

# THE TREVITHICK SOCIETY

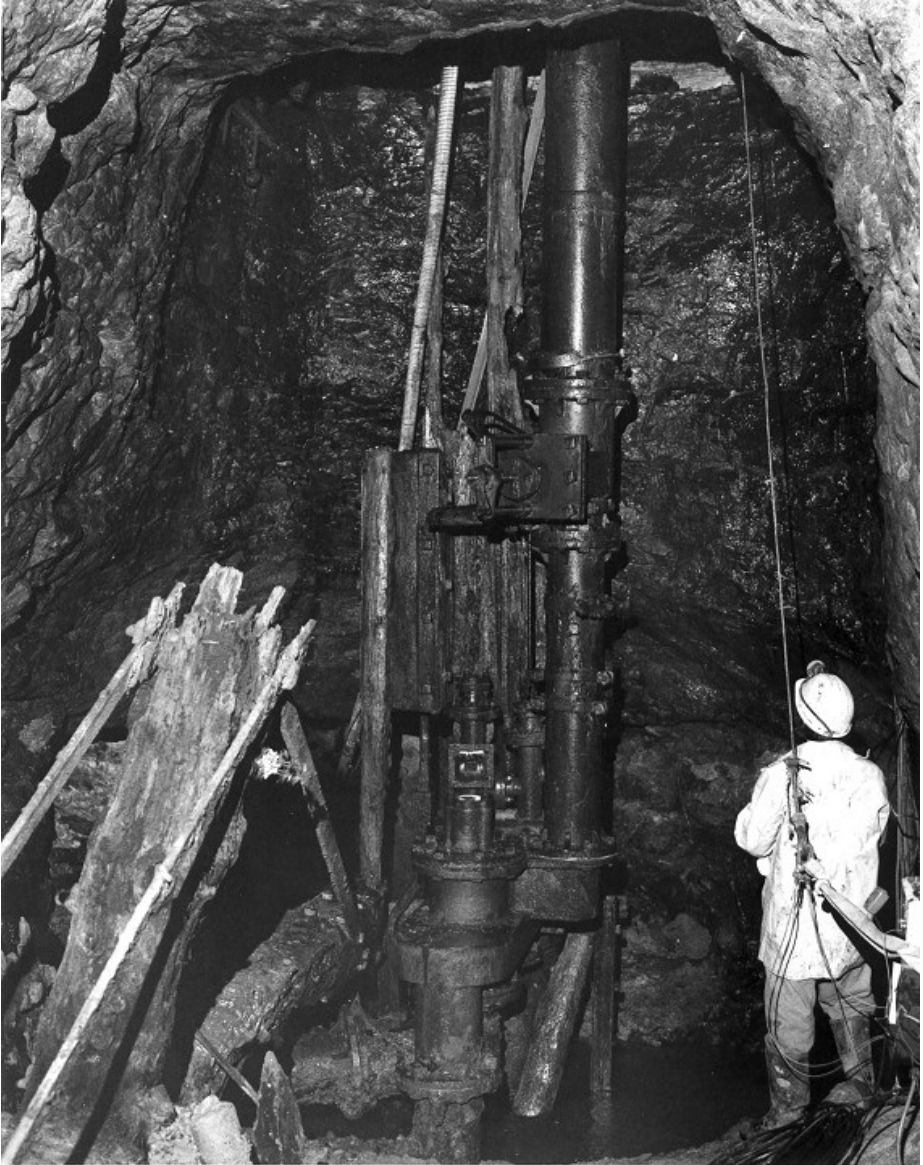


Photo by Harry Parker, 1976. The Trevithick design water-pressure engine as found 360 feet down the Wills Founder shaft at Winstar. Most of the engine is buried, but the valve chest, crosshead, falling main and the balance bob are visible. The top lift of pumps goes down a further 120 feet, the second lift is still *in situ*.

## CHAIRMAN'S ADDRESS

What's in a name?

Elsewhere in this newsletter the president of the Trevithick Trust writes of its life and demise. Since its establishment some ten years ago its name has caused considerable confusion.

Whoever suggested that the Trevithick Trust should have been so named, and the thoughtless ones who agreed with him or her have provided the officers and members of both bodies with continuing headaches.

Those of us who delivered lectures were frequently introduced as appearing on behalf of the other body; this led to the inevitable embarrassing correction at the start of each address. The general public never understood the differing purposes and backgrounds of the two bodies and the media very seldom got it right.

When the closure of the trust was imminent, we advised as many sections of the media as we could that the society was hail and hearty, not going out of business and was about to celebrate its 70<sup>th</sup> birthday. One section we missed was television's teletext pages where it was declared that, 'after fourteen years the Trevithick Society is closing down'. It is not easy to reach whoever types those pages on your screen and phone calls were rerouted throughout the country before the error was corrected.

Many of us, wishing to keep abreast of Cornwall's heritage and industrial archaeology, were members of both organisations. Following the co-ordinated efforts by officers of both bodies to advise the members of the trust of the society's activities we are delighted to welcome all those previous trust members who have now joined the society.

We hope that your membership will be a long and fruitful one and that your association with the society will be something that you will enjoy.

We look forward to hearing from you and will be pleased if you would join us in any of our activities.

As a memento of the trust and a reminder of the association between the two bodies, a couple of Trevithick Trust post cards are being enclosed with this newsletter.

**Philip M Hosken**

## EDITORIAL

Ever since we moved the AGM to May the publication dates for the Newsletter has gone into a state of flux. I hope to regularize it in 2005 with newsletters appearing in March, June, September and December.

In the last newsletter I stated that the West of England Traction Engine Society rally in August 2005 is being extended to five days. That is not now the case, and it will be the usual three day event. Nevertheless, it promises to be something special to celebrate the 50th anniversary of the that Society. As 2005 is the 70th anniversary of the Trevithick Society (and our Chairman!), we intend putting on a sizeable display at the St. Agnes rally, with a variety of exhibits in a marquee to show the range of activities undertaken by the Trevithick Society.

As newsletter editor, it is always nice to receive correspondence from members and particularly from far flung places. Recently, I have had some very interesting letters from Mr. T. Saito in Japan and am very glad to say that his English is much better than my Japanese.

**Copy date for next issue is February 12th, 2005**

**Colin French**

## LETTERS TO THE EDITOR

Dear Editor,

I have recently become very interested in the tin mining history in Cornwall (my parents live across the way from the Geevor mine in Pendeen). I have come across clips from two films that I would very much like to see on the BBC Nation on film website - <http://www.bbc.co.uk/nationonfilm/topics/tin-mining/>

In particular I would like to know where I can obtain copies for personal use of "Once Upon a Mine" and "The Last Mine" - VHS or DVD format. I have searched the web but cannot find anything. I'm sure they must be available somewhere!

**Mark**

mark@amersham.force9.co.uk

Dear Editor,

### *Mining in Cornwall vol. 6*

For those of you who have purchased the above book, I felt it would be helpful to have the following list of comments:

Page 10: Gaved's engine was only used for hoisting unlike others in the clay area.

Page 14: Goonvean engine, built by Harvey & Co. 1863 for Penhalls Mine, St. Agnes.

Page 19: Rostowrack engine now preserved at King Edward (currently in store).

Page 22: Wheal Martyn (not Martin)

Page 23: (upper pic) This should be credited to Shell Film Unit.

Page 24: Unusual for drive to flat-rods direct from crankshaft.

Page 29: Story of the valve gear's disappearance an over-simplification!

Page 30: Wheal Blencowe not the subject of pic but New Terras. Wheal Blencowe is in a different location.

Page 37: Halviggan, should refer to rotative pumping engine.

Page 48: Par Harbour, the two locos are now preserved at Bodmin.

Page 53: I can't see the LSWR loco referred to.

Page 54: I can't see the Gaved's engine

referred to.

Page 79: The engine is now preserved at King Edward.

Page 80: Last sentence, Jack Trounson used a motorcycle, not a push-bike.

Page 83: Lower caption, line 6, words in parenthesis should read "(i.e. third stack from left)" not fourth.

Page 89: Lower caption, last sentence, the engine is not as described, but the Wm West horizontal whim with square stack (see page 82).

Page 96: Rule's, or Holman's, engine was a 70, not a 60. Close to it was a 40-inch engine, the house remains on show in both views.

Page 98: In lower picture the left hand house is Salisbury 70; the right hand one is one of the whims. The house of the 36 has not existed for many years, I believe.

Page 105: The cylinder of the 30-inch engine split due to overloading.

Page 107: Princess of Wales house contained a 50-inch engine. When converted to residential use it became a convalescent home.

Page 109: At Holmbush the house on the left contained a water-powered copper crusher, not an engine.

Page 114: Add: "The 80-inch engine house has become covered in ivy."

Page 116: Between "bottom" and "headgear" in lower caption add "80-inch engine house".

