



## Obituary

This may be of interest to some of your readers. The collecting fraternity has lost another member with the death of John Johnson. John died at the age of 73 in his home in West Sacramento, CA. He served in Europe in WWII and was twice wounded in battle. He returned to the US and married Margaret in 1949 and graduated from the Rolla School of Mines in Missouri in 1950. They moved to Mexico in 1950 and worked for ASARCO at the Delores Silver Mine at Angangueo. He later worked for Anaconda at Darwin, CA and The California Department of Transportation and Water Resources Board. John was a kind, gentle unassuming man and a good friend. He had a large fine collection of minerals, sticks, carbides, and other mining memorabilia. His wife Margaret followed him in death a week later at the age of 68. They will both be missed very much.  
Herb Dick

## Tucson Show

February 5, Saturday, Smugglers Inn. Contacts are Don Dalton 520-297-3001 or Carol McNulty 520-529-3355

## Louisville Show

For those who are new to miningcollect and may have missed this before, the 9th Annual Eastern Mining Artifact Show and Collectors Reunion will be held in Louisville, KY on Saturday Oct. 16, 1999 at the Ramamda Inn at 1041 Zorn Ave. (I-71 exit 2) just east of downtown Louisville on the Ohio River. For room reservations call the Ramada Inn at (502)897-5101 and tell them you are with the Mining Artifact Collectors in order to receive the group room rate. We have a block of rooms reserved on the first floor. On Friday evening we will have the ever popular room crawl, as opposed

to a pub crawl , even though some cannot tell the difference judging by their inebriated state by the wee hours of the morning. We will spend the evening going from room to room trading, buying and selling mining goodies. This is an opportunity to visit with old friends and hopefully make some new ones. The show will open at 10am in the ballroom and go until 3pm when we will hold an auction for anything mining related that you care to put up for auction. We would have started the show earlier but Captin Bob always complains that he doesn't get enough sleep after spending half the night in other collectors' rooms and he needs his beauty sleep. Bob this is just for you buddy. Some collectors have said they will be arriving on Thursday so I will be having people over to see my collection on Thursday and Friday rather than just one day. We have collectors coming from Germany and France, as well as from States in the North, South, East and West. How about our friends in Canada, I haven't heard of any of them committing yet? If you have any questions or suggestions contact me: Dave Johnson.

## Ore Car Tags

The latest article submitted is a real landmark. First, it covers a topic previously unreported. Secondly, it covers not only a historically collectible artifact, but spans the collecting history of the author himself...collecting in the purest environment: underground. Finally, this article marks the comeback from a long hiatus for reknowned author: Ted Bobrink. Ted is best known as the co-author of the definitive book of miner's candlesticks, as well as prime-mover of the magazine: Mining Artifact Collector (no longer in print). Lately he has become a regular corespondent on MiningCollect, offering invaluable advice from years of collecting artifacts from the mines themselves.

# A Safety Nitro Size 2 Date Giant Box

by Mark Bohannon

On the morning of Saturday, July 9, 1892, the dynamite manufacturing plant of the Giant Powder Company was completely destroyed by a number of explosions involving from 400,000 to 1,000,000 pounds of dynamite.

The first explosion occurred in the nitroglycerine house where the men were cleaning up for the day. Five other explosions followed which subsequently destroyed the dynamite mixing house, the Judson mixing house, two machine packing houses, and the box packing house. About five minutes later, two of the powder magazines exploded, destroying the major part of the remaining plant. Even though the plant was virtually destroyed, only five men were killed—three white men and two Chinese. Considerable damage was done in Berkeley, Oakland, and even in San Francisco, where plate glass, as well as other windows were broken.

The result of the explosion was that now The Giant Powder Company still had a consider-

able amount of business orders to fill but had no plant to manufacture their dynamite. Rebuilding at the old site was now out of the question because of the objections of the neighboring towns.

On the other hand, the Safety Nitro Powder Company, which had been incorporated on December 20, 1880, had a dynamite manufacturing plant in a good location nearby, but their business was not sufficient enough to operate the plant to capacity.

On August 22, 1892, after quick negotiations, the Giant Powder Company, Consolidated, was incorporated as a combination of the original Giant Powder Company and the Safety Nitro Powder Company.'

The Giant Powder Company, Consolidated probably continued to sell Safety Nitro Powder into the late 1890s.

There are two styles of dynamite boxes from the Safety Nitro Powder Company. The first (left) is probably the earliest style, and is the

rarest of the Safety Nitro Powder Company boxes. The second (right) is probably a later style box, and is the most commonly found Safety Nitro box.

It appears that after the consolidation, the Giant Powder Company—whose office had been at 30 California Street—assumed the office of the Safety Nitro Powder Company at 430 California Street.



All Giant Powder Company boxes produced after the consolidation were then stamped with:

OFFICE 430 CALIFORNIA STREET  
and/or  
GIANT POWDER COMPANY, CON.

Probably one of the first dynamite boxes produced by the Giant Powder Company, Consolidated, was the "2 date" powder box (far right). This box was produced from 1892 until probably the late 1890s.



Very recently, an unusual Giant Powder Company box was found (upper photo, left). This box is the same size as the Safety Nitro Powder Company boxes. It is surmised that this box is a product of the explosion and then consolidation of the Giant Powder Company and Safety Nitro Powder Company in 1892. When the explosion at the Giant Powder Company occurred, it not only destroyed all of their dynamite, but probably also most of

their wooden packing boxes. With the consolidation, the Safety Nitro Powder Company not only supplied the Giant Powder Company's need for dynamite, but also with extra wooden packing boxes. This is probably the case with this unusual size Giant box, The Safety Nitro size box was probably used for only a very short time after the consolidation due to the extreme rarity of this size box.

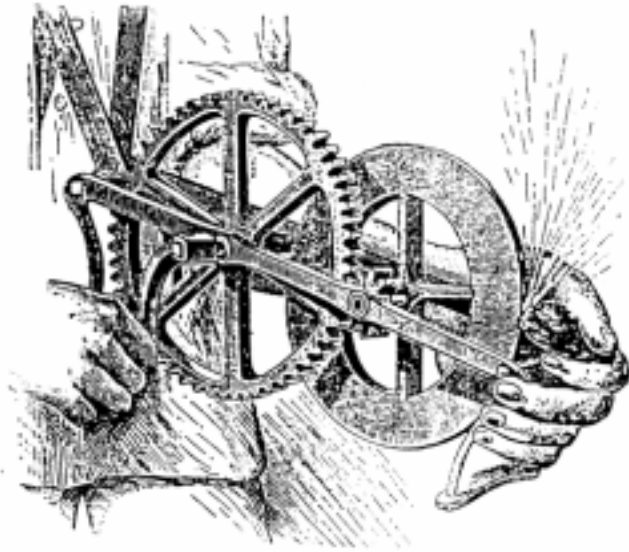


(left) A pre-Consolidation Giant Powder Company box end. Note the 30 California St. office address. Mark Bohannon collection.

**Source:**  
Van Gelder, Hugo Schlatter. History of the Explosives Industry in America. 1927. P. 443-447.

# The Carlisle Spedding Steel Mill

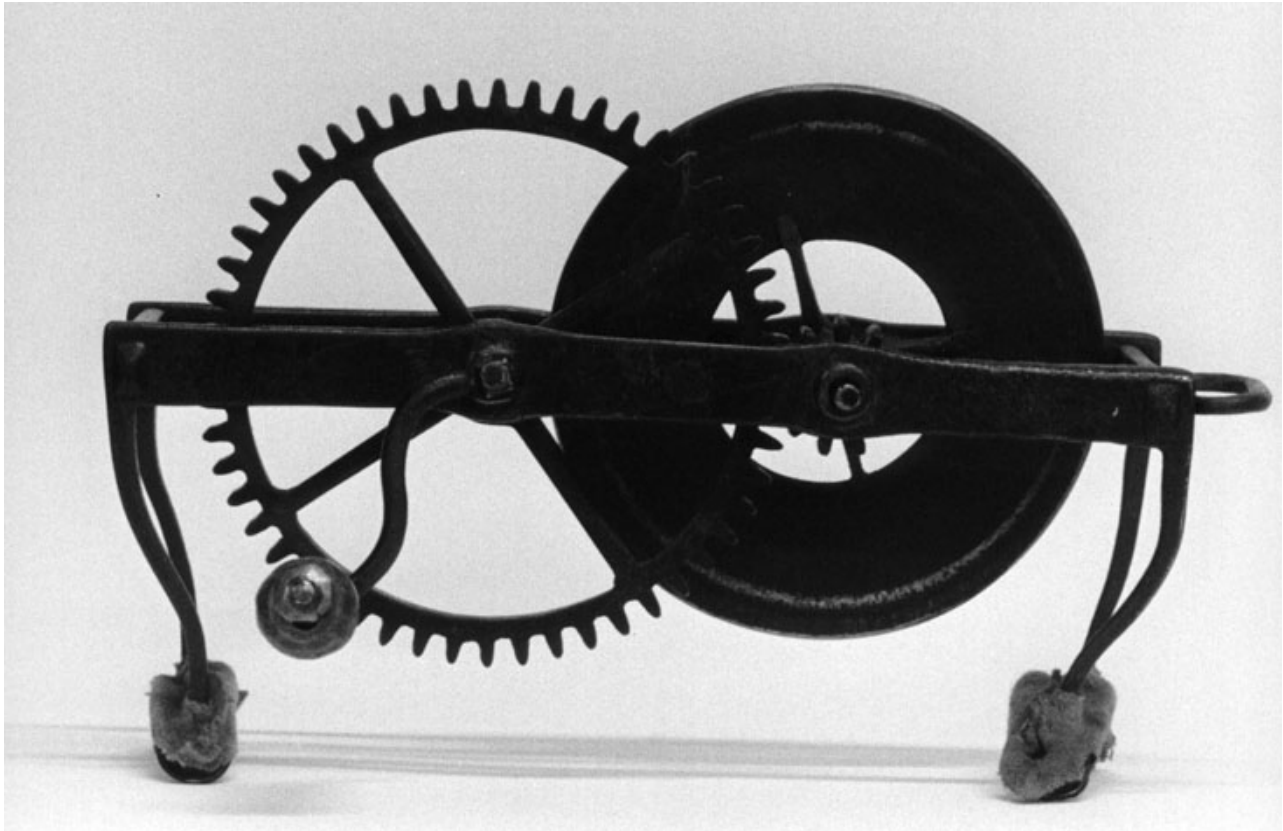
*Robert A. Kraft, Robert H. Samay and Manfred Stutzer*



*Spedding Illustration, From Roy, A History of Coal Miners of the United States*

The coal mining industry of England, in the century preceding Sir Humphry Davy's 1815 invention of the safety lamp, was one of great growth, change and increasing peril for miners. Industrial and urban development increased greatly the need for coal which pressed the coal producing centers to deepen their pits, extend their drifts and to put more men underground to meet this need. Some coal mining regions, notably the Wear and Tyne fields near Newcastle and later the Cumberland fields near Whitehaven, both in northern England, were faced with the explosive gas firedamp, or methane, found in pockets adjacent to the coal. The deeper the mine in these areas, assuming poor ventilation practices, the more dangerous the working environment due to catastrophic fatal explosions. For centuries, coal had been mined in northern England by candlelight but by the 18th Century open flames were considered dangerous and experiments in mining by the feeble light of phosphorus or putrescent fish were being tried. Fireflies in bottles and mirror-reflected sunlight were also attempted. "Blowers" or hissing leaks occurred in coal mines as gas pockets under great pressure were inadvertently opened during mining operations. In some cases these could be vented off or be allowed to empty. In others, fires or explosions could kill men, animals or damage mine equipment. Mines were sometimes intentionally flooded in order to stop a fire. In some circumstances men were said to have mined in total darkness rather than risk the chance of an explosion when they knew firedamp was present. Continuous fires underground called "Eternal lamps" were tried to burn the methane gases. "Firemen" crawling along the floor clothed in wet sackcloth with a lighted candle were occasionally used to pre-explode the firedamp before the beginning of a shift. Methane, lighter than air, would hug the ceiling. Into this world of "fiery" coal mines came Carlisle Spedding as a very young man in about 1710.

