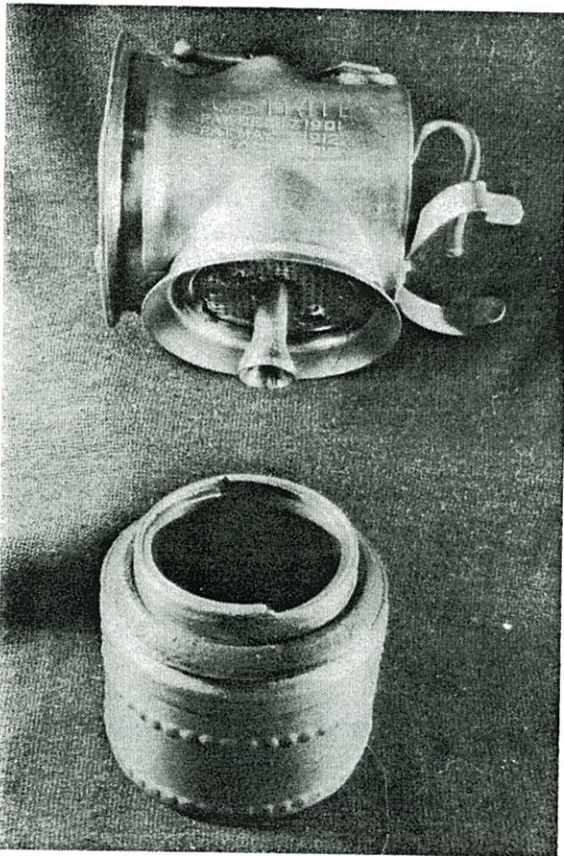


No. 220—25c

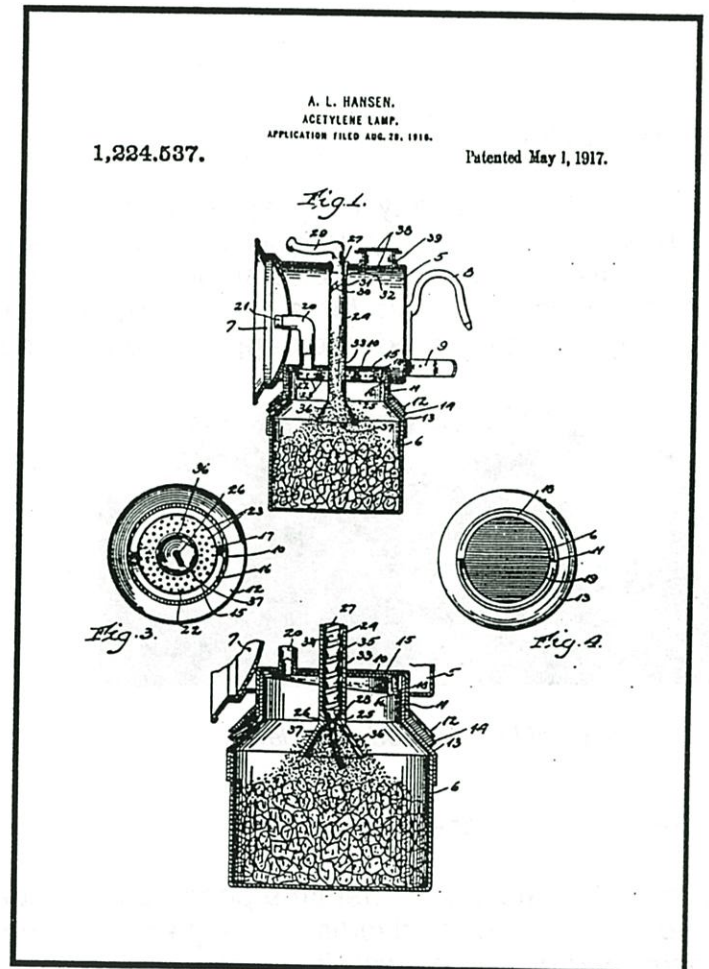
This Lever Duplex Feed has two valves. The upper valve regulates and shuts off the water flow; the lower valve acts as a check and prevents over-generation.

A Platypus

Many of Augie Hansen's patented cap lamp designs were never marketed extensively. From time to time interesting prototype, or limited production lamps turn up. One such lamp combines the "Jiffy" Container *and* the Spiral Feed. Additionally, this piece displays the unusual, but patented,¹⁸ flared end to the water-dropper.

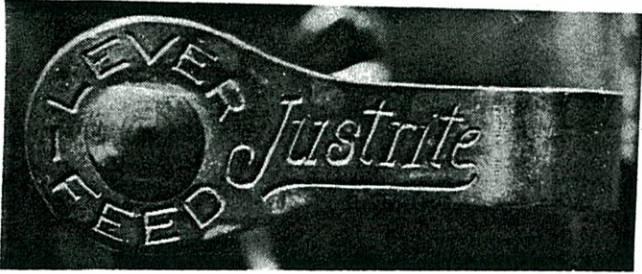


Above: Unusual patent lamp. (Len Gaska collection)
Right: Patent showing lamp in above photo.



More Changes During Good Times

The next design change occurred around 1917, when the Lever Feed was made much sturdier. Unlike its flimsy upturned predecessor, this bulky lever turned under itself to press over the bump settings. A short time later, the lever became stamped with the words "Justrite Lever Feed".



Close-up of "Lever Feed" water-lever.

After altering the lever, Justrite then changed the tank stamping. The new lettering read:

JUSTRITE
PAT. MAY 7, 1912
PAT. OCT. 28, 1913
PAT. NOV. 23, 1915
OTHERS PENDING



Ca. 1917 "Lever Feed" cap lamp, showing the larger lever and a revised trio of dates. (D. Thorpe collection)

The Liberty Feed

Early in 1919, the Liberty Feed system was officially added to the line-up,¹⁹ although it had been used for one year previously with unstamped water-levers.²⁰ The more recent Liberties were identified by a water-lever stamped: "Liberty Trademark". This dropper exposed a large area of the central shaft for a more "liberal flow". Although Liberty Feed lamps are not particularly rare, their production appears to have been phased out by 1921.²¹



Close-up of Liberty Feed water-lever.

"LIBERTY" VALVE STEM

For Liberty Feed Lamps



Illustration of Liberty Feed dropper mechanism from 1919 catalog.

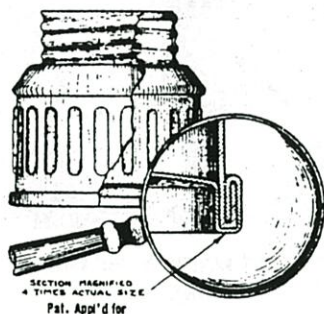
The Gasketed Water-door

Produced over the same brief time period as the Liberty Feed, the unusual rubber-gasketed oval water-door was never advertised. Appearing somewhat gaudy, the door was bulkier than the standard, and decorated with fancy scrollwork.

1920: The Beginning of the End

The life cycle of a carbide lamp company follows a typical course. In the beginning, the lamps are very delicate and simple. Later, as the company flourishes, the lamps become ornate and innovative in design. If not entirely useful, they are at least visually exciting. In the final phase, the lamps become simpler again, but are made stronger and more practical. Just as adulthood is the best predictor of death, the utilitarian or "mature" phase marks the decline of a company. For Justrite, that time began around 1920, with the departure of Augie Hansen.

The Ribbed Base: an Omen of Bad Times Ahead



Description

NEW JUSTRITE RE-INFORCED BOTTOM

The seam at base of bottom has five layers of metal rolled together. Solder is then forced into the crevices from the inside forming a solid rim $\frac{1}{8}$ inch thick. The upper part, including the screw threads with rolled edge, is one piece drawn from seamless brass. The strongest and most durable carbide lamp bottom made. Adds strength just where it is most needed.

From Justrite Catalog #3 (May, 1919)

In May 1919 the "new" ribbed base was first offered. It was more durable with its seamed bottom, and offered a better grip. This would be Augie Hansen's last contribution to the Justrite Mfg. Co.²² Perhaps there was no room for an eccentric designer in a company, whose direction would now be toward simple, more generic lamps.

His replacement, William Frisbie, may be credited with making the Justrite cap lamp simpler, stronger, cheaper to produce...and aesthetically dull. So enamored was Mr. Frisbie with Augie's ribbed base, that he even stamped the ribs into the water chamber of his new Victor cap lamp...a design not entirely uninspired by the Guy's Dropper. His work with the horizontal Justrite was characterized, not so much for original contribution, but for the systematic eradication of every patented design feature related to Augie Hansen.

Superficial Changes

1920: Fresh at the helm, Mr. Frisbie's first design change was to increase the number of bumps for the water-lever from 12 to 16. The benefit of adding such fine control is questionable since water flow is largely dependent on gaseous back pressure. Around 1921, while waiting for his design patents to be granted, "MADE IN U.S.A." was added to the tank stamping in the following layout.

JUSTRITE
MADE IN U.S.A.
PAT. MAY 7, 1912
PAT. OCT. 28, 1913
PAT. NOV. 23, 1915
OTHERS PENDING



One of the first cap lamps of the Frisbie era (ca. 1920) shows ribbed base, "MADE IN U.S.A." stamping, and increase in number of lever bumps from 12 to 16.

The Polygon Feed: A Tool for Dating Lamps

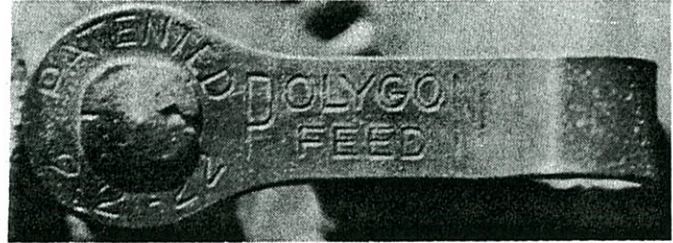
At the same time that the "U.S.A" tank stamping was added, the Liberty Feed was dropped from the Justrite lineup. Offered in its place was William Frisbie's, soon to be patented, Polygon Feed. It was not radically different from other generic style water feeds, except that the dropper button was a square nut. Its corners supposedly broke up the encrustation that built up around the tip. Once again, a relatively uninspired change that was simple, practical, and durable.

Frisbie's patent for the Polygon Feed was filed **May 3, 1920** and granted **Feb. 21, 1922**. Accordingly, water-levers are found with three different stampings:

Polygon Feed (ca. 1920)

Polygon Feed Pat. App. For (ca. 1921)

Polygon Feed Patented 2-21-22 (ca. 1922 ...)



Close-up of Polygon Feed water lever with most recent stamping.

These three water lever marks allow us to date several other design changes. The first of these was the replacement of the oval water-door by the much easier to produce round version. Only lamps with the lever stamping "Polygon Feed Pat. App. For" are found with *both* oval and round doors, so this change would have occurred during 1921.

The "Polygon Feed Pat. App. For" lamps also span a time when the rear cross brace was narrowed from 1/4" to 3/16". While this change dates to 1921 as well, it occurred *after* the change in water-doors.

A third design change, that can be indirectly dated via the Polygon Feed lamps, is the use of "Duplex" stamped water levers:



Close-up of Duplex Feed water lever (ca. 1922).



The "Polygon Pat. App. For" lamp (ca. 1922) showing change to round water door and thinner rear brace.

These lamps are somewhat of an anomaly, since they are not actual "Duplex Feed", but merely standard "Lever Feed" systems. They are all found with the round water door, making them more recent than 1921. And, since they are known only with the "3-date, Made in U.S.A" stamping (discontinued around 1923), we may conclude that they were produced in 1922.

Tank Stamping is Raised...Two Dates are Buried

Around 1923, the incuse tank stamping was changed to the raised type.²³ In fancier lettering, it read:

Justrite
MADE IN U.S.A.
PAT. MAY 7, 1912
OTHERS PENDING

The only Hansen date left was the original 1912 patent for the horizontal design. On the right hand side of the tank, the word "OFF" also appeared in raised letters.

This tank style is found with two types of water lever stamping: "Polygon Feed", and the resurrected name "Wire Feed".²⁴



Close-up of Wire Feed water-lever (ca. 1923).



Above: lamp made in late 1920's showing changes to raised lettering with only one patent date. Also note round ringed water-door with thumb tab, and shorter water-lever.

The "1912" stamped lamps continued to be manufactured throughout the 1920's. During that time, the round water-door was first given a small thumb tab, and later, reinforced with stamped concentric rings. Near the end of the decade, the water-lever was bowed up and made shorter, though the same two stampings were retained.

The Final Tank Design: No Dates at All

The final horizontal tank style belonged to the 1930's. Bowing to convention, the horizontal Justrites now had removable reflectors held in place by a nut over a threaded gas tube.

In so doing, the company also felt that they had deviated far enough from the Hansen design to remove even the last 1912 patent date. The raised letter stamping now read simply:

TRADEMARK
Justrite
MADE IN U.S.A.
PAT. APPLIED FOR



Early 1930's vintage lamp showing change to complete absence of patent dates, removable reflector, and the "Protecto-grip" base.



Late 1930's lamp showing change to wire cross brace, "Air-cooled" grip, and addition of a tiny spring tab riding over 19 bumps.

After the tank change, the number of bumps for the water-lever was increased, this time to 19. A tiny spring tab was added to ride over the new bumps. The small lever was marked either Polygon or Wire Feed. Eventually even these two stampings were discontinued and all levers simply read:

Justrite

The next change saw the rear cross brace strip changed to a removable wire. Lastly, the raised stamping "OFF", located on the right side of the tank, was changed to "ON" so that the water-feed could utilize a standard screw thread.

Also introduced around 1935 was the rubber jacketed base, known as the "Protecto-Grip".²⁵ As this tended to overheat, it was replaced with the less insulating "Air Cooled Grip".

In 1939, with nothing else left to remove, the horizontal lamp itself was discontinued, and the last vestige of Augie Hansen was gone. In its place, the Justrite Streamline series continued to be marketed to sportsmen and hunters.

References and Footnotes

1. The term "Horizontal Style" is first used in Justrite catalog #7 (ca. 1930) to differentiate it from the "Vertical Style" which was introduced in this issue.

2. Patent 1,161,209 (Augie L. Hansen). Applied for May 20, 1911. Granted Nov. 23, 1915.

3. Collections studied include those of Len Gaska, Dave Thorpe, Mike Puhl, and Charles Frase.

4. Justrite Catalog #3 (1919) gives a brief history: "This company was organized in 1906, and until 1911, our business consisted of the manufacture of a Patented Oily Waste Can, Sanitary Pails, and the making of Dies, Special Machinery, Tools, etc."

5. Patent 1,161,209 (Augie L. Hansen). Applied for May 20, 1911. Granted Nov. 23, 1915.

6. Justrite Catalog, unnumbered, Dec. 10, 1913, page 9.
7. IBID, page 4
8. Justrite Catalog, unnumbered, (ca. 1916). Note: actual reflector sizes were 2 5/16", 2 1/2", and 3".
9. Justrite catalog, unnumbered, Dec. 10, 1913.
10. Justrite catalog, unnumbered, (ca. 1916).
11. Colliery Engineer, Aug 1914. First advertisement of lamps with beaded bottoms:
12. Coal Age; Dec. 4, 1915. Spiral Feed lamp first advertised.
13. Justrite Catalog, unnumbered.
14. Coal Age; Dec. 4, 1915. Spiral Feed lamp first advertised. Illustration shows no spring clip.
15. Coal Age; 1916 Spiral Feed lamp advertised *with* spring clip.
16. Justrite Catalog, unnumbered, (ca. 1916).
17. Mining and Scientific Press, ads: 7/5/19; 12/25/20; 1/7/22.
18. Patent # 1,224,537. A.L. Hansen. Applied for Aug. 28, 1916. Granted May 1, 1917.
19. Justrite Catalog Unnumbered. March 1919. "New Liberty Valve" introduced.
20. Patent # 1,303,658. A.L. Hansen. This patent for the Liberty Feed was applied for Aug. 31, 1918, but was not granted until May 13, 1919. This corresponds to the known existence of unstamped Liberty levers.
21. In the #5 catalog (ca. 1922), the Liberty Feed has disappeared. All Liberty lamps that have been identified, predate the earliest Polygon Feed lamps of 1921.
22. Design Patent 54,349. Dec. 30, 1919. Augie Hansen's first two patents for the Dry Lite, both filed in 1920 (# 1,490,562 and # 1,505,259), show the ribbed base. His later patents, filed in 1921 and 1922, do not, as the ribbed design had now become well associated with Justrite.
23. Many of the changes taking place from 1923 on involve some interpolation (or guesswork), as the company's journal advertising had become scant. Further, the catalogs were no longer dated, and had become notoriously inaccurate in depicting the actual lamp sold.
24. The term "Wire Feed" had originally been applied to the crude raking wire models of 1911-1912. The name "Lever Feed" was phased out shortly after Augie Hansen's departure, and the same waterfeeds were redesignated: "Wire Feed" by 1922 (Justrite #5). Not until the new raised-letter tank stamping (around 1923), were the levers actually stamped "Wire Feed". The interim use of both "Duplex" and "Lever Feed" levers for what was advertised as Wire Feed, would indicate that they were simply using up older parts in stock.
25. Protecto-grip base advertised in Mining Journal March 15, 1935.

