NEWS

Auctions Becoming a Joke

The Park City Utah on June 15 & 16 ended like others with a much anticipated auction. Afterwards, considerable discussion was generated about the decline in quality of our show auctions. It can be said that the best items in this auction were the raffle prizes Tony Moon provided, especially several calendars featuring items from his collection. Over half of the material for sale did not even reach reserve. Collectors/dealers for the most part, simply took items from their table that did not sell, and set them out for auction at the same reserve equal to their pricing earlier in the day. Several potential remedies were discussed on MiningCollect. The October show in Johnstown, PA and the June show in Nevada City, CA should tell us if the trend will continue.

"Going Out of Business" Sales

Last year, long time collector Mike Puhl decided to cash it in, but no sooner had he sold out, then he was buying high end items on eBay again! Sometimes you just can't get it out of your blood. Len Gaska has also decided it's time. He will sell on eBay, where the best prices seem to be realized. Dealer Charlie Moore has had a set-back in health, and is selling all at 20% less than sticker price. I think somewhere in most people's minds, the thought of inevitable liquidation exists. Collections formerly owned by the late Henry Pohs as well as Lester Bernstein, are being offered up by their survivors. Most collectors believe that they can sell most intelligently while they are still alive, painful as it may be. As we all come closer to facing mortality, the old saying still applies: "You can't take it with you". Donating to a museum has yet to be done, and even if money were no issue, it is doubtful if the average visitor would be able to appreciate the subtleties of rare pieces. Private collectors will probably continue to house the best collections.

Bobrink Hits Pay Dirt in Calico

by Ted Bobrink

I was laying in bed one night reading up on some Calico history, and came across an article about there being over a dozen mills in and around the town of Calico in the early 1880s. The list told the location of all of the silver mills and I noticed two of them were located right on the edge of Calico Dry Lake, just one mile south of the town site of Calico. One of them was called "The Calico Silver Reduction Co" and was only in business for five years from 1881-1886. The book stated that the CSR&C mill was located on the north side edge of the lake and right next to the old main wagon road that leads from Calico to Daggett. I remembered seeing some large white and red tailings on the edge of the lake one time while driving that old wagon road on the way up to Calico one time. I said to myself.."that must have been the site of the mill they are talking about.

That next day I decided to take a drive up to Calico to see my friend John Ransom who lives just a few hundred yards from the Calico Dry Lake. I called John and he said he would be home after five and for me to meet him at his house. I arrived in the Calico area at around two o'clock and drove across the dry lake heading straight for the mill tailings. When I arrived I parked my Jeep Cherokee next to a large tailing mound and got out of my car to look around. I thought it would be cool to find some slag specimens left over from the early days of Calico, and noticed a fair amount of it laying on the ground just about every where I looked. Most of the pieces were small about the size if a quarter and I was hoping to find some a little larger.

John (in black) and me digging next to the bush. Notice in the background the word CALICO in white high up the the mountain. This can easily be seen from I 215 heading north to Las Vegas.

While I was returning to my Jeep to drop off some specimens, I could see where there were motorcycle tracks running in every direction in around and over the tailing mounds. I noticed an area where I could see the remains of a building foundation that had burned down many years before.

At the edge of the foundation corner there was a large desert sage bush and it had a motorcycle trail leading around it. I looked down and saw something shinny like metal and took out my knife to try to dig it up.

To my surprise the item was metal and to large for me to dig up with a knife. I went back to the Jeep and pulled out a small folding shovel that I use underground and started to dig some more. The shinny area that I noticed on the metal was caused by the motorcycles running over it. The rest of what ever it was I was digging up was very large and rusty.

The ground was real hard digging on that trail, but in just a few minutes I uncovered something I could not believe. It was laying upside down and the shinny spot I first noticed were the short corner legs of a large Silver Ingot Mold. When I pulled it out of the ground, I couldn't believe my eyes. It was all complete, but had rusted through in a few spots. After I regained my composure I said to myself.."What the hell else could be down there?" and started poking around next to where the mold had been. In no time at all I found another mold that had been laying right next to the first one and the dirt started flying. After I pulled the second mold out I could see another one and I decided to go get my friend John so he could get in on the adventure.

It appeared to me that these molds had been stacked on top of each other in the corner of the building. When the building burned, they fell over like dominos and were left there under the building ruins sense the company went out of business in 1886. Large ingot molds like these were made so they would be hard to steal and not be able to be carried on horseback.

I drove to his house as fast as I could and showed John what I had found. I told him to bring two large shovels and get in the car. When I told him there were more, he said "your kidding" and I said "you won't believe it". When we arrived back at the spot where I had found the first two molds we got out and started digging like beavers. Believe it or not, after the smoke cleared we uncovered seven complete molds laying upside down in a row right next to each other. Each one we found was deeper under the sage bush and closer to the old building. Each mold we uncovered was in nicer condition than the one before it, and I think this was due to the bush sucking up the moisture. The last two molds we found were in real nice condition without any holes.

The last and best mold we found all cleaned up. It is 14 X 8 and 8" high.[1]

C. Cleaves Candlesticks: a Comparison of Examples

by Dave Thorpe

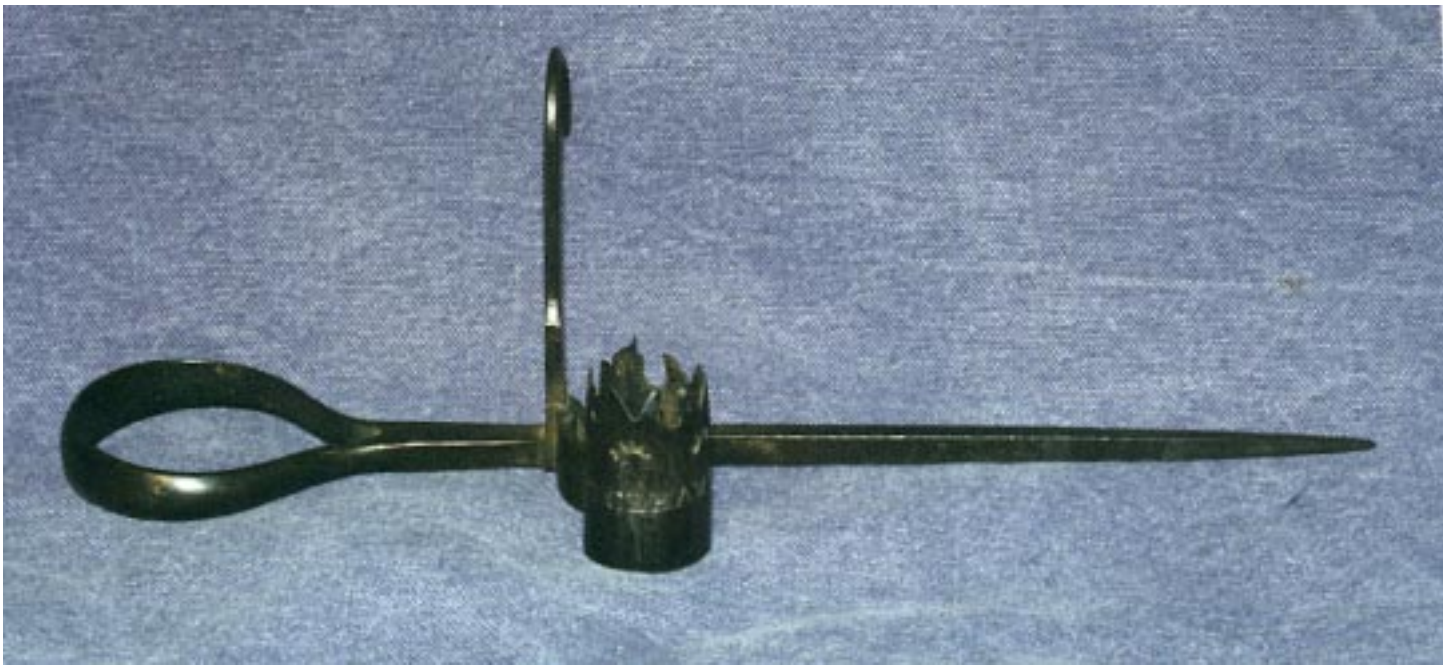
A mint castellated standard C. Cleaves candlestick (Tony Moon)

Those who collect candlesticks are familiar with the brand marked C. Cleaves, and are aware of the three basic varieties: a standard model as shown above from Tony Moon's collection, and two mechanical varieties with built in fuse cutters. But there are many variations even within these categories, for Charles Samuel Cleaves, of Weaverville, California was a solo blacksmith, and it is said that no two sticks were alike. While certain similarities suggest that a jig may have been used in the basic formation, the variability in detail shows that each finished product was unique. This article outlines these details and variations. On the last page is a a table of measurements.

Charles Cleaves probably did most of his work prior or around the turn of the century, for it is known that he died of a heart attack in 1918 at the age of 58. Family members relate that he learned his blacksmithing in Chicago. At his shop in Weaverville he also made spurs, bits, and bells for team horses.

Standard Variety

The standard, non-mechanical stick is made of one forged piece of steel. The greatest variations are found in the thimble. The upper edge is usually appointed with either a castellated square-cut trim or spikey points that resemble flames.



The stick shown above from my collection has the flamed thimble, while Tony's stick on the previous page is castellated. Below are closeups showing the detail.. Additional variations involve the decorative stamping. All thimbles are stamped "C. Cleaves", but they are additionally marked with four "eyebrows" or with eyebrows and a dot or "eye" beneath the brow. Of the the ten sticks studied, the flamed edge is slightly more common by 6 to 4. Of the sticks with brows alone, most have the flamed edge. Of the sticks with both eyes and brows, most are castellated. Essentially then, all combinations exist. None of the standard sticks were found with the star stamping as on some mechanical models.

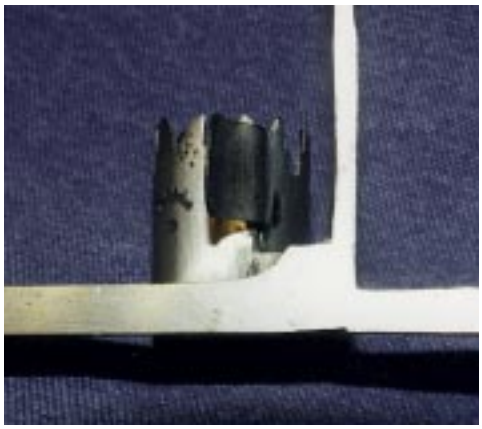
Typically, the castellated thimble shown left has both eyes and brows while the flamed thimble shown right has brows alone. Exceptions exist.

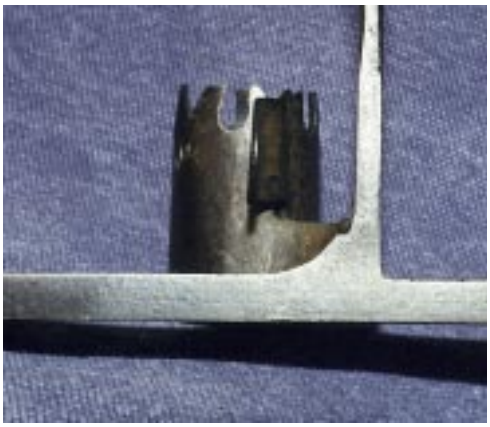
The lengths of the standard sticks varied from 8 1/4 inches to 12 inches. While it is true that some of these sticks could have been shortened, their gradual taper suggests that most were within 1/2 inch of their original length. Only Tony Moon's stick had seen such minimal wear that one could be sure that it had not been shortened. This was the longest, measuring 12 inches.

The tip of an unused stick should have an additional beveling in the last quarter inch as shown in the closeup left. It is only by this detail that one can be absolutely certain that the stick's length is "as manufactured".

A four-sided bevel at the tip of the spike indicates very little wear, and ascertains that the stick has not been shortened.

The photos right above show two sticks from the left hand side. There is a similarity in design of the area where the hook joins the shaft with a ramp up to a flat step, but these are so varied that it that they must have been done by hand.





