

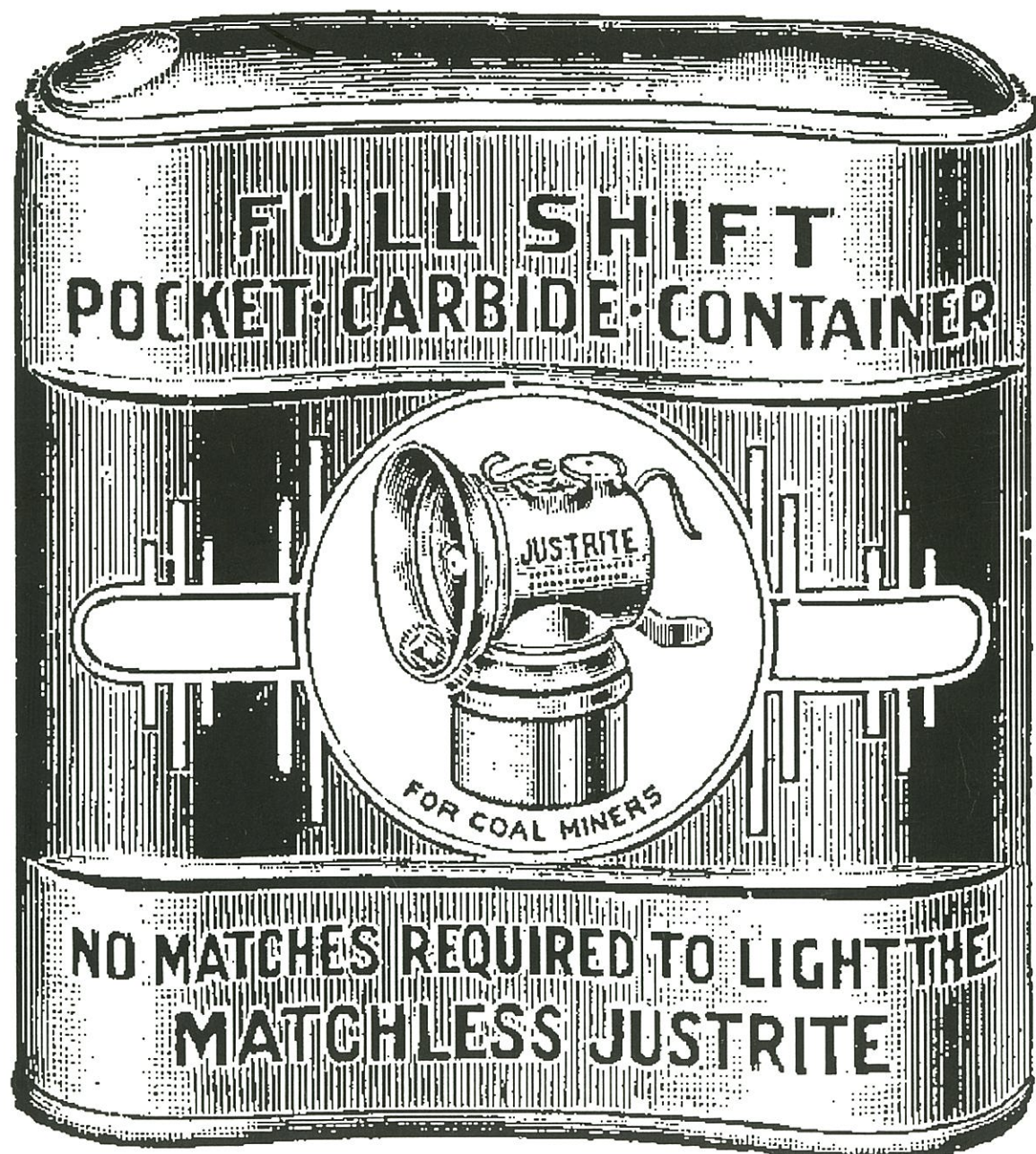
EUREKA!

THE JOURNAL OF MINING COLLECTIBLES

Issue 23



July 1997



Staff

Dave Johnson
8106 Barbour Manor Dr., Louisville, KY
40241 (502) 327-7559
e-mail: msddj01@iglou.com

Len Gaska
725 Hermes Cir.
Lafayette, CO 80026-1121
(303) 604-2875
e-mail: gaska@nilenet.com

Bob Schroth
P.O. Box 687, Twin Peaks, CA 92391
(909) 337-7102
e-mail: bschroth@aol.com

Manfred Stutzer
Madenburgstr. 6
67065 Ludwigshafen, Germany
e-mail: mkstu@t-online.de

Dave Thorpe
130 E. Tierra Buena Ln., Phoenix, AZ 85022
(602) 548-1959 or 548-1890
e-mail: dthorpe@primenet.com

David J. Des Marais
1015 Woodland Ave, Menlo Park, CA 94025
(415) 322-0778
email: ddesmarais@mail.arc.nasa.gov

Todd Town
38 Agazzi Terrace
Globe, Arizona 85501
(520) 425-0423

General Information

SUBSCRIPTION POLICY: *EUREKA!* is published quarterly (January, April, July, October). Subscriptions are accepted for one year at a time. Price is \$25 per annum in the US, \$35 overseas. Back issues are available for \$8 US, and \$9 overseas delivery. May be purchased for \$6 at Eastern U.S. Reunion. A subscription form is included in the Fall issue. Requests should be mailed to: Dave Johnson, 8106 Barbour Manor Dr., Louisville, KY 40241

SUBMISSIONS: *EUREKA!* welcomes unsolicited articles, reviews, information, photos, and artwork. All photos and artwork need to be of high quality and should be mailed to Dave Thorpe, 130 E. Tierra Buena Ln., Phoenix, AZ 85022. Materials submitted for publication may be subject to alteration at the discretion of the editors.

Copyright © 1997

EUREKA!

The Journal of Mining Collectibles

EUREKA!



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

Table of Contents

Cap Lamps: What to Look For	2-10
Rump Oil Wick	11
Blasting Machines	12-18
Little Gem Oil Wick	19
Hunter's Special	20
Collecting Underground	21-22
Folding Handle Cap Lamps	23
Bottom Light Miner's Lamps	24-31
First Wolf Lamps.	32-33
Pewabic Mining Co.	34-36
Wrong Patent Oil Wick	37
Ribbon Identified	38
Bits	39-41

Front Cover: Taken from 1919 Justrite Catalog No. 3.

Back Cover: Photo submitted by Bill Lorah showing "super large" C. George oil wicks, Hughes Bros. Fire Boss Daveys, and certain identification. Probably 1920's. The Delaware, Lackawanna and Western R.R. operated mines in the Wyoming Valley of PA. The Red Ash vein was shown to be about 1000 feet below the surface and the deepest vein shown on the PA geological map of 1884. Edwardsville is located just northwest of Wilkes-Barre. It certainly looks like they all got brand new oil wicks for the photo: no char and nice & shiny. The Daveys show hard usage.



Departed

Roger Mitchell has left the staff. He will be missed for his excellent articles. He single handedly put the "mule lamp" on the collectors' map.

Colorado a Big Hit

The Rocky Mountain/Black Hills collectors show took place on the weekend of June 13-14 in the small mountain village of Frisco, Colorado. Arranged by Bob Guthrie and Leo Stambaugh, this was one of the best attended and planned get togethers ever.

Two very rare pieces showed up. One, a carbide cap lamp known as the Hunter's Special, and a Little Gem oil wick lamp. Both lamps are featured in this issue. The personalities attending were no less classic. One evening saw Bob Schroth and Larry Click duking it out in a marathon trade session that went on 'till 2 AM. It finally ended with a bellies-on-the-floor arm wrestling match. The auction was a fine event with comfortable seating and good food. Leo, an expert in mining antiques, was the auctioneer. This show will be held in Colorado next year,

Where's the Ad Section?

No we haven't dropped it, but if you can believe it, nobody sent ads this time! I think three mining shows this Spring just cleaned everybody out. We're receiving a record number of submissions, and welcomed the extra

space this time for articles. Still, the ad section is where most of us look first, and I hope to see it chock full next time.

What's Next?

Robert Hauck will be hosting an eastern collector's show this Fall at his Sterling Hill Mine, a restored mine/museum in New Jersey. A flyer is enclosed.

What's Next in Collecting

Every year, it seems one area of collecting comes out of the woodwork in force. It's been a long time since a good carbide and oil lamps could be had at auctions and flea markets. Porcelain signs are still there, but are beginning to dry up. Bob Schroth, perhaps the most travelled and mingling collector, reports that ribbons seem to be appearing in fairly good numbers this year. Will they catch on with this crowd? We'll see!

Prices

Are they still going up, or have they plateaued? Early indications would say the latter. If the Colorado show was any indication, there were many rare pieces that just plain didn't sell due to prices that would have seemed okay last year. Although items under a thousand dollars seemed to move with some regularity (a cap tin sold for \$500 and a small porcelain sign sold for the same), those items priced higher (Acme cap lamps in the box) pretty much stayed where they were, or were traded.

Weak Points - Fine Points

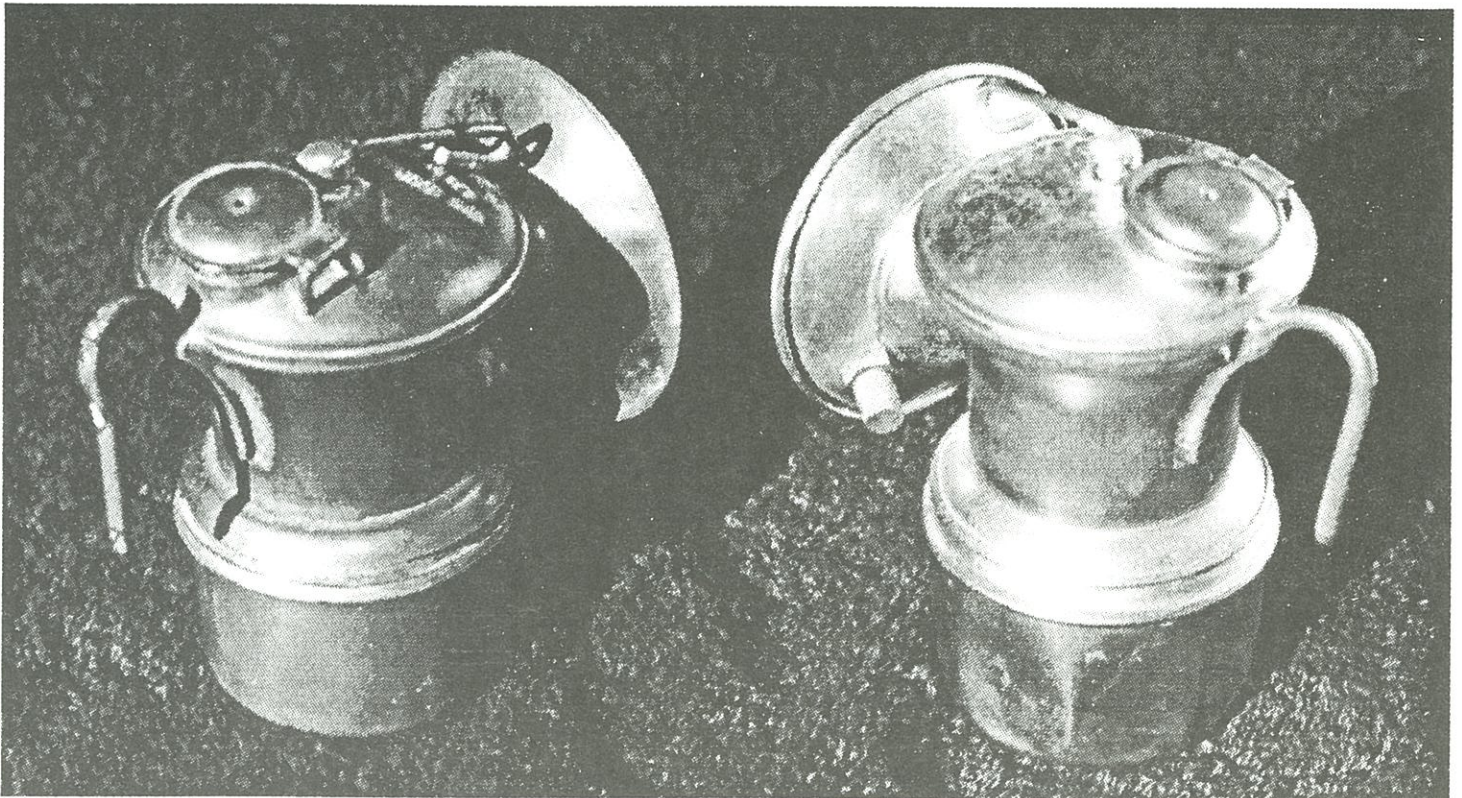
by Dave Thorpe

Many times I have come home with a new lamp and noticed a particular flaw. Then, some time later, while viewing someone else's collection, I see the same flaw in the same lamp. It is apparent that certain lamps have *weak points* in their manufacture or design. Sometimes a piece is too weak and prone to breakage or a loosely attached part is missing altogether. Sometimes the flaw is not readily apparent until the piece is compared to one that is "right". If you know what to look for ahead of time, it can save you heartache and dollars.

As collecting carbide lamps has become a more costly (and lucrative for some) endeavor, incomplete lamps are often sold and traded with substitute parts. The part may be close in overall appearance, but "top dollar" should

never be paid for a rare piece with substituted components. To find the correct part usually means finding the entire lamp itself, then reselling the flawed piece. Knowing which parts are typically substituted and how to tell the difference between the fake and the real thing is not too difficult if you know the *fine points* to look for.

In this article, I will describe some of the *weak points* and *fine points* that may be a helpful guide to the novice collector. As a rule of thumb: a rare lamp with a *single* piece needing replacement is worth only half of the same lamp complete (unless you already have the missing piece).



Only two reflectors are acceptable for the Springfield Lamp. On the left, is the sharp edged version. On the right, the reflector has a crimped over edge.

The Springfield Lamp

The Springfield, one of the simplest looking lamps, is also one of the most difficult to find in correct, excellent condition. The reflector is commonly found to be replaced. There are only two proper reflectors for the Springfield. Both have the inner recessed center. The main difference between the two is whether or not the outer edge is a rolled seam or simply bent back to a sharp edge.

Early Springfields have no reflector brace, late model lamps do (see photo).

The nut holding on the reflector is a very thick hex nut. It is not the typical machine stamped nut, it has very sharp edges as if it were hand made. Do not accept a thin machine stamped nut as original equipment. Such a lamp has been "high-graded".

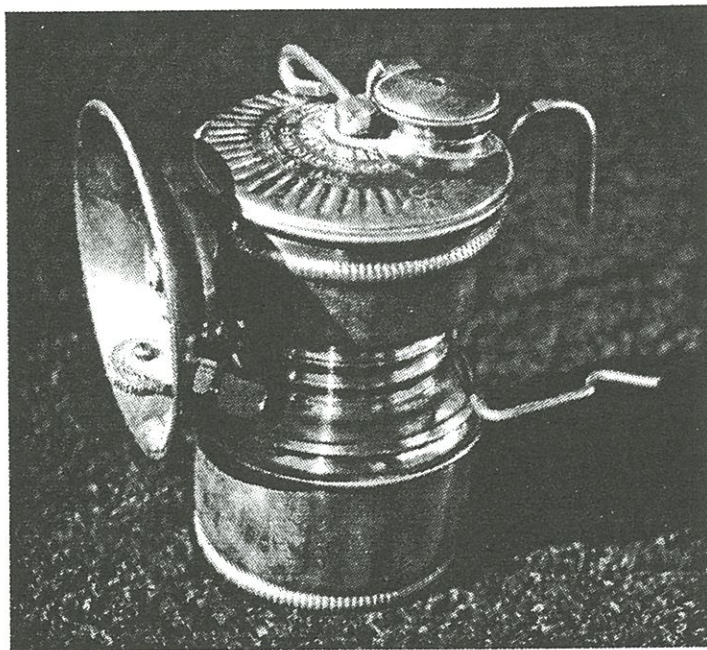
Springfield bases come in three styles. The most common and most recent is eight-sided. It is a beautiful piece, but 95% are found pretty well crinkled up around the bottom edge, despite being found with a well-preserved top. Finding a Springfield with an excellent top is not nearly as great a find as one with an excellent base, no matter what the condition of the top.

Of the other bases, one has very fine ribs, and the other is smooth. The ribbed is the rarest of all three. The smooth base is the earliest, but beware: other smooth bases are occasionally found screwed on to Springfield tops. The most common substitute is the smooth sided Guy's Dropper base, another is the Justrite. How does one tell which is which? All Springfield bases have a unique crimping below the threads in which the solder seam is actually *above* the shoulder.

A nice feature of the Springfield from a collectors point of view is that there are no cap braces on the lamp. Cap braces are the most commonly broken or missing item on cap lamps. No problem here.

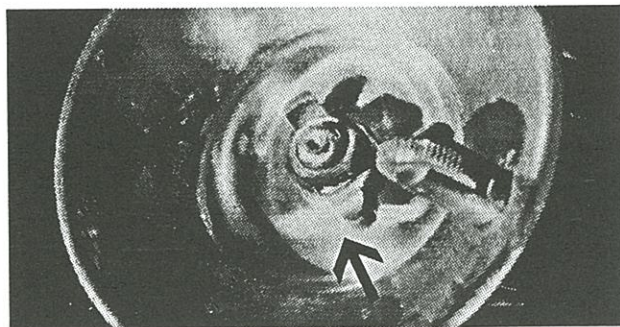
EUREKA! July 1997

Shanklin Metal Products



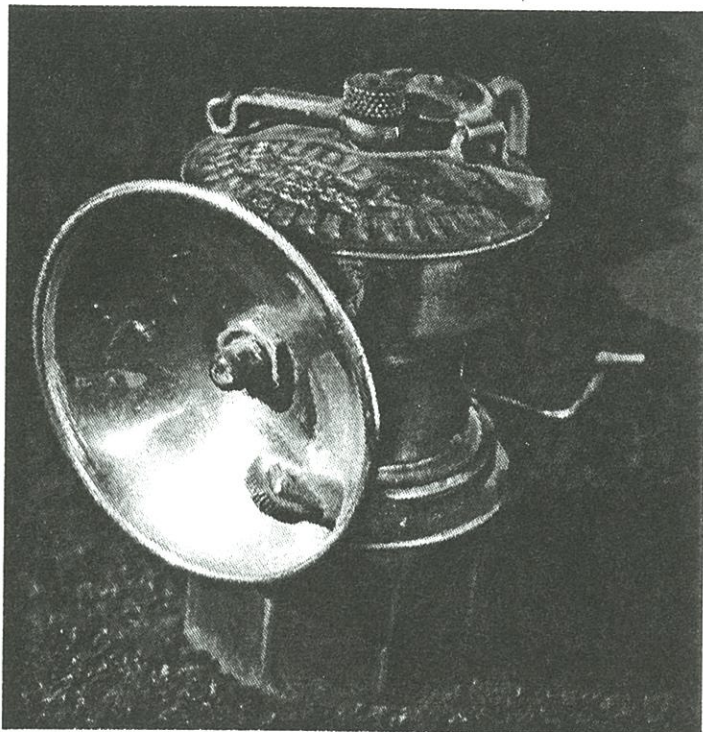
The Shanklin Metal Products lamp is equipped with a unique reflector. It is similar to the Springfield, having a recessed center section, but this inner recessed area is form-fitting to the body of the lamp. A horizontal groove should be seen on the lower portion of the inner recess to lock it against the bottom edge of the water tank. This eliminates the need for a reflector brace (although a few of these lamps have been reported with their own unique brace).

A weak point of the reflector is its nickel-plating. So thin is the plating that even mild polishing will completely remove the nickel. Most of these reflectors are found with significant loss of nickel on the front surface.



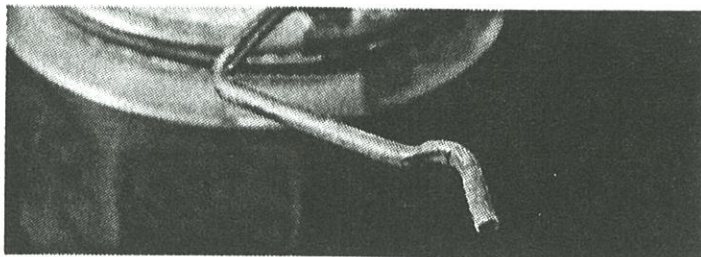
Look for the indented crease in the reflector that makes it form-fit to the lamp.

Buddy



Myer Stein manufactured the Springfield lamp, but he was also involved to some degree with Shanklin Metal Products lamps as well as Buddy and Elkhorn lamps. Most Buddys have locator notches for their reflectors. All Buddys should have reflector braces, and if the reflector is notched, so must the the brace to fit the reflector. Like the Shanklin reflectors, these reflectors have very weak nickeling. Great care should be taken in cleaning them.

All Buddys have cap braces that are commonly broken off. These braces are bent at angles rather than curves, and therefore they have been easily copied by the after-marketeers. Careful examination of the inside bends reveals a flattened tooling area on the originals that can help the collector determine which is real and which is fake (see below).



The Elkhorn is a close cousin to the aforementioned Buddy. Elkhorns are found with standard concave reflectors (nearly identical to the Buddy's), as well as with a Springfield-like inner-recessed reflector. Most Elkhorns have the inner recessed reflector, which also happens to be the most desired.



