

A BRIDGE THAT KINGSTON NEVER HAD

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ABSTRACT

In the early 19th century, the old narrow, wooden Kingston bridge was in a most dilapidated state after centuries of costly maintenance. In November 1824, the Corporation offered a premium of 100 guineas for a design, with a costing estimate, for a replacement bridge in iron with stone abutments. Of about 20 competitors, the winner was John Burges Watson, a young architect. By June 1825, tenders were being sought for the installation of a stone bridge at Kingston, the architect of which was Edward Lapidge. Its foundation stone was laid in November 1825. While the stated reason for the change in direction was the increasing cost of iron, the evidence suggests that Lapidge, the newly-appointed Surrey County Surveyor, and other influential persons had more confidence in stone bridges and were unfamiliar with iron constructions. The bridge designed by Lapidge was opened on 17 July 1828 and remains essentially the same today.

INTRODUCTION

Julian McCarthy's most interesting talk to the Kingston upon Thames Society on 17 June 2026, "*Things you [possibly] don't know about Kingston*", covered aspects of the history of the Town's bridges over the River Thames. This stimulated the completion of some research on a bridge that Kingston never had.

NEED FOR A NEW BRIDGE OVER THE THAMES

The late Steve Nelson, of Kingston upon Thames Archaeological Society, wrote that a bridge over the Thames was in existence in 1193 and at least three main phases of work, associated with repairs and development over the years, could be identified. However, in his opinion, the position of the bridge remained the same from at least the 18th century until its demolition in 1828, following the opening of the present bridge. He was outlining the findings of the excavation of an abutment of the old bridge that had been discovered prior to the construction of the John Lewis departmental store in Kingston.¹ Its preserved remains can be seen in Creative Youth's *Fusebox* venue in the store's basement.²

John Aubrey reported on the old bridge, in the 17th century, “*there were twenty-two piers of wood that support it, two great interstices for barges to pass through; which twenty-two piers do contain 126 yards; besides at the east end thirty yards wrought up of stone and brick; and at the west end twelve yards; which contains in all 168 yards. In the middles of the bridge are two fair seats for passengers to avoid carts and to sit and enjoy the delightful prospect*”.³ In **Figure 1**, on the right a stone abutment can be seen on the Hampton Wick [Middlesex] side of the old bridge, and one existed behind the buildings on the Kingston [Surrey] side and it was the structure described by Steve Nelson [above].

Shaan Butters wrote that while the old, narrow wooden bridge [**Figure 1**] was a key to the Kingston’s success because for centuries it was the only Thames bridge upstream of London Bridge. However, the constant need for maintenance placed a great financial burden on the Town. For example, in 1554, after sections had been removed to stall Wyatt’s rebellion in 1554, the bridge was in a state of “*great ruin and decay*”, and by the start of nineteenth century it was so dilapidated that replacement was necessary.⁴ Accordingly, Kingston Corporation in 1824 offered a premium of one hundred guineas [£105] for a plan for a replacement iron bridge with stone abutments and an estimate for its construction [**Figure 2**].⁵

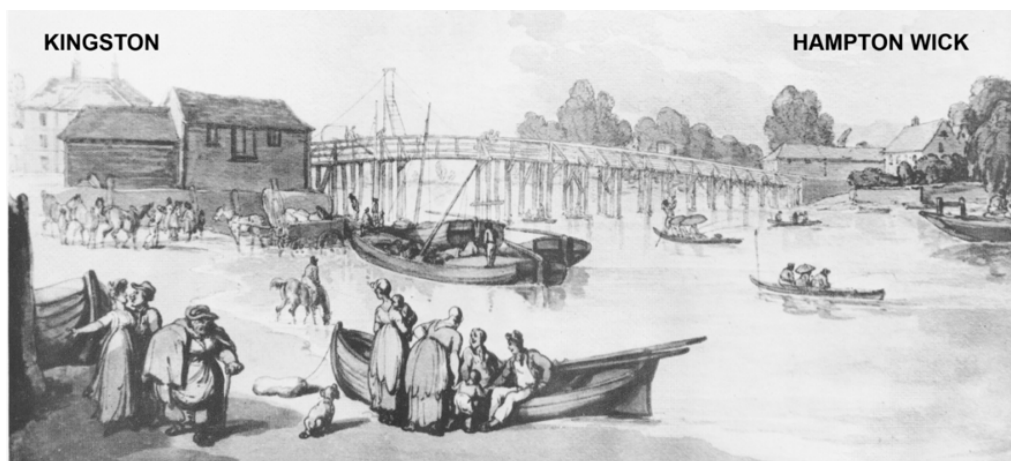


Figure 1. Old Kingston Bridge, Rowlandson, about 1800, computer-enhanced and edited, from Williams, 1955.

