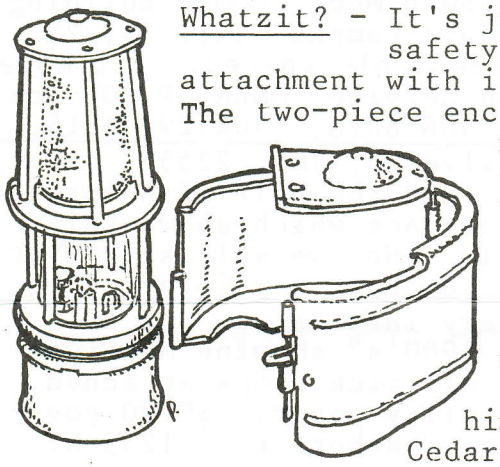
THE UNDERGROUND LAMP POST

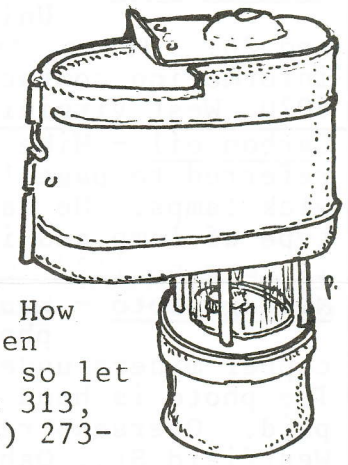
- MINERS WERE THE FIRST ECOLOGISTS -

Vol. V, No. 8 Spring, 1992

The Underground Lamp Post, devoted to old mine lamps, carbides, and candleholders. Mini-editor: Henry Pohs, 4537 Quitman St., Denver, Colorado, 80212



Whatzit? - It's just a plain aluminum baby Wolf safety lamp, left, but the strange attachment with it puzzles everyone who sees it. The two-piece enclosure made from stamped aluminum sheet is hinged at one end where it fits over the upper wire gauze section of the lamp. A sliding wire latch closes the other end to form an open chamber beside the lamp, right. What was it for? How many were made? Have others been found? Errol Christman has it, so let him hear about it . . . P. O. Box 313, Cedar Ridge, California, 95924, (916) 273-3268. Write your mini-editor also.



More Errol - We had the extraordinary opportunity to visit Errol Christman at his home last April and to see and to study his outstanding collection of mining lights. Undoubtedly, Errol has the finest private display we have ever seen. His gallery includes so many one-of-a-kind items that it is difficult to comprehend. As many have said, "His carbide cap lamp collection is second to none."

We owe a large debt of thanks to Errol for his time, kindness and hospitality. Errol also hosted many other northern California collectors while we were there. We were able to finally meet many of our long-time correspondents. Thanks also to each of them for their time, patience and interest. A special thanks is due to Dr. Bob Kraft for his extra care and attention.

Trades - John Podgurski, 24 Hemlock Lane, Elysburg, Pa., 17824, has a list of carbides, oil wick lamps and safety lamps he needs. He also needs many parts, reflectors, braces and cap lamp bottoms. Write John for detailed information.

Will buy - Harriet Schon, 20002 Willowcreek Circle, Sun City, Arizona, 85373, wants to hear from you about buying mine lamps.

Bicycle lamps - John Schlachter, 5701 Bramble Ave., Cincinnati, Ohio, 45227, writes that he is still looking for carbide bicycle lamps.

Safety lamp name - Susan Dalton, 880 E. Osage, Apache Junction, Arizona, 85219, has sent a photo of a flame safety lamp marked "02 OSTLER". We do not have this name in our records. Can anyone tell us and write Susan about this name?

Addresses - Paul Kouts and Gary Doolittle have disappeared from the delivery system of the USPS. If anyone has current addresses for either, we sure would like to hear from you. Thanks.

Sales and trades - Ron Bommarito, Box 1, Genoa, Nevada, 89411, says that he has candlesticks, molds, scales, carbides, maps, photos, candles and other items that mining collectors like. He likes hardbacked photos of Nevada mining and other things. Ron emphasizes that while he is in the antique business, he is more of a collector than many think.