The reflectors with the inner recess use a deeper reflector brace than the standard (see photo). Its nickeling is as weak as the Buddy's, and should be handled with care. Some Elkhorns have unplated brass reflectors. While most Buddy reflectors have locator notches, *none* of the Elkhorns do. Likewise, the reflector brace should have no notch. This is a critical feature to look for when trying to decide if the reflector and brace are original. One final note: early Elkhorns do not have reflector braces at all, and a few seem to have been manufactured with no cap brace. But the absence of these items is still something that should be evaluated carefully, for this is the exception, not the rule. These peculiarities make the Elkhorn a closer relative to the Springfield than the Buddy is.

Defender (and Victor)

The Defender qualifies as a rare lamp. It is similar to the common Justrite Victor, but instead of ribs, there are raised dots around the surface. An even rarer Defender lamp is ribbed like the Victor, however its value to collectors is actually *less* than the standard Defender, as it does not appear "unusual".



A particular weakness of the Defender lamp is the hook attachment. When the hook was originally stamped, a thin area resulted just where it takes off from the lamp body. Always check this area: some hooks are ready to fall off with even the slightest coaxing. Interestingly, this does not seem to be as great a problem on Victor lamps.

Cap braces are a critical issue for both Defenders and Victors. The flat strap brace actually penetrates the lamp body for added strength of attachment. Unfortunately, one or both sides are commonly found broken off just at the point where they penetrate the lamp. A Victor with even one side brace broken off is worth next to nothing to collectors,

EUREKA! July 1997

no matter what the condition, for it is impossible to repair or replace this brace in any acceptable manner.

Original reflectors for Victors and Defenders have a circular stamping behind the reflector around the striker hole. Always check to be sure this stamping is present, as this reflector may be the most commonly substituted of all.



Grier

Oh dear, it's another Grier! Full of stress cracks, and ignored by the novice collector as unacceptable in condition. What a mistake to do so.



Early Griers are prone to stress cracks as a natural part of aging, and if the lamp is otherwise in good shape, it is an excellent collectible. Of course finding a Grier with no stress cracks is nicer (and the later varieties do not

seem prone to cracks) it is not considered a particular detriment if a Grier has several stress cracks that have not opened up significantly.

Like all cap lamps, the presence of undamaged cap braces is a premium, and this is the first thing one should evaluate when finding a new Grier. Make sure they have not been resoldered. No one to date has successfully copied the gob of solder that holds this brace on!

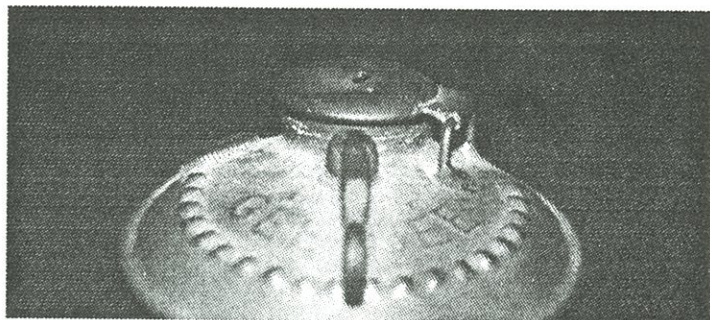
Griers do have a weakness where the reflector is attached. It is generally soldered to a very small area...either to two small posts or to the removable brace. It is not that the reflector is prone to falling off, but rather, it was commonly dented at the solder point whenever the reflector was bumped by normal use in the mines (see photo on previous page). This is quite unsightly, especially if the reflector is cleaned, accentuating the high points of a surface that should gleam evenly.

Finding a Grier with no internal denting of the reflector is considered quite a premium.

Gee Bee



The Gee Bee is a tall lamp....tall and narrow-waisted like a fashion model. But like some superstars, it has a weak head. Yes, the water-door on this eye-popping beauty was fragile and exposed. More Gee Bees have dented waterdoors than any other lamp. Either accept your dented door as one of the many, or enjoy your undented door as one of the few.



A flattened door.

The Gee Bee has a rather plain reflector, which is often removed and replaced with a substitute. In fact, a metalsmith in California is turning out copies...almost. These, as many fake reflectors, are made by a "spinning" process. Faint concentric lines can be seen on a reflector that has been spun. Original Gee Bee reflectors can be identified by a small dimple near the burner hole used as a locating notch. The dimple fits into the reflector brace, which is also a unique piece, and often removed from lamps that are traded off. Look for the right reflector and brace before trading your life away on a Gee Bee.

Horizontal Justrites

Horizontal Justrite lamps used one end of their cylindrical water tank as a reflector, and in this way, were a great innovation of design, but sadly not one of durability. The reflector on any lamp was the "leading edge" and was exposed to the most abuse. As a result of this weakness, carbide lamps evolved to have removable (replaceable) reflectors. Not so for the early Justrites. Like a good Catholic, what you got, was what you lived with, no matter

how it aged. The top edge of many horizontal Justrite reflectors is dented down. Worse yet, someone invariably has tried to bend it back up with pliers, leaving characteristic ugly tool marks, and destroying the lamp's collecting value. The top edge of the reflector is the first fine point to check on these lamps.



This one's mint unfired, but Justrites are prone to reflector damage at the top rim.

With time and use, these lamps usually developed problems with their rear ends. The back of the Justrite tank being flat sheet metal, was weak, and the hook is often found to be indenting this area.

Many a collector believes they have struck the jackpot when they have found their first early smooth-based nickel-plated horizontal Justrite, *complete with superintendent's handles!* Though stunning, and early, these lamps are actually relatively common, more so anyway than the brass equivalent with hook and cap braces. An early smooth-based

Justrite, *in brass*, is quite difficult to find in decent condition.

The Justrite horizontal is not the only lamp prone to reflector problems. The Guy's Dropper Squarelite is found more times than not with a crinkled reflector as it juts up higher than the lamp. And like the Justrite, the reflector is permanently soldered on, sentencing the lamp to a life of deformity.

Guy's Dropper

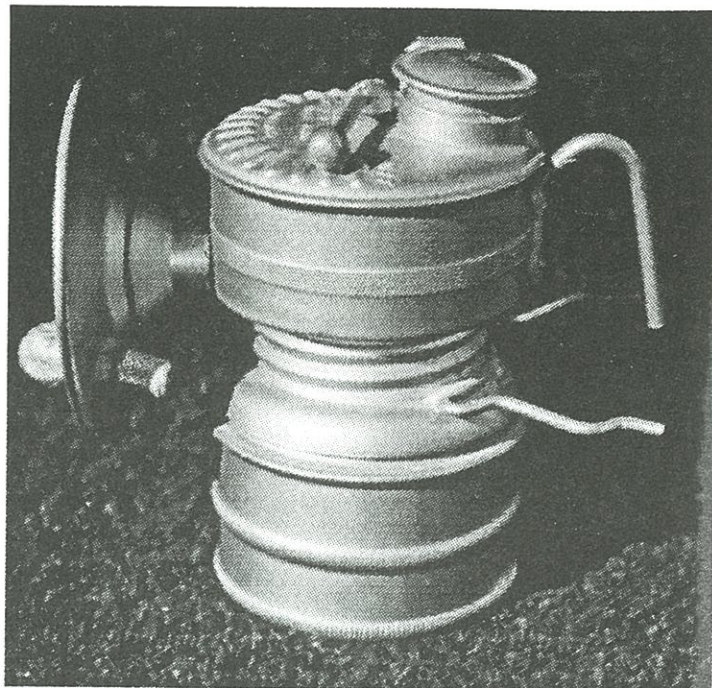
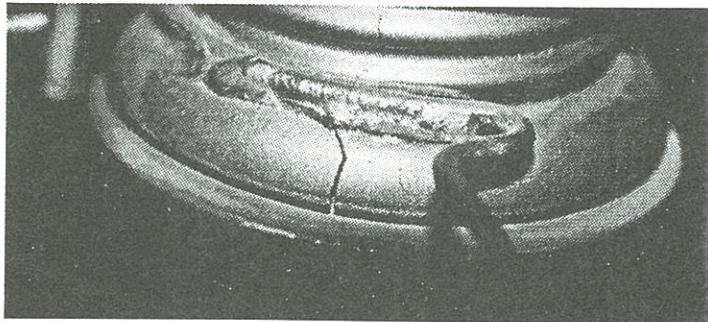
Unlike most cap lamps which became stronger and more durable throughout their manufacturing history, the Dropper became more flimsy. The last two generations of Droppers (the "six-date" and the "no-date" models) were highly prone to cracks in the flange area below the threads. Insidiously, the crack often develops directly behind the reflector, keeping it somewhat hidden until the owner has taken it home for closer examination. If such a problem were to exist on a rare early lamp, one could accept it, but having a split flange on a common Dropper relegates it to near throw-away status.



A split flange is a common problem for Droppers.

Arrow

Split flanges are also endemic to the Arrow, but being a bit rarer, it is more of a strong irritant than an intolerance. Check all Arrows carefully for this problem.

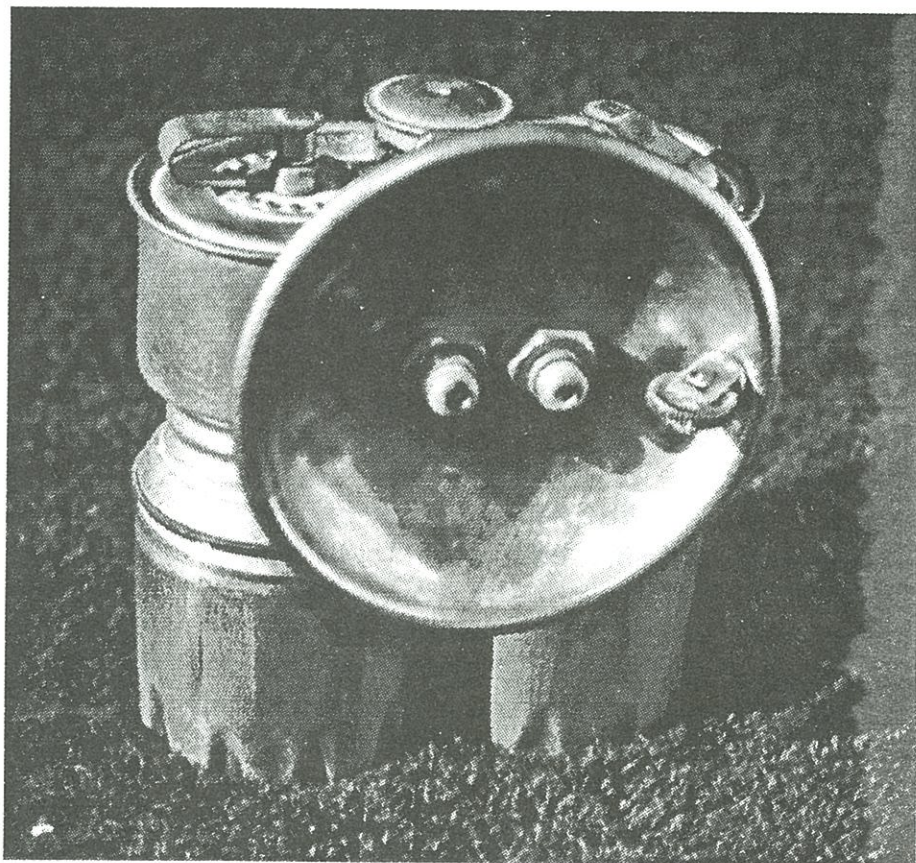


This unfired Arrow looks great, but check the flange: it's cracked!

Scoby

When is a weak point a good thing? When you own a rare Scoby duplex lamp. Virtually all of these tiny half-load bases are found with stress cracks. So what's so good about stress cracks? Not much, but since a number of very nice reproduction bases for this lamp have surfaced, the first question I ask when talking about an available Scoby over the phone is whether or not the base has stress cracks. If you own an original Scoby duplex, you may rightly show off these scars that proudly declare it to be the real thing.

The Scoby Duplex is also highly prone to reflector damage, as its reflector sits up much higher than other lamps. Fortunately, this reflector is removable for repair or replacement.



Don't fret too much if your Scoby has stress cracks in the bases...it shows they are originals!

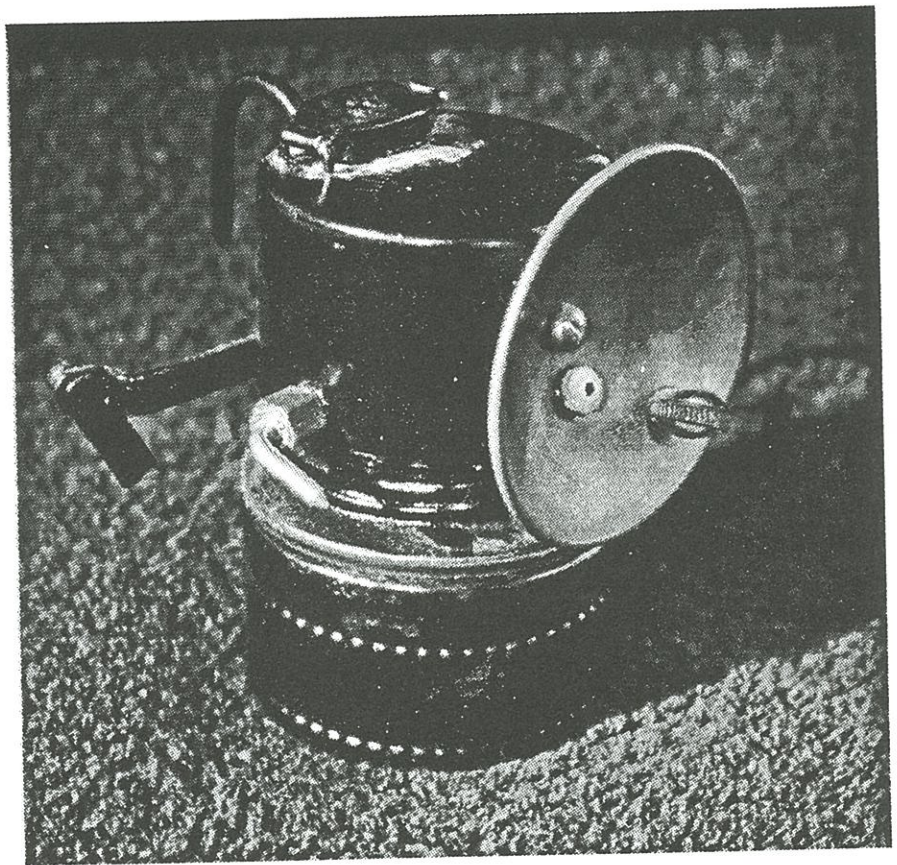
Britelite

The stamping declares this to be "A Different Kind of Lamp". Different indeed, steel construction, painted black. Steel rusts, and the screw threads seem to be most prone, though the entire lamp is at risk. Check carefully for rust holes as well as gray "Bondo" metal filler that may have been used to fill the same.

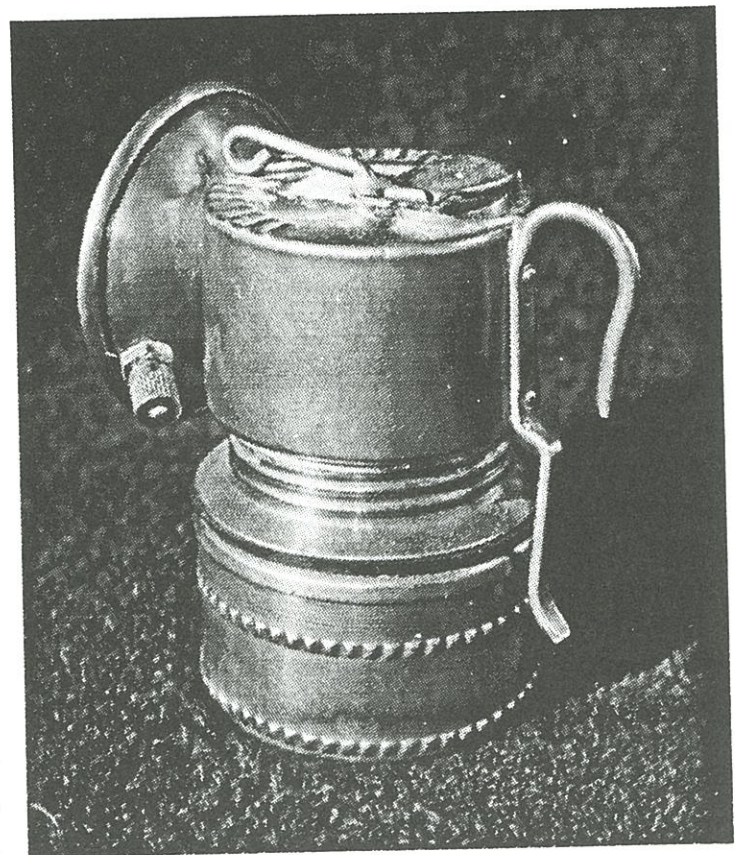
The black paint is sometimes a problem. It is not a high grade enamel paint. I once destroyed an entire lamp with just a few sprays of Windex. The paint just flowed off...entirely. Don't worry too much about small areas of paint that may have been chipped off exposing the metal surface. As so many of these lamps have been repainted, the chipped paint proves it to be original, and if acceptable to view, it's best to leave it that way. If too much paint is missing, these lamps *can* be repainted without serious depreciation in value. To be accurate, the finish should be neither glossy nor matte, but a finish referred to in the paint trade as "satin".

A brass Britelite cap lamp was manufactured that deserves mention for a particular fine point. This Britelite, known as the "Bulldog" (meaning the waterfeed is on top of the lamp instead of the more typical side feed seen on most Britelites) has a brass hook without the usual horizontal cap brace. Instead, a "tail" extends below the hook, its intended purpose I'm not sure of. More often than not, the tail has been clipped off, as I'm certain that it proved more of a hindrance than anything. Such a lamp with no tail is an embarrassment, and unfortunately results in a mistake that novice collectors often pay dearly for if they have not first seen the unclipped correct version .

A bulldog without the tail shown here is considered by most collectors to be a castrated lamp.

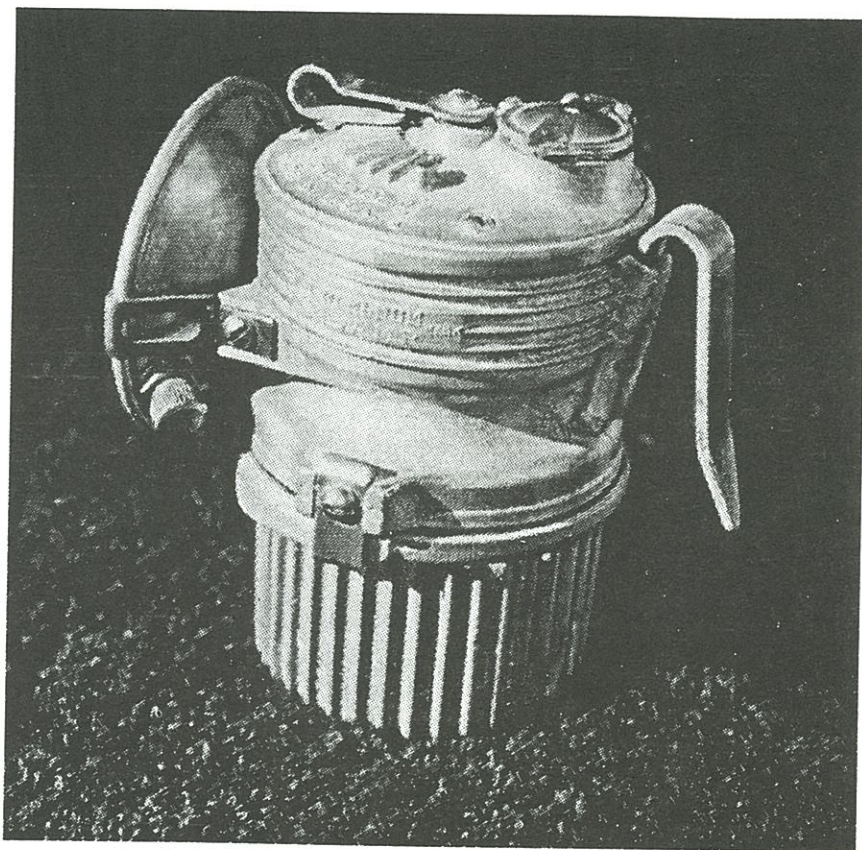


(Above) Painted black and born to rust.



Lu-Mi-Num

This cast aluminum cap lamp was extraordinarily durable. While the body is aluminum, there are several pieces that are nickel-plated brass. These are the two side clamps for the reflector brace, the two clips that hold the top to the base, the water lever, and several screws. Beware: the nickel is weak and often highly worn. Many of these lamps are sold with these pieces buffed to a lustrous eye-catching shine....buffed right through that original nickel plating, and seriously degrading its collecting value. A truly unfired Lu-Mi-Num is a sight



This cast aluminum lamp could withstand serious abuse, but for the discerning collector, check the nickel plating on the accessories. A buffed brass finish is bad news.

to behold!

