

# *EUREKA!*

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**Cover photo by Frieda B. K.** Taken at a party in the catacombs below Paris, in the network under the 13th arrondissement. In foreground is an acetylene French military lamp.

# Watch Fobs Mark the Industry

*Bill Collins, Santee, CA*

Watch fobs have decorated many a pocket watch. It's no wonder that businesses chose to use these decorative devices as a point of advertisement. Watch fobs were used by industries and manufacturers, unions, fraternal and professional organizations, tourism advocates and more. Some watch fob pendants served a double purpose, first being the pendant on a meeting ribbon, and second as a fob once the ribbon was discarded and a leather strap added. Presented here are a few of the fobs I have acquired over time.



*Figure 1: (L) Steptoe Valley Smelters, McGill, Nevada, and (R) Copper Flat, Ely, Nevada*

Figure 1 shows two brass fobs locally produced to advertise the copper mining industry in White Pine County, Nevada. These fobs are typical of a souvenir likely to be sold by just about any business catering to tourists. The first showcases the Steptoe Valley Smelters at McGill. The second gives the tourist a glimpse of the mining operations at Copper Flat, Ely (actually at Ruth, Nevada).



*Figure 2: (L) United Mine Workers of America, and (R) U.M.W.A. District 10*

Figure 2 shows two brass United Mine Workers of America union fobs. The first is a generic union fob suitable for any member. The second was produced for members of the union's District 10.



*Figure 3: (L) U.M.W.A. Sub-District 5, Bellair, Ohio, (C) Utah Copper Company, and (R) American Legion, Scranton, Pennsylvania.*

Figure 3 shows three fobs produced for various meetings. On the left is a United Mine Worker fob for Sub-district 5 of District 6, Bellair, Ohio. The brass and enamel fob was produced for local members attending the 18th Annual Convention in March 1916. The center fob features the open pit at Bingham Canyon and was produced for the Utah Copper Company. The brass fob was given to members of the American Mining Congress attending a national meeting in Salt Lake City in September 1924. The brass fob on the right was produced for the American Legion for members attending the 11th Annual Convention in Scranton, Pennsylvania in 1929. The fob features a coal breaker common to the anthracite district of northeast Pennsylvania. The reverse sides of the Bellair and Utah Copper Company fobs are shown in Figure 5.



*Figure 4: (L) A.S. & R. Co. and Colorado Fuel & Iron Company*

Figure 4 shows two fobs related to the metals processing industry. The first was produced for A. S. & R. Co. This was the old American Smelting and Refining Company before they became known as ASARCO. The brass fob features a slag pot used at their Omaha plant. The second fob is a safety award made for the Colorado Fuel and Iron Company. C.F. & I. was an integrated company and operated coal, fluorite, and iron mines, and coke ovens. This white metal and

enamel fob was made for use at the Minnequa Works steel mill in Pueblo, Colorado. The reverse side of this fob is shown in Figure 7.



*Figure 5: Reverse sides, (L) UMWA Sub-District 5, Bellair, Ohio, and (R) Utah Copper Company.*



*Figure 6: (L) Canadian Ingersoll-Rand and Murray Iron Works*

Figure 6 shows two white metal fobs. The first is an advertising piece made for the Canadian Ingersoll-Rand Company. The company was a major manufacturer of mining machinery, air compressors, coal cutters and rock drills. The fob features an underground mining scene where light is being provided by two 8-hour hand lamps. The second was made for the Murray Iron Works of Burlington, Iowa. Murray was a manufacturer of Corliss steam engines and was pushing their cost-effectiveness and efficiency. The reverse sides of the Canadian Ingersoll-Rand, and Murray fobs are shown in Figure 7 (next page).



*Figure 7: Reverse sides, (L) Colorado Fuel & Iron, (C) Canadian Ingersoll-Rand, and (R) Murray Iron Works*

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# The Davis Derby Story

by Dave Johnson



John Davis, J. Davis, Davis Derby, John Davis & Son, and Davis Instrument Manufacturing Co. are all names that frequently appear on mining artifacts such as safety lamps, miners' dials, and anemometers. What follows is a brief history of this firm best known as Davis Derby.

What would become Davis Derby was a family business established in Leeds, England, in 1779, by Gabriel Davis, a manufacturer of optical, surveying and mathematical instruments. The business was founded during the reign of King George III, when William Pitt, the Younger, was the Prime Minister of England. Capital tax had not been thought of and for the few people who paid income tax, the rate was one shilling per pound sterling.

*Left: John Davis.*

Gabriel Davis' nephew John was born in the village of Thame in Oxfordshire in 1810. He became apprenticed to J. Abrahams, who styled himself as Mathematical Instrument Maker to the Duke of Wellington. On completion of his apprenticeship in his late teens John Davis moved to Leeds to join his uncle's family business.

Prior to 1830, it was common practice for tradesmen to open a shop in a town and then move on to another, covering perhaps ten towns in a circuit. John followed this trend, visiting Liverpool, Cheltenham and making his first visit to Derby in April of 1830, opening a temporary shop in Rotten Row to sell the Company's products where he remained for six weeks. At that time the population of Derby was 23,000 people and there was only one other optician in town, Mr. J. Steer, who was both an optician and toy maker with a shop also in Rotten Row.

In 1800 it would still have been appropriate to describe Derby as, in the words of Daniel Defoe of a century earlier, – a town of gentry rather than trade. Derby had seen some influence of the industrial revolution, the



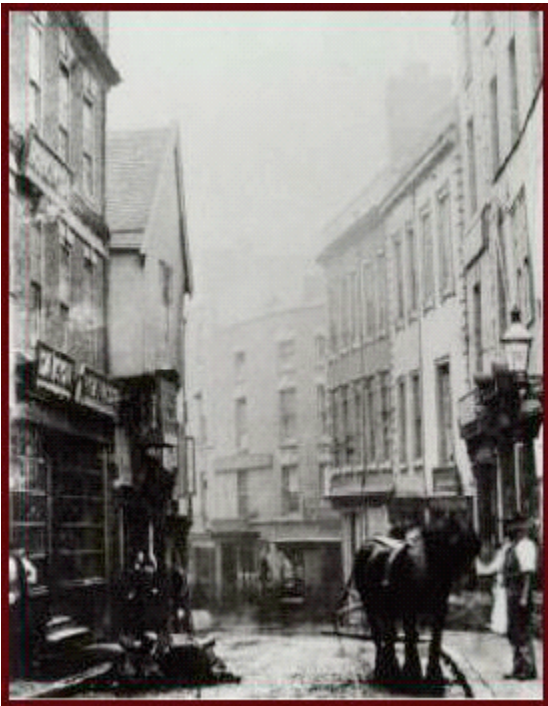
Derby Silk Mill was founded in 1717 by two brothers, John and Thomas Lombe using technology highjacked in dramatic style from Italy, an early case of industrial espionage. In 1736 John Whitehurst moved to the town and established his business as a high-class clock maker. Jedidiah Strutt founded two mills in the town center not far from the silk mill around 1750. However it was the arrival of the railways in 1839 and 1840 which invigorated the town. Andrew Handyside arrived in Derby from Glasgow in 1848, his factory was to be the largest in Derby for more than 50 years.

In the early 1830's John Davis traveled regularly between Liverpool, Cheltenham and Derby to sell his products. For the next few years John visited Derby at regular intervals, staying for a few months at a time, he advertising his visits in the Derby Mercury. By 1833 it was clear that John had broken away from the Leeds business of Gabriel Davis and was working for himself.

John's brother Edward continued to work for Gabriel Davis in Leeds and was destined to take over from him when he died. John continued to visit Derby for the next decade, typical of his visits were those in 1835 and 1836, arriving in October and leaving to go to Cheltenham in February of the following year.

In 1843 perhaps attracted by the railways and the rapid transition taking place in Derby and the desire to settle down with his wife Amelia and their two young sons, he took up residence with his family. John bought the free-hold of the sixteenth century Meynell town house, which is now the oldest surviving premises in Iron Gate, and which in recent times has been an art gallery and a restaurant. At the rear of the premises he build a workshop to produce his products, the house was to be the family residence for close to 20 years.

*Davis' first shop location at 14 Iron Gate Derby, England, 1850.*



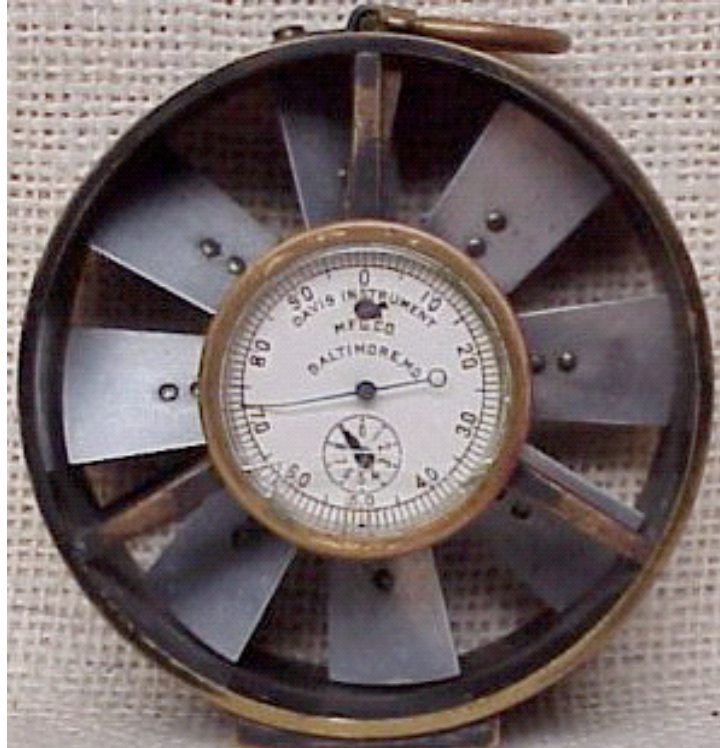
The company was by now manufacturing a variety of surveying instruments such as theodolites, surveying dials and miner's dials, some very similar in design to the products of Gabriel Davis' business in Leeds. Interestingly, spider webs were being used to replace the wires used for sites on these instruments, the task of collecting spider's webs was one of the tasks given to apprentices and continued well into the twentieth century.