SIMPLE GUIDE TO VARIATIONS AND YEAR OF MANUFACTURE

VINTAGE	Tank Stamp	Reflector	Door	Water Lever	Bumps On/Off	Base	Brace
1911	"The" PAF	INTEGRAL	Oval	PLAIN WHEEL	0	None	1/4" Strap
1912	"The" 01-12	Tiny 2"		NOTCHED WHEEL	12	On(L) Off(R)	
1913	1901-1912	both styles found	UPTURNED LEVER	16			Off(R)
1913-14	1901-12-13		SPIRAL without spring clip SPIRAL with spring clip		Includes: Unstamped Liberty Feed Unstamped Lever Feed "Liberty Trade Mark" "Justrite Leverfeed" "Polygon Feed" "Polygon Feed Pat. App. For" "Polygon Feed Pat. 2-21-22" "Justrite Duplex Feed" "Justrite Wire Feed"		
1914	1912-13-15	INTEGRAL	Round	SMALL LEVER		19	Off(R) raised
1915	1912-13-15	2 5/16"		Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite" "Justrite"			
1916	1912-13-15	2 1/2"	Round ringed		Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)
1917	1912-13-15	3" saucer					
1918	USA	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	3/16" Strap
1919	1912-13-15						
1920	1912-13-15	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1921	1912-13-15						
1921-22	1912-13-15	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1923	1912-13-15						
1923-4	1912	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1925-6	1912						
1927-28	1912	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1929-30	1912						
1931-32	TRADEMARK	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1933-34	TRADEMARK						
1935-36	TRADEMARK	Removable	Round ringed	Includes: "Polygon Feed Pat. 2-21-22" "Justrite Wire Feed" "Justrite"	19	On(R)	Wire
1937-38	TRADEMARK						

Catalogs of the Justrite Manufacturing Company

by Len Gaska

There are three ways in which the history of a company can be reconstructed: patents, product designs, and ads and catalogs. In this article, Justrite catalogs known to the author are presented to give a quick overview of the products of the Justrite Manufacturing Company from 1913 to about 1938.

Beyond the information contained within, original lamp catalogs are prized in their own right. Lamp catalogs are rare due to the specialized nature of the product and the limited market. Only a few companies produced lamp catalogs: Baldwin, DeWar, Justrite, and Wolf, and perhaps a few others unknown to the author. Strangely enough, the other two major carbide lamp manufacturers, Universal Lamp Co. (Auto-Lite), and Shanklin Mfg. Co. (Guy's Dropper) apparently did not issue catalogs.

The large number of Justrite catalogs and the huge variety of carbide lamps and related products advertised reflect Justrite's role as the number one carbide lamp manufacturer in America. The large product line and the frequent issuance of catalogs also helped Justrite attain the number one position. The author knows of 11 different Justrite catalogs and one brochure, and the collecting community may know of others.

Because of poor copy quality, catalog number 6 is not illustrated. Most of the catalogs are undated and dates given as "circa year" are educated guesses.

MINERS' PIT LAMP LEVER FEED

13½
Candle
Power



Weight
5
Ounces

No. 80. Polished Brass..... \$1.00
No. 81. Nickel Plated..... 1.25
Extra container with each lamp.

MINERS' PIT LAMP WIRE FEED

13½
Candle
Power



Weight
5
Ounces

No. 99. Polished Brass..... \$1.00
No. 88. Nickel Plated..... 1.25
Extra container with each lamp.

Round brass, sharpened hook-spring brass clasp, riveted and soldered on inside. Holds lamp firmly on cap. Fits any cap shield.
Wholesale price on page 12.

Unnumbered, Dec. 10, 1913, 3 1/2" x 6 1/2", 16 pages. Page 3 shown.

Generally considered to be Justrite's first catalog. Introduces the "Lever Feed" which was Justrite's first true water control valve. Earlier Justrites have the "raking wire" feed (bottom illustration) which offered little or no control of water flow. The catalog illustrates several models of "The Justrite," an early style candlestick attachment, "The Matchless Reflector," and the No. 10 lantern. All cap lamp bases illustrated have the smooth sides.

Everything
inside is

Justrite
COMPLETE CATALOG

Acetylene
Lamps and Lanterns

Safety Oil and
Oily Waste Cans

Sanitary Receptacles
and Garbage Pails

Manufactured by
Justrite Manufacturing Co.
Van Buren and Clinton Streets
CHICAGO, ILL.

FORM 204

Unnumbered, undated, 3 3/8" x 6 3/8", 16 pages. Cover shown.

The copy I have has a library stamp date of Feb. 20, 1915. Generally considered to be catalog number 2. Only early style "Lever Feeds" are shown in this catalog. Introduces 4 large lamps: The Jumbo, Anaconda Special, Arizona Special, and the Western Special. Also shown is a rare 3 spare bottom carrier. Only smooth side cap lamp bottoms are shown. Three lamps with candlestick attachments are illustrated.

INTERCHANGEABLE CONTAINERS



FOR CARBIDE ONLY.

No. 20. Polished Brass\$0.75
No. 21. Nickel Plated 1.00

The 3 bottoms on container and bottom on lamp are carried into the mine half full of carbide, sufficient for a full day's work. When the bottom on lamp is exhausted, unscrew and put on a fresh bottom, screwing the used bottom into the container. This enables the miner to carry all his used carbide to the surface. Can be fastened on the belts or pants by the spring clasp or carried in the pocket—strong and convenient.



FOR CARBIDE AND WATER.

No. 19. Polished Brass..... \$1.00

"Jiffy" Containers



FOR CARBIDE ONLY.

No. 219. Polished Brass\$0.75

Unnumbered, circa 1916, 3 1/2" x 6 1/2", 17 pages. Page 14 shown.


Introduces the Spiral Feed, the ""Jiffy" lamp, the Duplex Feed, two new styles of 3 spare bottom carriers (illustrated), and the cap lamp beaded bottoms with two rows of raised "dots." No smooth sided cap lamp bottoms are shown.

It is a bit strange that this catalog does not include any large style lamps. This catalog may well have been aimed at the eastern U.S. mining market where larger lamps were seldom used

JUSTRITE CARBIDE LAMPS

X-RAY CAP LAMPS
Detachable Reflector and Brace
LIGHTER ATTACHMENT

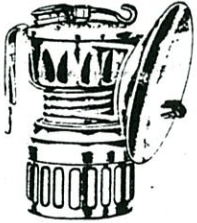
Round Hook



2 1/2-INCH REFLECTOR

No. 187. Brass Lamp Only	Price \$1.00	No. 197. Brass Lamp Only	Price \$1.00
No. 181. Brass With Extra Bottom	Price 1.00		

Flat Hook



2 1/2-INCH REFLECTOR

No. 267. Brass Lamp Only	Price \$1.00	No. 277. Brass Lamp Only	Price \$1.00
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3-INCH REFLECTOR

No. 267. Brass Lamp Only	Price \$1.00	No. 277. Brass Lamp Only	Price \$1.00
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Number 3, May 1919, 6" x 9 1/4", 32 pages. Top half of page 15 shown.

A very attractive catalog illustrating the X-Ray, Uncle Sam, Little Giant, the Liberty Feed, and a wide variety of cap lamps. The spiral feed is still being advertised and most of the cap lamps shown use the later style of lever feed with the "turned under" control lever. The vertical ribbed bottom is introduced in this catalog although the beaded bottom is still shown in most of the illustrations. This is the first catalog to show cap lamps with the narrow spade "Michigan" style hook.



CARBIDE CAP LAMP

With
Lighter Attachment

Description

Drawn from seamless brass. Attached parts are riveted and soldered inside. Concaved Reflector is part of the lamp; cannot get loose or be broken off. Equipped with No. 28 Jewel Tip.

Height of Lamp, 3 3/4 Inches	Weight, 5 Ounces
Diameter Bottom, 2 Inches	Candle Power, 16.7

Charge, 2 Ounces 1/4-Inch Carbide
Burning Capacity, 2 1/4 Hours

No. 527	Polished Brass	Lamp Only
No. 124	Polished Brass	With No. 77 Carbide Can
No. 121	Polished Brass	With No. 68 Extra Bottom

FOR PRICES, SEE PAGE 24.

Repair Parts

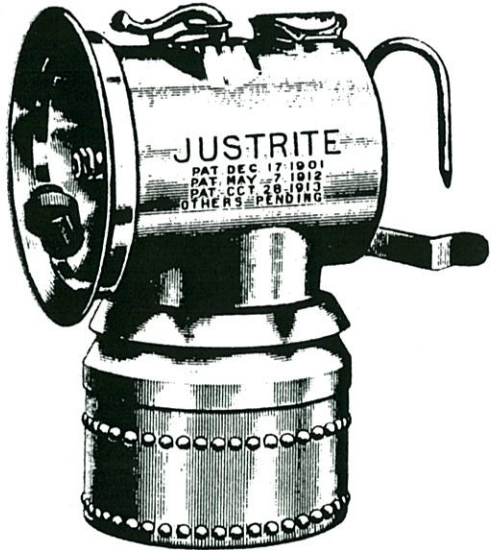
- No. 68. Extra Bottom Polished Brass
- No. 69. Rubber Gasket
- No. 62. Felt Packing
- No. 64. Felt Holder
- No. 113. Valve Stem
- No. 172. Extra Filints for Lighter

Illustrated on page 36
PRICES ON PAGE 38

No. 77 Carbide Can illustrated on page 78.

SPIRAL FEED

Round Hook

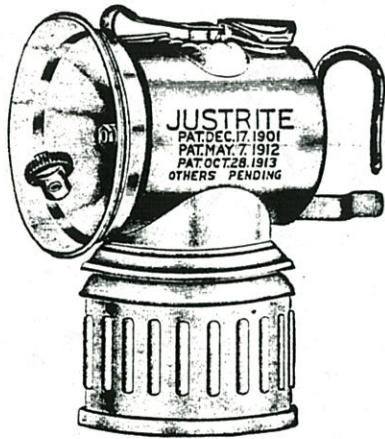


**CONCAVED
PERMANENT REFLECTOR
2 1/4-INCH DIAMETER**

Unnumbered, March 1919, 9" x 6", 86 pages. Page 20 shown.

The largest and most beautifully illustrated of all the Justrite catalogs. This catalog predates catalog No. 3 by 2 months and it is a mystery why Justrite produced two completely different and extensive catalogs within a span of three months. This catalog does not introduce any new major varieties.

Justrite
TRADE MARK



MINERS CARBIDE LAMPS

Catalogue No. 5

Number 5, circa 1922 – 1923, 6 1/8" x 9 1/4", 30 pages. Cover shown.

Introduces the Victor cap lamp, the Polygon Feed, and the Acme hand lamp (the Victor's big brother – well, kind of). Besides the Acme, the only other large style lamp shown is the Uncle Sam. The beaded cap lamp bottoms are not present in this catalog.

Number 6, circa 1928, 4" x 9", 16 pages. Not illustrated

This catalog is the last in which the Victor cap lamp appears. The Acme is no longer present and the modern style hand lamp is introduced. This catalog show a much smaller and more stable product line compared to number 5.

JUSTRITE MANUFACTURING CO., CHICAGO

Justrite
TRADE MARK

Miners' Cap Lamps

Detachable Reflector and Brace
Lighter Attachment
Round Hook

Polygon Feed

Miners preferring a "VERTICAL STYLE" lamp will find this model JUSTRITE LAMP will give them good results. It is very rigid and strongly constructed, all weak points reinforced and strengthened. Lamps are finished in polished brass with Nickered Reflectors.



Concave Reflector

2 1/2-inch Diameter

Price

No. 661—Polished Brass

Saucer Shaped Reflector

3-inch Diameter

Price

No. 666—Polished Brass

SUPPLY PARTS

- No. 28—Burner Tip.
- No. 60—Gasket
- No. 62—Felt.
- No. 64—Felt Holder.
- No. 172—Flint.
- No. 177—Lighter, Complete.
- No. 295—Reflector Brace.
- No. 197—Wing Nut
- No. 300—2 1/2 inch Reflector, nickel
- No. 301—3 inch Reflector, nickel
- No. 600—Valve Stem.
- No. 965—Bottom Polished Brass.

For Specifications of Lamps, see Page 1

For Illustration of Supply Parts see Pages 9-10

Number 7, circa 1930, 4" x 9", 16 pages. Page 5 shown.

Introduces the vertical style cap lamp (shown). The vertical style was the last new style introduced before the Streamlined which was almost 10 years in the future.



Miners' Cap Lamps

With
New Lighter Attachment

Polygon Feed—Round Hook



The New Justrite Sparker Attachment

This new device prevents teeth of sparker wheel from becoming clogged with grime and dirt from the hands.

Just raise lever to burner tip with finger, release, and sparker automatically lights lamp instantly.

Concaved Reflector

2 3/8-inch Diameter

- No. 927—Polished Brass—Lamp Only
No. 929—Nickel Plated—Lamp Only



Saucer Shaped Reflector

3-inch Diameter

- No. 967—Polished Brass—Lamp only
No. 969—Nickel Plated—Lamp only



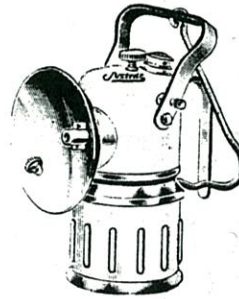
SUPPLY PARTS

- | | |
|--------------------|-------------------------------|
| No. 28—Burner Tip | No. 179—Lighter Complete |
| No. 60—Gasket | No. 197—Wing Nut |
| No. 62—Felt | No. 700—Valve Stem |
| No. 64—Felt Holder | No. 935—Bottom Nickel Plated |
| No. 172—Flint | No. 965—Bottom Polished Brass |

For Specifications of Lamps, see Page 1
For Illustration of Supply Parts see Pages 9-10

Justrite Metal Miners' Lamps With Lighter Attachment

Rust-Proof—Steel
or Brass



No. 50B—Steel
No. 50C—Brass
With Ball and Hook

A strong and sturdy lamp built to give service. Constructed with a removable and automatic water feed. No pliers or wrenches needed to make adjustments—either above or under ground.

Has sturdy 4" reflector giving maximum volume of light. Also flame protector making flame drip-proof when lamp is used in wet mine.



No. 50A—Steel
No. 50C—Brass
With folding handles

SPECIFICATIONS
Burning capacity—8 hours
Candle Power—18 C. P.
Weight—20 ozs.
Charge (1/4" carbide)—8 ozs.
Height of Lamp—8"
Height to top of bail—8"
Diameter of bottom—2 3/4"
Diameter of reflector—4"

Valve Stem can be taken out and Cleaned—
Light will not go out.



SHOULDER
DOUBLE SEAMED
AND SOLDERED

New Bottom
for
Brass Lamps

BRASS BOTTOM
WITH
STEEL CAP

This special reinforced bottom used on Brass Lamps Nos. 50C and 56C only. Will stand abuse and give long service.

SUPPLY PARTS

- | | |
|---|--|
| No. 28 Burner Tip | No. 172 Flint |
| No. 51 Carbide Container for No. 50B & 50A Lamps only | No. 177 Lighter Complete |
| No. 51C Carbide Container for No. 50C and 50C Lamp only | No. 180 Flame Protector |
| No. 52 Felt | No. 187 Wing Nut |
| No. 53 Felt Holder | No. 254 Reflector Brace for No. 50B & 50A Lamps only |
| No. 55 Ball Screws | No. 254C Reflector Brace for No. 50C & 50C Lamp |
| No. 61 Rubber Gasket | No. 259 Screw Valve Stem |
| | No. 403 4" Reflector, Brass |
| | No. 404 4" Reflector Nickel |

Number 8, circa 1932, 4" x 9", 16 pages.
Page 5 shown

This catalog is almost identical to catalog number 7.

Number 10, circa 1936, 4" x 9", 16 pages.
Page 13 shown.

Similar to catalog number 8. Introduces the "Protecto-Grip," a rubber covering for cap lamp bottoms.

JUSTRITE *The Dependable* CARBIDE LAMP



1936-1937

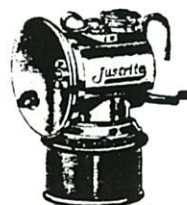
Universally Used

Unnumbered, 1936-1937, 3 3/8" x 6 1/8", 7 pages. Cover shown

No mention of mining is made in this brochure. It states "America's Favorite Carbide Lamp Used by HUNTERS - TRAPPERS - GUIDES - FORESTERS - FISHERMEN - FROGGERS - BOY SCOUTS - AND OTHER WOODSMEN." Was this catalog aimed at a particular market or did it reflect the declining demand for carbide lamps for use in mining? And was the phrase "Universally Used" a sly cut at the Universal Lamp Company?