KINGSTON BRIDGE

TO ARCHITECTS and ENGINEERS. A PREMIUM OF ONE HUNDRED GUINEAS will be given to the Person who shall produce the most eligible **PLAN and DESIGN** for an **IRON BRIDGE** with **STONE ABUTMENTS**, to be built across the River Thames, from the Horse Fair in the town of Kingston upon Thames, in the county of Surrey, to the hamlet of Hampton Wick, in the county of Middlesex; together with the Sections of the Plan and an Estimate of the Expenses to be incurred in and about such erection, which are to be left with Mr Jemmett, the Town Clerk, in Kingston, on or before the 21st day of December next. The Plans submitted to be decided upon by the Corporation of Kingston, and the site to be pointed out by the Town Clerk.

Edited transcript of an advertisement in the Morning Herald, London,
Wednesday, 10 November 1824

Figure 2, Advertisement in Morning Herald, London 10 November 1824.

JOHN BURGES WATSON'S PROPOSED CAST IRON BRIDGE

When the Kingston Corporation decided that they wanted an iron bridge, possibly they were impressed by the installation of cast iron bridges downstream from Kingston at Vauxhall and Southwark. The Vauxhall bridge, which opened in 1816, was the first iron crossing of the Thames and the Southwark bridge, designed by John Rennie [1761-1821], was opened in March 1819. Robert Stephenson, the great railway and civil engineer, considered it to be *"unrivalled in its colossal proportions, architectural effect, general simplicity and massive character of its details"*.⁶

John Burges Watson, an architect, was the winner of the competition which had about twenty entrants.⁷ Possibly, Sir Marc Isambard Brunel, the great civil engineer, was another competitor and there was evidence that he employed his son, Isambard Kingdom Brunel, in the design of a suspension bridge over the Thames at Kingston.⁸ Hopefully, Brunel's drawings can be discovered in due course. What was known about Watson's iron bridge?

The Surrey Comet of 5 May 1900 reported that a print entitled, *"A perspective view of a design for a cast iron bridge, proposed to be erected at Kingston, Surrey, and which obtained the premium of 100 guineas in the public competition, 1824"*, had been acquired by the Kingston Public Library, framed and hung in the reference room. The print is now held at Kingston History Centre. A section of it is at **Figure 3**.



Figure 3. Edited section of the print, “A perspective view of a design for a cast iron bridge, proposed to be erected at Kingston, Surrey, and which obtained the premium of 100 guineas in the public competition, 1824”. From a scan of the original held by Kingston History Centre, KI-030, Box B8.

Figure 3 shows a bridge with three arches across the river, four land arches on the Hampton Wick [Middlesex] side and land arches on the Kingston [Surrey] side. These would have been necessary to ameliorate the ill-effects of floods. Below the view of the bridge, the print provides an outline description and some dimensions [**Figures 4 & 5**].

Description	
Each Arch is formed of 8 ribs, every piece being of the same dimensions, viz 4-2½. The main rib 2-6 deep in the direction of the radius. The ribs are connected by 4 cross ties of the same dimensions.	
Springing plates 4in thick with openings between the ribs. The whole covered with iron plates 1in thick to form road, the piers, etc., of granite.	

Figure 4. Edited transcript of the outline Description of Watson’s bridge. It is assumed that the dimensions of the ribs are in ft. & ins.

Dimensions	
Span of each arch	108 ft.
Height to crown of arch	19 ft.
Height to springing of arch	8 ft. 4½ in.
Width of upper part of pier	12 ft.
Width of the bridge	36 ft.
Length from shore to shore	352 ft. 6 in.
Length with the approaches	1040 ft.

Figure 5. Edited transcript of the dimensions of Watson’s bridge.

EDWARD LAPIDGE’S STONE BRIDGE

About eight months after the result of the iron bridge competition was announced [**Figure 2**], an advertisement in the *Morning Herald* showed that the project had been abandoned in favour of a stone bridge, the architect of which was Edward Lapidge, and tenders for its construction were being invited [**Figure 6**].

