

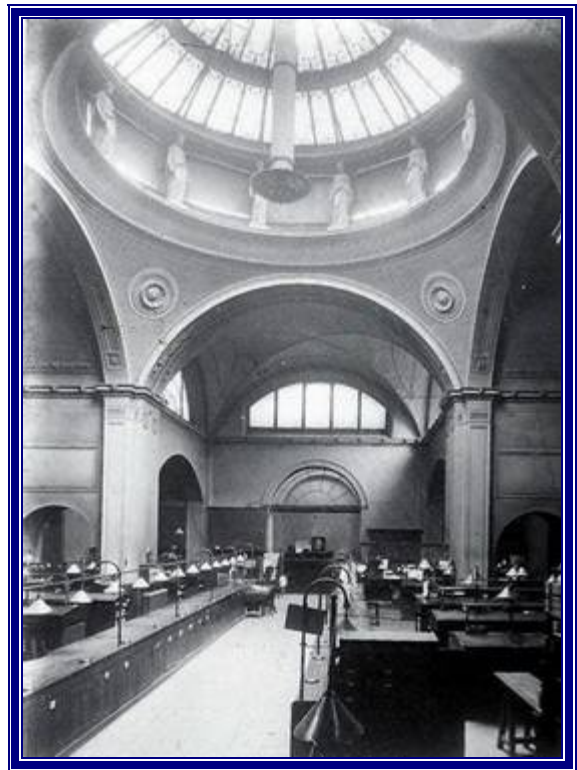
# Sir JOHN SOANE & The BANK of ENGLAND

*By EurIng Brian Roberts, CIBSE Heritage Group*

The Bank of England started in Mercer's Hall but soon moved to the Grocer's Hall and then, in 1724, to the private house of Sir John Houblon, head of the bank. In 1732 it was decided to build a new bank building "a house of seven bays and two and a half storeys with upper giant columns and pilasters .... inside was a banking hall of 73 by about 39 feet." The architect was George Samson. From 1765-70 the bank was enlarged to the designs of Sir Robert Taylor, featuring a rotunda of about 60 feet diameter, off which radiated four vaulted halls each 65 by 45 feet.



**Sir John Soane, 1753-1837**



**The Bank of England's Consols Office, built 1799**

John Soane was a notable English architect, trained in the office of Henry Holland before being awarded the King's Travelling Studentship in 1778 and visiting Italy on the Grand Tour. On his return in 1780 he found it necessary to earn a living by carrying out various small works until, fortunately, he was appointed to carry out alterations for William Pitt at Holwood House in Kent. It was through this connection that he gained the Surveyorship of the Bank of England. This appointment, in 1788, gave him status and security. He was to make significant changes to the bank. From 1788 to 1823 the new building increased in size to cover an area of 3 acres as Soane added hall after hall - a matter of sheer prestige, halls that were much larger than the transactions taking place in them needed to be.



The Bank of England: Alterations and Additions, 1788-1827 during the time Soane was the architect. The Bank is popularly nicknamed "the Old Lady of Threadneedle Street."



Engravings of the Bank of England from around 1830

Throughout his career, Soane took a special interest in the development of heating systems. In this he was ably assisted by his assistant Charles James Richardson who wrote an important book on the subject: *A Popular Treatise on the Warming and Ventilating of Buildings*, 1837. During this period there were numerous advances in central heating which saw changes from fireplaces and stoves to steam, hot air and hot water systems -the latter usually being of the high pressure hot water type patented by Angier March Perkins in 1831.

Soane experimented with various heating systems in the Office-Museum he created in his own house at 12-14 Lincoln's Inn Fields. He employed fireplaces and stoves as well as three different types of central systems. (Details of these trials are given in considerable detail in the paper by Willmert).

