

THE TREVITHICK SOCIETY

KOWETHAS TREVITHICK

NEWSLETTER 195 SPRING 2022



The Cornwall Chiropractic Clinic in Hayle has this picture as its' shop sign. The Davy safety lamp is symbolic, as I do not think it was ever used in Cornish mines.

Reg. Charity No. 1,159,639

EDITORIAL

As I write coronavirus has gone rampant in Cornwall with case numbers higher than at any stage during the pandemic. Thankfully, the current variant has relatively mild symptoms. Nevertheless, it would be wrong for the Society to restart indoor lecture meetings for the foreseeable future. Instead the Society will continue with the zoom meetings, which have proved to be very successful and have attracted members from all over the world.

When conditions improve the Society is intending to resume indoor lectures and, given the success of zoom meetings, will intersperse them with a sprinkling of online gatherings. In the future we may even be able to combine both formats by broadcasting lectures online. This is something Council will investigate.

CNF

NEW MEMBERS

The Society gives a very warm welcome to the following new members and looks forward to meeting them at any Society events:

Tomas Hill
Jeremy Wilkinson
Paul Redworth
Geoffrey Wallis

Truro
Perranporth
Camborne
Bristol

SOCIETY AGM WEEKEND

The details of the 2022 AGM weekend accompany this newsletter. This year it will be based in West Cornwall from 20th to 22nd May.

There are planned tours of:

- The National Explosives works at Upton Towans, Hayle.
- The archives at Kresen Kernow, where the Society stores its most historic documents.
- Poldice Mine with its calciners. This valley is now a local nature reserve.
- Mount Wellington Mine which was latterly worked by Wheal Jane.
- Wheal Busy - the site of the first Watt engine in Cornwall.
- The port of Devoran which served the many tin and copper mines around the Carnon Valley.

The AGM and Annual Dinner will be held at The Countryman, Piece on Saturday 21st.

DECEASED MEMBER

The Society is saddened to report the passing of David Adams from Newport. He was one of our long standing members having joined in 1966!

Copy date for next newsletter:

June 30th 2022



Established 1935

PENYDARREN LOCOMOTIVE AS SEEN FROM SPACE

Visitors to the Lappa Valley railway, which occupies part of the East Wheal Rose sett, have long been able to wander along a maze which is marked out on a grassed plat behind the engine house. There is no box hedging, however, the intricate detail makes this a worthy challenge for children.

Doubtless, most participants are unaware that they are tracing the Penydarren Locomotive as they wend their way along the maze as this is not obvious at ground level. The layout can, however, be seen from the elevated vantage point by the engine house, which once housed a 100-inch engine. Nevertheless, as can be seen from the photograph, the maze is best viewed from space.

The main part of the Lappa Valley attraction is to the north of the maze, and to visitors on the ground who approach from that direction the Penydarren Locomotive is the correct way up. It only looks upside down from space!

East Wheal Rose was a very wet and large lead mine. The engine house was erected in 1881-2 to house one of the largest pumping engines in Cornwall. This was the 100-inch beam engine which had been made for the Great Wheal Vor tin mine in 1854.

Such was the size of this engine that when it was first installed in 1854 at Great Wheal Vor, thirteen people and a dining table, complete with feast, were lowered into it, while a band played on the upper floor of the engine house! This information came from the Lappa Valley website.

East Wheal Rose was also the site of one of Cornwall's worst mine disasters. On 9th July 1846, a tremendous thunderstorm caused flash flooding of the valley floor where the mine is situated. The mine was overwhelmed, flooding the lower levels and thirty-nine miners lost their lives that day.

CNF



"ARE YOU BEING SERVED"

The photograph daubed with graffiti was due to appear on the front cover of this newsletter to highlight the demise of the Society's commercial arm at events. Thankfully, volunteers from the membership have come forward which means that the yellow tent will appear at Trevithick Day.

Over the years the eye catching yellow tent attended by the canary crew has caught the attention of many a member and non member alike giving the Society good publicity, good sales and, all too often, much needed cover in Cornish summer conditions. It has also acted as a base for members to leave bags, cases etc. in a safe environment leaving the members free and unencumbered to enjoy the local spectacle.

Sadly, age and health problems have overtaken the three regular

show crew and, without fresh help, the appearance of the Society tent at events would have had to cease.