KINGSTON BRIDGE – TO BRIDGE BUILDERS AND CONTRACTORS
THE COMMISSIONERS for the Building of **KINGSTON BRIDGE** do hereby give notice that they are ready to receive Tenders for the **BUILDING OF A STONE BRIDGE** across the River Thames, from the Town of Kingston to the Hamlet of Hampton Wick. Plans and Specifications for the intended Bridge and all necessary information relating thereto, may be seen and obtained at the Office of Mr Edward Lapidge, architect, 15 Green Street, Grosvenor Square.
All Tenders for Building the Bridge must be sent to the Office of Mr Jemmett, the Town Clerk, at Kingston, on or before the 4th day of July next – dated the 4th June 1825.
Edited transcript from the Morning Herald [London], Monday, 13 June 1825

Figure 6. Advertisement in the Morning Herald, 13 June 1825

The Morning Chronicle of 9 November 1825 reported that the foundation stone for the stone bridge had just been laid by the Earl of Liverpool. It was stated that, while the design of John Burges Watson had been originally selected, the cost of his bridge was estimated to be £48,000, while the estimate for Lapidge's Portland stone structure was £35,000. The difference in costs was attributed to a great increase in the price of iron.

Roughly three years later, *The London Evening Standard* of 19 July 1828, covered the official opening of the new stone bridge by the Dutchess of Clarence, which had proceeded with great ceremony. The newspaper said that the new bridge was, "...a Grecian structure of five elliptical arches and piers, terminated with circular bastions, the whole being 382 ft. in length and 27 ft. in extreme width. The centre arch is 60 ft. span and 19 ft. in height. The side arches are surmounted by a cornice and neat balustrade, with galleries projecting over the diminished piers. This is a novelty in architectural design, but it affords a bold relief to the other parts of the bridge, which, however, is light and elegant, with a suitable appearance of durability and strength... by a singular coincidence it presents to the eye of the spectator a perfect model on a minor scale of the new London Bridge..."

Other members of the nobility were present, as were Charles Nicholas Pallmer, MP for Surrey, Alderman John Garratt, Lord Mayor of London in 1824, Edward Lapidge, William Herbert, the bridge contractor, William Disney, a member of the Corporation, and other prominent citizens. Afterwards, Pallmer chaired a sumptuous dinner at the Sun Inn at Kingston at which various laudatory speeches were made.

DISCUSION & CONCLUSIONS

Why did the Corporation first decide on an iron bridge and why did they abandon this project in favour of a stone bridge? Moreover, was the increase in the price of iron the only reason? Records of the Kingston Court of Assembly might have been informative

but those for the relevant period, October 1819 to October 1828, are missing from the Borough Archives.⁹ Therefore, other sources were explored.

In October 1824, the Stockton & Darlington Railway Company abandoned a plan for an iron bridge, between masonry abutments, over the River Skerne. This was designed by George Stephenson, father of Robert Stephenson [above]. The stated reason was rising iron prices. Instead, a bridge entirely constructed of masonry was installed. There was evidence that the company earlier had been nervous about trusting Stephenson's cutting-edge iron bridge and probably there was more confidence in a traditional masonry structure for such a vital project.¹⁰

It was difficult to escape the idea that Edward Lapidge, who was the recently-appointed Surrey County Surveyor, also had more trust in stone bridges and had no experience of working with iron. Lapidge had worked for Pallmer on alterations for his Norbiton Place residence. Pallmer was the Corporation's Senior Bridge Warden, one of the most important officials in Kingston and likely to be influential when relevant decisions were made.¹¹ Moreover, Alderman Garratt, when he was Lord Mayor of London in 1824-25, had laid the foundation stone of the new London Bridge constructed in granite from the Haytor quarries in Devon. Pallmer, Lapidge and Garrett may have steered the change of direction because they had more confidence in stone bridges.

N. J. Williams, Editor of Surrey Record Society's publication on the Kingston Bridge Warden's Accounts, commented that, "*Any timbered bridge is subjected to a two-fold strain: all the time the flow of water underneath is weakening the foundations, while the weight and movement of traffic above strains the superstructure. Once regular maintenance ceases the structure is no longer safe.*"¹² It follows that such two-fold strains will apply to any type of bridge across a river. Furthermore, the effects of weather on materials of construction need consideration, e.g., rotting of wood and rusting of iron. The Corporation was fully aware of the need for constant maintenance of the old wooden bridge and would have experienced the durability of stone. Iron bridges were in their infancy and while long-term maintenance requirements would have been unknown, the rusting of unpainted iron would have been a familiar sight. It is remarkable that in the description of the bridge at **Figure 4** nothing is said about painting the iron components to protect them against rusting.