Carlisle Spedding's steel mill, a hand cranked lighting device using a shower of flint and steel induced sparks was created between 1730 and 1750 at a time when firedamp explosions in the coal mines of northern England were becoming an awesome threat. The steel mill with two bronze gears provided a rapidly spinning steel wheel against which a piece of flint was held. This produced a stream of sparks as a source of light. In August of 1737, while under



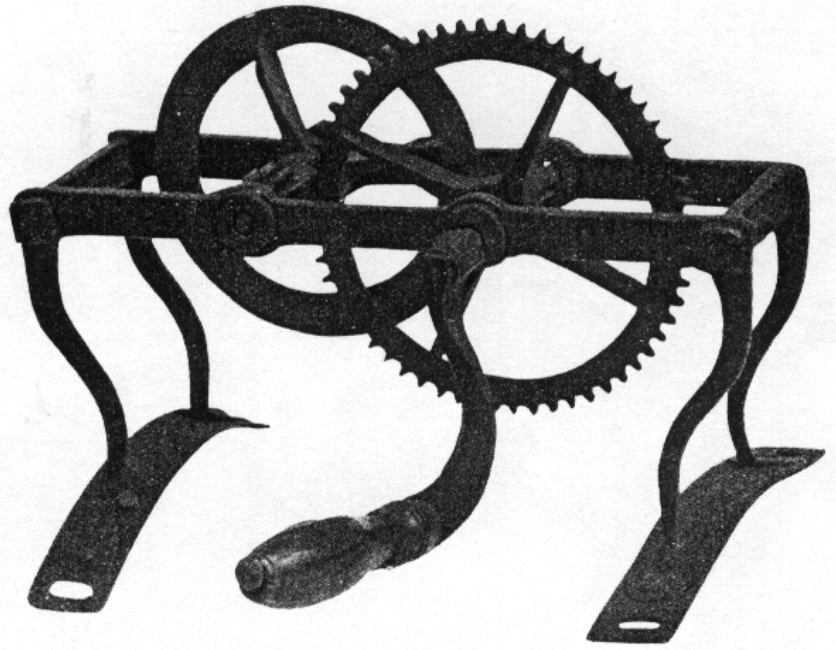
*Spedding Steel Mill, Science Museum, London.*

the supervision of Carlisle Spedding, a catastrophic explosion occurred in the Whitehaven Corpshill pit at 4:00 A.M. killing 22 men and 3 horses. The development of the Spedding steel mill may have been chronologically tied to this event. The invention and industrial application of the Newcomen atmospheric steam engine after 1711 allowed the mines to extend their extraction of coal to deeper veins with much more effective water removal. Water pumping before this was achieved by use of horse gins. James Watt's steam engine came later in 1769. The power stroke of a Newcomen steam engine occurred by atmospheric pressure when the steam in the cylinder was removed by water spray condensation. The power stroke of a Watt steam engine was made by the pressure of the steam itself. The Watt also developed a double stroke, not achieved on the Newcomen.

A gifted young man, born September 10, 1695, Carlisle Spedding was selected by the land-owner Sir James Lowther to develop the coal mining activity at Whitehaven. As a miner, he was burned in one mining explosion in his early adult years and was later killed at the age of 60 in another. Ironically his death was due to a Spedding steel mill induced explosion. Apparently inspired by others who had used flint and steel as a source of light and perhaps inspired by the wheel lock pistol which made sparks by pressing a flint against a spinning steel wheel, he developed his steel mill so that a boy could provide light to his companion miners without the use of an open flame. It was assumed, and mostly incorrectly so, that the sparks would not ignite methane in the air even at explosive levels. The steel mills were usually used in poorly ventilated dangerous areas where open flames were, by experience, feared. Those who "played the steel mills", or who knew about their behavior, could estimate the level of firedamp in the air based on the color and size of the sparks created. The sparks became brighter, more red and appeared to flow around the periphery of the wheel when increased firedamp levels were present.



Carlisle Spedding, known for his versatile engineering skills, is also credited with knowledge and mine application of the Newcomen steam engine, innovative techniques of deep mine development and the actual sinking of a shaft below sea level, out under the harbor of Whitehaven. He was also a pioneer in mine ventilation, a plan to use trapped firedamp to light city street lamps and the use of gunpowder underground to break rock. In 1721, Lowther raised his salary to counter an employment offer by the Newcomen Steam Engine Company. Later he became involved in shipbuilding, glass making, brewing and in 1752 designed and built a church in Whitehaven.



*(above) Spedding, University of Sheffield, England. Left-handed?*

These steel mills were used in England, France and Belgium from approximately 1750 to 1815 when the safety lamps of Davy, Clanny and Stephenson provided a much safer alternative to the open flame or shower of sparks. No documented evidence is available to confirm the use of the Spedding in Germany or America. No significant deep mining for coal before Davy in either country is reported. The Spedding was expensive to build (one guinea) and expensive to operate, requiring manual labor. According to Dr. Clanny, one repair mechanic was required for each six Speddings in daily operation. The authors of this paper speculate that gears in the machine would wear out or break and more important, the steel wheel needed to be dressed each day and periodically replaced due to wear. Because sparks are not created by rubbing flint against steel but by striking flint against steel, a smooth wheel does not produce the sparks of a systematically scored wheel. The wheel of a wheel lock weapon is deeply scored as is the wheel of today's cigarette lighter. The 5 to 1 gear ratio of the Spedding was probably created after great experimentation producing a steel wheel angular velocity of approximately 600 RPM, sufficient to produce good sparks. During the period of 1740 to 1815, a certain trust in the safety of this machine was widespread. This changed in about 1785 with significant erosion of this trust.

A series of firedamp explosion events occurred at the Wallsend colliery in Newcastle between October 1783 and February 1786. Wallsend was, at the time, the deepest mine on the Tyne at a depth of 630 feet. In each explosion, whether during mining activities, rescue operations or repair attempts, men were killed while using Speddings as their only lighting. It became very apparent that the steel mill would ignite firedamp. After this, the steel mill was used more cautiously but still preferred in areas where open flames were considered inadmissible. The Hebburn colliery, five miles from Newcastle, is reported to have had 100 Speddings in daily use. The conversion of mine lighting in hazardous mines to the new safety lamps after 1816 was rapid. Of interest, the same Hebburn colliery also claimed to be the site of the first

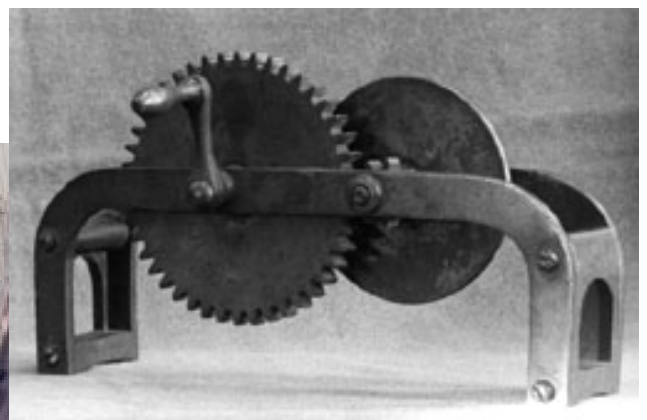
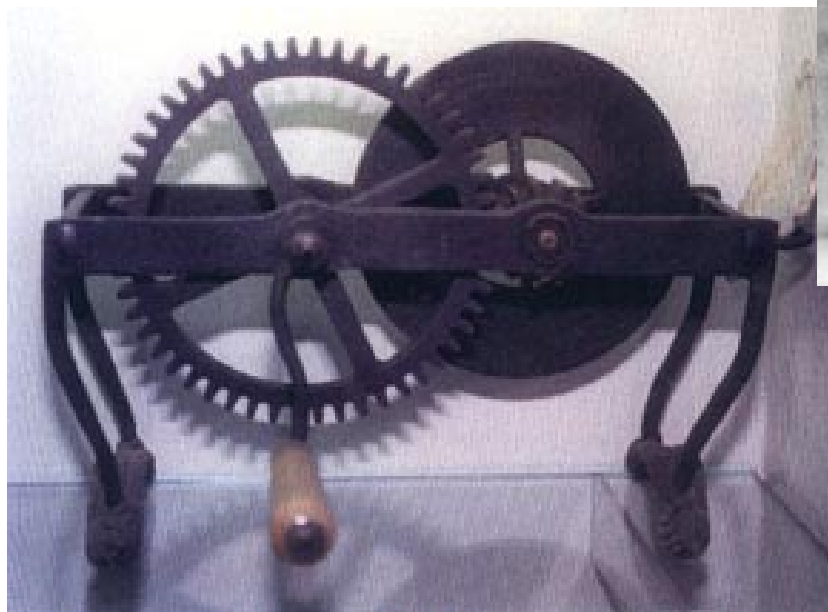
underground testing of the Davy in January 1816. During this 1816 testing of the new safety lamp concept, a miner, still working by Spedding steel mill lighting, was surprised and greatly alarmed at the approach of a Davy lamp which he took to be a candle.

Sir Humphry Davy began his research in the Fall of 1815 and reported to the Royal Society of London on November 9, 1815 describing the character of firedamp and its explosive qualities based on his studies to that date. He stated that firedamp was much less combustible than other inflammable gases and that it would not explode by red hot charcoal or red hot iron. It required iron to be white hot. These findings may help to explain the success-failure paradox of the Spedding.

Although hundreds, if not thousands, of these Spedding steel mills were used over a period of 75 years, few have survived the nearly two centuries since they were replaced. Today, the few surviving Speddings, held mostly by major museums, vary in design and construction significantly. This would suggest local blacksmith production at each colliery was the rule and that commercial production, used in the manufacture of Davy and Clanny lamps, may not have occurred for the Spedding.



*Portrait of John Buddle with First Davy Safety Lamp and Spedding.*



*(above) Brass frame and gears, steel wheel, Beamish Open Air Museum, County Durham, England. Photo by Robert Cross.*

*(left) Bergbau Mining Museum, Bochum, Germany.*

For you history buffs, the Whitehaven properties, owned by the Lowther family, the site of several pits of the Whitehaven colliery, was land confiscated by King Henry VIII in the 1530's from the St. Bees Priory at a time when the Roman Catholic monasteries were being dissolved all over England. The Wallsend colliery in Newcastle was named for its location at the eastern end of Hadrian's Wall built by the Romans in the second century A.D. For you musical buffs, Carlisle Spedding was a contemporary of Bach and Handel and had died before Beethoven or Mozart were born.