Eureka! - Another mining antiques journal has begun publication. Eureka!, the Journal of Mining Collectibles, is produced by collectors for collectors, and has as its goal the sharing of information on the history, identification and preservation of mining artifacts. Eureka! is published four times a year, subscription rate $25 per year. For further information write the editor, Jim Van Fleet, 222 Market St., Mifflinburg, Pa., 17844.

Swap Meet - Western U.S.A. Mining Antiques Swap Meet, Saturday, June 20, 9:00 AM, at the Errol Christman estate in Cedar Ridge, California. No entry fee. . . trade, sell, photograph, learn. Contact Errol at (916) 273-3268 for more information.

Another Meet - Eastern Mining Artifact Collectors Swap Meet, COMER Building, University of West Virginia, Evansdale Campus, July 24, 25 and 26. Tours, films, music, libraries and 30 free table spaces. For more information contact Gay Bindocci, Mining Extension Service/COMER, P. O. Box 6070, West Virginia University, Morgantown, WV, 26506-6070, (304)293-4211.

Carbon oil - Mike McLaughlin, P.O. Box 607, Spotsylvania, Va., 22553, has referred to page 1 of the Spring, 1991, Lamp Post, and the pair of unmarked wick lamps. He has sent copy of a hardware catalog page which shows this type of lamp and identifies the use of "carbon oil." Now we all ask, "What is carbon oil?" Contact Mike or the Lamp Post if you have any information.

Mining photo - Robert Fox sends the following: Very interesting 8 x 10 photograph titled "Copper Miners - 1900's" showing Michigan copper miners underground wearing hats with their oil wick lamps attached. The photo is hand printed and toned on archival quality paper. $9.00 postpaid. Overseas requests add $2.00 air mail postage. Robert Fox, 1235 N. Westfield St., Oshkosh, Wisconsin, 54901.

Koehler lamp? - Christian Tauziede, 6 Rue Audronet de Cerlean, 60550 Verneuil en Halette, France, writes that he recently bought a Koehler safety lamp which is stamped on the bottom "KO-PAX SAFETY LAMP, MARLBORO, MASS., U.S.A." He would like to know more about this lamp and if or how it is related to Koehler. He also needs a relighter for this lamp. M. Tauziede also has French carbide lamps and a Polish safety lamp for trade

Alcohol lamp - Phil Curtin, 601 Twin Oaks, #1306, Temple, Texas, 76504, would like to know more about an alcohol lamp marked "STAYS A LITE Booth Pat. Aug 9 10, Mfd. by Mathias Klein & Sons, Chicago." It is brass, 7.7 in. (195.58 mm) tall and 1.75 in. (44.45 mm) diameter. Photos are available. Phil has the following items for sale or trade: a brass BIG BOY carbide hand lamp, a brass BALDWIN carbide cap lamp, a nickel-plated BALDWIN superintendents lamp, and a brass SIMMONS carbide cap lamp. He needs a DEW R LITE valve and water door, a nickel water door for a JUSTRITE super lamp, a reflector and tip for a SUNRAY, a set-screw reflector for a BALDWIN, a reflector and brace for a VICTOR, and flat blades and spade blades for AUTOS and GUY'S DROPPERS.

Need - Your mini-editor still needs a water door for a LITTLE GIANT and FULTON and IMPERIAL bottoms for X-RAY-type carbide cap lamps. Thanks.

Safety Lamps - Pages 3, 4, 5, and 6 begin a long series on safety lamps.

Acknowledgements _ We apologize if this issue of the Lamp Post seems late, but this is a result of our new time schedule and of our lamp trip through Utah, Nevada and California (Errol Christman). The Lamp Post continues because of the interest and the generosity of many readers and correspondents. . . printing for this issue from Tennessee, envelopes from Colorado and postage from California, Colorado, Arizona, Missouri, Nebraska, West Virginia, Oklahoma, Canada, Washington, Oregon, Kentucky, New Mexico, Idaho, Pennsylvania, Massachusetts, Maryland, Nevada, Florida, Michigan, Connecticut, Wyoming, Illinois, France, Texas, Ohio, and Minnesota. Also, many thanks for all the comments and suggestions.