Justrite
TRADE MARK
REG. U.S. PAT. OFF.

Mine Lamps AND Accessories



The Lamps that Put Daylight Underground

Catalog No. 10 A

JUSTRITE MANUFACTURING COMPANY
2061-87 Southport Avenue
CHICAGO, U. S. A.

Number 10A, circa 1938, 4" x 9", 16 pages. Cover shown.

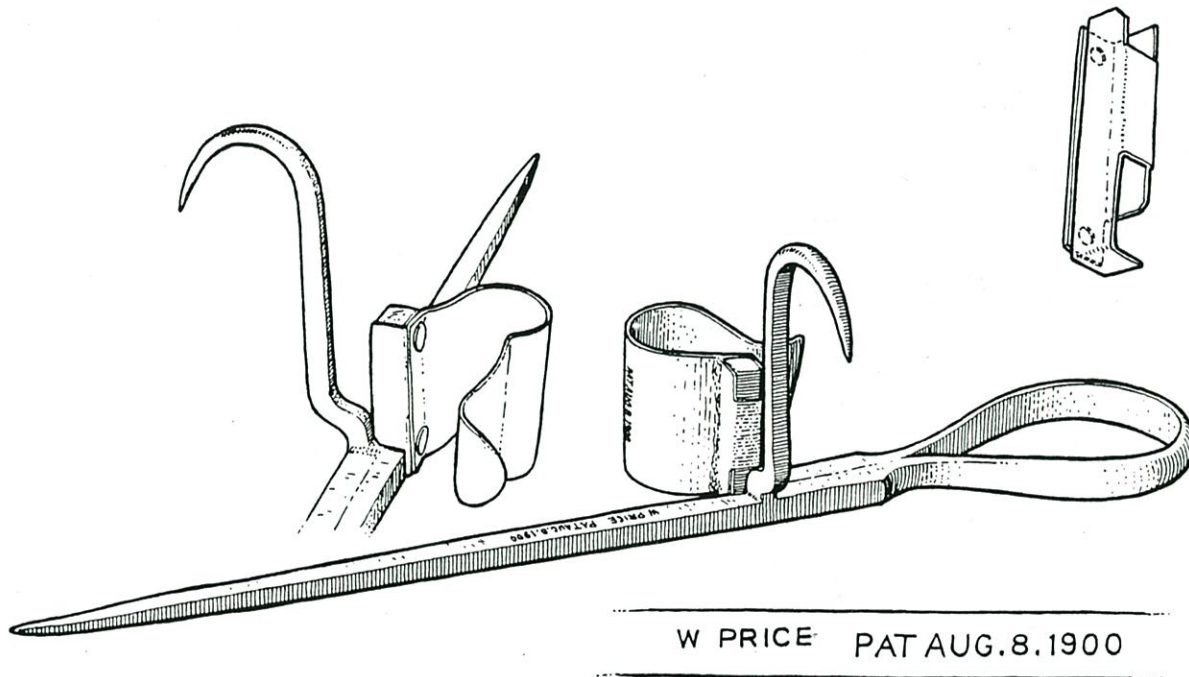
Similar to catalog number 8 and 10. Horizontal and vertical styles with wire and polygon feeds are the only cap lamps shown. Introduces the round wire clip - in hat brace.

The W. Price Candlestick

by Ted Bobrink

One of the most rewarding things about collecting miner's candlesticks is to find out some history about one in your collection. The easiest candlesticks to research are the ones that were patented. If your candlestick has a patent date or number on it, you can send away for the patent (See MAC # 6, page 41) to find out who made your stick, when it was first made, and where. Getting that kind of information was always a sure thing until the day I received a call from a friend who said he had a candlestick with the name W. Price Pat Aug. 8. 1900. I could not find that name or date in any of my files on U.S. candlestick patents so I just assumed that we had somehow missed that patent or something was haywire. About three years later I found a stick in an antique shop that had the name W. Price Rossland B.C. stamped into the shaft. I didn't put the two together until I received a call from Wendell Wilson telling me about a friend of his that had one of the sticks with the name Price and a 1900 patent date. I told Wendell I had a stick just like it with the name W. Price Rossland B.C. and no patent date. That's when we realized the patent date was from Canada and not the U.S. The Price candlestick, even with a Canadian patent, is very much related to the U.S., as 1900 was right at the end of the Great Alaska Gold Rush.

The Price candlestick is pretty standard with the exception of the unique brass thimble. Two pieces of sheet brass are riveted together, one forming the round thimble, and one forming a square sleeve that is attached to a post next to the hook.



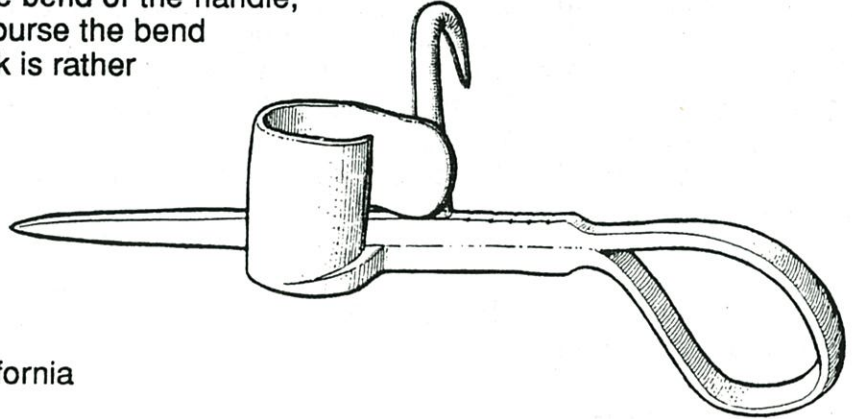
Type:	Standard
Stamping:	W. Price Pat Aug. 8. 1900
Workmanship:	Good
Rarity:	Rare
Owner:	Jim Steinberg

The Montana Pistol Grips

by Ted Bobrink

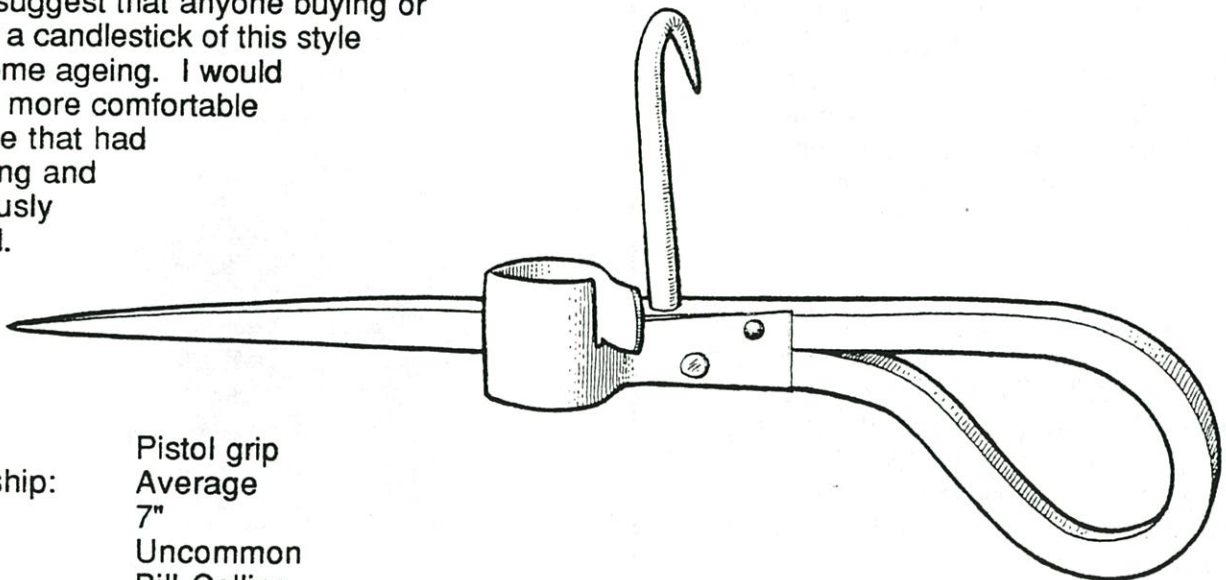
Among the most unusual styles of candlesticks are the ones **with the handle** formed in the shape of a pistol grip. Candlesticks were used during a time **when just about every man out west** owned a single action pistol. Therefore, it is not surprising that a few would want their candlesticks to resemble their trusty side arm. If you own **one of these** unique candlesticks it will most likely be one of the models illustrated below. These **two styles** were sold by the Montana Hardware Co. of Butte, Montana. You may remember an **article on** this company in MAC # 3, Spring 1989. In that article we talked about a common **stick we call** the Montana Hardware candlestick. If you compare that stick with the one below, **you will** see that they are identical except the bend of the handle, the placement of the hook, and of course the bend of the thimble neck. This candlestick is rather uncommon and will be found in lengths from 6" to 10".

Type:	Pistol grip
Workmanship:	Average
Length:	6" to 10"
Rarity:	Uncommon
Owner:	Jim Steinberg Pasadena, California



This is another style pistol grip sold by the Montana Hardware Co. of Butte, Montana. This stick is far more common than the one above, and though very unique in design, is very crude. The spike and handle are formed from one piece of 1/4" square stock. The thimble is formed out of sheet steel and applied with two brass or steel rivets. Due to the fact that this candlestick is so crude and easy to make, there have been several recent reproductions done on this style candlestick. A friend of mine was offered one of these reproductions in an antique shop in Carson City, Nevada. It had been nickel plated and of course he was told it was old and authentic.

I strongly suggest that anyone buying or trading for a candlestick of this style look for some ageing. I would feel a little more comfortable owning one that had a little pitting and had obviously been used.



Type:	Pistol grip
Workmanship:	Average
Length:	7"
Rarity:	Uncommon
Owner:	Bill Collins Santee, California

The Carbide Safety Lamp

by Tony Moon

One of the earliest uses of carbide in a mining lamp was for a safety lamp. The design of this early lamp was reported in the *Engineering and Mining Journal*.¹ Unfortunately, the manufacturer of the lamp is not stated and neither is its country of origin, but Germany is the most likely candidate as the majority of the article describes the use of carbide lamps in that country.

The advantage of carbide was its greater illuminating power compared to oil or naphtha and the presence of methane could still be detected. The disadvantages were the complexity of adding a carbide generator to a safety lamp with the inherent problems of providing a water feed regulating valve at 90 degrees (Wolf and Seippel) or angled (Arras) plus providing a reliable relighter that had to function through the side of the lamp. With the widespread adoption of electric lamps by the mid 1920's, the necessity for using a safety lamp for its illuminating power became a moot point and the carbide safety lamp became obsolete. Most of the examples date from 1910 to 1925.

Three manufacturers of carbide safety lamps are known to the author:

- Arras of France
- Seippel of Bochum, Germany
- Wolf with marking from England, Germany, and U.S.A.

Examples of the Arras lamps that have been examined by the author, and that are illustrated,² all appear to be very similar. The lamp is of steel and brass construction with a smooth bonnet. An unusual hook and bail assembly provides part of the clamping mechanism for the lamp. The lamp is later than the others and is probably from the 1920's.

The author's knowledge of the Seippel lamp is limited to published photographs.³ Two versions of an unbonneted lamp (or three if the large station type lamp is included) exist with relatively minor differences between the two styles, such as the length of gauze and the relighter type.

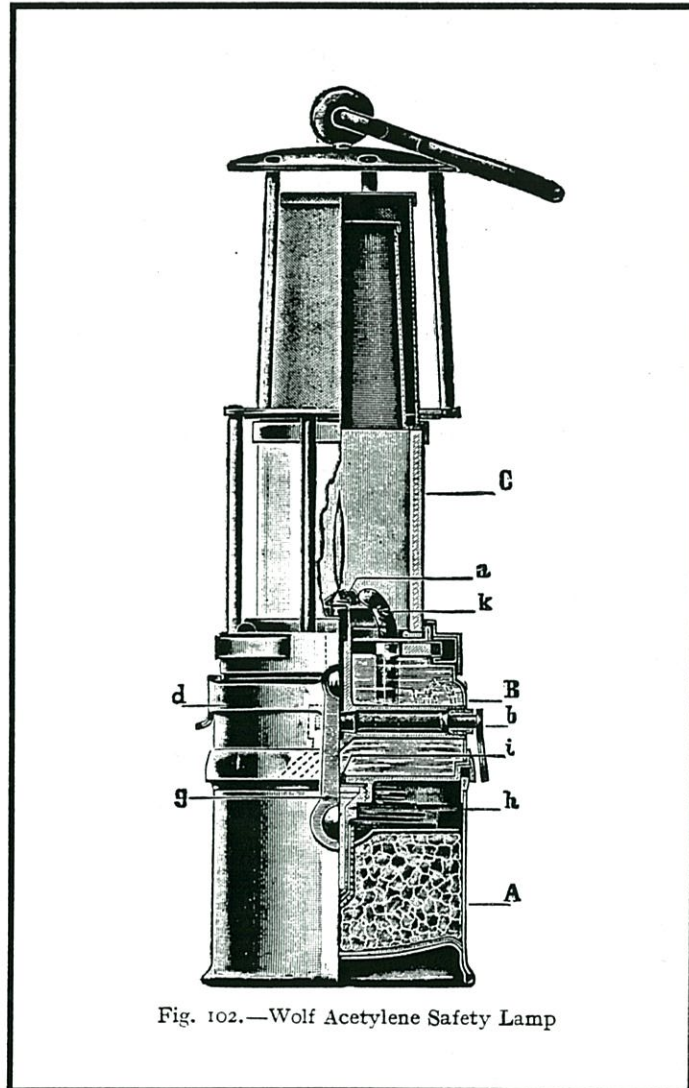


Fig. 102.—Wolf Acetylene Safety Lamp

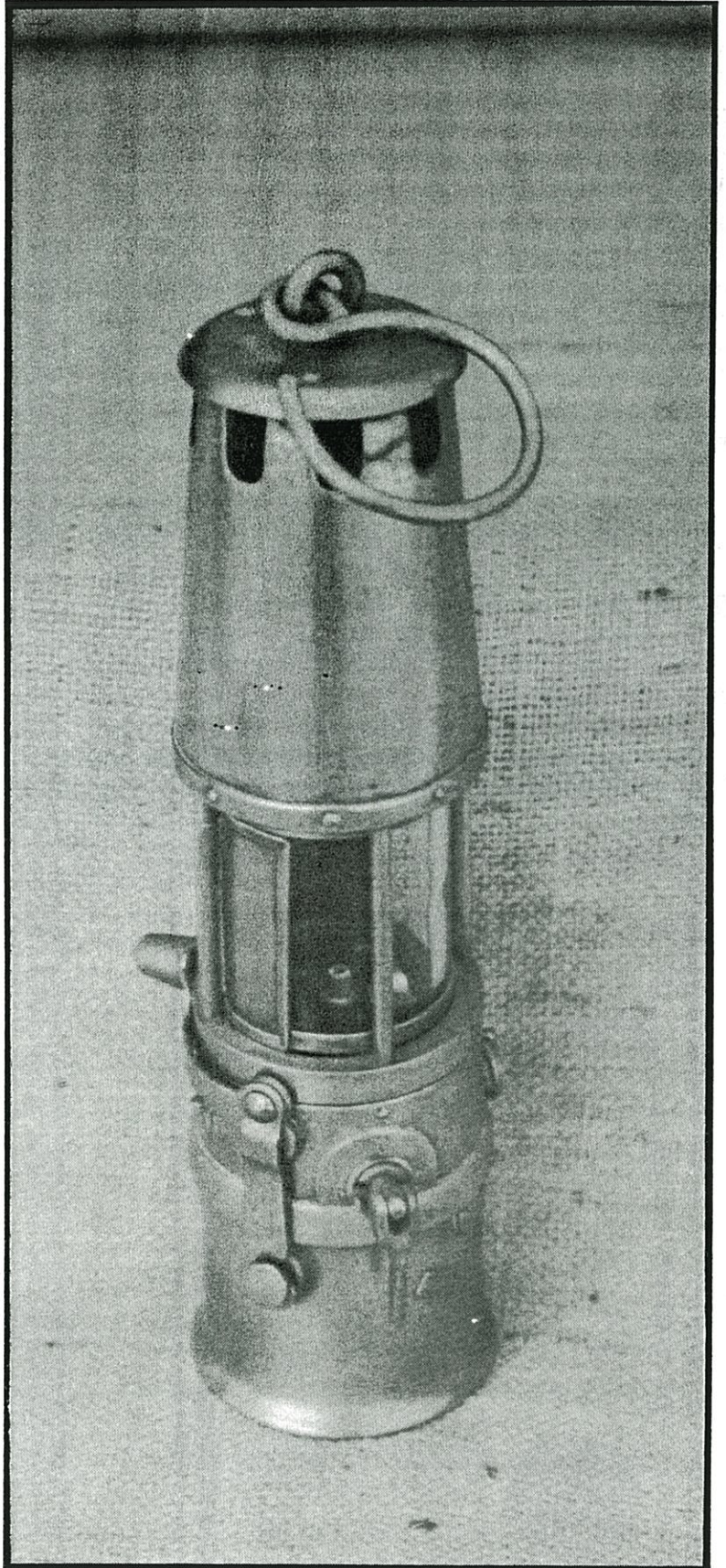
The Wolf carbide safety lamp is the best documented of the three name brands. Two different models are shown with this article. The first is an unbonneted style from about 1910 and the second, from the author's collection, is a later all brass bonneted style from England with the label "The Wolf Safety Lamp Co, Leeds". The Wolf lamp was produced in two sizes: a 12 hour type and the other, of smaller diameter, with a capacity of about 6 hours. The earliest versions were unbonneted but later versions were available in either a smooth or a corrugated bonnet. The lamps were normally of steel and brass construction but were available in all brass for surveying purposes.

