

# In Search of the Quirin Safety Lamp History

*by Hal Post, Neil Tysver and Tony Moon*

Earlier this year, my good Alaskan friend and oftentimes road trip partner Neil Tysver and I (Hal) planned another visit back east on the way to the Carter Caves show in Kentucky. Our previous trips in 2012 when Tony Moon joined us and 2014 provided opportunities to visit and enjoy the history of coal mining through the states of Ohio, Pennsylvania, Virginia, Maryland, West Virginia and Kentucky. The 2014 trip allowed us to visit Dottie and Larry Click and their fabulous collection prior to Larry's passing. We didn't miss many museums, Civil War battlefields or sites of interest on that trip or the previous one. Of course, all the trips culminated with the fun show put on by Chris Hacker and Colin Gatland and their wives at the Carter Caves State Resort Park. The target area for this year's trip was Scranton and anthracite country in northeastern Pennsylvania. For a mining artifact collector, it's a great place to visit. And of course, a visit to John Podgurski and his unbelievable collection of all things mining was at the top of our itinerary. But then prior to our trip, another target of opportunity was presented to us. I (Hal) was



*Figure 1 Quirin bullseye safety lamp  
(Hal Post collection)*

very fortunate to recently acquire a Quirin bullseye safety lamp. My research on the lamp focused on St. Clair, Pennsylvania, home of Peter Quirin and his foundry that made the lamp. And St. Clair was right smack dab in the middle of our visit area, not far from Scranton or Wilkes-Barre or John Podgurski or the original Yuengling brewery in Pottsville – all required stops. A few hours on Google indicated the Quirin Machine Shop was still in operation in St. Clair. So we decided to devote a day to finding it, visiting with any family members we could find and learning what we could about the Quirin bullseye lamp. We searched high and low for the place in St. Clair along the street it was supposed to be on and any side streets that looked likely. No luck. We finally gave up and headed back to Wilkes-Barre. The next day visiting with John Podgurski we mentioned our failed search – we did however see a lot of St. Clair – and he immediately noted that “you can't miss it – it's on your right on the hill at the second traffic light.” Yep! The next day we found the large building on the hill surrounded by manhole covers that were left over from previous production runs. We found a man walking to his car and asked where the office might be. He directed us to a side door where we were greeted by a man wondering what we wanted. We're sure his feeling when we told him who we were and what we were looking for was who are these weirdos trying to find information on a lamp that was 130 years old. Anyway, he invited us to his office where we explained our visit. He fired up his computer and looked at Hal's website ([www.halslamppost.com](http://www.halslamppost.com)) for the lamp we mentioned. It turns out that Google was slightly wrong. The Quirin Machine Shop was out of business but the building was leased to another machine shop. He then picked up the phone, made a call and 10 minutes later a man carrying a

Quirin Davy lamp showed up. The man was Ed Quirin, great grandson of Peter Quirin who made the lamp. What a find! We spent the rest of the day discussing his family, the original foundry and even visiting his home where a number of models and products from the business were on display. His pride and joy was that Davy lamp displayed prominently in his home. He directed us to the original location of the Quirin Brass Foundry but sadly it was an empty lot. We eventually left St. Clair thanking him profusely for sharing his knowledge of the lamp. He was totally gracious but we think he was still wondering why two guys from New Mexico and Alaska would travel all the way to St. Clair to find out information on a mining lamp from the late 19<sup>th</sup> century. Now about the lamp... Shown in Figure 1 (previous page), the detailed description is a brass and iron Mauchline patent bullseye lamp, 10 1/2 in. tall to top of hook ring, 2 1/2 in. base dia., 2 1/4 in. glass lens, marked on top P. QUIRIN MAKER ST. CLAIR. with flat wick and two wick lifters. The font, burner section and top bonnet are brass; gauze, support rods and hook are iron. The lamp matches the patent exactly. Extremely rare lamp manufactured early to mid-1880s by Peter Quirin Brass Foundry, St. Clair, PA. The bullseye safety lamps are highly sought after by collectors. Patented by Robert Mauchline of Shenandoah, PA as patent No. 307,210 awarded Oct. 28, 1884, the patent lamp shown below in Figure 2 has also been referred to as Mauchline's Headlight or Bull's Eye Surveyor Lamp.