Additional Pointers

1. Buffed lamps: Many times a lamp will be for sale that has been buffed to a mirror shine on a rouge wheel. Such a lamp has been seriously degraded in value. Raised lettering or decorative stampings are flattened and though the metal surface may dull down somewhat through aging, it will never be acceptable to a serious collector.

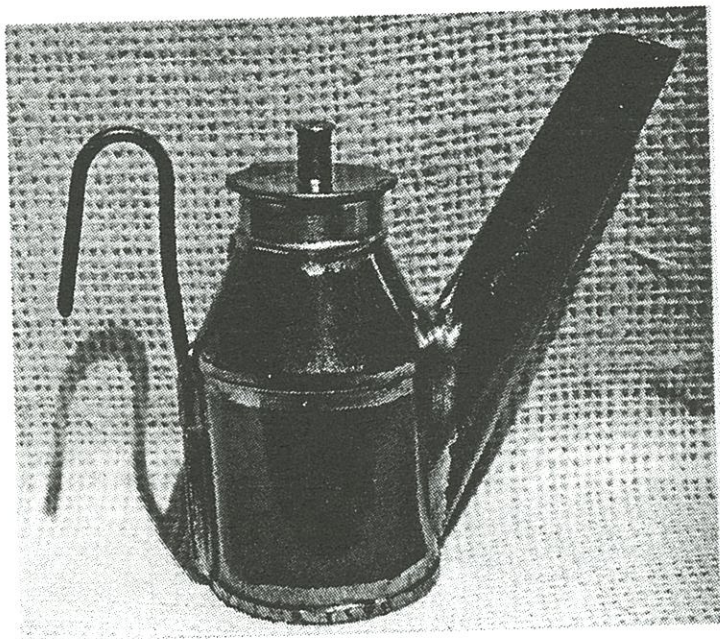
2. Repaired dents: A lamp may have moderate denting and still be quite acceptable, but often a collector or dealer will attempt to push these dents out with a sharp instrument, leaving a raised point which is nearly impossible to repair and seriously degrades the lamps value.

3. Pitted surfaces: A steel reflector commonly has a bit of rust on it. Many have been bead blasted to remove the rust or acid cleaned, leaving unsightly pitting. The lamps value has now been degraded. Better to have left the rust.

For many who read this, it must seem that the author's scrutiny verges on mania. But the fine details I have mentioned, are not written to discourage the acquisition of lamps that are less than perfect, but to let the buyer know what areas of a lamp to examine when they find one that may seem high priced. Paying top dollar for a flawed lamp is *always* a mistake, but going the extra mile for one that is "right" is generally an investment that is never regretted.

William J. Rump Patent Oil Wick

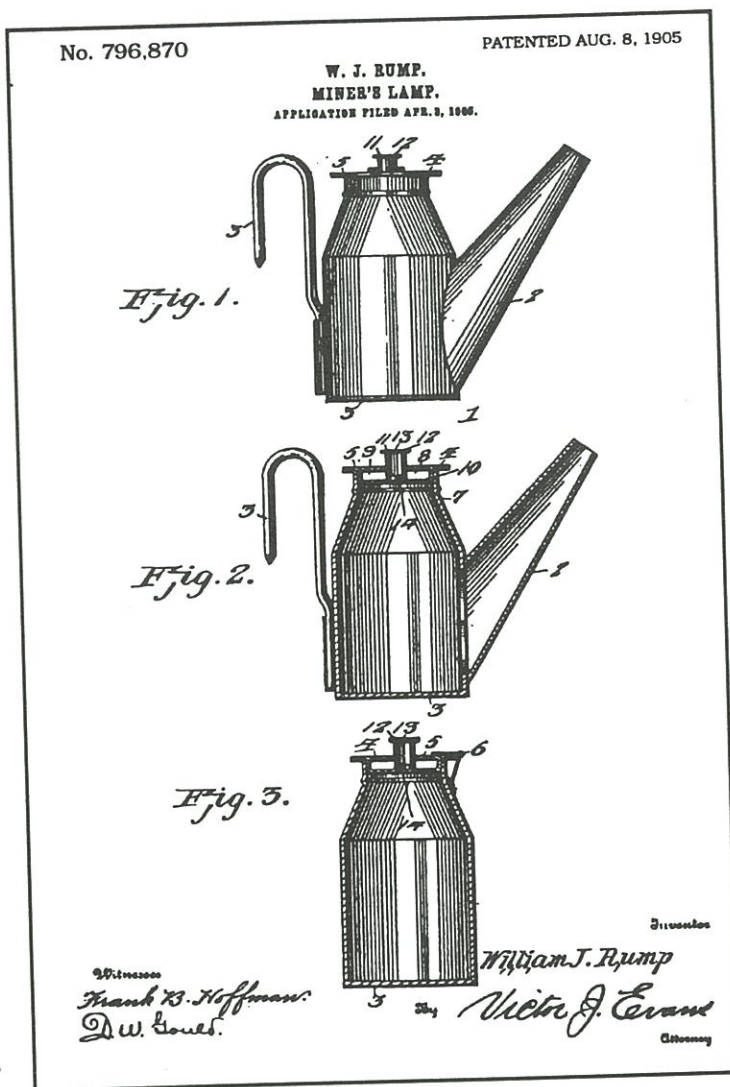
by Dave Johnson



On April 3, 1905, William J. Rump, of Ravine in Schuylkill County, Pennsylvania applied for a U.S. patent for "new and useful improvements in mining lamps". On August 8, 1905 said patent application resulted in the issuance of Patent Number 796,870.

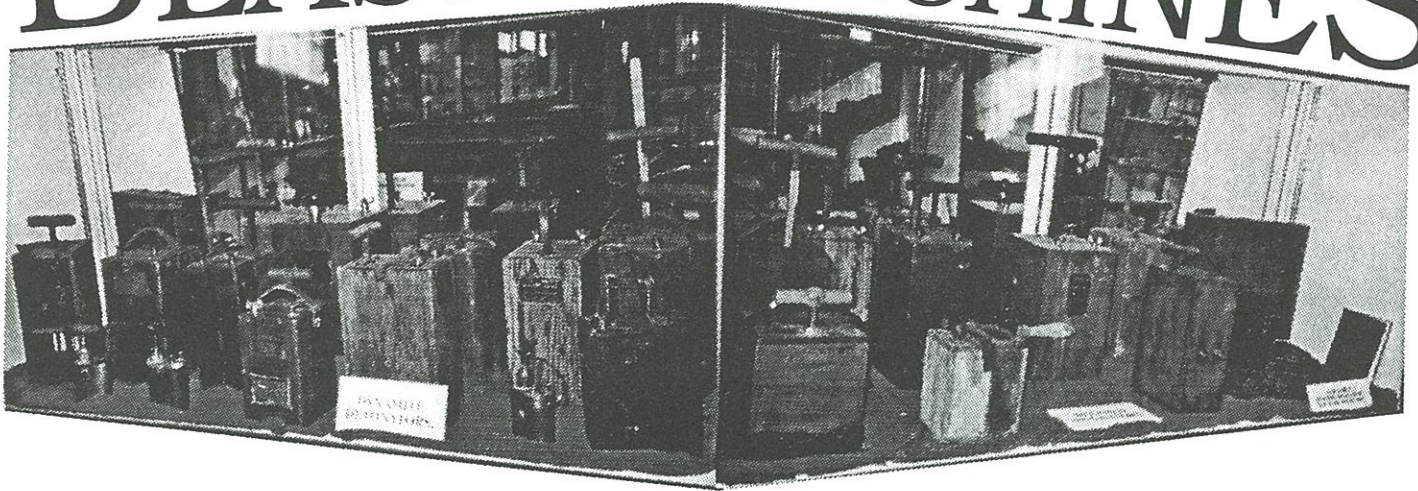
The patent states that "The invention relates to an improvement in miners' lamps comprehending specifically a top therefore of peculiar construction whereby air is admitted to the body of the lamp, while the oil therein is prevented from escaping".

The distinguishing feature of this lamp is the copper breather in the center of the cap. This breather penetrates the top of the cap and is soldered in place. The hole on the inside of the cap is offset toward the spout. The lamp is 2 13/16" tall to the top of the cap and the breather extends 3/8" above the cap. The



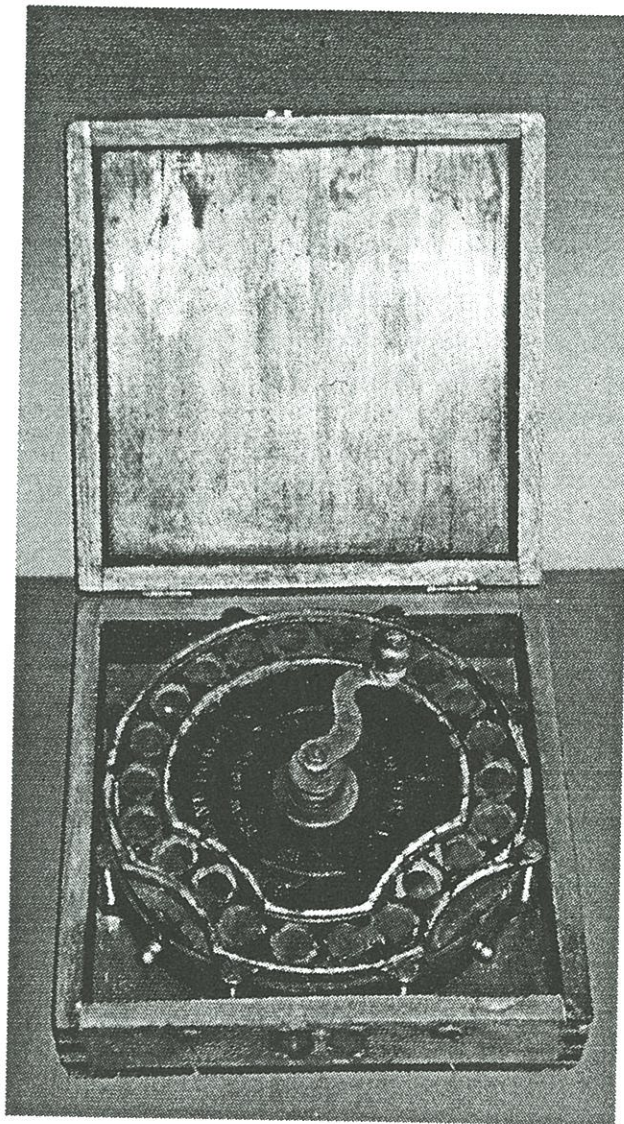
single spout is 3 11/16" in length and the base of the font is 1 9/16" in diameter. The collar below the cap is brass, as is the hinge wire that extends out of the sloped shoulder of this tin lamp. The only marking on the lamp is: PAT. AUG. 8, 05. I have been able to obtain no information concerning William J. Rump, so he remains a mystery.

BLASTING MACHINES



by Bob Schroth

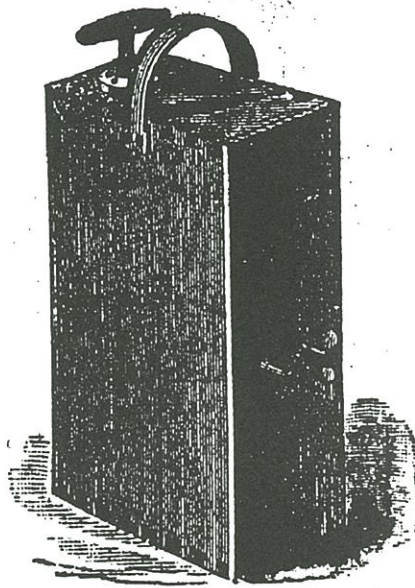
One of the most easily recognized mining related collectables is a plunger type, rack bar blasting machine. You see them in cartoons, T.V. shows, and in movies. I always enjoy seeing how they are used in the movies. I recently saw a show where the bad guys wanted to blow a train car coupling with dynamite, and they used a small crank blaster to do the job, I have never seen a blaster of this type before so I found it interesting. You might remember the one. It was one of the last episodes of Little House on the Prairie, where the evil railroad company somehow owned the town so everyone blew up their own house with a blasting machine, doing multiple shots. Most of the major powder companies at one time or another sold a blasting machine of some type. I won't



An early crank blaster.

be getting into the small twist blasters or the newer battery charged blasters in this article, I have found so many types of machines, it will be impossible to fit them all in.

Electrical ignition of gunpowder seems to have been accomplished first by a Dr. Watson (not of Sherlock Holmes fame) in 1745 by means of an electrical spark. In America, Benjamin Franklin was doing experiments with gun powder by encasing and compressing gun powder in a cartridge and igniting it with an early electric FUZE (pronounced fu-zee) the term FUSE refers to the tape fuse invented by Bickford, eighty years after Franklin's first experiments along this line. In 1825 Moses Shaw, of New York was granted a



ELECTRIC BLASTING MACHINES.

The Blasting Machine which has the greatest sale at the present time is a magneto-electric instrument of small size, weighing only about sixteen pounds, occupying considerably less than one-half a cubic foot of space.

The capacity of this machine is for about twelve or fifteen holes, though under entirely favorable circumstances many more can be fired.

MAGNETO-ELECTRIC BLASTING MACHINE, No. 3	<i>Cost Laflin Rand 1871</i>	\$ 25 00
MAGNETO-ELECTRIC BLASTING MACHINE, No. 4 (Larger).....		50 00



An early H. Julius Smith blaster is shown left. Manufactured by the Laflin Rand Powder Co., it is shown above, advertised in a Mine and Smelter Supply Co. catalog.

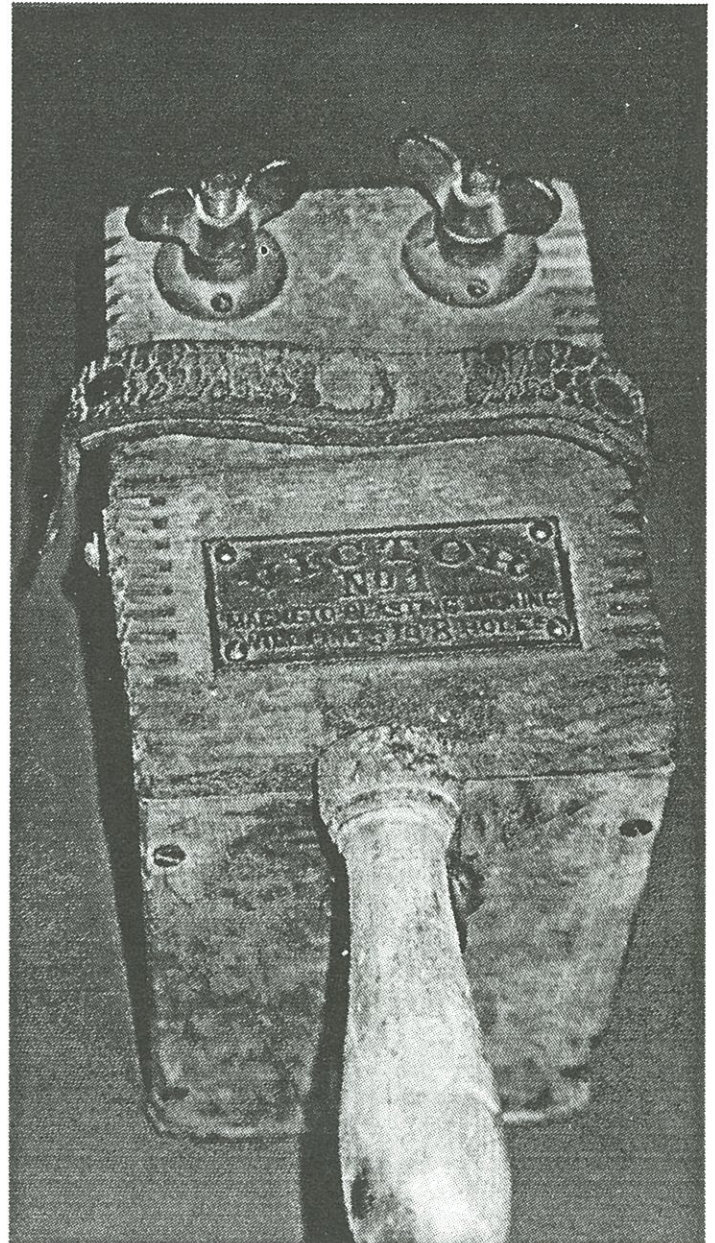
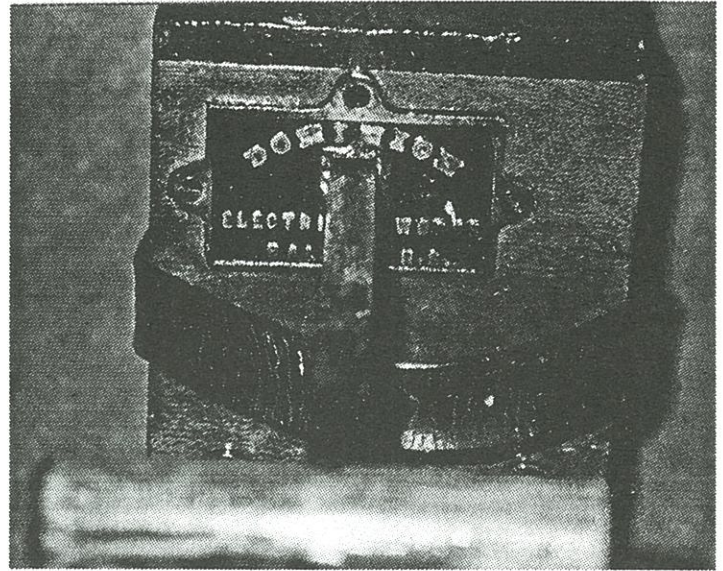
U.S. patent for firing charges of gunpowder simultaneously by electricity. Through the use of a priming composed of Fulminating silver and gun powder. The ignition source was provided by power from an early type of battery called a Leyden Jar. Early in 1832 Dr. Robert Hare improved on both the Leyden Jar as a power source, and developed the wire bridge method of electrical blasting. Hare was able to fire as many as 12 charges from a distance of 130 ft. from his battery called a deflagrator. About the middle of the century Baron Von Ebner of the Austrian Engineers first devised a frictional charging detonating machine, one that was suitable for use in the field. Then in 1869, H. Julius Smith, an inventor from Boston, further improved this type of machine and that model saw extended use in the Hoosac Tunnel. Later this machine was modified by a Dr. Mowbray by substituting a rotating cylinder in place of Smiths rotating plate. This machine was know as the Powder Keg.

In 1871 Moses G. Farmer developed a Dynamo-Electric machine that was actuated by a hand crank, and weighed 120 pounds. H. Julius Smith improved on this design and reduced the weight to a slim 77 pounds. Two years later he did away with the crank, and

(below left) The oval tab is the supply company that sold the machine. Smith machines seem to have 100's of different dealers. All have nice brass tags attached.