As seen from the thimble side, there are differences in small details. The stick shown left has a step in the shaft of the hook down low near the thimble which is absent on the other. The left hand stick is also beveled along the edge of the hook.

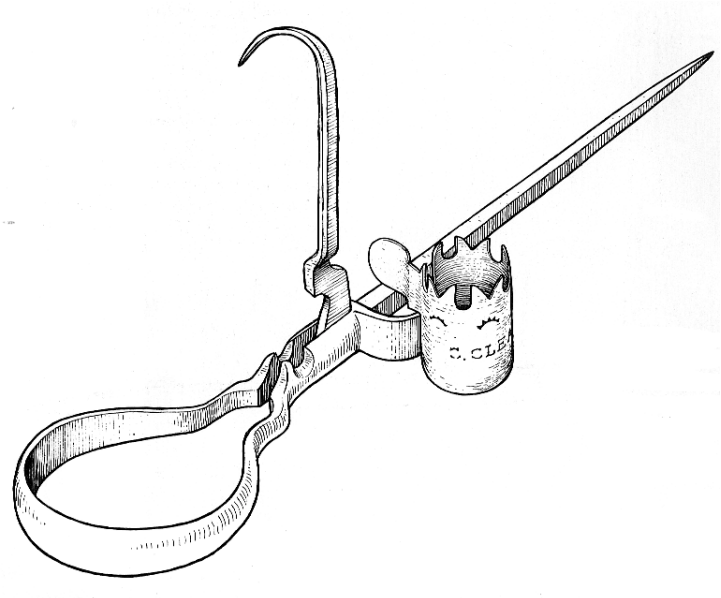
Consistent Measurements of the Standard Series

There is no standard length for these sticks which vary from roughly 8 to 12 inches. Some measurements though are the same.from one stick to the next. These are:

Thimble height: 1 3/8 inches
Thimble arm height: 1/2 inch
Shank dimensions: .22 in. wide X .25 in. high

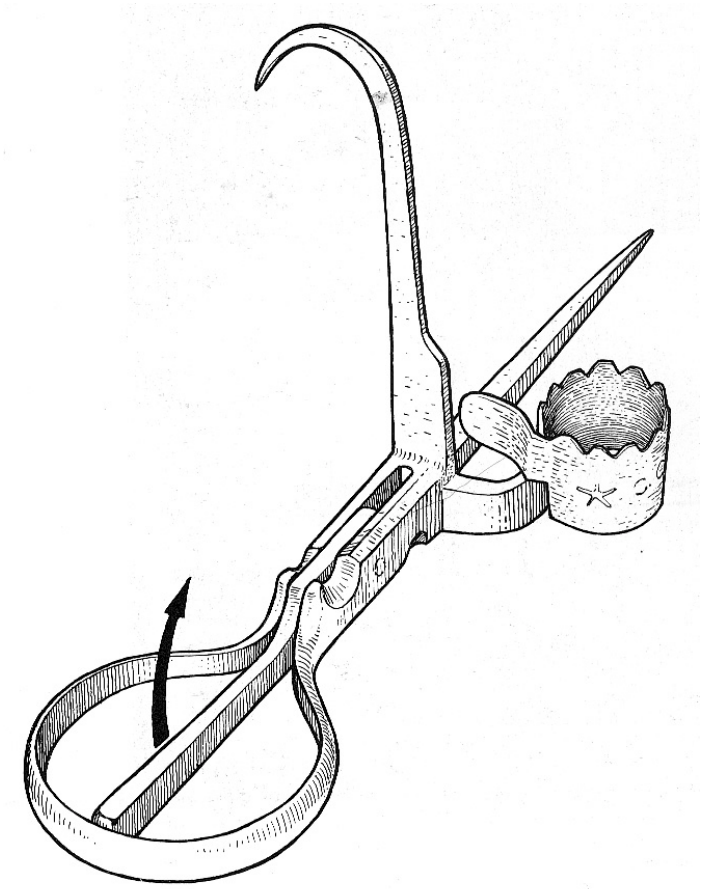
As will be seen later these dimensions are not the same for some of the non-standard C. Cleaves sticks.

Folding Hook Model



This model is highly prized and much more scarce than the standard model. Of the five examples studied, all thimbles have a flamed edge. Two are marked with eyes and brows, two have brows only, and one has stars (more on this mark later). The stick shown left in the photo is Todd Town's. It is mint/unused and measures 12 1/4". The stick to the right belongs to Al Winters and measures 10 1/4". The major difference between the two is the width of the forward handle which is much wider for the longer stick. The illustration above, done by Wendell Wilson, belonged to Ted Bobrink. This stick is 12" long and appears to have the narrow handle. Yet another hook-folder measures only 9", but it is not known if this stick was shortened. As a rule, the folding hook models tend to be longer than the standard, but exceptions abound.

The thimble height, thimble arm height, and shank dimensions are exactly as those for the standard model.



Folding Bar Model

The folding-bar sticks are as rare as the hook-folders. The bar which folds into the handle will crimp blasting caps in the bottom notch and cut fuse on top. Wendell Wilson's illustration of another Bobrink stick shows how the mechanism works.

The photo below of Bob Guthrie's stick is an outstanding example with several variations from the norm.

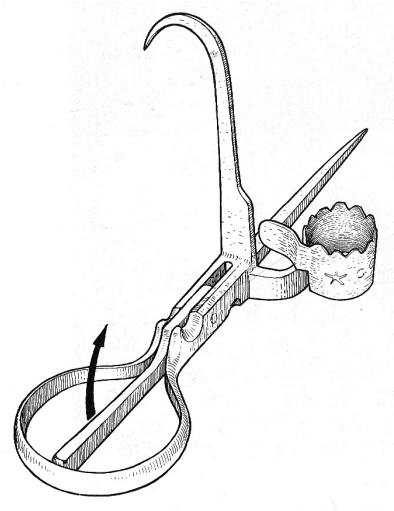
1. **Fancy fluted hook.** Note: all other sticks studied have a standard hook as show in illustration (left).

2. **Thimble edge is a wavy pattern** (as in the Wilson illustration). Other bar-folding sticks are found with flames or castellations.

3. **Thimble height is short**: only 0.83 inches, with shorter thimble arm: 0.4 inches. Note: all other bar folding sticks studied here have standard height thimbles. Guthrie's stick and the one shown in the illustration above were the only ones with short thimbles.

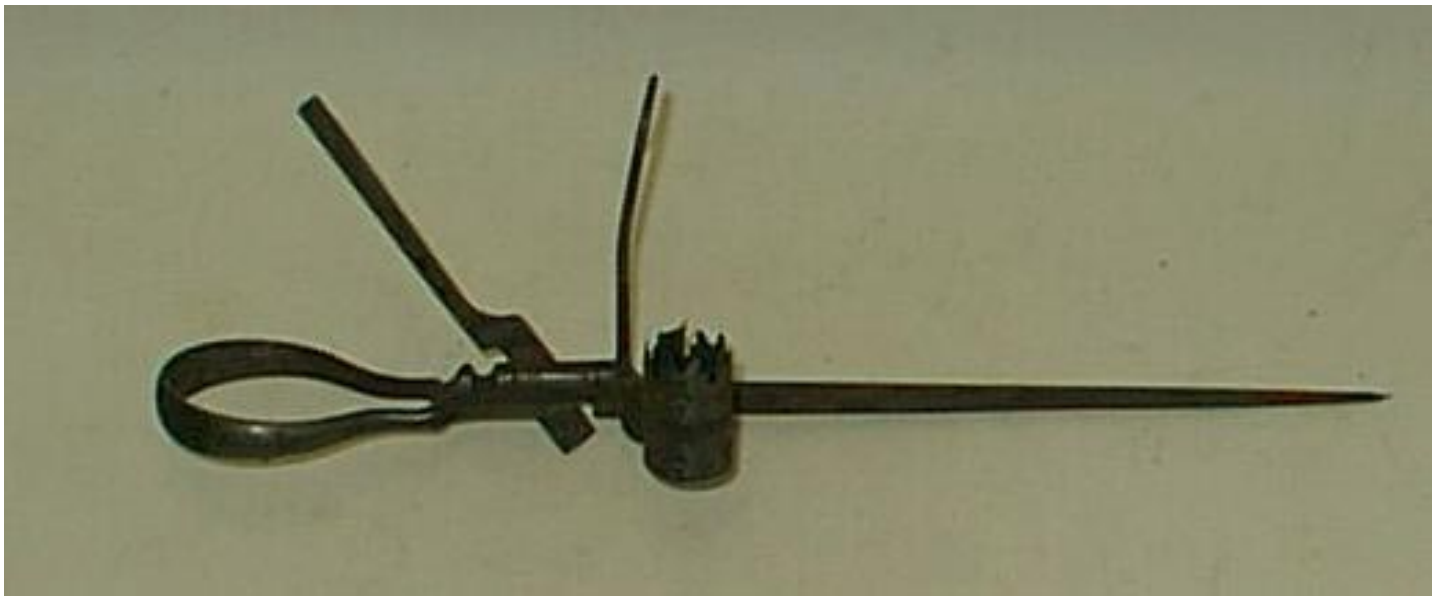
4. **Five-point stars** are stamped into thimble beside and above the name stamping. Note: other bar-folding sticks have the brow or the brow plus eye stamping.

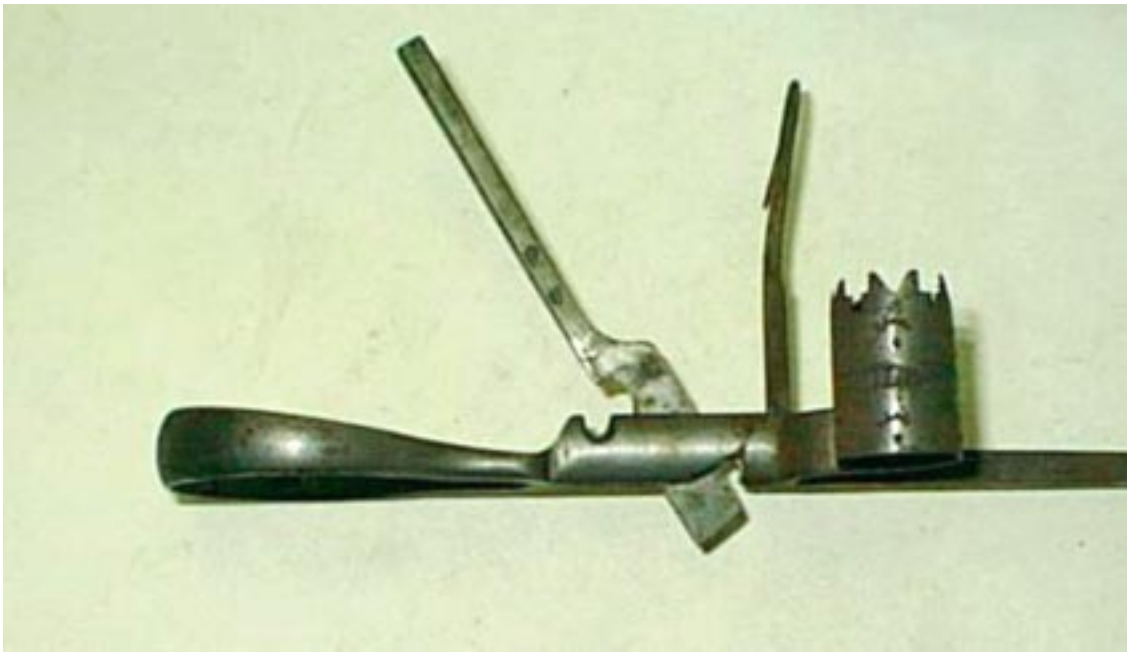
Bob Guthrie's bar-fold stick.