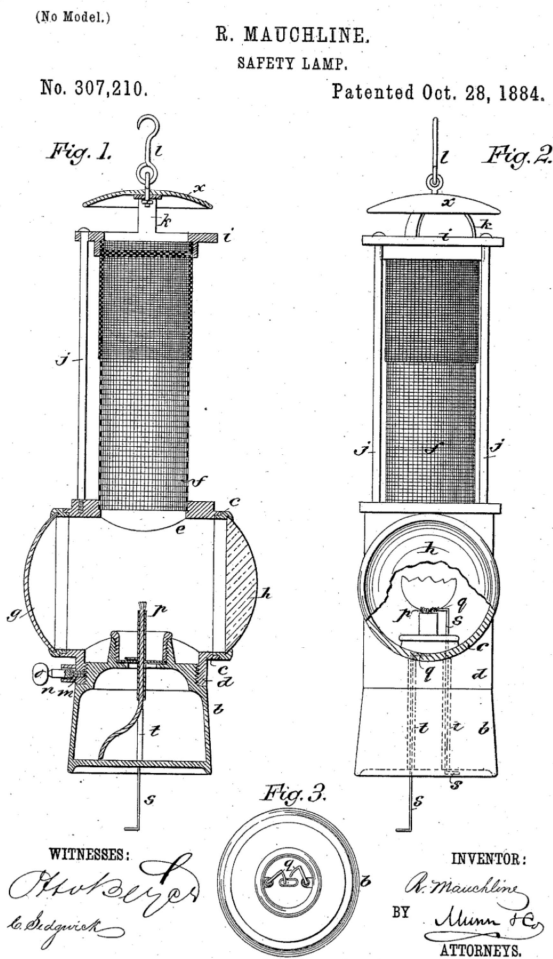


Figure 2 Mauchline safety lamp patent

The latter reference as a surveyor lamp seems problematic since the patent application does not associate it with any surveying application. Nevertheless the surveyor reference seems to have stuck. Mauchline (1837-1899) was the district mine inspector for District 2 of the Pennsylvania Anthracite Coal Field from 1881-1885 and author of the popular mining reference *The Mine Foreman's Handbook of Practical and Theoretical Information* in 1887. At least three US manufacturers have made safety lamps based on the Mauchline patent. James Everhart Maker and Hughes Bros. both of Scranton, PA have known models, all of which incorporate side openings in the burner tube compartment which the patent does not include. An Everhart bullseye lamp is shown in Figure 3 and a Hughes model is shown in Figure 4. An ad in the July 31, 1886 *Mining Herald and Colliery Engineer* shows that the Scranton Brass Works, James Everhart, Manufacturer was already producing the bullseye lamp as of that date. However it is likely the earliest manufacturer of the lamp was the Quirin Brass Foundry of St. Clair, PA, less than 10 miles away from Shenandoah and Mauchline. It is also telling that the Quirin model is an exact match to the patent lamp unlike both the Everhart and Hughes models. As noted in

the patent description, one end of the burner tube section is equipped with a concave reflector and the other end with a plano-convex glass lens. The lens has a focal distance of 1 1/4 in. with a curvature to illuminate a 50-deg. arc. The light is so concentrated that work can be done 30 ft. from the lamp and the lens renders the lamp more efficient as a detector of gas by making the elongation of the flame more visible in an explosive mixture of gas environment. The lamp is equipped with two wick lifters on either side of the flat wick. An interesting aspect of the Quirin lamp concerns the iron gauze. It is likely that significant use underground in a wet environment would require replacement of the iron gauze. Unfortunately, the gauze retainer ring inside the lamp is of such a diameter, it cannot be removed! While some Everhart and Hughes bullseye lamps have a screw off lens that could facilitate removal, the Quirin does not. The lens and reflector are pressed in to the burner compartment and removal would be very difficult.



*Figure 3 Everhart bullseye safety lamp (Tony Moon collection)*



*Figure 4 Hughes bullseye safety lamp (Dave Gresko collection)*





*Figure 5 Ed Quirin holding his Quirin Davy lamp*

The Quirin bullseye lamps are quite rare with two, possibly three known examples in collections. Peter P. Quirin of St. Clair was born at St. Ingbert, Germany in 1835, one of five children born to parents Johann Quiring (the g was dropped at some point) and Barbara Schweissthal. He came to America in 1853 and settled in St. Clair in 1854. In 1856 he married Catharine Stief and fathered seven children, five daughters and two sons, Peter and John. As a trained master mechanic, he commenced his machine shop business in 1870 and opened a brass foundry located on South Nicholas Street in 1875. The machine shop took care of repairs for the machinery of the various collieries around town including the Wadesville shaft sixteen. It is thought he made the Mauchline patent lamp sometime prior to 1884. The relationship between Quirin, Mauchline and Everhart is intriguing. Quirin had been in business in St. Clair nine years prior to the patent award. It is highly likely that Mauchline as a district mine inspector and Quirin's work with collieries in the area made them quite familiar with each other. Mauchline's interesting note in his patent application states that he was aware that a lamp had been provided heretofore with a

