

ROAMIN' IN THE GLOAMIN' FOR SCOTTISH INDUSTRIAL TREASURES

by Alan McEwen – October 2006



An old bandsaw lies abandoned in the slate quarry at Easdale, Inner Hebrides. In the background is one of the flooded slate quarries, a disastrous storm in 1881 caused a tidal wave that swamped the workings.

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SCOTTISH INDUSTRIAL TREASURES

It was one of those wonderful, golden October afternoons and I was driving through the dramatic and beautiful hills and glens of Scotland's Border country enjoying the wide variety of autumn colours of the surrounding woodlands; the rich yellow leaves of the birches, the deeply copper-hued leaves of the beeches and the glowing reds of the oaks that contrasted strongly with the lush green meadows and the sparkling quicksilver of the fast-flowing burns.

I was heading a hundred miles southwards, back to my Farling Top Boilerworks on the Lancashire-Yorkshire border feeling satisfied with my firm's endeavours which had involved the installation of a small McEwen-built steam boiler into a bakery in a small town in Dumfriesshire. The job had gone well and I was pleased and elated.

I am not too keen on using the motorways; you can't stop and explore, and you are forced to drive that fast that you can't see much in the way of ancient industrial remains anyway. My preference therefore is to take my time and use the quiet and peaceful hill roads that snake their way between the attractive small towns and isolated hamlets of the Border country.

Whilst travelling, I have always endeavoured to be on the lookout for curious, long-abandoned, old industrial relics: mines and quarries, water-powered mills, packhorse bridges, old agricultural machinery, old steam plant, quaint carved date-stones, mill chimneys and all manner of industrial remains. I hope that one day, perchance, I will discover a long-abandoned traction engine or steam waggon in an old crumbling barn!

I hope that the following photo tour of Scotland gives a flavour of what can be found if you just take the time to stop and search.....



***Thomas Telford Memorial constructed from granite; the plaques are made of cast bronze.
The middle plaque beneath the portrait of the famous Engineer is inscribed thus:***

**THOMAS TELFORD FRS
BORN AT GLENDINNING 9TH AUGUST 1757
PRESIDENT. INSTITUTION OF CIVIL ENGINEERS
FROM 21ST MARCH 1820 TO THE TIME OF
HIS DEATH 2ND SEPTEMBER 1834**

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On motoring into the small hamlet of Westerhill which has an attractive red sandstone bridge of 1734 that leaps across the river Esk, I stopped my car outside the small stone-built library with the intention of photographing the splendid memorial built into a wall, dedicated to one of the Industrial Revolution's most prominent civil engineers: Thomas Telford.

This nationally famous Scottish engineer was born at nearby Glendinning in 1757.

The genius Engineer Thomas Telford was also an acclaimed poet:

**Deep 'mid the green sequester'd glens below,
Where murmuring streams among the alders flow,
Where flowery meadows down their margins spread,
And the brown hamlet lifts its humble head.**

Telford's left-hand plaque reads:

**THIS SEAT WAS ERECTED IN 1928 TO PERPETUATE
THE MEMORY OF THOMAS TELFORD SON OF THE UNBLAMEABLE SHEPHERD AND
TO RECORD HIS FAME AS AN ENGINEER AND HIS UNTIRING BENEVOLENCE
APPRENTICED TO A STONE MASON IN LANGHOLM HIS GREAT CREATIVE
GENIUS GAVE TO THE NATION MANY WORKS OF INESTIMABLE BENEFIT.
HE WAS THE FIRST PRESIDENT OF THE INSTITUTION OF CIVIL ENGINEERS.**

The right-hand bronze plaque is engraved with another of Telford's delightful poems:

**"THERE AMONGST THOSE ROCKS I'LL FORM A RURAL SEAT
AND PLANT SOME IVY WITH ITS MOSS COMPLEAT
I'LL BENCHES FORM OF FRAGMENTS FROM THE STONE
WHICH NICELY POIS'D WAS BY OUR HAND O'ERTHROWN.
TELFORD**



Stalker Brothers, Penrith, Cumberland - built cast-iron meadow roller, that I discovered lying in marshy ground at the side of a country lane near Westerhill, Dumfriesshire.