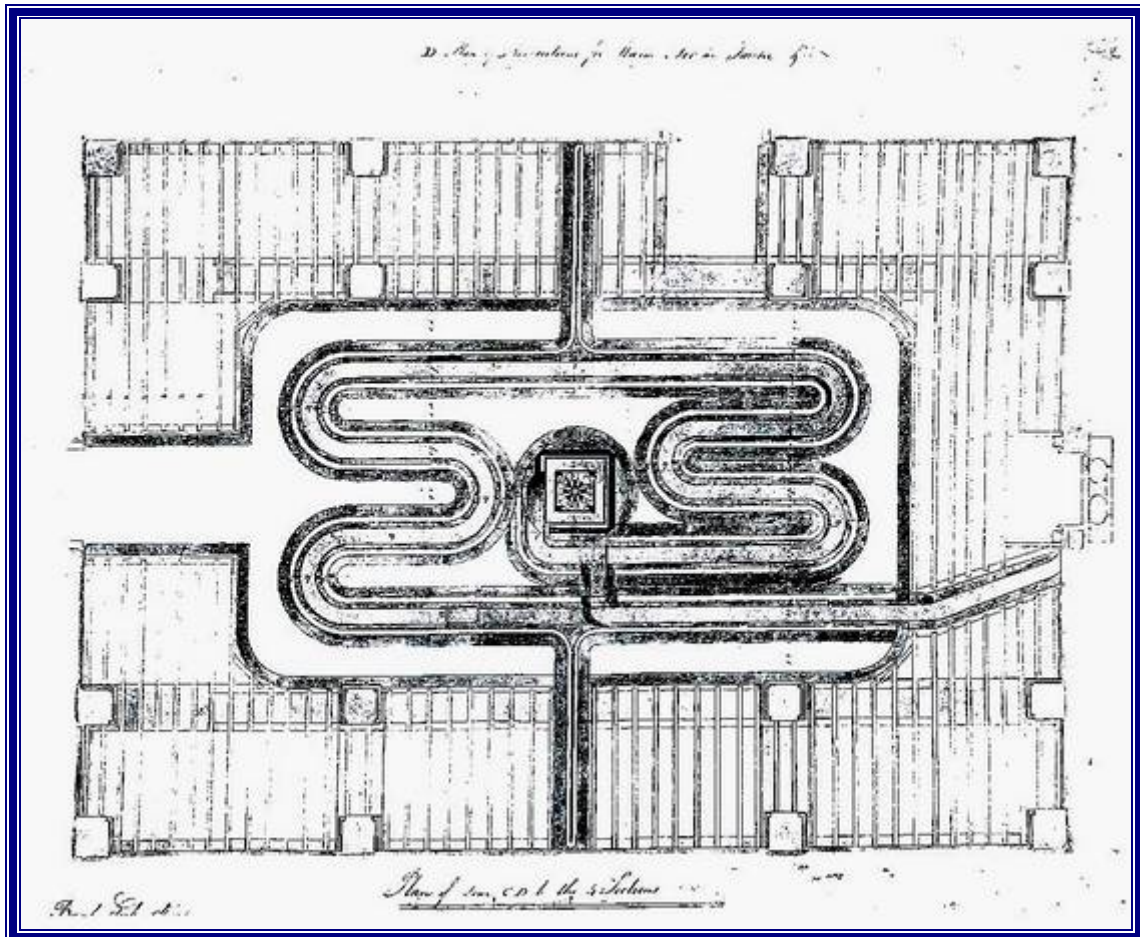
For Dulwich Picture Gallery, begun in 1811, Soane explored a number of heating options before deciding on a steam system. In 1812, Matthew Boulton and James Watt (sons and namesakes of their famous fathers) were awarded the contract for £270. The installation was regarded as unsuccessful, it being reported that leaking joints caused dry rot but not everyone agreed with this conclusion,



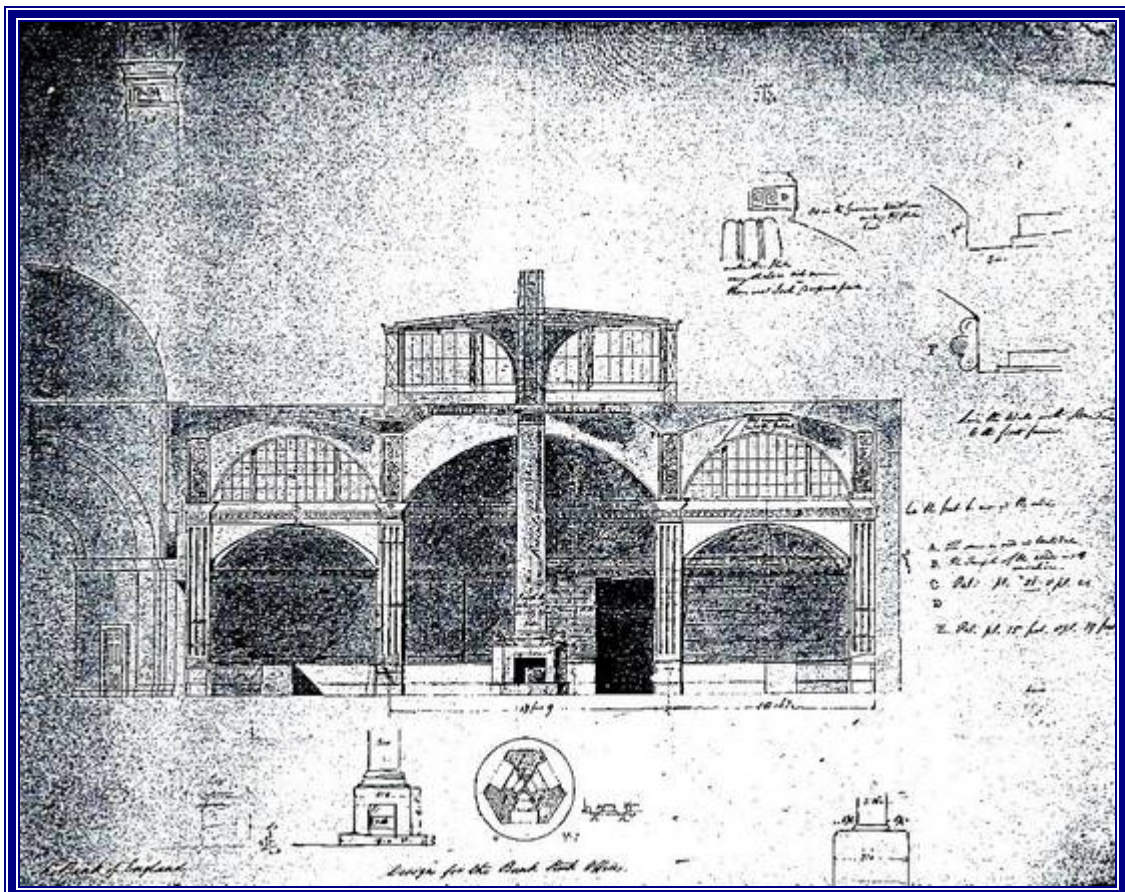
**The Pay Hall of the Bank of England shown in a drawing by Thomas Rowlandson, published in 1808. In the background is a massive heating stove.**