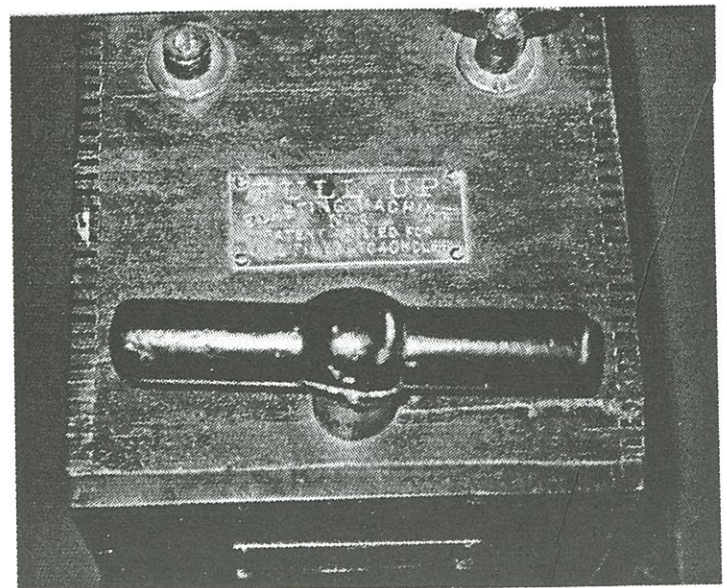
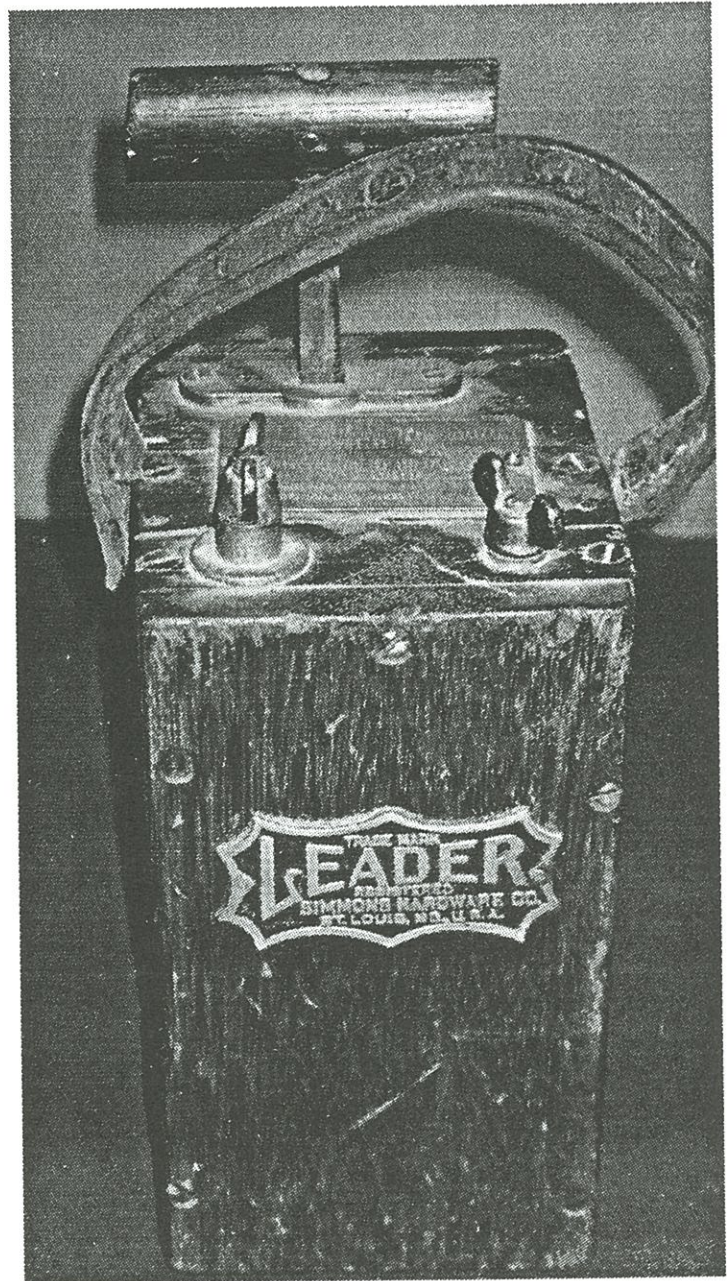
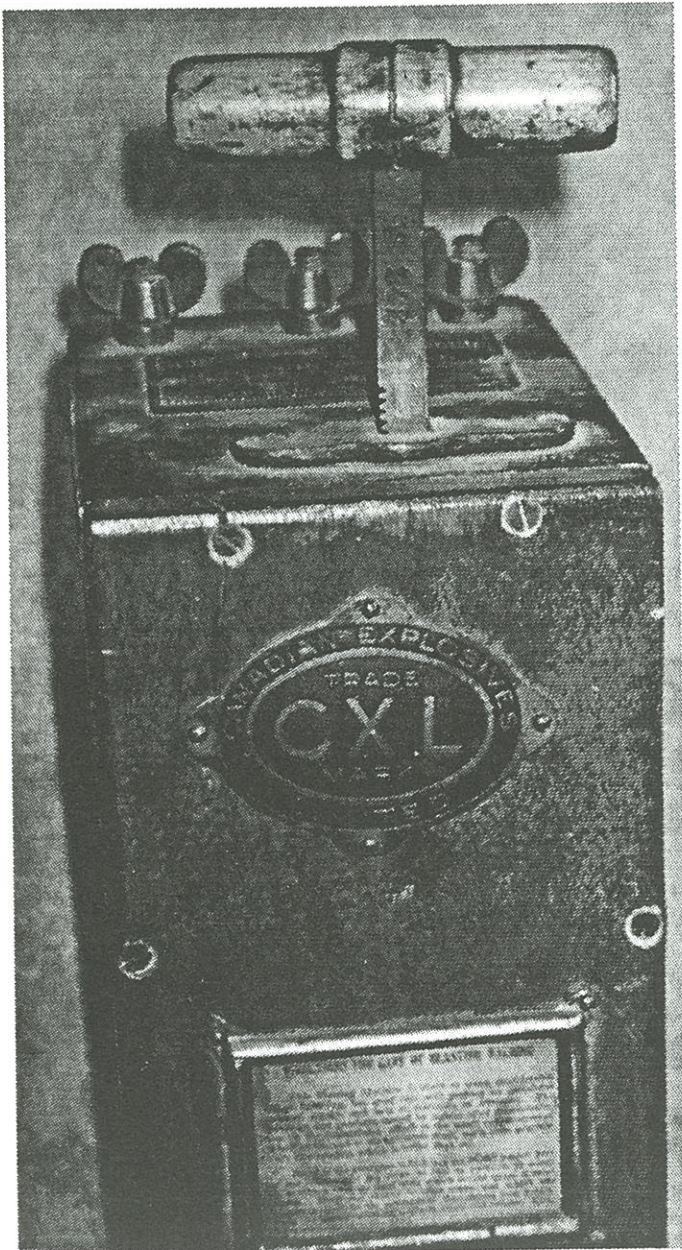
(above right) Dominion Elsectrical Works. Halifax Nova Scotia.

(below right) Victor No. 1 crank blaster.



opted for a rack and pinion plunger type. This machine was known as the Magneto #3, and was manufactured by the Laflin Rand Powder Co. It was mounted in a wooden case measuring 16" by 8" by 5" weighing only 181/2 pounds. These basic principles were used the manufacturing of blasting machines through modern day. Smith continued working with Laflin Rand Powder Co. until 1886 when he left to open and build a plant of his own at Pompton Lakes, New Jersey.

The early blasters were heavy, hard to handle, and didn't always generate enough electric power to detonate all the shots planned.

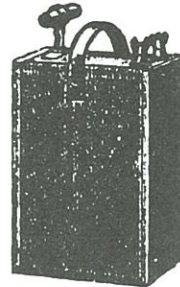
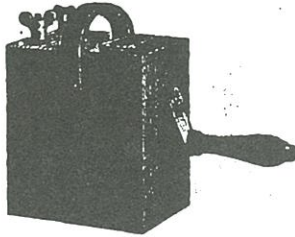


BLASTING MACHINES

VICTOR

UNITED STATES STANDARD

SMITH



VICTOR BLASTING MACHINES

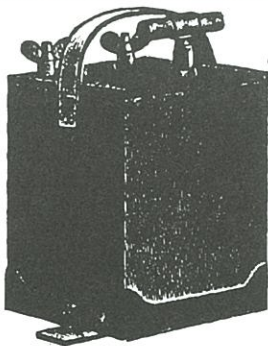
Number	1	2	3
Number of Holes will Fire	5 to 8	10 to 20	20 to 40
Price.....each	15.00	25.00	50.00

UNITED STATES STANDARD BLASTING MACHINES

Number.....	3	4
Number of Holes will Fire.....	1 to 20	40 to 50
Price.....each	25.00	50.00

SMITH BLASTING MACHINES

Number.....	3	4
Number of Holes will Fire.....	10 to 20	20 to 40
Price.....each	25.00	50.00



PULL UP BLASTING MACHINES

Number.....	3	4	5
Number of Holes will Fire	20 to 30	40 to 50	75 to 100
Price.....each	25.00	50.00	75.00

Several designs were tried, the plunger push down type, the plunger pull up design, the hand crank type machine, and the 3 post connection type. While all these machines served a purpose the crank and pull up machines saw limited use in the mining industry.

There are no absolutes in the sizing of machines, generally speaking, a #1. would fire 1 to 3 electric Fuzes, #2. will fire 1 to 10, #3 1 to 30, #4 10 to 50, #5 10 to 100, and #6 10 to 150, any machines bigger than that are usually for quarry blasting. I did see a # 6 Du-Pont machine that claimed to fire 10-250 caps, it was twice as large as my #6 Hercules blaster.

Catalog of Supplies

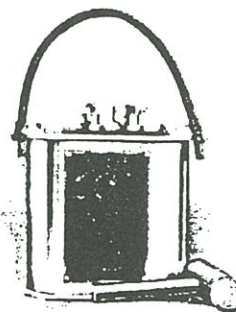
STANDARD BLASTING MACHINE

Made in Three Sizes



- No. 2, will fire 1 to 15 holes.
- No. 3, will fire 1 to 30 holes.
- No. 4, will fire 1 to 50 holes.

The above machines are the strongest and most powerful ever made for electric blasting. They are especially adapted for submarine blasting, large railroad quarrying and mining work.



Atlas Blaster No. 0

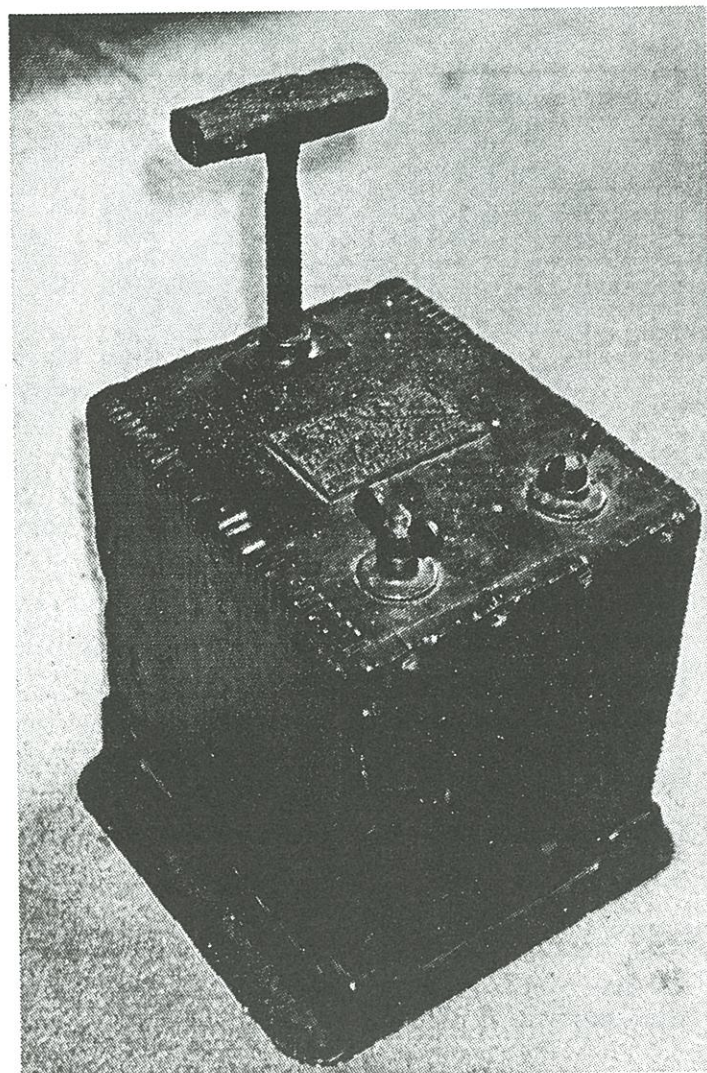
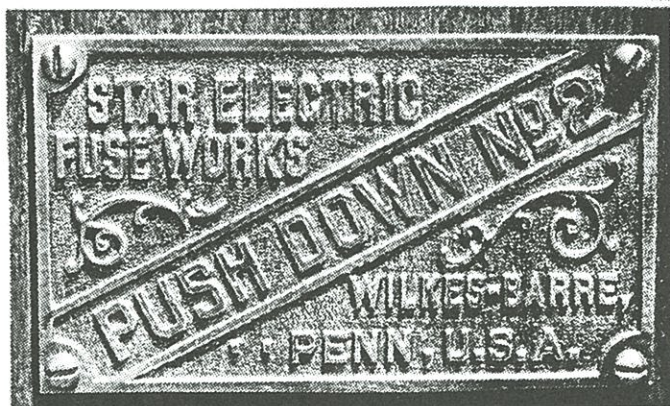
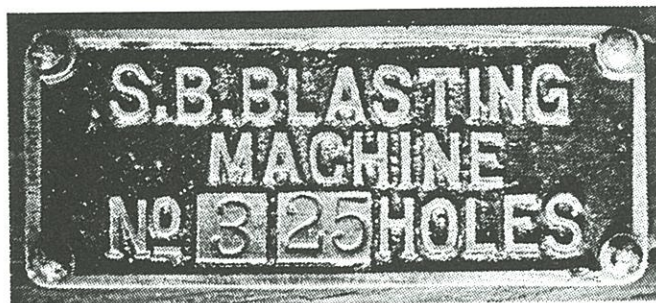
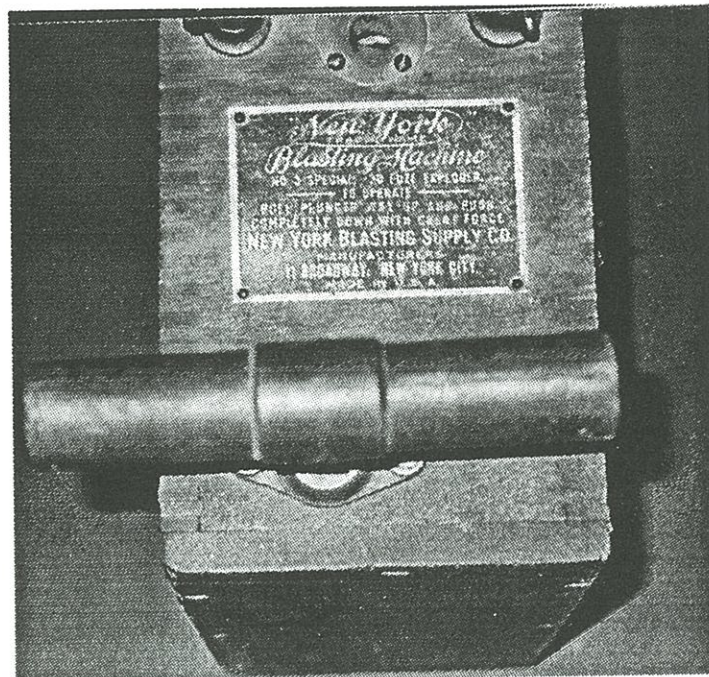
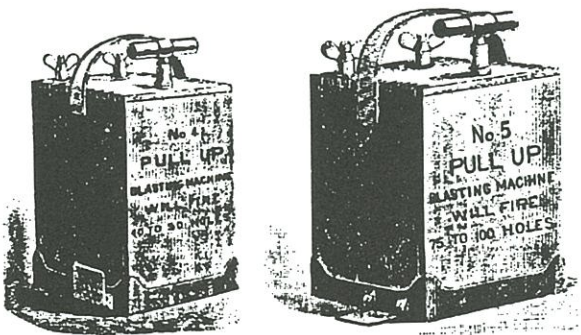
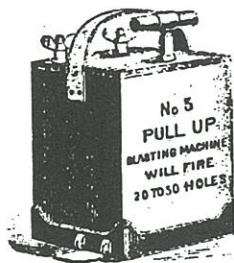
Atlas Blaster No. 0*

This blasting machine bears the permissible plate of the U. S. Bureau of Mines and should be used for the sake of safety in gassy and dusty coal mines.

Capacity: Will fire one 30-foot copper wire electric blasting cap or one 6-foot iron wire electric blasting cap.

Dimensions: 4 3/4" x 2" x 4 1/2" high.
 Net Weight: 3 1/4 lbs.
 Shipping Weight: 4 lbs.

"PULL UP" MAGNETO BLASTING MACHINES.



ATLAS

Atlas No. 3 Blasting Machine

The improved Atlas No. 3 Blasting Machine is the result of considerable experimental work. By the use of the proper materials and improved design, it has been possible to build a blasting machine of high capacity, great durability and smooth operation. The capacity of this machine is far in excess of the old type blasting machines of equal weight. Resistance to the thrust of the rack bar does not appreciably increase during operation, resulting in a machine with a very smooth action.

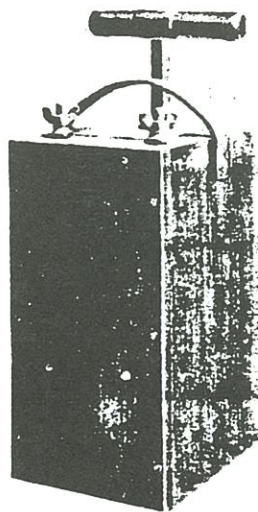
Standard size for quarry, mine and ditch blasting. It is strong and substantial, and one of the most useful sizes of blasting machines.

Capacity: Will fire fifty 30-foot copper wire electric blasting caps or fifty 6-foot iron wire electric blasting caps connected in single series.

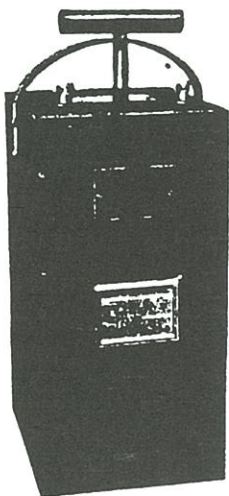
Dimensions: 7" x 8" x 14 $\frac{3}{4}$ " high.

Net Weight: 22 lbs.

Shipping Weight: 31 lbs.



No. 3



No. 5

U. S. Standard No. 5 Blasting Machine

This machine is the same general style as the Atlas No. 3, but differs considerably in design.

Capacity: Will fire one hundred 30-foot copper wire electric blasting caps or one hundred 6-foot iron wire electric blasting caps connected in single series.

Dimensions: 9" x 11" x 21" high.

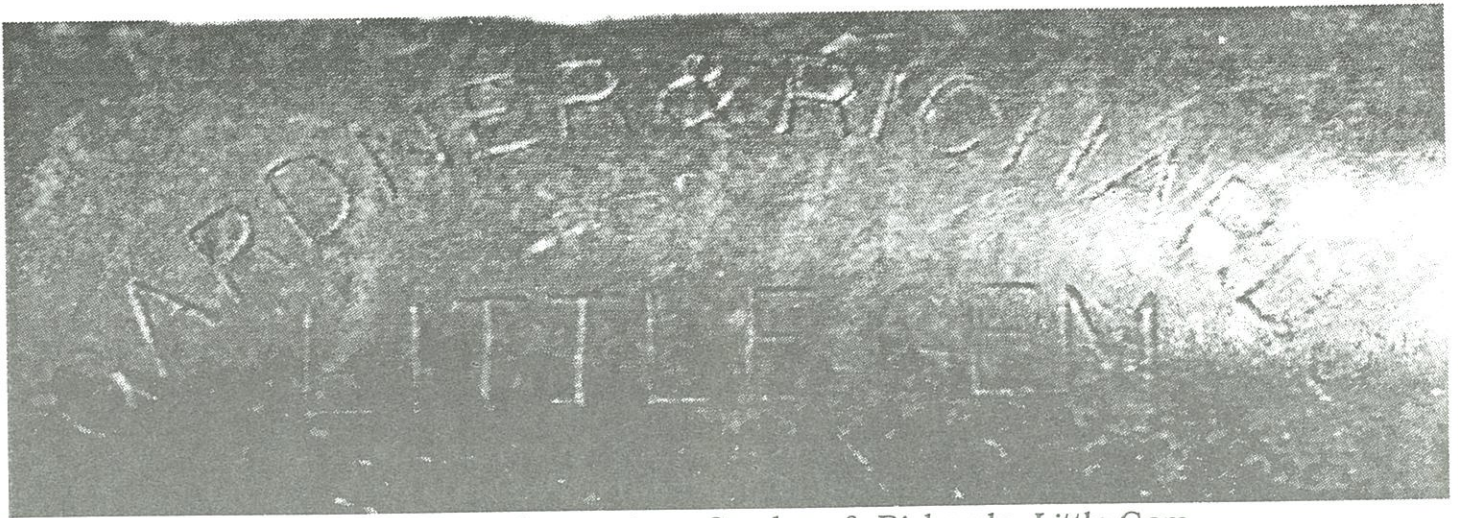
Net Weight: 57 lbs.

Shipping Weight: 75 lbs.

In the early years of electrical blasting four companies were the leading force in the manufacture of of blasting machines. Victor, a company who made the hand crank type, H. Julius Smith, who had his push down model manufactured by the Laflin & Rand Powder Co., Reliable who made early models for Du-Pont, and Hercules Powder Companies, United States Standard who had there own style of plunger type machine, and the Pull Up machine that was sold by the New York Powder Co., in the 1890's. In later years the Fidelity Electric Co. was manufacturing most of the push down machines for the major Powder Companies. The plunger or rack bar machines seem the be by far the most common type of blasters found today. With all the different companies and styles known you could collect 50 different names and styles and still not have them all.

Sources:

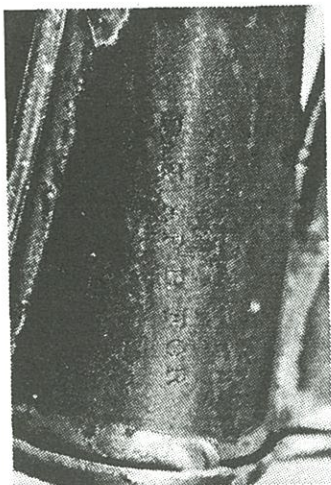
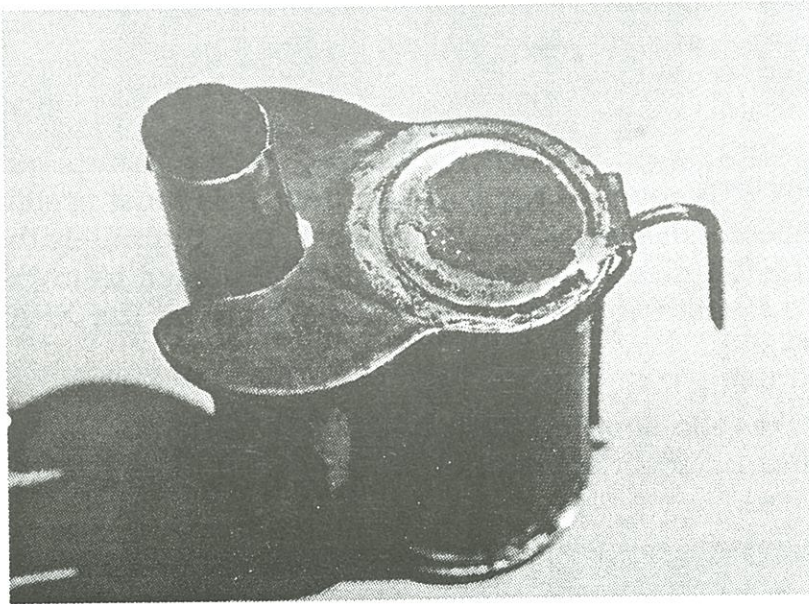
1. The History Of The Explosives Industry In America, by Arthur Pine Van Gelder and Hugo Schlatter 1927.
2. The Du-Pont Blasters Hand Book 4th, 6th, and 12th editions
3. New York Powder Co. Illustrated Catalog 1890.
4. Many thanks to Robert Hauck, of the Sterling Hill Mining Museum, Andy (Cap King) Martin, Jim Swallow, and Mark Bohannon, for photos and text advertisements.



