IPENZ Engineers New Zealand

Engineering Heritage

NEWSLETTER - JUNE 2009

3rd Australasian Engineering Heritage Conference

Contents:

1. ENGINEERING TO 1990

Fifty copies of Engineering to 1990 have been reprinted. Peter Blount at DPOD with the assistance from Rob Wilkinson took a personal interest and pride in providing a good quality reproduction of the original. There are two contact points for placing an order of a new copy of Engineering to 1990. Fay Duncan Heritage Administrator fduncan@ipenz.org.nz or if you are in the Auckland region there may be a few copies left with John La Roche johnlaroche@xtra.co.nz. The price is $25.00 per copy.

2. AN ARTICLE ON MR CHARLES WALKDEN, BY ALEX GILL

I'm researching Charles Walkden an engineer who is my wife's great great grandfather and he came to New Zealand from the United Kingdom. I found this obituary dated 27 August 1908, Evening Post volume lxxvi issue 51 on papers past website, which may be of some use to you. I have also been in contact with a resident of Denmark who is currently writing a book about the Brits who built the railways in Europe in the 1800's and which will feature Charles Walkden.

Mr. Charles Walkden

[by telegraph. — press association.] Christchurch, 27th August. News has been received locally of the death on 20th July last, at Capetown, of Mr. Charles Walkden. Who for twenty years was City Engineer of this city. Mr Walkden was a native of London and for a time was in the Lord Chancellor's office, but relinquished his position in order to become an engineer. He was in Denmark during the war between the Danes and the Prussians over the Duchies of Schleswig and Holstein, and he took part in an exciting incident. The Danish troops were being badly beaten, and there was necessity for a masterly retreat to be effected. The line which Mr. Walkden was constructing had not been ballasted, but taking charge of the trains himself, Mr. Walkden conveyed the troops over the line. It took the Prussians three weeks to cover the distance only to find that their enemies had been conveyed by train. In the meantime the Danes had got clear across an arm of the sea. Mr. Walkden had got the engine-drivers to remove the driving wheels from the engines and to put them somewhere that he did not know. When the Prussian arrived they wanted the driving wheels, but Mr. Walkden told them he did not know where they were. They threatened him, but he defied them, and they were no more successful when they attempted to bargain for the wheels. The upshot was that owing to Mr. Walkden's obstinacy the Prussians had to wait nine months till engines were brought from Prussia, and the line could be operated. Mr. Walkden came out to New Zealand under engagement to Brogdens, the railway construction contractors, but lost his position when his employers' contract with the New Zealand government fell through. He was appointed City Engineer, succeeding Mr. Corny Cuff.

During the time he held the position, Mr. Walkden built many of the bridges over the Avon, including the two Armagh Street bridges and the Worcester-street, Gloucester-street, Montreal -street, and Cashel-street bridges. Mr, Walkden was 84 years of age when he died. The only member of the late Mr. Walkden's family now resident in New Zealand is a married daughter, who lives in this city.

Regards

Alex Gill

3 NEWS FROM THE CHAPTERS

3.1 Engineering Heritage Auckland Chapter

3.1.1 Engineering Journals in Auckland Libraries

Until recently when I visited librarians at the University of Auckland Engineering Library, Auckland City Library and Motat Library, I had no idea of the extensive collections of engineering journals they all hold. All have full collections of New Zealand Engineering going back to 1946 as well as lots of other journals and proceedings from British and American institutions, such as Institution of Civil Engineers, Institution of Mechanical Engineers, Institution of Electrical Engineers, American Society of Civil Engineers, to name just a few. These collections generally go back to in the 19th century, some as early as 1837 including articles about engineering structures in New Zealand. There is fascinating engineering information in all of these journals. Unfortunately they are rarely used, possibly because many of us are not aware of this great resource right here on our doorstep in Auckland. All the librarians were very keen to help and provide service. You can view catalogues for the University of Auckland Engineering Library online at www.library.auckland.ac.nz and Auckland City Library at www.aucklandcitylibraries.com

Non–members of University of Auckland Engineering Library are welcome to browse the shelves and can use the photocopiers. Books can be borrowed on interlibrary loan.

John La Roche, johnlaroche@xtra.co.nz

Chairman, IPENZ Engineering Heritage, Auckland Chapter

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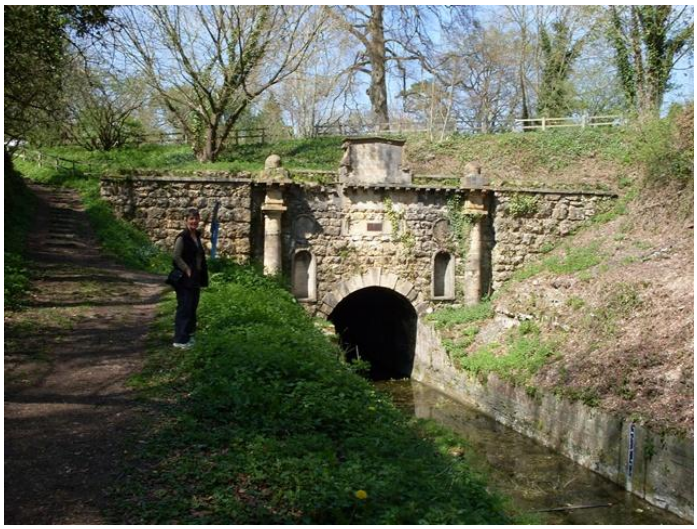
3.2 Engineering Heritage Wellington Chapter