The records indicate that Soane took a particular interest in the means of heating the Stock Office and he studied the alternatives of using either stoves or the hot air hypocaust. He drew up designs for a variety of decorative stoves, some with flues.

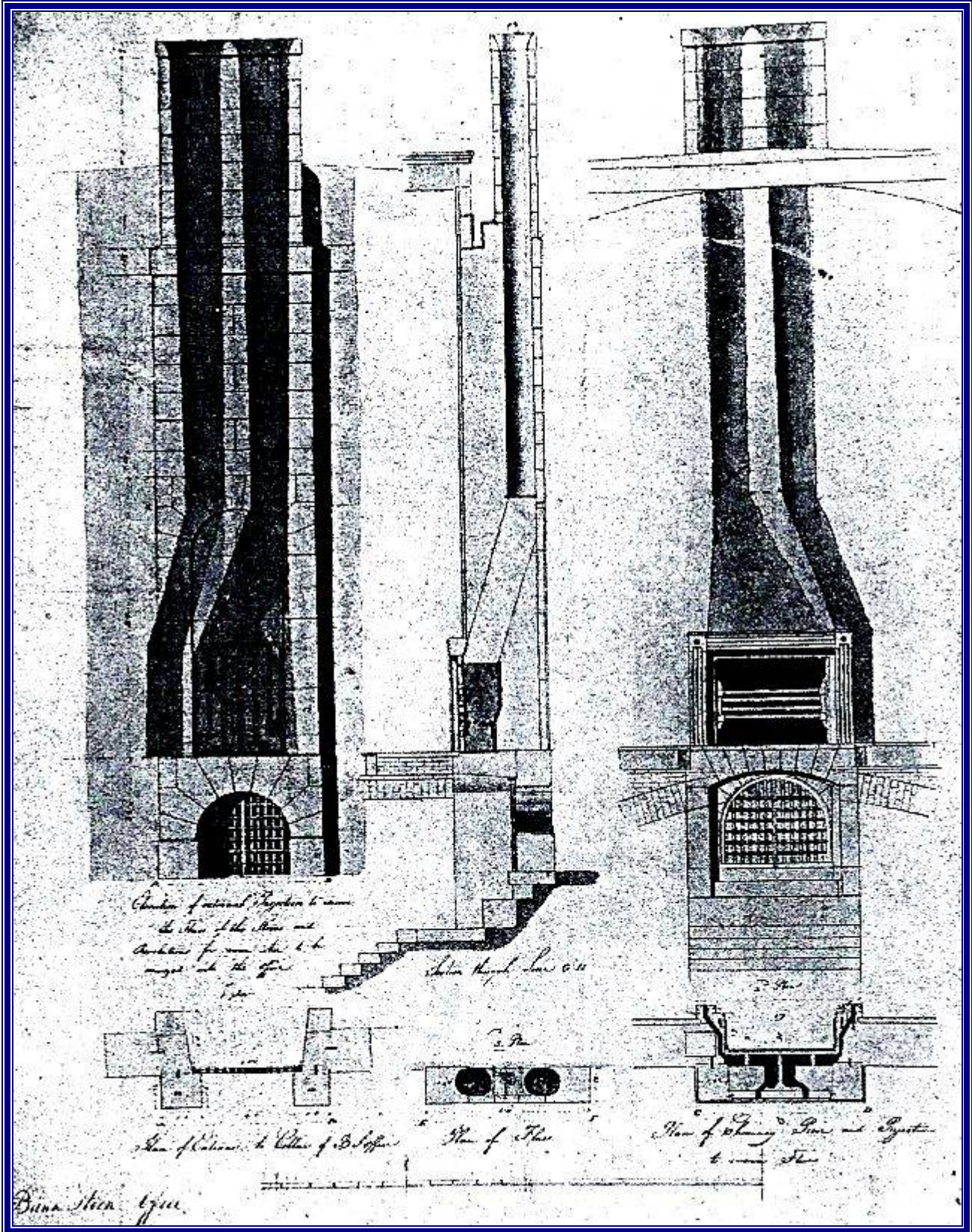
His proposed hypocaust system used ducts to distribute air warmed by a central basement furnace. This was the hot air portion of the system. "Soane also used the fire's combustion products to heat the room: the chimney too wound its way underneath the room's floor so the fire's smoke could give off heat. Hypocaust principles were applied to supplement the hot air system." The hot air-hypocaust design was never executed.