*Right: Davis All Saints Works Amen Alley Derby - 1860.*



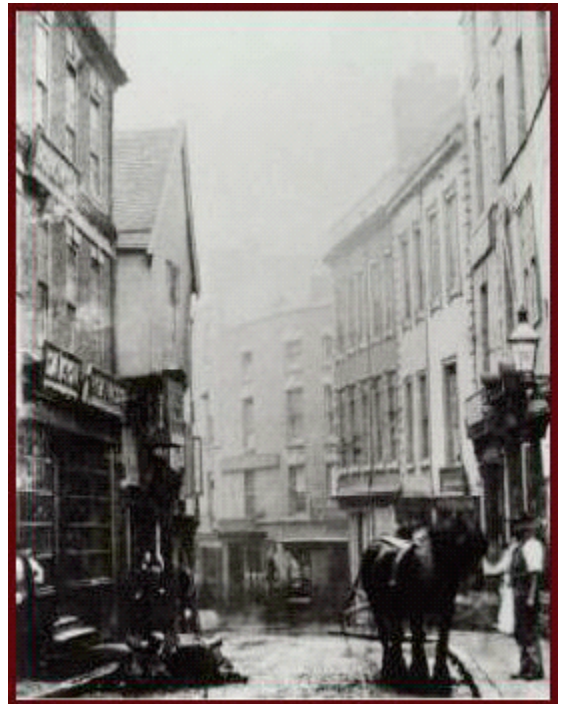


At this time coal production in the UK had risen to 55 million tons and 250,000 men, women and children were employed underground and there were an average of 1000 deaths in the mines each year. Around 1840 John Davis began to manufacture mining equipment such as mine safety lamps based on the designs developed by Sir Humphrey Davy in 1815. Production of miners lamps continued for more than a 100 years, reaching 10,000 a year by the turn of the 20th century.



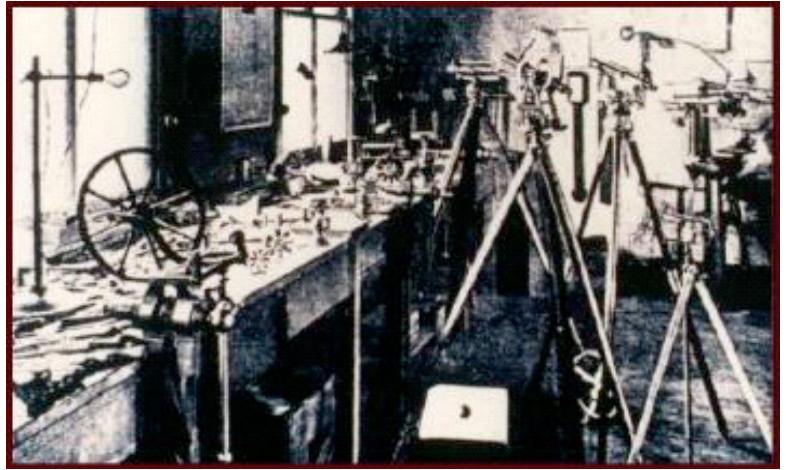
*Left: Davis Derby Fireboss unbonneted Clanny. Right: Davis Instrument Mfg. Co. Anemometer.*

The company soon attracted interest from a number of mining experts, and in 1844 Davis was visited by Benjamin Biram, house steward to the Earl Fitzwilliam of Wentworth Woodhouse who owned a number of collieries in South Yorkshire. Biram explained that he had invented an instrument to measure the amount of air or force of wind entering a mine, the instrument was called an Anemometer. In an advertisement placed in the Derby Mercury in February of 1845 John announced that manufacture and sale of Benjamin Biram's first vane Anemometer would commence in a few weeks.



*Right: Davis' first shop location at 14 Iron Gate, Derby, England, 1850.*

*Right: Davis Instrument Shop - 1860*



John quickly became famous in mining circles as a pioneer in the use of electricity in mines and for his mining products. In 1850 John Hedley, HM Inspector of Mines the Midland District approached John with a new type of Miner's dial with a swinging limb, modified versions this instrument were widely used by mining surveyors and for the next century, the company continued to manufacture the Hedley dial until

around 1960. At this time, John was hoping the bulk of his business would come from steam engine manufacturers and as a result he advertised a range of vacuum and pressure gauges.



.Derby Guild Hall was destroyed by fire in 1841 only 13 years after it was built, this event inspired John to write in the Derby Mercury about how buildings could be protected from the effects of lightening by the use of a copper tube of about 2" in diameter coming from the roof and continuing into the moist earth below the foundations. Lightning conductors were by now a feature of the company's catalogue!

*Left: J. Davis bonnetted Clanny safety lamp.*

John was very active in the community, around 1860 he began to press for the widening of Iron Gate. He was chairman of a committee of Iron Gate tradesmen and personally contributed the sum of £100, a sum exceeded by private individuals only by the

Duke of Devonshire who contributed £250 to the fund which eventually provided £2350 to enable the work to be carried out. The widening of Iron Gate commenced in 1865 and took five years to complete.



*Right: John Davis & Co. - Baltimore, MD and Derby, England.*



John moved from his Iron Gate address to live at 99 Friar Gate probably to escape the dust and noise created by the widening of Iron Gate, He made a further gesture to improving the streets of Derby by contributing the first trees on Friar Gate and London Road.

John Davis & Son Kirby Lamp - All Saints Works.

John became the father of ten children, including seven sons who were educated at the town's grammar school in St Peters Churchyard. Headmaster of the school at the time was the Rev James Bligh, an idle and incompetent kinsman of the infamous Captain Bligh who captained the Bounty..

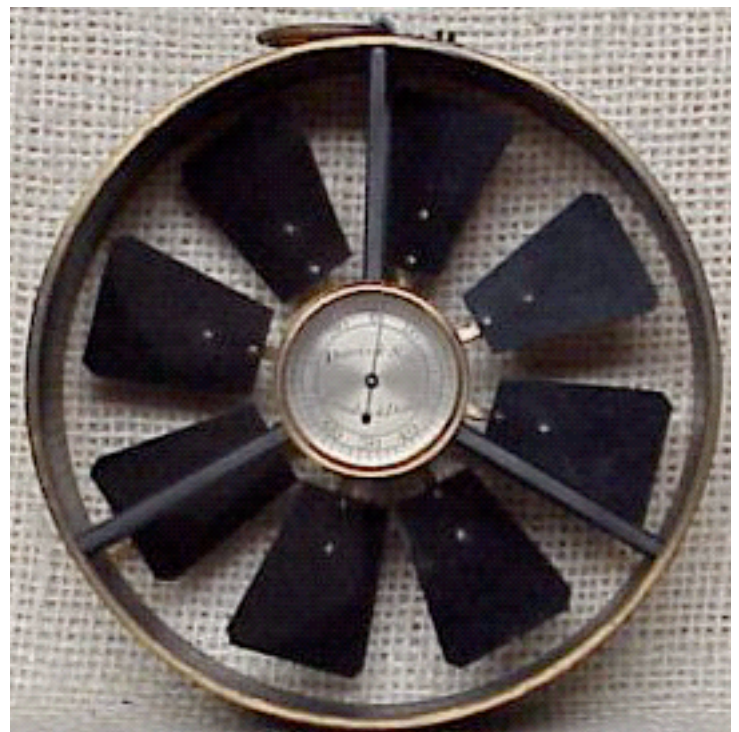
John Davis died in 1873 at the age of 63, his brother Edward, his elder son Frederick and his second son Alfred were appointed executors to run the business. Frederick and Alfred were both trained as civil engineers and Edward was very much involved in running his own business in Leeds, consequently Henry Davis was soon appointed by his brothers to run the business.

When Henry took over the business the workshop was fitted out with four large lathes and four small lathes, fourteen pairs of vices, a new vice bench and eight sets of working men's tools, suggesting that eight instrument makers were employed.

At this time Henry's business must have included selling equipment to local medical practitioners since stethoscopes, enema bottles, water pillows, air cushions and chest expanders were all recorded in the company's sales ledger, listed under the heading of optical instruments!

*Right: John Davis and Son - London and Derby.*

Under the leadership of Henry Davis the business continued to expand, moving to new premises in November 1875 at All Saints Works Amen Alley in Derby close to the Cathedral. The earliest surviving Davis Derby catalogue is dated in 1877 and shows



that products included turret clocks, surveying instruments, a wide range of miners lamps, anemometers, electric bells for both mining and domestic use, pressure gauges, opera glasses, spectacles, medical devices and weather vanes. This catalogue also shows that the firm was actively involved in the generation of electricity for lighting.