3.2.1 Highlights of a UK Trip: Rob Aspden, April to June 2009

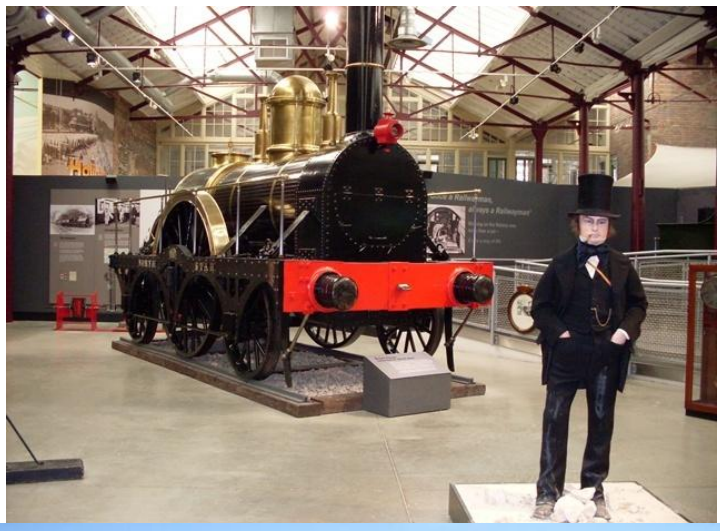
It wasn't intended to be an engineering heritage trip to Britain but there is so much interest in the proud engineering history in Britain that it is to be easily found in many areas. Admittedly I was expecting to attend a meeting of the Advisory Panel for the ICE Engineering History and Heritage journal on which I sort of represent New Zealand's interests. This was my first meeting other that the ones I have attended by conference call at some unearthly hour in the morning (the regular meetings being at 2 pm London time). There was some discussion of the annual cost of the journals (four issues a year, current cost, £230 pa) during which I suggested that the cost was not likely to encourage

subscriptions. I learnt that members of ICE could obtain the journal at substantially reduced cost and that IPENZ could subscribe at this concession rate. Apart from attending the meeting, the visit to the esteemed halls of ICE was a heritage experience on its own!



But my first contact with engineering heritage was with the Thames and Severn canal. We were staying near Stroud in Gloucestershire and were able to walk along the side of part of the old canal now in a very derelict state. However firm plans are in progress for its refurbishment – a sure sign of the value that Britain places on its heritage, not only for its tourism value but also for recreation. We walked up to the western portal of the Sapperton tunnel (**Fig 1**).

The tunnel is nearly 3½ km long and the canal was completed in 1789. Incidentally there is an interesting description of a canal boat going through this tunnel in one of C S Forester's Hornblower novels ("Hornblower and the Atropos") when Hornblower himself had to help the canal boatman "leg" the boat through the tunnel.



Nearby, at Swindon, I found time to go into the Steam museum where of course I met up with Isambard Kingdom Brunel and some of his engines (the "North Star" with the man himself standing in front). The museum is located in part of the old railway workshop in the town which of course was once a very important part of Brunel's Great Western Railway(**Fig 2**).

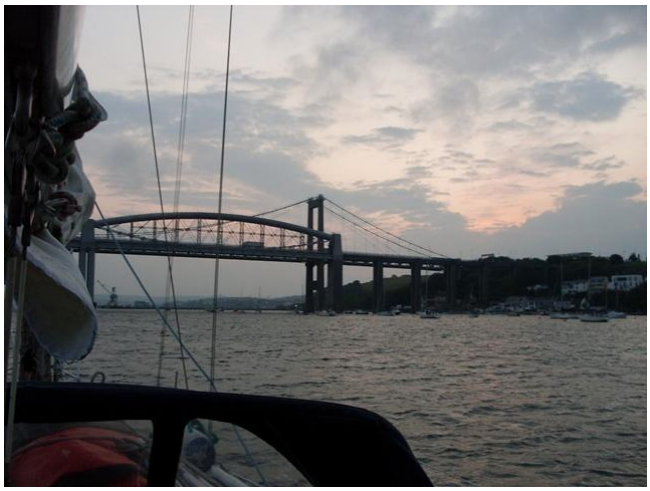
Down in Cornwall, we stayed in a house right above the Bude canal sea lock (**Fig 3**).
This and the first section of the canal have recently been beautifully refurbished. The sea lock is not often operated but we were lucky enough to see this operate when a brave

young tetraplegic woman set off to continue her lone sail around the British Isles. The canal is relatively unusual not only for its sea lock but also for its use of inclined planes to lift the sand barges using the canal to proceed up to the next level. None of these have been renewed but there is an excellent model of one in the local museum. It was pleasing to see how well used the canal was for recreation

Also in Cornwall are many reminders of the tin mining past (and we are reminded of the contribution that Cornish miners made to mining around the world). We visited one of the old pump houses which are now a museum of tin mining (**Fig 4**).