Two interesting customized versions of the Wolf lamp were reported in the literature.⁴ Mr. H. M. Chance experimented with at least two different carbide generators, but still used the top portion of a corrugated bonneted Wolf lamp. In one lamp he even added a Muesler chimney and a second glass. It is doubtful if either of these customized versions were made in any quantity.

References

1. The Engineering and Mining Journal, Feb 17, 1900
2. Senior Conflow Calendars: No. 1 (Jan 82), No. 4 (Nov 85), No. 5 (Dec 86) and Des Bergmanns Geleucht, IV Band, Verlag Gluckauf 1983.
3. IBID
4. Coal Age, April 1, 1916 and October 31, 1918

Photo right: Wolf carbide safety lamp. 3" dia. X 12" high (w/o hook). Tony Moon collection.



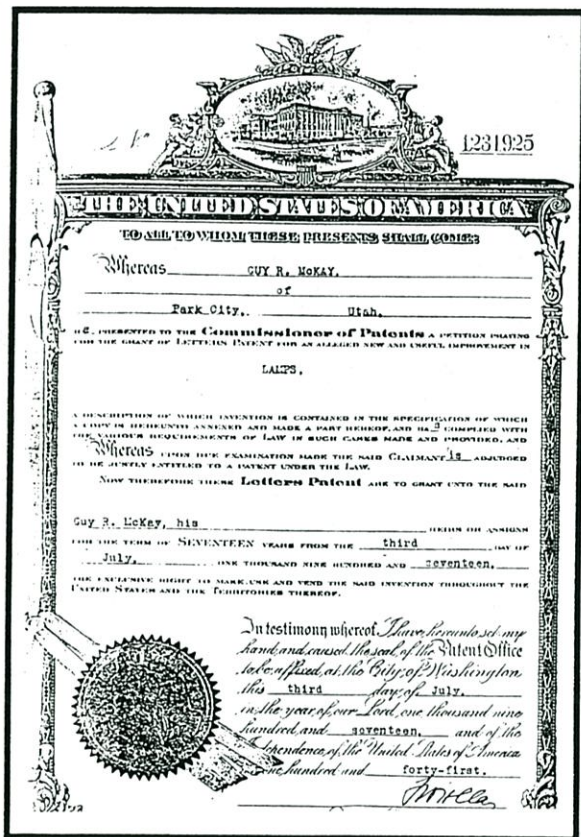
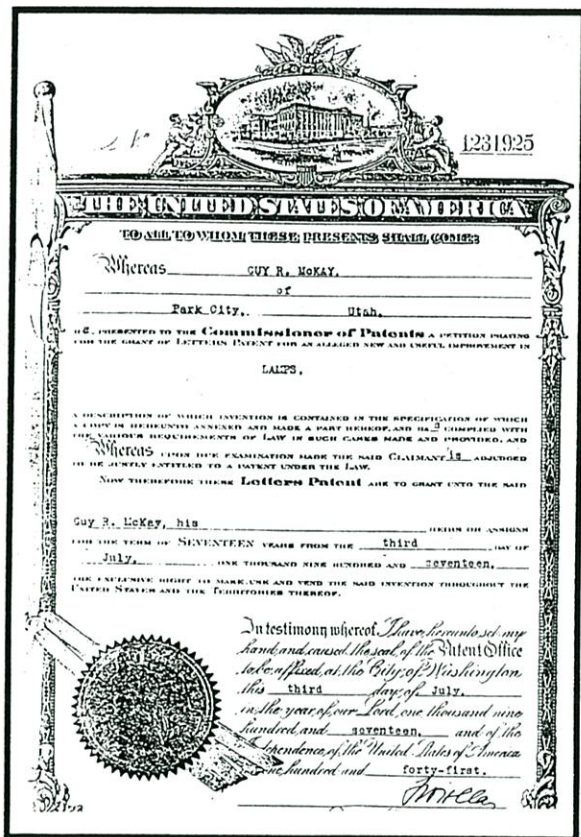
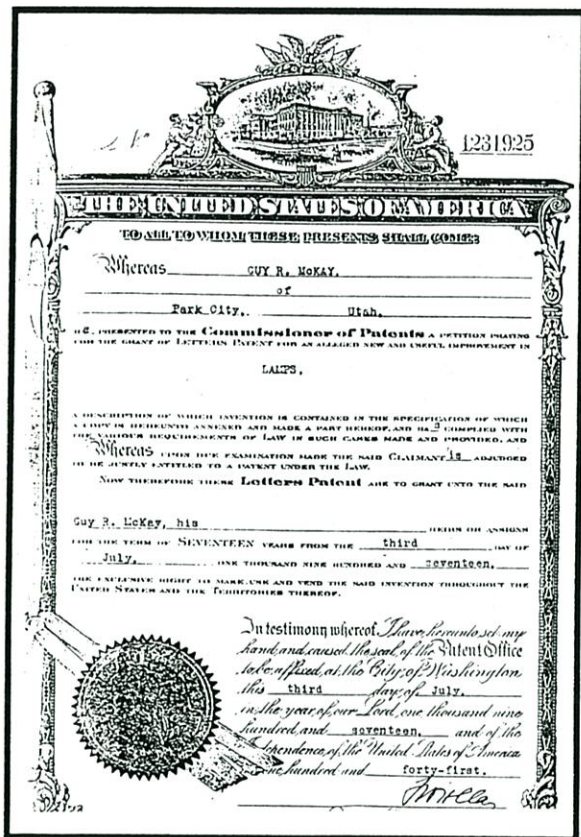
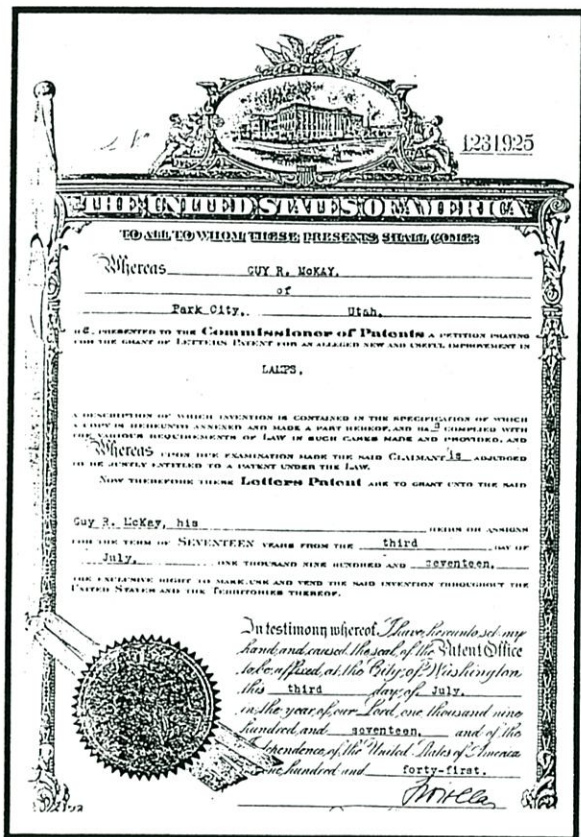
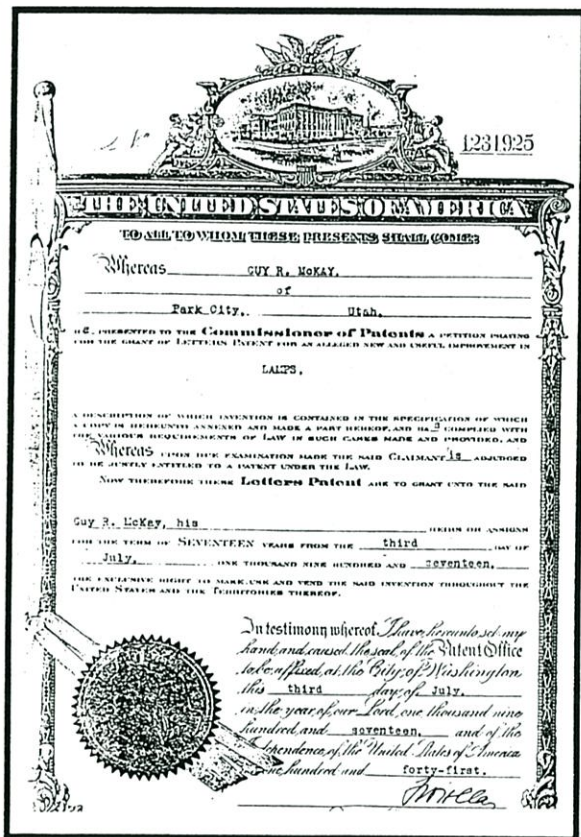
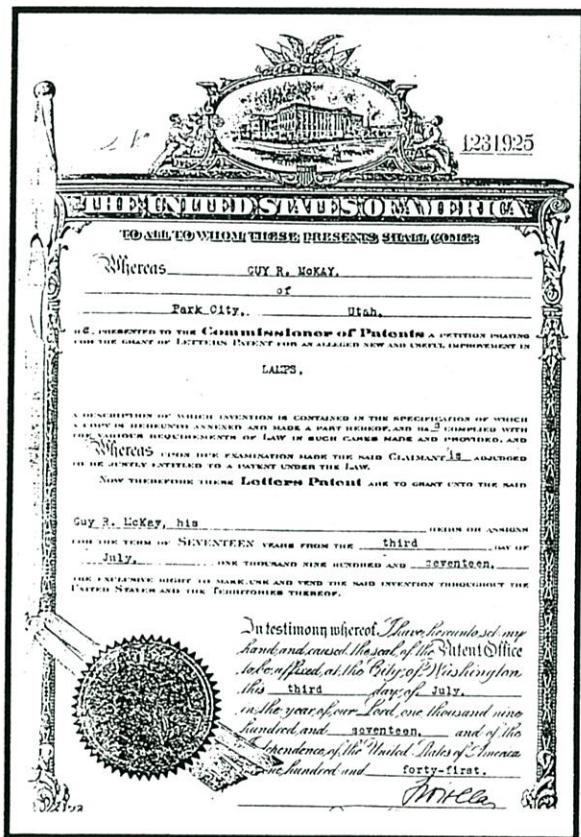
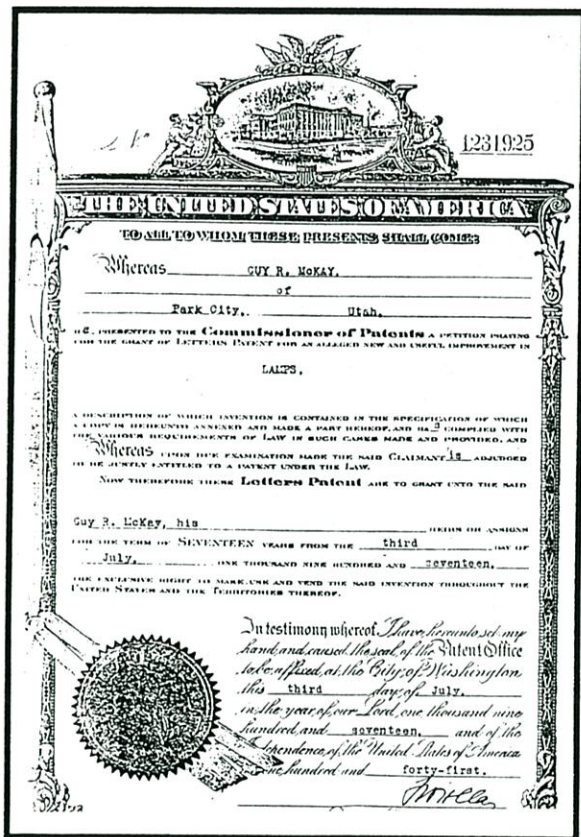
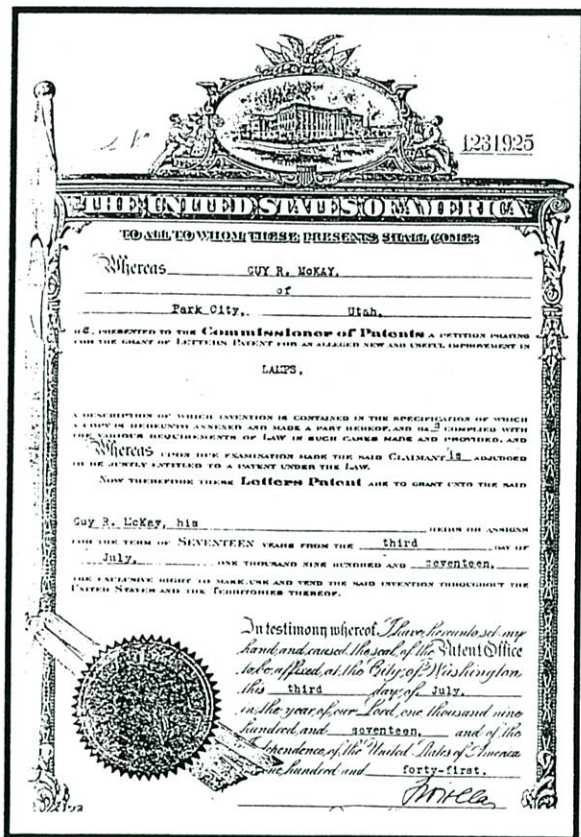
A Carbide Plummet Lamp

by Tony Moon

To my knowledge, only one style of carbide plummet lamp was ever manufactured. On July 3, 1917, Mr. Guy R. McKay of Park City, Utah was granted patent number 1,231,925 for his lamp which is shown in the accompanying photograph and patent illustration.

The only known example of this lamp is unmarked but appears to have been made exactly per the patent drawing. The workmanship indicates that the lamp was made by a machinist and all parts (except the burner tip) are made of brass. The example has seen some use.

It is unlikely that very many of these lamps were manufactured, although at least one more probably exists as plummet lamps were generally used in pairs. A carbide plummet lamp was a logical improvement over the oil plummet but McKay's design must have been inconvenient. The burner tube (part 9 in the patent illustration) also served as the water valve (part 10) and now the user is faced with the dilemma of how to adjust the water supply without burning his fingers!