Printed by J. Whidby - Byron's Graphic Arts, Maryville, TN 37804

Flame Safety Lamps - The flame safety lamp family is a very difficult lineage to divide or to even describe. It is so large a field and its features are so interrelated that any short explanation leaves many questions about other aspects of the genre. The questions of gas testing nad underground illumination in gaseous mines are bound together. We can count over 400 manufacturer's names on flame safety lamps world-wide . . . there are dozens of specific types of lamps. The safety lamp was not invented per se. Rather it evolved over several decades. Three men separately and independently (although there was some incidental correspondence) achieved their own version of a "safe lamp." George Stephenson, a mechanic, Dr. William R. Clanny, an interested physician, and Sir Humphry Davy of the English Royal Academy, all experimented with several designs of their own. Davy's short (speedy) laboratory study of the properties of mine gases and the containment of a flame therein is still one of the classic examples of the application of science to pragmatic problems. Each developed a type of lamp which carried their name. None of the three claimed honors or recognition for having invented anything. Their followers later were to argue the heierarchy and the merits of the three types of lamps. Many other scientists, inventors, tinkerers and manufacturers followed over six decades with further developments and improvements. And, to no ones surprise, government commissions pondered!

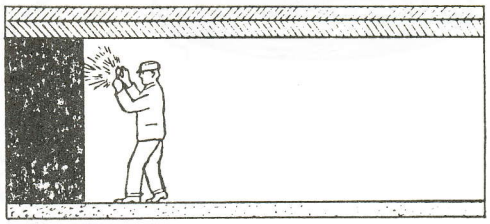
This short display of successive developments will only touch on the grand story of the flame safety lamp. Our three-column dated chronology of Stephenson, Clanny and Davy is far too ambitious for this little newsletter as is our 210-page manuscript on the subject.

The 'Fireman' or penitent. In the days of small mines and before the invention of safety lamps, it was the custom for one of the more resolute miners to wrap himself from head to foot in damp sackcloth (penitent in France) and to arm himself with a ten-foot pole on the end of which he stuck a lighted candle. With this in hand, he travelled the underground workings. When he came to a working face he crawled on his hands and knees into the face with the candle close to the ground. When he arrived at the very face of the works, he burried his own face in the wet sacks, raised the end of the stick, and the candle ignited any gas or firedamp present. The place was then considered safe for the ordinary miners to come to work.

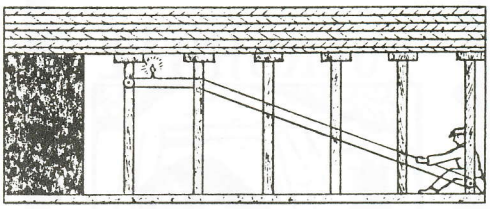
Today, a 'fireman' in a mine is a junior official in charge of a section of the mine where he is responsible for the safety of the workmen under his charge.

Louis Simonin

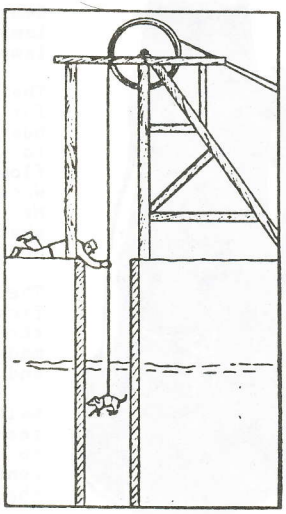
Underground Life
Fig. 70, following page 164

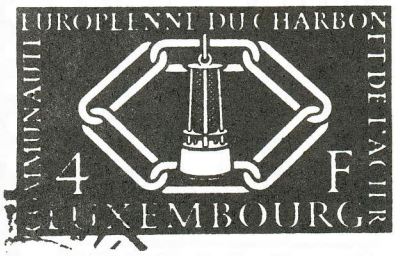


Testing for gas with a candle as shown in a West Virginia Iniversity publication, "History of Mine LIghting" by E. N. Zern.