Page 117: Drakewalls engine houses should be identified. Nearest camera is the 28-inch stamps engine. Behind, left, is Matthews' 50-inch engine, while behind, right, is the 40-inch crushing engine house.

Page 122: At Cotehele Consols the house contained a 40-inch rotative pumping and crushing engine. The pumps in Old Engine Shaft behind the photographer were worked by a line of flat-rods.

Page 124: The left hand engine house at Wheal Langford did not have the 80-inch engine, but in the 1880s housed a 60-inch engine which came secondhand from West Cornwall. The house had to be lengthened at the rear because its previous occupant in the 1850s had a shorter stroke, and hence a shorter beam. The right hand house contained a 25-inch all-enclosed whim purchased with the 60.

The 80-inch engine which went to Old Ford

in London in 1838 stood in a house further down the hill and just out of the picture, left. It has recently been converted to a dwelling.

### **Kenneth Brown.**

The 2004 A.I.A. conference attracted an attendance of 112 delegates, and was based at the University of Hertford's new DeHavilland campus at Hatfield. Hosted by G.L.I.A.S., it featured some outstanding I.A.

## **A.I.A. CONFERENCE 2004**

field trips, taking in such sites as Bletchley Park, Waltham Abbey gunpowder mills, Maltings on the various rivers feeding the Lea valley, and the R.A.F. museum at Hendon.

As is now customary, proceedings opened with a seminar day on Friday August 13th, covering such topics as *The re-use of historic aviation buildings worldwide* (John King); *the Grahame-White factory* at the aforementioned R.A.F. museum, which holds a considerable collection of W.W.1 aircraft, some genuine and some replicated (David Keen); the Royal Arsenal at Woolwich; Sub Brit chairman Paul Sowan on *Underground chalk mines and quarries*; *Water supplies to the Grand Union canal* (Henry Gunston and Adrian Bayliss); and finally, all the way from Maastricht, Joep Orbons on *limestone quarry conservation in Holland and Belgium*.

Following these excitements came Friday's evening lectures on the I.A. of the area, given by Tim Smith and Dr. Jim Lewis.

On Saturday morning the subjects covered were *Hertfordshire's I.A. and the planning process* by Jonathan Smith; Amber Patrick on *the Maltings industry*; *Paper making* by Dr. Richard Hills, and *Gunpowder at Waltham Abbey* by Brenda Buchanan. That day's field trips offered Maltings or Paper making or a visit to the narrow-gauge Leighton Buzzard railway. The annual conference dinner was held in the evening.

Sunday morning featured the presentation

of A.I.A.'s awards. These now comprise the best I.A. publication award; a student essay award; the Conservation Dorothea award, this includes a cheque for £500 and was won by the Swannington Heritage Trust; the fieldwork and recording award (Mike Nevell and John Roberts); I.A. Student award, and of course, the President's award, which is limited to sites visited during the annual conference. Additionally, a lifetime achievement award was given to Stanley Graham for the Lancashire textile project which also includes Ellenroad engines, winners of the President's award in 2001.

After the association's A.G.M., at which Prof. Marilyn Palmer took over the chairmanship from Mike Bone, Dr. Dennis Smith delivered the Rolt Memorial lecture, assisted by L.T.C.'s widow, Sonia.

The afternoon again offered a choice of three different field trips - Hatmaking at Luton; Enfield and Whitewebbs, or Waltham Abbey. This latter venue was also used as half of one of the all-day field trips during the following week.

Proceedings then followed the tried and tested formula of having evening lectures on the subject of each of the two all-day field trips taking place the next day, concluding with *Garden Cities* on Thursday. This took an in-depth look at Letchworth (including a visit to the expensively-restored Spirella corset factory, which boasts the finest sprung dance floor in Hertfordshire on its top floor), then a coach tour of Stevenage and the industrial area of Welwyn.

Next year's conference, is scheduled to start on 2nd September at the University of Nottingham, hosted by Derbyshire Archaeological society, and will include the I.A. of the Derwent valley, and the Peak District.

**Roger Ford.**

## FRED DIBNAH

As Fred departs on his journey to that place where pressure never falls, bearings do not run and cogs don't lose their teeth, we loose a lovely person.

Fred Dibnah was a great natural entertainer. He appealed to millions who would never have dreamt of getting their fingers oily. He brought an understanding of Britain's industrial revolution into the sitting rooms of the country and made it both entertaining and fun.

I shall never forget Fred's astonishment and expletives when, on a visit to Camborne Trevithick Day, he read from his script that a steam engine could weigh as much as a thousand tons.

"Fred," I said, "your engines weigh less than twenty tons and they've got wheels on them."

He agreed. "Our engines," I continued, "were built into massive granite cathedrals and stood for all time in fields. You are now in Cornwall where Trevithick developed high-pressure steam and miniaturised the mighty engines, enabling them to run about on wheels."

Fred gave me one of those wonderful smiles and said, "Eeeh, I nefor relized thot!" and threw away his script.

For the rest of the morning he adlibbed his commentaries and it is fair to say that



he included a reference to the pioneering work of Richard Trevithick in high-pressure steam whenever he had the opportunity in subsequent programmes. Cornwall is very grateful to Fred.

Fred once said to me, "I'm a very lucky man. I do just as I like and they pay me for

it!" Now he has left on his last journey we all wish that he will continue to do just as he likes and know that we will always love him for doing it.

P.M.H.



## CORNWALL AND WEST DEVON MINING LANDSCAPE WORLD HERITAGE BID

The council of the Society is grateful to Nicholas Johnson, the Historic Environment Manager of Cornwall County Council, for the presentation he recently gave concerning the bid to UNESCO for our former mining industry to be listed as a World Heritage Site.

The Society is one of the partners in the bid and several of its members have closely assisted the council's team with details for the document that has to be submitted by February of next year.

The county council has accumulated a wealth of information from its own research and other sources that is far in excess of that required for the document. It is intended that the material in this resource will be used to publish a book concerning the bid and the great deal of the information that was acquired during the process.

It is certain that, should Cornwall be successful in its bid, there will be a substantial increase in the awareness of Cornwall's mining industry, the inventiveness of its engineering and its influence in the development of deep hard-rock mining throughout the world.

The suitable exploitation of these changes was also discussed.

**P.M.H.**



## THE TREVITHICK COIN, AN INVESTMENT OPPORTUNITY?

Readers may well be mystified by the apparent lack of the Trevithick £2.00 in their change. The numbers required by Cash Centres and Clearing houses has been pitifully low. We are advised that only five million coins had been distributed and stocks were exhausted. This makes the coin one of the rarest ever issued.

In 2003 almost 16 million £2.00 coins were issued. The figures have been much higher in previous years, often 30 millions a year, sometimes over 90 millions. The total of £2.00 coins issued exceeds 28,007 million.

The Mint offers no reason for this minimal issue; they say they merely respond to demand. It has been suggested that there maybe a desire on behalf of government to restrict the issue of these relatively expensive coins as they would all have to be recalled in the event of the UK adopting the Euro.

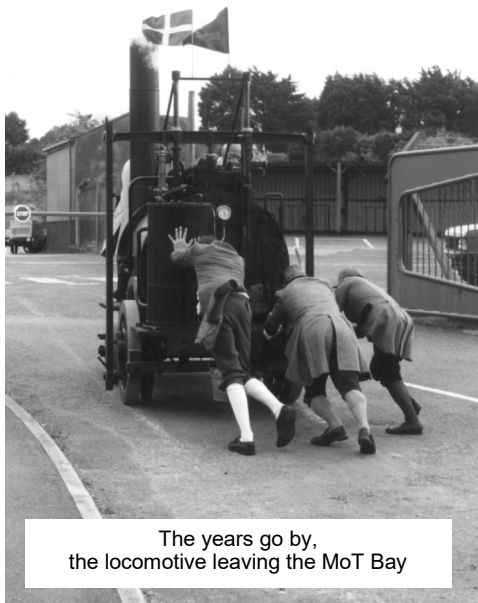
The rarity of this coin can only increase its value as years go by. We are informed that railway enthusiasts throughout the world are seeking them. Readers may wish to consider retaining any coins that may fortuitously come their way and start actively looking for them at the banks and Post Offices.

The Society has sold over 500 of the uncirculated £2.00 Trevithick coins in presentation boxes and has a few of these precious items left in stock at £7.50 including carriage from the curator.

Since 1997 the outer ring of a £2.00 coin has been made of nickel-brass and the inner portion is cupro-nickel. Did you know that, since 1992 the bronze 'copper' coins have been made of copper plated steel? Try one with a magnet.

**P.M.H.**

## CAMBORNE ROAD LOCOMOTIVE



The years go by,  
the locomotive leaving the MoT Bay

are also finding it difficult to maintain their active strengths. Hence the repeated appeals in this newsletter for volunteer help, without which we will struggle to maintain the diversity of activities that make this such a vibrant Society.