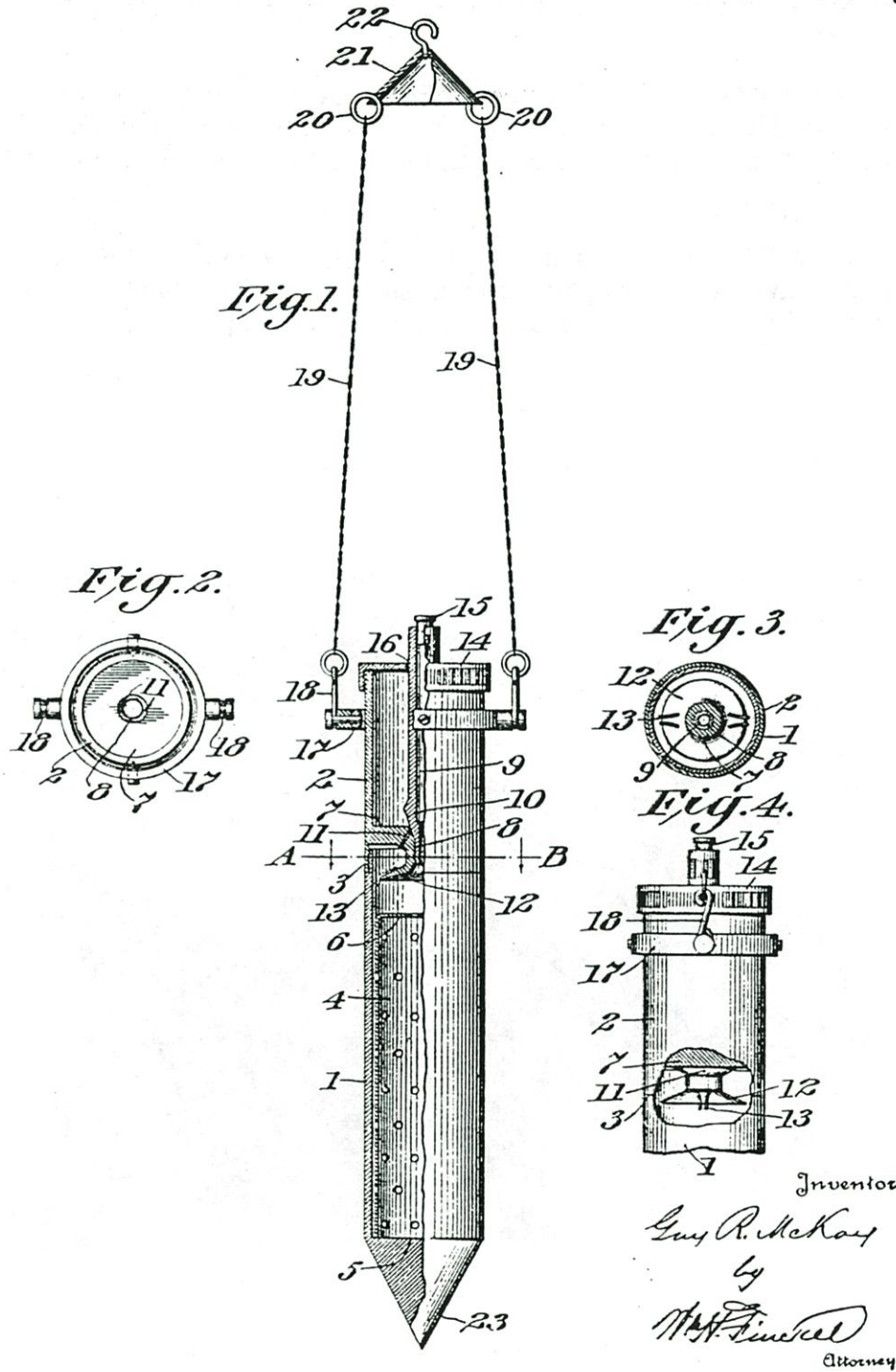
G. R. McKAY.

LAMP.

APPLICATION FILED JAN. 27, 1917.

1,231,925.

Patented July 3, 1917



W.B. Bertels Oil-wick Lamps

by Dave Johnson

The firm W. B. Bertels & Sons, Inc. was listed in the Wilkes-Barre, Pennsylvania City Directory of 1908. Listed as tin-ware manufacturers at 415 N. Pennsylvania Ave., with W.B. Bertels as President and Charles E. Bertels as Secretary/Treasurer, little information is available on the firm's product line.

By 1916, Franck Dart was listed as President of W.B. Bertels & Sons at the same address, still manufacturing tin-wares. The 1927 City Directory listed a Bertels Metal-Ware Co. with George Goeringer as President. A reference was also made to a relationship between W.B. Bertels and the Wilkes-Barre Can Co.

The two variations of the W.B. Bertels lamp shown in the accompanying photo are the only variations this author is aware of. Anyone possessing a different type in their collection is encouraged to contact me, as is anyone possessing any advertising for W.B. Bertels lamps.



U.S. Tool Co. Oil-wick Lamps

by Dave Johnson

Considering the large number of coal mines that have operated in Southwestern Indiana and Southeastern Illinois, one might have expected at least several area firms to enter the oil-wick market. However, only the U.S. Tool Co. of Vincennes, Indiana is known to have produced oil-wick lamps in this area, and then only for a brief period in 1908-09.

The only reference made to this little known producer appears in the 1908-09 Vincennes City Directory. The U.S. Tool Co. was listed as a manufacturer of tools (type unspecified) located at the Northeast corner of Barnet and 3rd. One C.R. Anderson was listed as President, with L.K. Koontz as Vice-president, and J.S. Surbaugh as Secretary/Treasurer. No information is available on any of these individuals.

It seems odd that a firm would attempt to enter the oil-wick market at such a late date. This is akin to entering the buggy whip business after the introduction of Henry Ford's Model T.

Although they appear to have produced oil-wick lamps for only one year, they did produce a wide variety of styles. In 1975 a box containing 10 U.S. Tool Co. oil-wicks was purchased from an old hardware store in Terre Haute, Indiana by an antique dealer. In this box were 7 distinct stamped styles with 3 duplicates. I was lucky enough to be able to purchase the 3 duplicates from the dealer who is a collector of old lighting in general. He refuses to let go of any of the others. All 10 lamps found were manufactured entirely of tin. All of the varieties are marked: U.S. Tool Co. VINCENNES, IND. inside of a shield emblem identical to that found on the Grier Bros. lamps. One variety has the STAR Trademark in the shield as well. Workmanship is excellent on all varieties. Does anyone else out there have a lamp manufactured by the U. S. Tool Co. or any advertising for the lamps?



Black Blasting Powder

by Mark Bohannan

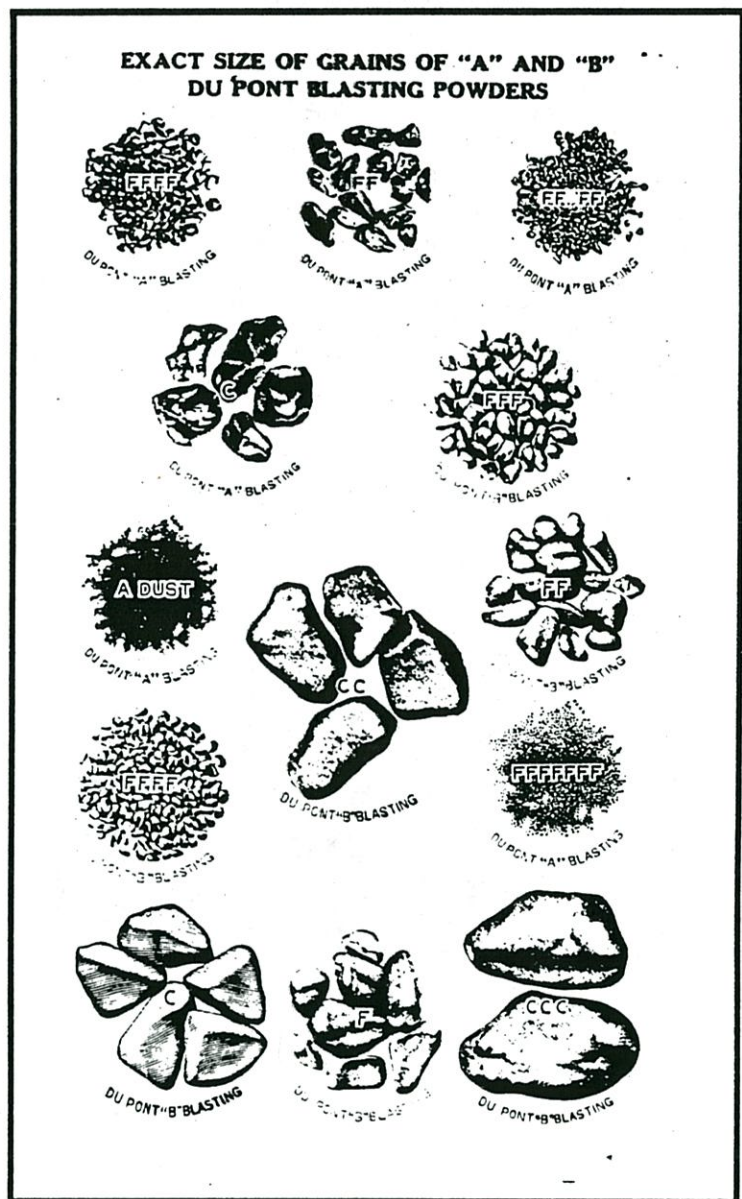
Black blasting powder is a slow-acting black granular explosive that does not freeze. Blasting powder is manufactured in two grades, 'A' and 'B'. The 'A' powder contains potassium nitrate and is slightly more water resistant, stronger, and quicker than 'B' powder, which contains nitrate of soda instead of potassium nitrate. In both powders, the other ingredients are sulfur and charcoal. Blasting powder is not water resistant and cannot be used in moist or wet work.

Blasting powder is manufactured either glazed (polished) or unglazed. The glazed powder is generally used more than the unglazed powder. Glazing is done by using a very small amount of graphite to polish the outside of the grains. This makes the grains more free-running so that it will pack tighter in the bore hole.

Black powder is not made in different strengths or grades like dynamite, but is manufactured in only one strength. In order to adapt to different kinds of work conditions, both 'A' and 'B' blasting powders are manufactured in grains of different sizes (Fig.1). The finer grained powders are quicker than the coarser grained powders. The quicker powders have more of a breaking and shattering effect on the material blasted, while the slower ones have more of a tendency to lift and heave the material out in large lumps. But it should be noted that even the finest grained blasting powders do not have the highly pulverizing effect that dynamite has.

Black blasting powder was extensively used in quarrying stone, stripping, road and railroad grading, clay mining, coal mining, and general excavating. In underground hardrock mining, black blasting powder was usually only used to stope out large bodies of waste rock or used in soft ores such as copper ore which did not require a great deal of shattering action to break the ore loose.

Right: Exact size of grains of "A" and "B" DuPont blasting powders. (From 1925 DuPont Blasters Handbook)



Wooden Kegs

Prior to 1874, black blasting powder was packed in wooden kegs containing 25 pounds. These wooden kegs are very hard to find, especially in good condition and still having the paper label intact.

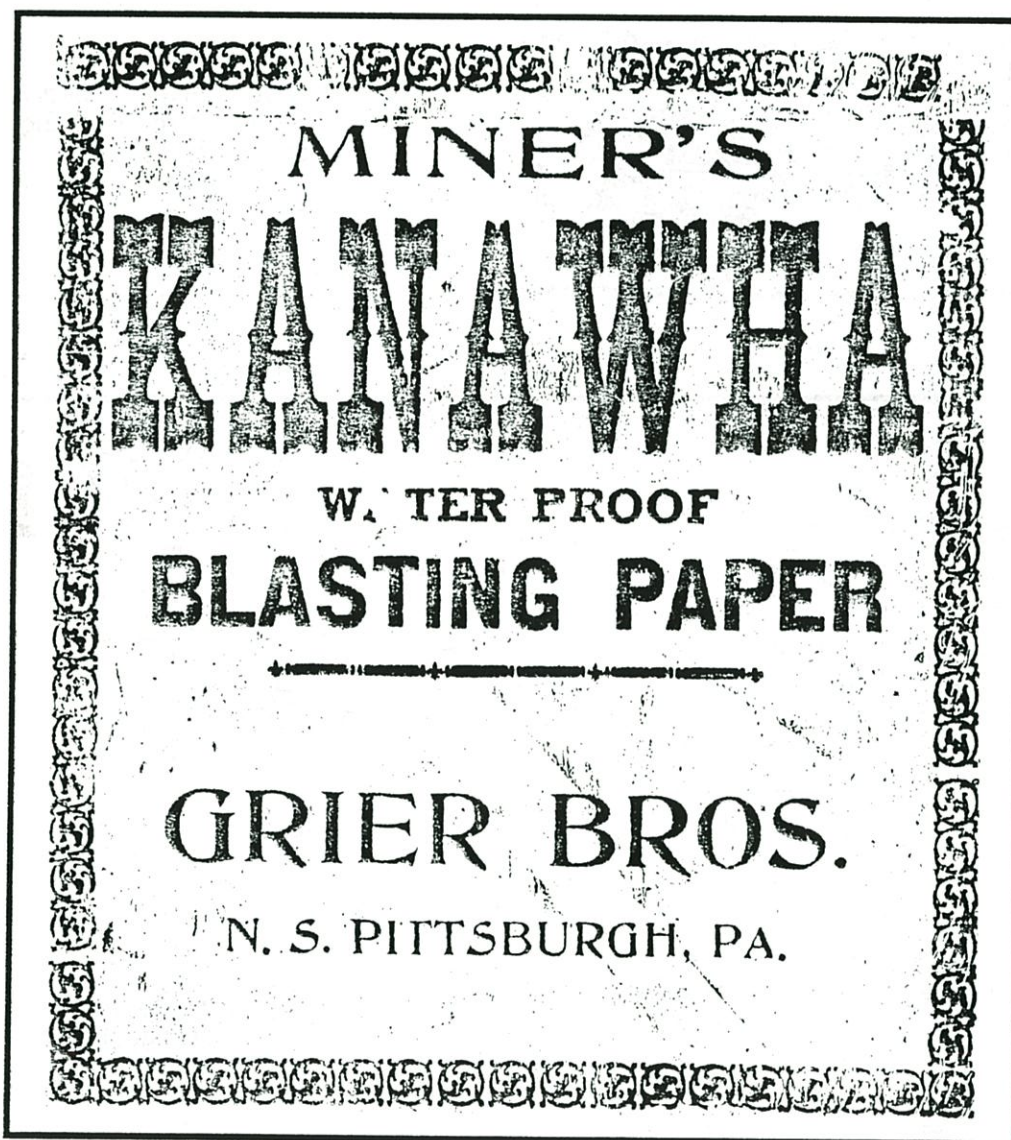


9 1/4 " Dia. wood black powder keg lid from the California Powder Works.
Ca. pre-1874 (Mark Bohannan collection)

Blasting Paper and Blasting Soap

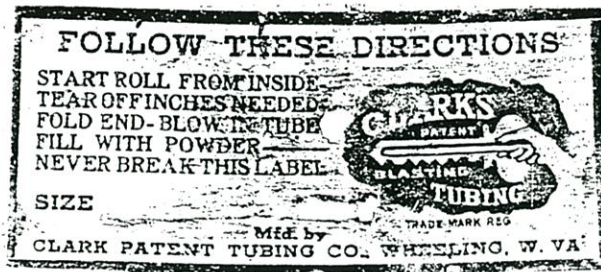
When blasting powder is used in underground mining, the most common method used is to make up a cartridge shell from blasting paper and fill it with the powder. The blasting paper is wrapped around a wooden pin called a cartridge pin, and one end is crimped on the pin and sealed with blasting soap. The removal of the pin leaves a cylindrical cartridge open at one end. The proper quantity of powder is poured in, and the top folded and sealed with blasting soap. The cartridge pin is made just a little smaller in diameter than the bore hole so that the cartridge will fit snugly into the hole.

Blasting paper is sold in rolls and also in "tubing" form. Shown below are the labels from rolls of blasting paper and also the directions for the use of blasting tubing from an Atlas Powder Company Catalogue.

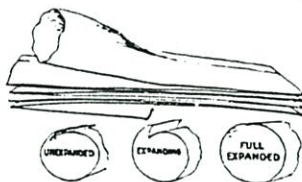


6 1/2" X 8" paper label around a roll of blasting paper. (Brad Ross collection)

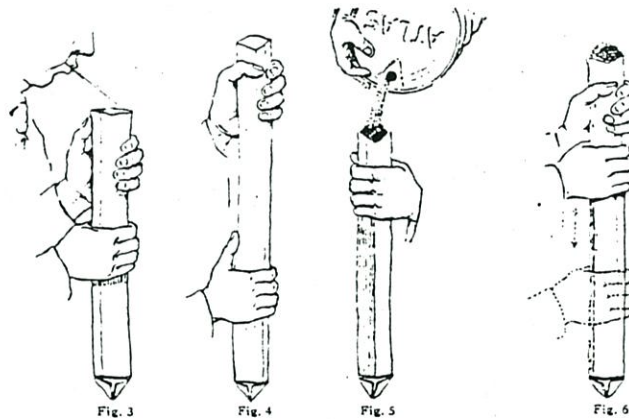
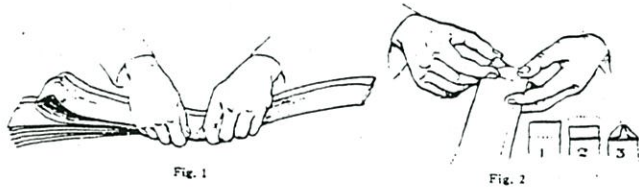
Label from another roll of blasting paper. Roll is 9" long and 2 1/4" in diameter. (Mark Bohannon collection)



Label from roll of blasting tubing. (Leo Stambaugh collection)



Sureshot Blasting Shells
For Black Powder—For Tamping Material



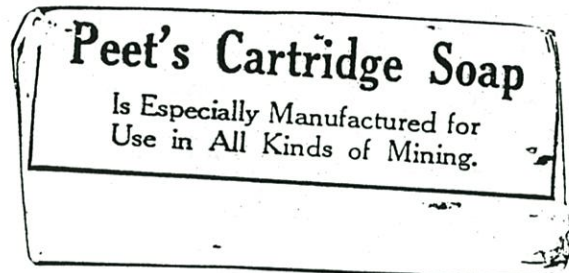
Instruction for using blasting tubing. (from a 1923 Atlas catalog)

- How to Use Sureshot Shells
1. Tear off enough shell for the length of shot you wish to make.
 2. Crimp the End—One flat fold, then turn over the corners. (Twist it if you want to.)
 3. Open the Shell—Blow in it. (Using your thumb will take twice as long.)
 4. Slide your hand to the bottom pressing the creased edges together. It will stand open.
 5. Fill with powder.
 6. Work down the powder with stripping motion. It will pack tight.



