

## Chester Cathedral

### History

Chester Cathedral was one of the first Church of England Cathedrals, having been founded by Henry VIII in 1541, the year after the Dissolution of the Monasteries. However, the Benedictine Abbey that it superseded and which is still very much in evidence on the site, had been founded around 1092. The site had originally housed a Saxon Minster and the remains of St Werburgh are recorded as being on the site from 907. Henry must have held the Abbey in high regard because he gave the monastery back to the Church and the first Dean of the new Cathedral had been the last Abbot of the Monastery

The buildings then appear to have been largely neglected for the next 300 years until Sir George Gilbert Scott was asked to carry out major restoration work in the late 19<sup>th</sup> Century. Some of Scott's ideas were actually carried out by Sir Arthur Blenheim, his successor and further work was done by Scott's grandson, Giles Gilbert Scott, architect of Liverpool Anglican Cathedral, from 1908. He restored the cloisters and designed the rood. In 1975 a separate bell tower was erected because of concerns about the instability of the cathedral tower.



**Gurney Stove in Chester Cathedral**

## Heating

In recent years an effective modern heating system has been installed but for about 100 years the Cathedral relied on Gurney Stoves for its heating and humidification. Goldsworthy Gurney had patented his heating stove in 1856 with 'Certain Improvements for Warming and Moistening Air'. Gurney Stoves appear to have been a very popular method for heating cathedrals in the 19<sup>th</sup> Century and, according to The London Warming & Ventilating Company, were installed in more than 20 cathedrals as well as over 5000 churches.

The original stoves burned solid fuel and fumes were conducted to the outside by means of a chimney. Many of these, including those at Chester, were eventually converted to operate with gas, those in Ely Cathedral as recently as 1985, but the Gurney Stoves in Chester Cathedral are no longer operational.



Detail of stove

An extensive search of the Chester Cathedral Archives has failed to reveal exactly when the Gurney Stoves were installed but they were certainly in use when George Gilbert Scott began his restoration work around 1868. They would very probably have been installed in the early 1860s.

## **Lighting**

Barber's handbook of the Cathedral written in 1910 records an interesting anecdote about a large gaslight designed by Sir George Gilbert Scott and created by Skidmore, a local blacksmith. It is described as a 'large and handsome gas corona with many lights' and it was hung in the centre of the tower.

Barber records that 'It was only lighted once at great risk to the man who undertook the task. The heat put the organ entirely out of tune and threatened the adjacent woodwork with the possibility of catching fire.'

## **Sir Goldsworthy Gurney (1793 – 1875)**

Extensive information about Goldsworthy Gurney can be found on the CIBSE Heritage Group website ([www.hevac-heritage.org](http://www.hevac-heritage.org)) however, it may be appropriate to summarise some of that here. There are some parallels with David Boswell Reid in that he also trained as a Physician, taught chemistry and was involved with the Heating and Ventilation for the Houses of Parliament.

Gurney was a prolific inventor and has for far too long gone unrecognised as the inventor of the steam locomotive. His steam-driven 'horseless carriage' conveyed passengers from London to Bath and back again over the normal stage-coach route some time before the Rainhill Trials had even taken place. His carriage also operated a scheduled regular passenger-carrying steam locomotive service between Cheltenham and Gloucester four times a day for many months before the Government crushed this project by laying heavy turnpike tolls for 'horseless carriages' and gave the advantage back to the new railways.

One of Gurney's patents was for the 'steam-jet' and it was his positioning of a steam-jet in the smoke stack of his locomotive which allowed more power to be obtained by forcing the smoke up the chimney and thus drawing air over the furnace at a greater rate. The same steam-jet is still used in all steam locomotive chimneys and it is the steam-jet which gives the characteristic noise and regular puffs of smoke when locomotives are running. It is said that George Stephenson's Rocket did not have a steam-jet fitted the day before the Rainhill Trials and that he then saw Timothy Hackworth's Sanspareil being tested. Stephenson had a steam-jet fitted overnight and went on to win the trials but he was certainly not the 'inventor' of the steam locomotive.

Another Gurney invention was 'Limelight' in which a flame using oxygen and hydrogen has lime added to it. This produced a very intense light source which became popular in theatres but Gurney also used it to good effect with mirrors and lenses to light the whole of his house from one source and to light the Houses of Parliament from a small number of sources.

## **Sources**

- Chester City Archive