*Spanish book illustration from 1880, Spedding being used in the mine.*

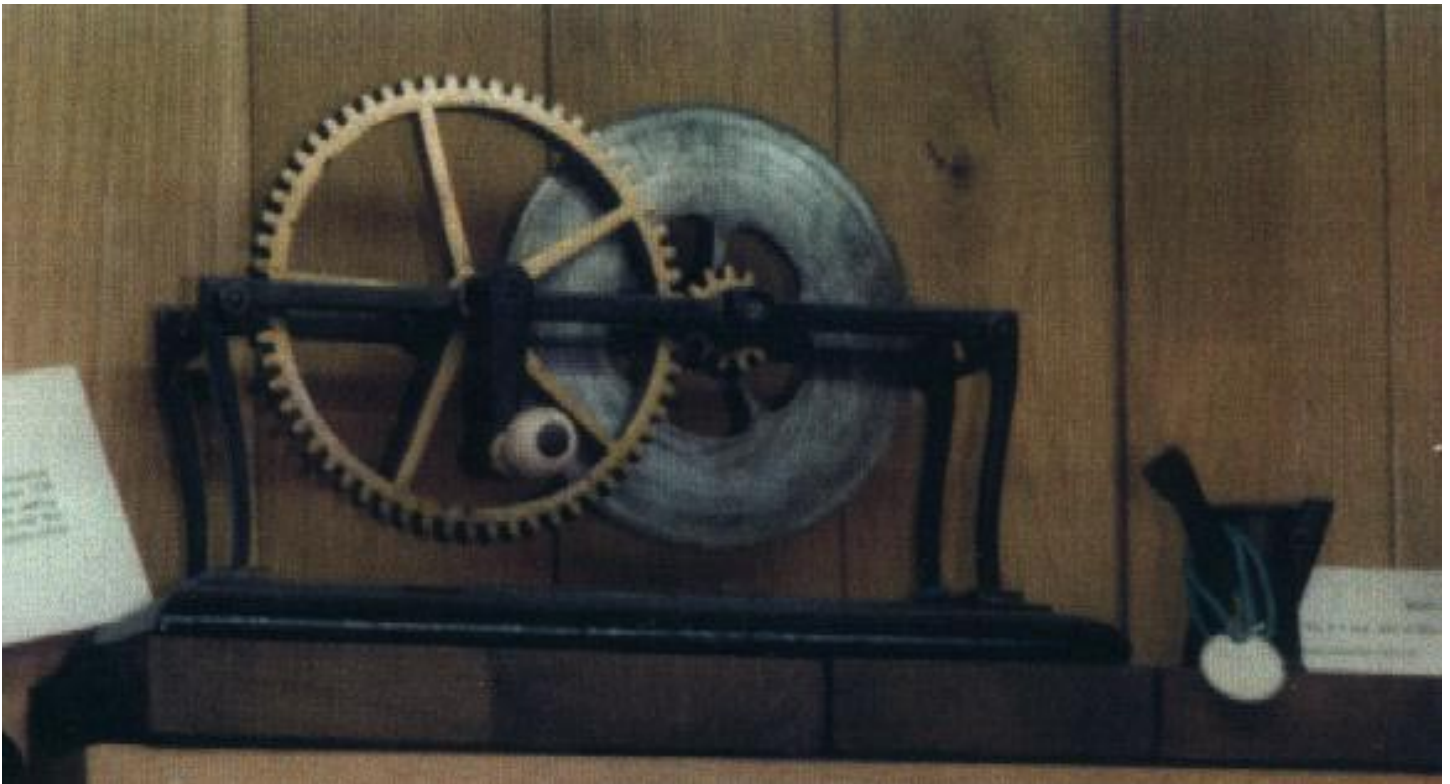


*Hebburn Colliery, early 19th century illustration.*



*Wallsend Colliery, early 19th century illustration.*



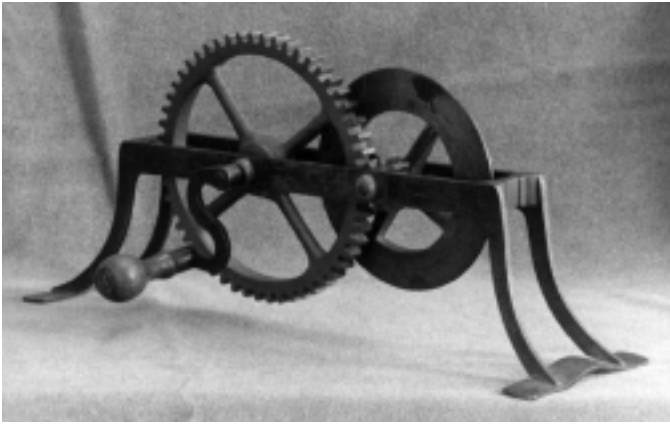


*Spedding, Newcastle-Upon-Tyne University.*

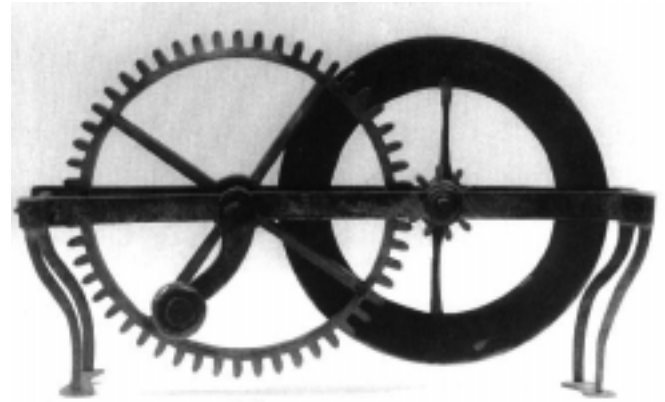
This thumbnail sketch of the Spedding steel mill reflects the troubled times of 18th Century English and continental coal mining. Although the feeble light of this ingenious machine carried with it most of the explosive hazards of open flame lighting, it may have saved many lives. It was one of the stepping stones that drove Dr. William Clanny in 1813 to plead before the Royal Society for a scientific solution to these many and frequent fatal mine explosions. Within two years, the Clanny, Davy and Stephenson lamps were beginning to offer a solution.

The Spedding steel mill was not really a lamp and it produced only a fluctuating feeble source of light with great effort. It was reported that several Speddings were occasionally used in concert at one location to produce adequate light. Historically this machine played an important role in the saga of mine lighting in that perilous period before Davy when the mine working environment was hazardous, men's lives were at stake, mine lighting options were few and the need for coal demanding. Carlisle Spedding died on August 8, 1755 in a mine explosion at Whitehaven.

**Footnote:** The California authors of this paper are in the final stages of producing a limited edition of authentic replicas of the actual Spedding steel mill in the mining collection of the Science Museum of London which the museum has owned for over 150 years. This project is proceeding with full cooperation of the Science Museum and was inspired by the late Henry A. Pohs.



*Steel frame & wheel, brass gears, Beamish Open Air Museum, County Durham, England.*



*Hancock Industrial Museum, Newcastle-Upon-Tyne.*

## SPEDDING REFERENCES

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# Hailwood & Ackroyd Cap Lamp

by Mick Corbridge



The existence of a carbide cap lamp manufactured by 'Hailwood & Ackroyd' of Morley - Leeds, is treated with some scepticism by many collectors as no examples appear to be held in collections. Some advertisement literature is known showing examples of such lamps, ( see Eureka Issue No.26 page 32 ), but up to now I did not know of any collector who had even seen one.

Recently, a dealer friend of mine contacted me & mentioned that he had acquired a cap lamp having the 'Hailwood & Ackroyd' logo stamped on the side & was offering it for sale. When we next met I was able to purchase the lamp which although was of great interest to me due to it's rarity, it was also disappointing to find that it's base section was not the original 'H & A', but was one of the early 'Premier' design. Even in the early days of carbide cap lamps in use in mines, miners regularly carried spare carbide in spare bases for

use on long shifts & swapped bases as required; the threads of the early 'Premier' base fit the lamp top threads perfectly.

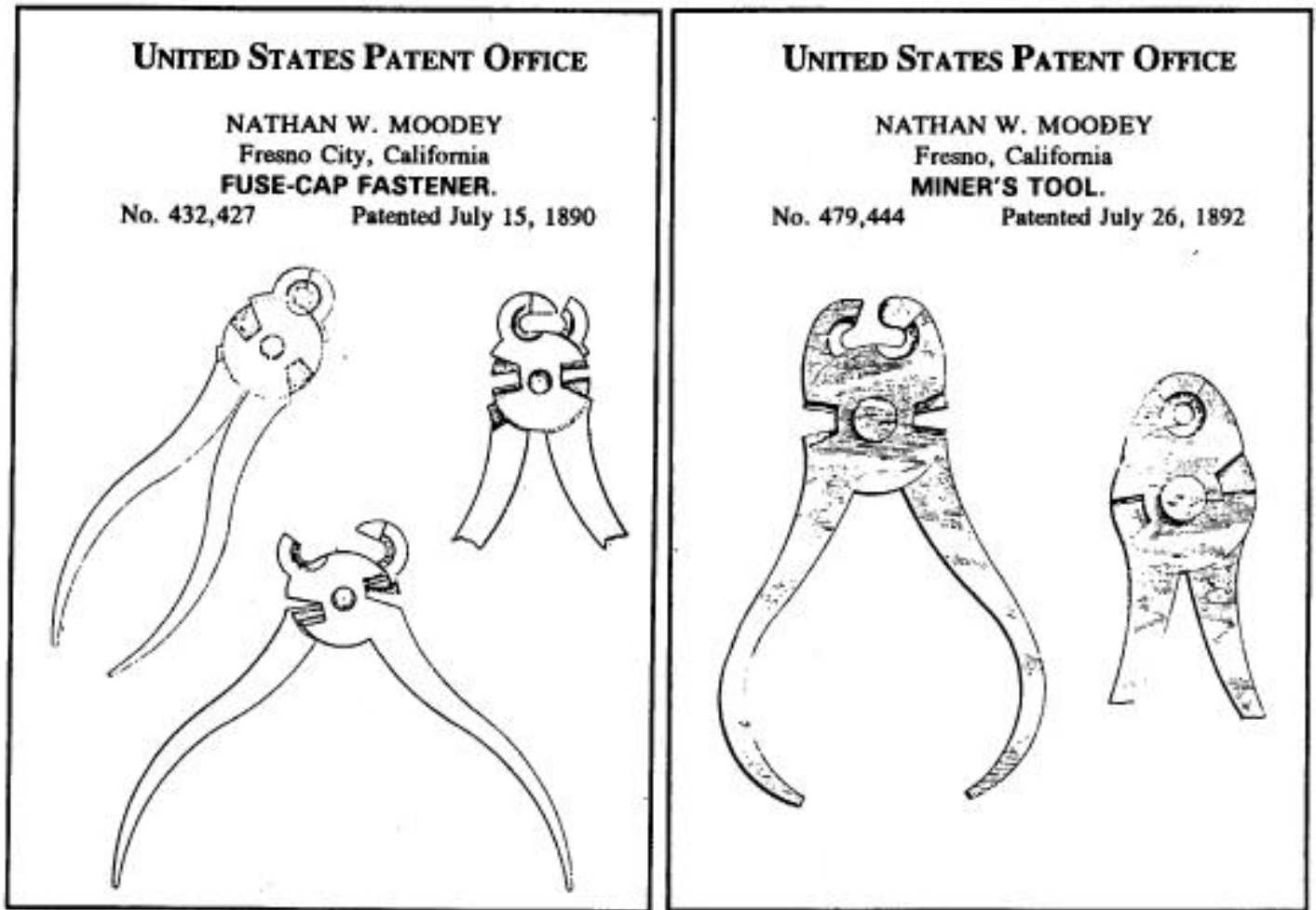
The rest of the lamp appears to be original & complete. The water tank is straight & plain with a domed top having deeply impressed notches for 2/3rds of the way around. The water door is a flip type & is very large for the size of the lamp, so large that it actually sticks out over the edge of the lamp. It is fitted with a wire hook & brace, & a ball ended water tap lever. The lamp is of all brass finish including the reflector which carries quite a long style of flint mechanism of the usual design;

the reflector spacer is moulded into the shape of the water tank. The jet is slightly unusual and is of a screw in design. The logo is incuse into the right hand side of the water tank, and is stamped in a oval shape showing - 'Hailwood & Ackroyd' at the top, & 'Leeds' at the bottom: a smaller centre oval contains the word 'Morley' which is a suburb of Leeds & is where the 'H. & A.' factory was situated. The lamp is in generally good condition having only one small dint above the logo oval. Inside the water feed jet stem is long & thin & the gas filter which contains 6 small holes, is held in position by a brass nut. The age of the lamp is currently unknown?