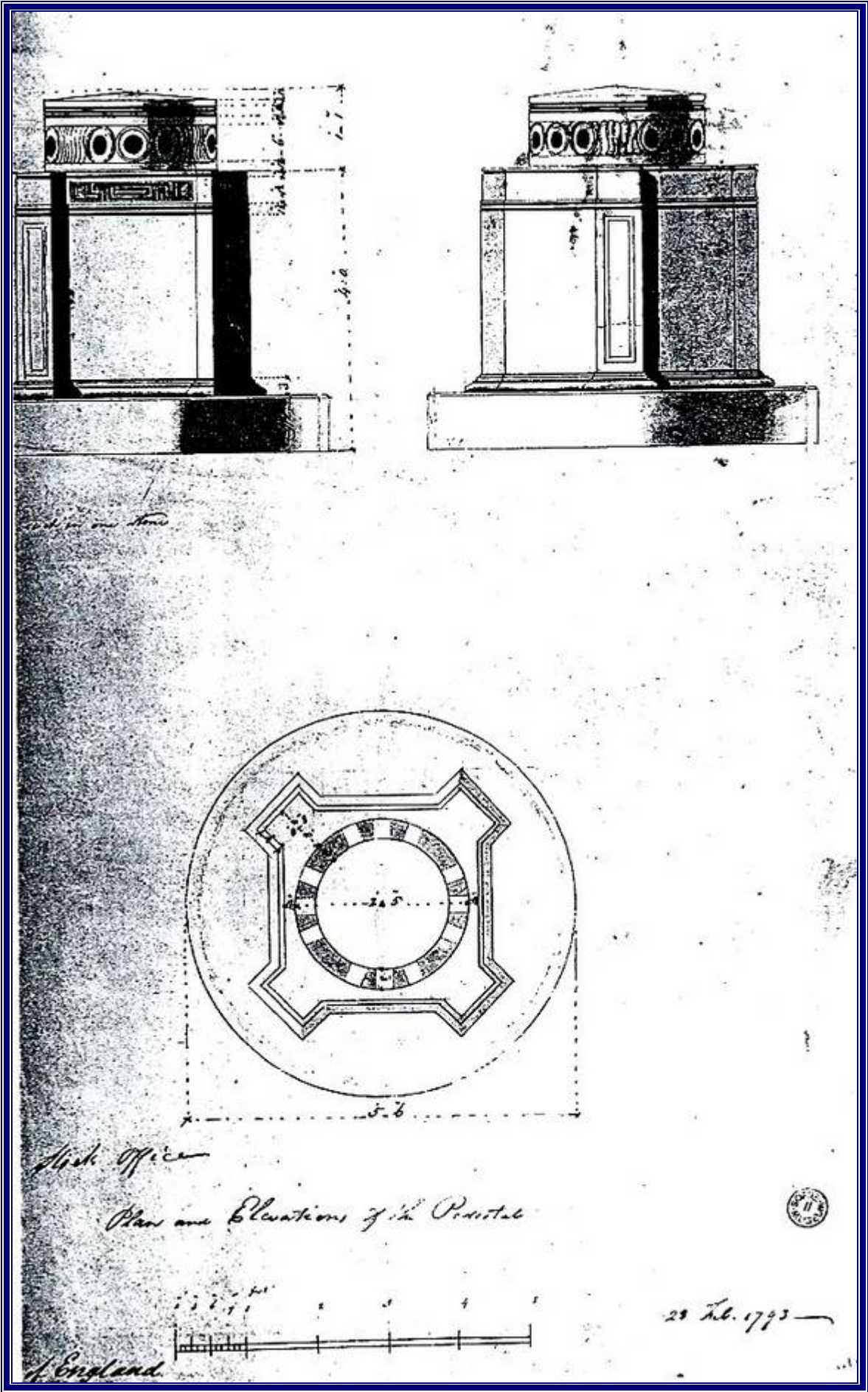
Drawing of the hypocaust hot-air system proposed for the Stock Office