concave reflector and lens on opposite sides of the burner, (likely Quirin's lamp?), and that he did not wish to claim that in his invention. His patent drawing is quite detailed, as a machinist might prepare, and matched exactly the Quirin lamp. One could conjecture that an agreement between Quirin and Mauchline permitted Mauchline to file the patent for the lamp already made by Quirin for considerations to Quirin, perhaps cash as well as sole-maker status. Everhart's known ad in 1886 and quite possibly even earlier confirmed that Everhart was already manufacturing the Mauchline patent lamp with notable changes from the patent drawing. Everhart was a major foundry in Scranton while Quirin's business was machinist's work with a very small foundry. Again, one could conjecture that Quirin and Everhart as well as Mauchline reached an agreement whereby Everhart obtained the rights to manufacture the lamp for cash considerations to Quirin and/or Mauchline. Only the fly on the wall of Quirin's foundry when these discussions might have been held knows exactly what happened. Discussions with Ed Quirin, shown holding his prized Quirin Davy lamp in Figure 5, seem to support our conjecture. The front page history of the Quirin Machine Shop product manual states that Peter Quirin invented a miner's safety lamp in 1883 (Figure 6).

That's the family's position. To the rest of us, it's a mystery unlikely to ever being solved. Quirin was also an inventor of note, credited with patents for Improvement in Miners' Tools (patent No. 165,580 awarded July 13, 1875) and a Nonfreezing Water Hydrant (patent No. 341,687 awarded May 11, 1886). Quirin died in 1891. The Quirin family continued the

## HISTORY

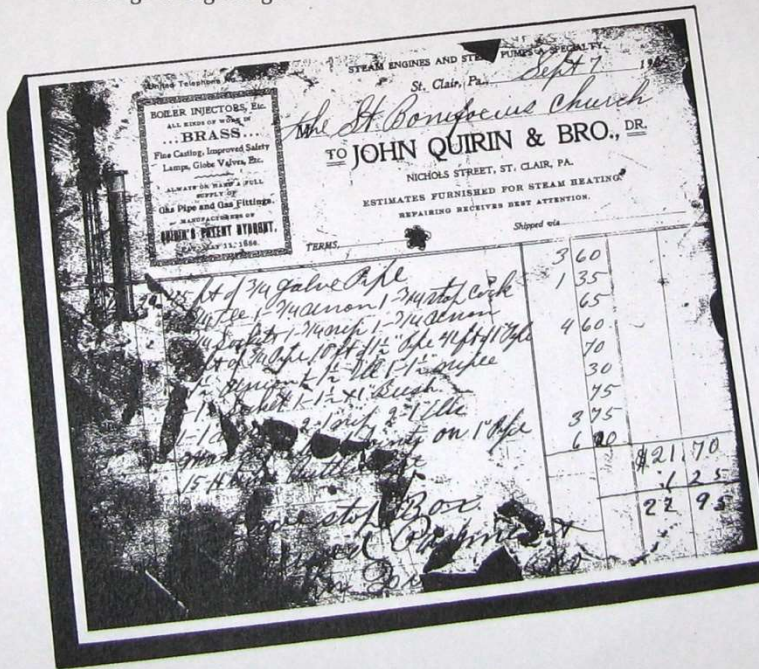
E.A. Quirin Machine Shop originated in 1870 when Peter Quirin, a German immigrant and master mechanic, opened a small machine shop in St. Clair.

As an inventor he patented a miner's safety lamp in 1883. He also patented a non-freezing hydrant in 1886. His machine shop manufactured the hydrants until 1918, and only family members were permitted to build the patented hydrant.

During this period and until 1950, they performed extensive work for the local coal companies—machining, repairing and manufacturing for their needs. One of the most common items manufactured was iron car wheels for the lokies that were lowered into the mines to bring out the coal.

With the demise of the coal industry, Quirin Machine Shop turned from car wheels to manhole covers and steel gratings which it manufactures to this day.

Now in its fourth generation of ownership, E.A. Quirin Machine Shop and Leed Foundry have grown to become one of the East Coast's largest manufacturers of construction castings and gratings.



### Serendipity

This invoice dated 1901 for \$22.95 apparently represents the entire cost of plumbing (materials included) a church rectory building. While working on restoring this personal residence (that same church rectory), fourth generation owner Ed Quirin found this document, issued by his great-grandfather, in the attic in a dusty pile of old paper work.