# The Moodey Patented Cap Crimper

by Mark Bohannon



On September 5, 1889, Nathan W. Moodey, of Fresno, California, filed an application in the United States Patent Office for a Fuse-Cap Fastener. On July 15, 1890, his patent application was granted. This was the first of two cap crimper patents granted to Nathan Moodey.

Nathan Moodey applied for his second patent on October 20, 1891. This patent-for a Miner's Tool-was granted on July 26, 1892. This patent was essentially an expound version of his first patent. The main improvement consisted of substituting the tongue and groove feature of aligning the jaws with a beveled cutter or knife blade and a V shaped notch. This new feature not only kept the crimper's jaws aligned, but also functioned as a fuse splitter. The V-shaped notch also served as a holder for the fuse, supporting it so that the cutter or knife blade could split the fuse through the center.

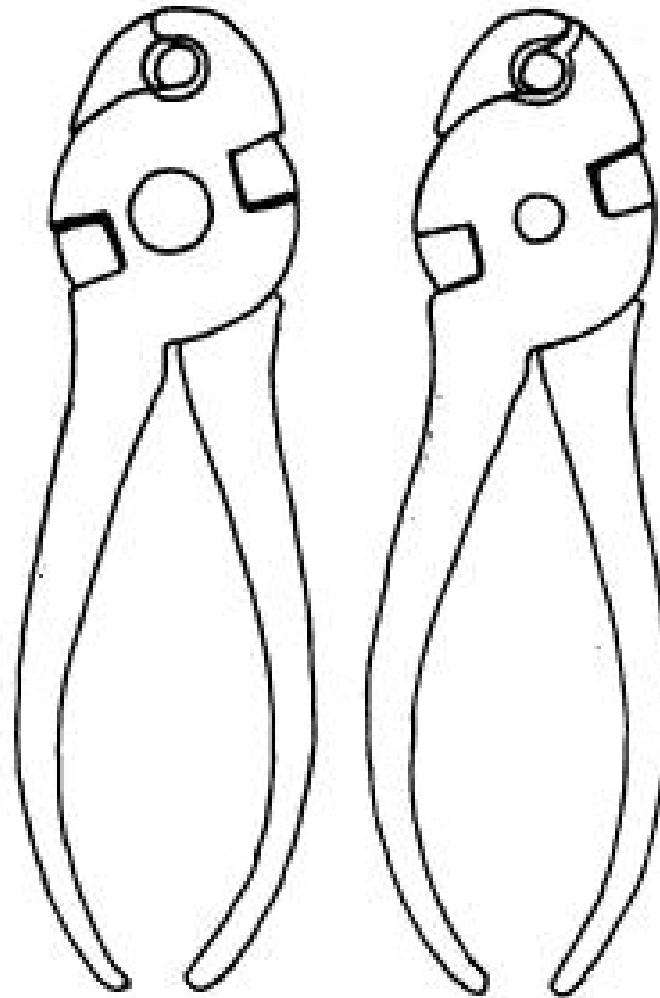
I consider the Moodey patented cap crimper as the predecessor to all of the latter cap crimpers. At present, there are only three examples of this crimper known. Two with the July 26, 1892 patent date and one with the earlier July 15, 1890 patent date. But all three are identical in appearance.

Many of the cap crimpers produced following Moodey's patents incorporated many of his main features-especially the fuse cutting notches on each side of the crimper and the V shaped notch for splitting the fuse at the end of the crimper.

Nathan Moodey's patented cap crimpers (left) along side two later Moodey style crimpers.  
Errol Christman (left) and Mark Bohannon (middle and left) collections.



Line drawing showing the Moody patented cap crimper and the stampings found on the three known examples. (Errol Christman, John Johnson, and Graham Living collections)



**FRONT**

PAT'D JULY 28 '32

MOODY'S PATENT  
PAT. JULY 18<sup>TH</sup> '30

**BACK**

WHELAN

FRESNO, CAL.

THE METALLIC  
S.P. CO., CALIF.  
ARTS - NEW YORK

PAT JULY 28 '32

# Peabody Coal Co.

by Dave Johnson



*Police badge*

Peabody today is the World's largest coal company with 9.9 billion tons of reserves. Peabody coal fuels more than 9% of U.S. and 2.5% of the World's electricity. Peabody provides its products to more than 180 power plants and 40 industrial facilities in the United States, as well as to customers in 18 other countries. Today coal as an energy source supplies 56% of U.S. electricity.

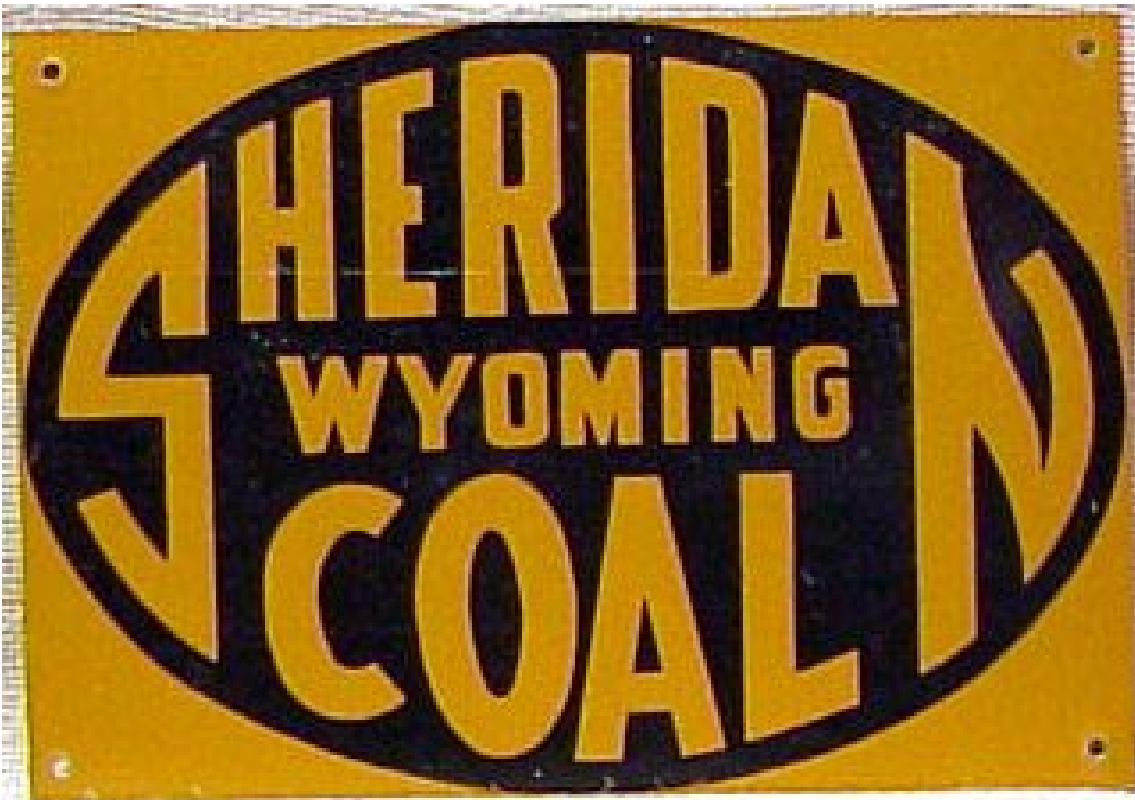
This corporate giant had its beginning, in 1883, when 24 year old Yale graduate, Francis S. Peabody and a partner, founded a retail coal business in Chicago with start-up capital of just \$100. Peabody soon bought out his partner and in 1895 opened his first coal mine in Williamson County, Illinois. He rapidly began buying thousands of acres of coal land in the Illinois Basin. In 1913, Peabody signed his first long-term coal supply contract with an electric utility, as he continued to open and acquire new mines.

In addition to owning and operating 20 mines in Illinois in 1922, Peabody

was operating 30 bituminous mines in eleven districts in Alabama, Indiana, Kentucky, Oklahoma and Wyoming under contract with a combined annual capacity of 18,000,000 tons. At this time Peabody Coal was operating the six mines in Sheridan County, Wyoming owned by the Sheridan Wyoming Coal Co. These mines worked the Carney and Monarch Seams, both of which reached thicknesses up to 34 feet. Coal from these properties was sold under the Kleenburn trade name. Due to a high moisture content in Kleenburn coal which subjected it to considerable degradation if exposed to the weather, the coal was shipped in box cars. This was worthwhile as the coal was noted for being virtually sootless, non-clinkering and having an ash content of only 3%.



(right) Great Heart matches.



*Wyoming advertising sign*

Continuing to expand throughout the 1920's Peabody Coal weathered the Great Depression of the 1930's, saw prosperity as a result of increased coal demand during World War II. However, by 1953, low-cost, high-volume surface-mined coal had made major inroads in the market. Peabody Coal, then the nation's 8th largest coal



producer, was fighting for its very existence. After suffering major losses in 1954, merger talks were initiated with Sinclair Coal Co., the third largest coal producer in the country. The two coal producers merged in 1955 and retained the Peabody Coal Co. name. It was a mutually satisfying arrangement; Peabody's listing on the New York Stock Exchange provided Sinclair with access to capital for investment and expansion, while Sinclair's very competitive surface mining operations in six Mid-western states meant survival for Peabody.

*(left) Peabody coal scatter tag.*

From 1957 through 1966, Peabody more than doubled its production, sales and coal reserves.

Through this period an extensive exploration program functioned through the western states. Peabody also opened their first large surface mine in Queensland, Australia, the firm's first venture outside of North America. In 1968 Kennecott Copper Corporation successfully bid for Peabody's stock, this led to eight

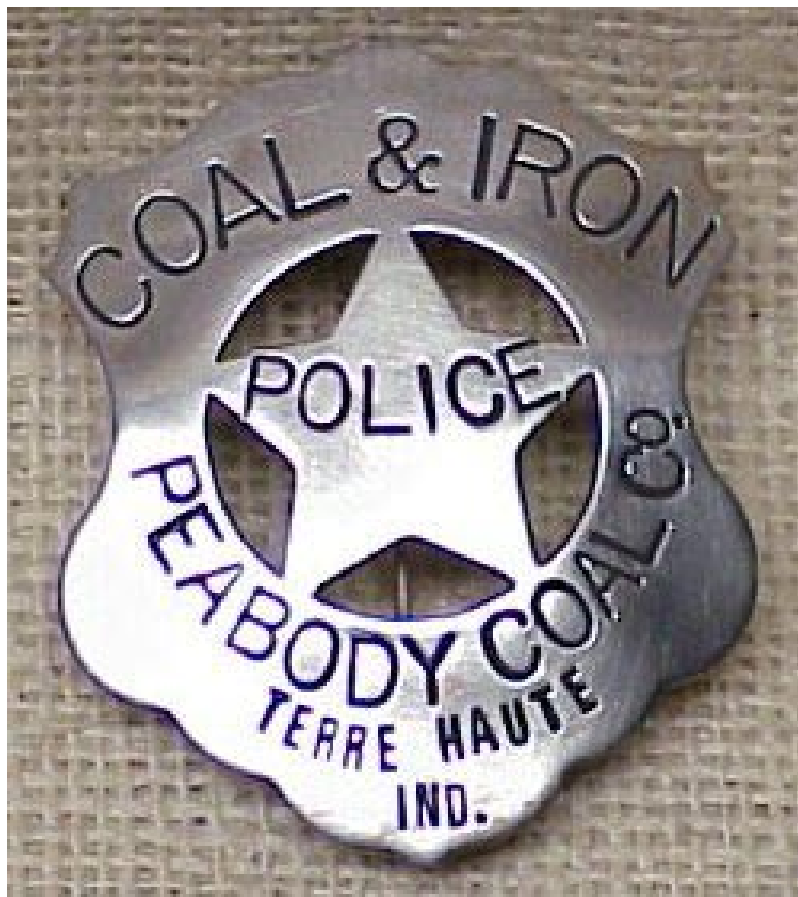
years of antitrust litigation. In 1976 Kennecott, with pressure from the Federal Trade Commission, received a court order to divest itself of the Peabody Coal Co.