This is a busy time for the Society and as it has a full programme of work for its officers to undertake in the coming year, the council felt it was important that it should maintain its many activities within Cornwall's industrial archaeology and hopefully not just be seen as the guardian of the Trevithick locomotive.

It had been hoped to put the replica on permanent view in Camborne but those plans of the regeneration company have unfortunately fallen through. Whilst the Society is grateful to R. T. Quaife Engineering Limited for permitting the locomotive to be housed within its workshop, it is a very great pity that the pride of Camborne has not a place in the town where all can see it.

**P.M.H.**

The 1801 replica locomotive was built to commemorate Richard Trevithick's considerable contribution to Man's progress, the development of engineering and the Industrial Revolution.

So little was known about Trevithick that those concerned within the Society sometimes had difficulty explaining just what Trevithick achieved. Nevertheless, the project has been immensely successful and during the past four years the locomotive has appeared in steam some fifty times. It has become a television star in its own right and established Cornwall as the crucible of high-pressure steam engineering.

There have been problems with the maintenance, cleaning, preparation and operation of the locomotive, with the responsibility inevitably falling on the shoulders of just a few regulars.

Unfortunately, there was little response to the appeals for assistance in a previous newsletter and the West Briton newspaper. This is not an unusual state of affairs as voluntary societies throughout the country



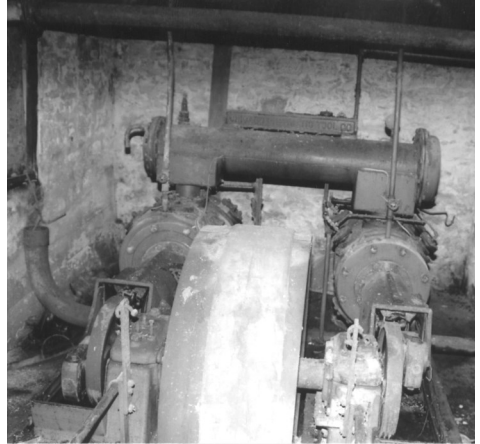
## RUSTON ENGINE

The Society is constantly surprised at "what comes out of the woodwork" and a recent telephone call was no exception. The caller said he was buying a property and an engine came as part of it. He had been told it was a diesel but he admitted he knew nothing about engines or engineering, however, he was willing to give it to the Society if we wished to have it. A group of the King Edward volunteers hence visited the property and were surprised to find the engine pictured here. It is a Ruston, twin 14in. cylinder, 4ft. stroke with a flywheel weighing in at an estimated five tons and it comes with the Chicago Pneumatic Co. compressor it drove. Current thinking is that the engine dates from about 1925 and it last worked in 1985 and is likely to be the only example of its type in Cornwall. Whilst there the group "barred" it over and it appeared free running.

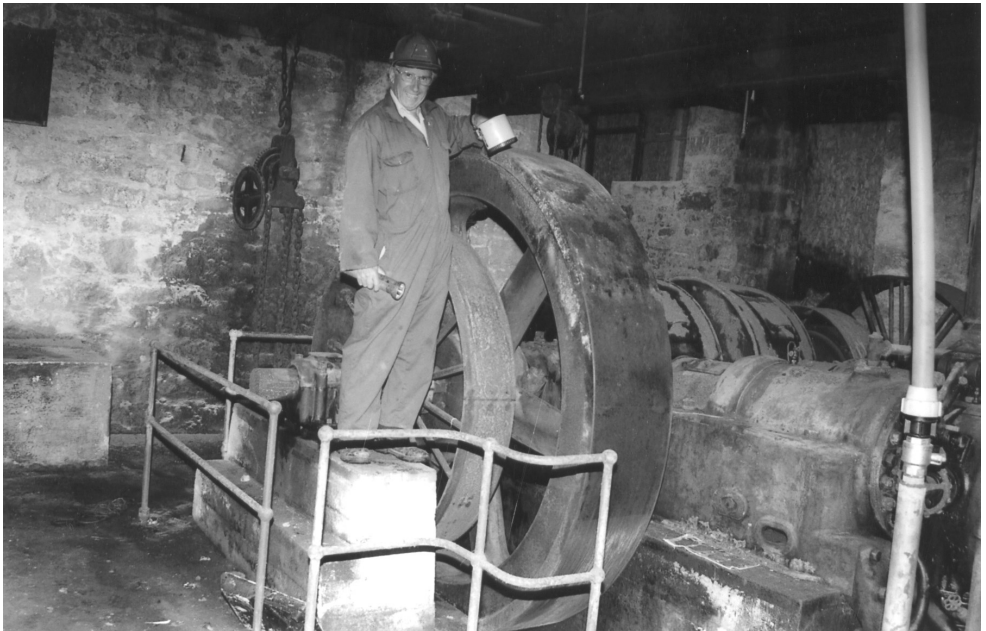
Rustons, a famous name in engineering produced many stationary engines, railway locomotives, excavators, draglines and cranes and have operated under many guises over the years. Ruston, Proctor &

Co. of Lincoln bought out Richard Hornsby & Sons to form Ruston & Hornsby, later becoming Ruston Bucyrus then Ruston Bucyrus Eire and, more recently, RB Cranes Ltd.

Photographs by Frank Kneebone. Above is the Chicago Pneumatic Co. compressor and below



is the Ruston diesel engine with Kingsley Rickard for scale.





## THE TUCKINGMILL FOUNDRY

There were three large iron foundries in Cornwall during the 19<sup>th</sup>.Century, Messrs Harvey & Co. of Hayle, The Fox's Perran Foundry at Perran ar Worthal, later to become the Williams Perran Foundry, and the Copperhouse Foundry, also at Hayle. Alongside these giants were many smaller, but very important foundries such as Holman Bros. of Camborne, Sara and Burgess of Penryn, the Charlestown Foundry, Wests of St. Blazey, Oatey & Martyn of Wadebridge, Bartles of Carn Brea, and others scattered through the Duchy. Many of these smaller foundries were sited in the Camborne Redruth area and supplied the large number of mines and other industries there. One of the more important of these was the Tuckingmill Foundry which by the 1850s was building small, but complete steam engines. (1). In 1761 George John obtained a lease of the old Tuckingmill for use as a foundry and was permitted to "use Dolcoath spare water without any prejudice to the mine at Dolcoath". At first it was called the Dolcoath Foundry, but later it became the well known Tuckingmill Foundry.(2).

The Tuckingmill Foundry commenced working circa 1837 by Mr. William Vivian, who had previously worked at the Copperhouse Foundry at Hayle. His uncle Mr. John Vivian Snr. worked the Roseworthy Hammer Mills and forge, situated in Gwithian parish since about 1815, but was succeeded by his sons Joseph and John Vivian. After ten years from starting the Tuckingmill Foundry, Mr. William Vivian purchased the hammer mills from his two cousins. (3)

"Mr. William Vivian carried on the works conjointly until about 1865 when he found it necessary, owing to severe strain on his financial resources, to transfer a large portion of his interest to a company with fresh capital. Soon afterwards Mr. Vivian's connection with the two concerns ceased. He acquired a small foundry at St. Agnes, the centre of an important mining district, and died in September 1870. Subsequent

proprietors have been; 1840-1860, William Vivian Jnr. and his sons, 1860-1868, Capt. William Teague, J.P., the well known mine proprietor, George Smith, J.P., safety fuse maker, Maj. John Bickford-Smith, M.P., safety fuse maker, William Bickford-Smith, safety fuse maker and who died 1898, John Pike, died 1874, Sir George Smith, J.P., fusemaker, John R.Daniel, solicitor, H.P. Vivian; 1904-1909, Sir G.J.Smith was the sole proprietor" (4)

In 1872 the Tuckingmill Foundry was enlarged (5) and the following year the Roseworthy Mills and forge was advertised to let on a term of either 7,14 or 21 years. (6) The company was organised into having 30,000 shares with £1 per share paid up in 1876. (7). The works was sited at Tuckingmill, near Camborne, and held a London office at 85 Gracechurch Street, London, EC.

The proprietors of the foundry and hammer mills gave the workmen an annual treat and over one hundred persons were taken to Falmouth in 1876, where an excellent dinner was provided at the Globe Hotel. The following year the Lizard was the selected location for the annual treat, when Capt. Roger Vivian, the manager of the foundry, accompanied the party. (8)

Over the years the following men were the foundry managers; 1873, John William Pike, (9), also part owner and died 1874. 1876 Capt. Roger Vivian, (10), 1883 James Hoskings. (11).

Mr. William John Spray was appointed the manager of the joint concerns in 1883. He had previously been the principal draughtsman at the the Cornish Copper Company (1852-1878) and for two years had held a responsible position in the St.Blazey Foundry. (12).