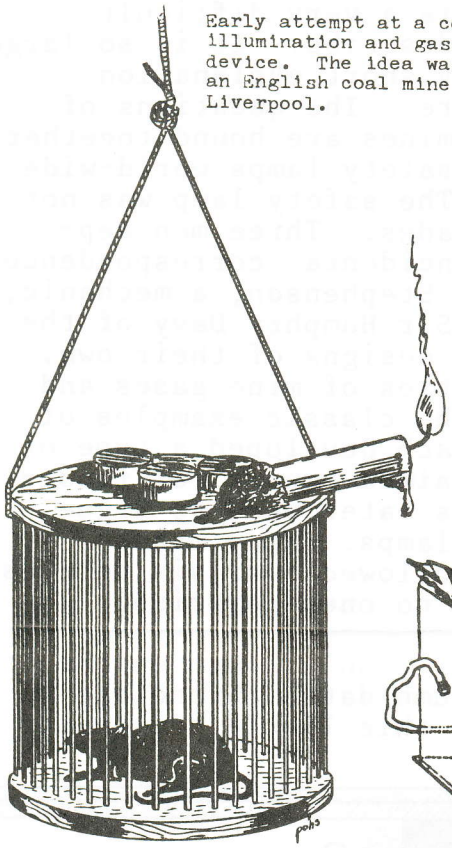


Testing for gas with a candle attached to an endless rope as shown in a West Virginia University publication, "History of Mine Lighting" by E. N. Zern.

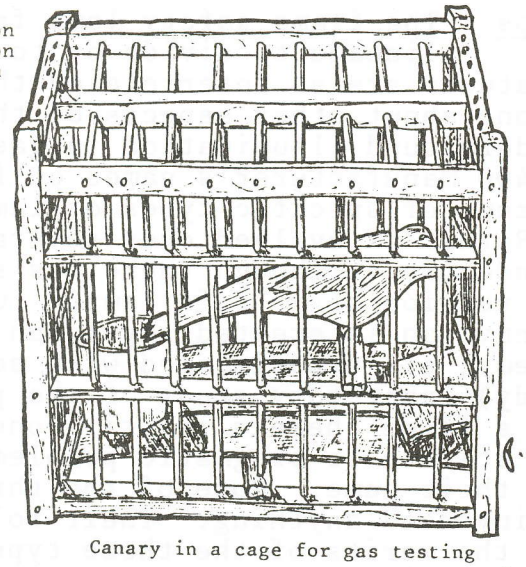




Testing for mine gas in the shaft as shown in a West Virginia University publication, "History of Mine Lighting" by E. N. Zern.



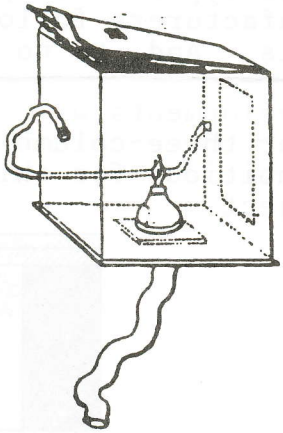
Early attempt at a combination illumination and gas detection device. The idea was used in an English coal mine near Liverpool.



