

The Building of the Grosvenor Bridge

By J. W. CLARKE.

IT was not by chance but rather to emphasise an opportunity that the Grand Jury, meeting in its room at the Castle on September 2nd, 1818, passed the following resolution:—

WE, the Grand Jury of the County of Chester, having considered the state of the present bridge over the Dee at Chester and the avenues thereto, cannot but approve of the erection of a new bridge as a measure highly beneficial to the public at large and as a National undertaking most important to the intercourse between England, Wales and Ireland. But as it is within the jurisdiction of the City of Chester we do not conceive it to be within our province to interfere in any manner with the building of the same.

The words "national undertaking" in this resolution are significant for the Jury must have been very much alive to the fact that the Exchequer Bill Loans Commission had now been in operation for over a year and Chester, as the gateway to Wales and Ireland had as yet made no move to seek the benefits which might be offered. This body had been set up in the disturbed period following the wars with America and France, its object being to finance public works such as harbours, roads and bridges and at the same time relieve unemployment. Its consulting engineer was the famous Thomas Telford.¹

If Chester was the gateway to Wales and Ireland it was certainly a very narrow one. The medieval bridge with its single line traffic and awkward delays for the collection of tolls very seriously impeded coaches, waggons and carts of every description waiting impatiently on the steep approaches. The Grand Jury was no doubt also aware that largely because of pressure from the Post Office Telford had already surveyed the northern section of the proposed London-Holyhead road and in spite of the hills had suggested a route passing through Bettws-y-Coed so that both the bridge at Chester and the dangerous ferry at Conway might be avoided.

The Grand Jury's resolution had an almost immediate result for within a few days a number of influential people in the city and county signed a request to the Mayor for a public meeting. An enthusiastic gathering in the Town Hall on Sept. 28th endorsed the resolution, agreed that the old bridge was "absolutely dangerous to carriages, horse and foot" and decided that it was expedient to promote a Bill for the erection of an additional bridge. A large committee was elected and at its first meeting a few days later resolved "that Mr. Harrison, architect, be requested to attend the next meeting with his plans and estimates for the proposed new bridge."

¹Thomas Telford (1757-1834) Founder and first President of the Institute of Civil Engineers. Canal engineer, roadmaker and bridge builder. He carried out the greatest canal project in this country linking the Severn, Dee and Mersey which involved the making of the great aqueducts at Chirk and Pontcysyllte. He is reckoned to have built some 150 sizable bridges, his masterpiece being the Menai suspension bridge completed in 1826. Smaller bridges, chiefly on canals, bring his total to 1117.

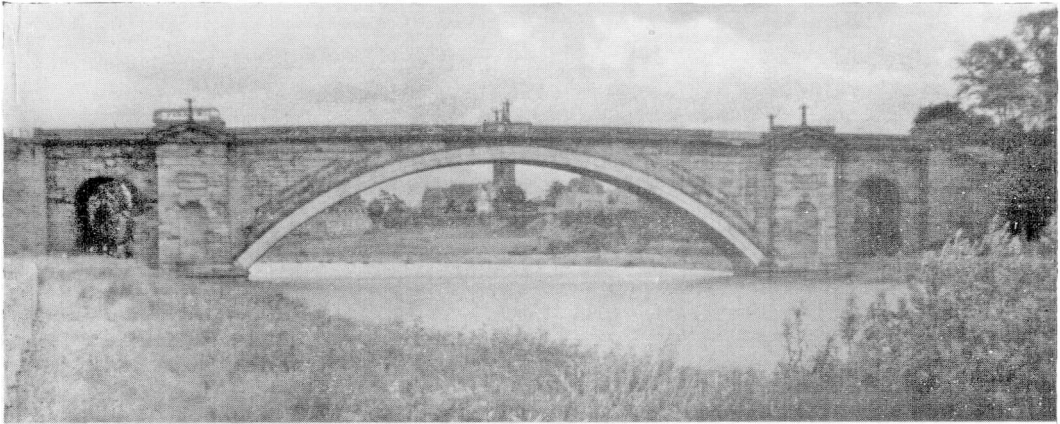
Thomas Harrison is almost forgotten in Chester. Born at Richmond in 1744 he studied in Rome with Cuiitt the elder and was awarded two medals by Pope Clement XIV which are now preserved among the city plate. He was instrumental in having the famous Elgin Marbles placed in the British Museum. His first major work in this country was the building of a bridge in the Gothic style over the Lune at Lancaster in 1788, the first bridge in England to maintain a level line throughout. He also built Lancaster Castle, a number of public buildings in Manchester and Liverpool together with monuments, mansions and smaller houses in various parts of the country. His designs for the Castle at Chester were selected in competition (1793) and among his other works in the city are the City Club and the Northgate, where his name appears in the inscription. His portrait can be seen in the Town Hall.