Whilst Phil Porter and I are no longer able to erect the tent and do the heavy lifting, we are happy to advise or be on duty for sales or assistance and meet and greet the public. Thankfully members have come forward who will help get everything ready for Trevithick Day such as fetch and prepare all the stock. Also on the big day itself we now have volunteers to erect the tent, layout the stalls and staff the Society stand, as well as dismantle everything and return unsold stock, etc. to the Society store, once the festivities are over.

Many hands make light work! So more volunteers are very welcome. If you would like to join the canary crew on Trevithick Day or any other events like the W.E.S.E.S. rally, should we be able to attend them, please ring the Chatline 01209 716811.



The public you meet, the volunteers from other organisations you meet, the places you see, the questions you get asked and the entertainment you get from it all make it all worthwhile and I personally wouldn't have wanted to miss a single day of the twenty two years I have put in. I could write a book on the many situations with which we have been faced but dare not!

KJTR

LEVANT



Levant was able to welcome visitors back last year to see the site and the engine, using a pre-booking system. This system allowed us to control the number of people visiting the site at any one time but has proven to be successful in providing a great experience. Being in small groups with an accompanying tour guide allows everyone in the group to clearly see the site and people get to engage with the guide and engine driver on topics that they are interested in or want to learn more about. The booking system will continue to be used and we will look to increase the number of visitors able to see the site and the engine by increasing the number of tours a day we can provide.

Using the booking-system we were able to keep the site open on Wednesdays throughout the winter period when we are usually closed. Allowing people to book onto a tour slot ensured we could be confident in opening the site

knowing there would be visitors to show around and see the engine. The engine was undergoing maintenance during some of this period but it was a chance for visitors to see the engine in a different way. With the guarding removed, whilst work took place, the visitors could get a good look at the engine and not only learn about what is required to preserve this piece of industrial heritage and keep it in steam, but see the conservation in action.

Moving into this season Levant will be open Sundays to Thursdays for pre-booked tours. Some essential works have been completed, such as the painting of the winding drums, and other works are scheduled to be undertaken shortly, such as the boiler service and inspection.

We will also look to see what can be done to allow people to get a clearer look at the engine. The wire caging has been reduced slightly to allow an uninhibited view of the beam and more will be done to ensure everyone can get a clear view of the engine whilst keeping them safe from the moving parts.

Oliver Wright
National Trust



TREVITHICK 1901

On Christmas Eve 1901 a celebration took place, in Camborne, of the hundredth anniversary of the Puffing Devil's journey "Up Camborne Hill" and the birth of the locomotive. Christopher Smith, the great-nephew of J.J. Beringer, the founder of the Camborne School of Mines, kindly sent in a scanned copy of the commemorative pamphlet written by J.J. Beringer. The following has been extracted from that document.

History repeated itself as, according to the Cornish Post, the weather was as "wet as bal shag" - the same as in 1801. On the day a parade of eight traction engines drove at walking pace through the town. These were supplied by Harvey and Co., Hayle (two), Hosken, Trevithick, Polkinghorn and Co., Hayle (two), Nobel's Explosive Co., Perranporth (one), Trehwella Bros., St Erth (two) and Rabling and Co., Camborne (one). Headed by Camborne Town Band, the procession began at the Gustavus Mission Room, at the bottom of Fore Street, which is opposite the site of Tyack's smith's shop, where the Puffing Devil was built. The "great and the good" of Camborne took part in the parade including John Holman (Holman Bros.), R.A. Thomas (manager of Dolcoath Mine), W. Stephens (Climax), W. Bartle (Bartles Foundry) and representatives of the District Council and Camborne School of Mines. The co-patentee of the High Pressure steam engine, Andrew Vivian, was also represented by family members.

The day was evidently full of symbolism, such as the twenty Dolcoath miners carried in a car drawn by one of the engines to signify Trevithick's mining connections.

In the evening lantern slides of Trevithick's inventions and of Camborne, were shown in the Commercial Square by J.C. Burrow.

Three free, well attended, lectures about Richard Trevithick, were also given by staff of the Camborne School of Mines in the run up to the Christmas Eve celebration. The lecture by J.J. Beringer

was printed in the pamphlet. This gives interesting perspectives on Trevithick and the importance of his inventive genius.