Canary in a cage for gas testing

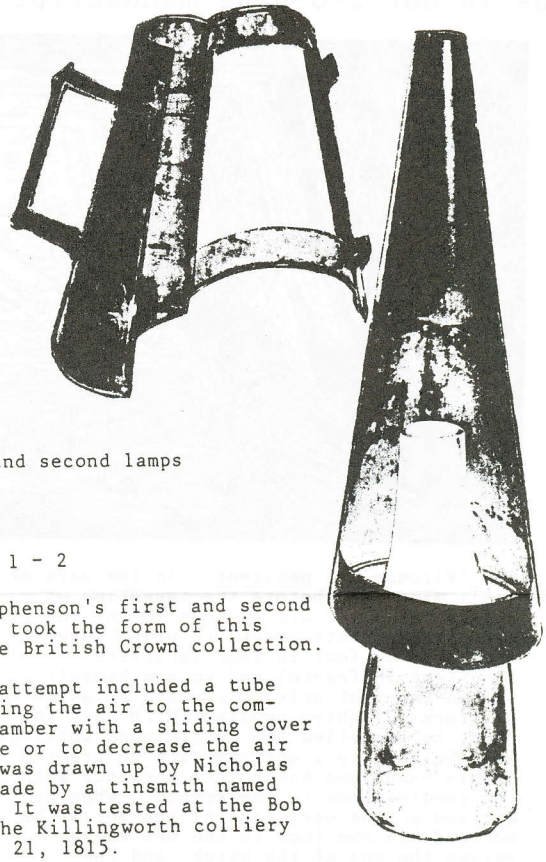
Flame safety lamp proposed by Dr. John Murray in November, 1815.

Hardwick and O'Shea
Transactions
p. 593



Flame safety lamp proposed by Mr. R. W. Brandling in 1816.

Hardwick and O'Shea
Transactions
p. 593



Stephenson 1 - 2

Stephenson's first and second lamps in assembled form.

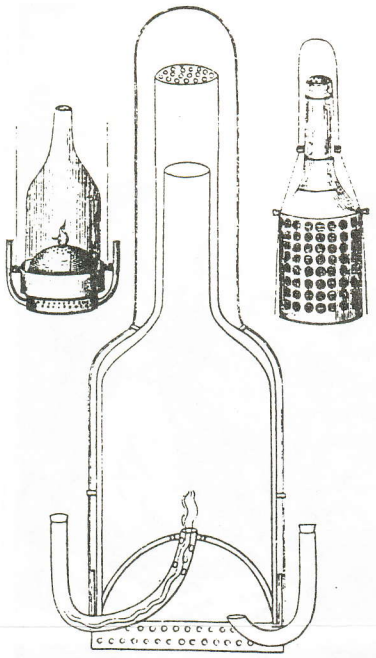
Stephenson 1 - 2

George Stephenson's first and second lamps both took the form of this lamp in the British Crown collection.

The first attempt included a tube for admitting the air to the combustion chamber with a sliding cover to increase or to decrease the air flow. It was drawn up by Nicholas Wood and made by a tinsmith named Mr. Hogg. It was tested at the Bob shaft of the Killingworth colliery on October 21, 1815.

The second lamp was a slight modification of the first. It used three tubes to admit the air. It was made by a plumber named Henry Smith and was tested Novmeber 4, 1815.

Neither of these lamps worked when tested underground which has led to some of the Stephenson-Davy controversy over who "invented" the first safety lamp.



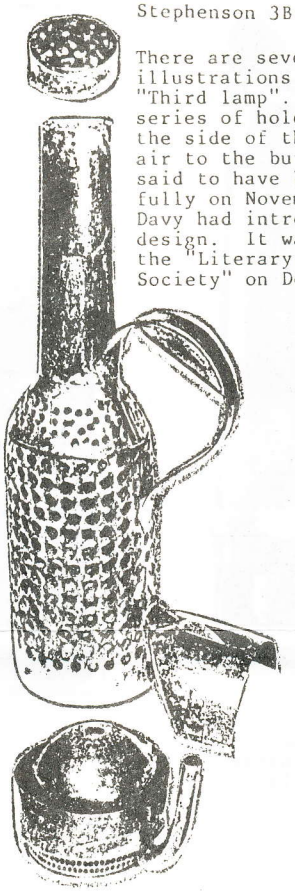
Stephenson 3A

Drawing of an early Stephenson safety lamp. There is no evidence that this lamp was ever made or tested. The drawing may represent an improved idea developed from the first two Stephenson lamps.