Pallmer's speech at the dinner [above] indicated that within the Corporation there had been differences in opinion over the materials of construction for the new bridge.

For example, William Disney, a local landowner, first had preferred a wooden structure in the belief that it was as durable as stone but was soon convinced of the advantages of stone. None of the reported speeches referred to the original choice of an iron structure.

Why were the stated costs of Watson's iron bridge so much higher than Lapidge's stone bridge? Possibly, this had less to do with the price of iron itself than the cost of producing the individual iron components and the timescale for this. For example, each river arch required eight ribs and there were three river arches. Before assembly, each rib would have to have been prefabricated off-site, along with other cast iron components, cross ties, springing plates, road plates and the railings that are visible in **Figure 3**. Moreover, the method of assembly, bolts or rivets, or a combination of both, would have influenced the costs. Watson's bridge was not made entirely from iron. It was specified that the piers in the river were to be made of granite. And the approaches on each side, the land arches in **Figure 3**, and the small building above the first land pier on the Middlesex side appear to be built in stone. The costs of the stone components of the bridge would have to be included in the total cost estimate.

What can be discovered from a close examination of the original of **Figure 3**? Below the view of the proposed bridge the following is written, "*To the Right Honourable John Garratt, Lord Mayor of London, this prospective view of a design for a cast iron bridge proposed to be erected at Kingston, Surrey, and which obtained the premium of 100 guineas in the public competition, 1824, is by permission dedicated by his Lordship's obliged and obedient servant, John Burges Watson, Architect*". John Garratt was Lord Mayor of London in 1824-25 and the print can be dated to this period.

Underneath is written, "*London, published by J. B. Watson, Surbiton Hill House, Kingston & J. Taylor, No. 59, High Holborn*". The print, an aquatint, is an original proof with corrections made by *J. B. Watson*, who reasonably can be assumed was John Burges Watson, the architect. Moreover, he was living at Surbiton Hill House, Kingston at the time. Corrected Inscriptions under the view of the bridge revealed that it was drawn and etched by Watson, the aquatint was by Matthew Dubourg, a well-known practitioner, and the printer was "*Bishop*", about whom nothing could be discovered.¹³

"*J. B. Taylor, No. 59 High Holborn*" refers to a bookshop owned by Josiah Taylor called "*The Architectural Library*". It specialised in the sale of architectural and other technical publications. In 1824 it offered Thomas Tredgold's [1788-1829], "*Practical Essay on the Strength of Cast Iron and Other Metals*". In April 1825 it offered a plan

of the new London Bridge; a view of the cast iron bridge of the River Thames at Vauxhall; a plan of the patent iron bar suspension bridge over the River Tweed: a view and plan of the chain pier at Brighton: a plan and elevation of the Waterloo bridge over the Thames; details of wooden bridges in Philadelphia and Trenton, in America; a plan, elevation and details of a suspension bridge for the island of Bourbon by M. Brunel; a view over the cast iron bridge over the Severn at Colebrookdale; a plan and elevation of the Southwark cast iron bridge; and a plan, elevation and sections of a wooden bridge at Schaffhausen in Switzerland. Josiah Turner had connections with engravers and may have practiced the craft himself. The Architectural Library's publications were available through booksellers in Birmingham and other cities in England.¹⁴

It is conjectured that shortly after he won the prize for the Kingston Bridge design, Watson collaborated with Turner in the production of the view of the proposed new bridge to advertise Watson's credentials as a bridge-designer. Had John Burges Watson or Edward Lapidge any experience in the design and construction of bridges before 1824-1825?

An obituary of John Burges Watson [1803-1881] is in *The Builder* of 23 April 1881. He started his practice when Grecian architecture was in vogue and never subsequently identified himself with the Gothic revival. He designed the National Provincial Bank of England, Bishopsgate Street, London, churches in Hook, Holmwood and Staines, a few parsonages, some private houses and a little cottage for the Ornithological Society of London in St James' Park. For forty years he was the surveyor of the Pentonville estate. He was a charming water colourist, something of musician, had a good knowledge of trees and delighted in landscape gardening. The obituary makes no mention at all of experience in bridge design, as he would have been aged 21 when he won the Kingston Bridge prize, it is possible that it was his first attempt, spurred on by the prospect of winning 100 guineas and launching his career.