Folding Bar Model (continued)

Shown below is another folding-bar model with a host of variations. This one is a full 13" long and has the pear-shaped handle usually found only on the hook-folding models. Also note the double row of of brows and eyes on the thimble. Finally, this is the only bar folder reported with a castellated thimble.



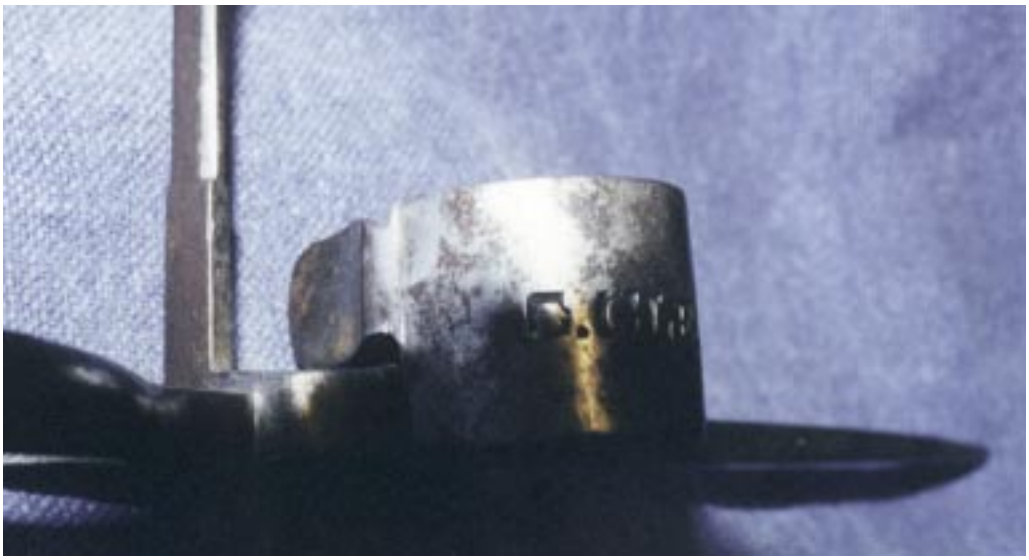


13-inch bar-folder with castellated thimble and double row of decorative stamping on thimble.

A Simple Cleaves

This stick belonging to Al Winters is different from the rest. Roger Peterson also owns such a model. The handle is tear-drop shaped unlike the usual pear shape of the others. The hook is simpler. The thimble has no serations on top and is only .82 inches high. The thimble arm is even shorter than Bob Guthrie's bar-folder, measuring only 0.3". There is no decorative stamping on the thimble, only the maker's name. The hook comes off the left hand side of the stick rather than straight up like the other sticks. This is a rare one.

Is the "C." Really Backwards?



Many have looked at the stamping on the thimble and believe the "C." is backwards or perhaps even a "D" or “J”. Having looked over this batch of sticks, I believe that it really is a forward "C." The left hand side of the "C." is usually incompletely stamped and the feet or "serif" portion of the C is very prominent which makes many of the stampings appear reversed or D-shaped. The photo above shows one of the more normal "C." stampings. This stamping was the most clear of all the sticks I studied, and it happens to belong to Al Winters' simple stick (above). The clarity of this stamping may lend credence to the belief that this simple C. Cleaves stick is the earliest.

A Summary of Observations

Ten standard sticks were examined. About half were marked with the brow design and the other half were marked with the brow plus eye. They were split randomly between a flamed edge and castellated. The lengths varied from 8 1/4 to 12 1/2 inches with a length of 9 1/4 inches appearing on three. Thimble heights were all roughly 1 3/8 inches. The height to the top of the hook varied from 3.1 to 3.6 inches. The height of the arm holding the thimble was consistent at 1/2 inch. Shank dimensions were similar: .2" wide by .25" high.

One simple stick shown previously, belonging to Al Wintes was 8.5 inches long. The flat-edged thimble height was shorter: .82 inches. Hook height was 3.1 inches. Arm height was very short: .3 inches. Shank dimensions were also smaller: .18" wide by .25" high.

Five hook folding sticks ranged from 9 to 12 1/4 inches long. All of these thimbles had the flamed edge, but markings varied: about half had brows alone and half had brows plus eyes. One had stars. Thimble heights were similar to the standard sticks, however their folding hooks were considerably taller: 3 3/4 inches (one was 3 1/2 inches). Arm heights and shank dimensions were also similar to the standard style.

Five bar folding sticks ranged from 8 to 13 inches in length. Two were flamed, two had the wavy patterned thimble, and one was castellated. The wavy pattered thimbles both had star markings. These also had shorter thimbles (0.83 inches), and shorter thimble arms (0.4 inches). Both brow-plus-eye marked sticks had a double row of these designs, one above the name stamping and one below. Shank dimensions were similar to the standard series.

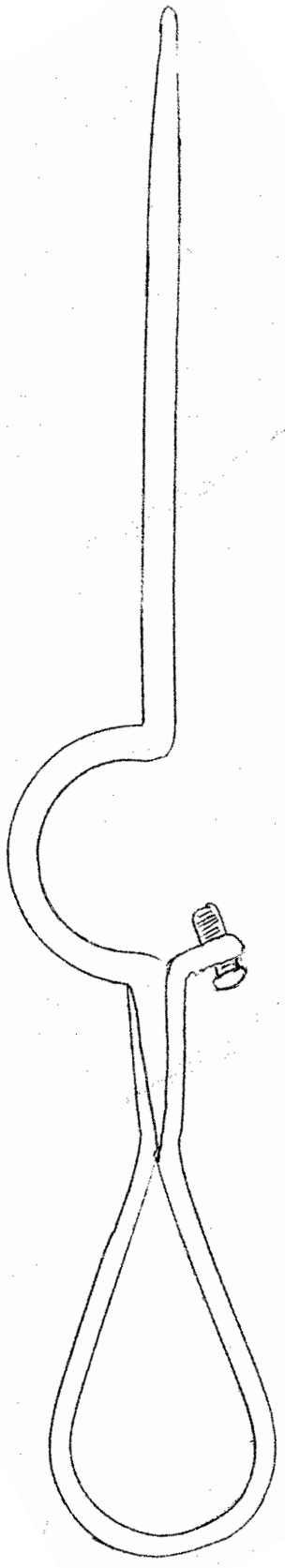
Only three sticks showed the beveled tip, indicating the certainty that they had not been shortened. One was a standard stick, measuring 12 1/2 inches, one was a hook folder, measuring 12 1/4 inches, and one was a bar folder at 13 inches.

You Be the Judge

As a final note, a stick owned by Bob Guthrie is shown with the thimble oriented differently from the others. One wonders if this model was bent into this shape after manufacture. The thimble arm is longer than the others, and more I look at it, the more it looks like that's the way it was made.

Carl A. Rosenholz Sticks

by Herb Dick



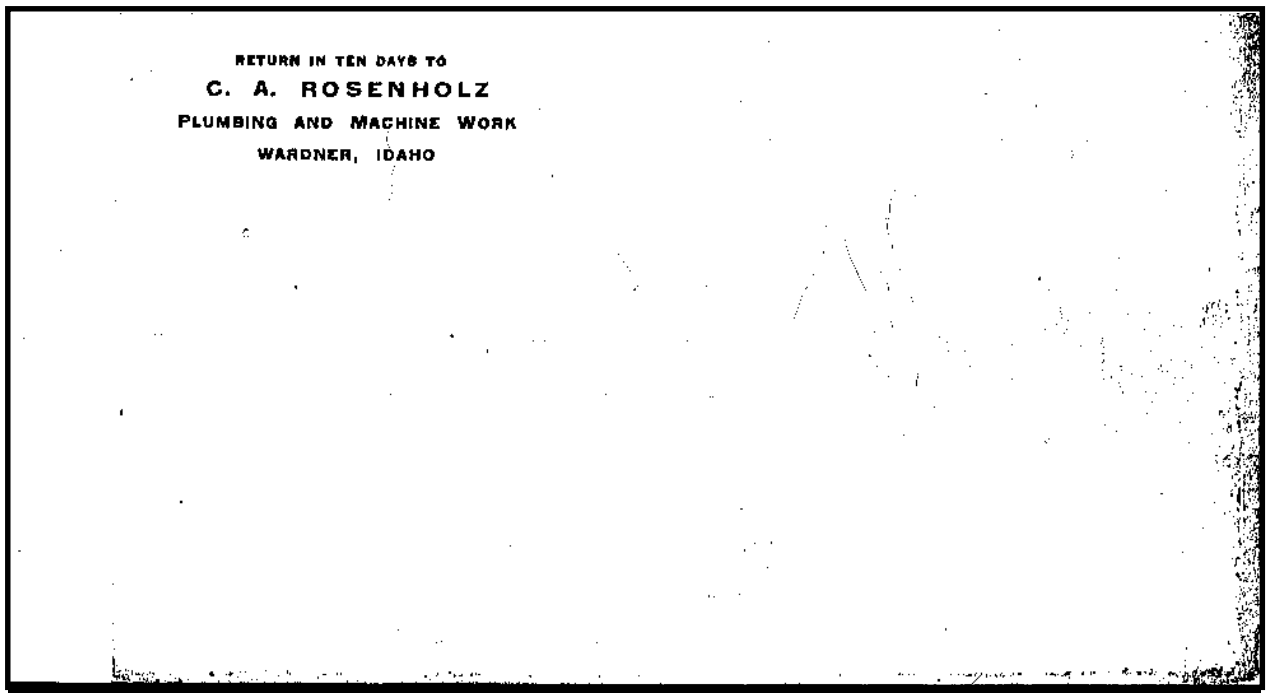
After the Park City show, I went to Wardner, Idaho to see about the Rosenholz sticks. Most people can recognize these sticks by the charcteristic teardrop handle. Records are sparse, but I found that he ordered the letter-head and envelope in 1901 (see photocopies below). He voted in the 1915 election and in 1925, lived with his wife Tina, and Carl L. - probably a son who was listed as a millman. Carl Andrew Rosenholz, born March 30, 1873. - was shown as a blacksmith in the Wardner City Directory. He was an immigrant, but was registered for the WWI draft. Also shown is a rough tracing of a carbide stick holder (made by Carl?) which I bought in Wardner.His two story Victorian house is still standing at the very top of the main street in Wardner.