Blasting Soap

The top (above) and sides (right) of a bar of blasting soap. Bar is 1 3/4" X 1 3/4" X 3 1/2". The soap is a blackish brown color and has a very nasty odor. It is wrapped in lead foil and then covered with the paper wrapper shown here. Lettering is in dark blue. (Dave Johnson collection)

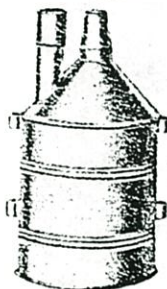


Powder Cans



Oval

IX tin with slip top and side lugs
No. 05. Capacity 5 lbs..per dozen, \$3.75



Oval

IX tin with soldered in squib box,
slip tops and side lugs.
No. 050. Capacity 5 lbs...per dozen, \$5.00



Round, Tall Style

IC tin with slip top, side handle and
wire bail.
No. 04. Capacity 5 lbs...per dozen, \$4.00
No. 040. Same as No. 04 except has
squib box attached....per dozen, \$5.25

Powder Cans

To avoid carrying around the 25 pound kegs throughout the mine, powder cans like those shown to the left were used. The narrow spout helped eliminate spillage when filling blasting cartridges. Special thanks to Brad Ross and Dave Johnson for sending me items from their collections for this article.

Note: In the Blasting Cap Tin Survey Results, No. 46 was omitted. It should have read: Dupont, XXXX, round.

The American Safety Mine Appliance Co.

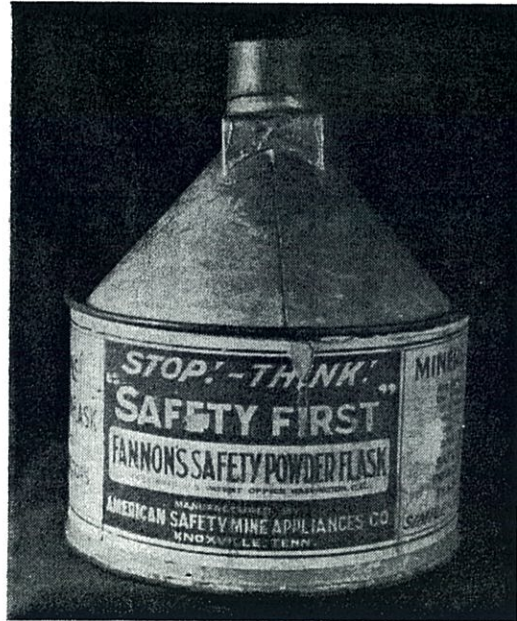
Knoxville, Tennessee

by Dave Thorpe

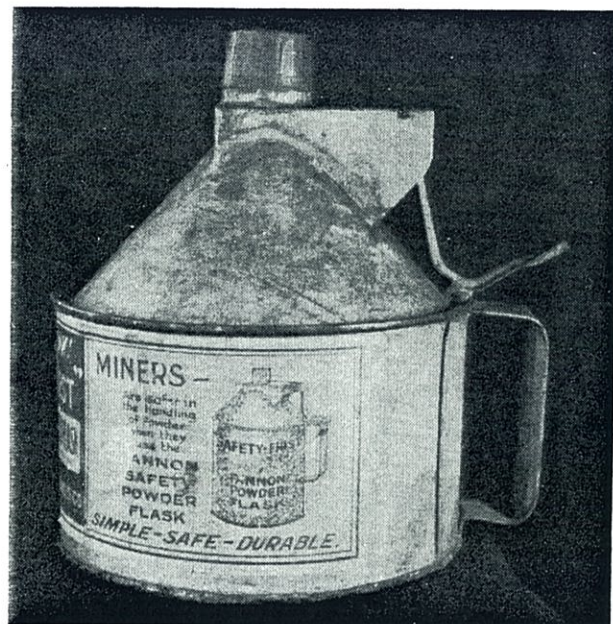
When collecting mining artifacts, I often wonder: was this really designed to be used by miners? This is especially true with blasting items and scales. But there was no question in my mind when I recently found this galvanized steel powder flask shown below. The red and white label tells it all. First, the word "mine" is part of the company's name. Then, on the left, the label boasts: ENDORSED BY CHIEF MINE INSPECTORS. On the right side is written: MINERS- Are safer in the handling of Powder when they use the FANNON SAFETY POWDER FLASK. No question here, but who was Fannon? I had never heard of the company.

Dave Johnson had written about his recent acquisition of the Toplis Carbide Flask by the same company. No one seemed to know anything about The American Safety Mine Appliance Co. of Knoxville, Tennessee. Now I was *really* curious.

After many phone calls, I finally was in touch with a historical society in Knoxville known as the McClung Collection. It is part of the Knox County Public Library. There, I spoke with Brian Miller who checked *every other* year from 1915-1930 of the Knoxville city directory for a listing. No luck, but he advised me to write him a letter expressing my interest, and he would look into it further.



Right side view



Left side view

One week later, he wrote back:

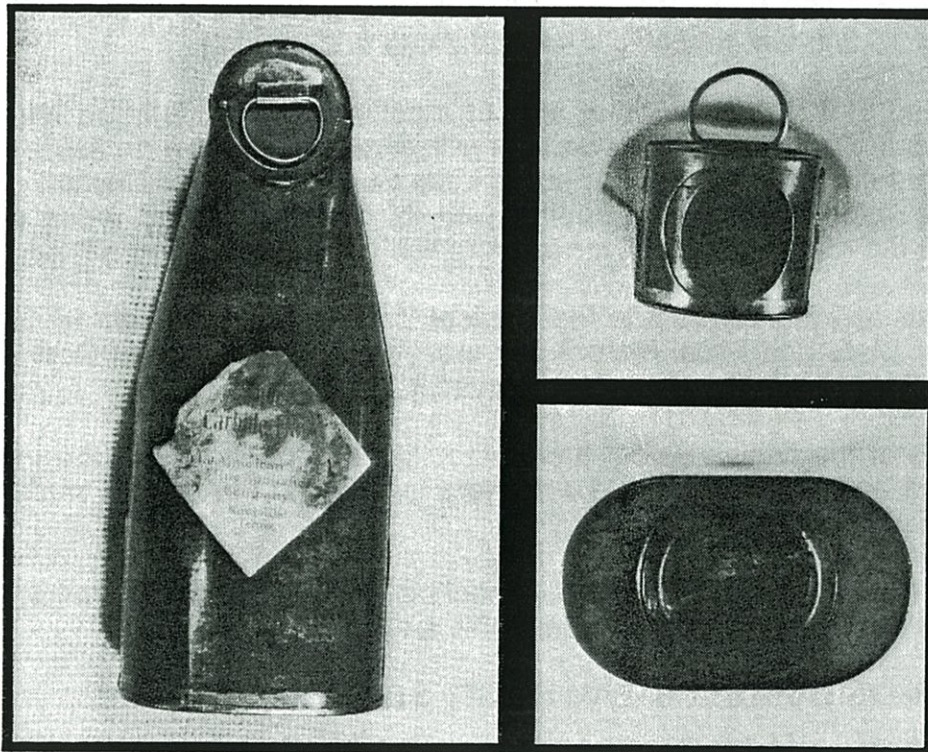
"In response to your call and letter I followed several leads. Unfortunately they all turned into deadends. So, I decided to check every year of the city directories during the span of time you indicated.

In the 1924 Knoxville city directory the following listing is found: American Safety Mine Appliance Co. (Pat Fannon) 300-8 N. Gay. However, when I looked up the address in the directory there were only small businesses at the location. Pat Fannon was living at the Hotel Helen 301 West Depot Ave., which is just a short distance from where his business is said to have been located. Neither he nor the company are to be found in the 1923 or 1925 city directories."

Little wonder that no one knew anything about the company. The business appears to have been in operation for only one year, and Pat Fannon's lodging in Knoxville was quite temporary. He appears to have been operating out of someone else's shop.

The Fannon Powder Flask sports a handle and thumb lever. The lever operates a spring-loaded copper sliding door which opens across the spout. The significance is that copper will not generate a spark, and that the flask is always closed when the miner releases his grip.

The Toplis Flask, shown below has a screw-cap, but it is located on the bottom and only needs to be removed for the day's first filling. The top is a rotating cylinder that pre-measures a load of carbide. The top cannot come loose or be positioned in any way that would allow accidental spillage of carbide. One can imagine what a catastrophe it would be if a miner discovered, too late, that his carbide flask had inadvertently opened, and he had lost all his fuel!



Toplis Carbide Flask, front, top and bottom views. (Dave Johnson collection)

Quincy Mine Hoist

by Robert Fox

There are many mining related sights located in Michigan's Copper Country, but one sight that amazes all who stop to see it is the Quincy Mine Hoist. Housed in the original mine hoist building, the hoist has been preserved by the Quincy Mine Hoist Association, Inc.

The world's largest steam mine hoist was manufactured by Nordberg Manufacturing Company, located in Milwaukee, Wisconsin. The remarkable hoist was installed at the Quincy Mining Company, Shaft No. 2 in Hancock, Michigan.

Bruno V. Nordberg, a brilliant young Finnish engineer arrived in America in 1879. He began work as a design engineer with the E.P. Allis Company, a supplier of steam-powered machinery to the mines in Michigan's Upper Peninsula.

In 1886, Nordberg founded his own firm to manufacture a revolutionary steam cut-off governor. The Nordberg Manufacturing Company prospered, and in 1897 Dr. Nordberg used his early experience in hoist design to develop what was at the time the largest hoist in the world, for the Tamarack Mining Company of Calumet, Michigan. By 1918 thirty-seven Nordberg Hoists had been installed in northern Michigan.

Construction of the mammoth machine began before World War I, but was forced to be put aside during the war years. The hoist was completed in 1920 and operated until the 1930's, hoisting copper ore from a depth of 9260 feet on the incline in the No. 2 shaft, a depth of 5640 feet vertically. All mining operations ceased in 1945.

The hoist has a winding capacity of 10,000 feet of 1 5/8 inch rope reaching down an incline shaft to a vertical depth of 6,600 feet. When winding the rope down the second cone of the drum, it has a capacity of 13,300 feet reaching a vertical depth of 8,600 feet.

The hoist can raise a load of 20,000 pounds of rock at a speed of 3,200 feet per minute. The engine is a "cross-compound" engine having two high pressure and two low pressure cylinders. The drum is of the cylindro-conical type, familiar in the Lake Superior Copper District. There are eight piston pulses per revolution. This, coupled with its 516,000 pound mass eliminates practically all pulsation in the rope. Total cost for construction of the hoist was \$371,051.15

The hoist was designated a National Historic Mechanical Engineering landmark in 1984. The American Association for State and Local History has presented a Certificate of Commendation to the Quincy Mine Hoist Association, Inc., for its preservation of the hoist.

Truly one of the wonders of the mining world, the Quincy Mine Hoist attests to the mechanical genius of Bruno Nordberg and all of the people who were involved in the design, manufacturing and installation of the hoist.

My sincere appreciation to the Quincy Mine Hoist Association, Inc. for the information that they supplied to me as well as for the photographs used in this article.

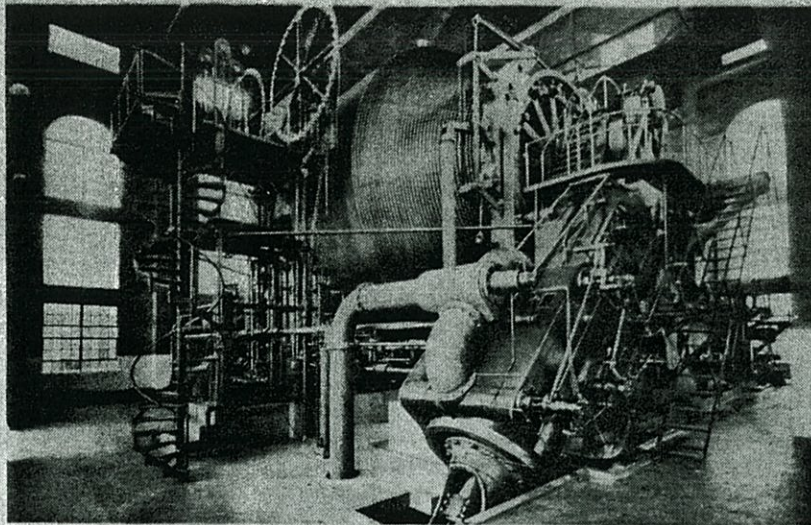
References: WORLD'S LARGEST STEAM HOIST: 3 Brochures, no dates.

THE WORLD'S LARGEST COMPOUND STEAM HOISTING ENGINE: 2 pages; no author or date.

Postcard showing Quincy Mine Hoist. Reverse side reads:

A HOIST OF UNUSUAL SIZE

This mammoth hoist with its 30 foot diameter drum, reached down an incline shaft over two miles in length. Each trip the 1 5/8 in. rope brings to the surface a total load of 30,000 pounds at a speed of about forty miles an hour. The entire hoist weighs 1,765,000 pounds.



THE WORLD'S LARGEST HOISTING ENGINE

Installed at Quincy Mining Company, No. 2 Shaft, Hancock, Michigan.
Built by Nordberg Mfg. Co., Milwaukee.
Nordberg Diesel Engines, Uniflow Engines and Hoists are noted for their performance.



The **MAC** Clan getting ready to go on one of their frequent mining artifact "acquisition trips". These "foraging" trips are remarkably successful, always resulting in truckloads of rare and valuable artifacts. Standing (L - R): Dave "The Dealer" Johnson, Mark "Jethro" Bohannon, Tony "Floyd" Moon, Dave "Doc" Thorpe, Len "Zeke" Gaska, and Jim "Zeb" Steinberg. Seated: Ted "Papa" Bobrink, the head of the clan, and his two rug rats.

Mine Bell Signs

by Ted Bobrink

I'm sure the eastern collectors will enjoy this mine bell sign. It comes to us from an ad by **The Stonehouse Co.** of Denver, Colorado. The style of the numbers and the extensive use of bold letters make this one of the most attractive signs I have seen. One of the major differences between the hard rock signs and the eastern coal mining signs is in using the term 'ring' or 'whistle' instead of the word 'bell'. Maybe one of our readers can explain how the whistle was used in relation to the signs. Also do you think we should call them mine whistle signs?

**ILLINOIS
SIGNALS**

FROM BOTTOM TO TOP,

1 RING OR WHISTLE. **HOIST** COAL OR EMPTY CAGE.

1 " **STOP** WHEN IN MOTION.

2 RINGS OR WHISTLES. **LOWER CAGE.**

3 " **MEN** COMING UP OR GOING DOWN - WHEN RETURN SIGNAL IS RECEIVED FROM THE ENGINEER MEN SHALL GET ON CAGE AND GIVE PROPER SIGNAL TO HOIST OR LOWER.

4 " **DANGER** HOIST SLOW.

5 " **ACCIDENT** SEND STRETCHER

6 " **HOLD CAGE STILL** UNTIL SIGNALLED OTHERWISE.

FROM TOP TO BOTTOM,

1 RING OR WHISTLE. **GET ON CAGE.**

2 RINGS OR WHISTLES. **SEND AWAY** EMPTY CAGE.

A Fire Signal Sign from Goldfield Nevada

by Ted Bobrink

Keeping on the subject of mine whistles, I remembered a cloth sign I picked up in Goldfield, Nevada some years ago. The Combination Mine and The Mohawk Mine were the largest producers in Goldfield from 1903 to 1941. The sign is white with black letters, and measures 7" wide by 11" long. It would be my guess that these signal signs were used on the surface as there is no mention of anything related to underground mining. I might add that a whistle would produce a much louder and unique sound on the surface than that of a bell.

FIRE SIGNALS.

*FIRE ALARM WHISTLE WILL BE BLOWN AS FOLLOWS.
FIVE SHORT BLAST OF WHISTLE WILL BE SOUNDED, THEN THE
NUMBER OF LOCATION WILL BE BLOWN AND REPEATED THREE TIMES.*

1-2	-----	COMBINATION MINE.
1-3	-----	MOHAWK MINE.
		}
		STORE HOUSE.
		COMPRESSOR PLANT.
1-4	-----	LUMBER YARD.
		ASSAY OFFICE.
		ELECTRICAL DEPARTMENT.
2-1	-----	CLERMONT MINE.
		}
		RED TOP MINE.
		LAGUNA MINE.
2-3	-----	ROUND HOUSE.
		EXPLORATION WAREHOUSE.
3-1	-----	MILL

RULES TO BE FOLLOWED IN CASE OF FIRE:

IN CASE OF FIRE PHONE "ELECTRICAL DEPARTMENT"
AND STATE LOCATION OF FIRE.