Ten days after receiving the request Harrison produced a design for an iron bridge from Hoakesley's Wharf to the opposite rock at an estimated cost of £17,740 19s. 1d. including approaches. The committee, doubtful about the use of this new material, requested him to submit a design for a stone bridge in the same position. The site was such as to involve considerable expense over the approaches and it was therefore decided that the proposed Parliamentary Bill should "embrace the avenues from the two churches (St. Michael's and St. Bridget's) to Wrexham Lane end in Handbridge".

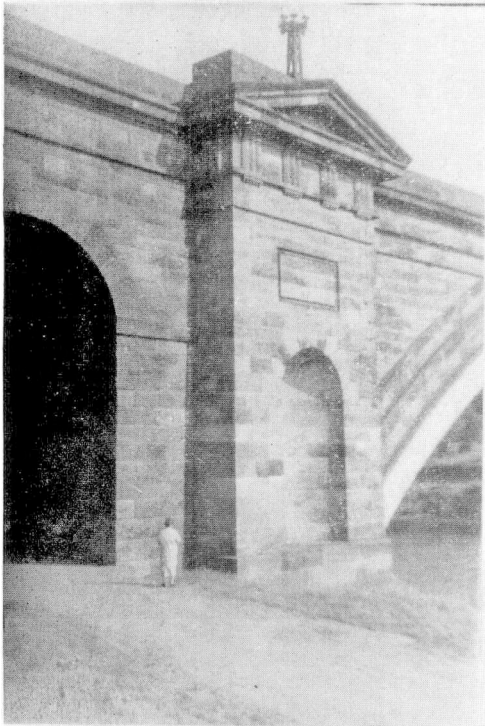
In March, 1819 Sir Henry Parnell introduced a Bill into Parliament one of the objects of which was the improvement of the road between Chester and Holyhead. The news was received enthusiastically in the city and a public meeting decided to give every support to the project, through its M.P., stressing the importance of a bridge at Conway to replace the dangerous ferry. The increased amount of traffic passing through the city necessitated an additional bridge over the Dee and it was felt that the recent fire (March 6th) which had gutted the Dee Mills presented an opportunity for widening and improving the old bridge. Harrison produced a scheme for widening at an estimated cost of less than £5,000. Meanwhile work on the Shrewsbury-Holyhead road proceeded steadily and it was obvious that its cost must be very heavy, especially in view of the fact that Telford proposed to build a gigantic suspension bridge over the Menai Strait. There was clearly some anxiety lest the Conway route should be abandoned and another public meeting decided to petition the Commission for some of the money voted to the London-Holyhead route to be used for the alternative Chester-Conway road, emphasising the fact that this route was only five miles longer and "that unquestionably a bridge at Conway was exceedingly practicable at comparatively small cost". The petition concluded with a suggestion that Mr. Telford should be instructed to reconsider his survey.