The foundry closed in 1909, and the Roseworthy Hammer Mills was purchased by J & F.Pool Ltd. of Hayle circa 1910 and it was finally closed in 1939. The site of the foundry was on the south side of the main Camborne Redruth road at Tuckingmill, very close to the Tuckingmill Methodist Church. The foundry site was taken over by Bickford-Smith, the fuse manufacturers and was incorporated into their factory expansion.

For over seventy years, the Tuckingmill

Foundry, as a privately owned concern, played an important part in the mining and engineering industries of Cornwall. Outside the county and in Lands far afield its manufactures, particularly rock drills and air compressors, were to be found wherever metalliferous mining took place. Just two years after the company had adopted limited liability principles it closed its works in Camborne and Roseworthy. Cornwall, and, Camborne especially, can be proud of this local medium sized iron and brass foundry.

### **Type of work carried out by the Tuckingmill Foundry**

The foundry commenced working circa 1837 and closed in 1910, after seventy three years of sound and honest engineering work. At first the works were makers of general mining machinery and was making small steam pumping engines up to forty inches cylinder diameter by the 1850s. Later in the 1880s it began to make rock drills, compressors, winches, shovels etc. In the 1850s the foundry was undercutting Harvey's quotations for work eg. quotes for a twenty four inch whim engine for Treloyhan Consols mine at St.Ives were; Harveys £530, Perran Foundry £467, Holmans of St. Just £450, Cornish Copper Company £432 and the Tuckingmill quote was £388. (13) Another example is shown in Harveys in-letter dated 24<sup>th</sup>. May 1900 from Dolcoath Mine Ltd; "Dear Sirs, The tenders for the new drum and shaft are as follows: Holman Bros. £245, Harvey & Co. £225, Bartle & Sons £160 and Tuckingmill Foundry £150. The Tuckingmill tender has been accepted. Yours truly, Josiah Thomas." (14)

The Foundry built a forty inch cylinder stamps engine for the West Basset stamps. It was "worked by a bevel drive camshaft and rollers, an arrangement believed to be unique in Cornwall" (15). They also made along with Holman Bros. a horizontal steam engine for Robartes engine shaft at Wheal Agar. The picture shows its cylinders, drop valves, reduction gearing and winding drums. (16). A thirty inch diameter cylinder drawing engine was constructed for Wheal Grenville Mine at Crowan, which was later

purchased by the New Redmoor Company c1882, (17), and also a horizontal compound engine for Wheal Merth at Cannonstown. This was later moved to Poldice Mine, St. Day in 1815. (18)

In 1872 the foundry became the sole makers of Stephens Improved Patent Pulveriser and sole agents and maker for Borlase's Patent Ore Dressing Machines and pulverisers. The advantage of the Borlase machine was its simplicity of working. It was a revolving ore dressing machine with a separator and cleaner of ores, and its output was considered to be equal to four times buddling the ore. Many testimonials from people with mining experience were given and in 1872 the machine could be seen at work on the North Roskear Mine, Camborne. (19).

The following adverts show the products made by the foundry:

#### **The Tuckingmill Foundry Company – 1876 advertisement.**

Engineers, iron and brass founders etc., makers of every description of mining machinery, shovels, gearwork, pumping, winding and stamping engines, also of Blake's stone breakers. Sole manufacturers of Borlase's Patent Ore Dressing Machine and Pulverisers. Estimates given upon indents and specifications. Illustrated catalogues sent free on application. (20)

#### **The Tuckingmill Foundry Company – 1884 advertisement.**

Engineers, iron and brass founders and sole makers of Teague's Patent Ventilator, Teague's Patent Rock Drill, Teague's Patent Air Compressor, Teague's Patent Fan, Teague's Patent Air Economiser, Teague's Pulveriser and Amalgamator and Stevens' and Cunnack's Patent Pulveriser. Sole agents for Devon and Cornwall of Buckley's Patent Piston and manufacturers of every description of pumping, winding, crushing and stamping engines, also all kinds of mining machinery, shovels and miners tools, on the latest and most approved principles.

Teague's Patent Double Acting Ventilator, the miners friend. Will clear all tunnels and

ends from noxious fumes in the shortest possible time, ten minutes only being required to clear the largest blast; distance no object. Awarded First Silver medal, Mining Institute of Cornwall, 1881, First Bronze medal, Alexandra Palace, 1882, First Silver medal, Jubilee Exhibition, Falmouth Polytechnic, 1883. Its success is guaranteed. At work on the principal mines in Cornwall. Reference is invited to Capt. Josiah Thomas, Dolcoath Mine, Capt. Bishop, East Pool Mine and others. Full particulars and testimonials forwarded on request. (21).

In 1891 the bob of Dolcoath's eighty five inch pumping engine, which was made by Perran Foundry, developed a narrow crack in one side near the gudgeon. Loam and Son of Liskeard recommended the bob be patched and bridled and the next day moulders and fitters from the Tuckingmill Foundry and Bartles of Carn Brea jointly commenced repairing it after which it continued in service until 1912.

McCulloch's sinking frame for round shafts was awarded a First Silver medal at the Royal Cornwall Polytechnic Society's Annual Exhibition, General Mechanics Section 1897. It was an appliance to aid the sinking of circular shafts and it was commended as a most important invention. McCulloch's round shaft sinking frame is so designed that the bars on which the drills are operated shall be perfectly rigid, removing at once all difficulties connected with the sinking of round shafts, and enabling them to be sunk with an economy in working and with a speed in sinking never yet obtained. (23). This frame was made by the Tuckingmill Foundry Company.

McCulloch's Little Hercules Drills were made in three sizes: 3½, 3, 2½ inch diameter cylinders. Previously Mr. McCulloch had designed the "Cornish" and "Rio Tinto" rock drills, and he claimed that the "Little Hercules" drill was lighter, shorter and more durable than the heavier drills and were easier to handle. The "Little Hercules" was able to bore twelve inches depth in sixty seconds compared to only five inches with the "Rio Tinto" drill, using the same size drill bit and under the same pressure. Its weight was only two hundred



and nineteen pounds compared with two hundred and ninety four pounds for the "Rio Tinto" drill. These new rock drills were finding favour amongst mining men all over the world, not only for the work it could do, but also for the perfect way it is constructed, the small number of its parts and the ease with which it could be kept in running order.

The Tuckingmill Foundry was also making McCulloch Patent Air direct acting balanced air compressors with compound steam cylinders and variable expansion gear for working rock drills. (24).

At the mining exhibition at Olympia, London in 1908, the foundry exhibited three "Little Hercules" rock drills, the "Universal" mining winch capable of lifting a load of 5 ½ cwt., worked by air or steam pressure of 80psi., and the "Dunstan" patent rock drill bit forging machine which was capable of forging twenty to thirty crossbits and "X" bits per hour, chisel bits at fifty per hour, sharpen bits at one hundred per hour and swage shanks at about two hundred and forty per hour, chisel bits at fifty per hour. Also on show was a number of mining shovels along with the firm's special aluminium vanning shovel. (25)

Later in the same year at the Royal Cornwall Polytechnic Society's Mining and Engineering Exhibition the company featured the "Hercules" Rock Drill, a quarry bar for extracting large blocks of stone from quarry faces, and a large assortment of their Cornish mining and vanning shovels made at their Roseworthy works. "Another

feature of the exhibits was a two drill, belt driven air compressor working at about one half of its normal speed, and which, with a full load, is capable of running three rock drills, 3inch diameter cylinder, at a pressure of sixty to eighty psi. The compressor is of a solid and substantially built engine, fitted with special cast steel valves of large area and low lift, giving a maximum of efficiency with the minimum of wear". The company was also the patentee and maker of the "Economic" two stage compound air compressor. (26).

The foundry was still advertising right up until it was about to close. Several new air compressors, both steam and belt driven, at greatly reduced prices to make room for fresh stock were for sale in June 1909, along with a 9 ½ hp. Crossley gas engine in running order, price £20. (27).

#### References:-

1. D.B.Barton "The Cornish Beam Engine"
2. T.R.Harris "Dolcoath, Queen of Cornish Mines" T.R.Harris quotes from the Tehidy memorandum book, August 1827 "William Cadwell to have a lease for the garden he has lately enclosed and the waste of Entral adjoining Dolcoath Foundry"
3. D.B.Barton "The Cornish Beam Engine" – these mills commenced working in 1790 and was later worked by Joseph Vivian & Co. from 1815 to 1848. For the next seven years Messrs Campbell & Wearne ran the mills to be followed by Tuckingmill Foundry Company and later again it passed into the hands of J & F Pool of Hayle. It finally closed in 1939.
4. "Victorian History of Cornwall, published 1906, section on foundries and engineering works. Also J.H.Rowe, "Some Minor Foundries of Cornwall", reference to St. Agnes Foundry. "This small foundry employing up to ten persons, was sited alongside the quay. It was purchased by William Vivian in 1854. The St. Agnes Foundry advertised that Mr.W.Vivian "has the pleasure of offering bells of new composition metal equal in sound to brass and at less than half he price". No bells cast by W.Vivian have been found in Cornwall.