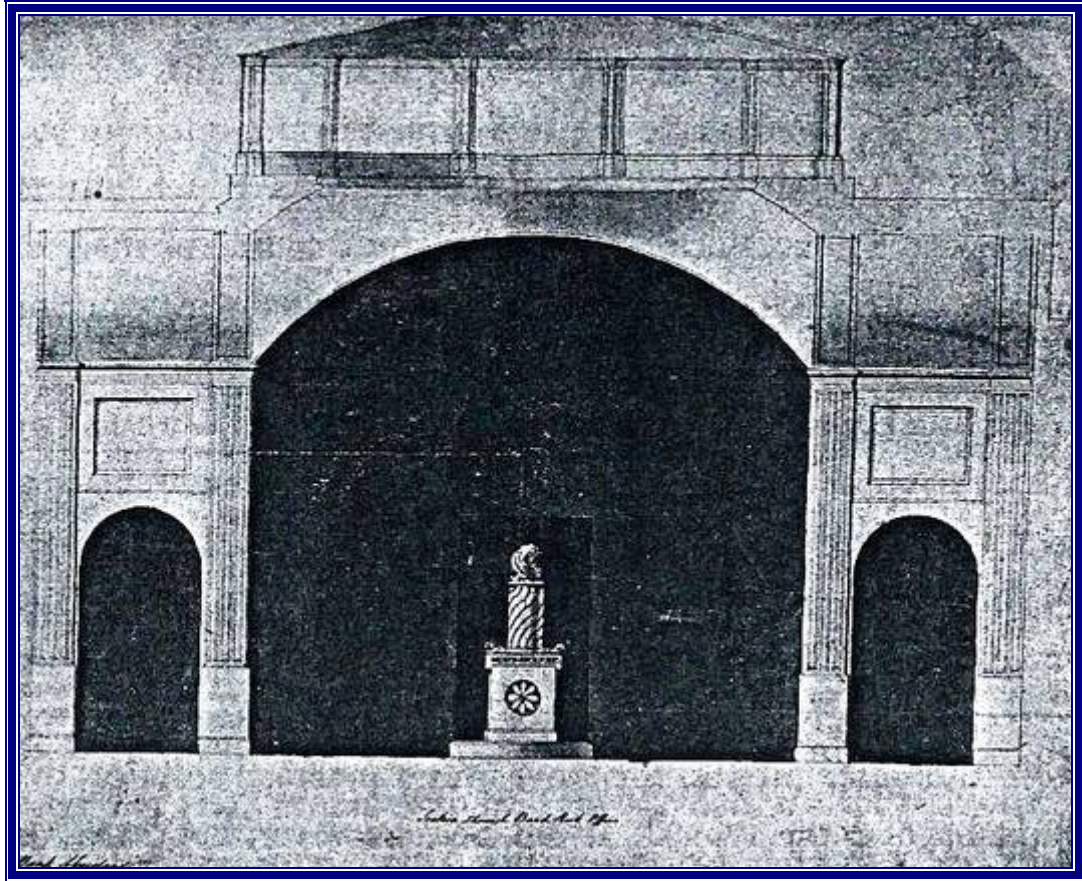
One of a number of studies by Soane of a central stove and column for the Stock Office, c.1792



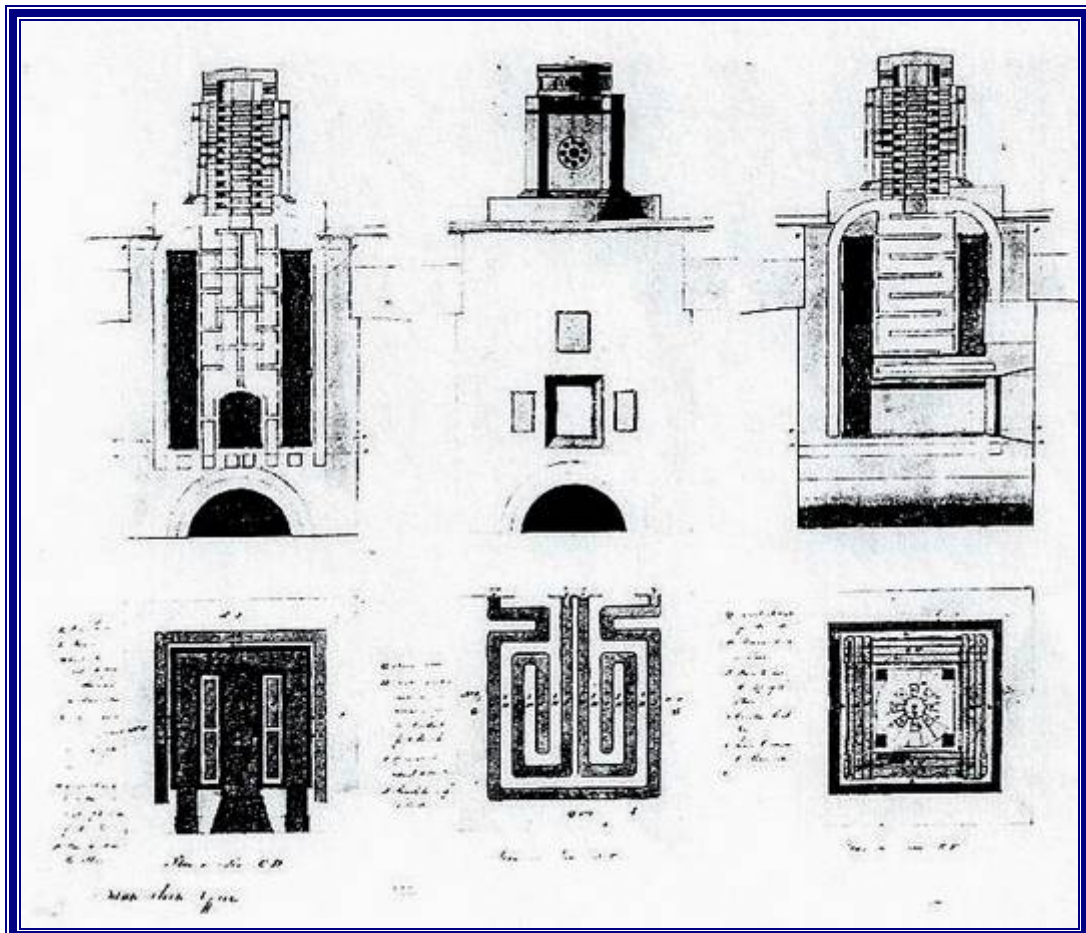
Soane's design for the Bank of England's Stock Office fireplace, captioned "Elevation of external Projection to secure the Flues of the Stoves and Revolutions for warm Air to be conveyed into the office."