Nothing seems to have come from this move however, and in 1821 a gathering of Principal Inhabitants, Bankers and Merchants tried another line of approach. In a petition to the P.M.G. they suggested that an increase in the postage rates to and from Ireland would materially contribute to the cost of a bridge at Conway

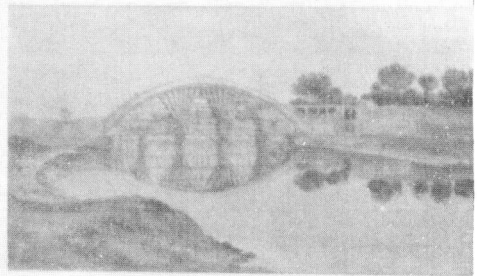
PLATE I.



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2.



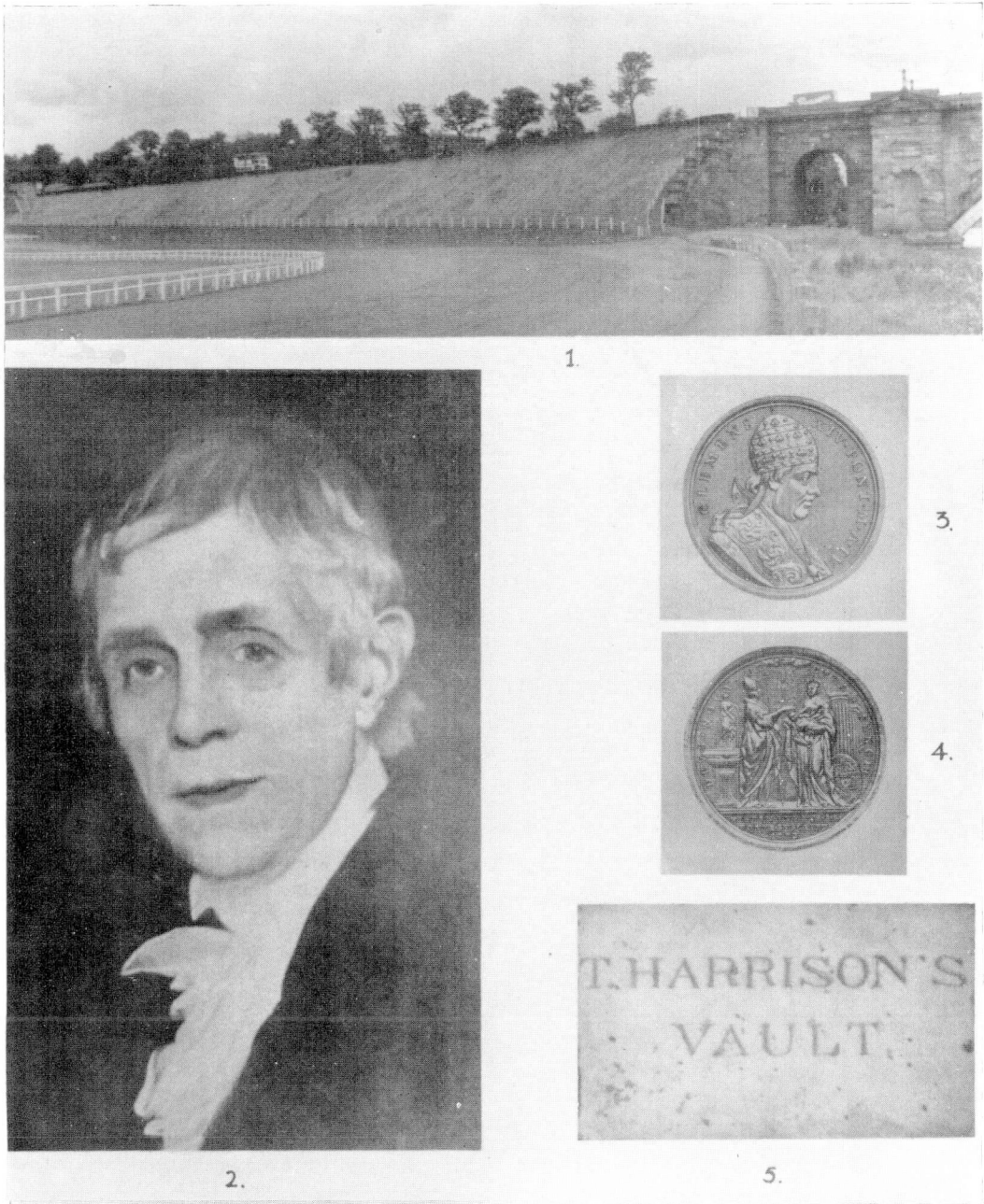
3.