Enlarged view of stamping: Gardner & Richards, Little Gem.

Little Gem

by Dave Thorpe



Unlike carbide lamps whose names were catchy, few oil wick lamps were stamped with anything but patent/maker information. Not so here. Witness the "Little Gem" whose hinged lid resembles a toilet seat. This rare beauty appeared at the Frisco, Colorado show, and was last seen in the hands of Keith Williams. The complete stamping is as follows:

**GARDNER & RICHARDA
LITTLE GEM
STYLE NO. 2
WILKES BARRE, PA.**

(left side)

PAT. AP'D FOR

(right side)

Hunter's Special

by Dave Thorpe

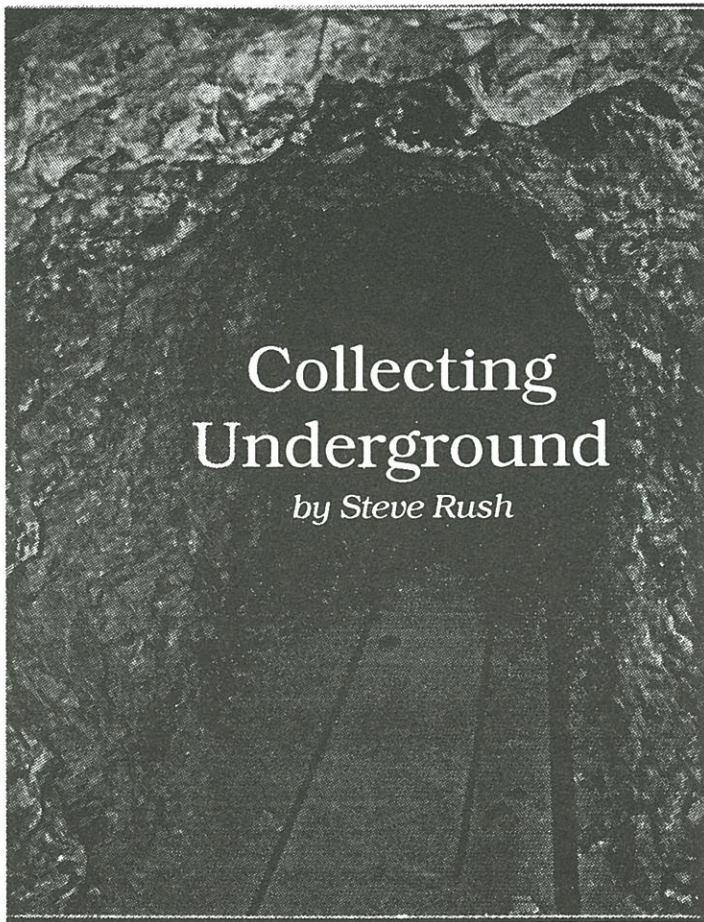


It finally surfaced: the Hunter's Special. Just one ad has appeared of this rare lamp which is very similar to Justrite's XRAY series that included the standard XRAY, the Imperial, and the Fulton. Just who found the ad and where the ad came from are unknown. This model (acutally a Fulton by stamping) has a different reflector from all the "XRAY" lamps. Instead of the brace being square, it is rounded to reinforce the reflector from the periphery. But that is not all. The reflector is crimped straight back instead of rolled, and the lever notches are raised ovals instead of round. Lastly, the water tank does not have the usual scalloped indentations. (Mike Puhl has reported a standard Fulton lamp with the smooth sided water tank).

Justrite manufactured custom stamped XRAY-type lamps for Hardsocg (stamped Imperial) and for the Emmons Hawkins Hardware Co. (known as the Fulton). Justrite's most prolific designer was Augie Hansen, whose tilt reflector design included the XRAY, and ultimately the Hansen lamps after leaving Justrite. The "Hunter's Special", (the lamp is named from the one known advertisement), represents a transition in reflector bracing between the XRAY and the Hansen.

This lamp was displayed at the Frisco, Colorado show on June 14th. It is owned by Bernie and Dottie Haynes. Any other information or advertisements that may shed more light on this rare lamp would be greatly appreciated.





Collecting Underground

by Steve Rush

Yellow eyes glowed steadily back at me in the reflected light from my hard hat lamp. I frowned, somewhat thoughtfully, trying to recall what color George's eyes were. George was somewhere up ahead, having left me to my own devices amid the clutter of old dynamite instructions and cap tin litter. The orbs before me had a sort of baleful look about them, an expression not common to my good friend's face. And now I remembered, George's eyes were brown. His eyes were also somewhat farther from the ground, wed except for that time that involved a shared bottle of C.C.. These pale sparks belonged to some creature that wasn't interested in artifacts or minerals. They appeared interested in me, or my lunch in the day pack. Or me for lunch, with my day pack. Somewhat later, while enduring hoots of derision from George after describing my successful getaway from one monster Ring-tailed, I contemplated an of the ways for one who spends some **time underground**

to be injured or scared towards an early grave. They are many. I began collecting mining artifacts underground way back when I was a youngster of twelve or so. I think it began when my dad, an avid desert rat, pointed out the dark portal of an adit and, in his gentle manner, said " don't let me catch ya goin in there or I'll smack ya a good one". So, of course, I wisely never allowed him to catch me. Weak flashlight in hand, I recall venturing into an inclined shaft near the long gone town of Tumco, California, and spending hours exploring drifts and crosscuts. Bringing out a few rusty items from long ago, I was hooked. Through the seventies and into the eighties, while most of my friends were busy with things that would later help them to forget the seventies and eighties, I put many miles on my old car in search of abandoned mines. My best friend Charlie shared my enthusiasm, so although we went to plenty of places an expert wouldn't have dared venture, we never went alone. In all those years, I enabled myself to pack rat away with lots of old stuff. Stuff I would really like to have back today. Like the candle box full of handles, the old board with the mine crew's names written in carbide soot, the letters and notes from a mill hand about his experiences in the mill, and of course the pair of Can't Bustem overalls with the candlestick in a side pocket. These items resplen-



A nice underground find on a 1996 trip to California.

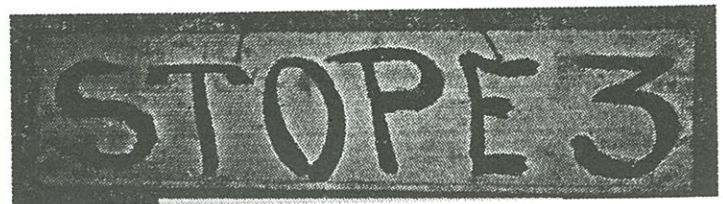


Mines of this type are not a good thing.

dent with history, and many others not remembered, were left by the wayside of long ago moves, or given to friends. I never considered that these items had a real intrinsic value until I met Leo Stambaugh in 1990, and of course ever since then I have been paying tuition to S.U. (Stambaugh University) for the privilege of learning their worth. I still collect underground. I'm much better equipped now than in years past, and know what not to touch (stand alone timbers and loose wall rock for example) and what mines not to go in (about anything with water running from the portal and never into a mine that has lion tracks going in but not out.)

A lot of excellent collecting can also be done on the dump, especially below where the min-

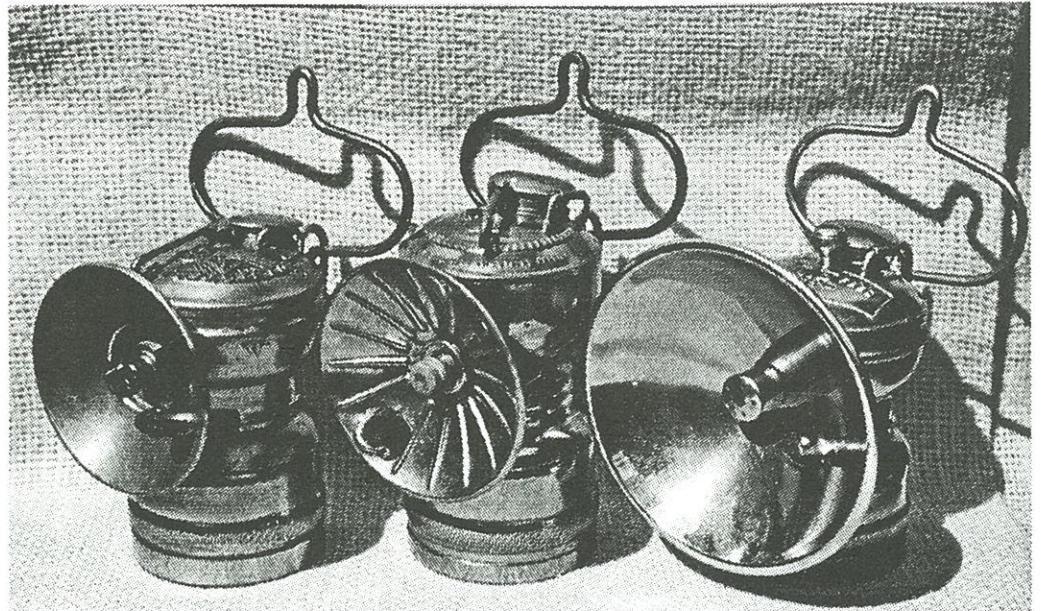
ers tossed their trash. And today, except for a few hundred of us from a population of several million, it is still trash. But collecting underground, particularly in the dry mines, is still what I consider to be a great and exciting hobby. I do not trespass on private property- there are many mines long ago abandoned on BLM (state) land which can be found. I do not vandalize historic buildings. No collectors worthy of the hobby vandalize anything, and in fact, most I know would gladly take the opportunity to turn someone in who they saw doing this. And the Antiquities Law notwithstanding, just about anything you see in a museum or antique shop was at some point rescued from distraction in a land fill or left unseen in a dark corner (or an adit). So, I know it's not a '90's sort of thing to do, not being what you'd call politically correct, but I do it. And a lot of my close collector friends do it, and probably so do you. You can easily be killed or injured underground. It is, however, just as likely that you'll be killed or injured on the drive to the mine itself. Perhaps less likely the mine, more likely the drive. A little common sense will go a long way towards a safe underground venture, most importantly, if you're uncomfortable with it or afraid, don't go! And never go alone. And if you are unlucky enough to be injured, for cripesakes hold yourself responsible, don't get a lawyer, get better, and don't do again what you did that hurt you. The underground's not for everyone, but for those of us who feel confident enough in our abilities, it's a whale of a good time. And the stories that could be written regarding this kind of collecting... 'ol Cap-Tin Bob has scratched the surface. Perhaps I'll hole up (no pun intended) for the winter and pen a couple myself. Good hunting, all!



From a Nevada underground trip.

Folding Handle Cap Lamps

by Dave Johnson



A factory feature that I am aware of appearing on three different carbide cap lamps is an unusual 3-position folding handle. Seen here on SunRay, Pioneer and ITP Float Feed cap lamps.

The bracket on the back of the lamp has notches that lock the handle into any one of the 3 positions. The position of the handle is changed by squeezing the handle, moving to the desired position and releasing the handle.

In the upright, or vertical, position the lamp could be carried with the handle serving as a bail. In this position the notch in the handle

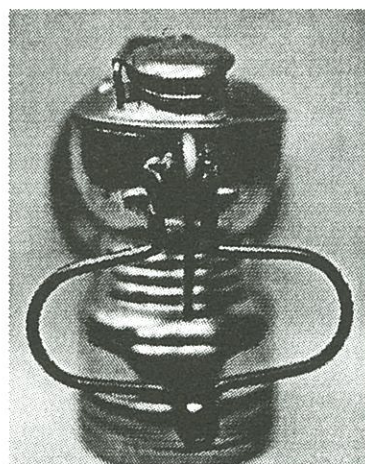
would allow the lamp to be hung from a nail, as well as being carried in the hand.

The horizontal position allows the lamp to be pointed up or down comfortably, unlike can be accomplished with a bail type handle. When folded down the lamp can be attached to a hard hat or soft cap just like any other cap lamp.

I have been unable to obtain any patent information on this lamp feature. Given its uniqueness a patent would have been obtainable. Judging by the few pieces seen today, I doubt many were produced or it found little acceptance.



ITP Float Feed -UP



Pioneer - DOWN



Sunray - OUT

Bottom Light Miner's Lamps

by Manfred Stutzer

Most miners' lamps, be they carbide, oil, benzine, or electric are constructed with the light above the fuel chamber. This was the most practical arrangement for a lamp that was carried or set on the floor. In this article I will present examples of "reverse constructed" lights with the fuel above the light source. These are relatively rare, and to date, are not seen in many collections.

For lack of a better term, I will call these "Bottom Light" lamps. Most were designed to be hung from a ceiling, though some were also constructed so that they could be placed on the floor as well.

One could categorize mining lamps according to their portability. The most portable were carbide cap lamps and oil wick lamps, used primarily by coal miners whose work in soft digging required them to be constantly on the move. The seams the miners worked in were often a low as 18 inches, and a small portable lamp was a necessity here.

Next in portability was the hand lamp which, though widely used in many types of operations, were typically used in the hard rock mines where a miner remained in one spot for a considerable length of time. The passage was a big as the miner cared to make it and a larger lamp that cast a strong light, but could remain in one spot for several hours, was the best alternative.

The least portable lamp was the Bottom Light lamp. In fact many advertisements referred to these lamps as "stationary" lamps. They were best suited to permanent passageways that required long term illumination. The best

place for such a lamp was the ceiling for it would be out of the way and could flood the entire work area with light. The fuel chamber on top was ideal, since it would not block any of the precious light.

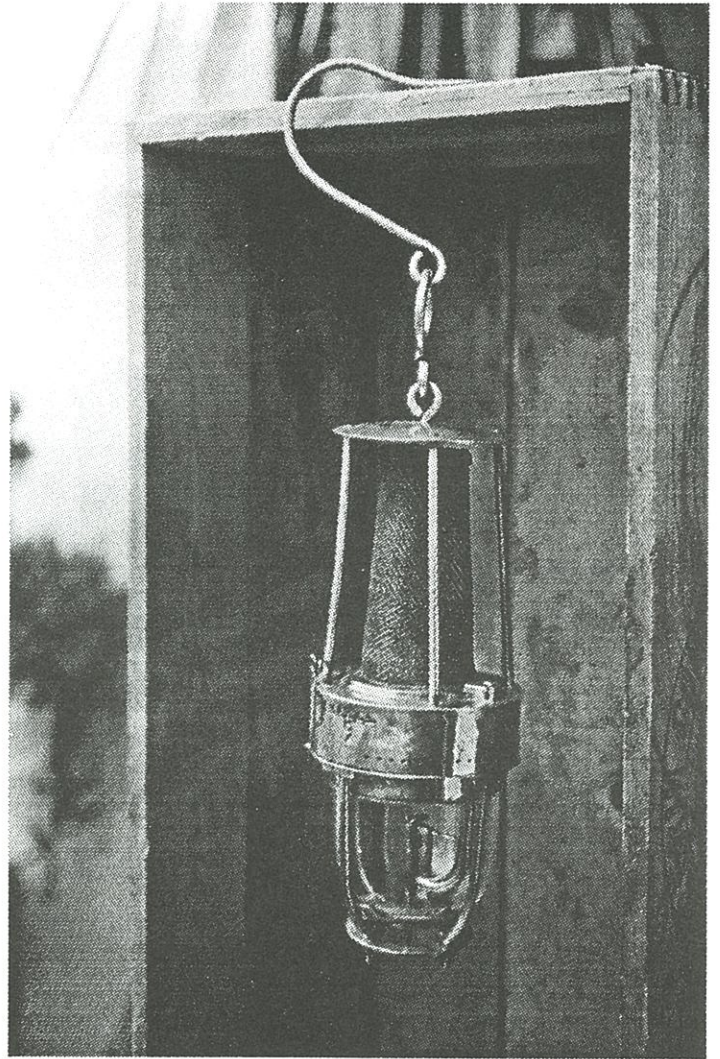
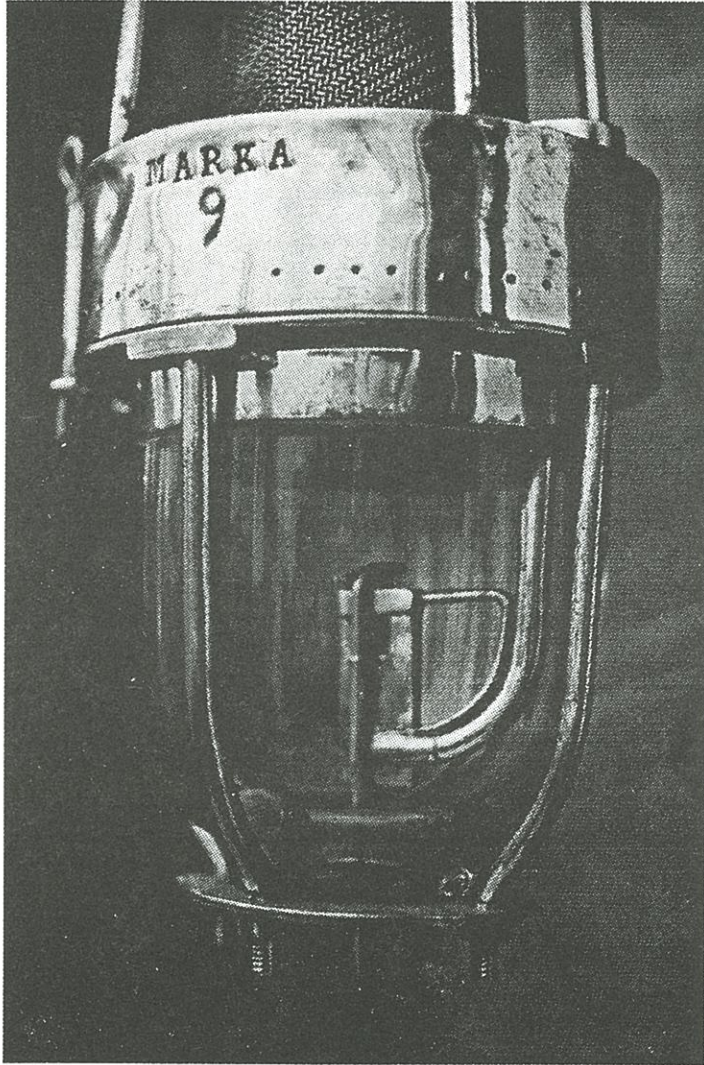
This special purpose lamp design could be contrasted to the Ashworth style lamp that was designed to illuminate and test gas from the ceiling. Though the Ashworth would generally be hung from or held up to the roof, it cast its light upward due to the tapered glass cylinder. It's use for general illumination was limited due to this design.

Bottom Light lamps were used to light roadways, machine houses, horse stables, large rooms, and shafts.

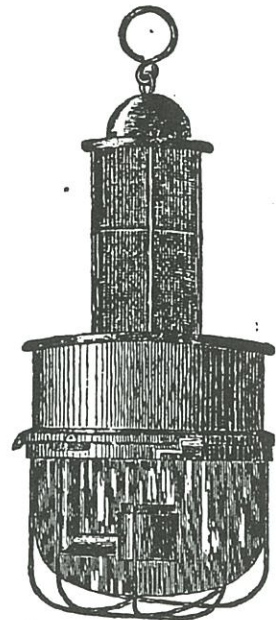
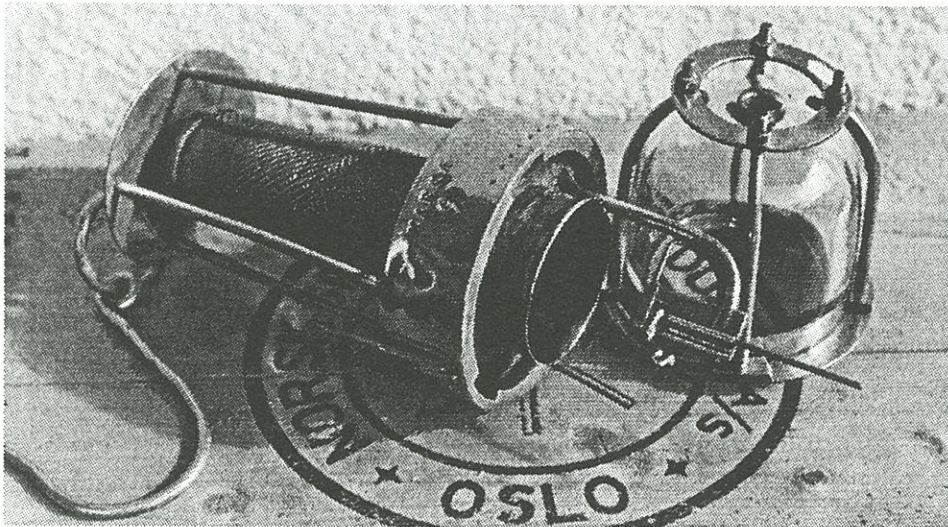
They are found with a variety of fuels, including oil, carbide, and electric. One model was even supplied with forced air for brighter light, and was known as the "air turbo" lamp. Some were safety lamps, though most were for general lighting. Almost all were of European manufacture, with Wolf being the most prolific maker.