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Just after leaving Westerhill on negotiating a tight left hand bend in the road, I suddenly noticed a rusty, cylindrical contrivance poking up through the long marsh grass at the side of the road.

Stopping the Picasso, I got out and strode over to the marsh clutching my ancient and much abused Olympus OMI camera. The enigmatic, rusty piece of machinery on my close inspection turned out to be a late 19th century-built cast-iron horse-drawn meadow roller. This was quite an interesting agricultural relic and cast prominently into the two end-plates was the maker's name: **STALKER, PENRITH CUMBERLAND**. I well remembered Stalker's old engineering works in Penrith; it had a well-equipped blacksmiths forge and a foundry and up until the early 1990's the whole works was an extremely interesting industrial museum which housed a large Pollit and Wigzell horizontal mill steam engine, and the front end-plate of a Lancashire boiler. This latter artifact always caused me to dream of owning one - some day!!!

After photographing the old roller I scoured the whole area in vain with the hope of finding other relics. This tale typically illustrates that if you take your time when journeying virtually anywhere and that you are observant, then you may get lucky and chance upon all sorts of treasures.

WANLOCKHEAD, DUMFRIESSHIRE

The ancient lead mining village of Wanlockhead is situated at an elevation of 1560 feet in the Lowther Hills around thirty miles north of Dumfries, and has the distinction of being the highest village in Scotland. Overtime, some extremely rare mineral deposits have been found hereabouts, including gold and silver. The most renown of a number of local mining engineers in this part of Scotland is William Symington, who was born 1764 at Leadhills; he died in 1831. Symington was a pioneer of steam navigation and in 1801, constructed the famous canal tug-boat, the Charlotte Dundas which operated on the Forth-Clyde Canal. In 1789, Symington also constructed his 'improved atmospheric' steam pumping engine to drain a lead mine at Wanlockhead.



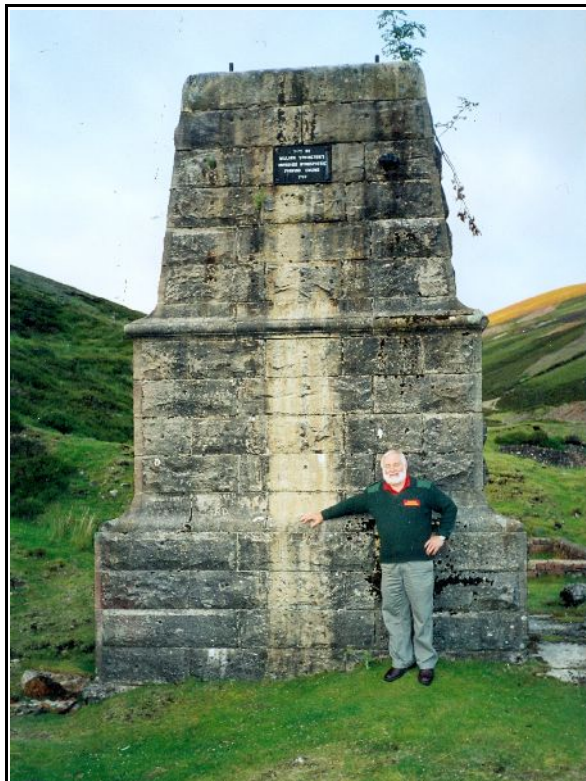
WILLIAM SYMINGTON'S MEMORIAL.

This beautiful carved obelisk in Leadhill's church yard stands amidst some of the wildest yet hauntingly-beautiful country in southern Scotland. Close by is the small cottage where this famous Scottish engineer was born in 1764.