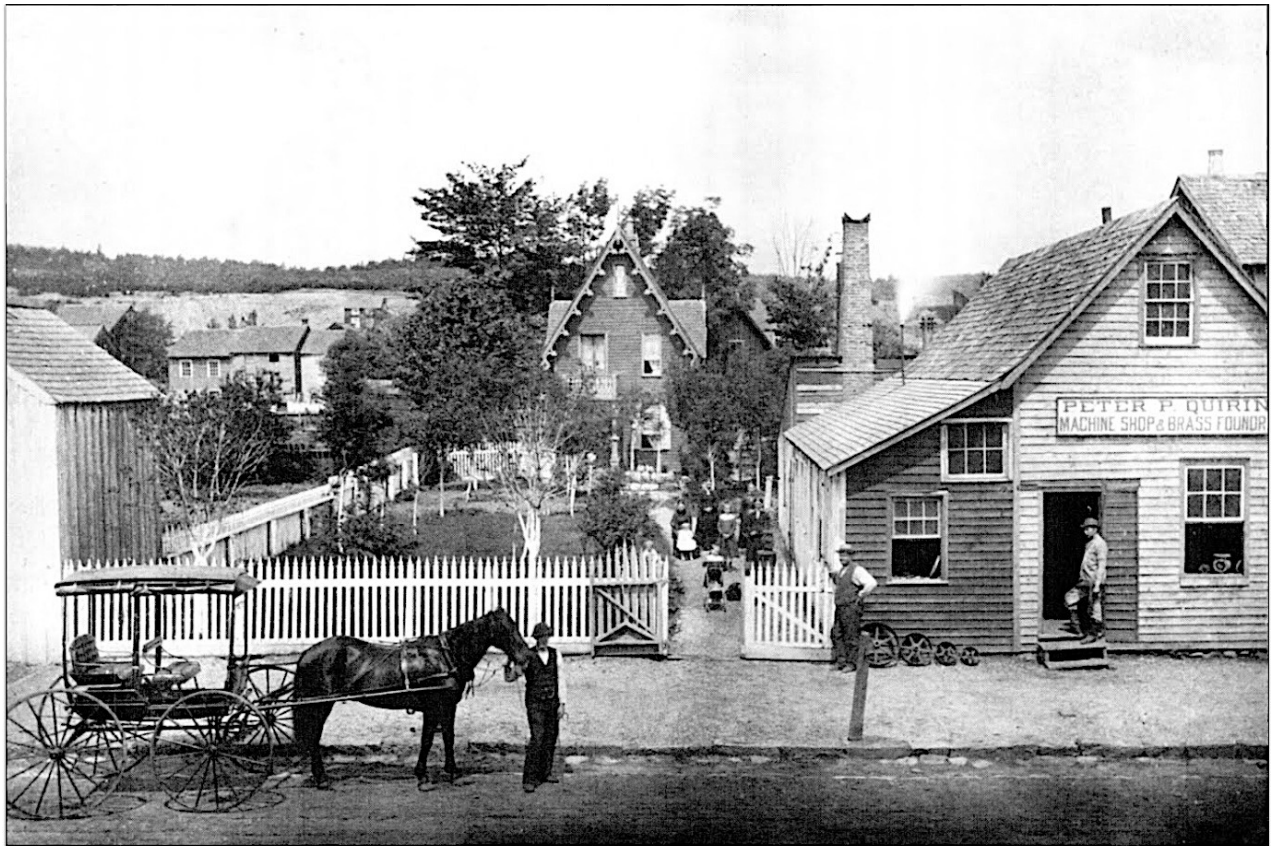
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**QUIRIN**

Figure 6 History page of E. A. Quirin Machine Shop product reference manual

business, moving the foundry to Hancock Street and then to a larger facility on a hill overlooking St. Clair where it ceased operation in 2011. Figure 7 shows an 1875 photo of the Quirin Machine Shop. A recent photo from March 2016 taken from a similar view across the street is shown in Figure 8. Nothing remains except an empty lot and part of the adjacent house.





Quirin's Brass foundry, located on South Nichols Street between Lawton and Carroll Streets, was the first location of a family-run business that continues to operate in St. Clair. Peter P. Quirin, an immigrant from Bavaria, settled in St. Clair in 1854. An inventor, he owned and operated the foundry until his death in 1891. Two of his more popular inventions were the Quirin's Safety Lamp and a nonfreezing fire hydrant.

*Figure 7 1875 photo of Quirin Brass Foundry*



*Figure 8 2016 photo of empty lot that was the Quirin Brass Foundry*