Soane design for a stove and pedestal for the Stock Office



Study by Soane of a central stove and "symbolic flame" for the Bank of England Stock Office



Soane's study of stoves for the Bank of England Stock Office



After a year of exhaustive studies, Soane finally settled on a stove design constructed by the stove maker A Ramelli: his account for 12 April 1793 reads:

*Erecting a heating stove to warm the Bank of England Stock Office placed in the cellar underneath according to the estimate £138.10. 0.*

This “stove” was a brick fireplace in the basement surmounted by a metal stove having “a maze of internal channels for warm air.”

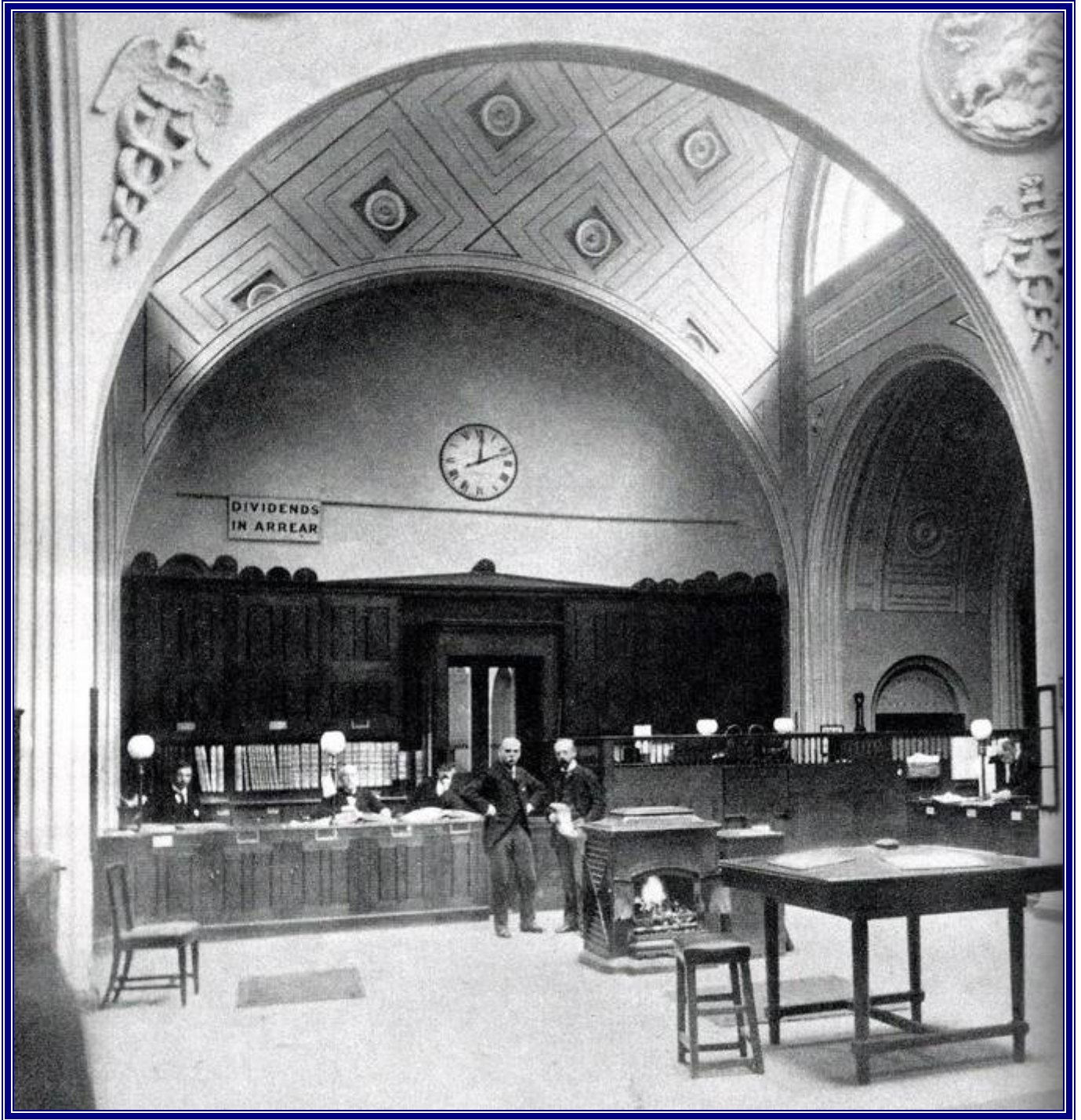
Studies for the heating of other rooms in the Bank show that Soane had associations with five or more stove makers. The records also state that the Rotunda was heated by two stoves in 1795 and the Consols Transfer office by four stoves in 1799.