4.

1. The bridge from downstream.
2. The northern abutment—Trubshaw's modified design.
3. The elaborate timber centring for the great arch. (From Pickering's water colour).
4. The model in the Water Tower gardens showing alternative suggestions for the design of the abutments.

PLATE II.



1. The great embankment across the Roodee.
2. Thomas Harrison. (From the portrait by A. R. Burt—1824).
- 3 and 4. Obverse and reverse of the two Papal medals, one gold and the other silver but identical in design.
5. The inscription on the vault in old St. Bridget's churchyard.

and—a subtle thrust—“it would be a great convenience if the mail from Ireland was to arrive at Chester at 9.0 a.m. or as much earlier as practicable”. It was a widely known fact that the Post Office was very anxious to speed up the mail services, hence the demand for new roads. How far these petitions helped it is not possible to say but work commenced shortly afterwards and the magnificent bridge at Conway, after four year’s work was opened in 1826.

During the next two years the committee was much occupied in the matter of the new street which had to be made from Bridge Street to the Castle in order to give access to the proposed bridge. The line which Mr. Harrison finally decided upon (fig. 1) necessitated the removal of St. Bridget’s Church, and the parishioners were easily persuaded that the building was in a dilapidated condition and should be taken down in any case. Moreover, a new church was promised to be built on land given by the County. As will be seen from the plan the area was crowded with buildings and a good deal lay ahead in the way of negotiation with owners and tenants. During this time the bridge itself seems to have been rather in the background and in fact there is no record of Harrison having produced the design for a stone bridge as requested six years earlier. It is difficult to account for this long delay, and in the light of subsequent events it seems clear that a more positive and vigorous policy in these early years would almost certainly have averted the financial difficulties which later were the cause of much anxiety.

It was not until June, 1824 that the committee felt in a position to place concrete proposals before the citizens. It proposed (a) to obtain an up-to-date estimate for an iron bridge, (b) to take a census of the amount of toll collected on the old bridge, (c) to request the Corporation to give up these tolls to the committee as security for a loan, and (d) to promote a Bill for the construction of a new bridge with its approaches—the removal of St. Bridget’s Church being considered as part of the latter. Objectors to the project immediately published a broadsheet in which they claimed that any scheme for the building of another bridge was a wanton waste of public funds, especially in view of the fact that the proposed site was “far remote from any population”. No less a person than Mr. Hazledine² had been consulted and had expressed the opinion that the old bridge could be made quite adequate for the amount of traffic involved at a cost of less than £4,000. Hazledine’s scheme was simple enough although it meant the destruction of one of the interesting features of the medieval bridge. As the cutwaters were extended upwards to form refuges he proposed to bridge the spaces between with ironwork and so widen the roadway. This could only be carried out on the eastern side since Col. Wrench³, owner of the Mills, had refused to rebuild his wall further back to allow of widening on the western side. In point of fact the scheme was exactly the same as suggested by Harrison in 1819. It is interesting to note that at the time Hazledine was building

²William Hazledine (1763-1840). A notable ironfounder of Coleham and Ruabon. Among his major works were the cast-iron troughs for the aqueducts mentioned above, the ironwork for the Menai Bridge (33,265 pieces) and Conway Bridge. His tomb by Chantrey is in St. Chad’s Church, Shrewsbury.

³Col. Wrench. The Dee mills were purchased by his great-uncle, Edward Wrench in 1742.

an iron bridge over the Dee in Eaton Park for Lord Grosvenor, a graceful structure which, except for "Gothic work" in the spandrels (charged as "an extra") was a copy of one which he had built to Telford's design at Atcham, Shrewsbury in 1818.