The record of Queen Victoria's visit to Derby in 1891 states "Messrs John Davis and Son, of All Saints Works, had the opportunity for the first time in Derby of showing how pretty illuminations can be made to look with the use of electric light. They were responsible for the letters 'V R' very prettily outlined in small lamps, over Messrs. Pountain, Girardot and Forman's premises and also for the 500 candle power lamp which brilliantly illuminated Messrs Bakewell and Wilson's premises in the Market Place.

The company soon began to supply local shops and offices with electric power from generators in the Amen Alley Works. This continued for four years until 1893 when Derby Corporation built its new power station on Full Street as close as possible to the Davis lighting station, on the site of what is now the Industrial Museum.

Interestingly, electric lighting underground in mines was in use prior to acts of Parliament in 1882 and 1888 which permitted local authorities to authorize the use of electric street lighting. One of the earliest lighting installations installed by Davis of Derby was in 1886 in the Star Mills Co. flour mill in Newport, by 1893, John Davis & Son (Derby) Ltd had installed electric installations for lighting and other purposes such as pumping, at several mines including the Mill Close lead mine at Darley Dale which was lit by incandescent lamps of 16-250 candlepower.

Other installations were at Clydach Vale Colliery in South Wales and two pits owned by the Clay Cross Company, which were equipped with lighting and pumping installations. The Riddings Colliery of Messrs J Oakes and Co had its surface works and underground roadways lit by Davis Derby. The company also supplied and installed lighting systems at the nearby Swanwick and Bolsover collieries. A complete installation for electric lighting plant at Bestwood Colliery and Ironworks was also installed which was powered by twin steam engines and dynamos.

It is interesting to note that in February 1893 the Federated Institution of Mining Engineers visited Davis Derby and reported the visit as 'An Hour At All Saints Works'. This report describes a pioneer installation for the generation and supply of electrical power for supplying neighboring hotels, shops and offices.

Institution members also reported on an improved Naval signaling system, and in particular noted that an order had been executed for the German Navy. Mr Henry Davis commented that "the firm had received the gratifying intelligence that it is the intention of Prince Henry of Prussia to adopt the same throughout the whole German Navy".

At the time of the visit the company was reportedly capable of manufacturing 500 miners lamps each week, and these were dispatched all round the world. It is worthy of mention that in 1886 the final report of the Royal Commission On Accidents in Mines was presented and under the

heading 'Safety Lamps' three out of four of the lamps selected as the safest were made by Davis Derby. These were the Bonnetted Clanny, the Marsaut and the Bonnetted Muesler.

Members also reported that a new type of ringing key and signaling bell were demonstrated. Various instruments were on show during the visit including Davis's improved Hedley Dial, a self-timing anemometer and a safety lamp cleaning machine invented by a Mr Wolstenholme of the Bestwood Coal and Iron Company.

Davis Derby manufactured many products which had been invented by prominent mining engineers and other inventors of the time, such as Biram's anemometers, John Hedley's Miner's dial and Hoffmans patented tripod head from the USA. The Company also had a close relationship with Mr A. H. Stokes, His Majesty's Inspector of Mines, and patented a miners lamp shut off device originally invented by Mr. Stokes.

During the visit, members of the Federation were given a demonstration of the patented Davis and Stokes electric safety motor. This motor had an enclosed commutator and brush set which could not be opened when the motor was running and which reduced the space available around the sparking brushes that could be filled with gas. Previous attempts at designing motors for use in fiery mines were based on the principle of completely enclosing the motor, resulting in them being blown apart when an explosion occurred within the motor enclosure.

The Davis family avoided publicity and advertising, sales promotion in this period was achieved mainly by attendance at exhibitions in Cardiff South Africa and in London. In 1890 Davis took on the UK agency for coal cutters manufactured by the Jeffrey Company of Columbus, Ohio.

The firm of Davis Derby was held in high esteem, for in 1902 a committee was set up to report to His Majesty's Principal Secretary of State for the Home Department on questions related to the use of electricity in coal mines. Notably, Henry Davis was one of 56 witnesses called to give evidence.

Electricity was first introduced into UK coal mines in 1881 by David Graham at Earnock Colliery in Hamilton, Scotland. This installation was for a lighting system of 30 Swan Lamps. In the following year electricity was used for a pumping installation at Trafalgar Colliery in the Forest of Dean; four years later Davis Derby was asked to install its first underground lighting system, in Mill Close Lead Mine in Darley Dale. It was concern about the increasing use of electrical equipment in coal mines that led to the formation of the Institution of Mining Engineers.

Records show that the company was very active in overseas markets with agents in Australia, Canada, China, Japan and South Africa. The company was also selling equipment to sugar refineries in Barbados probably as a result of initial sales through Fletchers of Derby.

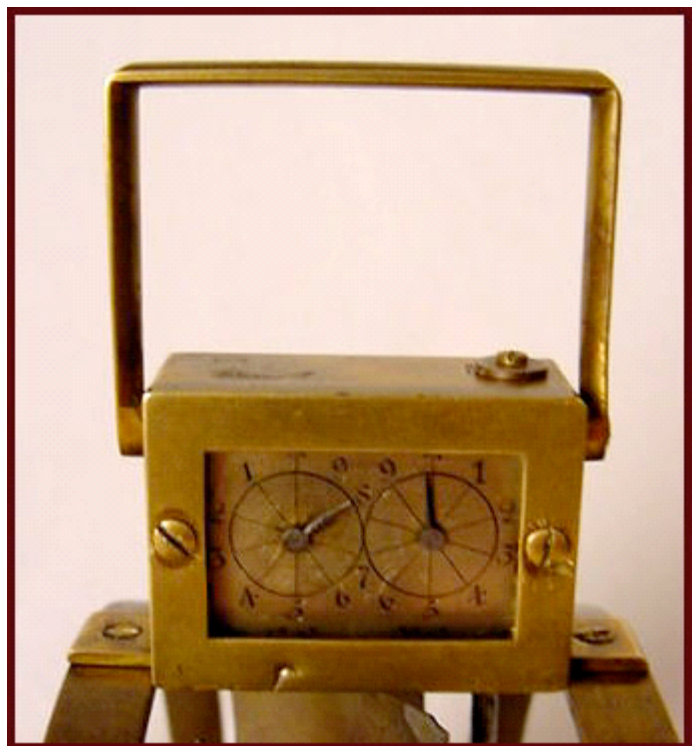
In 1900 Henry's brother Herbert was given a four year contract to sell the company's products in the USA, subsequently he opened an office in Baltimore which was adopted as a branch office of John Davis and son.

Herbert achieved considerable success in America so much so that in 1912 he resigned and formed his own company Davis Instruments of Baltimore manufacturing many Davis Derby products including anemometers which are still manufactured by that company today.

Between 1945 and 1955, Davis Derby phased out the manufacture of miner's, instruments and other long-time products to concentrate on electrical equipment for mines. In 1962 Davis Derby was sold to Standard Industrial Group based in the UK. In 1987 Davis Derby was sold to Senior Engineering Group and in 1992 Davis Derby Limited was acquired by Communication and Control Engineering.

Today Davis Derby Limited is a leader in the design and manufacture of electronic control & monitoring equipment & data logging systems for harsh, hazardous & difficult environments for global markets. They specialize in the design and manufacture of intrinsically safe electronics equipment and vehicle access control & fleet management information systems, having successfully made the transition from the Industrial Age to the Electronic Age.

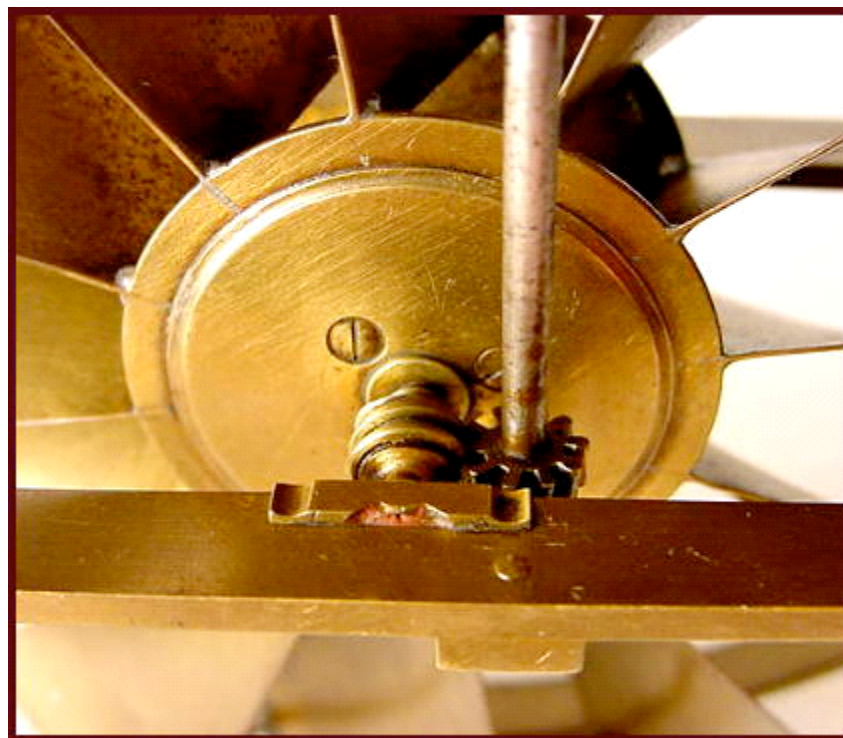
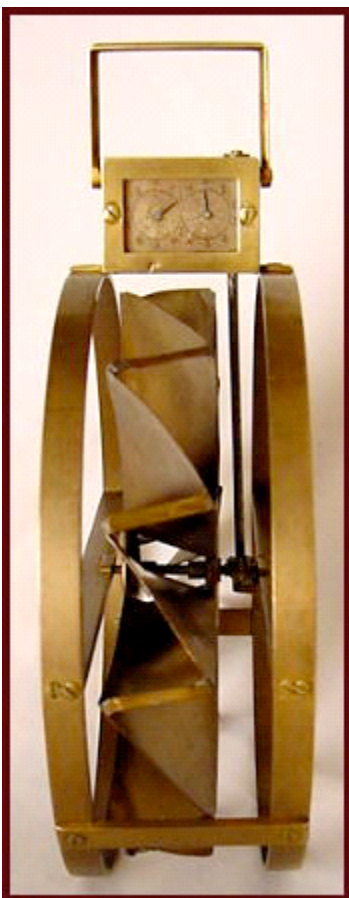
Shown along with this article are several Davis Derby safety lamps and anemometers. The most interesting of these is a very early Davis Derby prototype anemometer that I recently purchased from a dealer in the UK. This all brass anemometer is 6.3" (16cm) in diameter. Hand engraved are: BIRAM'S PATENT ANEMOMETER DAVIS OPTICIANS DERBY 35. There are two hand engraved dials, under the left dial appears CS and under the right dial appears XS, both dials share the numbers 7 and 8. This design is much more fragile than later models, there being little protection from damage for the vanes. This design is unusual in that it does not have the dials in the center of the vanes as we see in all the later versions of the Biram-style anemometer. This a truly a rare mining artifact.