5. M.J. No 1946, 7/12/1872
6. R.C.G. 25/1/1873
7. R.C.G. 4/3/1873
8. R.C.G. 15/7/1876 and 27/7/1877
9. Kelly's Cornwall Directory
10. R.C.G. 27/7/1877
11. Kelly's Cornwall Directory
12. Cornish Times 13/12/1883 and W.H.Pascoe "the History of the Cornish Copper Company"
13. W.H.Pascoe "The History of the Cornish Copper Company"
14. CRO H/1/178/246
15. Trevithick Society newsletter No 60 Feb. 1988 book review p11. M.Palmer and P.Neaveson, "The Basset Mines – Their History and Industrial Archaeology"
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17. Trevithick Society Newsletter No 38, August 1982
18. L.J.Bullen "Mining in Cornwall" Vol 3
19. M.J. 1924 6/7/1872 p634 for further details
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21. MJ 2599 13.5.1885
22. Trevithick Society Newsletter No.35, Nov. 1981
23. Royal Cornwall Polytechinc Annual Report 1897 pp.50-51
24. MJ 3261 19/2/1898 p.228 Article "The Little Hercules Rock Drill" for more information of the drills and compressor.
25. MJ 3805 25/7/1908 shows pictures of winch and forging machine.
26. MJ 3813 19/9/1908 p.356
27. MJ 3851 18/6/1909

#### **Pengegon Steel Foundry Company**

Very little information has been found regarding this company. It was an off shoot from its original parent company the Tuckingmill Foundry. The Pengegon Steel Foundry exhibited steel casting and other examples in the mechanical section of the Royal Cornwall Polytechnic Society Annual Exhibition, 1897 and the judges thought them to be of a high order of merit. The report of this 65<sup>th</sup>. Annual Exhibition was as follows; "Cornish steel, Pengegon Steel Works. An interesting exhibit; some of the first crucible steel castings ever produced



in the county. This firm, unable to get steel to stand the test in their rock drills, resolved to attempt to make steel that would. The result was a very high class, strong and tough steel. A knife and fork drawn from the arms of an ordinary pit wheel was proof of this. Crucible steel castings weighing a ton can now be produced at the works, whose capacity is just over that quantity a day. Frequently half a ton has been turned out. The steel examples shown included castings employed in the manufacture of the "Little Hercules" rock drill, a connecting rod partly finished, and a pit wheel bent cold. Malleable iron castings were shewn in pit wheels, sheave and other pulley wheels.

A letter to Harveys of Hayle in December 1897 from the Tuckingmill Foundry asked that all invoices in future to be sent to them, as it was carried on by the partners of the Tuckingmill Foundry as a separate concern with their own books. (1).

The parent company was asking Harvey and Co. to order some steel castings from the Pengegon Steel Company, dated 18<sup>th</sup> September 1897. It reads, "...we beg to ask the favour of your orders for steel castings. We think if we buy our coal and other materials from you, it is not too much to ask that at least you will give us a trial order to test the quality of our steel. Your reply will much much oblige. You are aware, no doubt, that our steel was reported by the judges of the Polytechnic Exhibition as of high order of merit" (2)

The Pengegon Steel Company held an account with Messrs Harvey & Co., and it

sent a letter and an enclosed cheque of £12/13/2 which was signed by W. Burgess, Penlu, Tuckingmill. The steel works was also seeking work from Harvey & Co., for example, the following letter dated February 1<sup>st</sup>. 1898 was despatched;

The Pengegon Steel Foundry Company,  
Camborne, Cornwall. Manufacturers of  
every description of best steel castings.

Dear Sirs,

In reply to your favour of the 27<sup>th</sup>. please send one truck of thro asd thro (coal or coke?) to the Pengegon Sidings. Be sure it is of good quality. Will you kindly favour us with orders for some steel castings. We are giving satisfaction all round, both, as to strength, softness and freedom from blow holes. We hope therefore you will favour us with some of your orders.

We remain, faithfully,

pp. Pengegon Steel Co., W.B. (3)

The Tuckingmill Foundry was not satisfied with the quality of steel available for purchase with the rock drills, so they commenced producing their own steel which was of better quality. The steel was made by using the crucible steel process where suitable ferrous metals such as blister steel, ferro alloys and suitable scrap were melted in a large graphite crucible. The furnace was probably heated by coke or gas. Castings weighing up to one ton could be made in the foundry and its output was one ton per day. The location of the foundry and when it commenced working are not known for certain. Pengegon is near and to the south west of the main foundry at Tuckingmill. It is possible the two foundries were on the same site and the name Pengegon chosen to ensure the two foundries had separate identities.

Was the Pengegon Foundry the first to cast steel in the country? This and other questions may never be answered unless you, the reader, know. Any further information would be welcome.

References:-

1. CRO H/1/173/373
2. CRO H/1/173/109
3. CRO H/1/174/82

## The Crucible Furnace

The steel foundry started working some time before 1897, and it melted the steel in crucible furnaces. It is doubtful if electricity or oil was used to fuel these furnaces and the probable fuel was either coke or gas. The output from such furnaces was small when compared with the cupola for melting cast iron and the larger reverberatory furnaces.

With crucible furnaces there is less oxidation of the metal and the molten metal does not get contaminated with fuel as there is no contact between fuel and metal. There is no more difficulty in reaching the higher temperatures required than in melting the non ferrous metal and cast iron with these furnaces.

There are basically two designs of crucible furnace, the bale or pit furnace and the tilting furnace. With the first type, the metal to be melted is placed in graphite crucibles which are free standing. These are lifted separately from the furnace and the molten metal poured into the sand mould. The tilting furnace has a crucible that is tightly fixed and the whole furnace is tilted and the molten metal transferred into hand ladles and from these into moulds.

The graphite crucibles were seated on a fire brick stand. Gas firing furnaces would be more economical than the coke fired furnaces. In each case, the air and the gas burner was fitted to enter near to the bottom of the crucible at a tangent and swirl around the pot before passing out at the top to the atmosphere.

### Russ Webber

Remember that television presentation a few years ago about the mighty Russian low level flying machines? A fully descriptive book is available from Camden Miniature Steam Services. Some readers will already know that it is just one of hundreds of books contained in an excellent A4, 80 page catalogue that includes something you'll want about

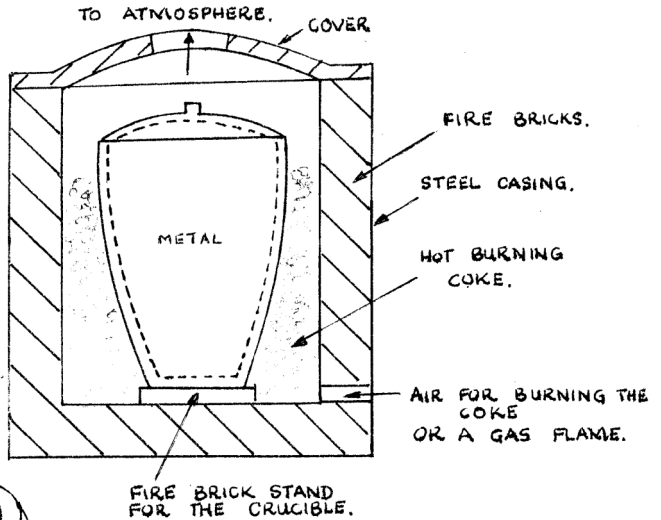
steam, marine, narrow gauge, mining, aviation, blacksmithing, miniature, electrical, historical, hot air and a whole host of other engineering categories for this Christmas.

Go to [www.camdenmin.co.uk](http://www.camdenmin.co.uk) or treat yourself to a good read by requesting the free catalogue from Camden Miniature Steam Services, FREEPOST (BA 1502), Rode, Frome BA11 6UB

## RUSSIA'S EKRANOPLANS

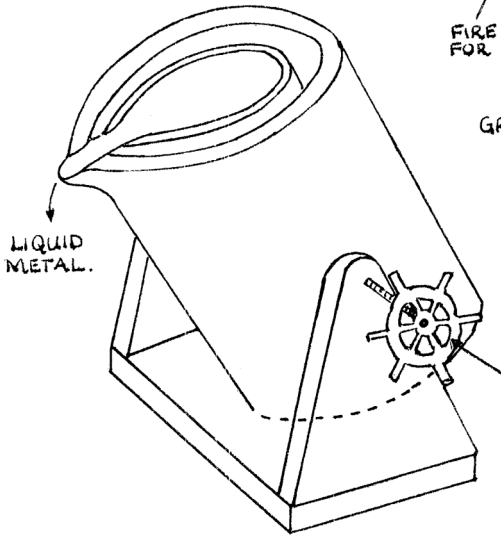
PMH

BALE-OUT  
CRUCIBLE  
FURNACE.