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A superbly cast relief of the "Charlotte Dundas" steam-tug of 1801 with its waggon type steam boiler and single cylinder horizontal steam engine connected to a paddle wheel in the stern.



SYMINGTON'S BEAM ENGINE ENTABLATURE

This 16 feet high beam engine entablature, constructed from rough red sandstone blocks is enhanced with carved mouldings. It is located at the 1600 foot contour in a wild glen above Wanlockhead.

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THE WANLOCKHEAD BEAM ENGINE

This striking, enigmatic beam pumping engine was originally constructed to pump water out of Straitsteps Lead Mine. It is in fact a rare surviving water-bucket pumping engine. In Scotland, these water-balance beam engines were known as "Bobbing Johns".

The Wanlockhead water-bucket beam pump is considered to have been built around the mid-nineteenth century. So how did this engine work? Fastened to one end of the massive wooden beam is a pump-rod which was originally connected by timber rods to a pump bolted onto a rising main located at the bottom of the mine shaft. A crosshead at the opposite end of the beam carried the wooden bucket. The power-stroke required to operate the pump was obtained by the bucket being filled with water, piped from the Wanlock Burn. When filled, the weight of water caused the bucket to descend into a stone-lined pit, causing the beam to pivot; the pump rods rising up from the shaft bottom thereby powering the pump.

On descending to the bottom of its pit, the water-bucket automatically drained due to an ingenious, yet simple valve being activated; the water draining away into the burn. The weight of the pump rods would then cause the beam to pivot the other way resulting in the now empty water-bucket to rise; another simple water filling valve was thus activated which allowed water to flow into the bucket again. Providing there was plenty of water, then the pumping action could go on almost indefinitely. **This was the water-balance or water-bucket beam engine.** Useful in remote regions without roads and having no coal for steam engines.



The Wanlockhead Beam Engine
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SUMMERLEE HERITAGE PARK, COATBRIDGE, NORTH LANARKSHIRE.



The attractively restored Summerlee Ironwork's office building, whilst in the foreground are two impressive steel plate manipulating machines; the one nearest the camera, a vertical plate rolling machine, the other a horizontal heavy plate bending and folding machine. Both built in Lanarkshire.

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SUMMERLEE HERITAGE PARK

Rated as one of the premier industrial heritage centres in Scotland and well worth a visit. This splendid industrial museum, located around the site of the 19th century, Summerlee Ironworks and the restored section of an arm of the Monklands Canal, is extremely "atmospheric". On display is an interesting collection of Scottish-built steam locomotives, a large Marshall portable steam engine driving a sawmill and an amazing display of machine tools, heavy plate rollers and plate bending machines originally built in Scotland for the ship-building and boilermaking industries.



Summerlee Heritage Park

This is the one for boilermaking buffs!

The boiler that the author is leaning on, is a sectioned Cochran Vertical, one of the most famous makes of boiler in the world and constructed at Annan in Dumfriesshire. The other boiler is a typical vertical cross-tube boiler, once built by scores of boilermaking firms all over Scotland and the rest of the UK.

The Cochran Vertical were extremely efficient steam raising boilers and size for size could easily out-perform the simple, rather sluggish steam production of the vertical cross-tube types. Both types were used in virtually every industry ranging from donkey boilers for marine use, laundries, pig farms, dairies and multi-farious industries and would until the 1960's, be coal-fired. The author has repaired scores of both types in factories all over Britain.

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KEITHBANK MILL, BLAIRGOWRIE, PERTHSHIRE



Horizontal steam engine at Keithbank Mill, Blairgowrie, Perthshire, thought to have been constructed by Carmichael of Dundee in 1864.

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KEITHBANK MILL, BLAIRGOWRIE, PERTHSHIRE

Regrettably, there aren't many surviving stationary steam engines in Scotland. However, several years ago I had the good fortune by way of an invitation from the mill's owners to carry out a survey on a most interesting and relatively large horizontal mill steam engine.