A letter of 31 January 1831 shows that the heating engineer, H C Price, and a letter from a Mr Walker dated 2 February, proposed hot water heating for the Directors’ Office and the Court Room. These suggestions were not accepted. In his letter of September 1832, A M Perkin proposed to heat the Payhall, the Court Room and various smaller rooms with his high pressure hot water system. Later that month the Committee of Building instructed Soane “to seen that Perkin’s plan is properly executed.” (Soane’s assistant, Richardson, who was a strong supporter of the Perkin’s system may have influenced this decision.) In 1833, the same year Soane retired as Bank Architect, a Perkin’s system was installed in the Court Room.”

Soane was knighted in 1831 and died in 1837.



**The Banking Hall of the Three Per Cent Office**



**The Old Dividend Office of the Bank of England photographed in 1894.  
A heating stove with its door open is clearly visible.**

Soane's halls "were pulled down in 1921-37 to make space for the conventional grandeur of a big superstructure by Sir Herbert Baker," described in 1972 by Nikolaus Pevsner as "one of the worst acts of vandalism committed in Britain in our century." Soane's massive outer wall remains.



**Sir John Soane's family tomb in Old St Pancras Church Yard**

## **References**

*Metropolitan Improvements: London in the Nineteenth Century*, Arno Press, New York, 1978  
[A facsimile reproduction of the original publication, London 1827-31]

*A History of Building Types*, Nikolaus Pevsner, Thames & Hudson, London, 1976

*John Soane*, Architectural Monographs, Academy Editions/St Martins Press, 193

*Banking: An Illustrated History*, Edwin Green, Rizzoli, New York, 1989

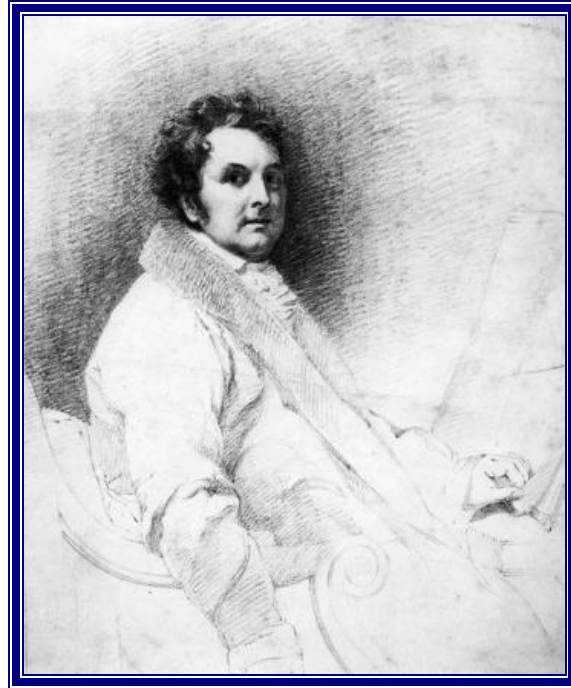
*John Soane and the Bank of England*, Eva Schumann-Bacia, Longman Group, London, 1991

*Heating Methods and Their Impact on Soane's Work: etc*, Todd Willmert, Journal of the Society of Architectural Historians, Vol. LII, No. 1, March 1993, USA

*Dictionary of Architecture*, James Stevens Curl, OUP, 1999

## Appendix

Soane had two assistants who were well-known in their own right: Joseph Michael Gandy and Charles James Richardson.