RETURN IN TEN DAYS TO

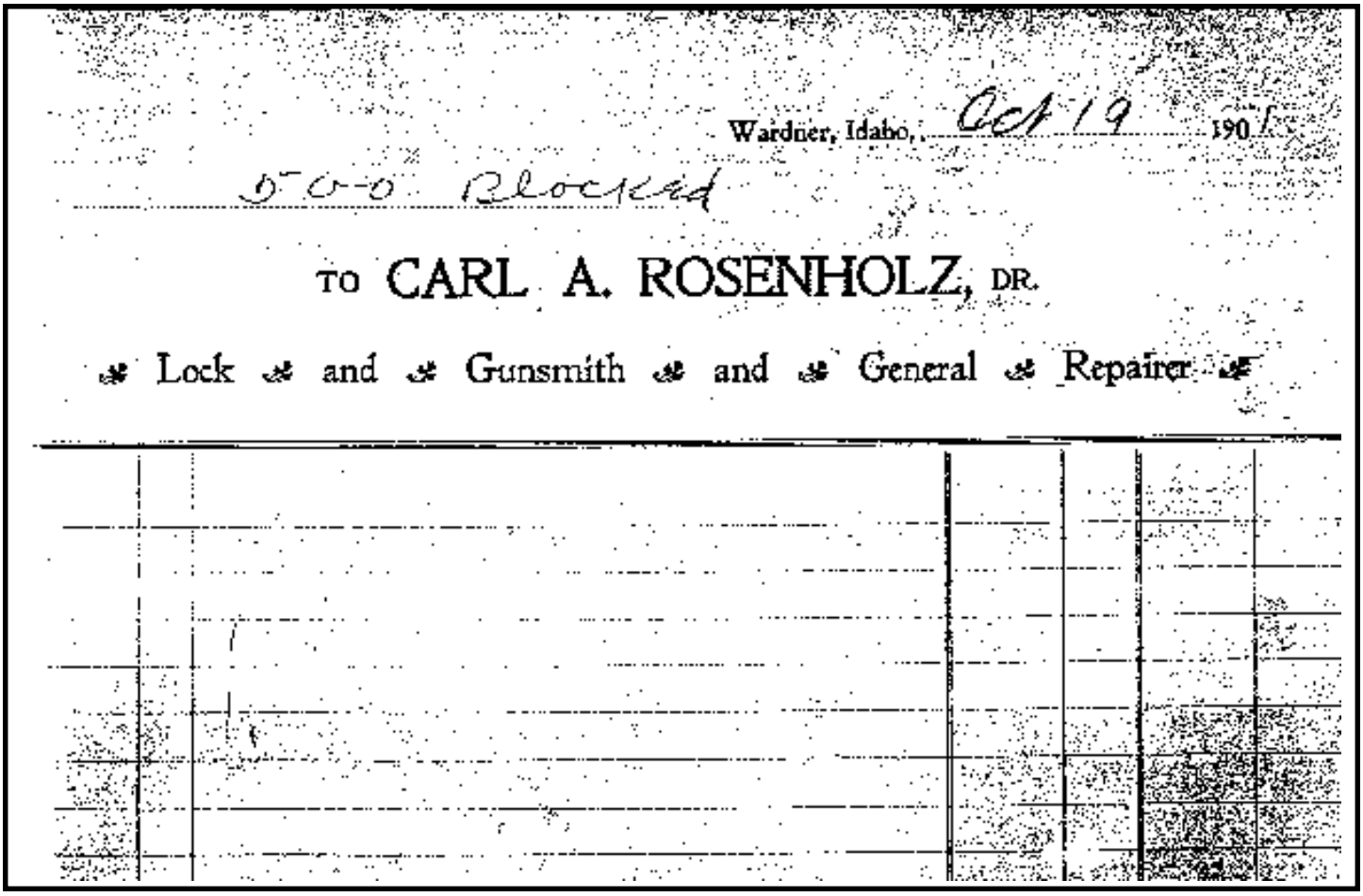
C. A. ROSENHOLZ

PLUMBING AND MACHINE WORK

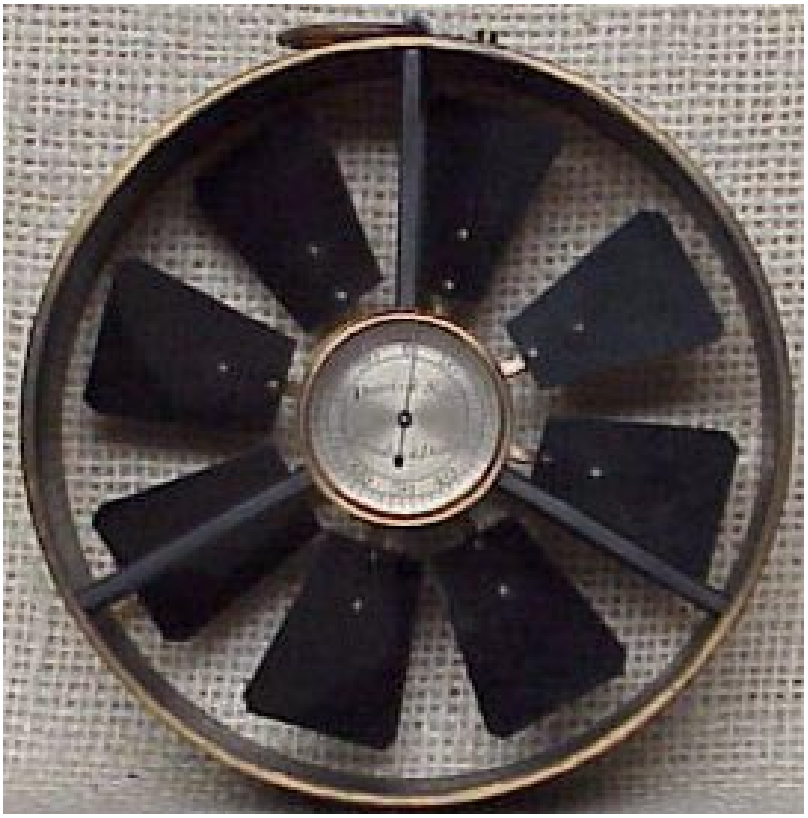
WARDNER, IDAHO



Envelope with return address.



Letterhead.



ABOVE: Davis & Son single dial anemometer.

Anemometers as a Mining Collectible

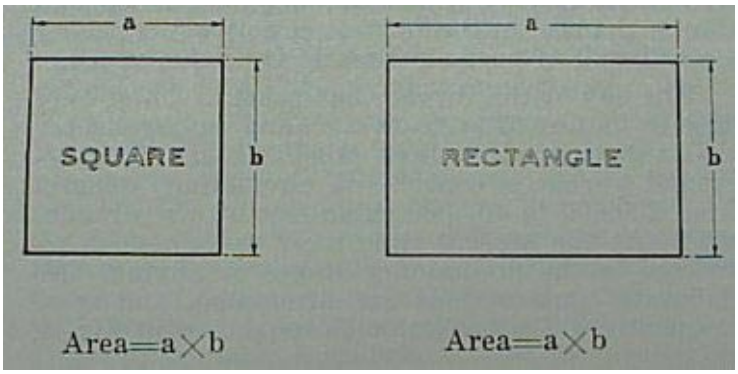
by Dave Johnson

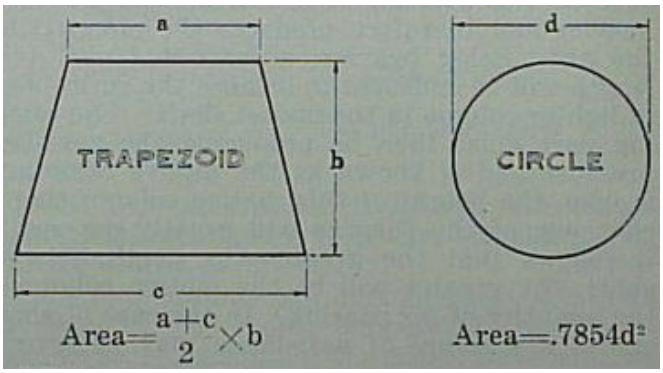
From the beginning of underground mining the problem of ventilation to supply sufficient oxygen for the miners has existed. Many methods were tried including the "fire lamp", which was left in the bottom of the shaft in coal mines during the night to burn off the methane gas. This was followed by the upcast ventilating furnace located at the bottom of the shaft, frequently below a separate compartment within the shaft. As the warm air rose through the furnace compartment of the shaft it drew fresh air down the main part (downcast) of the shaft. Other early ventilation methods included large bellows, falling water, heated air pipes, and steam jets. The first mine ventilation fan was invented by Nasmyth in 1851 and embodied the principles of the centrifugal fan as we know it today. With improvements, the Nasmyth fan quickly replaced the less efficient ventilating furnace and other primitive ventilation methods.

#Originally it was thought best to have a single air current passing continuously through all the mine-ways, which in older mines meant that the air current had to travel considerable distances. By 1850, due to the work of Hopton, the coal mine operators began to see the wisdom of splitting the air currents to more efficiently and safely reach all of the underground workings.

RIGHT: Closeup of Davis & Son single dial model.

Once ventilation methods are in place it is necessary to determine how much air is entering different parts of the underground workings. The formula most often used in mine ventilation was q=av, in which q=number of cubic feet of air per minute, a=area of airway in square feet and v=velocity of air current in feet per minute. The method of determining the area of an airway depends upon its shape. Shown here are the formulas for finding the area of four simple shapes. Most mining states require that the quantity of airpassing into the mine be checked at regular intervals and that an official record be kept. This is required for the main air current as well as currents that are split off the main current. Measurements of the main current must be made in both the intake and return air courses.





LEFT: National Mines Service Co. anemometer

Once the area of a mine-way has been determined, the velocity, v can be determined by the use of an Anemometer. This device consists of a number of vanes placed obliquely around an axis. The force of the air against the vanes turns the axis, which through an internal gearing mechanism connected to dials register the velocity of air in feet or meters per minute, depending upon whether they were made for use in the U.S. or Europe. The anemometer will give a true reading only at a certain speed. It was found that, in general, readings are too low up to a velocity of 500 feet per minute and too high above this. Charts are provided by manufacturers showing the correction to be made at various speeds. The problem with anemometers is that that they are limited in their accuracy for a number of reasons I will not go into here. While having applications beyond mine ventilation, such as HVAC work in buildings, the anemometer is frequently identifed as a mining instrument. It is in this mine ventilation application that the anemometer becomes of interest to the readers of this article.

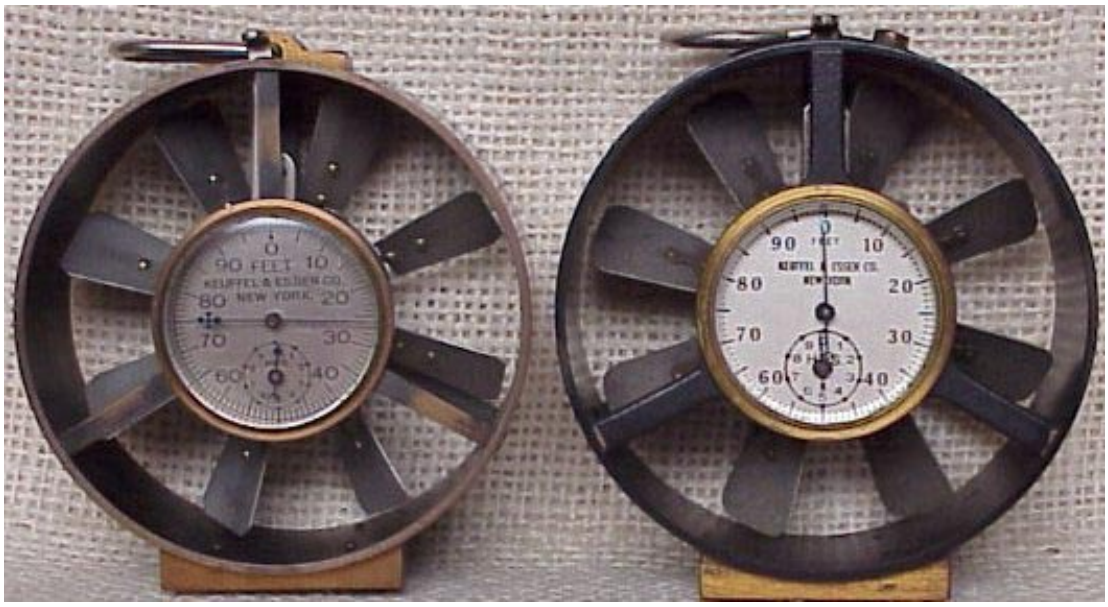
Anemometers, like other mining collectibles, come in a variety of sizes, shapes, and materials, and are made by a number of different manufacturers. Among the manufacturers are Davis, Davis & Son, John Davis & Sons, Davis Instrument Manufacturing Co., Queen & Co. Everhart , National Mine Service Co., Keuffel & Esser, Julien P. Friez & Son, Taylor, Short & Mason, Negretti & Zambra, Casella, and Georg Rosenmuller.

LEFT: Large Queen & Co. Birams style model.

BELOW: Large Davis and Keuffel & Esser models.