*Sheridan/Monarch advertising sign.*

The 1980's saw Peabody expand operations throughout Appalachia. In 1984 Peabody purchased Armco's West Virginia mines and acquired the coal properties of Eastern Gas and Fuel Associates in 1987. Peabody Group became an independent U.S. based energy company in May, 1998 after 9 years of corporate change and restructuring.

The company doubled its low-sulphur reserves, tripled its productivity and sliced costs in half. This has left Peabody well poised to be an energy leader throughout the 21st Century with known reserves of 9.9 billion tons of coal.



*(right) Coal & Iron Police badge from Terre Haute, Indiana.*



# One Good Wick: The Miner's Oil Wick Lamp of Peter & Adam Good

by Paul and Nancy Hyatt



*Leanback lamp found by the authors.*

Leanback style miner's oil wick lamps are relatively uncommon, so the one in the display case is front of us promised to be a good find even before a closer look could tell us if it was marked. The lamp turned out to be more "Good" than we could have imagined with that first glimpse. But, let us start at the real beginning of this story and you'll see why the previous sentence isn't as grammatically incorrect as it appears to be now.

At the October, 1997 Mining Artifact Collector Reunion in Ogdensburg, New Jersey, Ron and Bunny Thomas showed us an oil wick they had recently acquired and we discussed its probable maker's identity. It was a leanback style, made of tin and stamped Pat'D May 30, 1893. All of the examples of that design we were aware of at the time were manufactured in Pennsylvania, either by Trethaway Bros. of Parsons, or Charles Felix from Shamokin. While the Felix lamps we had seen before were stamped "Felix Lamp" Shamokin, Pa." in addition to a patent date, it isn't unusual to observe stamping changes on the same lamp over time. Since this lamp's unique feature was its orientation, and Felix had been granted design patent #23,526 for his leanback concept,

coupled with the presence of a patent date stamp, we concluded the lamp had to be a Felix manufacture. Knowing we had a copy of the Felix patent in our files, we promised Ron and Bunny a copy to go with their new find.

(left) Leanback lamp found by the authors.

A surprise greeted us when we pulled the patent to copy. The lamp's stamping and the patent document dates didn't match! Charles D. Felix hadn't even filed the application for his design patent until May 15, 1894, almost a full year after the date on the wick we were dealing with. Searching through the rest of our files and notes also failed to turn up any date matches.

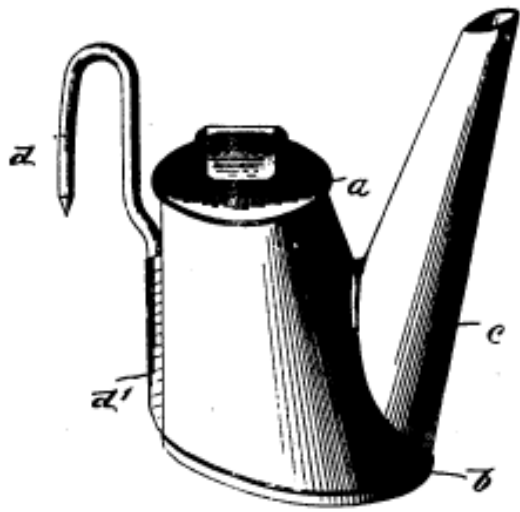
**DESIGN.**

**C. D. FELIX.  
MINER'S LAMP.**

**No. 23,526.**

**Patented July 31, 1894.**



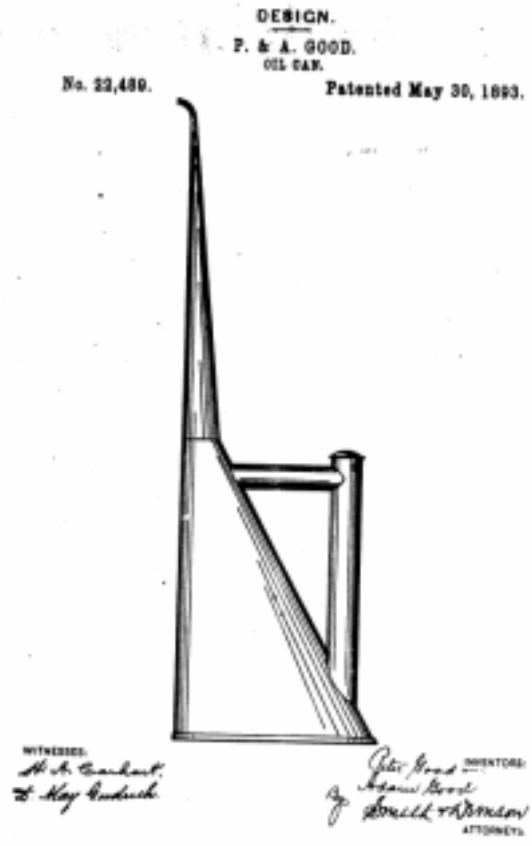


Reluctantly, we contacted Ron and Bunny and shared our disappointment over our lack of success and promised to top-list the date for future patent repository searches. Ron's enthusiasm for solving the mystery of the manufacturer of the lamp sent him almost immediately to his nearest patent repository. Intense research on his part, including a couple of "what next" conversations between us produced no resolution. Further efforts over time by both parties turned up only the fact that at least one other identical lamp was owned by another collector, and the trail ended. Time passed, expeditions occurred, and this trail stayed cold...until the road trip that uncovered the focus of this article.

*Felix's patent drawing.*

Examining the lamp retrieved from the case mentioned at the beginning of this tale, the eyes of a couple of hopeful collectors beheld the following stamping:





*Peter & Adam Good oil can patent.*

Standing there then, we weren't 100% sure this was the same date as the one on Ron and Bunny's enigma, but we were positively happy with that lamp, and we were gonna find out that and more! It was, and we did. Carving out the first week-day available to us on our return home, we headed for our particular user-unfriendly, not-open-on-Saturday patent library in Albany, the state capital. Especially considering what we found, having a name to combine with a date made our sleuthing infinitely easier than previous attempts. Although they are both vessels for the same substance, as you can see by the patent granted to Peter and Adam Good, they ain't the same dog! Someone looking for a lamp connection is going to pass right by.

Sporadic forays to try and glean just a little more info on Peter and Adam's enterprise have kept us from putting this out until now, when we figured it was time to go with what we had. Hopefully we have helped a few people with the information and mabe entertained a few others with recounting the process. Often, discovery generates fertile ground for more speculation and this situation seems to beg the question...where did Charles D. Felix get the idea for his design??? Hmmm.



*Tipsy trio: Trethaway Bros. on the left, Felix lamp on the right, P. & A. Good lamp in the middle.*

# Imperial Light/ Allen Liversidge Update

*by Mick Corbridge*

In my recent article 'British Carbide Lamp Manufacturers Founded From The Original Business Of Friemann & Wolf - (part 1, EUREKA No. 28), I stated that a badge existed showing a link between 'Imperial Light Ltd.' & 'Allen Liversidge'. The article had covered the fact that 'Cremer Lamp & Engineering Co. Ltd.' had links with 'Imperial Light', & I was wanting further evidence of these company links.

Whilst at the recent miners lamp event held at Wilnsdorf in Germany, I was lucky enough to negotiate with the owner of the lamp in question, which led to me acquiring the lamp. Next day, whilst still at the event, I couldn't believe my eyes when across in the next row, I noticed the distinctive large size & shape of the badge on a similar looking lamp. Rushing round to the table in question I picked up what at first I thought to be a identical lamp as to the one I had purchased the day before. Closer examination revealed several differences, those in the badge being the most important. This gave the sole manufacturer of the lamp to be 'Imperial Light Ltd.', i.e. with no mention of 'Allen Liversidge'. I instantly purchased this second lamp, and was soon sat behind my table comparing the differences.



*The two 'Imperial Light' lamps. (The earlier lamps on the left.)*

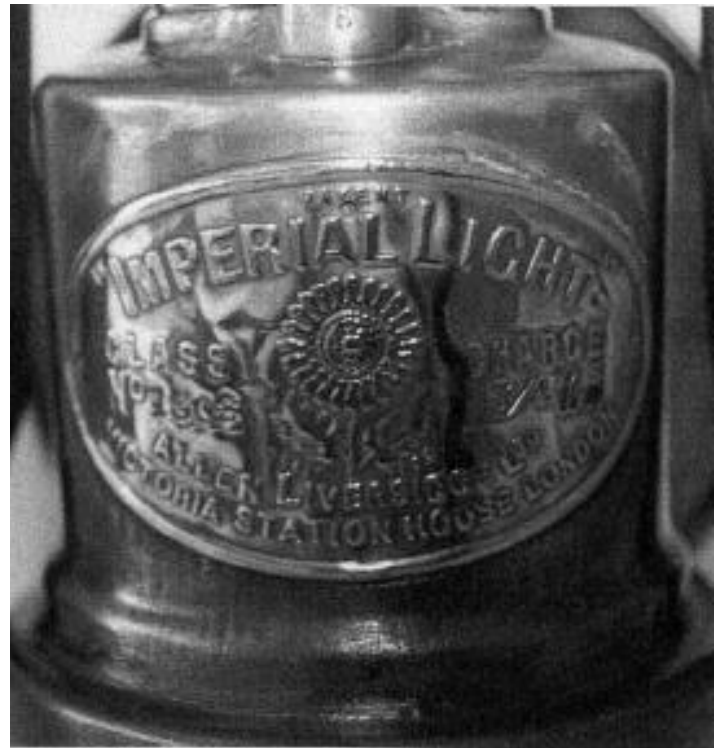


This second lamp was in a fairly poor condition having had several solder and plated repairs made to the body of the lamp, and it generally looked the older of the two lamps. The cast bridal was thinner & of a more basic shape, the skirt rim on the bottom of the water tank was thinner, the brass water door, water control tap and thumb screw nut were all of a more elaborate design. The outstanding feature of this second lamp was its gas feed pipe which was a heavy polished cast brass pipe having a universal coupling with a large position lock nut for setting the angle of the brass reflector & jet. The first lamp, ( which is in excellent condition ), has a slightly larger polished chromed steel reflector & is fitted with a double burner fishtail jet. Both embossed brass badges are of the same very large size, 10 x 6 cm. ), & show - Patent 'Imperial Light' across the top, underneath which is the company flowerhead logo. The earlier lamp states that it is a class 'Z' along with its serial No., whilst the later pattern lamp states it to be a class 'Y' also along with its serial No. Both lamps then show its charge to be 3/4 lb. of carbide. The early pattern lamp then gives the same company name & the address as Victoria Street - London, whilst the later style lamp shows 'Allen Liversidge' - Victoria Station House - London.