J.J. Beringer's lecture pointed out that Trevithick's first high pressure engines were at work in 1800, chiefly for hauling, as at Dolcoath Mine, as well as one for forging iron in a mill in South Wales. "So the vision which flashed on Trevithick of small, cheap, portable and even locomotive engines, without beam or masonry or condenser: cheap enough and powerful enough for those smaller uses for which Watt's large and powerful machines were quite inapplicable, was coming nearer to being realised. The vision brought its theory, the theory brought practice, and the practice was slowly bringing its result."... Trevithick's invention ... "was not only different from any of its predecessors but the first which could be used for any useful purpose; and this first engine was the Camborne locomotive".

The lecture then described a trial of his next road carriage - the one drawn in the 1802 patent. "Another engine modified and improved was begun here in Camborne and early in 1803 a large number of people came to see its trial run at Tuckingmill. Among others Michael Williams came by invitation and he described it as perfectly successful. The test here was Tuckingmill Hill on the further side The engine was sent on to London and fitted with higher wheels and a coach".

The remainder of the lecture gave a brief account of Trevithick's many exploits, adventures and innovations. These inventions include the railway locomotive, containerisation of shipping, the Cornish Boiler, mechanical refrigeration, a rock boring machine and screw steamers worked by steam turbines fed by multi-tubular boilers. Individually each one was a significant step forward, but collectively Trevithick's contribution towards the development of the modern world was immense, if not unsurpassed.

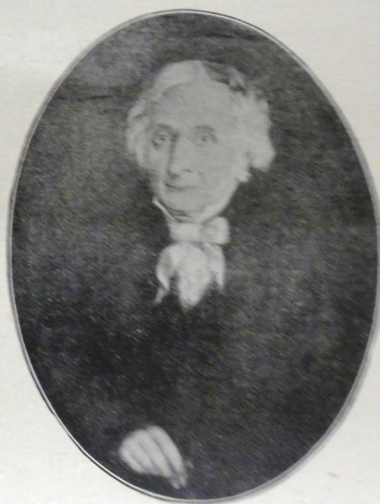
CNF



THE LOCOMOTIVE CENTENARY DEMONSTRATION AT CAMBORNE



RICHARD TREVITHICK



ANDREW VIVIAN

EAST POOL CUT OUTS

A National Trust volunteer named Mike has created a template paper East Pool Mine (EPAL) which can be downloaded at the following address:

<https://www.nationaltrust.org.uk/east-pool-mine/features/recreate-east-pool-mine-at-home>

The Gooseberry Bush Day Nursery, Camborne, made these to celebrate St Piran's Day. As can be seen in the photograph they cut out the template, coloured and created these fine models.

The EPAL engine was once owned by the Trevithick Society and gifted to the National Trust with a dowry in the 1960s, together with Michell's Whim, Robinsons engine of South Crofty (now part of Heartlands), Levant Whim, the Trevithick Cottage at Penponds and an engine house in Devon.

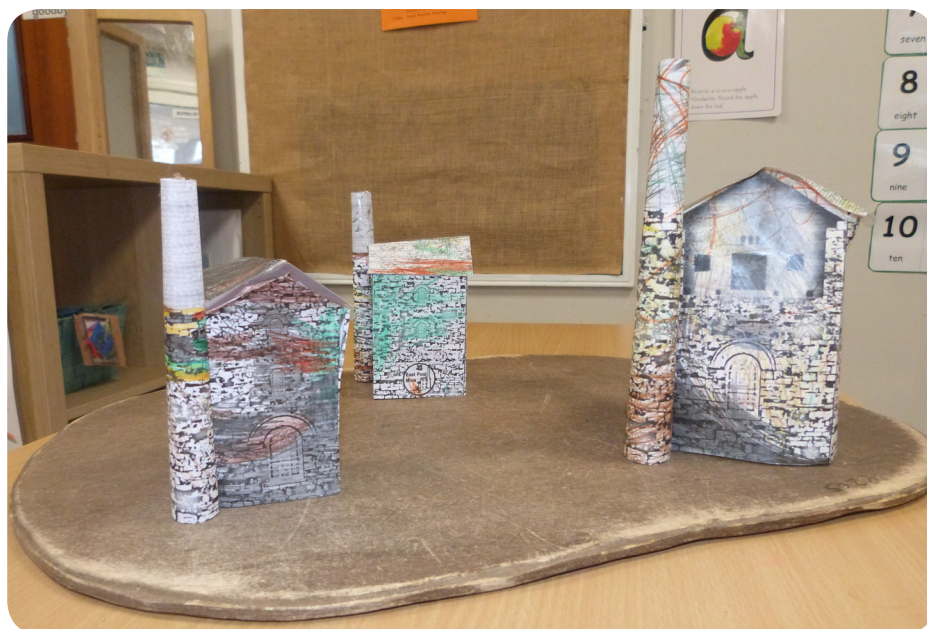
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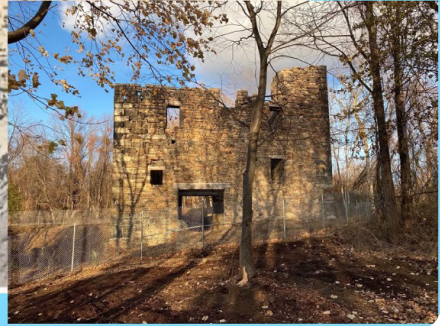
THE PRESIDENT