The horizontal single cylinder condensing engine was probably constructed by Carmichael of Dundee in circa 1860. The cylinder measured 21in. x 48 in. stroke, drop inlet valves, flywheel cylindrical in section. Another interesting relic at Keithbank Mill was a high breast waterwheel, built by John Kerr & Co. Dundee in 1864. The wheel is 17 feet - 6 inches in diameter by 13 feet wide and has rim gearing.

ISLE OF SKYE

NEIST POINT LIGHTHOUSE



Rushworth Bros. of Colne, Lancashire built loading crane at Neist Point Lighthouse on the Isle of Skye. Alan poses to give the sense of scale.

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Over the sea to Skye and at Neist Point Lighthouse, suddenly on sighting this loading crane from atop the high cliffs to the rear of the photograph, we hurried across the windswept rocky terrain to investigate the spidery structure. All about was a mass of gas-axed steel platework, part-riveted, part-welded, old valves etc. The crane maker's plate revealed that it was manufactured by Rushworth Bros of Colne, Lancashire; Works No. 1989; 30 feet jib; using double-gear maximum load 3 tons; single gear load - 14 cwts.

Colne being local to my home, just a cockstride over Cowling Moss; so on returning home, I did a little research into Rushworth Bros' history. The firm was established in 1865 and was known as George Rushworth & Son Ltd. The firm specialised in manufacture of looms and associated textile machinery and overtime expanded to become one of the most renowned engineering firms of the East Lancashire cotton towns. Rushworth's built a number of small mill steam engines, and were millwrights, servicing and repairing many of the local mills' steam engines. Later the firm constructed numerous hoists and cranes.



Alan McEwen deep in thought. Hell's Teeth, what the heck was this lot? After spending a couple of hours pondering, the author deduced that this pile of scrap- metal had once been a water-treatment plant, probably used by the nearby Neist Point Lighthouse.
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ISLE OF SKYE, LUIB

Still on Skye, at Luib, whilst clambering up a deadly heap of loosely stacked rock waste in a long-abandoned quarry, I discovered this very interesting belt-driven rock crusher manufactured by W.H. Baxter Ltd. Of Leeds. This interesting rhyme is cast into the endplate:

**LUBRICATE THIS BREAKER WELL
 TIGHTENED BOLTS PREVENT ALL RAPPING
 AND BE SURE ALL PARTS ARE CLEAN
 THATS THE WAY TO KEEP IT "KNAPPING".**

What an interesting, old piece of quarry machinery.



At a long-abandoned quarry at Luib, Isle of Skye, stands this interesting belt-driven rock crusher.

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INNER HEBRIDEAN SLATE ISLANDS

EASEDALE SLATE QUARRIES

Beautifully situated off the wild west coast of Argyll in the Sound of Lorne, about eight miles south of the attractive port of Oban, lie the Slate Islands of Seil, Luing, Belnahua and Easdale. The tiny island of Easdale, less than a mile across in any direction is rich in massive deposits of slate. In the 18th and 19th centuries Easdale's slate production then ranked as one of Scotland's most important industries. Many of Scotland's ancient and prestigious buildings are roofed with Easdale slate: Armaddy Castle in Lorne, built 1676, Stalker Castle in Appin built 1631, and the 14th century-built Glasgow Cathedral among them. Around the mid-19th century, between 7 million and 19 million roofing slates were exported annually to New Zealand, Australia, the West Indies and the eastern United States, giving rise to claim, that Easdale was roofing the world!. Most of the slate quarries closed around the 1914-1918 war. There is a splendid museum that tells the story of the Slate Islands located at Ellenabeich village on the Isle of Seil. Well worthy of a visit, the scenery is breathtaking!



An old vertical cross-tube steam boiler almost buried in slate waste. It was possibly used originally to power a steam crane in the slate quarry.

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