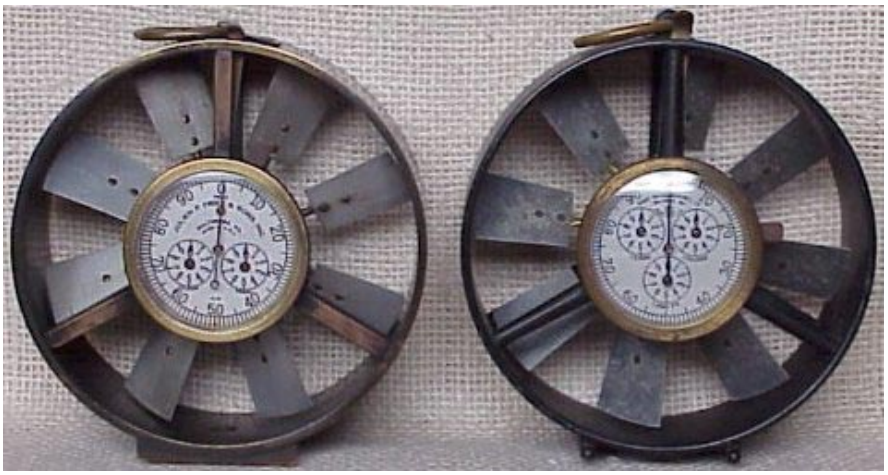
The most commonly seen style of anemometer is the Birams style, which has the dial face and vanes on the same axis. Much rarer is the offset style in which the vanes sit 90 degrees perpendicular to the dial face. The Birams type could be hand held, with the use of a folding loop on the top, or mounted on a tripod or handle which threaded into the base. The offset style had no means to be handheld but could be tripod or handle mounted.

Anemometers are found with anywhere from 1 to 6 dials, measuring 10ths, 100ths, 1,000ths 10,000ths, 100,000ths and 1,000,000ths. Some of the higher quality instruments have jeweled movements like a fine watch. The later model anemometers had a reset button or lever that zeroed the dials, while the earlier models could not be zeroed in this manner. The anemometers I have found have 5, 8, or 10 vanes, with 8 being the most common and 10 vanes being found on the larger diameter models. The vanes are almost always made of aluminum. The circular frames of the Birams style anemometers that I have found vary in diameter from 3" to 6", with many measurements in between. John Podgurski reports one anemometer in a museum that measures 12" in diameter. All but the latest models have glass crystals over the dials to protect them, the latest models have plastic. Some of the glass crystals are beveled and some are flat.



Two dial Keuffel & Esser models.

Anemometers were made from a variety of metals. Earlier and better quality instruments had frames made of black painted or varnished brass, although I have a beautiful Georg Rosenmuller that is copper and brass (see photo). Others have frames of a lightweight alloy and some of aluminum, some painted and some bare metal.



LEFT: Mid-size Friez and Davis models. RIGHT: Close-up of Friez dial.

The carrying cases provided with anemometers were made of leather, wood, aluminum and brass, the most common being leather and then wood, the aluminum and brass cases being quite rare. Many times in the cases you will the original service or calibration record which can tell you approximately when the instrument was last used. The oldest last date I have found was on a Queen & Co. instrument (see photo) that was last serviced in 1920.

LEFT: Negretti & Zambra 4 dial model. RIGHT: Single dial unnamed anemometer with handle.

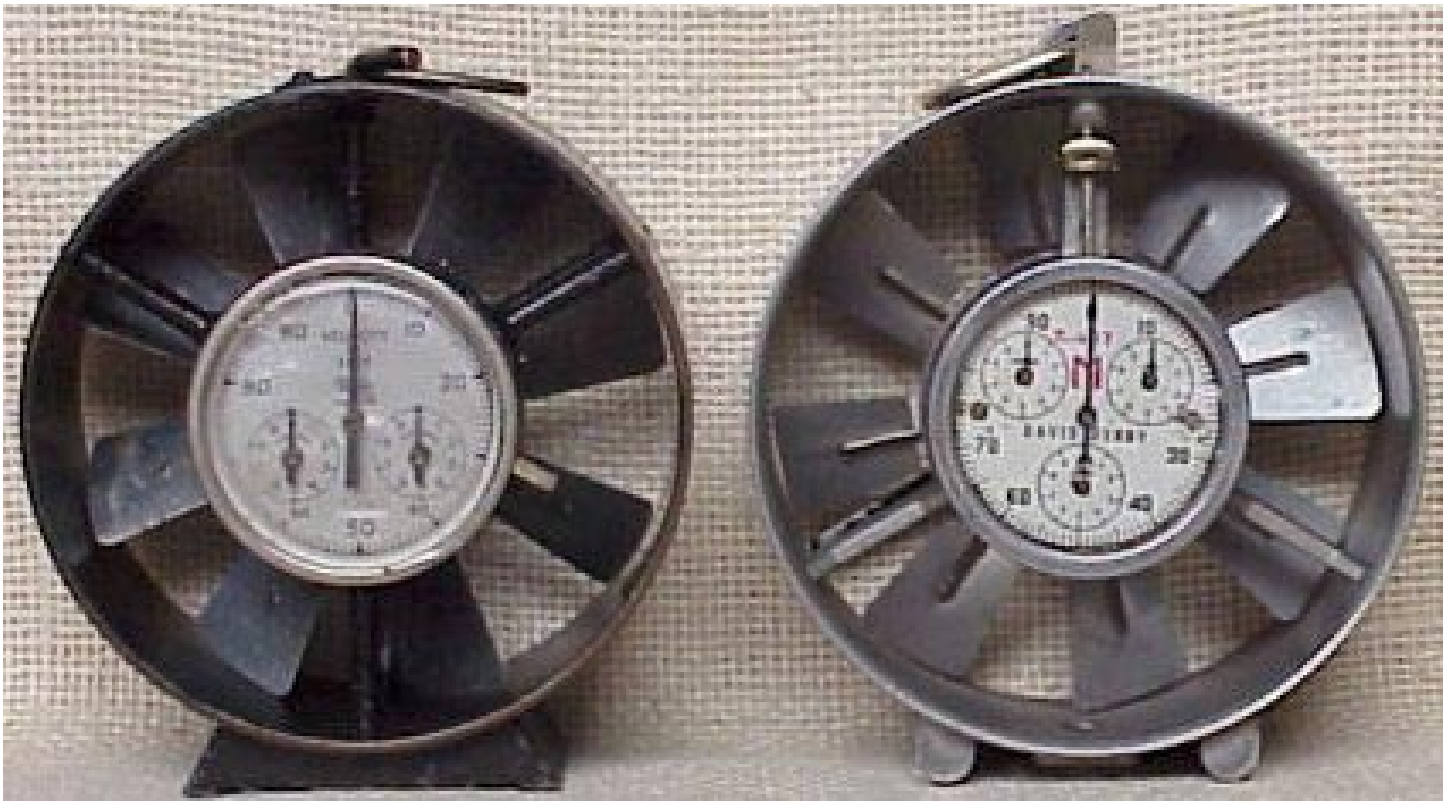
The most commonly seen names are Taylor, Keuffel & Esser, and the many variations of the Davis name. Taylor was made in Rochester, New York. Davis, who also made mine safety lamps, labelled his instruments with Derby (England), Baltimore, MD or both, just as he did his safety lamps.

LEFT: Davis anemometer with name stamped on frame rather than on face. RIGHT: Davis instrument Mfg. Co. 2 dial model.

LEFT: Davis instrument Mfg. Co. 2 dial model.

BELOW: Copper and brass Georg Rosemuller 2 dial moel with built-in stop watch. Closeup of Rosenmuller anemometer at right.

LEFT: Small 3" Queen & Co. 2 dial model. RIGHT: Closeup of small Queen & Co. anemometer.[1]



Mid-size Taylor and Davis models.

LEFT: Taylor 4 dial model closeup. RIGHT: Taylor 4 dial model.

The problem for mining collectors who want to collect anemometers is that we have to compete against collectors of scientific instruments which can drive up the price considerably. I would advise anyone interested in adding one or more anemometers to their mining collection to look for high quality excellent condition examples only. As with any collectible condition is of paramount importance, followed by rarity.

LEFT: Unmarked 2 dial German model with a built-in stopwatch

Instrument collectors seem to attach more value to anemometers with more dials since they are more complex instruments. In 30+ years of collecting I have managed to find just 36 different anemometers, and have probably only seen about twice that many that were either in not good enough condition or duplicates of what I already had.

The Short & Mason Six-dial Model

LEFT: Closeup of off-set 4 dial Short & Mason model. RIGHT: Short & Mason off-set 4 dial model.

The anemometers described here are not to be confused with the outdoor anemometers used to measure wind speed.

This is not meant to be the definitive article on anemometers but rather an article to give the mining collector some idea of what is out there and what to look for. All anemometers shown here are from the author's collection unless otherwise noted.


LEFT: Negretti & Zambra 6 dial off-set model. RIGHT: Closeup of Negretti & Zambra 6 dial off-set model.

Casella 4 dial off-set model with closeup of Casella 4 dial off-set model

LEFT and ABOVE: Large Everhart Brass Works 2 dial model with engraved name on Everhart anemometer.(Tom Stranko Collection).

LEFT: Jules Richard anemometer (photo from Christian Tauzeide).

Unknown British Carbide Lamp Patterns

by Mick Corbridge

When I was researching information re the history of the well known lamp manufacturer 'Premier Lamp – Leeds', I was fortunate enough to locate and meet with Ken Pickard, whom had been employed at 'Premier between the years of 1940 and 1984, when at this time 'Premier Lamp' went into receivership. For much of this period, Mr. Pickard had been the Production Manager at 'Premier', and so knew much about the various lamp patterns etc. He mentioned that 'Premier' had owned a small private lamp collection, which had within it a couple of prototype lamp styles, which had never been followed through into production. He personally had given this collection to a local museum in 1988, so I decided to see if this collection could be located. Following discussions with the museum in question, no knowledge or records of such a collection could then be found, but they did offer a search for the items. A few weeks later they requested me to visit to view the lamps that they had located in store, but very disappointingly, when I attended and viewed, the lamps found were of non -'Premier' manufacture, and worst of all – there were no carbides.

Some time later a record of the museum receiving such a collection of 'Premier' carbide lamps was found, but there was still no sign of the actual lamps. The museum curator then remembered a small stock of lamps housed in the store rooms of another local museum, so together we made a visit to check out what was there. Again, the viewing of the lamps in question was somewhat disappointing, as non were 'Premier', and most were non-mining pattern, this again was not the collection that I sought. The only interesting find on the day was a very nice looking carbide cap lamp.

This plated lamp was an unfired example of a mining pattern cap lamp that I had never come across before, (or since). There were no manufacturers markings of any type, but I once had a hand lamp, and two bicycle lamps with similar details, i.e. the same style of water tap sitting in a recess with a quarter turn ring which when turned uncovered holes which then allowed the water tank to be topped up. Also the body styles were somewhat similar to my original lamps, and these lamps had been manufactured by 'P & H' and 'Lucas', so I am 90% sure that this cap lamp was manufactured by one of these two firms, 'Lucas' possibly the favourite choice.

Some time later, I was given the name of the curator that had worked at the original museum at the time when Mr. Pickard had taken the 'Premier' lamps down in 1988. The curator was by now retired, but I was able to locate and later speak with him, and he remembered the lamps in question. He then gave me the name of two people whom once tried to catalogue the lamps, and later discussion with these persons led to the fact that they knew where the lamps were now stored. I arranged to meet with one of these persons down at the museum, and within a short time of searching the various storerooms, the lost 'Premier' collection was at last re-found.

In the collection were about 15 carbide lamps, but the most of them were well known produced patterns, though most were very early designs and nice to see in original 'as manufactured' condition. The long awaited high point was the handling of 3 carbide hand lamps that I had never seen before, either physically or in any 'Premier' product catalogue. Two of the lamps were of the same style but of different sizes, and the other was a properly manufactured lamp, which looked like it was based on a hybrid of 2 well-known lamp designs.

The two sized lamps were similar to the standard 'King' pattern, but had a very unusual pattern of locking mechanism. This was a 'pull back and down', or 'push forward and up' carrying handle, which had a large strong spring device that located into a groove on the top of the lamp. The downward force of the spring held the two halves of the lamp tightly together as required, and location notches in the sides of the handle bale, retained the handle in position when locked. Each of these two lamps had the early large style of 'Premier' brass embossed badge on the back of the water container, showing its manufacture as been approximately before 1935. Later discussions with Mr.Pickard regarding these two lamps indicated that he believed that these were going to be a special customer order, which was never followed through, and were produced before his time with the company. What I would give for those lamps!