And talking of mining we experienced (at least in a small way) the dark world of the Welsh coal mines when we went underground in the preserved Big Pit coal mine in Blaenavon, Wales. We quickly found why it was an advantage to be short in Wales!

We jumped at the chance to sail on the Tamar estuary and Hamoaze Harbour at Plymouth. I had the honour of being at the helm taking our yacht under the famed I K Brunel Saltash rail bridge (**Fig 5**).



And on Dartmoor (near the famous prison) walked on an ancient clapper bridge at Postbridge.

Our engineering heritage experiences were not confined to Britain. During a brief visit to Germany we went to see the Eder dam (originally completed in 1914). This was one of the dams attacked and damaged by the Dambusters raid in 1943.

The photo here (**Fig 6**) shows the dam from the right bank. The section that was damaged is the part near this end where there is a gap in the dewatering sluice openings. We also visited a museum nearby commemorating the raids. Of more recent vintage were two big pump storage schemes a little way downstream on the Eder River. The

more recent station, Waldeck II, is capable of generating 440 MW and was completed in 1973. It is an underground station which we were not able to visit, but the older Waldeck I station has a cable car installed beside the penstocks to enable visitors to get to the top reservoir (**Fig 7**).

It seemed well patronised and it was good to see the engineering achievement made so accessible to the public.

Of course my engineering highlights were not limited to heritage engineering. The extensive motorway system in Britain and European countries (not always a joy to be on!) make long distance motoring easier (usually!). I was also impressed with the extensive photoelectric cell systems being put on house roofs in Germany. But it was the unexpected encounters with heritage that I enjoyed most and also the obvious pride and care with which so much is being restored and displayed. Lots of food for thought!

3.3 Engineering Heritage Dunedin Chapter

3.3.1 Engineering Heritage Conference to be held In Dunedin In 2009

3rd Australasian Engineering Heritage Conference

Engineering in the Development of a Region – Heritage and History

SALMOND COLLEGE, UNIVERSITY OF OTAGO, DUNEDIN, NEW ZEALAND 22–25 NOVEMBER 2009

This conference is part of a cycle of Australia & New Zealand engineering heritage conferences. There is a conference every other year, but most of these are held in one of the Australian cities. The 1st Australasian conference was in Christchurch 1994 and the 2nd in Auckland 2000. Previous Australian conferences include Sydney 2005 and Perth 2007. A preview of the next conference was presented at the Perth conference and liaison has continued between New Zealand (IPENZ) and Australia (EHA) Engineering Heritage groups.

The 3rd Australasian Engineering Heritage Conference is being planned for November 2009, in Dunedin, New Zealand. The Conference organisers are now inviting preliminary expressions of interest to participate, as registrants, as keynote speakers, as authors of papers or poster presentations, or to be on the pre-conference tour. Further information including the conference programme, pre-conference tour itinerary, call for papers and registration details will be provided from later this year.

An aim of this conference is to tell more about engineers, engineering achievements and their impacts on communities and people's lives. The themes and topics below are an indication of the proposed programme and the basis of a call for papers and invitations to keynote speakers.

Conference Themes and Topics include:

- **Agricultural Development** (irrigation & drainage; flood protection; refrigeration engineering; process industries; machinery; sawmilling; buildings)
- **Power** (hydro-electric; wind; steam; diesel; gas)
- **Transport and Communications** (roading; bridges; railways; shipping and shipbuilding; harbours and ports)
- **Resource Extraction** (Gold - mining; sluicing; dredging; tunneling; smelting. Coal. Scheelite. Oil shale)
- **The People** (entrepreneurs; communities; businesses; manufacturers; engineers; innovators)

These will be reviewed as we proceed.

Conference dates: Sunday 22nd November 2009 through Wednesday 25th November 2009.
Social gathering and welcome on Sunday evening.
3 days of sessions, including a Tuesday afternoon breakout for a local tour and a public lecture at a suitable engineering heritage venue.
4 day pre-conference tour Thursday – Sunday.

Co-hosted by Institution of Professional Engineers New Zealand (IPENZ) and History Department University of Otago

Further information will be available as conference planning proceeds.
Refer to IPENZ Engineering Heritage website: www.ipenz.org.nz/heritage or
Contact: Lloyd Smith, Chairman IPENZ Engineering Heritage Otago Chapter
64 Ann Street, Roslyn, Dunedin 9010, New Zealand
Email: EHConference09@ipenz.org.nz

IPENZ ENGINEERS NEW ZEALAND

ENGINEERS AUSTRALIA

UNIVERSITY of OTAGO Te Whare Wānanga o Otāgo NEW ZEALAND

September 2008

3.3.2 On Line Registration

Registration for the conference as well as the options of pre and post conference tours (control + left click) on the following link.
Link to register: https://www.ipenz.org.nz/ei/getdemo.ei?id=33&s=_2YO0ZVG41

The link is also on the website
www.ipenz.org.nz/heritage