There is no evidence that Edward Lapidge, FRIBA, [1793-1860], had any experience of building bridges before or after his involvement with the Kingston stone bridge. His entry in the Dictionary of National Biography, 1885-1900, records that he was brought up as an architect and found employment in the neighbourhood of Hampton Court Palace, where his father was chief gardener. In 1807 he built Hildersham Hall in Cambridgeshire for Thomas Fassett [above] and a drawing of the house was shown at the Royal Academy in 1814. In 1808, he sent to the Royal Academy a view of garden front of Esher Place which he had built for John Spicer. In

1811 he rebuilt the vicarage at Mayfield, Sussex, for the Rev. John Kirby. He supervised major additions and alterations to Norbiton Place, for Charles Nicholas Pallmer [above]. He was appointed Surveyor to the County of Surrey in 1824. During his career, he built, supervised the alteration of, or restoration of, numerous churches. During 1838-41 he oversaw the construction of the Surrey County Lunatic Asylum, now Springfield Hospital.

It is reasonable to assume that Watson and Lapidge, neither of whom had built a bridge before, had access to the range of bridge plans available from J. B. Watson's Archaeological Library if they needed information for their new project. Finally, it was concluded that the reason why Kingston, in 1828, had a stone bridge instead of an iron bridge was that the influential decision-makers had more confidence in stone constructions and were unfamiliar with iron bridges.

Kingston eventually gained an iron bridge across the Thames in 1863. Designed by John Edward Errington [1806-1862], it carried the new railway across the river. It was replaced in 1907 by the present iron bridge designed by John Wykeham Jacombe-Hood [1859-1914], Chief Engineer of the London and South-Western Railway Company.¹⁵ But this is another research topic.

ACKNOWLEDGEMENT

I am most grateful to Carolynne Cotton and other staff of the Kingston History Centre for help in this research.

¹ Stephen Nelson, 1983, Recent work on the old bridge at Kingston, London Archaeologist, Vol. 4, pp. 339-345.

² <https://creativeyouthcharity.org/fusebox-heritage/>

³ John Aubrey, Natural history and antiquities of Surrey, Vol. 1, 1673-1692

⁴ <https://babel.hathitrust.org/cgi/pt?id=uc1.31175035531923&view=1up&seq=103>

⁴ Shaan Butters, 2017, That Famous Place. A History of Kingston Upon Thames, Kingston, Kingston University Press

⁵ In 2017 this would have been worth about £6,000 according to the National Archives Currency Converter, and in 1824 it would have taken a skilled tradesman about two years to earn this amount.

⁶ <https://www.thehistoryoflondon.co.uk/the-original-vauxhall-bridge/>
<https://www.thehistoryoflondon.co.uk/the-original-southwark-bridge/>

⁷ Evening Mail, 9 November 1825.

⁸ Isambard Brunel, 1870, The life of Isambard Kingdom Brunel, Civil Engineer [edition of 2006], Stroud, Nonsuch Publishing.

⁹ The Court of Assembly was the equivalent to the present Borough Council. Royal Borough of Kingston upon Thames, 1971, Guide to the Borough Archives, p.9.

¹⁰ <https://historicengland.org.uk/whats-new/research/early-bridges-of-the-stockton-and-darlington-railway/>

¹¹ London Evening Standard, 19 July 1828. N. J. Williams, Editor, Surrey Record Society, 1955, Kingston upon Thames Bridgewardens' Accounts, 1526-1567, Volume XXII, London

¹² N. J. Williams, Editor, Surrey Record Society, 1955, Kingston upon Thames Bridgewardens' Accounts, 1526-1567, Volume XXII, London.

¹³ <https://artuk.org/discover/artists/dubourg-matthew-active-17861838>

¹⁴ Worcester Journal, 12 February 1824, Bath Chronicle & Weekly Gazette, 29 April 1824, Birmingham Chronicle, 14 April 1825.

¹⁵ https://en.wikipedia.org/wiki/Kingston_Railway_Bridge

https://commons.wikimedia.org/wiki/File:Kingston_Railway_Bridge,_River_Thames_-_geograph.org.uk_-_478605.jpg

[https://en.wikisource.org/wiki/Dictionary_of_National_Biography,_1885-1900/Errington, John Edward](https://en.wikisource.org/wiki/Dictionary_of_National_Biography,_1885-1900/Errington,_John_Edward)

https://www.gracesguide.co.uk/John_Wykeham_Jacomb-Hood