*Davis Biram anemometer and closeup of dials, ca. 1845.*



*Davis Biram  
anemometer etchings,  
ca. 1845.*



*Davis  
Biram  
anemometer, side view  
and gear  
drive, ca.  
1845.*

According to David Hind with Davis Derby “I think that the number 35 probably is the serial number. I think that your Anemometer is an early version, it is more like our prototype than the production versions produced just a few years later”. Davis Derby has a similar early prototype anemometer with the number 28 in their collection. John Davis first started to produce the Biram anemometer in Derby, in 1845, the year after it was invented by Benjamin Biram. David Hind reports that: “We receive an average of one enquiry a month from the general public requesting information on nineteenth century and early twentieth century Davis Derby instruments which they have acquired. Many of these early instruments manufactured by John Davis and Son having outlived their original purpose are now highly collectable items a tribute indeed to the ingenuity of those who invented them and the craftsmanship that went into their manufacture.”

# A Different Lee Bros. Lamp

Bob Guthrie, Silverthorne, CO

A couple of weeks ago I won this lamp on ebay (fig 1 and 2). When the bidding started, it was listed with a different patent date, which I knew was wrong. Indeed the patent date of April 25, 1876 was issued to John Q. Lee (fig. 3, 4).



Figs. 1 and 2: Lee Bros. lamp recently acquired.

## UNITED STATES PATENT OFFICE.

JOHN Q. LEE, OF PLYMOUTH, PENNSYLVANIA.

### IMPROVEMENT IN MINERS' LAMPS.

Specification forming part of Letters Patent No. 176,650, dated April 25, 1876; application filed February 17, 1876.

To all whom it may concern:

Be it known that I, JOHN Q. LEE, of Plymouth, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Miners' Lamps, of which the following is a specification:

The nature of this invention is an improvement in miners' lamps; and consists in making and hinging the top to the lamp, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and to which—

Figure 1 is a section of the top of my lamp, also a blank top punched or cut out of one piece of sheet metal. Fig. 2 is a section of the top of my lamp, also blank of sheet metal, being a modification of the plan shown in Fig. 1. Fig. 3 shows the ordinary soldering the hinge-strap of metal to the top of the lamp.

In these figures, A is the top of the lamp, and B the hinge. The top A is punched or cut from one piece of sheet metal. The part A' is larger in diameter than the part A, which is concave, or formed as shown by the section of the top in Figs. 1 and 2, and which may be attached thereto or be a part thereof. The part A' is turned up and over the projecting flanges of the part A, securing the two parts together, thereby forming a top of two thicknesses, which are united without the use of solder.

The objection to soldering or to the use of solder is that when the lamp is exposed to a strong draft the flame from the spout is blown over the top and melts the solder, uniting the top, and thereby renders the lamp useless.

B is the wire hinge passed through the eye in the top, then down through the inclined wall of the lamp, and clinched or otherwise secured therein. The eye of the top is formed by the connecting-piece, as shown by the blank top in Fig. 1.

The conformation of this device is such that a very strong and secure top is fitted to the lamp.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A lamp-top composed of two thicknesses, and united by having one piece turned up and over the projecting flanges of the other, thereby dispensing with the use of solder, as described.

2. A lamp top, A, punched or cut from one sheet of metal, in combination with a hinge, B, substantially in the manner and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

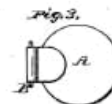
JOHN Q. LEE.

Witnesses:  
JOHN HUBBELL,  
Wm. G. ESO.

J. Q. LEE.  
MINERS' LAMP.

No. 176,650.

Patented April 25, 1876.



WITNESSES:

John Hubbell,  
Thomas Byrne.

INVENTOR:  
John Q. Lee.  
H. J. Abbott,  
ATTORNEY.

Figs. 3 and 4: 1876 Patent by John Q. Lee.



I went to my collection to find what lamps I had with the LEE BROS. Name and found only this one (fig 5, 6). This lamp, which many of you will recognize as the classic LEE BROS. lamp, has on the name and town of Plymouth, PA stamped into the lid (fig 5).



*Figs. 5 and 6: Unpatented Lee Bros. lamp with Plymouth, PA stamped into the lid.*

The patent sited above is for a lid modification and indeed this is what caught my eye about this new LEE BROS lamp. This construction eliminates the solder joint on the top of the lid. There are many other lamps out there that have lost the solder joint on the top or the entire top is gone. The other unique construction point is that the lid hinge is attached to the font by a steel wire that penetrates the font at both ends (fig 7). To add further stability, this part of the hinge is wrapped in tin plate soldered to the font (fig 8).



*Figs. 7 and 8: The patented lid eliminates the vulnerable solder joint at the lid, and is further strengthened by having the lugs penetrate the font. Also note the protective cover soldered over the hinge lugs.*

This last part of the lamp was not described in the patent of April 25, 1876. Unfortunately, the stamp on the new lamp is quite weak on the one side and only one E of LEE is readable. Most of PLYMOUTH, PA is readable. There is no doubt, however, that this is a LEE BROS. lamp.

I searched the patent base and found no other patents issued to LEE. Also, only John Q Lee is listed on the patent, but he must have had a brother or two somewhere. My favorite physics professor had a saying that he often used when confronted with a new finding, "Now that we know that, what do we know?" This seems to aptly describe this discovery.