Hardwick and O'Shea
Transactions
P. 574

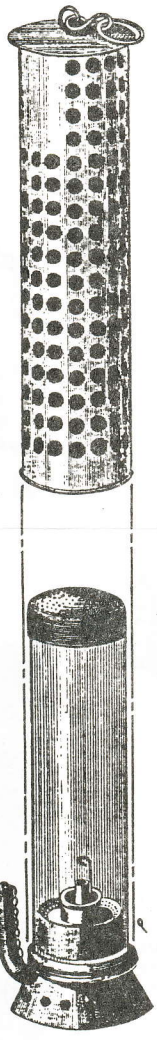
Stephenson 3B

There are several reports and illustrations of Stephenson's "Third lamp". This lamp used a series of holes in several rows in the side of the font to admit air to the burning chamber. It was said to have been tested successfully on November 20, 1815, after Davy had introduced his wire gauze design. It was also described to the "Literary and Philosophical Society" on December 5, 1815.



Stephenson 3B

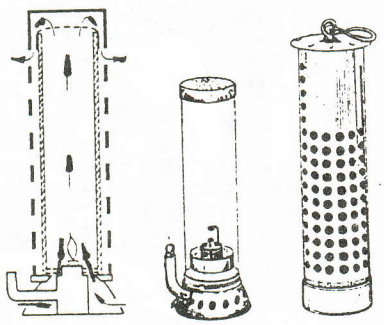
Stephenson's third lamp in assembled form.

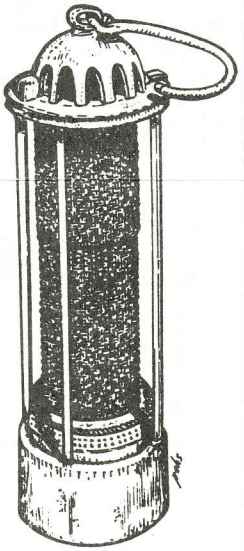


Stephenson 3C

Drawings of a lamp of this design are found in several texts and are often described as Stephenson's "third lamp". Some are erroneously called "Stephenson's Geordie".

If ever actually made for general use, it was about 1816 to improve on the series of horizontal holes for air admission. A perforated steel cylinder covered the glass above the flame.

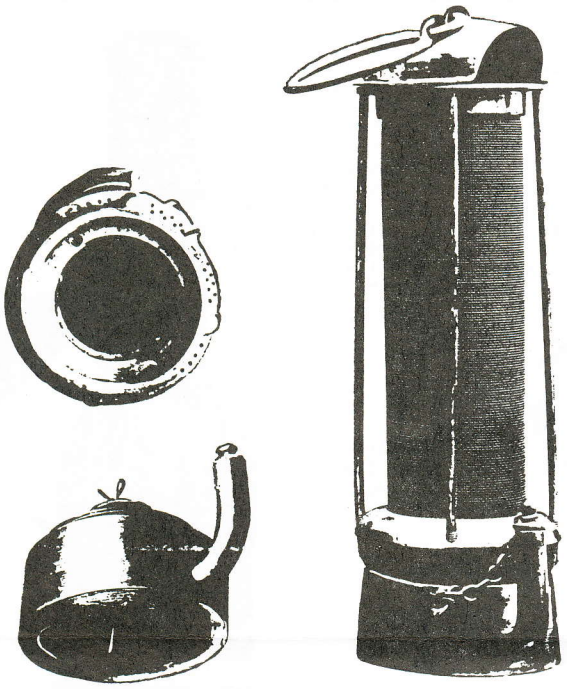




Stephenson 3D

Final form of George Stephenson's third lamp (1820-1830) which was known as the GEORDIE, the difinitive of his first name.

Stephenson finally adopted Davy's 1815 gauze by using it outside a glass cylinder and added a screw lock at the dome for security.