*A view of the two elaborate badges. The lamps are 29.5 cm tall.*

These two lamps are a great find for me as they somewhat help to confirm recent information that I had located about the company links that I was seeking. It appears likely that sometime around 1912, R.Cremer of 'Cremer Lamp & Engineering Co. Ltd.'- Leeds, acquired control of 'Imperial Light Ltd.' This dates the earlier lamp pre this period i.e. around 1910 ?. Then as mentioned in my original article, at the start of the First World War, Cremer rapidly returned back to his home country of Germany. This left 'Imperial Light' in need of a new backer and controller, and it looks as though this is when Allen Liversidge came to the rescue by purchasing all of the original company shares left by Cremer. This dates the later of my two lamps as post 1914; as we know Cremer left in 1914, and Allen Liversidge became a limited company in 1914, ( P.Appleton - Eureka No.20 page 10 ). If this scenario is correct, it answers my original question in that Cremer was not directly linked with the firm of 'Allen Liversidge', and hence 'Allen Liversidge' was not a company formed from the original business of 'Friemann & Wolf' - Germany. If any reader can throw further light on this period in the history of the companies in question, their comments would be greatly welcomed & appreciated



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LS17-8QB  
Yorkshire  
England



# Methods of Lighting Miners' Safety-Lamps by Matches

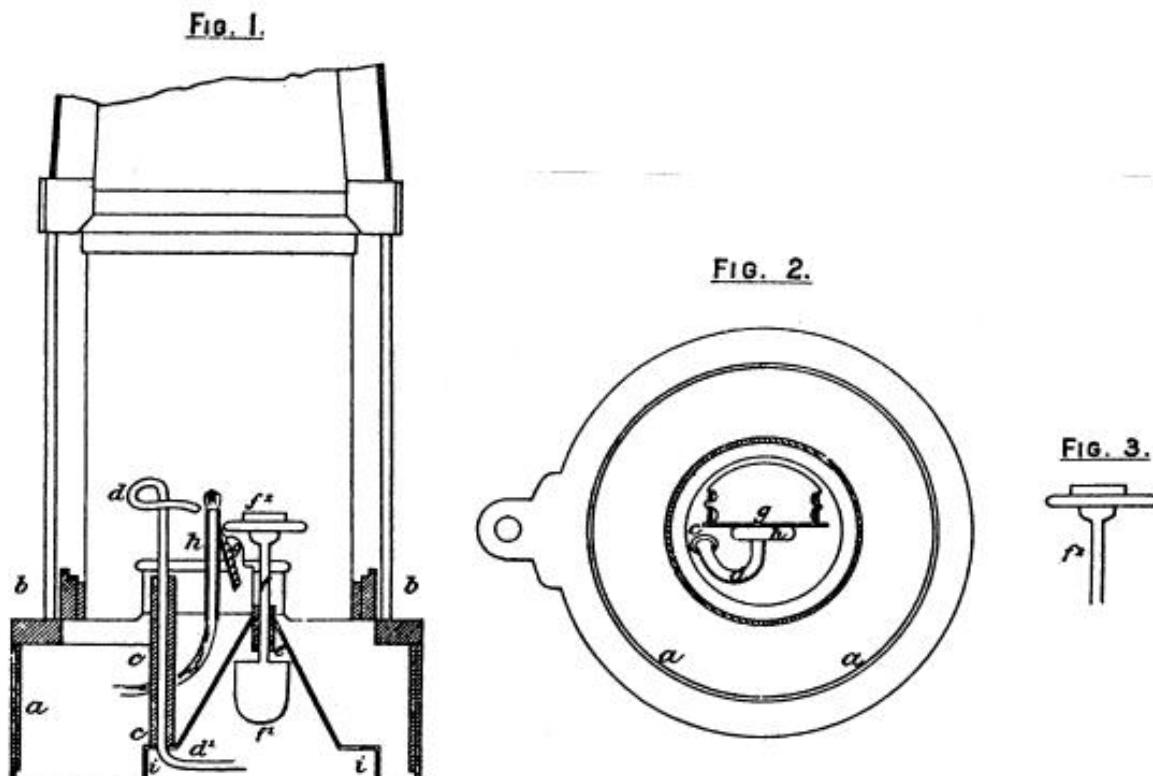
by Werner Horning

At the end of the last century, when it was required by law to lock safety-lamps, there was the only possibility for miners to re-light their lamps at the pit shaft, or in lighting stations in case they have been extinguished from any cause. At this time an invention of important nature in regard to the re-lighting of miners safety-lamps while locked, has been patented by Mr. Henry Elsom of Bulwell, United Kingdom, which no doubt will prove the inestimable value, not only to colliery proprietors, but also to miners generally.

By this invention, the lamp may be readily re-lighted by a simple and safe process, without in any way infringing the laws regulating collieries in this particular respect. It would be perfectly safe in the hands of all workmen.

The lamp has been thoroughly tested with gas, with the result that it has no effect upon the matches. In all cases ordinary matches or Lucifer's have been used (neither the oil nor the heat of the lamp affecting them), but it is the intention of the inventor to obtain special matches to be used in the lamps.

*To illustrate M<sup>r</sup>. John Taylor's paper "On Elsom's Improved Method of Lighting Safety-Lamps while Locked."*



**Fig. 1** (previous page) shows a vertical section of a miner's safety-lamp. a is the oil reservoir, which is screwed to the ring b carrying the upper parts of the lamp, and is locked thereto in any ordinary manner; c is a tube which is fixed at the top and bottom of the oil reservoir, and forms a passage for the rod di of the wick trimmer d, which is constructed and operated in the well-known manner; c is a tube which passes through the oil reservoir a on the opposite side to the wick trimmer tube c, and is fixed at the top and bottom of the said reservoir; through this tube c is passed a wire f, which is free to slide vertically; the lower end of the wire f is either bent a right angle to itself, or as shown at fi, it is provided with a milled or other head piece, by which the wire f may be partially rotated and moved up and down when required. To the upper end of this wire f is attached any suitable arrangement of lighting, whereby, when the light in the lamp extinguished from any cause, the wick may be relit by the aid of the lighting means within the lamp, carried by the wire f, which is operated by means of the part f, at the lower end and outside the lamp.

The means of lighting shown in Fig. 3, is only given as an illustration; it is, however, simple and capable of easy management. It consists of a double-ended socket f-2, in which short "Congreve" or matches place; they project a short distance from the socket f-2, and when required, can be turned one at a time toward the roughened plate g secured to the side of the wick tube h, and thereby igniting against the roughened surface. In relighting by this means, the lamp is tilted so as to bring the wick over the match, which is turned towards the roughened surface g and moved up and down until ignited. The socket f-2 is shown to accommodate only two matches, but it may be formed with three or more sockets to receive as many matches.

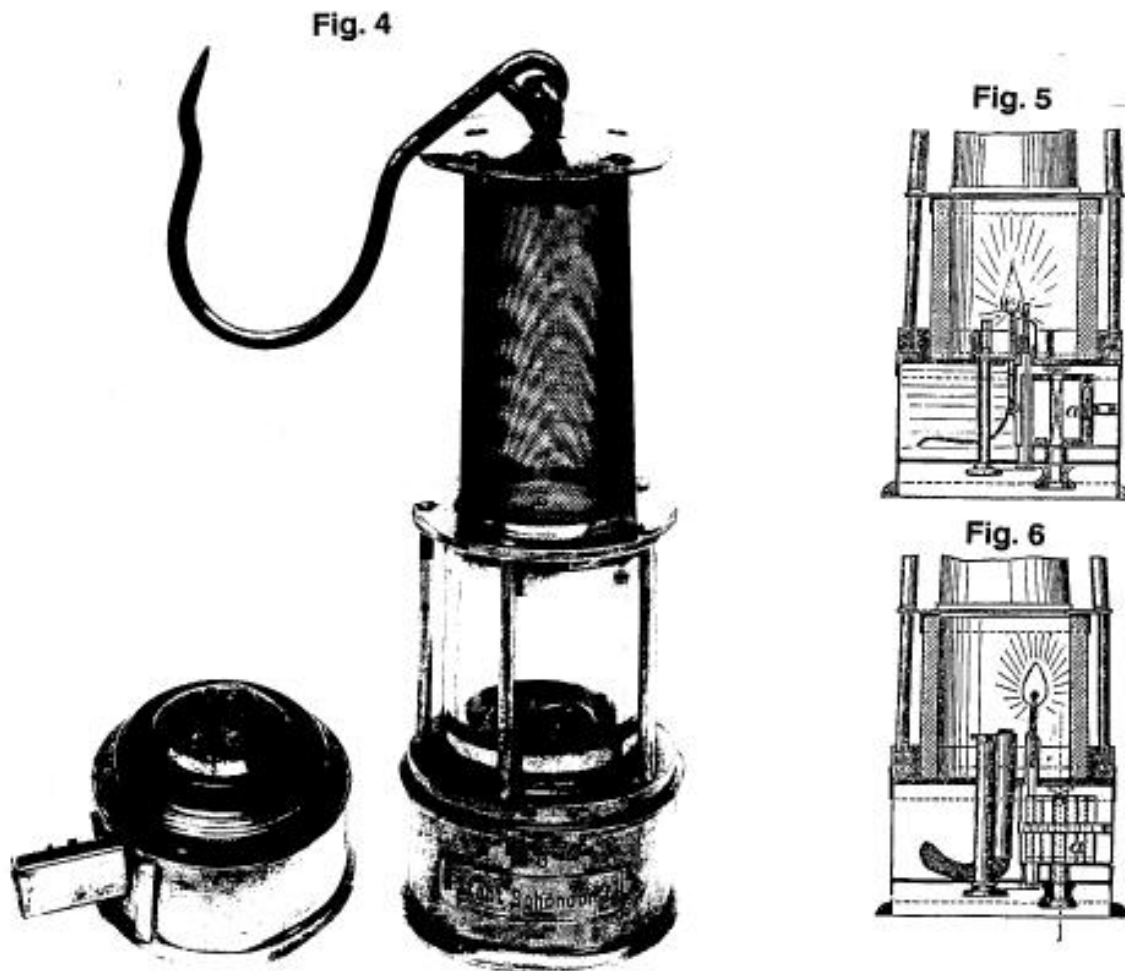
The reservoir of the lamp is provided with a projecting cylindrical-shaped foot i, to enable the wire f normally to rest with the socket f-2 below the flame in the comparatively cool part of the lamp, thereby preventing accidental ignition of the lighting means. The foot i also protects both rods d-1 and f-1 from injury. When socket f-2 is provided with more than two matches, it may be advisable to place a guard plate between adjacent matches to prevent the flame of one match from accidentally igniting the other.

This lamp was introduced during a meeting of Chesterfield and Midland Counties Institution of Engineers in 1891 and Mr. J. S. Martin (H. M. Inspector of Mines, Bristol) said that in Westphalia there was a lamp in use known as the "**Wolf-Schondorff**" lamp, which could be frequently re-lit. He saw one lighted seven or eight times when it was shown at a meeting of the Manchester Geological Society in March, 1884.

**Fig. 2** (previous page) is a horizontal section of the lower part thereof with the improvements applied.

**Fig. 3** (previous page) is a side elevation of the upper end of the igniter holder, showing two short matches wedged in it.

## German Patents to Ignite Safety Lamps by Matches



**Fig. 4** shows the oil safety-lamp of Wolf-Schondorff with magnetic lock. It was patented in 1890. The lamp can be re-ignited by using matches. The container holding the matches will be interposed lateral into the oil or fuel vessel. Each of the matches can be pushed through by a rod in right position and then can be frictioned by a toothed rod adjacent the wick.

**Fig. 5 and 6** show the patent of Feige to ignite the flame in a safety-lamp by matches. The patent also dates from 1890. The drawing shown in Fig. 5 is for oil burning lamps and the one in Fig. 6 for benzine burning.

These lamps are very rare, because they were examined by mine offices and they did not pass through, even if the invention was an useful idea. But the rules were very stringent, and a great deal of trouble was taken to ensure the safety of the miner by only allowing the lamps to be lit by a responsible person.