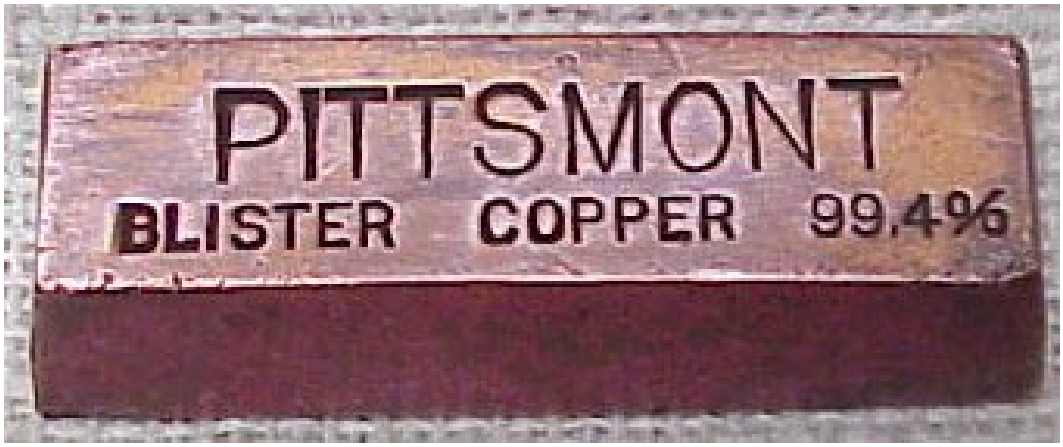
The other lamp of particular interest, was a very nice combination pattern of lamp which I had again never seen reference to before. The top section of the lamp was of the standard 'Cornwall' lamp design but much smaller in diameter. It had the normal angled jet and the in-line bridal arrangement as well as the same reflector bracket. The bottom section of the lamp was that of a 'Cleveland' pattern with the narrowed waist, and was the same size and style exactly for a standard 'Cleveland' lamp. Normally there is no way that a 'Cornwall' top section could fit onto a 'Cleveland' base section, as the diameters and thread sizes are completely different. This shows the special manufacture of the top section to allow this pattern of lamp to be made. This lamp had the smaller style of 'Premier' badge, indicating manufacture possibly around the mid 40's.

It's a pity that 'Premier' didn't carry through with production of this style of lamp; it would at least have been a nice looking addition to lamp collections.

Pittsburg & Montana Copper Co.

by Dave Johnson

The Pittsburg & Boston Copper Company, with main offices in the Farmers Bank Building Pittsburgh, PA and mine offices in Butte, Silver Bow County, Montana, was organized July 9, 1902 under the laws of West Virginia, with capitalization of $3,000,000. The company possessed land and 46 claims with 850 acres near Butte with another 634 acres in the Helena, Elk Horn and Greenhorn Districts of Montana. The main tract of 260 acres, adjoining Anaconda Hill, about 2 miles east of the center of Butte, included the McQueen placer and adjoining claims, formerly owned by Franklin Farrell, former president of the Parrot Silver & Copper Co. , and was adjacent to the Silver Bow Mine of the Butte & Boston property.



By 1906 two shafts had been sunk to a depth of 1,240 feet each, with 4 miles of underground workings developed. Ore bodies were considered small when compared to the big veins to the east but carried good silver values, ore ranging from 3.5% to 12% copper, and 8-12oz. silver per ton, with small gold values.

The Pittsburg & Montana reduction plant, known as the Pittsmont Smelter contained a 200 ton blast-furnace, with room for 4 aditional furnaces. The furnace was a remodeled Garretson pyritic smelter that had been modified by Ralph L. Baggaley, vice-president of the company. The "Baggaley Process" of pyritic smelting called for the treatment of ore without water concentration, heap-roasting or carboniferous fuel. Production from this process was blister copper, carrying 99% copper, 200 oz. silver and 3.5oz. gold per ton. This new ore reduction process was declared a success by the Pittsburg & Montana Copper Co. in 1904.

By June of 1908 the Pittsburgh & Montana Copper Co. was in default on bonds of $3,000,000 and all property was sold at public auction to the Pittsmont Copper Co. in 1909, which then turned the property over to the East Butte Copper Mining Co. under an agreement in which East Butte agreed to advance all funds necessary for the further development and operation of the properties. In the 1911 the Pittsburg & Boston Copper Co. was controlled, through 90% stock ownership and 100% bond holding by the Pittsmont Copper Co., which was in turn controlled by the East Butte Copper Mining Co. Even though the principal property of the East Butte Copper Mining Co. was actually vested in the Pittsburg & Montana Copper Co. , that was merely a corporate maneuver, it served only as a stepping-stone in the corporate structure.

The Pittsmont Copper Co. retained the former offices of the Pittsburg and Montana Copper Co. in Pittsburgh, PA. Pittsmont had been organized Sept. 8, 1909, retaining James H. Reed as president. Reed was also made vice-president of the East Butte Copper Mining Co. when that firm took over the Pittsburg & Montana Copper Co. properties. At that time Ralph Baggaley was no longer an officer.

An interesting artifact of the aforementioned reduction process is the 3 1/4" ingot pictured here. On one side it reads: PITTSMONT BLISTER COPPER 99.4% and on the other side it reads: PITTSBURG & MONTANA COPPER CO. BUTTE MONT FEB. 12th 1904 SAMPLE OF FIRST COPPER MADE BY THE "BAGGALEY PROCESS". It seems that This process was not as successful as first reported and was soon replaced by a conventional process. In 1918 the Pittsmont Smelter contained a 600 ton and a 300 ton blast furnace. As of 1920 the Pittsmont reduction plant was the only operating smelter in Butte and did a considerable custom business treating ore from several independent mines, including the Davis-Daly group of mines, which later sold out to Anaconda Copper. At this time the Pittsmont Copper Co. also owned and operated the Swissmont Mine at Butte. After August of 1924 all Pittsmont Copper Co. ore was shipped to the new Anaconda Smelter for processing.

As of 1919, the parent company company, East Butte Copper Mining Co., had gone into the oil business, purchasing oil properties in Kansas, Texas and Wyoming. In 1922-23, the company acquired mining properties at Silver Plume, Colorado from the Silver Plume Mines Co. In 1923, an option on 40,000 shares of the Consolidated Metals Co. was exercised and a cross-cut was driven from the Pittsmont Mine 700' level to the Consolidated Metals Co. property. For many years the company also held 61% of the stock in the Tonopah Western Consolidated Mining Co. of Tonopah, Nevada. In 1925, a long-held option was exercised on the Continental Chief Mine , a group of claims at Leadville, Colorado, and exploration was begun. Here our story Stops.

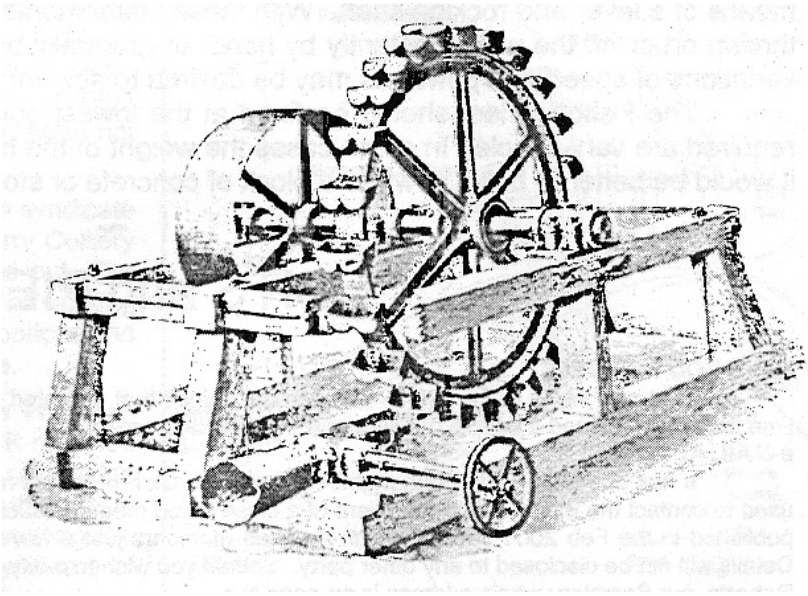
I have always liked collecting and researching what I believed to be historically significant mining artifacts, such as the Pittsmont ingot shown here. This type of artifact I believe to be under-valued by collectors of mining artifacts both from a monetary and historical perspective. How many of these ingots were produced and how many probably survived? How many items come with the type of provenance that this piece comes with, How many artifacts are dated and give the specific mine (by reference to the company) it was produced from and the process by which it was produced.? This type of artifact, in my estimation, has real historic significance.

The Pelton Water Wheel

f'rom 'Machinery for Metaliferous Mines' by E H Davies, 1894, edited by Plymouth Mineral & Mining Club Journal

The great advances which have been made in recent years in electricity and its conversion into motive power have turned the attention of engineers to the perfection of the machinery by which the 'countless wealth, which is being squandered in all the torrents and water-courses of the world' can be best utilized and enslaved by means of waterwheels and turbines to the service of man.

The Pelton waterwheel, which is one of the comparatively recent inventions, seems to have been born amongst the foothills and mountain ranges of California, where, owing to the high head and often small quantity of water, the ordinary form of turbine or waterwheel was of but limited service.



The Pelton is what may be termed a tangential reaction wheel, the power of which is derived primarily from the pressure afforded by a head of water, supplied by a line of pipe, discharged upon it through a small nozzle, the size of which is proportional to the amount of water available and the head and the power required. Its general form will be seen by reference to the drawing below which shows the wheel and its buckets, the nozzle and regulating valve and the pulley from which power is conveyed to other machinery. The wheel itself is, in practice, hooded in with boards or sheets to prevent splash. The manner of utilizing the pressure of the water in the pipe is the distinguishing feature, and the secret of the means by which as much as 88% of the theoretical energy of the water is realized. As will be seen in the drawing, the buckets on the circumference of the wheel are of a peculiar shape, with a wedge in the center, which divides the stream in such a way as to develop its full force; while in passing out it sweeps against the curved sides with a reactionary influence, giving it the effect of a prolonged impact. It is also by this means deflected from the course of the wheel, so as to offer no resistance to its motion. That thepower of the water is fully exhausted would appear from the fact that it falls from the buckets practically inert, no water being carried over; nothing but a mist above and a stream below to indicate the force which has been liberated.

The Pelton is essentially a high-pressure wheel, but it is also adapted to moderately low heads; although, when these latter are only from 10ft to 20ft, it would appear that the ordinary turbine can fairly compete with it, so that it is not recommended for heads of less than 25ft.

As regards the extreme pressure consequent upon high heads, there is no practical limit to the head under which the wheel can be operated; as, for instance, at the Comstock, where a Pelton is at work under a head of 1680ft, equal to a pressure of 7221b. per square inch and realizes an average efficiency of 88%. It has been running under these conditions for over three years and the only repairs needed have been the replacing of a few buckets. Pelton wheels are made in a standard 6ft size and in all sizes downwards from this to a 4-inch wheel which can be used for driving a sewing machine or other light work.

The power of a Pelton wheel does not depend upon its diameter, but upon the head and amount of water supplied to it. Where a very considerable power is wanted under a comparatively low head, a larger wheel is necessary, in order to admit buckets of a sufficient size to cope with a larger stream of water. Wheels of greater dimensions are also desirable in many cases with reference to reducing the speed, when the smaller wheels will furnish all the power needed. The velocity of the wheel being determined by the head, the diameter can then be made to conform to the speed required and the buckets and nozzle delivery proportioned to the amount of water available and the power wanted.