Stephenson 4

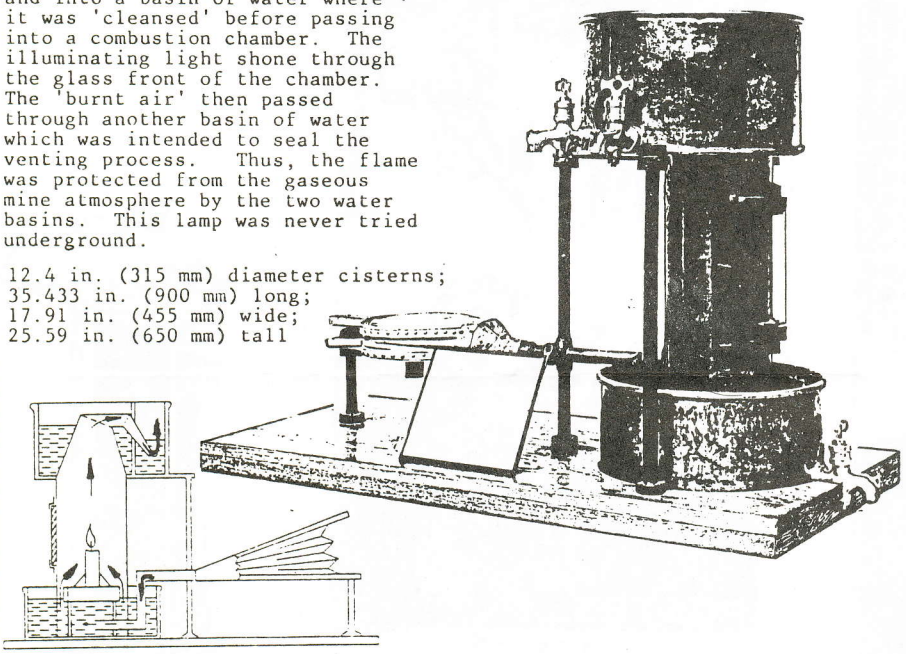
By 1850 Stephenson's fourth lamp design had incorporated some of the Davy Newcastle designs and continued to use a gauze outside the glass.

A painting of George Stephenson and his family with the Killingworth Colliery in the background. The inventor, Stephenson, holds a model of his GEORDIE flame safety lamp in his right hand.

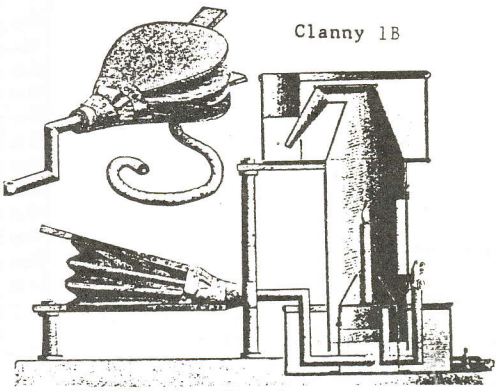
Clanny 1A

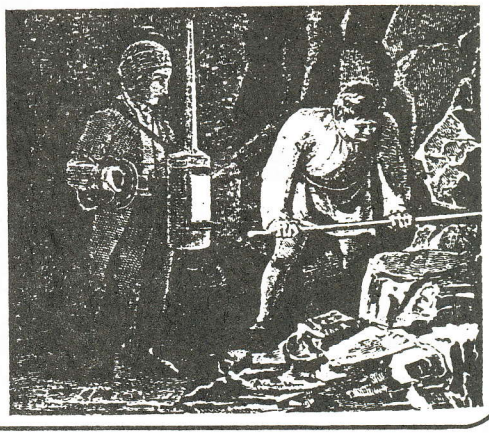
Replica of Dr. William R. Clanny's first attampt at a flame safety lamp. This laboratory model was used to demonstrate the theory of forcing air through a bellows and into a basin of water where it was 'cleansed' before passing into a combustion chamber. The illuminating light shone through the glass front of the chamber. The 'burnt air' then passed through another basin of water which was intended to seal the venting process. Thus, the flame was protected from the gaseous mine atmosphere by the two water basins. This lamp was never tried underground.

12.4 in. (315 mm) diameter cisterns;
35.433 in. (900 mm) long;
17.91 in. (455 mm) wide;
25.59 in. (650 mm) tall



Clanny 1B





Clanny 1C

Dr. William R. Clanny's first 'blast' lamp as tested in the British mines. The mine boy worked the bellows to force the air through the water and combustion chambers. The tests were unsuccessful as the light was quickly estinguished.