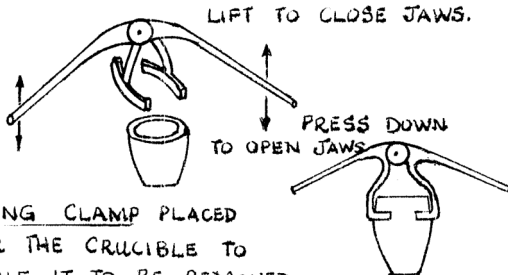


GRAPHITE CRUCIBLE IS NOT  
MOVEABLE

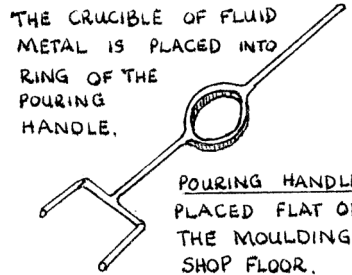
TILTING CRUCIBLE  
FURNACE.



HAND WHEEL FOR TILTING THE  
FURNACE. LIQUID METAL  
POURED INTO A LADLE OR  
ANOTHER CRUCIBLE, WHICH IS  
USED DEPENDS ON THE AMOUNT  
OF METAL REQUIRED.



LIFTING CLAMP PLACED  
OVER THE CRUCIBLE TO  
ENABLE IT TO BE REMOVED  
FROM THE BALE-OUT FURNACE.



POURING HANDLE  
PLACED FLAT ON  
THE MOULDING  
SHOP FLOOR.

## KING EDWARD MINE MUSEUM THE WAY FORWARD

At the end of October 2004 the Trevithick Trust ceased to exist. The demise of the Trust did trigger the question - what would happen to the sites that the Trust managed? Cornish Engines at Pool has reverted to the National Trust and Tolgus Tin has been returned to the Gold Centre. Both of these sites will continue to be operated by their owners. That leaves St Day Church and, of interest to us, the King Edward Mine Museum (KEM).

The legal and lease situation at KEM is too involved to discuss here but, suffice it to say, that as the result of the Trevithick Trust ceasing operations the responsibility for the lease of the museum part of the site passed to Kerrier District Council. Anticipating this, early in July 2004, KDC invited the King Edward Mine Preservation Group (KEMPG) to manage the museum on their behalf. This was a logical step as the museum was then being managed and staffed by KEMPG volunteers, supported by the Trust.

To operate the museum a charitable company needed to be formed. KEMPG is a small group and most of the volunteers are also members of the Carn Brea Mining Society (CBMS) and/or the Trevithick Society (TS). Thinking it through it was decided that the answer was to set up a company, as King Edward Mine Ltd, jointly sponsored by the 3 societies. The grouping brings together the two major Industrial Archaeology/Mining History societies in Cornwall plus the expertise of the KEMPG - a grouping that has a joint membership of over 600. This then is to be a partnership between public sector and the volunteer/enthusiast sector where neither could operate successfully without the other. A budget for the period up to March 2006 was submitted to KDC. This was approved at a KDC Cabinet meeting on the 14th October and ratified by the full Council on the 10th November 2004.

Partnership is the key word here because this is what it must be. There has to be an honest arrangement with no hidden agendas. The company will not make any money, there are no management fees.

The KEM budget will be ring fenced and we shall have to account to KDC for every penny spent.

The first company directors (who are to have a 'hands-on' role) are:

### ***Trevithick Society***

Kingsley Rickard  
Vernon Baldry

### ***Carn Brea Mining Society***

Kevin Baker  
David Blight

### ***KEMPG***

Tony Brooks

At the time of writing (10 November 2004) the company formation is not complete, the lease (and it must be a long one) is yet to be drafted and certain insurance issues remain to be resolved.

There is no guarantee that KDC will continue funding after March 2006. It is up to us to increase visitor numbers, to reduce the financial deficit and, importantly, to continue to maintain and to improve this unique site.

**So what can you do?** Being a society member should be more than just attending the odd evening meeting and reading the newsletter!

1. Volunteers are needed both to work in the shop/reception and to act as guides in the mill. At least two people are needed to present the site at its best. One employee will be engaged for the season. He/she will run the site on a day-to-day basis supported by volunteers. How about doing half a day in the shop reception/area? Never done that sort of thing before? Neither had any of us until this year, it is dead easy - particularly now that we have got rid of the till which was something like Arkwright's till in 'Open All Hours'. You also get to meet interesting people.
2. Join the Sunday morning work team. There is plenty to do:



refurbish a steam engine, repair a model, paint a wall etc.. We can guarantee you will have a laugh or two.

3. Visit the site at least once a year and bring your friends and visitors. As a society member you get in free, and you get a 20% discount in the shop. Buy the latest mining or industrial history book and more.

As mentioned above we will be employing one person for the 6 months of the 'season'. That post is, as yet, unfilled. Should any member be interested in the job then please contact me.

So finally the Society has its own museum, or at least a shared one. It is up to us to see that we keep it.

**Use it or lose it - its up to you all, not just the few!**

**Tony Brooks**

tel: 01209 713506

email: tbrooks@telinco.co.uk

The City of Lichfield, Staffs., well known for its old world charm, cathedral, its music festival and the home of Erasmus Darwin, Samuel Johnson and David Garrick of theatrical fame, decided it was going to try something different. They were going to stage an eighteenth century celebration under the banner Celebr18th to recall the

**18TH LICHFIELD FESTIVAL**

olden days. Some months ago their organisation approached the society to ask if the "Puffing Devil" could be present which was agreed. Among the event sponsors were JCB, the excavator people, who sent one of four of their low loaders, normally used to transport their demonstration team to collect our engine at Camborne. At four and a half tons, our engine was nothing compared with the thirty five tonnes they normally carry. The programme at Lichfield was impressive with various offerings including live theatre shows, films, a steam fair, twenty narrow boats on the canal, a golf match using hickory handled clubs, sedan chair racing, music to suit all tastes and much more and with everyone in

period costume and very much entering into the spirit of it all. The "Puffing Devil" was situated in the city centre on the forecourt of a large car dealership and so provided a wonderful contrast between old and new. Phil Hosken and Kingsley Rickard were there for two days assisted by Paul Smith on the second day. It was also nice to see local member Dick Haszard put in an appearance. The weather was changeable with heavy showers but it certainly did not dampen Lichfield's enthusiasm. The reception we received and the accommodation they supplied certainly could not have been bettered and gave the society good publicity.

**K.J.T.Rickard**

Following the closure of Trevithick Trust Society members, are probably wondering how that affects the free entry they previously enjoyed to Trust managed sites.

The good news is that free entry can still be gained to Cornish Engines at Pool and King Edward Mine at Troon, upon production of a membership card..

In addition, members already enjoy free

**FREE ENTRY**

access to the surface workings at Geevor and Levant.

The situation at Tolgus Tin, near Redruth is as yet unclear.

When the late Kenneth Hudson officially launched the Trevithick Trust in January 1994 he foresaw great problems ahead, but also enormous potential, both of which have been fulfilled. In fact, the objectives set out by the Trevithick Partnership in 1991 have all been achieved, but the success of the Trust was to contribute to its demise. The Trustees of Wheal Martyn China Clay Museum approached the Trust

## TREVITHICK TRUST

with the offer of a three-year lease to see what could be done to increase falling visitor numbers; improvements were made and the site became financially viable so it returned to its owners at the end of the lease. Geevor Tin Mine, which was created as a Heritage Centre by the Trust was taken over by a local Trust who have continued the success of the site. Porthcurno was also developed by the Trust – Cable & Wireless wished to return the embryo museum to London – but when it was seen as a success, the C & W charity took over its management. Similarly, the ancillary buildings at Pendeen and Lizard Lighthouses would have to be demolished, but were later seen as valuable assets and returned to Trinity House management. This left the Trevithick Trust with three major sites, the remaining sites being insufficient to provide a viable business. So the Trust closed in December 2004.

Heritage Centres, Visitor Centres, Museums, whatever name is used, do not make money and require additional revenue funding. The Trevithick Trust's core funding came from the Local Authorities and the National Trust. It was always under-funded and therefore understaffed and it is remarkable what was achieved on such limited income. It is greatly to the credit of Stuart Smith, who was appointed by the Partnership as the Trust's Chief Executive, that so many sites were saved and whose drive and enthusiasm turned them into places of great historic and educational value.