The Society has been blessed by excellent zoom talks. The most recent was given by Mark Connor from America about The President pumping engine. Amazingly this transatlantic transmission had few glitches and he was even able to show an animated film as part of his lecture.

The President was the largest single cylinder rotative beam engine ever built and had a 110 inch cylinder. It was designed by John West, the son of John West of Tuckingmill, and nephew of the renowned Cornish engineer William West. The engine was "house built" in America and installed at the Lehigh Zinc Mine in 1868-1872 and ran until 1892 when mining stopped and the site abandoned. Remarkably this engine had two cast iron lattice beams, two 30 ft diameter flywheels and was double acting. When working it consumed 30 tons of anthracite a day, ran at 40 psi and was 3000 hp.

The mine itself was shallow reaching a depth of 250 ft, but was very wet, hence the need for such a large pumping engine. The mine had Blende





kilns on site and the processed ore was smelted in Bethlehem about four miles from the mine.

Mark spoke about the remarkable efforts underway to restore the engine house and mine site. The engine itself was scrapped in 1900 and the only remaining part is one of the boilers which has since been used as a water tank in a furniture factory scheduled to be razed later this year. There are plans to move the boiler, 30 ft in length, back to the mine property.

The first part of the project has been one of research: trawling the libraries for information about the mine and The President engine. No photographs have been found of the engine and the original engineering drawings have been lost. However, the engine specification was found in a church archive and 19th century student theses have been very helpful. One in particular had very good drawings which must have been copied from the lost originals. Mine maps have also proven useful for auxiliary buildings. A valuable collection has also been made of historic surface photographs of the mine site.

Another facet of this project

has been the use of modern technology. The engine house has been scanned by stationary and flying drone cameras to create a 3D “point cloud” image with 760,000,000 data points. This has been especially useful in planning how to restore and conserve the building and helpful in seeking funds for the overall project.

The restoration project has proven to be an international affair. Anthony Mount, a model engineer from Devon, has created a truly amazing working model of The President engine. This is due to be shipped to America where it will go on display near the mine site and can be operated using compressed air.

Guy Janssen, from Belgium, has created a very impressive animation of the mine site, above and below ground, which swoops around the buildings and into the engine house. The President engine is fully animated as is the pitwork and the operation of the four plunger pumps and the four lift pumps. Throughout, subtitles explain the workings of the engine and the parts of the mine being viewed. It even shows the water swishing through the launders and into the adit.

When asked how many people worked at the mine and what proportion were Cornish, Mark Connor said the answer was 700 at the mine and smelter and the majority were Cornish and Irish immigrants. His answer was followed by an adage (Rickard, 1932) "the Cornishman knew better than anyone how to break rock, how to timber bad ground, and how to make the other fellow shovel it, tram it and hoist it". In other words it was the Cornish who had the technical skills and held the supervisory jobs - Mine Captains etc.

Below is a link to their website which provides much more information about the project. The animation of The President can be found by clicking the relevant button on the page entitled The President Engine.

www.friedensvilleminesheritage.org

Guy Janssen is now working on an animation of the Carpalla Engine which once stood at St Agnes. The original engine is preserved by the Science Museum and is in store.

CNF

Rickard, T.A., 1932. *A History of American Mining*.