Quite naturally the objectors to the new bridge were ignored. A subscription list was opened for the expenses of the Parliamentary Bill and Mr. Finchett-Maddock the Town Clerk, was appointed solicitor to the undertaking. It was reckoned that the project would cost in round figures £40,000, including £1,500 for the Bill, while a census of traffic using the old bridge indicated that the annual income from tolls was in the region of £4,000 per annum. In August Mr. Davies of Mollington⁴ was engaged "to survey and draw a plan, of not less than two inches to a chain, of the land and property affected by the proposed works," and Mr. Harrison was asked to prepare detailed plans for the bridge. A sub-committee was appointed to confer with Col. Wrench and other proprietors of warehouses below the Mills "as to the compensation they may require for what they consider the impeding of the navigation". This was an important point since the necessary stone abutments for the iron span extended into the river, thus to some extent impeding the flow of the water both for the incoming and outgoing tides.

Much progress was made during October. The height of the bridge arch was obviously a matter of great importance as it governed the level of the embankments which would eventually form the approaches. A sharp rise in the centre of the bridge was unsuitable for the horsedrawn vehicles of the day, yet the arch must be high enough to allow clearance for the masts of river craft. Davies took careful details of the various types of vessels and reckoned that the arch must be not less than sixty feet at the centre and it seemed that an ideal situation had been found which gave a level roadway from the Castle to Overleigh. Harrison submitted a design for an iron bridge of 170ft. span with five "dry" arches⁵ in stone on either side and he and Hazledine together estimated the cost at £26,000. Then came the sudden change of plan. Harrison was asked to furnish an estimate for a stone bridge with a single arch of 200ft. Possibly it was felt that such a structure would be more in keeping with the Castle buildings and at the same time give the city a stone bridge with the greatest single arch in the world⁶. In a matter of days the architect produced a figure of £13,149 for the great arch reaching to a height of 60ft. this sum including the complicated timber framework or "centring" necessary for its construction but not the abutments which added a further £10,043. The suggested position of the bridge was on a line from the Castle portico to a point in Handbridge now known as Old Wrexham Road and Harrison was asked to ascertain the nature of the ground where the foundations must be laid. What he found caused him to

⁴Davies of Mollington negotiated the very complicated land purchases for the Chester-Birkenhead Railway 1836-8. His office building still stands in Townfield Lane.

⁵Dry Arches were normally built on either side of the main arch and on the "dry" land. They gave an additional escape for flood water.

⁶Harrison constructed a model of the bridge in stone. After his death it was placed in the Grand Jury Room at the Castle where it remained for many years. It is now in the Water Tower gardens, sadly neglected.