THE ELECTRICAL DEPARTMENT RECEIVING NOTICE OF FIRE
BLOWS FIRE WHISTLE AND GIVES NOTICE TO
PROPER AUTHORITIES.

FIRE EQUIPMENT IS FOR USE IN CASE OF FIRE AND EMPLOYEES
ARE WARNED NOT TO USE SAME FOR ANY
OTHER PURPOSE.

ALL MEN WORKING AT FIRES WILL BE SUBJECT TO ORDER OF
FIRE CHIEF. PHONE 3926 FOR CHIEF.

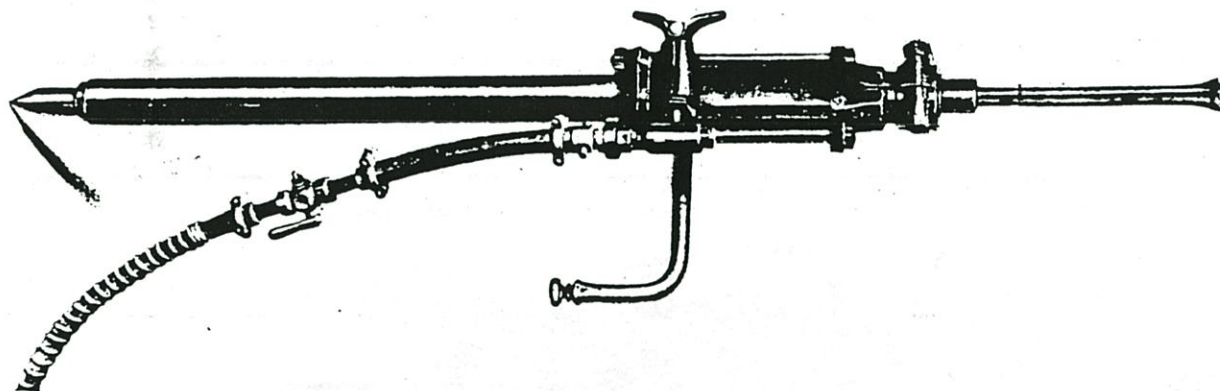


The Stoper Rock Drill

by Mark Bohannon

The stoper is the only type of drill that was made exclusively for underground mining. It's a specially designed rock drill that is held into position by an air piston or feed bar at the bottom end of the drill. The stoper is used for drilling holes in a generally upward direction. Stopers were made in both wet (using water) and dry (using no water) types, and also in hand-rotated and self-rotating models.

Stopers are the most common rock drill found, especially in the western mining region. There are many different styles and brand names of stopers to be found, but they all look very similar in appearance.



Ask for Stoper Bulletin No. 281-G

COMPRESSORS AIR LIFT DIAMOND DRILLS SHARPENERS FORGES
FORGE HAMMERS COAL CUTTERS ROCK DRILLS DRILLING CONTRACTORS

DOMESTIC SALES OFFICES

Birmingham, Boston,
Butte, Claremont,
N. H., Cleveland, Dal-
las, Denver, Duluth,
El Paso, Huntington,
W. Va., Joplin, Jun-
eau, Knoxville, New
York, Pittsburgh,
St. Louis, Salt Lake,
San Francisco
Spokane.

SULLIVAN
TRADE MARK
MACHINERY COMPANY
126 So. Michigan Ave. Chicago.

FOREIGN SALES OFFICES

Algiers, Brussels,
Calcutta, Christiania,
Durban, Natal, Hava-
na, Lima, London,
Madrid, Mexico City,
Paris, San Juan, San-
tiago, Shanghai, Syd-
ney, N. S. W., Tokyo,
Toronto, Tunis,
Turin, Vancouver

COLLECTORS' TALK



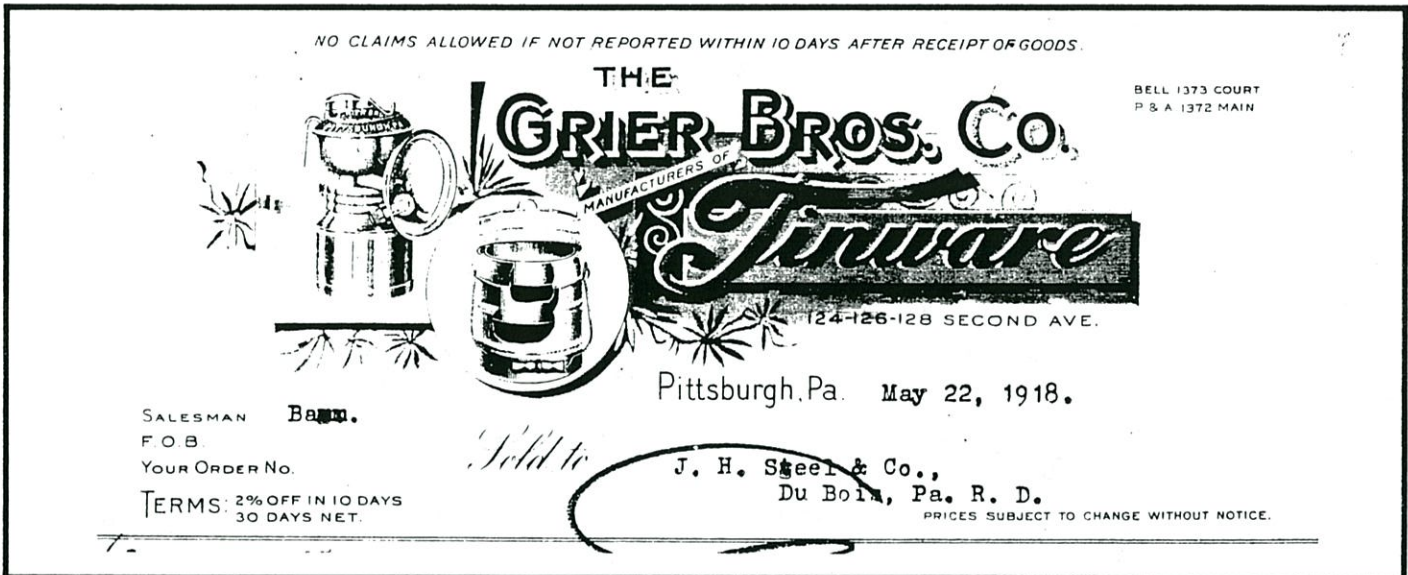
Grier Bros. Letterhead Assists in Dating Lamps

Len Gaska sends copies of two letterheads which form the top portion of bill receipts. The earlier one, from 1917, displays an oil-wick lamp. By this time, the oil-wicks had largely given way to carbide light. The other letterhead from 1918 shows their unique vertical Grier.

As 1918 would mark the first year of use for this letterhead, we may assume that the lamp depicted corresponds to the model being manufactured during that year. The model shown is the first "vertical" style, identified by a) upturned water-lever b) fixed reflector, and c) plain bottom-seamed base. (see MAC #7) In the five years to follow, two additional styles of the vertical lamp, as well as the Gee Bee, would be marketed.



Grier letterhead from 1917



Grier letterhead from 1918

"New" Carbide Cap Lamps Surface

Paul Johnson of Union Lake, Michigan, has recently added a new cap lamp to his collection. It is stamped: **H. Gall**. Paul has information that the lamp was manufactured not far from his home. Additionally, he has a patent for an H. Gall cap lamp, which is different from the model he possesses. If that is not enough, he also has a candlestick, stamped H. G., which he believes is of the same manufacturer. We hope to see more published on this interesting lamp as Paul sorts things out.

The **W. Roof** cap lamp reported in the Fall Underground Lamp Post is well known to our staff. The Indiana owner of this lamp knows of a very similar lamp with a *different* name stamped in the top. This observation, of course, is the *only* basis by which we may speculate that W. Roof was not a manufacturer, but the lamp's owner.

Finally, a **Beall Bros.** cap lamp has been spotted with the stamping on top. Our understanding, is that this lamp is distinctly different from the Red Star lamp which was made by Maple City for Beall Bros., and is stamped on the side.

Dugger Coal Museum

In the center of the Indiana coal fields lies the little town of Dugger. This small rural community of 1,100 is the home of the Dugger Coal Museum. The Dugger area saw numerous underground mines prior to 1915 when serious surface strip mining began in Indiana. Today surface mines predominate the Indiana coal fields.

Housed in a building that was once a restaurant, you'll find a little mining museum that attempts to chronicle the history of coal mining in Southwest Indiana. The museum staff consists of older local residents who were either miners or have relatives who were miners. The staff is able to regale visitors with anecdotes of past mining days that either they, relatives or friends experienced. The museum houses an interesting collection of items donated or loaned by area residents. There are a lot of old photos of area mines and miners, many mine documents, mine signs, UMWA items, and mine plans. There are a number of different post drills and other tools displayed on a rear wall.

The mine lamp display is quite limited with three different models of Baby Wolf safety lamps, an ASL & MS Co. Davy, a Wolf, Koehler and one baby safety lamp I have never seen before. There are a couple of oil-wick lamps, one candleholder and a few Autolite and Guys Dropper carbide cap lamps.

Hours of operation are not regular and a sign on the front door gives a telephone number to call for entry. If you are in the area, it is worth the time for a short visit.

Dave Johnson

The Sterling Hill Mine

Here's a new attraction; the Sterling Hill Mining Company, a.k.a. Richard and Robert Hauck and friends, have resurrected the famous Sterling Hill Zinc Mine at Ogdensburg, New Jersey, and turned it into a museum and Mine Tour on a grand scale. Not content with reopening the existing adit, the owners enlisted former zinc miners and engineers to refit the Mine's hoist and other mining equipment, and blasted a new tunnel through a vein of ore, showing the areas famous fluorescent minerals in place.

The tour has more than geological/mineralogical interest; the mine adit, grounds, and buildings are crammed with artifacts. Not just a refurbished mine car here and a drill there, but entire trips of mine cars surrounding the parking area, and a score of different rock drills shown in their working positions, including a core drill and core samples taken at Sterling Hill.

The Change House has been converted into a complete visual history of local mineralogy and mining technology, with mineral samples and tools of every sort. There are large and varied collections of NJ Zinc products and memorabilia, blasting machines and related items, rare ore processing equipment, unique signs and posters, miner's tools, and of course lamps.

The selection of candlesticks, oil-wick lamps, safety lamps, and carbide lamps is unsurpassed in any display I have seen. Several rare candlesticks will look familiar to experienced collectors, as they are pictured in Ted Bobrink's American Miner's Candlesticks. The other forms of lighting are equally well represented, by dozens of safety lamps, oil-wicks, and carbides in excellent condition. In each case, one can trace the development of these forms of lighting in the U.S. from their beginnings.

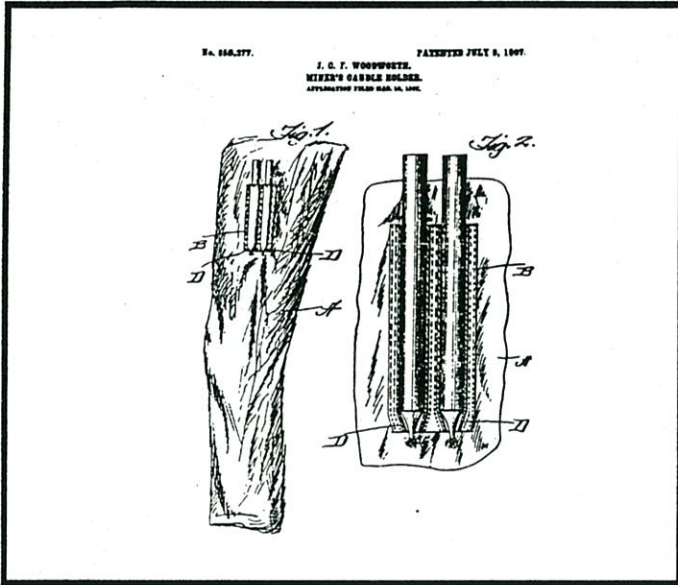


Should you be passing through Northern New Jersey next spring, plan to be there for the Mineral Show, Sale, and Swap being held at the Mine on April 20-21: at any time, this new Mining Museum is a must see!

James Van Fleet
222 Market Street
Mifflinburg, PA 17844

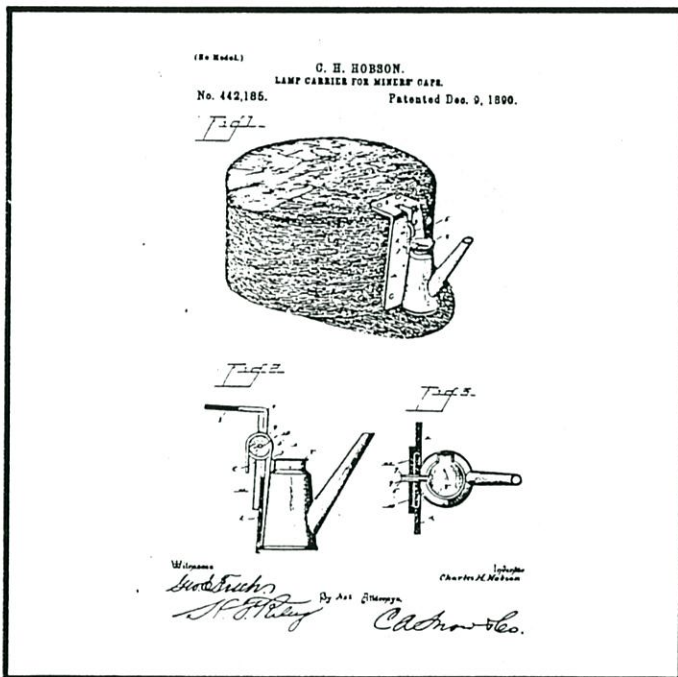
He Used a Pantload of Candles

Jack Ramsdell of Carson City, NV sends two interesting patents. The first is a holster for carrying candles. A piece of fabric is sewn onto a trouser leg in such a way as to form two tubes. Both are open at the bottom end to allow foreign matter to fall through. The inventor, John Woodworth, lived in Silverbell, Arizona. It was patented July 9, 1907, a time when Arizona was still a territory and lone prospectors roamed about. Mr. Woodworth must have spent one too many lonely nights with the mules to think of this one.



An Oil Lamp Pulley?

This invention prevented the common problem of oil spilling from the lamp when a miner stooped over. The lamp hung in a notched wheel (or pulley as it is described). No matter what forward angle the miner's cap tilted, the pivoting wheel kept the lamp upright.



Fuse Lighters

Leo Stambaugh, of Georgetown, Colorado, came up with a very unique item from his home town. The Matthews Fuse Lighters, made in Denver, Colorado, Pat. Sept 5, 1893. The round tin has a light blue paper label on the top and around the side. Leo had two of these tins mint and unopened. Curious to find out what the fuse lighters looked like, he opened one of the tins up, and to his surprise, found the instruction paper inside with all the tack size fuse lighters. Reading the instructions explains how they were used.

MATTHEWS' FUSE LIGHTERS

DIRECTIONS FOR USING

Insert sharp point of Fuse Lighter into the small hole in end of freshly cut fuse, FIRMLY WITH THE FINGERS, far enough so that covering on tack will go a short distance into fuse.

ADVANTAGES OF USING THESE
: : FUSE LIGHTERS : :

They are cheap.
Are easily and quickly applied.
Save a great deal of time and bother, in which way they pay for themselves many times over as well as being a great convenience.
ALWAYS SURE TO GO, and do not require watching to see that fuse spits.
Require nothing in applying them but the fingers.
Will not run out of fuse, no matter which way turned.
They are water-proof, to some extent, so that handling with damp hands will not injure them; only see that small end inserted in fuse is not wet to keep from dampening the powder in the fuse.
Where a number of shots are to be fired at once make pieces of fuse all the same length, hold in a bunch, apply candle and they will all light at once.
Or, if shots are wanted to go regularly in rotation, by lighting Fuse Lighters in rotation they will be sure to spit fuse as desired and put off shots as wanted.
For open air blasting or in strong draft they are sure to go, as they light easily and wind cannot blow them out.

MANUFACTURED BY
W. C. MATTHEWS
DENVER, COLO.

FOR SALE BY
DEALERS IN MINING SUPPLIES

TRADE/SALE ADVERTISING



Available for trade/sale: Collection of six Varney style rare names including: Cleancut (with clover), L.A. Sayre & Son (mint cond.), Washington, California. Will sell only as set (inquire). Curtiss candlestick, excellent cond., Wolf cap lamp w/ rare octagon base, Little Giant hand lamp. Horizontal Grier, fair, make offer. Would like to trade for cap lamps. Bob Schroth, P.O. Box 1258, Lake Arrowhead, CA 92353. (714) 337-7102 before 9:30 PM PST.