**Joseph Michael Gandy 1771-1843**

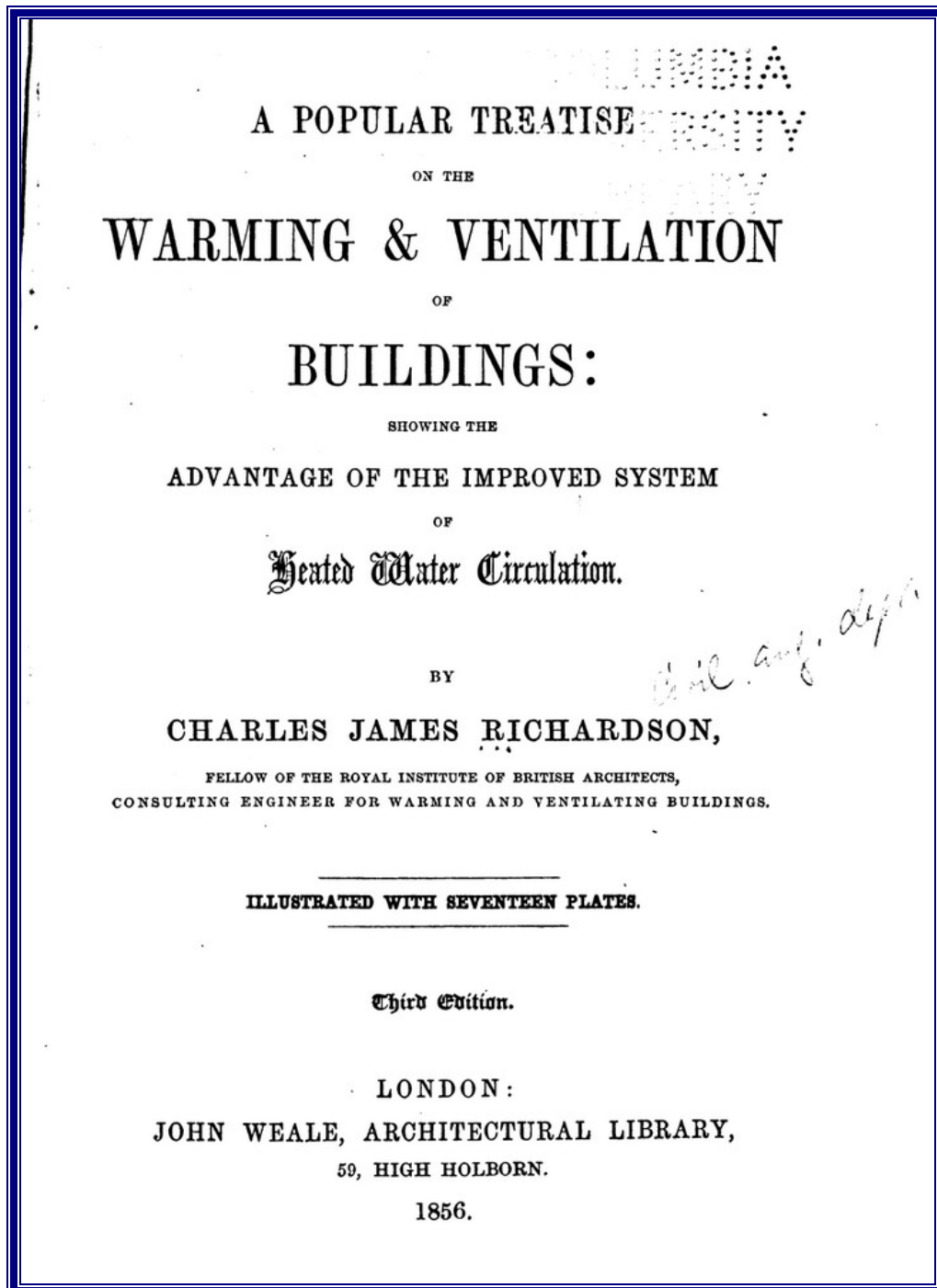
Gandy was an English architect and draughtsman who, after carrying out the Grand Tour of Italy, became a draughtsman in Soane's office. He established his own practice in 1801 but from time to time he undertook work for Soane, producing "a large number of accomplished and eclectic architectural fantasies from 1789 to 1838."



**Imagined view of the bank of England in ruins by J M Gandy, exhibited at the Royal Academy in 1830**

Charles James Richardson 1809-1971

Richardson was an English architect and a pupil of Soane but “he seems to have imbibed very little in terms of style or refinement from his master.” He collected architectural drawings and wrote at least six studies or observations on architectural design. However, he took a keen interest in everything to do with heating and a number of types of system and appliances were investigated and installed in Soane’s House in Lincoln’s Inn Fields. Richardson was a strong supporter of A M Perkins and his high pressure hot water heating system, describing this and other systems in his book, first published in 1837 the year of Soane’s death.



The title page of the enlarged 1856 3rd Edition