One must question why none of the major American firms produced Bottom Light lamps. As these lamps were generally stationary, they sustained little abuse. So it is possible that few were needed, as they rarely would need to be replaced. The market would therefore have been small compared to the nearly disposable cap lamp. This small market niche would probably have been best filled by import.

Flame Safety Lamps



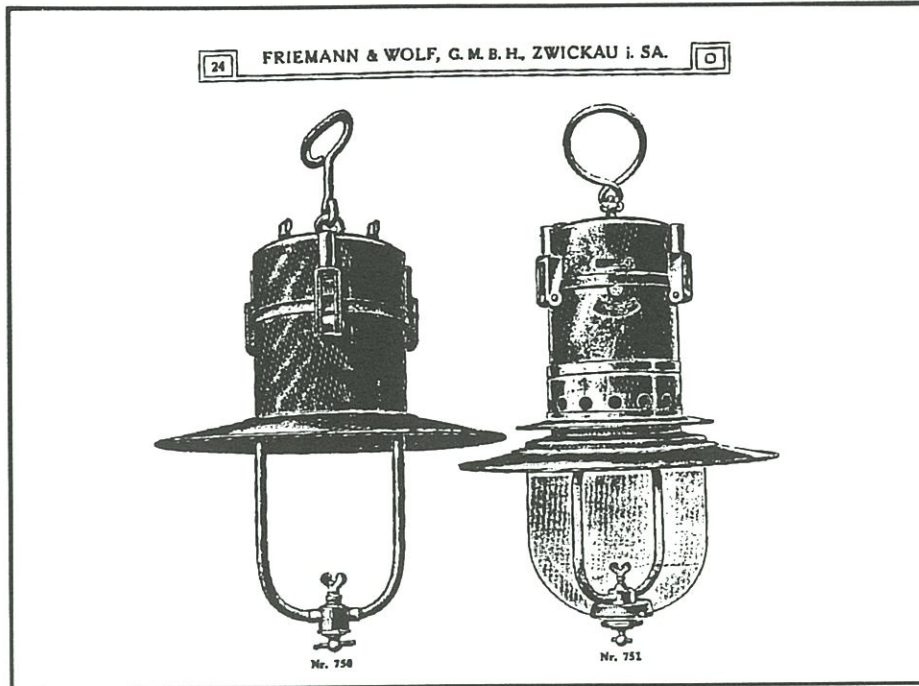
The photos show a safety lamp marked "MARKA". It dates to 1880 from the Austrian-Hungarian monarchy.



*Edcard's Patent,
Fig. 83.*

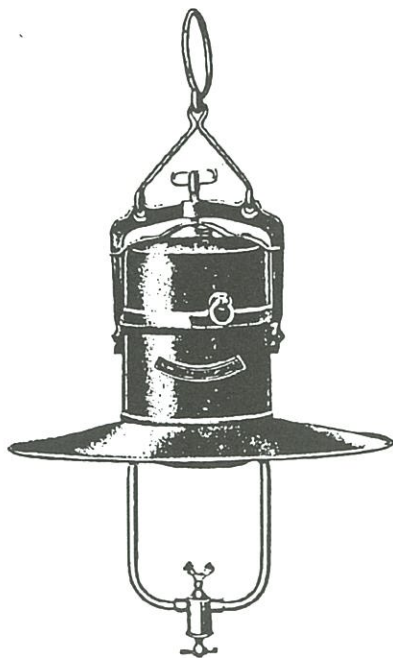
*Flame safety lamp by
Edwards Cardigan Works,
Wakefield, England, 1885.*

Carbide Lamps



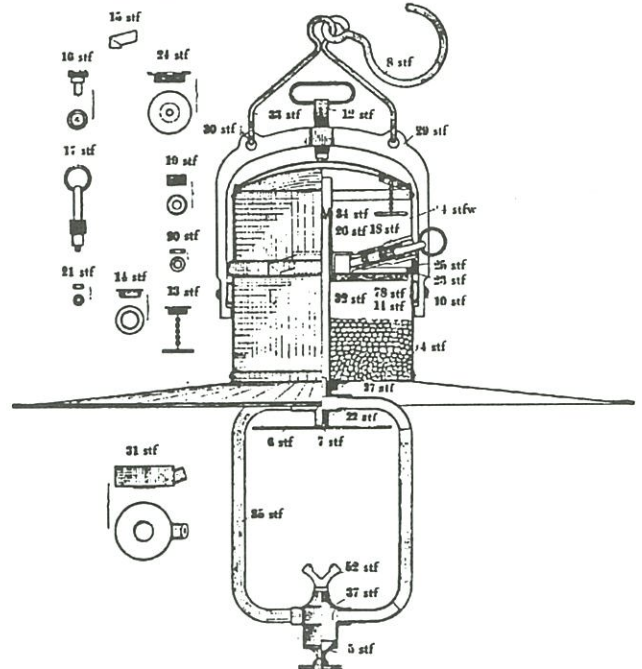
*Friemann & Wolf, Zwickau, Sachsen. Sales catalog 1908. No. 750
Opperau, without glass, No. 751 Oppensi, with glass.*

Stationary Lamp No. 150.



No. 150(7 ASt).

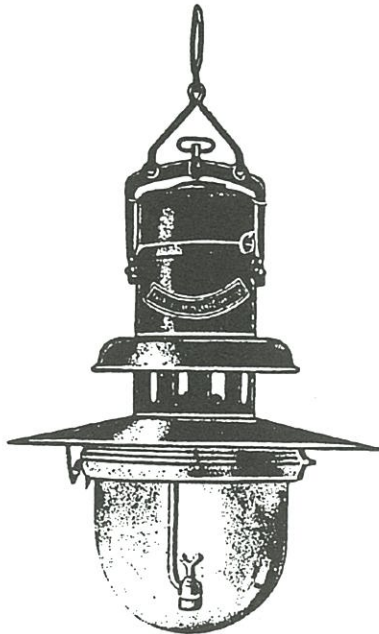
Wolf's freibrennende Acetylenlampe mit Bügelhebelverschluss ohne Glasglocke.



Sectional view of lamp No. 150.

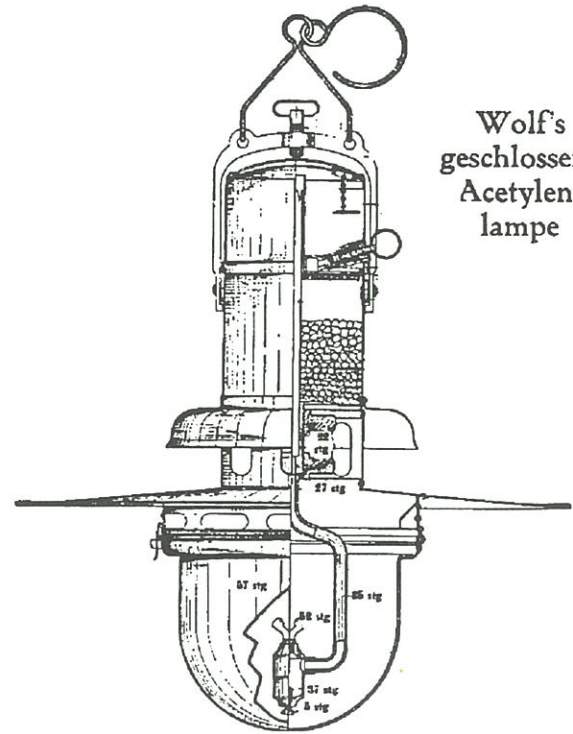
*Stationary Lamp No. 150, Wolf, Sheffield,
1910.*

Stationary Lamp No. 151.



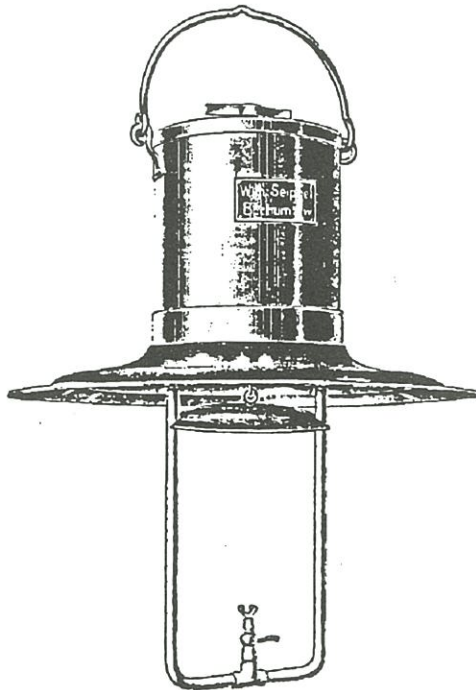
No. 151 (8 ASI).

Stationary lamp No. 151, Wolf, Sheffield, 1910, protected flame.



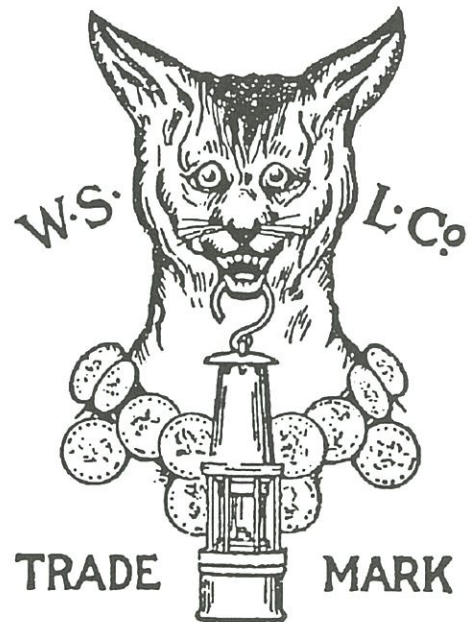
Wolf's
geschlossene
Acetylen-
lampe

Sectional view of lamp No. 151.



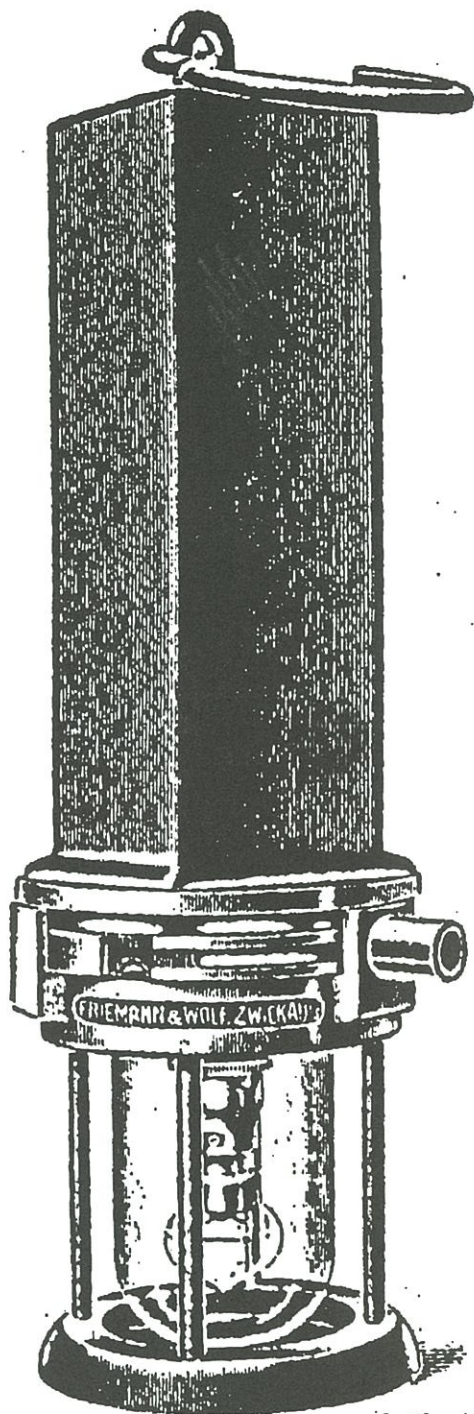
No. 103 b.
Gewicht: 9,5 kg. Höhe: 630 mm

Wilhelm Seippel, Bochum in Westfalen. No. 103b, hanging shaft lamp, sales catalog 1908.



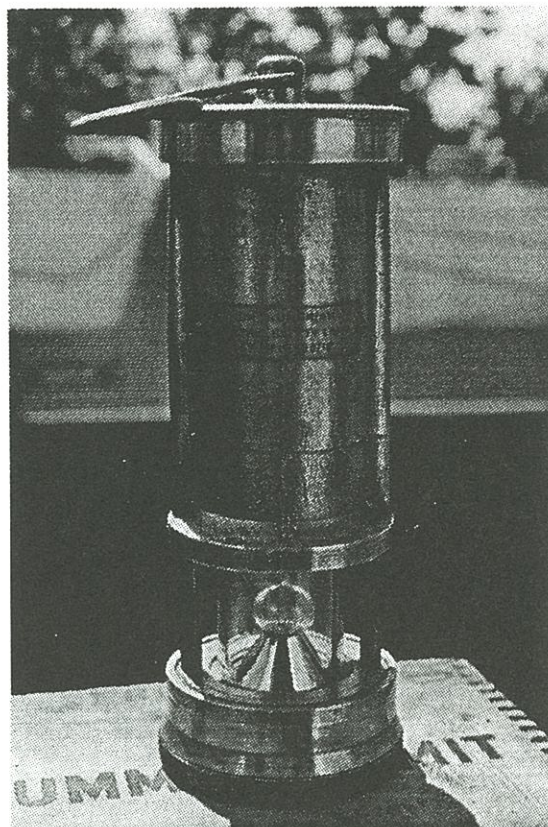
Trade symbol Wolf, Sheffield, 1910

Electric Lamps

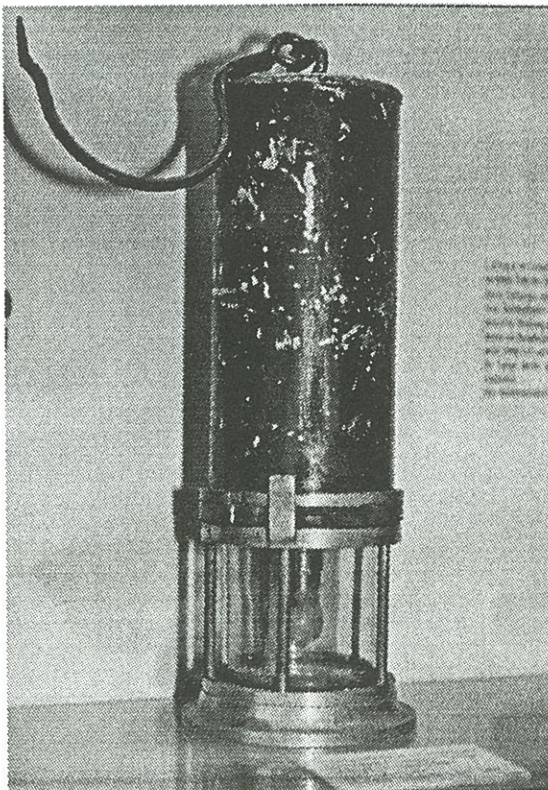


Nr. 821

Friemann & Wolf, Sachsen, sales catalog 1906. No. 821 Radeberg, electric miner's lamp, System Bohres.



Aluminum lamp made by Northumbrian Electric Safety Lamp Ltd. around 1920, England.



Friemann & Wolf, Zwickau, Sachsen, 1902, System Bohres.

KAISERLICHES PATENTAMT.



PATENTSCHRIFT

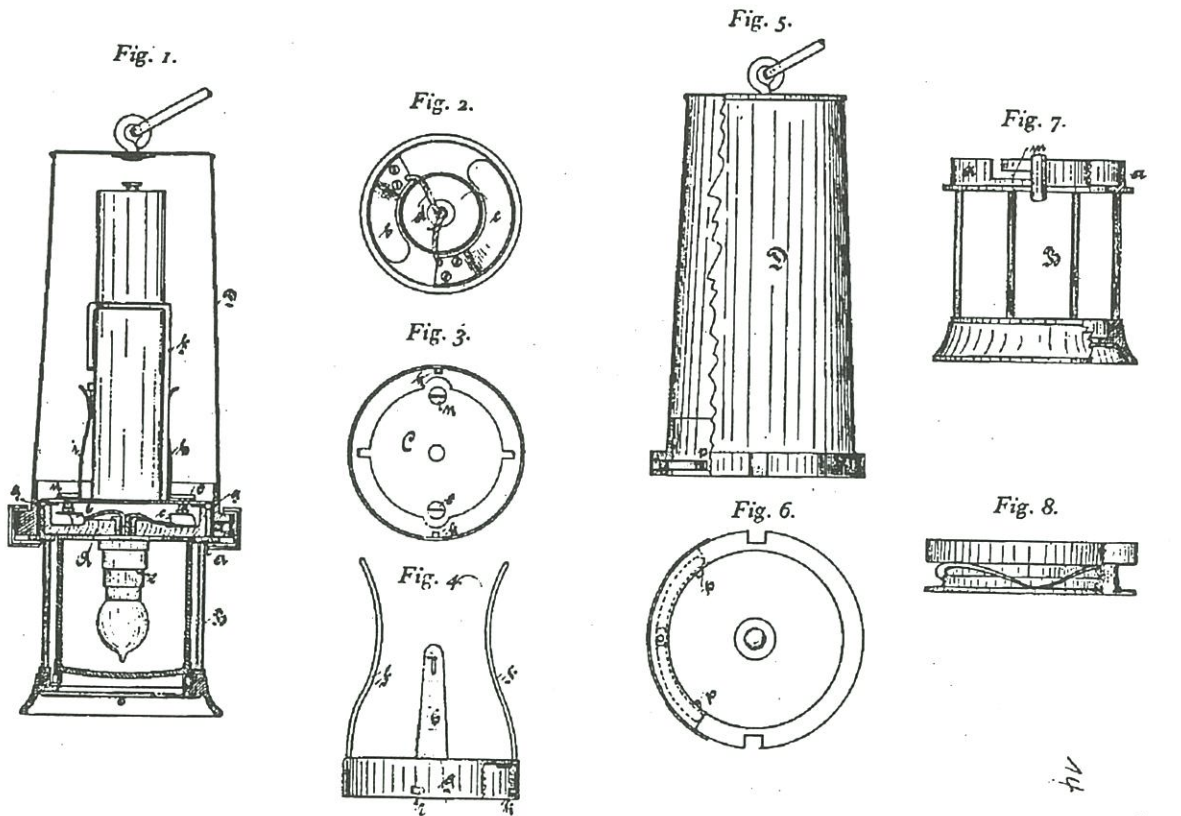
— № 103705 —

KLASSE 21: ELEKTRISCHE APPARATE UND MASCHINEN.

RICHARD CREMER IN LEEDS (ENGLAND).
Schaltvorrichtung für elektrische Grubenlampen.

Patentirt im Deutschen Reiche vom 24. April 1898. ab.

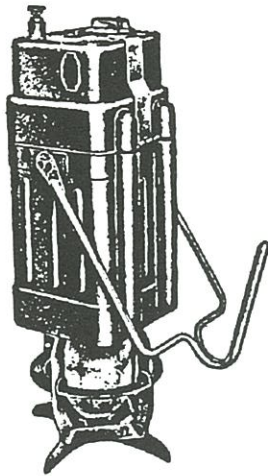
RICHARD CREMER IN LEEDS (ENGLAND).
Schaltvorrichtung für elektrische Grubenlampen.



Zu der

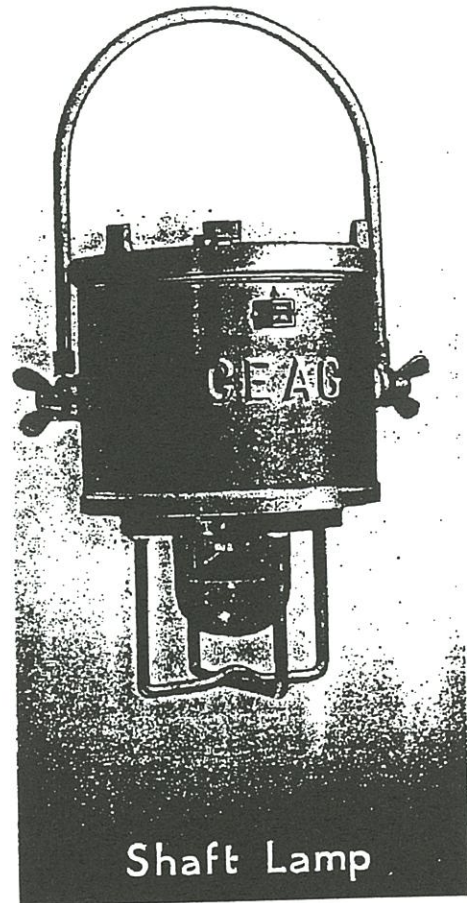
Patent from 1898 for Richard Cremer, Leeds, England.