When the head of water is low, but the quantity considerable, a wheel with two or more nozzles can be employed. Where these are used, one or more nozzles can be stopped off when the additional power they afford is not wanted, or when for any reason the water supply partly fails. Wheels with several nozzles are of great use for hoisting purposes, as in double winding shafts or inclines, where this arrangement admits of using all the streams when starting the load and shutting off one or more when it rises; affording thus economy of water and perfect control of the cages or trucks.

In the case of double winding, i.e. where the power is used for both raising and lowering of the load, the rotation of the hoisting drum is reversed by means of two Pelton wheels, both keyed onto the one shaft but with the buckets facing in opposite directions and with two sets of nozzles, one set for each wheel. By applying the water to one set of nozzles or to the other set, the direction of rotation of the winding drum can be reversed. For single hoisting purposes, where the load can be lowered by a brake, a single nozzle wheel is connected to the winding drum by means of spur gearing.

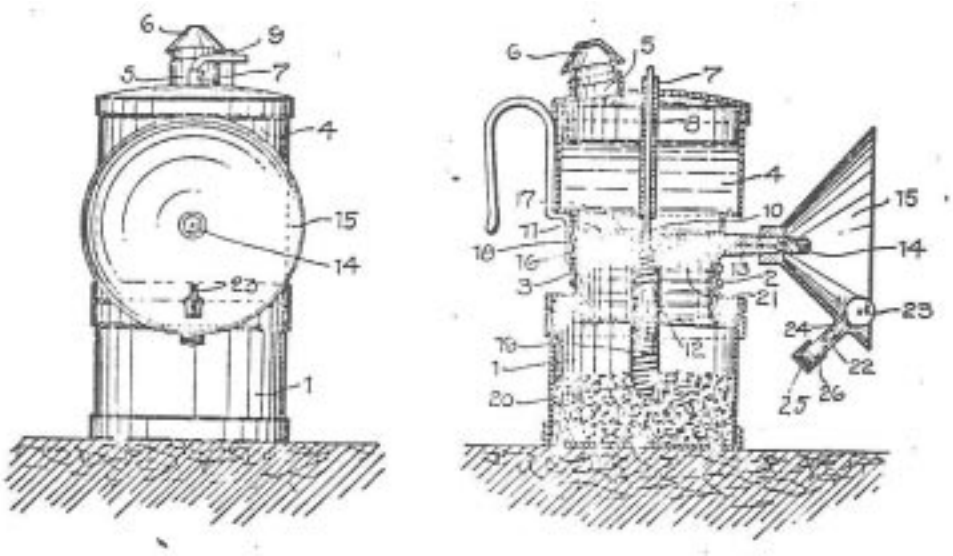
In both cases, the drum can be disconnected by a clutch and controlled by a brake, whilst the quantity of water supplied to the wheel is regulated by a hand lever and water gate. The driver has thus complete control over the machine.

When it is desired to maintain an even speed with a varying load and great regularity in the number of revolutions per minute, as in mills, where various machines are constantly being thrown in and out of gear, or in electric installations, a deflecting nozzle is applied to the wheel. This consists of a nozzle of from 3ft to 5ft long, attached to the main piping and valve by means of a ball joint and is operated by means of a lever and rocking shaft. W'ith these attachments the whole or any part of the stream can be thrown on or off the wheel instantly by hand, or gradually by means of a governor, thus affording such variations of speed and power as may be desired to accommodate any change in the load.
The Pelton wheel should be fixed at the lowest convenient spot in the mill. The foundations required are very simple. In some cases the weight of the framework is sufficient, but as a general rule it would be better to bolt it down to a block of concrete or stonework, or to the rock.

Indiana Roach

Dave Thorpe

A 1913 patent was given to Alonzo Roach of Linton, Indiana for a miner's carbide lamp. The patent is thought to be the first to use the reflector mounted flint-wheel igniter. A lamp that has been in Larry Click's collection for some time is thought by its owner to be a Roach patent lamp. It was originally found by Gary Doolittle, of Terre Haute, Indiana, a town only 40 miles from Linton. Another similar lamp shown below was found in Terre Haute. Looking at the photo, one can see some similarity of the tank to the patent drawing, but on closer inspection, the water chamber appears to be an inverted Baldwin base with a separately applied top. The bottom chamber is likely a Simmons/Baldwin base with a screw cap for the threaded section. The patent drawing has a more squared base and tank. The water door is different as well. A Baldwin reflector was added by Larry. Other lamps, without a known manufacturer, having similar construction have been found in the Terre Haute area. One with the hand stamping "ROOF" on the tank is derived of Guy's Dropper parts. The Roof lamp, interestingly has a reflector quite similar to the lamp shown in the patent drawing. Another Indiana lamp made from two Auto-Lite bases, is in Al Quamen's collection. This lamp bears the stamping "JACK SMITH" on a separately applied top.



Left: photo of lamp. Right: patent drawing of Alonzo Roach's patented lamp.

Defending his claims that this is an authentic Roach lamp, Larry quotes veteran collector Al Quamen: "Looks to me that you have a better "Roach" Lamp than the one in Terre Haute...". A side-by-side comparison of Larry's lamp and "the one in Terre Haute" is shown below. The lamp on the left has the burner exiting the tank, while on the other it comes out of the threaded section.

Paul Kouts, whose research has included the Alonzo Roach patent has noted that in the early teens there were few facilities capable of stamping brass, and that many of the smaller manufacturers used parts stamped from the same plant, one of which was Chase Brass of Waterbury, Connecticut.

Left: "The lamp from Terre Haute", owner Andrew Peacock states that a Guy's Dropper base was originally found on this lamp, the Baldwin base shown was added. The water chamber is not an inverted Baldwin base. Right: Larry Click's lamp is shown in contrast.

Says Paul: “My opinion on these recent lamps -- they do appear to be of Alonzo Roach's origin. But, I still hold hopes of seeing one that is still a little closer to the patent depiction. I noticed what appeared to be differences in the tank heights, so while working with Word 2000 graphics I played around a bit. From the attachment you can see this difference is fairly obvious. While the pictures are not to the same scale, the white box outlines measure the height and width of relative areas of the lamps. The ratios indicate that if the water tanks are the same diameter, your lamp has a tank height 37% greater than Ron's. In addition to your observation of the gas tube placement, the valve nipple projecting above the water tank may also be different and warrants a closer examination. Because of the details of the internal water feed, I still think both lamps have a high probability of being a Roach origin lamp. "

Andrew Peacock makes some interesting observations about the water-feed and the patent description. "The Roach patent describes (page 1, lines 109 - 111) raising the rod to allow the water to flow down to the carbide chamber to seep out from between the coils of the spring (distributor). Most of the spring in my lamp is missing, but the one [on Larry's lamp] is pretty much intact, as shown in the drawing. I tried running water through my lamp and found that it would only flow when the control rod was raised above a notch cut into the water tube, near the bottom of the reservoir. The flow could not be controlled accurately simply by raising the rod; all I got was a gush of water. This is where the spring coiled around the water tube comes in, permitting the water to seep out slowly into the surrounding carbide. This intermittent water flow must have made for an inconsistent flame. Later in the patent (page 2, lines 14 - 19) it again refers to moving the rod "upwardly and downwardly" to clear the opening of the water pipe, should it become plugged."

At any rate, until more is known about this lamp and the Roach patent, it is for the individual to decide whether the lamps shown here are indeed Roach patents. There is no question in the Larry's mind though: "I'm going to call my lamp a Roach!"

Count Dracula's Mining Connection

by Steve Roberts

Anyone who has read Bram Stoker's 'Lair of the White Worm' will be aware of the story's reference to the town of Whitby on the North Yorkshire coast, for this is where Count Dracula supposedly landed in England. Whitby was also the home town of the author, and with the sinister ruins of Whitby Abbey gazing down upon this once busy fishing port, one can well understand how Stoker's mind came up with the classic story that kept Bela Lugosi, Peter Cushing and others in work for so many years!

Whitby, however, has other connotations for jewellers and mineral collectors, being the centre of a thriving jet producing industry during the Victorian era. When Victoria's husband Prince Albert died, her mourning was such as the country had never seen before, both in depth and duration. Her daily dress was black in every detail – right down to the jewelry she wore – and what better black jewelry was there than the semi-precious stone jet? The wearing of jet by her subjects was initially an expression of sympathy for Victoria, but later became a fashion statement in its own right, and Whitby was well placed to take advantage of the trend.

(above) The author Steve Robersts stands outside a tiled Victorian shop front, still in use as a jeweler's.

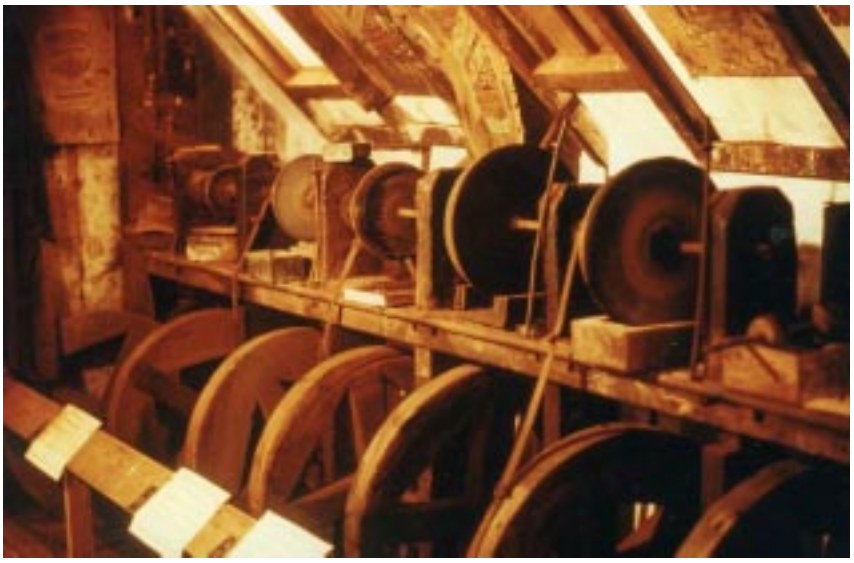
Margaret using a high-tech piece of equipment (i.e. a stick!) to search for jet under the sea weed on the beach at Runswick Bay.

Large parts of the coast of North East England bear carboniferous deposits, and from early times 'sea-coal' has been collected from the beaches, thanks to the erosive action of the stormy North Sea. With coal and jet both being black subtances, it is easy to think of the two as similar and to imagine that any black stone turning up on a Yorkshire beach must be jet, but the two have very different origins. Coal was formed in the presence of air (i.e. aerobically) whereas jet was formed in its absence (anaerobically). Jet was also formed specifically from the wood of an ancient tree similar to today's Araucaria, or monkey puzzle tree. Only when the two are compared side by side is the difference apparent. A fist-sized lump of coal is very definitely 'a chunk of rock' in colloquial terms. Pick up a similarly sized lump of jet, however, and you don't feel that you're holding a chunk of rock, more like a chunk of plastic, on account of its lower density, texture and the fact that the apparent coldness of rock isn't there. Besides being collected from the beaches, jet was mined via small adits driven into the cliffs and also more conventionally inland.

In a visit to Whitby during August 2000, I wasn't lucky enough to find a fist-sized piece of jet, but did get to handle some found by one of the few remaining jet polishers. Whitby is an intriguing and beautiful place to visit just because of its situation, its cobbled lanes, its fishing history and numerous small shops that just demand to be inspected. Many of these shops still sell jet jewellery, some of which is obtained and produced locally. At the base of the steps leading up to the ruined abbey is a particularly interesting one.

Sign outside the Whitby jet workshop where the Victorian equipment may be seen.