**Reference:** Transactions of the Federated Institution of Mining Engineers; Vol. 11 1890-91 / by Taylor 160 Jahre Wetterlampen, Gluckauf, Hubig

# Ore Car Tags

by Ted Bobrink

Here is a very attractive solid brass 6x3 "Matteson" ore car tag. These neat ore cars were manufactured by the Joshua Hendy Iron Works of San Francisco, Cal. Mattesons patent was applied to a number of different ore cars that Hendy manufactured. The very first ore car I ever found back in 1971 was a "Matteson Cage Car" and it is very unique.

While most early drift cars are around 40" in length and 36" high. This one is very short only 34" in length, and tall 46" high, with special hook ups on each side. It was made this way so it could ride in a small man cage, and be tethered so it wouldn't roll around. The ore car tag shown is the same style as the one on the car now.



You will notice that the ore car is setting on what looks like plain old wood. What it really is, is called "Flat Strap Rail" and this is what was used in the 1880s before the invention of what you now know as "T" rail. To experienced mine explorers, flat strap rail is a welcomed sight. It tells you that the mine, or that level was worked before 1895.

Flat strap rail consist of two 2x4s (called scantling) laid on end with a 3/16 x 1 1/4" flat steel strap nailed to the top with special beveled head nails. This two piece rail is held in place with a 2x4 or 3x4 28" tie. The tie is mitered to hold a wood wedge. You can see these wedges against

the side of the wood rail in my photo.

The big problem with using the old flat strap rail was going around a bend in the tunnel or drift. To bend the wood scantling, they had to make numerous cuts (about 100) on the side. Bends of more than a few degrees just could not be done. When they came to an intersection (a 90%turn) there was a large steel plate called a turn plate. The ore car would be pushed off of the rail on to the turn plate, turned 90% and then pushed back on the the rail completing the turn.

To make it easier for the miner to push the ore car back onto the rail after making the turn. There were curved beveled steel bars that look like curved wedges about 8"long called "Track Ramps" riveted to the turn plate.

You can understand now why the use of the new T rail was a tremendous advantage for the 1890s miner and mine owner. It took far less time to lay it down, and it was easy to bend.



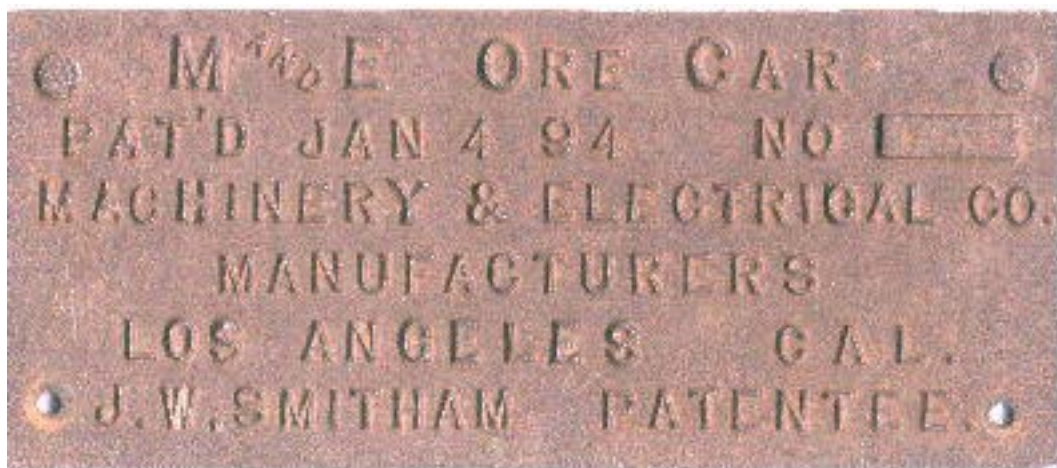
Here is a solid brass 6x2 "Skip Car Tag". I found underground at the Noonday Mine near Tocopca Hot Springs, Cal. I had to get it off with a piece of drill steel and a rock. That was in my early days when I didn't carry a cold chisel with me.

Skip cars are ore cars that are used to haul the ore out of an inclined shaft. They are much rarer than drift cars because there was just one per shaft. They look like a box with wheels, and have a 45% opening at one end. I will show you one tomorrow.

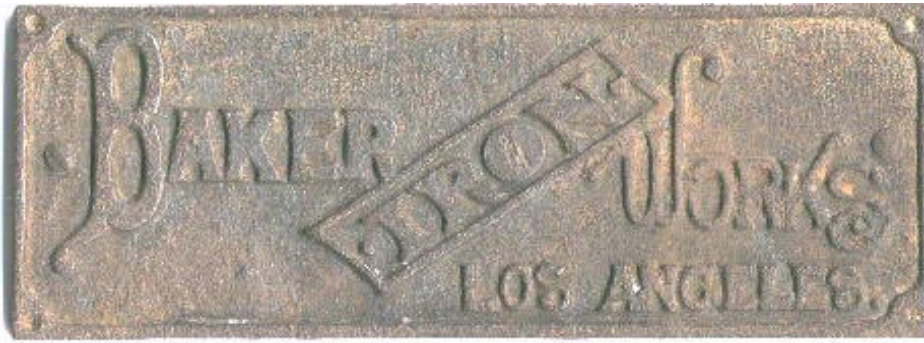
This tag says "Automatic Dumping Car" because the larger rear wheels had a smaller diameter extending wheel that caught a second track half way up the headframe. The smaller front wheels caught another track that made the car turn forward. As the rear end was being pulled up it made the car dump into an ore bin, while it was being pulled up the headframe.



The M&E 12x5 iron ore car tag (below) is unique to me (I have never seen another) and the largest tag I have ever seen. I found it on the 300' level of the Charlotte Mine in the Banner mining district of Julian, Calif. I ended up pulling the car out about five years later.







The Baker Iron Works tag is also unique to me c1897, and was found on the 350' level of the Little Butte Mine in Randsburg, Calif. It too is iron, and very large 12x4 and came on a Standard front foot pedal dump ore car. The car was in a caved stope, and we could not get it out.

Here is a rare oval solid brass Truax Ore Car Tag. Most of you have seen the round Truax tags with all of the patent dates, and I know of six different ones. I believe this to be the earliest of the Truax tags that I know of, and it is the only oval Truax tag I have ever owned. It is very thick, and measures 4 1/4"x2 1/2"



This is the 2nd earliest round

brass Truax ore car tag that I have. It is 4" across, and it is on one of my ore cars. It says "Geo E. Truax's Silver State Ore Car" and has the name Truax MFG Co in Denver, Colorado where they originated. The rectangular brass tag below it is from the company that sold the car and it says "CARLSON-LUSK-HDWRE CO MINE SUPPLIES BOISE IDAHO"

Here is a later 4" solid brass Truax ore car tag that is convexed (earlier tags are flat) with only just the name "THE TRUAX" as



the heading. Truax must have sold his patent rights to The Globe Iron Works of Stockton Calif and that is why I think these are the later tags, but that is just my guess. These are very detailed attractive tags. The background has little textured dimples. One thing that I noticed about these tags is the lower the serial number the more detail in the letters. I have often wanted to make a belt buckle out of one of these tags, but now they sell for too much \$\$\$.





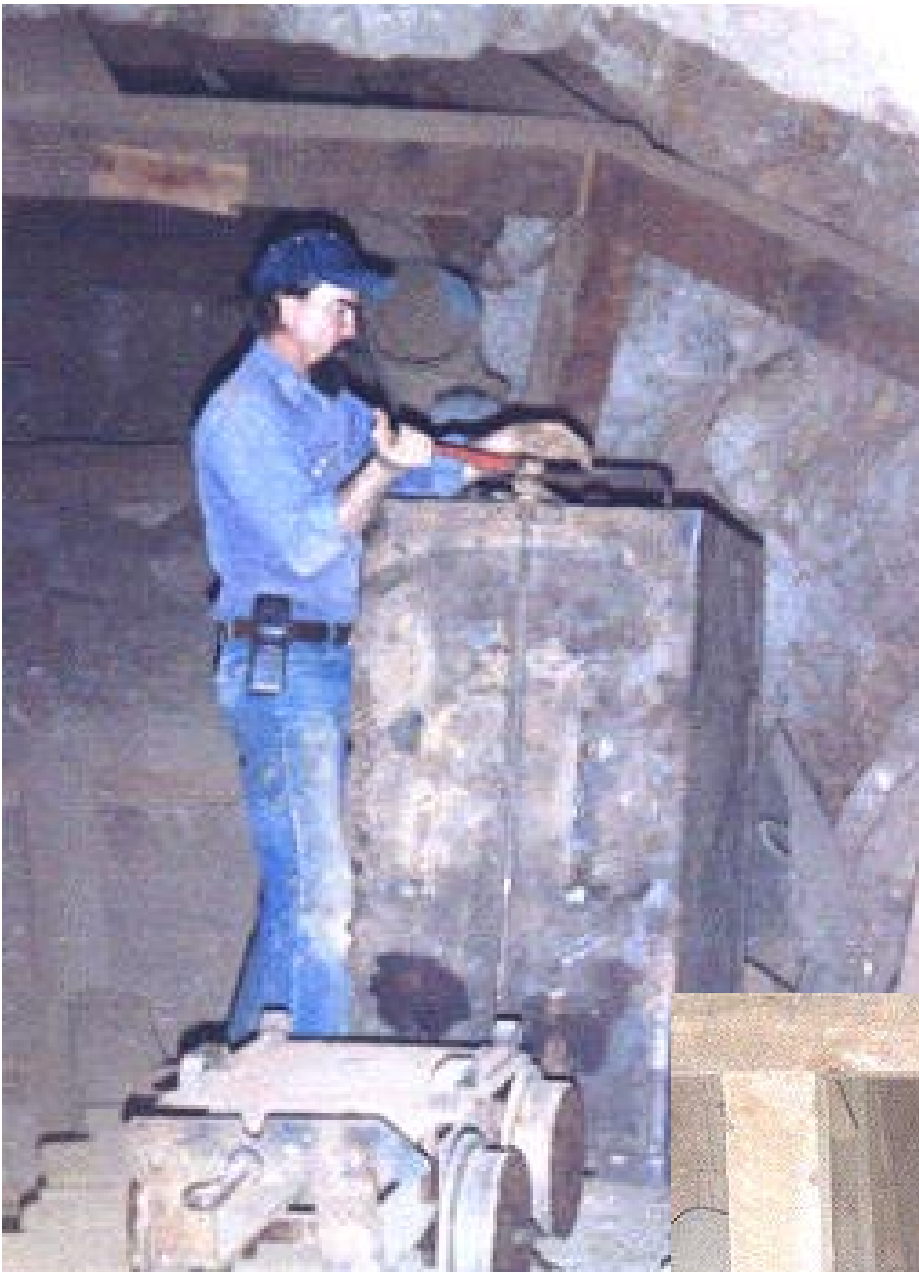
Here is a iron 9x4 ore car tag from the Fulton Engine Works of Los Angeles, Cal. It is on a really nice ore car I found on the 200' level of a mine near Tacopa, Calif. The photo below shows the ore car just as we found it sitting on the 200' station back in 1976. That was when I was skinny, and had hair. When I first found this ore car, a guy named Jim DeMayo and I had climbed down a 45% inclined shaft to the second level of a mine we new had five levels. There were two Fulton ore cars about twenty feet apart. One in the drift, and the

one with this tag sitting on the station. The drifts went left and right so we took the right one first. After about three hours we had found about 20 Giant, Hercules and Vigoret dynamite boxes, 2 candle boxes, 1 wood California 1000 blasting caps box, and more California cap tins than we could carry. Instead of exploring the drift to the left. Jim and I decided to make one trip to the surface with as many boxes as we could carry, and grab a bite to eat before taking one of the ore cars out.