CEAG
FERNMELDELEUCHE
 Type FL1
 Ersatzteilliste 1011\31 Est



CONCORDIA-ELEKTRIZITÄTS-AG. DORTMUND
 Grubenlampenfabrik **Dortmund** Münsterstraße 231
 Drahtwort: CEAG Fernschreiber 032169 Fernsprecher 33556

*CEAG, Dortmund, Germany, around 1950,
 type FL 1.*



Shaft Lamp

*CEAG, Barnsley, England, shaft lamp,
 around 1935.*

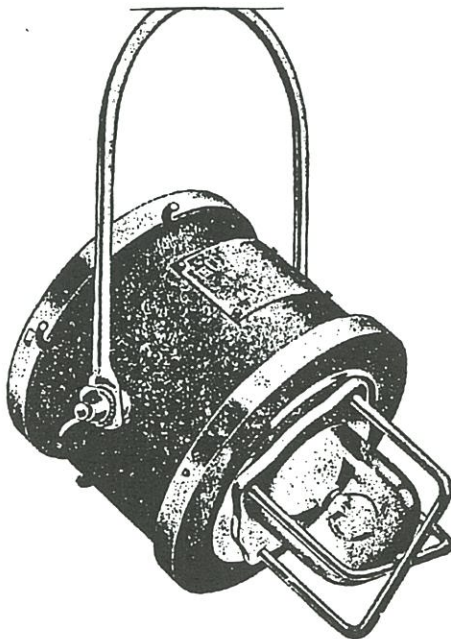
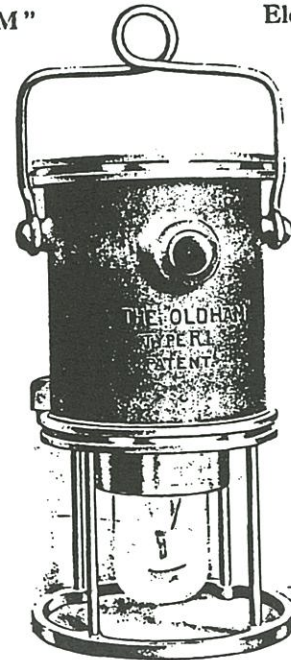


Fig. 104

Similar lamp as above right.

"OLDHAM"
 Approved

**Electric Safety
 Lamps**

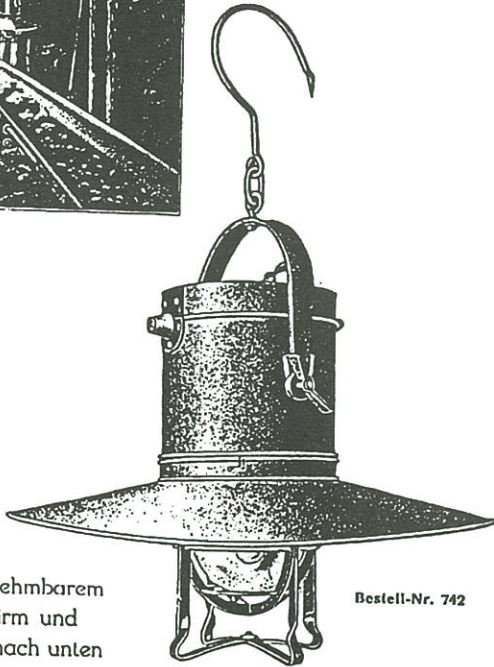
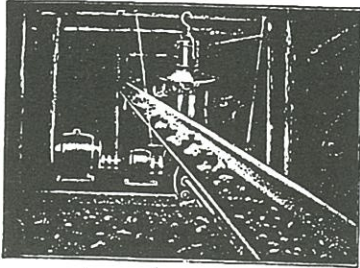


TYPE R.1. for Shaft, Roadway, and Repair work.

*Shaft lamp made by Oldham/Denton, En-
 gland, around 1930.*



Alkali-Starklichtlampen
mit Lichtstrahlung nach unten



Lampe mit abnehmbarem Reflektorschirm und Lichtstrahlung nach unten

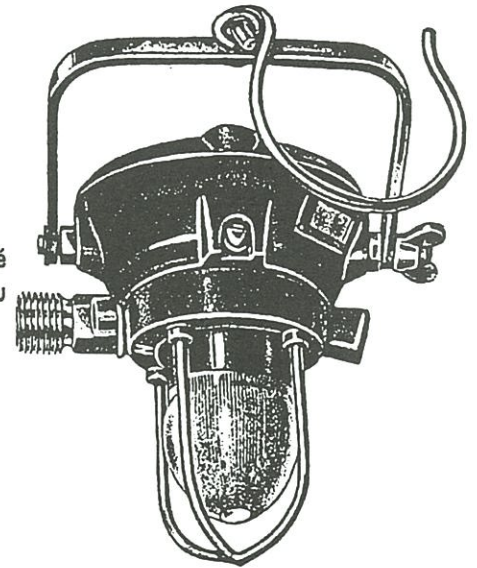
Bestell-Nr. 742

Friemann & Wolf, Zwickau in Sachsen, around 1935.

FW-Preßluftleuchte
Typ 0444 u

FW
Airturbo Lamp
Type 0444 u

Lampe
à Air Comprimé
FW Type 0444 u

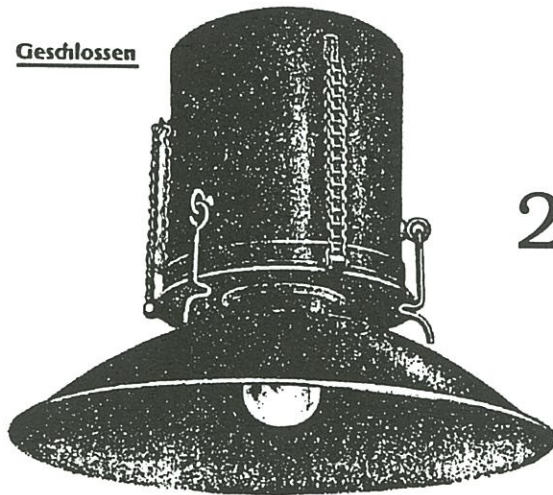


FRIEMANN & WOLF GMBH
AKKUMULATOREN-UND GRUBENLAMPENFABRIK
RUFSA-NR. 31451 **DUISBURG** GEGRÜNDET 1884
BERLIN MÜNCHEN SAARBRÜCKEN

Airturbo lamp, type 044u, made by Friemann & Wolf/Duisburg, around 1960.

f) Elektrische Akkumulatoren-Hängelampe
für Platz-, Raum- und Füllortbeleuchtung etc.

Geschlossen



Geöffnet



20

Nr. 100
Elektrische Akkumulatoren-Hängelampe für Platz-, Raum-, Füllortbeleuchtung etc.
Ganze Höhe der geschlossenen Lampe ca. 360 mm,
Durchmesser des Reflektors 420 mm, Gewicht 13 kg.
Lichtstärke 16 NK., Brenndauer 10 Stunden.

Shaft lamp made by Bochum-Lindener Zuendwaren- und Wetterlampen-Fabrik C. KOCH, sales catalog 1914, Type no. 100.

First Generation Wolf Lamps

by Dave Johnson

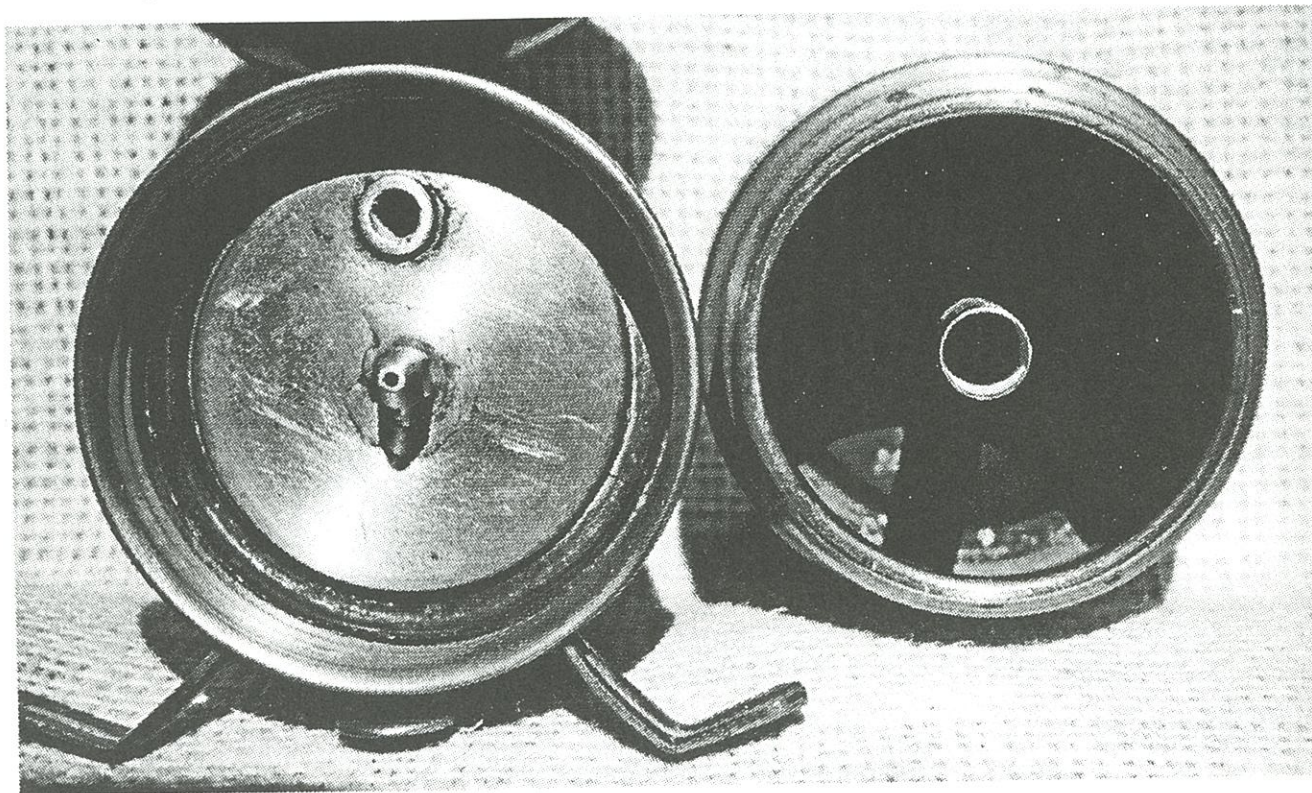
The first Wolf carbide cap lamp sold in America was the Wolf Model 911a. This lamp was initially marketed by the Wolf Safety Lamp Co. of America, Inc., a subsidiary of the Friemann and Wolf Co. of Zwickau Germany.

The 911a is the largest Wolf cap lamp of the five distinct Wolf models produced. The 911a is 4 9/16" tall to the top of the water control lever, while the "dome top" Wolf is 3 3/4" tall to the top of its water control lever and the "flat top" Wolf is only 3 3/8" tall to the top of its water lever. The base of the 911a is 2 1/2" in diameter while the "flat top" and "dome top" bases are 2 1/8" in diameter.



Wolf's first American made carbide cap lamp.

Interior of Wolf carbide cap lamp.

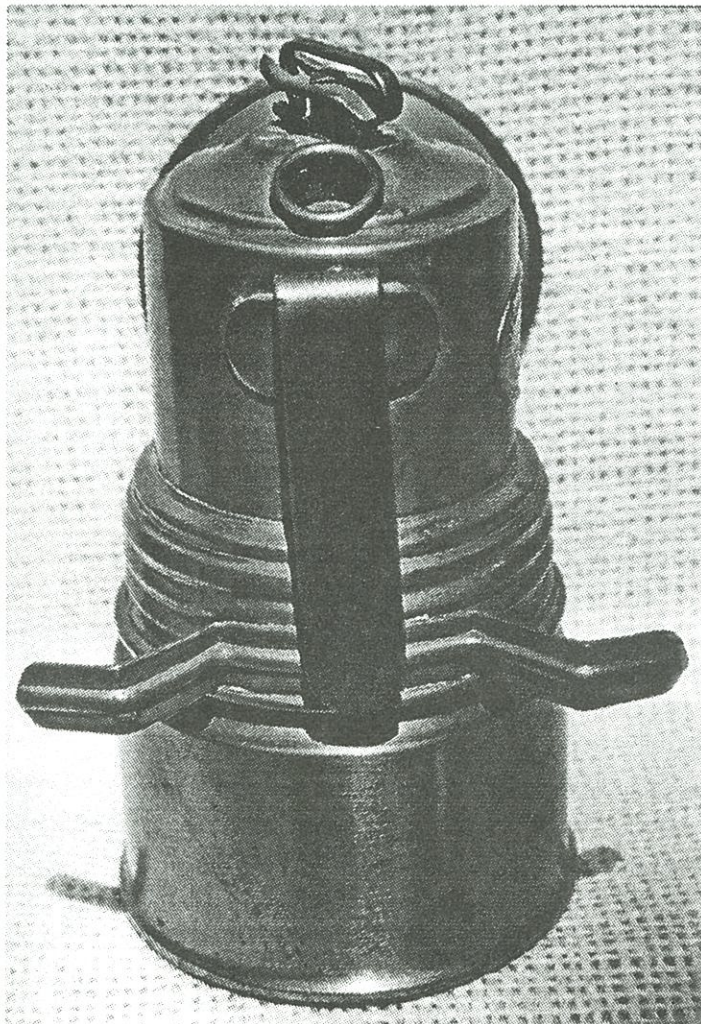


While Wolf produced five different carbide cap lamps they produced only one oil wick cap lamp. This tin-plated steel lamp was shaped differently than any other oilwick cap lamp ever produced. The lamp shared two components with the 911a carbide lamp, the Crystal Bldg. address brass nameplate and the brass cap brace. Measuring 3" in diameter and 2" high this lamp was obtained by old-time collector George Bayles from Wolf Safety Lamp Co. of America one-time Treasurer, and later owner, Domingo Anglada. Allegedly this lamp was a prototype model that was never offered for sale by Wolf. One has to wonder why Wolf would consider manufacturing an oilwick after they had introduced their carbide cap lamp. There was obviously some market for oilwicks well after the introduction of carbide cap

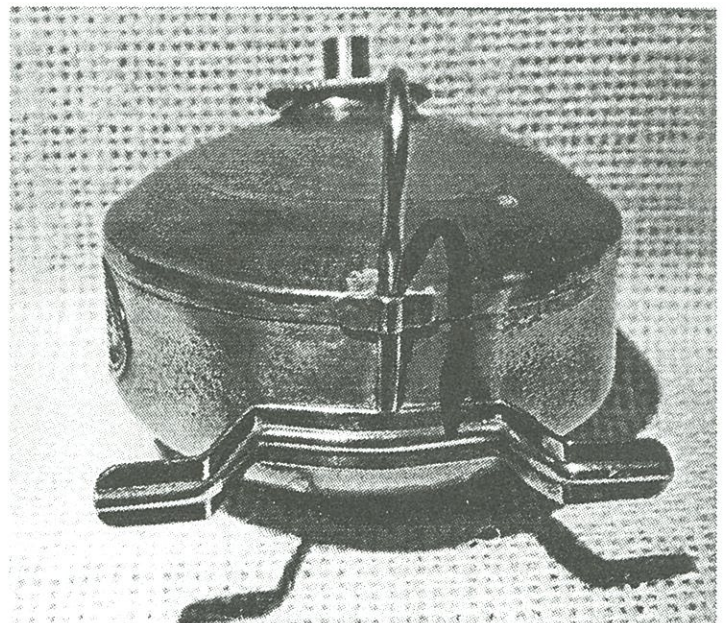
lamps, the last patent for an oilwick lamp was in 1915. There were 16 patents for oilwicks from 1910 to 1915, a period in which many firms began manufacturing carbide cap lamps.



Wolf's only oil wick lamp.



Comparison of the oil wick lamp and the carbide cap lamp shows the cap braces to be the same.



Pewabic Mining Co.

by Dave Johnson

The first modern attempt at copper mining in the Lake Superior Region was made unsuccessfully by the Pittsburgh and Boston Mining Co. near Copper Harbor at the tip of the Keweenaw Peninsula in 1844-45. When these attempts failed the company moved south and opened what was to become the first dividend paying mine in the region (1849), the Cliff Mine. The Cliff Mine worked a fissure lode consisting of masses of copper, unlike the later developed and more long term profitable amygdaloid and conglomerate lodes.

In the early 1850's there were only about 800 men working the Lake Superior copper mines. The largest of these mines, the Cliff, employed less than 200 men, while the next three largest employed about 100 men. More than a dozen other companies, trying to establish themselves, employed between 50 and 30 men each. The new Pewabic Mining Co. was on the low end of this employment scale when it was formed and initially searched for a likely lode to work.

In 1855 the Pewabic Lode was discovered north of Portage Lake in present Keweenaw County. With the discovery of this promising amygdaloid lode, one of the first successfully worked, the Pewabic Mining Co. increased its small work force to develop their property. The first workers hired were all single men or men living apart from their families. Between 1855 and 1858 the Pewabic built six boarding houses for its workers, with each house accommodating 18 men. Company employees did not have the option of living in individual houses, they did not exist. By 1859 employment had increased to 211 men and additions were put on two existing boarding houses and five more were built. The same year eight log houses were built for married miners with



Pewabic Mining Co. check tag.

families. From 1860 on only single family housing units were built in the form of single houses or duplexes. By 1861 employment stood at 730 men and boarding houses were being phased out in favor of family dwellings. Married workers being deemed more stable - less likely to jump from mine to mine and less likely to be disruptive. Families were encouraged by the company to take in single men as boarders in the hope that their daily contact with the family unit would prove to have a settling affect upon the single men. This method of housing development was typical of early copper mines in the Lake Superior Region.

From its opening in 1855 until 1865 the Pewabic assessed its stockholders \$75,000 for improvements and paid out \$380,000 in dividends. During the 1860's the Pewabic was among the best of the amygdaloid lode copper producers.

By the early 1860's the shafts had reached to about 650' in depth. Always looking for ways to increase production the agent for the Pewabic and adjoining Franklin Mine introduced the first power drills to the Lake Superior Copper mines in 1867. These first drills were "Burleigh" drills manufactured by the Burleigh Rock Drill Co. of Fitchburg, Massachusetts. These first Burleighs were large heavy piston drills. The drill steel was held firmly in a chuck which was connected directly to the forward facing end of the piston. Compressed air reciprocated the double-acting piston, alternately driving the entire drill steel forward and back. The Burleigh used a rifle bar and a ratchet and pawl mechanism (a pivoted tongue or sliding bolt on one part of a machine that is adapted to fall into notches on another part, such as a ratchet wheel, so as to permit motion in only one direction) to rotate the drill a partial turn prior to each of its forward strokes. The Burleigh also featured an automatic feed which added significantly to its weight. The Burleigh "tunnel drill" could bore a hole 36 inches before the drill team had to back it off and insert a longer drill steel. This drill was about 67 inches long and weighed more than 550 pounds without its clamps and mounts. The Burleigh "mining drill" was a foot shorter and could bore a hole 26 inches before changing the drill steel and weighed about 75 pounds less than the heavier tunnel drill.

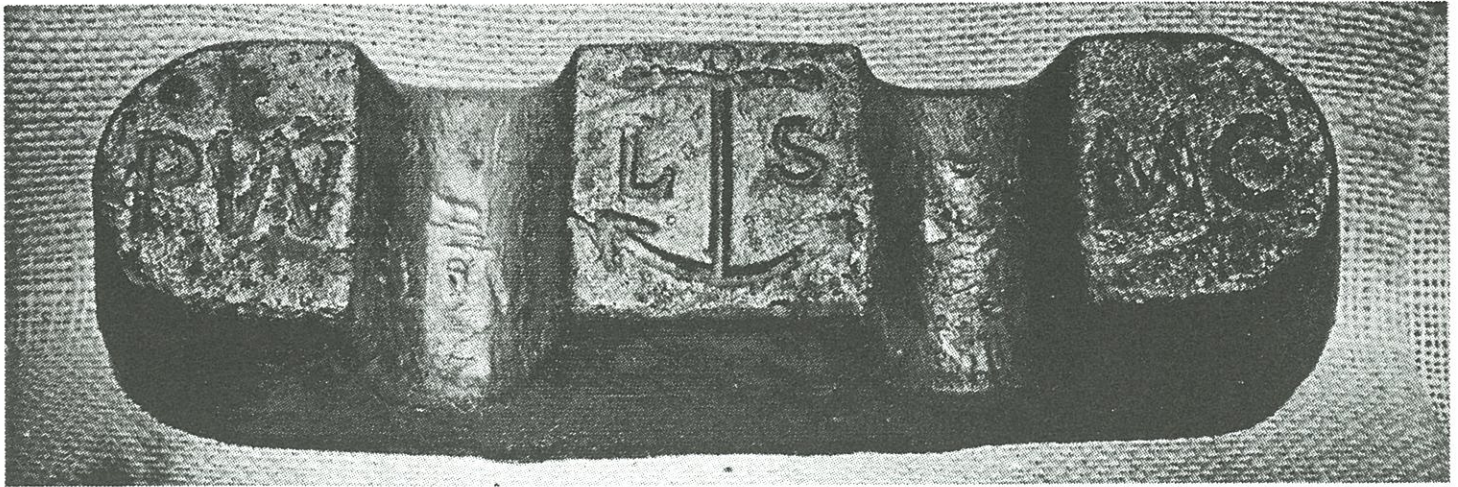
By 1869-71, the Burleigh drill was in use by Calumet & Hecla, Copper Falls, Quincy and other companies. These drills proved to be so cumbersome and difficult to handle that most companies reverted to hand drilling or turned their drills over to contract drilling crews. In 1875 the Franklin Mine, unsuccessfully, tried a Winchester drill, while the Isle Royale Mine tried an Ingersoll drill in 1876. Other mines tried drills manufactured by such competitors as Gardner, Brown, Horton, Duncan, Bryer and Wood.