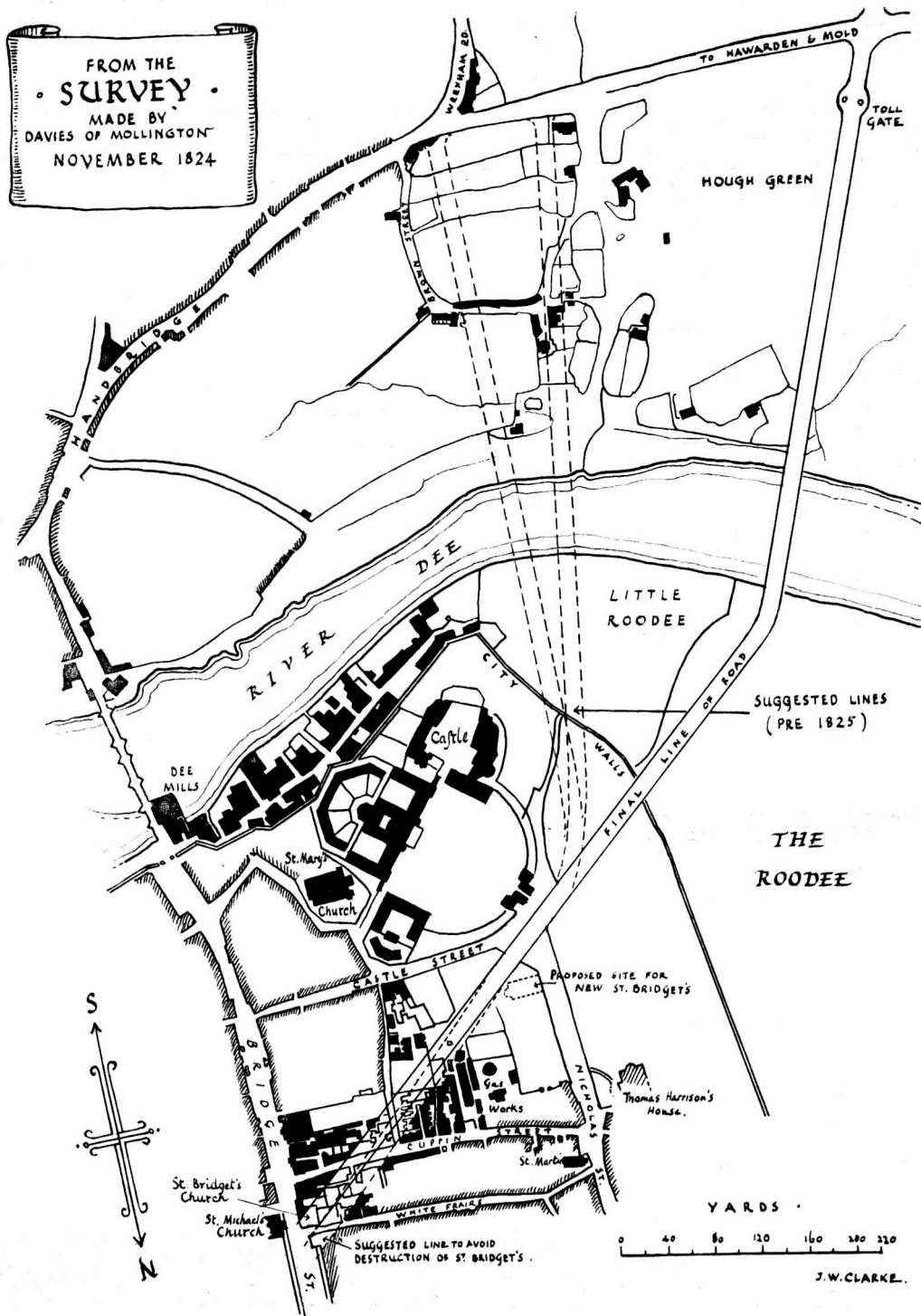


FIG. 1

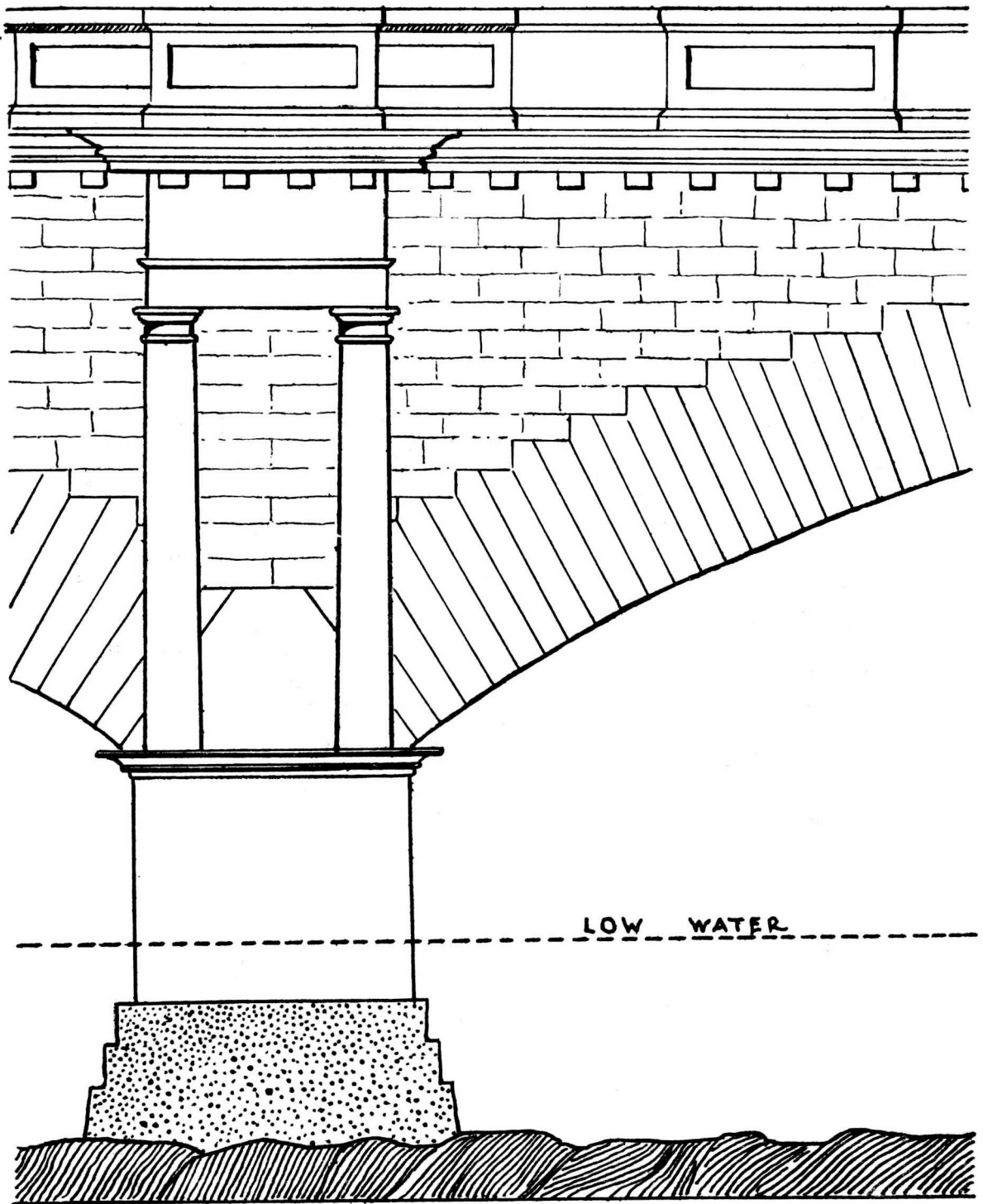


FIG. 2

Harrison's design for the three-arch bridge, also retained in the final design for the single span, but modified by Trubshaw.

add almost £4,000 to the estimated cost for piling and the minutes of a meeting held on November 22nd record "and on every consideration it appears to this committee that the idea of a stone bridge must be abandoned and an iron bridge adopted."

The committee then turned its attention to the church. The Bishop was consulted and ruled that the resolution of the vestry in 1823 as to the dilapidated and dangerous state of the building was sufficient ground for its demolition. It seems obvious however, that when it came to the point the committee felt unesay about its destruction and approached the bishop again. It appeared to his lordship as a member of the Bridge committee that the rebuilding of the church should be under the direction of the committee and that the parish should contribute towards the cost. If no such agreement was made then he himself would call upon the parish to repair the (existing) church and rebuild the steeple. There was nothing more to be said. Harrison was therefore asked to furnish as soon as possible estimates for the demolition of the old church and for the building of a new one to accommodate 600 persons.

The architect subsequently submitted plans and estimate for "A new Church 55ft. by 45ft. capable of accommodating 600 persons with gallery round three sides and with steeple, staircases, chancel and vestry etc. cased with red stone, £4,100". Harrison's drawings are preserved at St. Mary's church. They are beautifully finished in sepia washes, and in addition to the details of internal furnishings and decoration show alternative schemes for the Classic facade with its Doric columns to accord with the Castle portico opposite. In these designs the cornice is capped either with a single cupola in the centre or with a balanced pair north and south, and it is a matter for regret that one of these interesting elevations was not used. Harrison's pupil and successor in the bridge project designed the church as finally built, and its flat pilasters were a poor substitute for the stately Doric columns. The building was taken down in 1892.