*Fig. 9: Lee Bros. lamps compared.*

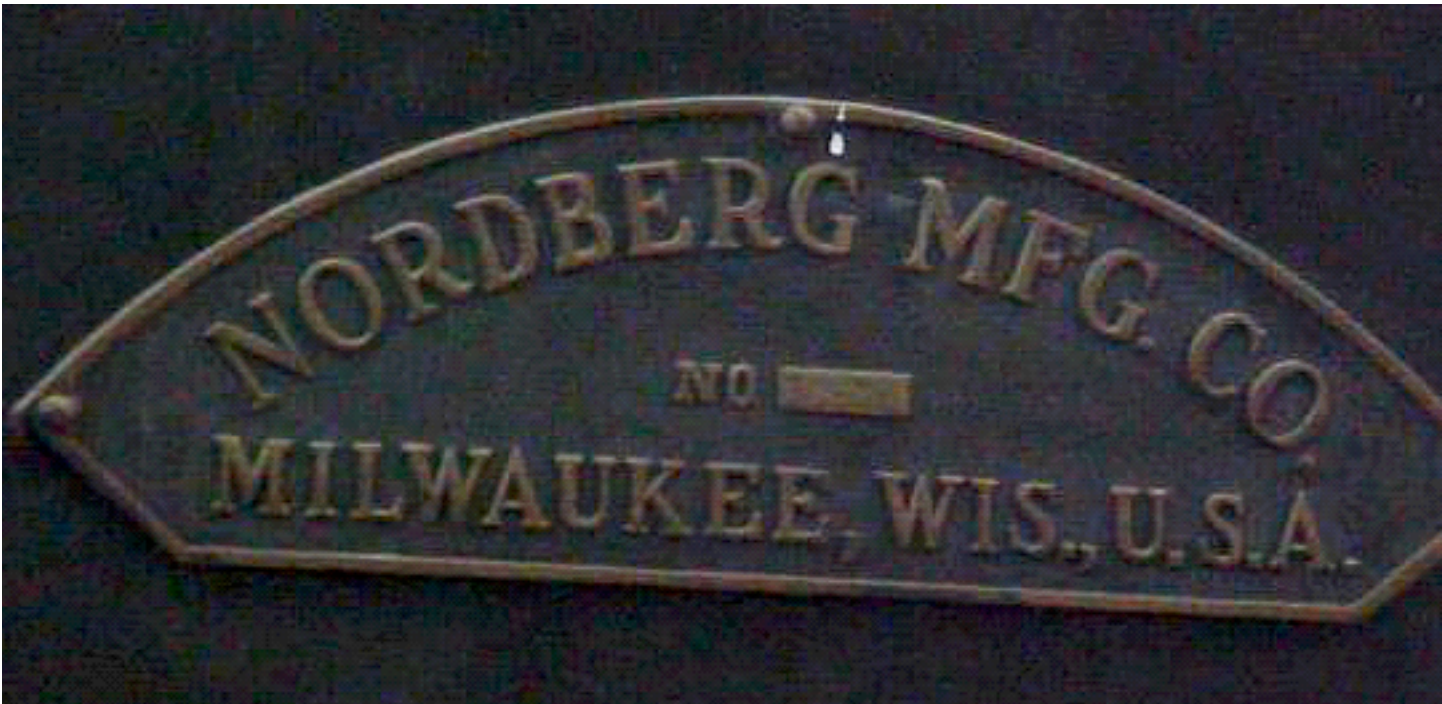
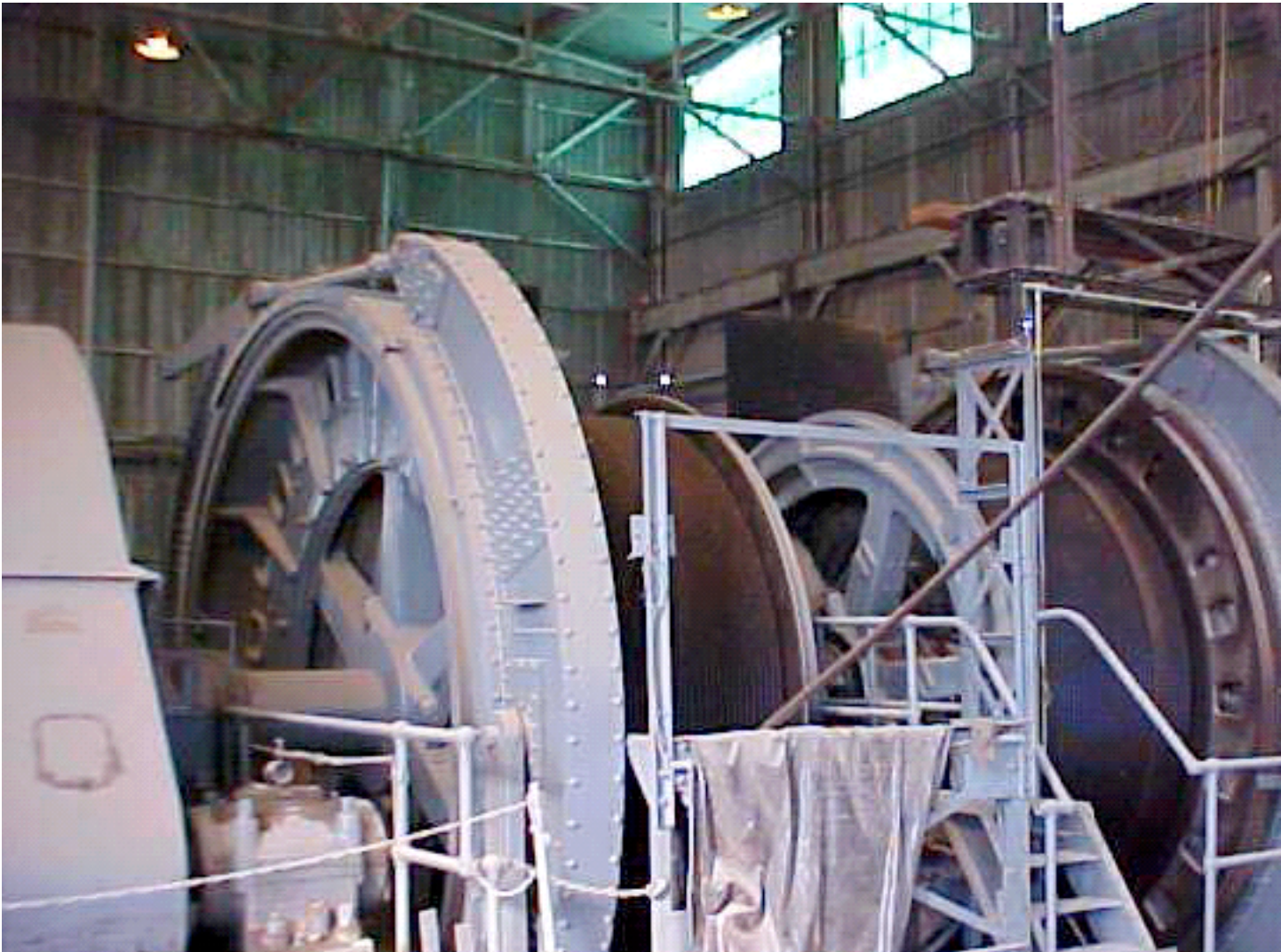
# Miami Boneyard

*Todd Town, Globe, AZ*

The one word heard in the mining industry today, more than any other is reclamation. This refers to the cleaning up of "Unightly mine debris." It includes rock dumps, tailings, and buildings. The Globe-Miami mining district has fallen victim to reclamation events. The way BHP (owner of five properties in the district) goes about it is such: What is the cost to maintain the property for 100 years versus the cost to reclamate the property and walk away? Two properties have just completed their reclamation. In these instances the community has been able to save the main hoist house and headframe. Other sites will not be so lucky. Just this year Phelps Dodge created their own in-house reclamation sector — their first job will be the reclamation of Bisbee properties. That mining district is in for some big changes over the next few years. Hopefully, some historic headframes and buildings will survive. The once mighty Miami Copper Company was started in 1907, in full production by 1912, and shut down in 1959. The underground workings, now flooded with water, are still producing a million pounds of copper per month. Acidic solution is pumped in to dissolve the remaining metal which is then pumped to an extraction plant. Some bones still remain defiant of time, and photos of these are













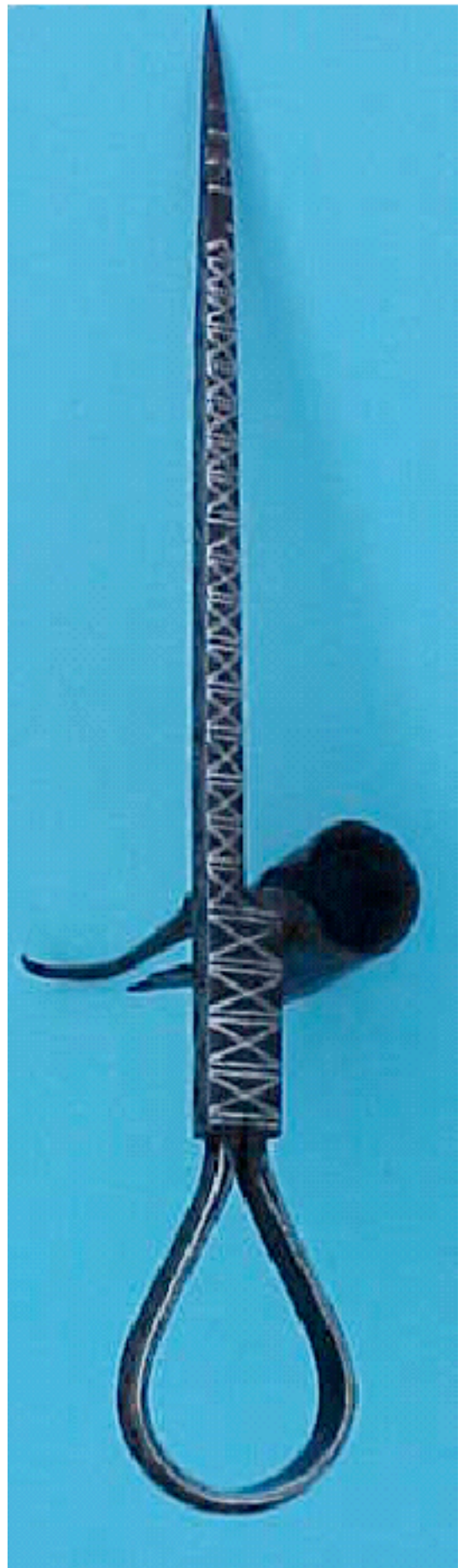
# Made in Korea

*Todd Town, Globe, AZ*

A lot of us collectors can remember Charlie Moore. He loved the acquisition of mining artifacts. And he truly loved the parlaying of the artifact into more artifacts and cash. A year before his passing, he had told me about a gentleman in town who had a candlestick that was inlaid with silver. He said he was working on trying to get this piece. Charlie went to Valhalla before he could acquire it. Charlie would never let you in his fishing hole, so the owner of this stick remained unknown to me. Until this February. My wife set up for the annual antique show here in Globe. In the morning, before the rush, a gentleman was looking over the guy stuff in the booth. Carbide lamps, hand cuffs, old photos and such. He paid no attention to the glass ware. His first words to me were, "Have you ever heard of a Korean Miner's Candlestick"? I think I shocked him when I said "yes I have heard of them and have seen a few. You must be the owner of the Korean stick Charlie Moore talked about". He left the show and in 30 minutes presented me with this gorgeous stick. I am sad to report that all of us had a chance at this stick at the time of it's original sale. The gentleman purchased this stick off eBay in a very obscure search title when eBay was just getting started. He chased down as much history as he could. And it goes as follows: the stick was purchased out of New York City from an estate of an American foreign diplomat who was still alive. His service to his country mainly was in the Asian Rim area. That was all the seller was willing to say about the stick. The stick is dated 1907 with a full-breasted American Eagle on the thimble. It has been used, showing wear on the tip with some loss of inlaid silver at this point. Korean characters on the stick translate as North UNSAN. A stick like this can sure make your day. Its raw beauty is a real eye opener and will certainly re-kindle the fire of collecting mining artifacts, when the water hole has been dry for a while.