Between 1879-83 the new Rand compressor and "Little Giant" drill was introduced to the copper mines and found almost immediate acceptance by all the copper mining companies who were only too glad to shelve their remaining cumbersome Burleighs.

The new Rand Little Giant was similar to the Burleigh but lacked the heavy automatic feed, the hand cranked feed reducing the overall weight greatly. The Rand drill had an internal tappet valve that was moved directly by the cylinder, controlling intake and exhaust to the cylinder. This protected valve was a major improvement over the Burleigh's heavier valve gear that was exposed outside the cylinder.

The results obtained with the new Rand drills were impressive. The Quincy Mine was able to maintain the same production level with only 2/3 of the previous underground work force, the Osceola Mine reduced their work force by 80-100 miners by using just 10 Rand drills and Calumet & Hecla was able to produce 20% more tonnage with a 20% reduction in their underground work force.

As well as pioneering the use of power rock drills the Pewabic Mine also pioneered the use of man-engines to raise and lower miners in the United States. Prior to the manengine the miners climbed ladders in the shafts. The man-engine was a "mechanical ladder" of sorts. It consisted of two side-by-side wooden rods about a foot square bolted together end to end. These rods, resting on rollers on the back of the inclined shaft had small platforms attached every 10 feet. The upper end of each wooden rod was connected to a counter-weighted triangular "bob" at the surface, this was connected by another rod to gearing connected to a steam engine. These connections were made in such a manner that when one bob rose up the other dropped causing the rods in the mine shaft to reciprocate in opposite directions. By stepping from one platform to **another the miner could ascent or descend the**



20 pound Pewabic copper ingot.

shaft with much less effort than had previously been required on the ladders. The Pewabic Mine installed its first man-engine in 1866.

By the early 1890's many mining companies had phased out their man-engines in favor of man-cars, long specialized skips, usually with ten rows of bench seats with room for 3 men on each row.

In 1891, the nearby Quincy Mining Co., which worked a portion of the Pewabic Lode, purchased the Pewabic for a little over \$800,000 after several years of off-again-on-again mining activity. The Pewabic Lode ran about 1.4% copper on the Pewabic property and richer on the Quincy property, running between 1 % and 4% copper per ton of rock mined. The Quincy Mine was developed after the Pewabic discovered the lode and it was found to extend under the Quincy property. The Quincy became known as "Old Reliable" as a result of its ability to consistently pay dividends to its stock holders, missing only two years between 1861 and 1920.

The 20 pound copper ingot pictured here was salvaged from the sunken wreck of the steamer Pewabic in 1975 in Lake Huron. The steamer Pewabic sank on August 9, 1865 with a cargo

of copper ingots from several Lake Superior copper mines. This particular ingot bears the marks of the Pewabic Mining Co. (PW.M.C.) and the Lake Superior Transit Co. (L.S.T.), the firm that owned the steamer Pewabic. Original marked copper ingots of this age are extremely rare as they were not meant to be kept as ingots but rather to be processed into finished copper products.

SOURCES:

Michigan Copper & Boston Dollars by William B. Gates, Jr. Harvard University Press 1951

Copper Manual D. Houston & Co. Pub. 1899

The Copper Handbook by Horace Stevens, M.A., Donohue & Co. 1911

Red Metal by C. Harry Benedict, University of Michigan Press 1952

Cradle to Grave by Larry Lankton, Oxford University Press 1991

Strangers and Sojourners by Arthur Thurner Wayne State University Press 1994

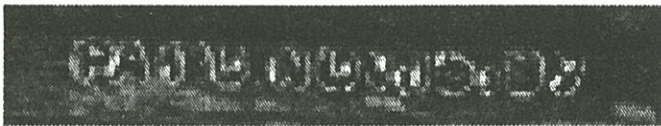
Mineral Resources of Michigan by Chas. D. Lawton, Thorp & Godfrey 1887



A Patent That Does Not Exist

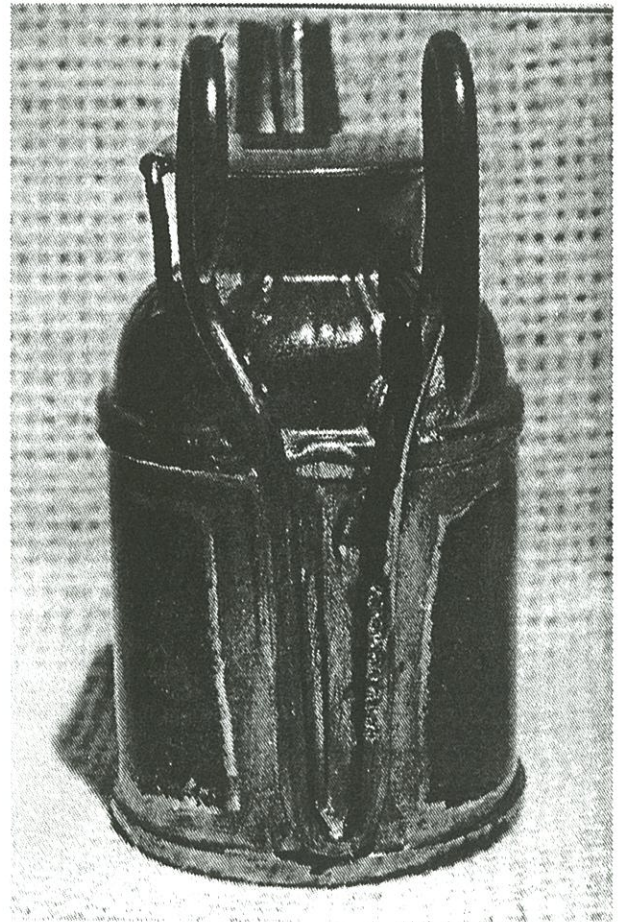
by Dave Johnson

Patent dates on oilwick lamps are seen stamped on the font, spouts, bottom and cap of the lamp. The lamp pictured here has PAT'D Nov. 15, 89 clearly stamped on the wire hook in very tiny print. This is not a legitimate patent date as no patents were issued on November 15, 1889. This is the second oil wick I have found that has a non-existent patent date.



Other than displaying a non-existent patent, what sets this lamp apart from most other oilwicks is the double hook. Of the 15 oil wicks in my collection with double hooks, this is one of only three which has a double hook made from a single wire.

Made of tinned steel, except for the brass hinge wire, this lamp measures 2 5/8" high to the top of the cap. The single spout measures 3 1/16" in length and the base is 1 5/8" in diameter. The shoulder and collar are single piece construction.



Mystery Solved

by Bob Schroth



I received an answer to the nature of the Bisbee ribbon shown in last month's article. John Kynor's friend Kevin Brown translated the language. Additionally, Mr. Ludwig Strah of Ontario sent me a translation along with an additional bit of local history. As it turns out, the language is Croation and translates as follows:

HR. (abbreviation for Hrvatske, a term meaning Croatia)

D. (Delo)

Društvo (Association or Society)

"Radnik" (worker-miner)

Odsjek 226 (branch or department 226)

Narodne (popular or people's)

Hrvatske (Croatian)

Zajednice (union or fraternal society)

Ustrojeno God[ina]. 1903 (founded year 1903)

Mr. Strah writes: "There was large Croatian Population in the Bisbee area mines. Croatia at the time was part of the Austro-Hungarian Empire. In 1921 it was, along with Slovenia, Serbia, Bosnia-Herzegovina, Macedonia, united to create Yugoslavia. Now Slovenia as well as Croatia are independent republic nations.

I was born and grew up in Noranda, Quebec, Canada: the home of Noranda Mines Ltd. Horne Mine, an integrated underground mine, mill, and smelter complex. It was discovered in 1921 and developed with the smelter by 1928, at which time my father started with the original Horne Copper Co. He retired from the mining department in 1965. I was born there in 1933 and graduated in Mining in 1955. I am now semiretired and do some consulting work. I worked at the "Horne" during high school and mining school in the Surface Labor Dept., smelter plant, mechanical power house group, and three summers as an underground miner.

There was a large Croation population in Noranda employed underground and in the smelter. They had a large hall and an "Odsjek" (Fraternal Union) acting as not only a social group, but a benevolent association, life insurance, disability pay, funeral expenses etc.

I trust this clears up your "mystery"!



Many Croation miners at the Horne Copper Company carried check tags such as this one.



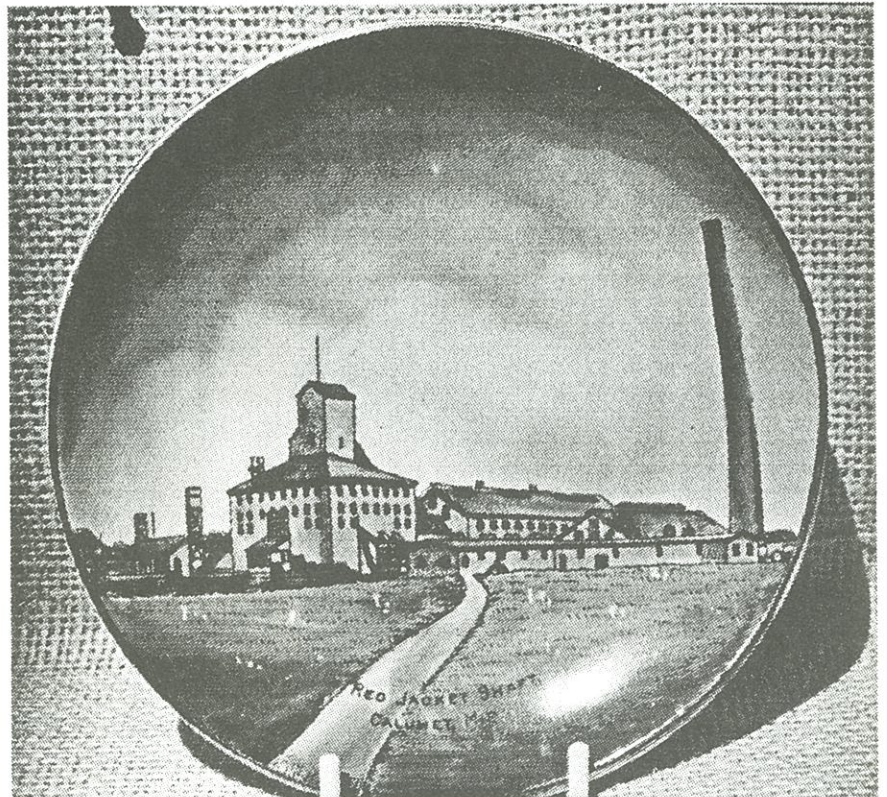
Tobacco Tin-Lunch Bucket

This tobacco tin was produced to be used by the buyer as a lunch bucket after the tobacco had been used. It features four mining vignettes - a lunch bucket, tobacco pouch and clay pipe, an oilwick lamp, a coal car and a crossed pick and shovel.



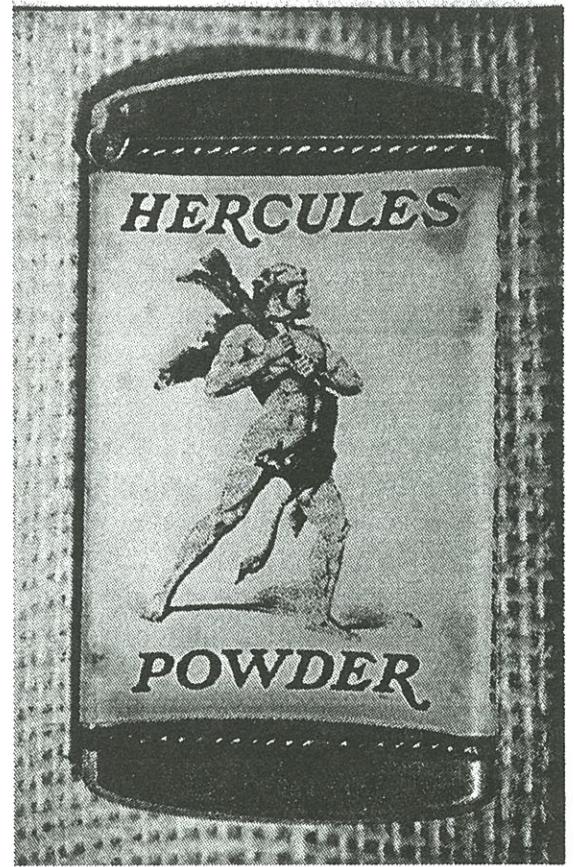
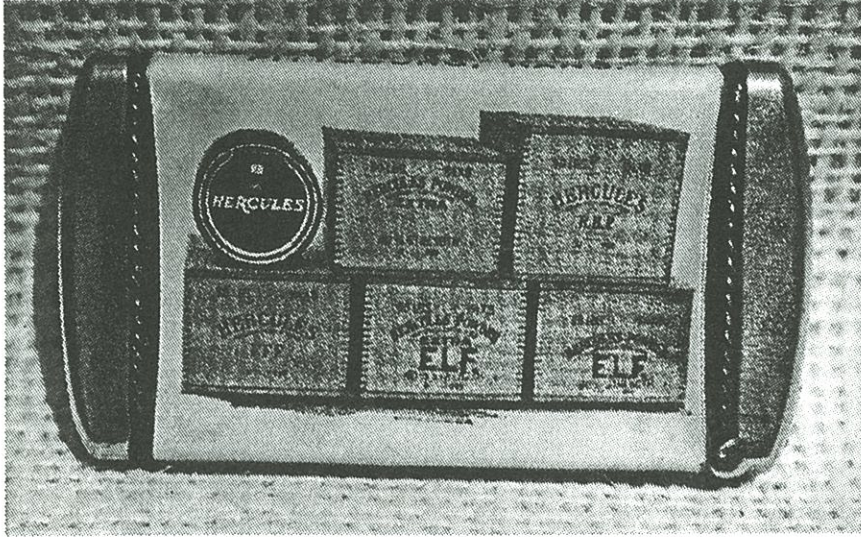
Souvenir Plate

This souvenir plate depicts the Calumet & Hecla Red Jacket Shaft at Calumet, Michigan. The Red Jacket Shaft was one of the few shafts operated by C & H that was vertical, most shafts were inclined. The main hoist-enginehouse contained two pair of triple expansion engines rated at 3,000 hp per pair with a Whiting drum system capable of hoisting a tension load at a rate of 60' per second. The plate is marked "Hand Painted in Germany" on the back.



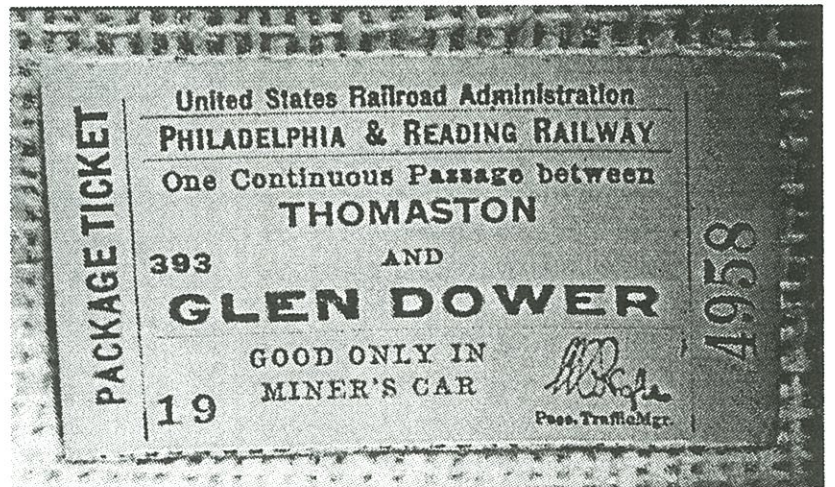
Hercules Match Safe

This Hercules Powder Co. match safe depicts Hercules on the front and five wood explosive box and one metal powder can on the back. The edge reads HERCULES POWDER CO. on one side and PITTSBURG, KANSAS on the other. Pittsburg, Kansas was founded as a mining camp in 1876 and grew to become the coal mining center of Kansas.



Unusual Railroad Ticket

This Philadelphia & Reading Railway ticket states "Good Only In Miner's Car". Does anyone know what a "miner's car" is?

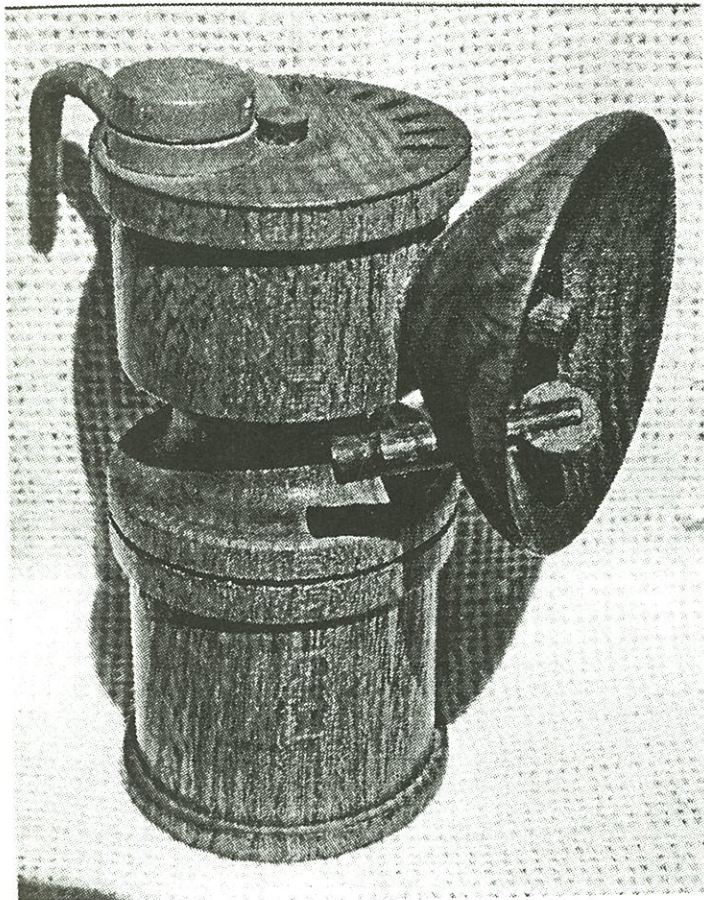


Dedication Medal

This brass medal commemorates the dedication of the U.S. Bureau of Mines Building in September of 1919.

Folk Art Cap Lamp

This wood folk art cap lamp is accurately scaled and shows a great degree of detail, down to a water lever, striker, burner tip and nut to hold the reflector on.



The above item, and all previous "Bits" submissions in this issue are from Dave Johnson's collection.

The poem shown right was submitted by John and Karen Mediz.

JOHN AND KAREN MEDIZ

602-425-7885

MINING ANTIQUES AND MEMORABILIA

**BUY, SELL OR TRADE
MINING CONTRACTOR, GEMS & MINERALS**

566 ASH STREET, HWY. 60-70

GLOBE, AZ 85501

The Chucktender's Lament

by Charles F. Thomas, Jr.

When I came to this cock-eyed tunnel,
(And Heaven knows why I did)
They scribbled my name on the payroll
And gave me a safety lid.
They ordered me into the heading
In the noise and gas and muck,
Started me as miner's helper-
In short, I'm a tending chuck.

Now of all the lousy people,
Ornery, mean, and accursed,
The miner they started me under
I think is about the worst.
The noise from the Leyners and hammers
Roars worse than the fiends in Hell,
But I'd rather they'd split my eardrums
Than to hear that miner yell.

He takes it for granted I'm brainless
And nothing I do is right.
He rants and he raves and he curses,
Just yells from morning to night.
And I'd like to get up and sock him!
After all, who the hell is he?
You would think that he made ten dollars
"Stead of forty cents more than me!

He has made my life a slavery
And nearly driven me nuts.
I'd like to tell them to "shove" their job
But I haven't got the guts.
So I choke my wrongs and keep working
As it's "hey! You brainless heel!
"What the hell do you think you are doing?
"Get up here and change this steel!"

And I just go on with chucktending.
Just take each kick in the pants.
For every time that he hollers,
I know that I'll get my chance.
Because some day I'll be a miner
Then by the great gods you will see
Me make it tough on the poor devil
Who starts tending chuck for me!