PUFFING DEVIL

The Puffing Devil has been readied for Trevithick Day. It has successfully passed its annual boiler test and has its car tax so can be driven on the highway. On the day of the boiler test, when the engine was steamed to prove the water pump was operating correctly, there was a horrible creaking noise coming from the moving parts. The exact source of this sound could not be identified at the time. The sound comes from within the cylinder and is now thought to be from rust which built up whilst the engine was laid up for the pandemic. When we steamed the engine again the problem faded away.

FROM THE SOUTH AUSTRALIAN ADVERTISER

To the Editor

Sir — I wish to correct an error into which your Gawler Correspondent, "Historicis," has fallen with respect to the nationality of the two eminent civil engineers Trevithick and Vivian, who he supposes were "two Welshmen", Richard Trevithick and Andrew Vivian were Cornishmen, parishioners of Camborne, and related to the writer, whose grandfather, a ship captain, took the first locomotive engine that was ever constructed from Cornwall to London in his ship, the Fortitude, about the year 1802, and he afterwards assisted to run the same on the public highway in the neighbourhood of Kensington. I may add that neither of those surnames are Welsh, the great smelting firm of Vivian & Sons, of Swansea, being Cornishmen from the neighbourhood of Truro.

J. Vivian

Adelaide, 25th June, 1867

MEMBERS' BENEFITS

Trevithick Society members are entitled to free entry (on production of the membership card) to the following attractions:

- King Edward Mine
- Cornish Engines at Pool (East Pool Mine and Michell's Whim)
- Levant
- Geevor Museum
- Poldark – free entry to site and reduced fee for underground mine tour

Also:

- 10% off book purchases at Tormark.
- 10% off purchases at KEM shop.

THE RAILWAY CHILDREN

My great grandad Richard William Sheer Trevithick was a copper miner living and working in Callington and according to research of our family tree is a distant cousin of the Society's namesake engineer. It was learning about that tenuous but fascinating connection that led me to join the Trevithick Society and support the Puffing Devil crew when I can.

Around the turn of the 19th to the 20th Century great grandad moved north to Burnley, Lancashire, in search of work which he found at the Bank Hall Colliery. His brother James Henry "Harry" Trevithick followed a different direction becoming an engine driver which in time took him to India. He worked on the North Western Railway in what is now Pakistan. With the struggles there at the time of the Partition following Independence, Harry returned with his wife Ruby to settle in Callington.

I have been involved with steam locos since as a kid of twelve I joined the fledgling Keighley & Worth Valley Railway Preservation Society. This was back in 1966 long before it became socially unacceptable to encourage youngsters by giving them menial but safe work to do under modest supervision from which they would eventually develop skills of their own tackling bigger tasks and becoming fitters' or boilersmiths' mates. All unpaid of course but with the fulfilment of working on something we had a passion for to achieve a common aim.

Closed in 1961, The Worth Valley branch

reopened to the public in June 1968, the operating company being wholly owned by the supporting Preservation Society in a sort of "Workers Co-operative" arrangement which continues to this day.

Over the years the Railway has been used for many TV and Film productions which included *Yanks*, and more recently *Swallows and Amazons* and *Song of Experience*, about Vera Brittain, come to mind. This story though is about our connection with Jenny Agutter and the role with which she is most associated, *The Railway Children* from the book by E. Nesbitt.

In 1968 the BBC produced a TV serialisation, in black and white and using our Railway, in which Jenny played the elder sister Roberta in the family that was forced by financial circumstances to live in the country after their senior civil servant



father was (wrongly) arrested on suspicion of espionage. Their adventures, and the subsequent release of *Daddy my Daddy* have become extremely well known because Lionel Jeffries took the story to the big screen in 1970 with Jenny Agutter again playing Roberta, Dinah Sheridan the mother, and Bernard Cribbins playing Perks the Porter. Its continuing popularity is such that it still receives regular showings on television channels, often during the Christmas break. Once again KWVR was used as the location and Lionel Jeffries did us a huge favour in retaining the name of Oakworth for the local station over "Meadow Vale" the fictional place in the book.

Although ITV tried a remake based at the Bluebell Railway with Jenny Agutter playing the mother and Gregor Fisher, best known for Rab C Nesbitt, as Perks it lacked the humour and charm that Lionel Jeffries brought to the original and is rarely seen.