# Guy's Dropper Display Case

*Leo Stambaugh*

From a hardware store in Leadville, Colorado. There is a sliding drawer in the rear.



# Light Rail Inspection Car

*by Deric English*

Some collectors might remember the "Miner's Bike" that sold on ebay (item # 6226161113) November 19, 2005 for \$3,383.00. Mel Short of Williamsport, Maryland was the winning bidder and this "Miner's Bike" now rests among another eighty bicycles in his collection. Mel expressed that this particular "Miner's Bike" was actually called a "Light Rail Inspection Car" and was manufactured by the Teetor Company of Hagerstown, Indiana in 1901. He has restored it to its glorious days, when it traversed the mine tracks of a Colorado gold mine, with the addition of a tool box, bell, and illuminating carbide lamp. He also has been kind enough to share some information and pictures, which I hope some of you will enjoy.

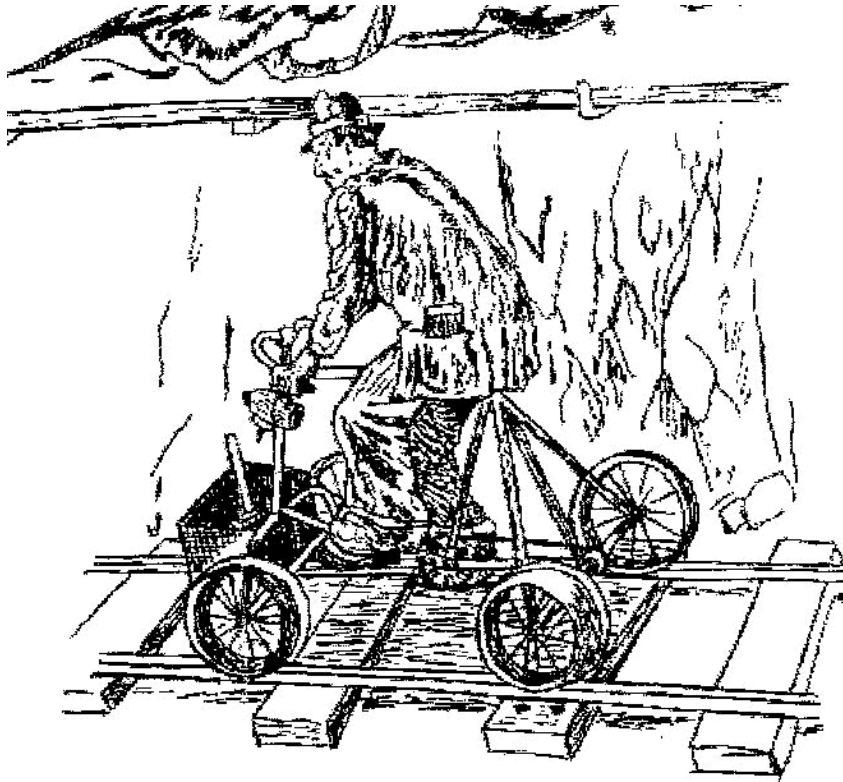


As mentioned earlier, this "Miner's Bike" was operated in a Colorado gold mine believed to be somewhere near Cripple Creek up until the 1950s when it was tossed to the scrap heap. A former mine employee noticed it and pulled it from the scrap yard in the 1970s and he then placed it in storage. In 2005 this former mine employee took it to a Colorado antique dealer and it was subsequently auctioned on ebay.



In 1894, while working in a bicycle repair shop, Charles Newton Teetor fabricated a prototype of his railway cycle with thin-wall tubular framing, chain and sprocket drive, paper thin metal, and wire spoke wheels with rubber tread. In 1895 he obtained a patent for his railway cycle and the single seat version weighed only sixty pounds.

Charles, along with his father and four brothers, went on to establish Light Inspection Car Works--Hagerstown, Indiana in 1894 or 1895. This led to the creation of a profitable business and in 1909 was reorganized as the Teetor, Hartley Motor Company. This company produced gasoline inspection cars and was perhaps best known for its production of piston rings under the trade name of "Perfect Circle Company." Some of you gear heads and hot rodders of the 1950s might recall this company.



# Cyanide Can Shingles in South Dakota

*by Carrie Gray-Wood, Black Hills State University*



[Dr. Gray-Wood is a professor at Black Hills State University, near Lead SD-home of the now defunct Homestake Gold Mine.]

The northern Black Hills is sprinkled with buildings like the one in the photos below. This building is roofed and sided in lids from cyanide containers discarded during the cyanidization process. To my knowledge, it seems that this phenomenon may be unique to the Black Hills. If any readers may be aware of similar phenomena in other regions of the country, or if you have

any information about this type of construction, please let me know. Carrie Gray-Wood, (605) 642-6510, [CarrieGrayWood@bhsu.edu](mailto:CarrieGrayWood@bhsu.edu)



# Unmarked Carbide Cap Lamp

*by Dave Johnson*

Recently I purchased a carbide cap lamp that I have never seen before. Unfortunately this lamp has no markings to indicate who manufactured it or where it was manufactured. It was purchased from an individual who lives near Radstock, Somerset, UK, who said that it was found in the home of an old family member that had worked in a Radstock area coal mine.



*Profile of unmarked brass cap lamp.*

Radstock is a former mining and railway town located on the old Roman “Fosse Way.” The “Fosse Way” is an old Roman road which linked Exeter to Lincoln, a distance of 182 miles. In that distance it is never more than 6 miles from a straight line, making it a remarkably direct route. Radstock has some unique architecture associated with its mining and Victorian heritage. It has been described as the best preserved former coal mining town in England. The

Radstock area is known for its past association with coal mining, with the last coal pit closing in the 1970s. The coalfield was small, its surface outcrop extended from just north of the Mendip Hills. Coal mining was first referenced in Somerset in the 16th century, at the peak of coal mining 79 separate collieries were operating in the county.



*Top view of lamp showing sliding waterdoor closed and open.*

Manufactured entirely of brass this lamp is well made and very sturdy. The base is attached by an unusual internal cam device that is functionally similar to the external cam used on the Lu-Mi-Num lamp, or the internal cam lock of the Justrite Jiffy. This cam system uses two round pins in the bottom of the water chamber and these ride on a sloped ring on the inside of the base to tighten and hold the base in place. The cam pins slip through two slots in the top of the base when the base is removed and re-attached. The gasket just sits on the smooth top of the base and would be susceptible to loss every time the lamp is opened.

Another unusual feature of this lamp is its sliding water door. The hook is an unusual configuration made of brass wire. The lamp would need no cap braces with this style hook. The



reflector is soldered in place, there is no reflector brace and no igniter. There is a threaded water control knob.

*Top of base showing bevel for cam lock.*



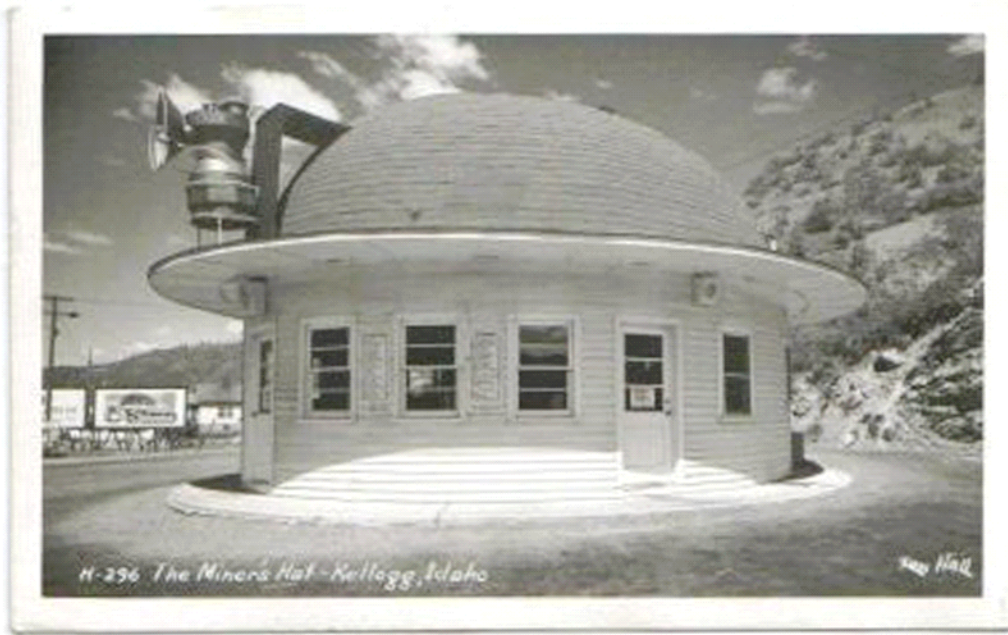


The base is made of three separate pieces, top, bottom and side, as is the water chamber. The side is crimped, overlapped and soldered on the inside. The lamp stands 3 ?" high to the top of the water control knob and is 2" in diameter. The reflector is 2 ?" in diameter. Any information that our UK readers could provide on this lamp would be greatly appreciated.