Some years ago, a builder was engaged to make extensive alterations to an old house in Whitby. The attic had been effectively sealed off for many years, but on breaking through the brick partition, the builder found that it concealed a complete Victorian jet workshop. All the equipment for cutting, grinding and polishing the material was there, as were a couple of period advertisements and even an old coat! The alterations to the building necessitated the removal of the old equipment, but it was carefully dismantled and reassembled in its present location, using even part of the old attic woodwork and timbers. The present owners make and sell jet jewellery and also have a display area. When viewing the old workshop, visitors are given a Walkman that tells them all about the equipment and processes involved.



The old equipment and original timbering.

What is particularly noticeable is that the dust produced (of which there is plenty) is not black, but brown, and herein lies the key to discriminating between jet and sea coal. One of the owners of the enterprise told us of a place on the coast where we might find jet. He then advised us to find a white quartz pebble. Any potential specimens should then be rubbed on the stone – coal would leave a black mark, but jet would be brown. This is, of course, a crude form of the mineralogist's streak test, using an unglazed porcelain tile instead of the pebble.

Off we went to Runswick Bay (obviously not the BEST place for jet – that would have been a closely guarded secret!), found a couple of white pebbles and began a careful search of the beach. After half an hour precisely nothing had turned up, when a beachcomber advised us to look under the piles of stinking seaweed. This we did, and were soon finding fingernail-sized pieces of jet, well rounded and semi-polished by the sea's action.

Nightfall got the better of us, and we were forced to call a halt with about a matchbox full of specimens. It certainly was a fascinating day out. Just wish I knew how I came to get these two red marks on my neck

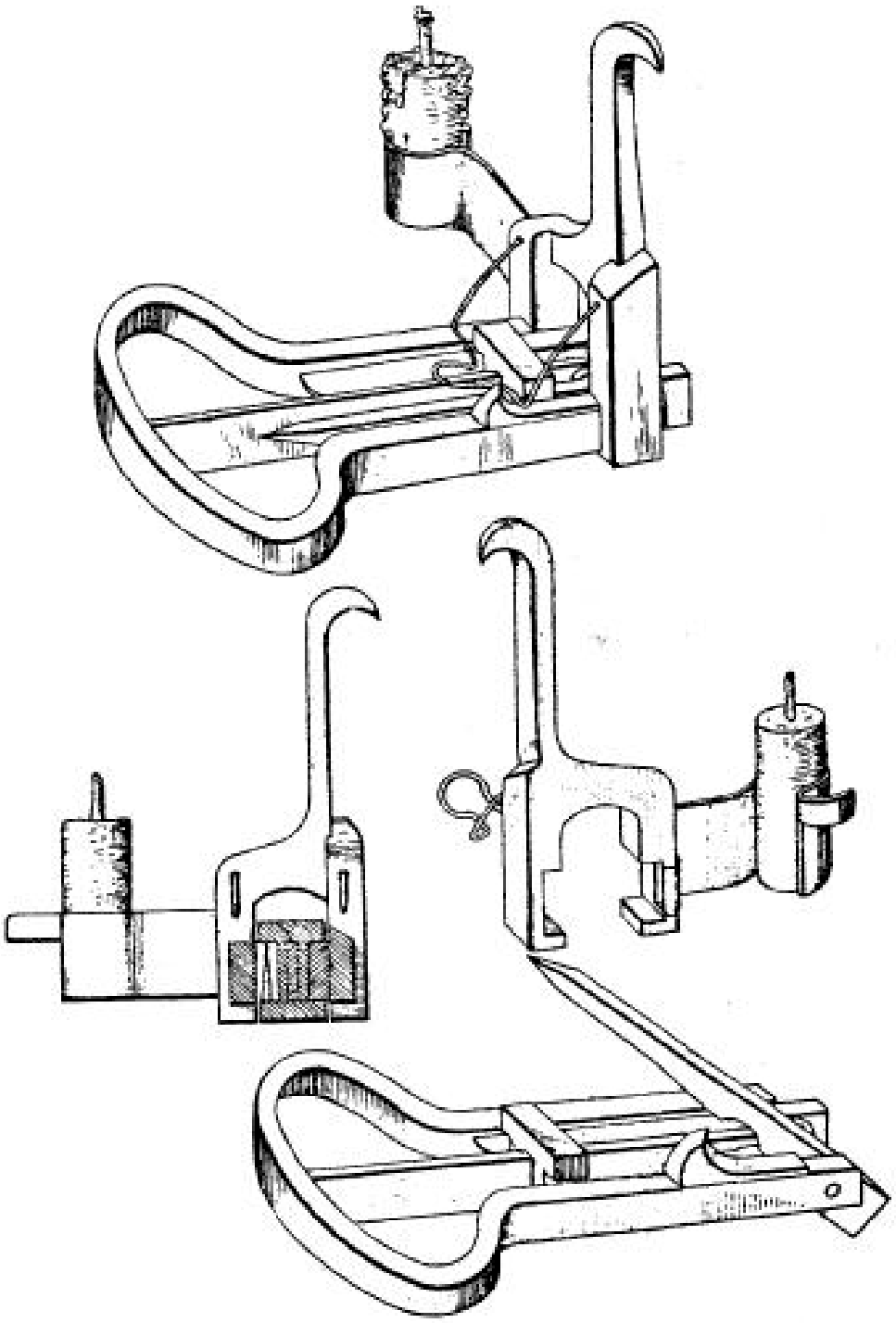
Pieces of Jet from Runswick Bay.

Amede Bernier Patented Candlestick

by Leo Stambaugh

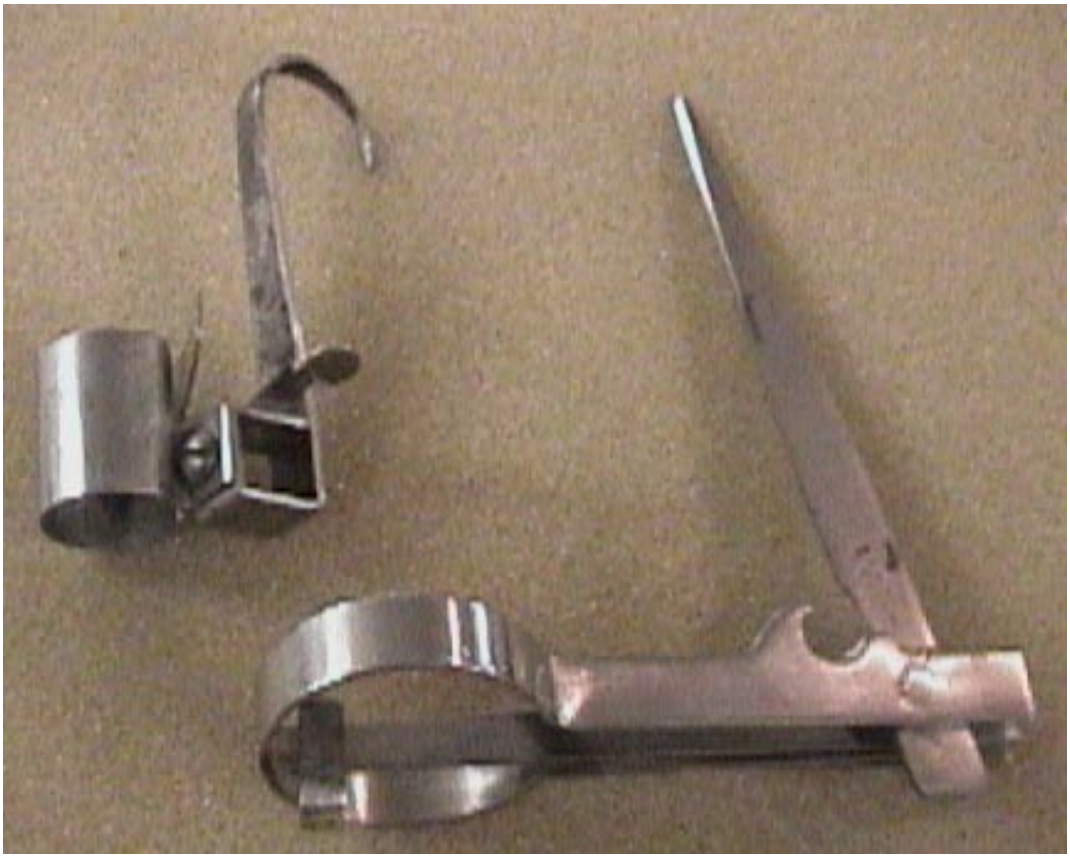
The Amede Bernier patented miners candlestick is the most intricate and functional fuse tool stick I have seen. Patent #631,270 of August 22,1899, claims as unique the combination of a disassembling stick with a folding spike which functions as a blasting cap crimper, fuse cutter, and powder punch, a separate locking knife blade for cutting fuse and cartridge, and a spring clip which locks the handle to the Thimble/hook and releases the two parts so that the candle can be hung on the sidewall while the miner set fuses and caps to the dynamite cartridge. There is also a guide bar from the pivot point back through the middle of the handle which guides a locking slide into a position to lock blade and spike so they won't fold into the handle at the wrong time.

In the first photo you can see the two Berniers I have. The top one has been used and still holds up nicely. The lower stick has not been used and retains most of its thin nickle plating. The lower stick has a shorter length by about 1/4 inch, and the handle is made of lighter metal stock than the upper stick. All other dimensions are the same. The second photo shows the stick in two pieces and you can see the crimper notch on the body of the handle. The last photo shows the knife blade in position to cut, with the spike in the perpendicular position it allows for use as a powder punch and also allows for the locking slide to hold both parts in position.



1899 Patent illustration.

The Bernier stick was manufactured and sold in the Cripple Creek district of Colorado, I have counted seven in collections in varying conditions. Henry Pohs had one that had lost its thimble and hook and had a home-made replacement attached to it. It is always nice to find a complex mechanical stick that was functional enough to go into production and use in the mines.



TRADES & SALES

Back issues of Eureka for sale: Issues 11-31. Contact Todd Town. ttown@cybertrails.com

Wanted: Blasting cap tins. I buy rare and unusual blasting cap tins. Please email me with a description. Jack Purson purson@earthlink.net

Buying or trading for old photos: Miners posed or working, wearing/carrying lighting - carbides, wicks, sticks, and safety lamps preferable, will consider electric based on photo composition. Other tools of the trade in photos a plus. Modern reproductions considered by content/event. Contact Terry Sharpton Trs96@aol.com

Rare and collectible lamps for sale: Inquire for inventory and prices. Dave Thorpe (602) 549-1959

ANNOUNCEMENT: The new book "The Assay Balance - Its Evolution and the Histories of the Companies That Made Them has just been received from the binder.

The 241-page book contains two sections: the first relates to the evolution of the assay balance, including discovery of gold and its cultural influences and topics relating to the development of the balance. The second section contains histories of the companies (especially U. S. Companies) that made assay balances. Both sections contain many photos and drawings, and the second section also contains either complete catalogs from balance companies or pertinent pages from mining supply company catalogs for each company represented. The book is well-indexed and contains a complete bibliography, which should aid in any further research. One can also find a page which will assist in dating balances.

There are soft-bound copies with a protective coating on the cover (Smythe sewn and perfect bound), and hard-back (case bound) copies also with a protective coating. Cost of the soft-bound book is $55 plus $2.50 postage (in U.S.)(In Colorado add sales tax of $1.65) , while the hard-back copy is $75 plus $2.50 postage (in U.S.)(In Colorado add sales tax of $2.25). Books can be ordered by forwarding a check made out in the proper amount to John M. Shannon and mailed to 7319 West Cedar Circle, Lakewood, CO 80226. We will have to give quotes for foreign orders, due to postage differences. Thank you and we will look forward to hearing from you if you have an interest in assay balances. John Shannon (rovers@aol.com) Phone (303) 232-1534

Lenticular Lamps: A new book is available in France about tunnel lamps. The title is " Les Raves ou L'Histoire du Crezieux Stephanois" by Michel Bonnot and Marcel Humbert-Labeaumaz. The price is FF 120 (~$20) + postage costs.The order address is: Minelamp Cidex 924 b, 38460 Leyrieu, France or send Marcel directly for further information an eMail: minelamp@babel.asi.fr

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