Perhaps the Trust's greatest contribution to the conservation of Industrial Heritage was that it played a major role in changing the public perception of historic industrial sites, a cause which has now been taken up by Local Authorities. (The National Trust were pioneers of industrial conservation when they took over the Cornish Engines in 1967 and remain committed today). It seems most unlikely that any new "museums" will be created in Cornwall, although there were tentative plans to develop a museum at Perran Foundry. Today the future of the site probably lies in

housing/industrial development which will ensure the preservation of the historic buildings; to demolish them would be unthinkable.

The security of Trevithick Trust sites is assured for the foreseeable future – Cornish Gold Centre is taking back Tolgus Tin, Cornish Mines and Engines and Trevithick's Cottage will revert to the National Trust and Kerrier District Council are taking over the lease of King Edward Mine and St. Day Church. But the long term future of Industrial Heritage in Cornwall is of great concern and it is hoped that the political will exists to ensure that sites will be protected in the long term.

Members of the Trevithick Trust have been invited to transfer their membership to the Trevithick Society, which must now be seen as the leading advocate for Industrial conservation in Cornwall.

### **Bill Newby M.B.E.**

All members are reminded that their subscriptions are due on January 1st 2005. The subscription rates remain unchanged. It is believed that the last time they went up was seventeen years ago. Please check you are paying the correct amount to ensure you receive all your publications and information.

### **Sue Maunder**

Membership Secretary

## 2005 SUBSCRIPTIONS

## TREVITHICK AND HIS WATER-PRESSURE ENGINES IN DERBYSHIRE

Many members will be aware that at Peak District Mining Museum at Matlock Bath in Derbyshire there is a water pressure engine of a type developed by Richard Trevithick in the late 1790s and early years of the 19<sup>th</sup> century. Trevithick was first asked to come to Derbyshire in 1801 by the Proprietors of the Hillcarr Sough and the Shining Sough Partners (sough = drainage adit). By that date the 3½ mile long Hillcarr Sough, completed in 1784, had virtually exhausted its drainage potential, and it was desired to pump below. In 1802-03 the first of his engines, with a 25 inch cylinder and a 10 feet stroke was installed 24 fathoms down Crashpurse Shaft, taking water from the nearby River Bradford and draining and pumping into Hillcarr. Water was raised some 8 fathoms. In assessing depths worked it should be remembered that Derbyshire mines are very wet and up to long after 1850, these mines were the most heavily watered anywhere. It developed about 65 HP at six strokes per minute, double acting, and was claimed to be twice as powerful as the Watt 63 inch engine at Dolcoath! Comments on this would be welcome.

The engine was later moved a short distance, when it became known as the "Old Engine" and worked until 1850. It is illustrated in Dickinson and Titley's *Richard Trevithick* (1934). The engineer to the mines was Richard Page, from Cornwall, about whom we wish to know more, please. About 1809 he installed another, much smaller engine, probably to a very similar design, but with a 9 inch cylinder, in Greenfield or Page's Shaft as it became known. About 1850 the parts of this engine were sold to Wheel's Rake Mine a mile or so away and recently what can only be the cylinder of this engine has been located, deep under water in Wheels Rake Shaft, used as part of the pump tree. Unfortunately, a recent collapse in Hillcarr Sough has caused the water levels to rise a further 50 feet and the possibility of further investigation is now remote.

The third engine, that now in the Museum, was probably also made to details supplied by Page, in 1819, when it was cast at Coalbrookdale and installed in Broadmeadow Shaft, which, like the others, was near Alport. It was similar in almost all ways to the first engine, except in having an 18 inch cylinder and 11 feet stroke. It was double acting and using almost identical heads as before was still very powerful (working at about 70 lb per sq. inch). These engines had two problems not experienced with steam engines. First the incompressibility of water, which required large valves which were designed to work in balance via a chain from the spindles passed over a pulley. The valves could then be actuated by a simple tilting arbor mechanism worked from a crosshead above the cylinder. The second problem was water hammer as the supply was abruptly stopped. This was solved by allowing both valves to be open momentarily at the cross-over point. These very practical solutions were certainly Trevithick's, and examination of the several water pressure engines for which illustrations exist, show a variety of valve types and designs as he worked towards a satisfactory solution.

By 1827 the Broadmeadow engine proved insufficiently powerful and another engine was installed, to a quite different design. The 18 inch engine lay unused until 1840 when it was purchased by the Portaway Proprietors of Winster who placed it at their Wills Founder Shaft. Here it was installed at about 360 feet depth, but the supply head was only some 140 feet, using water from an earlier sough and draining to a later and lower, a branch of Yatestooop Sough, some two miles from its tail. The objective was to sink through a volcanic lava, always a very risky task technically and financially. It is not known if they succeeded, but a second attempt to work the mine began in the mid 1850s, at which time the engine was modified using bits from one of the four by-then-sold water pressure engines of a later design from the Alport Mines. In effect, it had a hydraulic servo mechanism fitted to replace the balanced valve system and was made single acting, probably because of water supply problems. It is likely that at

Winstar the engine was installed by Samuel Trethewey, who was responsible also for Cornish engine installations at Magpie and High Rake Mines, and on the Cromford Canal. He had been brought to Derbyshire about 1840 as part of John Taylor's concerns, part of Taylor and Son's expansion based on their enormous contemporary success in Cornwall.

The Wills Founder engine was quite unknown until its "accidental" discovery in the 1970s. Because the Yatestooop Sough was already partially blocked, it was decided by members of Peak District Mines Historical Society to recover the engine, using its volunteers, in the dry summer of 1977. With its water pressure column 140 feet high, this involved dismantling and lifting some 30 tons of ironwork, with a maximum lift of about 3 tons. It took some two weeks of day and night working to accomplish this, without major problems, though this required continuous pumping and the removal to surface of about 30 tons of silt and stone in which the major part of the engine was buried. In those informal days, the landowner was paid one penny for the engine, equipment needed was instantly lent by local companies and water, gas and electricity boards, and the total cost of the operation was a mere £400, nearly all but the penny spent on diesel for the generators.

Two years later, it was decided to recover one of the two lifts of pumps, in effect 9 inch diameter cast-iron pipes each 9 feet long and weighing rather less than half a ton including infill, though the pump itself was considerably heavier. This did not proceed without problems as the pump tree was entirely buried. Silt was pumped out to an adjacent shaft, stones were raised by kibble to surface. The anticipated lift of the top set was expected to be 60 feet. It was double this and the shaft was opened to some 480 feet depth. Pumps wore out, volunteers were exhausted by six hour shifts up to the chest in water working the mono-pump nozzle, and the anticipated three weeks of continuous working had to be extended to three days each weekend over three months. Any idea of raising the bottom lift was abandoned, but the top lift was fully recovered and the shaft, engine

and pumps were all recorded as part of the process.

Both engine and pumps are installed at the Museum. For this a 16 feet deep shaft had to be sunk in the floor and the engine and its crosshead rises to a height of 18 feet above the floor: Unfortunately, without breaking into another property in the floor above, the piston, crosshead and balance bob cannot be moved, but it is still a most impressive exhibit. Though without Trevithick's personal touch (he had left for South America three years earlier), it is probably the only pumping engine to his design surviving, though of course Derbyshire has also the only recently-made -inaccessible part of the 1809 Page's Engine in which Trevithick may have been directly involved.

The obvious sources of information about such engines and of Trevithick's involvement are known, but any less usual sources about any aspect noted here or related would be especially welcome. Both operations were written-up at the time (Willies 1977 and Riley and Willies 1979, in the *Bulletin of the Peak District Mines Historical Society*), but it seems desirable to produce a more complete account of both the technology and the people involved soon.

### **Lynn Willies,**

Hilderston, 174 Dale Road,  
Matlock Bath, Derbyshire.  
DE4 3PS.



## SCRAP HEAP CHALLENGE

The Society's 1801 replica loco will feature in a special C4 Christmas edition of Scrapheap Challenge. The programme commemorates the 200th anniversary of steam railway locomotion and the first programme will be broadcast on Saturday 19 December 2004. The competition will be shown over two episodes and will be between three teams. Their task will be to build a railway locomotive. The three available methods of propulsion will be diesel, electricity and steam.

John Sawle, Kingsley Rickard and Phil Hosken were filmed along with the 1801 Camborne and the 1804 Penydarren locos in Merthyr Tydfil. We're hoping that steam will win.