*Left: underside of water chamber showing cam pins.*

*Right: top view of base. Note the vertical seam on the side.*





# The Miner's Hat

*Deric English, Boron, CA*

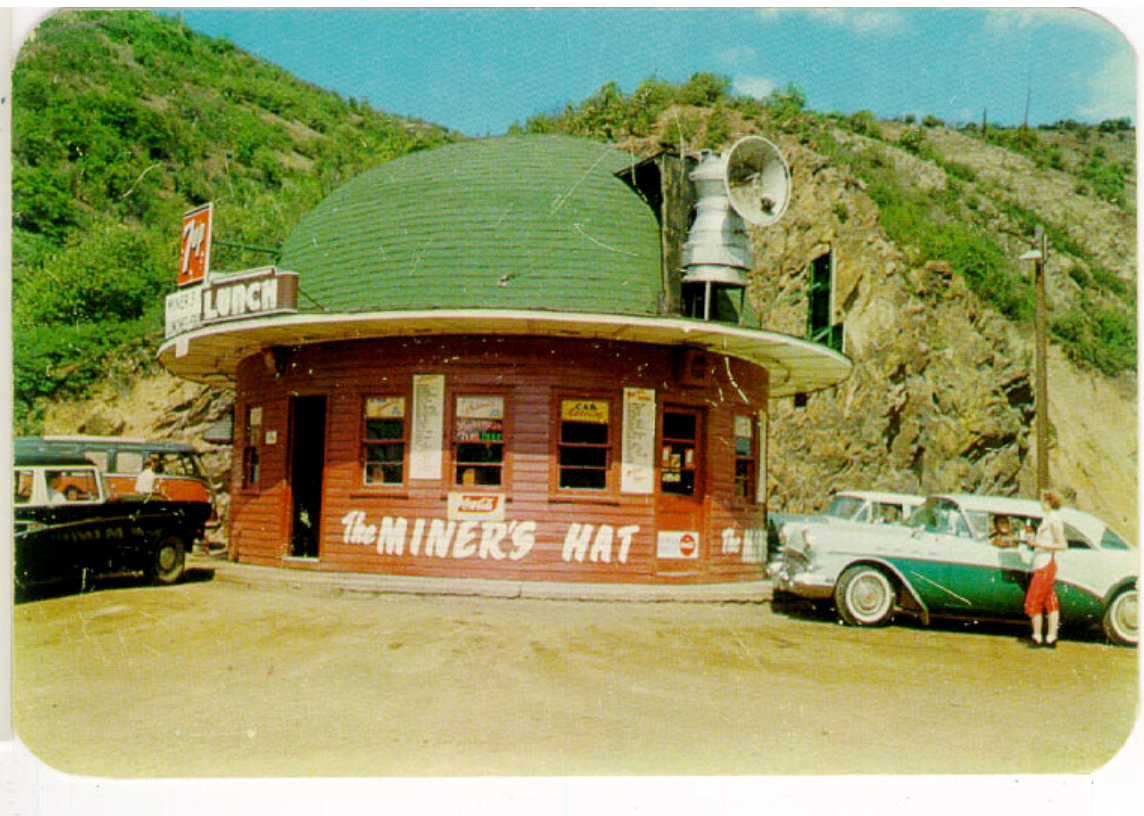
These photos show the unique Miner's Hat building, now a real estate business. At one time it was a popular

drive-in restaurant. The building was constructed adjacent to Highway 10 in Kellogg during the late 1930s. The neon tube lighting system that creates the image of a carbide lamp is still burning, albeit with neon light. "Oldtimers" can remember stopping at the restaurant when



*The author (Deric English) stands in front, ca. 1991.*

Marietta Page was preparing "the best food in town." The kitchen was in the northwest side of the building and booths were arranged along the circular walls. The restaurant closed after Interstate 90 was completed in 1963. The structure was remodeled to its present business office status in 1971.



# Vogele and Fleming Patents in One Lamp

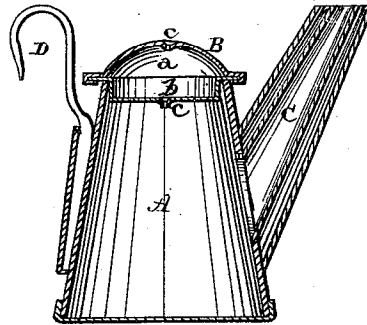
*by Dave Thorpe*

Miner's Lamp.

No. 229,929.

Patented July 13, 1880.

JACOB VOGELE, OF WILKINSBURG, PENNSYLVANIA.



*The Vogele patent claimed that a domed top spilled less oil.*



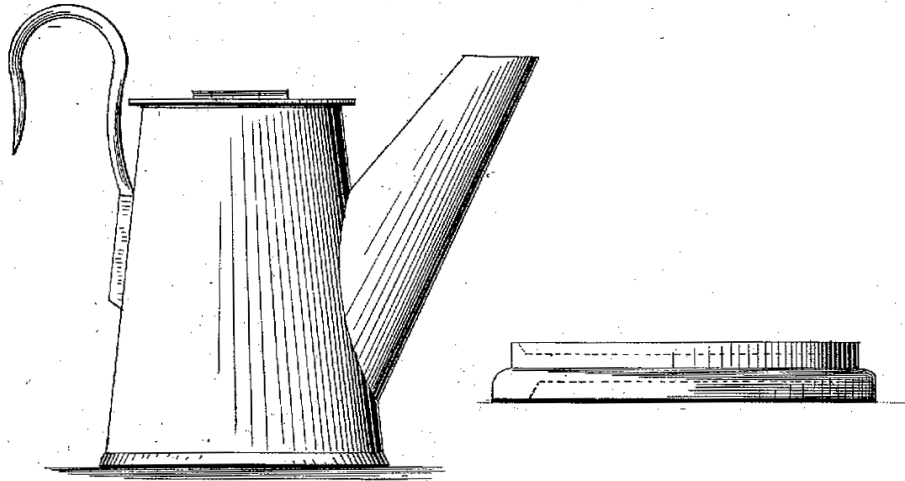
*Note that Vogle is spelled differently than on the official patent.*

Miner's Lamp.

No. 219,352.

Patented Sept. 9, 1879.

JOHN FLEMING, OF PITTSBURG, PENNSYLVANIA.



*In the Fleming patent, a heavy cast disc is used for the base. This functioned like a "boot-kick." Its stiffness prevented denting of the lamps edge.*



*Bottom of the lamp shows the Fleming patent stamped twice. The base is a heavy cast metal as described in the patent.*



# McClave Patent Oil-wick Cap Lamp

*by Dave Johnson*



One of the earliest patents for a miners' oil-wick cap lamp was issued to William McClave of Hyde Park, Luzerne County, Pennsylvania. McClave received patent 49,477 on August 15, 1865. His design is unique among oil-wick cap lamps. Unlike the usual vertical straight-sided or tapered cylinder font, his design had a larger diameter font sitting horizontally on a flat foot. The neck below the lid, the lid and the hook are all like other oil-wick lamps.

This design had the advantage of not rocking from side to side as did most oil-wick lamps with a standard style font and wire hook, the flat back prevented such movement. This design kept the lamp closer to the miner's head than a regular style oil-wick lamp with the same size spout since it was not as deep in thickness.

This lamp measures 3" tall to the top of the lid and 4 3/8" tall to the top of the spout. The font is 2 7/8" in diameter and 1 3/16" in depth. The spout is of single wall construction. While not marked I am convinced that this lamp is an unmarked example of the McClave

W. McClAVE.  
Miner's Lamp.

No. 49,477.

Patented Aug. 15, 1865.

FIG. 1.

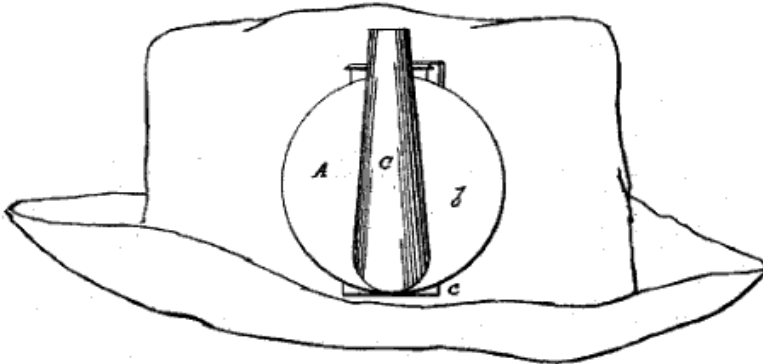
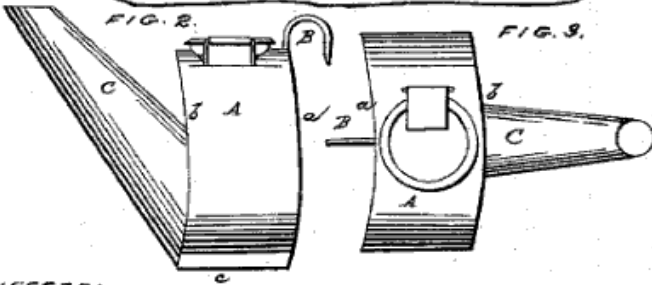
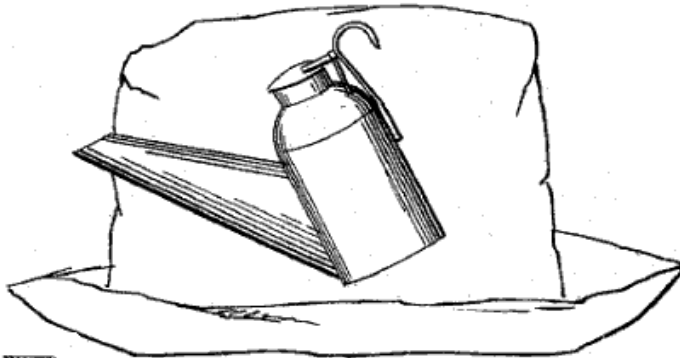


FIG. 4.