For Sale: Complete set of Mineralogical Record. Volumes 1-18 are bound by the National Library Bindery in Indianapolis, Indiana. All in pristine condition. \$1500.00 for all. Lee A. Miller 2713 Greenbush, LaFayette, Indiana 47904-2429 (317) 447-5331

For Trade: Five Volumes of Engineering & Mining Journal (U.S.A). July - Dec 1906. Jan-June 1909, Jan-June 1914, July-Dec 1915, July-Dec 1917. Crammed full of old photos, maps, & diagrams of old mines. Will trade for miners lamps. All types. Gerry Dillon. 16 Warramunda Cres, Banksia Park, Adelaide 5th, Australia 5091 tel: 08-2631795

For trade: Pinnacle No. 5, CEAG electric inspection lamp (As per Des Bergmanns Geleucht Band page 439, right), Alloy top Davis Derby Safety lamps. Stephen McCabe, 22 Gowlland Pde, Panania, Sydney, N.S. W., Australia 2213

For Trade: One "Auto Lite" repair parts kit (assortment number 24) box in good condition (rubbed on edge in one place) contents include 25 felts, 18 rubber gaskets, box of Diamond tips (new and used), 2 boxes of flints (decomposed), and 2 empty tip reamer tubes for two colorful, mint blasting tins. A folded but mint pictured parts list and lamp directions in 7 languages (for Justrite lamps) for mint, original mining photo or ? John R. Gifford, 540 N. Lisbon St., Carrollton, OH 44615

For Sale: One copy, leather bound edition Miners Candlesticks by Wilson and Bobrink #35 of 200 - \$150.00 New condition. John R. Gifford, 540 N. Lisbon St., Carrollton, OH 44615

For Sale/Trade: Send for large list of items for sale and trade. Carbides, oil wicks, books, tokens, misc. available. SASE appreciated. Len Gaska, 1688 E. Corson St., Pasadena, CA 91106 (818) 405-0647 evenings (818) 351-2351 extension 2912 (days)

For trade: *Carbide lamps:* Arnold's Carbide Candle (no reflector), Elkhorn, Grier, Lu-Mi-Num, Pocahontas, Springfield, Scoby, Victor. *Candlesticks:* Werntz, Ramstead Johnson, Husson, Montgomery Ward. Errol C. Christman, P.O. Box 313, Cedar Ridge, CA 95924 (916) 273-3268. Plan on a lengthy chat!

Blasting Cap Tin Catalog: 190 tins illustrated, over 50 companies listed, 70 pages, \$8 post-paid. Also, many California Cap Company blasting cap tins are available for sale or trade. In addition, powder boards (including Safety Nitro, Judson, Giant and Hercules) and place name boards are in stock. Andy Martin 420 East 18 Street, Tucson, AZ 85701. (602) 298-0191

Available: Blasting items, carbides, unusual oilwicks. Mike McLaughlin, P.O. Box 607, Spotsylvania, VA 22553 (703) 582-2146

Wanted: Information on following oil wick lamps: R.B. Wardin, Highberger, Hunt and Connell, Fred Beiter, Jennison Hardware Co., Tracy Wells Co. Buy or trade for oil wicks and/or company letterhead. Dave Johnson, 6807 Homestead Dr., Indianapolis, Indiana 46227.

Wanted: Buy or trade for following oil wicks: Richards, Roth Lamp, Smythe, Bluefield, Miners' Choice, McMasters, Doud, Lennon, P.F. Lennon, J.J. Murry, Eureka, Hoover. Dave Johnson, 6807 Homestead Dr., Indianapolis, Indiana 46227.

Trade, Sell, Buy: Mining Stock Certificates. Send for free descriptive list of old collectable mining stock certificates for trade or sale. What mining stock certificates do you have? Russell Filer, 13057 S. California St., Yucaipa CA 92399. (714) 797-1650

Wanted to trade/buy: Interested in trading color photos or slides of miners' carbide cap/hand lamps and other mining related items. Also interested in buying less common carbide cap lamps. William T. Wade, P.O. Box 31, Delhi, New York 13753 (607) 746-7516

Gaskets for sale: For Maple City, Grier, Pathfinder. \$1.00 each. Dave Thorpe (602) 974-0534

For Trade: Interested in obtaining oil-wick lamps, have carbides for trade. J. Roger Mitchell, 19 Eric Lane, Glen Riddle, PA 19037 (215) 891-0974

Wanted: Early carbide lamp boxes. Will buy or trade carbide lamps for boxes I don't have. Also interested in unusual parts boxes or repair kits. Mark Bohannan, Star Rt. Box 107E, Oro Grande, CA 92368 (619) 246-4418

For Trade: Wick lamps, safety lamps, blasting items, eastern anthracite railroad artifacts, send for list. Tommy Stranko, 2478 Stephanie Lane, Binghamton, NY 13903

Available: Over 200 mining lamps: hand & cap carbides, candleholders, oil-wicks, safety lamps. Send for list or call: Paul Johnson, 3926 S. Shore Dr., Union Lake, MI 48387 (313) 360-0242

For Sale/Trade:

- Map of Shattuck-Denn Mine:** Bisbee, Arizona. Complete 11 page set. Cover page dated 1928. \$65
- Rare Guy's Droppers:**
- Early 2-date top with hex-base (unstamped), exc. \$55
 - Six-date double-hook, hex-base (stamped), exc. \$55
- Arrow cap-lamp base:** brass, unused \$75
- W.H. Launder candlestick:** Only one other known! Very good condition. Nothing broken. 7 1/4" \$350
- Horizontal Justrite:** 1912-date model, nickel, 3" saucer reflector, very good, complete. \$80
- Baldwin Pinchwaist:** Brass, excellent. \$185

Dave Thorpe, PO Box 477, Peoria, AZ 85380 (602) 974-0534

For Trade: Alaska and other western mining stocks and related paper. Need more of same, especially AK, OR, WA, ID, MT, BC. Dale McNee, P.O. Box 926 Pendleton, OR 97801 (503) 276-1384

LAST CALL FOR COLLECTORS' DIRECTORY: If you would like to be included in a Directory of Mining Artifact Collectors identifying interests, send me your name, address, specific collecting interests, and 2 stamps (to cover postage). All those responding will be sent a free copy. Write to: Dave Johnson, 6807 Homestead Dr., Indianapolis, Indiana 46227.

Colorado Mining Art Available: by George W. Foott. 6683 So. Yukon Ave., Littleton, Colorado 80123

Order Now: Your copy of HUSSON MINER'S LAMPS - MANUFACTURED IN OSHKOSH, mailed postpaid \$5.00 Robert Fox 1235 N. Westfield, Oshkosh, Wisconsin 54901

For trade: Wolf flat-top hand lamp, unmarked. Sun Ray top, good. Blacksmith, wire, Varney sticks. Canary cage. Coal scrip and exploder tokens. 1869 English ed. of Simonin's "Underground Life: or Mines and Miners." Cavers: have spade hook "user" Justrites, Autos, & Droppers. Send for list. Dick Sears, 4831 Vespucci Dr, Sierra Vista, AZ 85635-2334 (602) 459-7528

<p>Books Old & Rare Bought & Sold</p> <p><u>Catalog #1:</u> Mining, mineralogy, gemology & jewelry</p> <p><u>Catalog #2:</u> Early science, technology & scientific instruments</p> <p>Send \$2.00 each for: Catalogs #1 & #2</p>	<p>The Gemmary P. O. Box 816 Redondo Beach, Ca 90277 (213)372-5969</p> <p><u>Catalog #3:</u> Scientific Instruments -telescopes, globes and orreries, dials, compasses, surveying, navigating, drawing, calculating and laboratory apparatus</p> <p>Scientific Instruments</p>
<p>Send \$5.00 for: Catalog #3</p>	

TRADE/SALE

David Johnson, 6807 Homestead Dr., Indianapolis, IN 46227 (317) 786-8667

LAMPS

1. Safety Lamp - Wolf 8 1/4" tall, 3 1/2" dia. base, magnetic lock, smooth steel bonnet, brass above & below glass, 1" taller than Baby & 1" shorter than Jr. Unique \$175
2. Candlestick - Montgom. Ward, #46 in Bobrink's book. \$75
3. Candlestick - Bonanza (Varney) \$75
4. Candlestick - short, very large hook, nice stick \$45
5. Oil - wick - C. George, tin, early short font, sm. cap w/ turned edge, 45 deg. shoulder (not common rounded) \$65
6. Oil-wick - T.F. Leonard, lg. spout, br. collar rest tin. \$65
7. Oil-wick - T.F. Leonard, sml. spout, br. collar rest tin. \$65
8. Safety lamp - E. Thomas & Williams, Cambrian type, steel bonnet, rest is brass \$135
9. Safety lamp - Hailwood & Akroyd, Hailwood's Improved Lamp, steel bonnet, rest br., unusual burner assy \$125
- 10 Safety lamp - Unmarked, bonneted Clanny, steel bonnet (pitted), rest br., screw-lock, early ASL & MS Co. style \$150
11. Safety lamp - H.M. Edwards - Wakefield, bonneted Clanny, steel bonnet (pitted), rest brass, ext. lock \$100
12. Safety lamp - Protector type: 6.RS. Nickel bonnet, rest brass, has attachment for hose on bonnet \$100

BLASTING

1. "ACME MINER'S BOTTLE" lg. embossed letters, tin, round, 4 hanging loops, 7" dia. 2 3/4" thick, super \$140
2. Hercules blasting paper, full roll with label \$22
3. Grasselli cap tin, "good" condition \$25

BOOKS

1. U.S. MINING LAWS & STATE & TERRITORIAL MINING LAWS & APPENDED LOCAL MINING RULES 1885, U.S.

- Dept. of Interior, 705 p. very complete, listed by mining district in each state. \$75
2. PRACTICAL COAL MINING, 1912, T. Cockin over 200 illus.
 3. A TREATISE ON METAL MINING, Vol. II, 1899, includes hoisting, pumping & drilling, illustrated. \$12

MISCELLANEOUS

1. Mining Postcards - AL, AZ, CA, ID, IL, IA, IN, OH, MI, NM, MT, MO, OK, PA, WV. Please inquire.
2. Scrip coin - B&B COPPER CO. SWANSEA (England) Copper Penny, 1811, large. \$16
3. Mining Service Medal - Polish, silver, miner drilling engraving, 2-piece. \$35
4. Mining checks/receipts - 1868-1916 NV, CA, MI. \$3-10
5. Miner's candle (stearic acid), unmarked, exc. \$10
6. Sign: DANGER DO NOT STAND NEAR RAISE, SAFETY FIRST, 8 X 20" ca. 1920. Michigan Iron Mine, red & white enamel on heavy tin, brass grommets in corners, exc. \$45

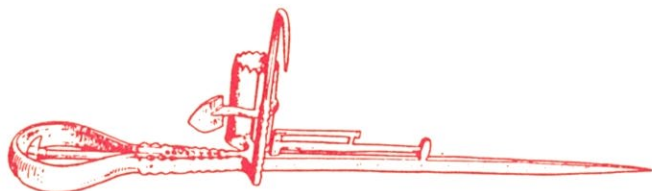
PARTS

1. Unfired burner for Arnold Carbide Candle \$40
2. Baldwin pinchwaist base, exc. \$25
3. Early Justrite "Matchless" set-screw reflector, see article this issue, mint condition \$55
4. Justrite Liberty Feed assembly, mint \$10
5. Guy's Dropper 2-date top, wire hook, uses set-screw reflector, exc., brass \$25
6. Guy's Dropper 2-date top with spade mount, uses regular reflector, brass \$20
7. Early Autolite top, nickle plated, uses set-screw reflector, dirty but excellent \$25

WANTED: reflector for non-Justrite Victor

FOR SALE

FOR TRADE



TED BOBRINK

12851 Kendall Way
Redlands, CA 92373
(714) 794-5518

CALIFORNIA MINERS IMPROVED GOLD SCALE, Green with gold lettering complete, in very fine condition. **\$ 600.00**

KLONDIKE GOLD RUSH GUIDE BOOKS Four different 1896-1898 hard back complete, some with maps.—each. **\$ 65.00**

THE DENVER FIRE CLAY COMPANY Catalog No. 10, 600 pages, loaded with assay equipment scales molds, crushers, etc. **\$ 150.00**

SCHNEIDER & CO. MINING CANDLES BOX END With red litho label, makes excellent wall hanger. **\$ 100.00**

GOODWIN MFG. CO. Stearic wax mining candle (stamped). **\$ 65.00**

CARBIDE CAP LAMPS:

1. **BRITE LITE** Nickel over steel unfired, I know of only one other nickel plated Brite Lite and this one is mint! **BEST OFFER**
 2. **X-RAY** Nickel plated, mint, unfired **\$ 400.00**
 3. **ARROW** Nickel plated, mint, unfired **\$ 400.00**
-

CARBIDE HAND LAMPS:

1. **LITTLE GIANT** See MAC #1, Fall 1988. **\$ 375.00**
 2. **ACME** **\$ 150.00**
 3. **I.T.P.** Unfired **\$ 100.00**
-

CANDLEHOLDERS:

1. **FANCY MODEL** Lots of carving on spike, hook and handle neck. A very tall thimble with a unique thumb lever. This is a very unique presentation candlestick from Colorado with excellent workmanship. I don't offer this type of candlestick for sale very often. Photo upon request. **\$1500.00**
 2. **CALIFORNIA** See Wilson-Bobrink #30 **\$ 275.00**
 3. **CRESCENT** See Wilson-Bobrink #34 **\$ 250.00**
-

OIL WICK LAMPS:

1. **HUSSON #22 STICK LAMP** With stick. This is the same as the peg lamp, but without the peg. See MAC #7, Page 1. **\$ 275.00**
2. **CROWN** Drivers with a very unique reflector, mint. **\$ 175.00**

Mineralogical Record BACK ISSUES!



v.8/#6 California Issue
Benitoite, Gold, L.A. County
Museum, Himalaya mine \$7



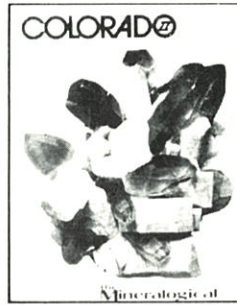
v.9/#3 Kalahari rhodochrosite,
Paterson-NJ, Brumado district-
Brazil, Bosch Coll. \$7



v.9/#5 Turkish Kämmererite,
Afghan pegmatites, Chuqui-
camata-Chile \$7



v.10/#5 Thomas & Wah Wah
Ranges-Utah (famous for
Topaz, Red Beryl, etc.) \$7



v.10/#6 Colorado-II Issue
Locality Index, Amazonite,
Mt. Antero, Sweet Home \$7



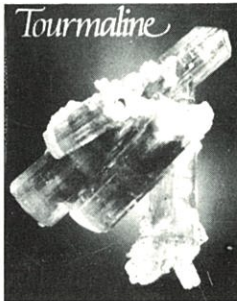
v.12/#4 Mineral Fakes,
Mineral Fraud, Leadhills-
Wanlockhead England \$7



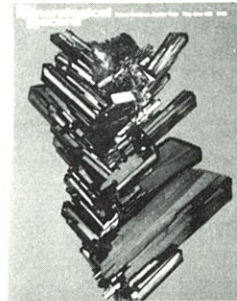
v.16/#1 Nevada Issue
Getchell, Comstock, White
Caps, Steamboat, etc. \$9



v.16/#3 Colorado-III Issue
Leadville, Rico, Pikes Peak
Cresson Vug, CSM Museum \$9



v.16/#5 Tourmaline Issue
History, Mineralogy, Calif.,
Elba, Nepal, Pakistan, ME \$12



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Tucson Show, Senaite-Brazil,
New Zealand, Italy \$9



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Stoneham-Colorado Barite,
Tuscany-Italy \$9



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Australia, Author's Guide \$9



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Australia, Breckenridge, Venez.,
CA, GA, AL, NC, England \$14



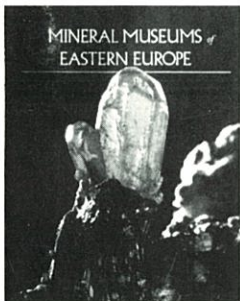
v.18/#3 Minerals of the
United States-Books List,
Photographer's guide \$9



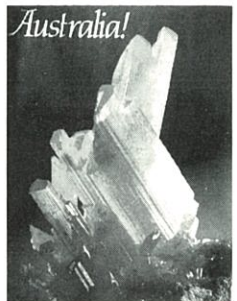
v.18/#5 Peking Museum,
Colorful Vanadium Minerals,
Cal. Inesite, Kunzite \$9



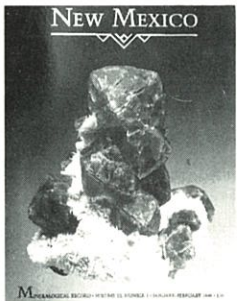
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stereo viewer! Calcite,
Pyrite, Morgan Hall \$9



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Eastern Europe Full-color
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