That turned out to be a really big mistake. After we ate dinner it was getting dark (about 7:30 PM.) and we started back down the 200' incline to get the ore car. Just the two of us worked until after mid night (over 5 hours) making two trips getting that ore car up the



inclined shaft. We went to bed very dirty, and dead tired in our tent. In the morning at around 9a.m. we went back down the shaft to explore that drift to the left, and get the other ore car. We took that drift on the 200, and guess where it went? You guessed it...It was a tunnel that went about 800' right out the side of the mountain, and we could drive

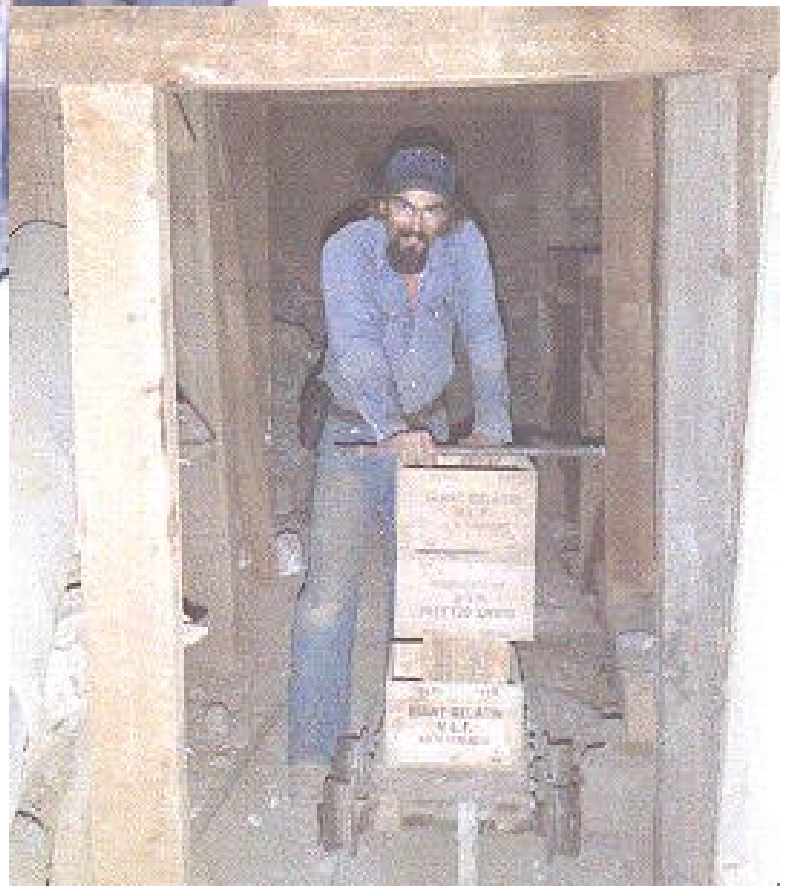


our 4 wheeler right up to the adit. We could have pushed that 700 lb. ore car all in one piece on the track, right to the back of our car. We did just that with the second one loaded with boxes and cap tins.

The photo (left) showing me taking apart the Fulton ore car shows something kind of neat. If you look over my head, and to the left. You will see a piece of light colored wood about 14" long nailed to the cross beam (cap). This was an ore car counter, and it has 24 1/2" holes drilled into it with a wood peg. It is hand made, and says Noonday Mine written in pencil with all the holes numbered up to 16. I do not know why they stopped at 16. These boards were used to count how many

ore cars were loaded into the skip car before it was hauled to the surface. Perhaps the miners were paid by the car or maybe they had a quota. The fact that it stopped at 16 always made me think of that song "Sixteen Tons" by Tennessee Ernie Ford.

Remember that drift I told you about that went right out the side of the mountain. The photo (above right) of me hauling 3 Giant dynamite boxes and 1 Goodwin candle box plus some other junk on a really neat hand made flat car. I sure am glad we found that exit before we hauled it all up the incline.





# BITS



*The*  
**BIG BOY**  
*is the only 8-hour Carbide  
 Miners Lamp equipped  
 — with the new . . .*

## CONSTANT FLOW HYDROLATOR

**It creates that Even,  
 Brilliant Flame**

**NO ATTENTION REQUIRED**—Once the water is turned on, the Constant-Flow HYDROLATOR maintains a continuous, uniform flow of water throughout the entire burning time of the lamp.

**WHAT IS THE HYDROLATOR?**—It is the new water control device developed by the engineers of the Shanklin Mfg. Co. to prevent clogging of the water feed with carbide sludge . . . a condition which usually occurs in this type of lamp when not equipped with the Hydrolator. *IMPORTANT NOTICE! Do not remove or change the Hydrolator in any way. It is adjusted perfectly at the factory.*

**HOW IT WORKS!**—The many perforations on the surface of the Hydrolator really act as hundreds of individual water jets which CANNOT become clogged with carbide sludge due to the arrangement of the filtering material. Capillary action forces a distribution of the water over an area of three square inches instead of at one point as is true in the old-style 8-hour lamps. Thus, the water flow is constant at all times, which in turn generates the even gas pressure required to produce a steady, brilliant flame.

**SHANKLIN MFG. CO.**      Springfield, Illinois

## Big Boy Insert Found in Lamp

I recently purchased an unfired 'Guy's Dropper Big boy', I believe the earlier type with the pinch threaded waist manufactured in Springfield by Shanklin, (is that pre 1936?).

Anyway, inside this unfired lamp was the original sheet of instructions as to the operation of the constant flow hydrolator that is fitted to this lamp, I enclose a copy for your possible interest.

Mick Corbridge



## Clickster's Tool Chest



Larry Click (aka Clickster) has become somewhat of a dent removal expert in carbide cap lamps. Much of this technique involves fishing a specially shaped tool through the water door and massaging out the dent. His results are self-learned and, in a word remarkable. Some of the tools are fashioned from closet hanger hooks. Others are truly unique. For more information you may email Larry at: [lclick@erols.com](mailto:lclick@erols.com)

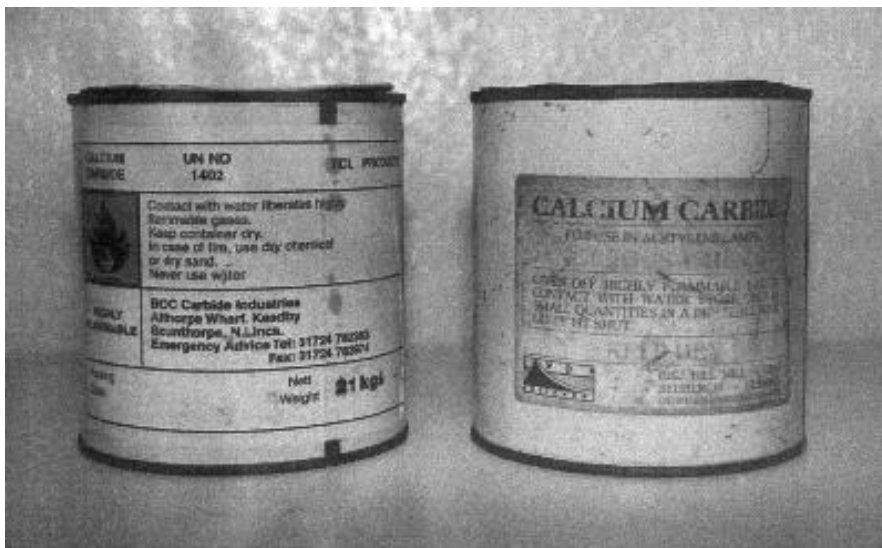


# British Carbide Tins - Recent Additions

by Mick Corbridge

Since my original article, (EUREKA! No.30 P.11-13), showing a few manufactured packaging tins for carbide, I have now acquired a further five examples which are shown in the following two photos.

The first picture shows three early-pattern color-printed tins i.e. a standard normal tall pattern one pound tin supplied BY 'James Jamieson of Aberdeen under the logo of 'XL' carbide. The printing is gold and on a dark green background. The tin shown in the center of the group is a half-pound weight tin supplied by 'Darge Acetylene Gass Co.Ltd.'



was the Newcastle manufacturer of the 1940's producing several patterns of miners' carbide cap and hand lamps. The printing is gold and on a blood-red background. The tin shown on the right hand side. of the group is a one-pound. Tin supplied by the 'High Level Brand Co' - Newcastle on Tyne, the name referring to a famous bridge that crosses the river Tyne.

The printing is black and white on a pale blue and white background. The second photo shows two 1960's style tins, both having paper pasted on white tins. Both are one kgm. weight tins, although one is rather odd in that the label states firstly a crossed out 2 kgm followed by the correct 1kgm ? This tin was supplied by Boc Carbide Industries' - Scunthorpe - N. Lincolnshire. The other tin was supplied by 'Lyon' - Cumbria who in the 1960's supplied underground equipment to caving and mining groups.

# Railroad Inspection Torches With a Mining Link

*by Dave Johnson*



These are three old solid brass railroad inspection torches that all having a link to mining. The first one in the photo has engraved on it F. & C.C. RR. July 1, 1894 CRIPPLE CREEK (see photo below). The Florence and Cripple Creek Railroad was the narrow gauge line that served the mines of the Cripple Creek and Victor area of Colorado. The line went from Cripple Creek to Florence, to the south, where it connected with the Denver & Rio Grande main line. The line was built to transport ore from the mines to the reduction mills and smelters in the Arkansas Valley, and haul coal and supplies back up to the mining communities of Cripple Creek and Victor. I'm not sure of the significance of the July 1, 1894 date, but 1894 was the year the line was completed to Cripple from Florence. This appears to have been some type of presentation piece as it is engraved rather than stamped as the other two pieces seen here are.

The second brass torch is stamped L.C. & N. Co. for the Lehigh Coal & Navigation Co., a well-known name in the coal mining trade.

The third torch is stamped O.I.M. Co. for the Oliver Iron Mining Co., an early subsidiary of United States Steel, with mines





## Quincy Mining Co. Ingot

This 8 pound ingot from the Quincy Mining Co. of Hancock, Michigan is engraved QUINCY SMELTING WORKS FIRST COPPER SMELTED DEC. 1, 1898 QUINCY MINING CO. The Quincy Mine was known as "Old Reliable", being the longest continually operating copper mine in the Keewenaw Peninsula, beginning operations in 1851. The Quincy Smelter was built on the North side of Portage Lake at Ripley, just east of Hancock and was completed in late 1898. (Dave Johnson)



## Hidalgo Smelting Co.

This old commemorative silver token is from the Hidalgo Smelting Co. of Mexico. On one side it says HIDALGO SMELTING CO. SOUVENIR MADE FROM FIRST BAR OF SILVER. SULTEPEC, MEXICO 1892. The Other side picturing the smelter says ORGANIZED MAY 12, 1887. SMELTERS COMPLETED 1891. FURNACES LIGHTED OCT. 31, 1892. FIRST BAR REFINED SILVER DEC. 20, 1892. (Dave Johnson)





# Mineral Railroad & Mining Co.

Pictured here are three highly collectible and desirable pieces from the Mineral Railroad & Mining Co. of Pennsylvania. There is a brass seal with the firm's name and a coal car depicted and two different Coal & Iron Police badges from this firm. (Dave Johnson)





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**For Sale:** Ensign-Bickford 7-Inch Hot Wire Lighters. These look like sparklers. I have one full unused box. Excellent condition. \$95. Dave Thorpe, email: [dthorpe@primenet.com](mailto:dthorpe@primenet.com)

**Elkhorn:** Cap lamp for sale: \$275, postpaid if US. Brass, excellent, missing wire cap brace. Dave Thorpe, email: [dthorpe@primenet.com](mailto:dthorpe@primenet.com)

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