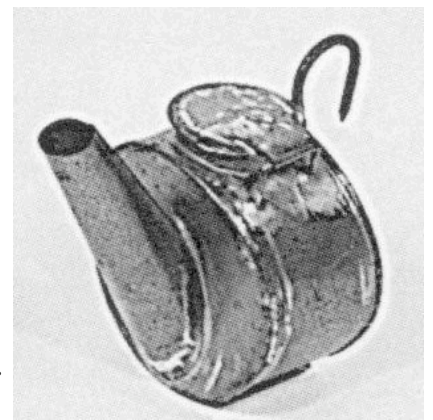
WITNESSES:  
*W. L. T. Hoff*  
*J. M. Conroy*

INVENTOR:  
*Wm McClave*  
*By [Signature]*

Patent oil-wick cap lamp. The original patent model for the McClave oil-wick lamp, with original Patent Office tag, was sold at a Christie's auction in 1996 that featured other patent models but only this single oil-wick lamp model. Thanks to Tony Moon for providing the photo from the Christie's auction catalog. My lamp does not incorporate the slightly concave front design shown in the patent. It is not unusual that the lamps that were actually produced do not exactly follow the patent drawing, many do not do so.

All we know of William McClave is that he was originally from Scotland and that he resided in Hyde Park, Pennsylvania at the time his patent was issued.

While I had earlier acquired a larger unmarked mule lamp of this design, with a harness bracket rather than a hanging hook, this was the first cap lamp of this design I had ever seen on the market when it recently appeared on eBay. This lamp is unfired and is a true rarity among oil-wick cap lamps.



Right: McClave patent model from a Christie's Auction catalog.

# Gardner & Richards "Little Gem"

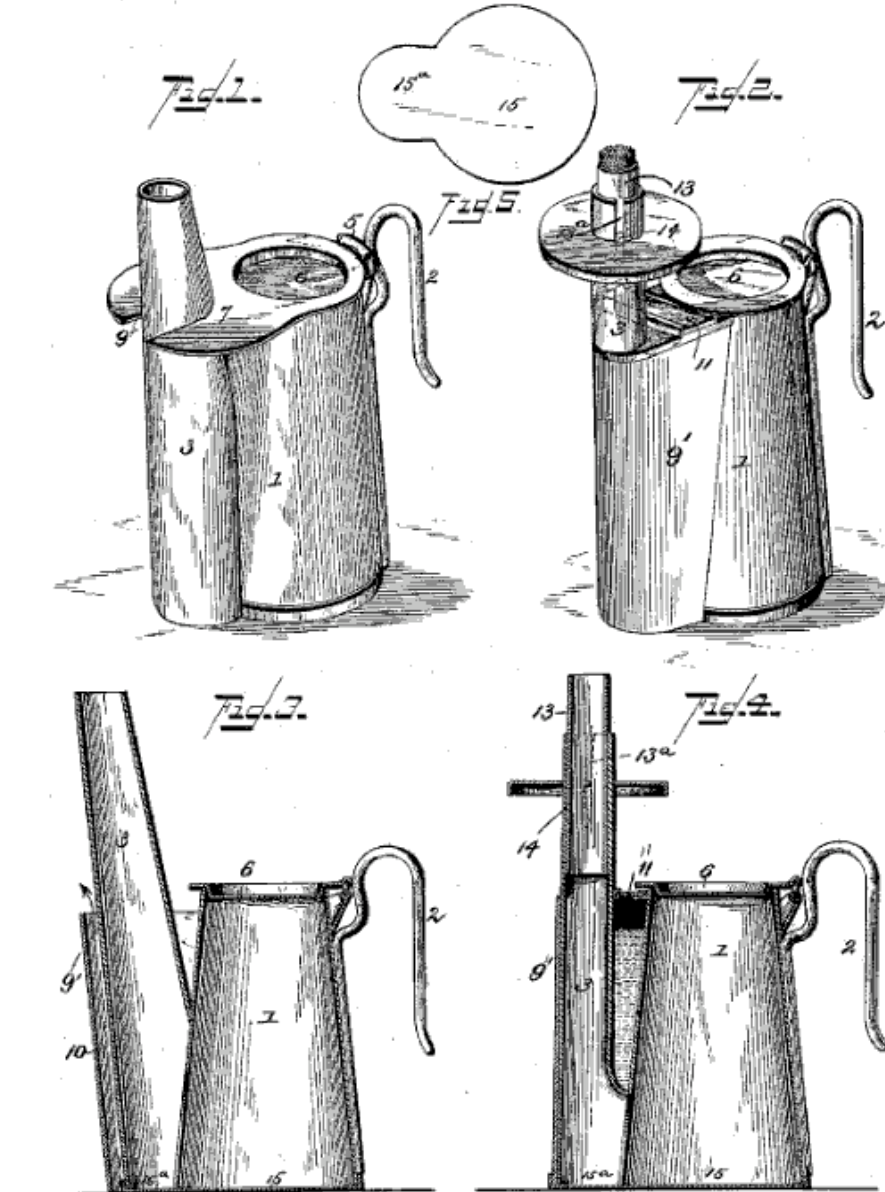
by Dave Johnson

(No Model.)

H. J. RICHARDS.  
MINER'S LAMP.

No. 427,013.

Patented Apr. 29, 1890.



WITNESSES,  
H. A. Smith  
John Anders Jr

INVENTOR  
Henry J. Richards.  
By Frank L. Curand  
Attorney

Many of the unusual patented designs for miners' oil-wick cap lamps were never put into production. One of these unusual designs that were actually produced was Patent No. 427,013 granted to Henry J. Richards, of Wilkes-Barre, Lucerne County, Pennsylvania on April 29, 1890, assignor of one-half to Charles H. Gardner, also of Wilkes-Barre. Gardner had received two previous oil-wick cap lamp patents (Nos. 320,287 on June 16, 1885 and 335,041 on January 28, 1886).

The lamp produced under Patent 427,013 featured an almost vertical spout that was attached outside the front rather than being attached at an angle to the side of the front as most oil-wick spouts are attached. The bottom piece is formed to accommodate this unusual spout design and is illustrated in the patent drawing. According to the patent, this spout was designed to prevent fuel from leaking out of the lamp when the miner tipped his head forward.

The lid design was also patented and featured an extended length opposite the hinge toward the wick tube with a cut-out for the wick tube when the lid was



closed. What is described in the patent document as “a casing or housing” surrounding the wick tube, is meant to aid in keeping the lamp body cool, according to the patent document.



*The lamp measures 3 7/8" to the top of the spout and 2 5/8" to the top of the lid. The base measures 1 ?" x 2 3/8"*

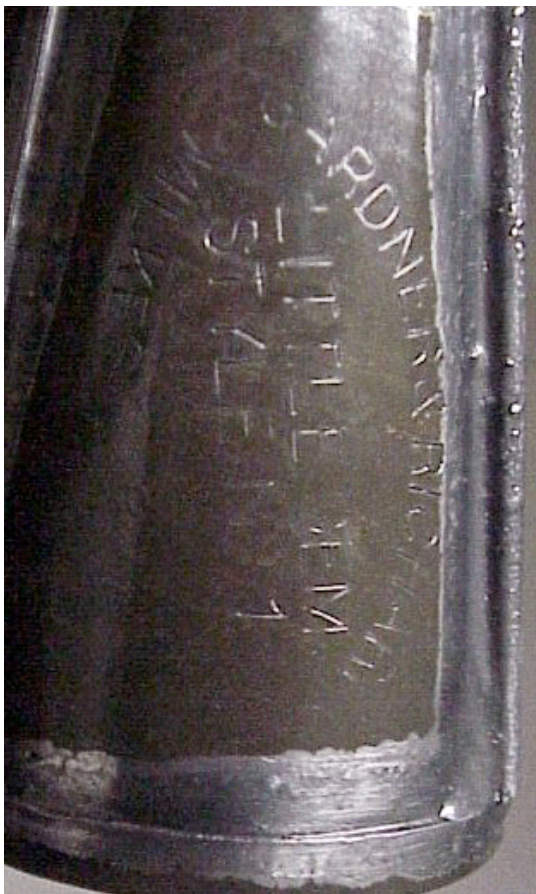




This lamp can be dated quite easily. The patent application was filed on November 6, 1889 and granted on April 29, 1890, the side of the font is stamped: PAT. AP'D FOR, so the lamp should have been produced between November 6, 1889 and April 29, 1890.

*Stamping on side of font.*

The lamp font is also stamped: GARDNER & RICHARDS over WILKES-BARRE, PA, with LITTLE GEM STYLE NO. 1 in between. There is an unusual stamping on the front of the spout, it is stamped: SPOUT 5. If this is Spout 5 one has to wonder how many different spouts were designed and produced, just as one has to wonder how many Little Gem styles there were since this lamp was labeled as Style No. 1.



*Left: font stamping LITTLE GEM. Right: spout stamping SPOUT 5.*

I have been unable to find any information about either Richards or Gardner in Wilkes-Barre. They obviously produced at least two different oil-wick cap lamps, the one shown here and a different style that I saw several years ago but was unable to obtain. This lamp ranks among the rarest of the oil-wick cap lamps found to date.

See Bob Guthrie's article in Eureka Issue 43 (pages 6 and 10) for two other unusual Richardson Patent lamps.