Whilst the film industry famously

loves a sequel or two to spin out the benefit, it would appear that the public affection for Lionel Jeffries' film deterred those who might otherwise be tempted to have a go at a remake or sequel. It took 50 years before a sequel, *The Railway Children Return* was put into production and by coincidence around 50 years on from the Victorian/Edwardian era in which the original is set, we find ourselves after the start of WW2. Roberta/Bobbie now with a daughter played by Sheridan Smith, moves to the Oakworth of her childhood along with a host of children evacuated by train from industrial Manchester. It is their adventures including the interaction with a young American soldier which form the theme of the film.

The fictional Great Northern and Southern Railway of the 1970 production has been absorbed at grouping into the real London Midland & Scottish Railway with suitable locos for the period being available from the KWVR's working fleet. The film is a family film and does not





set to achieve every accurate detail for the admiration of the railway enthusiast who will undoubtedly find nits to pick. It promises to be an enjoyable tale though and one set in an era far removed from that of the original story.

My part in the filming was as loco crew driving Midland 4F 3924 on some of the local workings and firing Jubilee 5596 "Bahamas" in some of the scenes involving the train carrying the evacuee children from Manchester (Keighley station dressed to represent Manchester). On the 14th June we were preparing for one of the latter when Jenny Agutter appeared in her personal minibus at around 9 am for what was her first day on set and made a bee line for the engine as soon as she came through the wicket gate. We thought it rather a nice touch and it was obvious that she has some considerable affection for our Railway. She came into the cab with the three of us and there was a bit of small talk. In 1970 because of revising for imminent "O" levels I had attended for just one day of the filming and it turned out that she too had sat her "O" levels that year. There are no prizes for guessing which of us has worn better over the years!

The film is due for release soon and a trailer is available at www.youtube.com/watch?v=CSRXJfbG9FM

Ralph Ingham

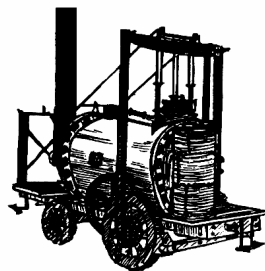
TREVITHICK OVOIDS

"Trevithick Ovoids" is the name being used by Hargreaves Fuel for their solid fuel briquettes formed from 100% Welsh anthracite. The Keighley & Worth Valley Railway has just received a 1 tonne trial load and understands that the Bluebell Railway are on their second full load as a result of difficulties being experienced now with getting steam coal.

I would imagine that these will work in the Puffing Devil once the merchants run out of the bagged lump Welsh coal used up to now.

After May 2023 bituminous coal will not be available to the domestic market. This will inevitably mean coal in 'lump form' will become less and less available to the wholesale market and heritage users.

Ralph Ingham



LEVANT AIR PUMP

Maintenance work continues on the Levant Whim. The air pump is part of the condenser. It is a simple water pump that lifts the hot water from the bottom of the assembly to the top and is driven by a rod hanging from the beam. The piston travels in an iron casting which has a $\frac{3}{8}$ of an inch thick brass liner giving a bore of $15\frac{13}{16}$ diameter. This liner is badly worn especially on the west side which caused considerable problems during dismantling. No repair work has yet been done to the cylinder.

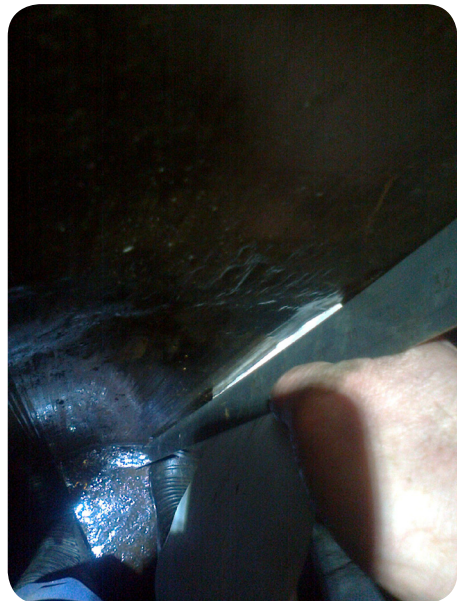
John Woodward



Working conditions.



Taper wear at top of cylinder.



Taper wear at bottom of cylinder.



Above: Cylinder wear.



Right:
Removing rope piston rings.

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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.

ANNUAL SUBSCRIPTIONS:

Individual members	£28.00
Family/joint members	£33.00
Overseas members	£35.00
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