

# Eugenius Birch

Extract from [eastlondonhistory.com](http://eastlondonhistory.com). Saturday, June 28th, 2008

Eugenius was born in Gloucester Terrace, Shoreditch on 20 June 1818 to grain dealer John and wife Susanne.

From an early age Eugenius was fascinated with the mechanical advances of his age – early Victorian England saw the march of steamships, the railways and the canals that began to criss-cross the country. Living in the East End he was at the heart of this burgeoning transport network. He watched enthralled as the Regent's Canal was cut inland from the Limehouse Basin, and watched the early steamships emerge from East End shipyards.

So inspired was he that when still a boy he submitted a model of a railway carriage to the Greenwich Railway Company. Cleverly, he had put the wheels under the carriages and not on the sides, freeing more room for the passengers. And at just 16 Eugenius was employed at Bligh's engineering works in Limehouse, and then joined the Mechanics' Institute.

In 1837, the 19-year-old Eugenius received a silver Isis Medal from the Society of Arts for his drawing of a marine steam engine. And he showed a rare gift for draftsmanship too – in 1838 he received a silver medal for his drawings and description of Huddert's rope machinery.

In 1845 Birch went into partnership with his elder brother. Like the other great engineers of the day they didn't specialise in one area. Soon they were at work building railways, viaducts and bridges, including the Kelham and Stockwith bridges in Nottinghamshire.

And like a good Victorian, he took his work out into the Empire, getting involved in the building of the Calcutta-Delhi railway line in India.

But it is for a seemingly trivial branch of his work that Eugenius Birch found fame among the Victorian engineer-inventors. His 14 seaside piers around the coasts of England and Wales were to give delight long after many of his bridges had been demolished and his rail lines terminated.

'The seaside' was becoming hugely fashionable in Victorian Britain. People became convinced of the health-giving qualities of a brisk ozone-filled breeze and a dip in salt water. The aristocracy and ordinary East Enders alike took the new rail lines to the coast to escape the smog of London. When a group of Margate businessmen decided to raise the profile of their resort by building a pier in 1853, they handed an open commission to Birch. He brought two innovations to the project. First he imported the Indian styles and decorations he'd absorbed from his time on the sub-continent. But more crucially, he introduced the startling innovation of screw piles.

Previously the supporting piles of piers had been wooden posts hammered into the seabed, and usually supporting a flimsy 'chain pier', a kind of suspension bridge in effect. But Birch fitted screw blades to the bottom of iron piles and simply screwed them into the ground. So strong was this foundation that Margate Pier survived right up to January 1978 when severe storms finally broke it. Even attempts to bomb the remains failed and the pier head still juts defiantly out of the water several hundred metres off shore.

More commissions followed –Blackpool North, Aberystwyth, Deal, Hornsea, Lytham, Plymouth, New Brighton, Eastbourne, Scarborough, Weston-Super-Mare Birnbeck, Hastings and Bournemouth – and the most famous of them all, the West Pier at Brighton.

It took a few years for the significance of Eugenius Birch's innovation to be appreciated, but once it did seaside piers and Birch became very fashionable. It was now possible to build piers that were not just safe and long-lasting, but which could take many more day-trippers. From 1862 to 1872, 18 new pleasure piers were built. Piers were now a must for a seaside resort, and most were built using screw piling.

Brighton West Pier, with its oriental octagonal kiosks and the long ornate lines of seats was widely admired, and much copied. Today of course, it's a tumbledown wreck, and was shut down in 1975. But the piles he drove into the seabed still stand, resisting corrosion from the sea and the wind.

It would be unfair to remember Birch just for his piers. He designed the Devon and Somerset railway, Exmouth Docks, Ilfracombe harbour, and West Surrey waterworks. He also produced beautiful watercolours during his travels in Italy, Egypt and Nubia. But for generations of East Enders who have taken the sea air at Brighton, Margate and Hastings, his pleasure piers remain his crowning monument.