As always the Society requires volunteers

## VOLUNTEERS NEEDED

for its various sites and projects. The industrial conservation world has the image of "grease up to the eyeballs" but does not **only** consist of such individuals. There is certainly much work for the artisan and handyman with the upkeep of Levant and the Trevithick engine and the refurbishment and rebuilding of the many artefacts the society owns and volunteers would be warmly welcomed. If meeting and dealing with the public is your forte then Levant and King Edward Mine have guides. With the changes at King Edward, detailed elsewhere in this newsletter, there are openings for many skills: the museum, the retail side with all that entails such as shop design, buying, display and sales, general organisational and logistic skills and most important - ideas. Should you volunteer you work at your own pace with no pressure, but with like minded people. If you appreciate fresh air, then during the season manning the sales tent at outside events may appeal. If you prefer indoor amusement what about joining the Management Council? Perhaps you would like to fill the current vacancy of Programme Secretary. The society now has an headquarters, King Edward, and it, in particular needs volunteers to enable it to



survive. The politicians have put in the money. Let's prove to them we can do it. Come along folks, volunteer now. You will get plenty of support to assist you. It will not be like the advert for the litter warden, "No training given, pick it up as you go along".

At the last A.G.M. at Morwellham it was suggested that name badges would be

## NAME BADGES

useful if worn by the Council members to help identify them to members who do not visit often enough to get to know them. Member David Mann of Poole, Dorset approached a contact of his who kindly agreed to print card badges with the Society name and logo with space below to enter a personal name. David has since donated the pin-on holders for the cards and we now have them in stock. Any member who wishes to have a badge, also useful if you are in a situation where you face the public, can obtain one by ringing the Society call centre 01209 716811 or by "attacking" Kingsley Rickard at a meeting.

## BOOK REVIEWS

*The Newlyn Trail* Published by Golowan Community Arts (£2.50) 36page+ covers, booklet.

*Through the Gaps CD ROM* Published by Golowan Community Arts (Free + p&p to purchasers of the above booklet).

Your reviewer has lived in Newlyn for the last 21 years and has always been amazed at the numbers of tourists looking around the village, and asking locals directions to points of interest. Guides have been published in the past but this is the first for many years and is of a higher standard than before due to the finance provided by The Heritage Lottery Fund. The guide leads you round the village by way of a series of way mark plaques attached to buildings to ensure the directions are clear.

The village has always been heavily industrialised to provide back up to the fishing industry, but also had potteries (the last of which "Troika" produced products that are now highly collectable) the Newlyn Industrial Class Workshop (source of Newlyn Copper) and of course Penlee Quarry.

The route starts at the Newlyn Industrial Estate (Tolcarne) passes through the "modern" section (Street an Nowan) to Old Newlyn (Newlyn Town) and the harbour.

The booklet contains a lot of detail about Newlyn's history including early photographs and of course covers the artist colony and some of the social history, such as the "riots" and the "clearances".

The CD ROM includes the books content, which has a voice over that can be downloaded to a MP3 player to take with you on the walk. It also contains a lot more information including a collection of period photographs not used in the book, old newsreel footage and aural history items.

An excellent presentation at an amazingly low price. Anyone who thinks they have to go to Camborne or St. Just for industrial history is strongly recommended to follow the Newlyn trail and see the other aspects of Cornwall's Industrial History.

### GSG

*Somerset in the Age of Steam, A History and Archaeology of Somerset Industry,*

*c.1750-1950* by Peter Stanier. Somerset Books (Halsgrove), Tiverton 2003. A4 hardback. 160 pages, profusely illustrated in black and white. £19.95

A companion volume to *Dorset in the Age of Steam* (Halsgrove 2002), also by Trevithick Society member Peter Stanier, and in much the same style. Whilst Somerset has a reputation for being an agricultural county in fact it has had a wide and varied industrial past and this is well reflected in this book. As well as the more rural headings of farming, lime burning, milling, brewing and dairy there are chapters on metal and coal mining, textiles and leather and paper making, and also a good coverage of transport - road, rail, canal and ports - and what we now call utilities - water, light, power and housing.

Each subject is covered succinctly but thoroughly and, as one expects from Peter Stanier, the book is well written and authoritative without being pretentious. The wide selection of illustrations is well chosen and well reproduced on a matt paper. The book gives an excellent well-informed overview of Somerset's industrial history and is recommended.

### MM

*A guide to the Industrial Archaeology of Hertfordshire and the Lea Valley.* by Tim Smith and Bob Carr. Association for Industrial Archaeology. 64pp incl. maps and dozens of black and white photographs. ISBN 0 9528930 7 X

This A5 guide was published to mark the AIA's 2004 conference in Hatfield. It provides an valuable inventory of the industrial archaeological remains of Hertfordshire and the Lea Valley in its widest sense. To judge by the photographs, these are mainly intact buildings rather than decaying ruins. It also includes descriptions of many non-industrial buildings and modern structures such as libraries and the plaque where the first automatic teller machine was installed.

The booklet is broken down into meaningful geographic areas such as Enfield or Haringey and the buildings of

interest described. Each entry is given an address, grid reference, information concerning access and explanatory snippets about former owners, former uses, key historical facts and present status. This is all laid out in a clear and concise manner. There is also a short introduction to the area and an index by category of building.

The clear maps give a general indication of where to find the individual buildings and need to be used in conjunction with more detailed street plans to actually go and find the remains.

Overall, this provides a good introduction to the industrial archaeology of Hertfordshire and the Lea Valley for locals and visitors alike.

### **CNF**

*Penydarren 2004* - a Trevithick Video Documentary by Roger Newberry Videos, P O Box 4490, Ringwood, Hampshire, BH24 2XY. Price £14 incl. p. & p.

This 60 minute video celebrates the 200th anniversary of the first railway locomotive by showing footage of the main celebrations of 2004, from the actual anniversary in February, onwards. The festivities include the Railfest at York, and the various Trevithick 2004 events in Merthyr Tydfil itself.

The video shows each of the four Trevithick replicas in action (not all filmed in 2004) at Camborne, Ironbridge, Quorn and York. Most importantly it captures the flavour of the remarkable way in which the people of Merthyr have adopted Richard Trevithick as one of their own, and are extremely proud of their historic connection. This is seen in the school plays, artwork and singing and in the enthusiasm of the townsfolk., as well as with all the vintage vehicles that came to Merthyr to partake in the celebrations (steam cars, traction engines, vintage buses etc.).

To cap it all, Rhodri Morgan, First Minister of Wales and Pete Waterman named a type 37 railway locomotive Richard Trevithick, Rolf Harris unveiled his Welsh credentials and Philip Hosken unveiled a plaque. It is all good stuff!

### **CNF**

*The Liskeard Mining Area 1863 CD-ROM.* Price £6. Published by Mappa Kernwick, John Manley, 28 Fairfield, St Germans. PL12 5LR. It uses Internet Explorer.

John Manley has done a fine job compiling this CD-ROM, which provides a wealth of mapped and published material concerning the Liskeard mining district in 1863 as well as photographic comparisons with what can be seen today.

The CD-ROM cleverly reproduces Brenton Symons *Geological Map of the Caradon & Ludcott Mining Districts of 1863* as an interactive map. When one clicks on the map with the mouse, the screen then displays the relevant information concerning mining activity on that part of the map, such as production, ores worked, management, shaft depths etc. In addition there are other sources to refer to such as mining journal extracts, snippets from the Cornish Times and tables and charts of statistics.

*The History and Progress of Mining in the Caradon and Liskeard District* by Webb & Geach in 1863 is reproduced as scanned pages. It is nicely linked to the Brenton Symons map, such that once a mine has been selected to view, the relevant pages in Webb and Geach are but one mouse-click away. Unfortunately this typed manuscript was not removed from its binding before scanning and so the text is skewed and difficult to read. This could have been improved by digital means including the adjustments of the contrast and brightness settings.

Technically this is a fine CD-ROM, which is easy to use and gives quick access to a lot of useful information. and is definitely worth the outlay of £6.

### **CNF**

# TREVITHICK SOCIETY EVENTS AND CONTACTS

## January 21st 2005 - CC

*A Day in the Life of a Curator.* by Emma Lloyd, Royal Cornwall Museum.

## January 28th - ECB

*Gunnislake Clitters Mine*  
by Colin Buck

## February 18th - CC

*Tin Streaming and Other Industries in the Pentewan Valley*  
by Charles Thurlow

## March 18th - CC

*An illustrated History of Underground Photography in Cornwall.*  
by John Watton, FRPS

*Meetings are held in the Lecture Theatre,  
Opie Building, Cornwall College at 7pm.*

*East Cornwall Branch meetings will be held  
at the Public Hall Complex, Liskeard at 7.30pm.*

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*The Trevithick Society, a registered charity, is a recognised body of the study of industrial archaeology in Cornwall. Membership is open to all who are interested in the region's great industrial past, whether or not they live in Cornwall. The Society takes its name from one of Britain's foremost inventors and pioneers of the Industrial Revolution, Richard Trevithick, a Cornishman whose name is inseparable from the development of steam power.*

*This Newsletter is published quarterly and, together with the annual Journal, is distributed free to members. Letters and contributions are always welcome and should be sent direct to the editor. The views expressed in this Newsletter are those of the authors and not necessarily those of the Trevithick Society.*

### Subscriptions 2005:-

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