On hearing that the committee had reluctantly decided that a single-arch stone bridge must be abandoned Harrison began work on another design, and on December 21st he "submitted the elevation of a new stone bridge of three arches of 70ft. each and 54ft. high (fig. 2). Its estimated cost, including the centring and piling, was £15,203 which was less than that of the original iron bridge. It was in a more cheerful state of mind therefore that the committee, meeting on December 30th again set down the probable cost of the project, arrived at much the same figure as before and decided that the receipts from tolls would give an annual surplus of £269 after making the annual repayments on the loan.

1825

The foregoing figures were placed before the General Committee in the middle of January and after careful consideration approved, as was also the scheme to widen the old bridge by building "an iron walking path over the eastern angles"

and to macadamise the roadway. The great bridges at Menai and Conway were nearing completion and increased traffic could be expected in the near future. The minutes conclude "We would like to recommend a single arch which would have been more worthy of our venerable Architect, but the expense is prohibitive."

Mr. Potts now joined Mr. Finchett-Maddock in the task of drawing up the content of the Parliamentary Bill and a distinguished company of gentlemen from both city and county were elected to act as commissioners. No less than sixty-two of these were present at the first meeting when a small sub-committee was appointed to consider the three schemes—iron, single-arch and three-arch. In this task they were empowered to "call in the assistance of some experienced engineer". Immediate advantage was taken of this privilege and Francis Giles, an engineer famous for his work in harbour construction and in great demand as a consultant was summoned to Chester. He appears to have indicated no preference as to the style of bridge but suggested a slightly different line for the approaches which might reduce the cost by some £500. This seems to have again drawn attention to the great cost of the embankments and very reluctantly the surveyor was asked to reduce their height "to that of the footpath of the city walls". This meant a sharp rise in the roadway to the centre of the bridge.

THE ACT

The Act received Royal Assent on June 10th. It provided for "the erection of an additional bridge over the River Dee in the City of Chester; for making convenient Roads and Approaches thereto and for taking down and rebuilding the parish church of St. Bridget within the said city and for repairing the present bridge over the River Dee".

For carrying the Act into execution the Commissioners might "apply to H.M. commissioners for granting loans in aid of public works by the issue of Exchequer Bills for the loan of a sum not exceeding £60,000, the repayment with interest to be secured by mortgage on the Tolls on both bridges". Power was given to pay to the Church Commissioners for rebuilding St. Bridget's Church the sum of £4,000 provided that the new church and churchyard were consecrated before any part of the old church was pulled down. The Corporation was required to give up all tolls to the Bridge Commissioners upon condition that an annual rent of £200 be paid and the Corporation exonerated from liability for repairs. The Commissioners were given power to obtain stone, sand and gravel, to close the streets during building operations and to re-sell property not required. Power was also given to the magistrates to advance £1,200 for the approaches and there was a final condition that the work must be completed within seven years.

In spite of the fact that on paper at least the financial side of the project appeared to be satisfactory, there was obviously some concern as to whether unforeseen difficulties might arise which would increase costs. Especially was this so in the matter of the foundations and Harrison was requested to make borings to ascertain the nature of the ground. A plan of these borings is preserved in the city Archives

and shows that in some places over 30ft. of soft ground covered the rock at the proposed site. Somewhat alarmed, the sub-committee decided to write to George Rennie, a famous engineer who had been closely connected with the building of the London bridges and ask his advice. The request brought Rennie to the city and he gave it as his opinion that it was possible with due care to build on a foundation of piles but strongly recommended that the masonry be carried down to solid rock.

In November the mayor (Alderman Harrison) was in London and sought an interview with I. K. Brunel, a young engineer who was then, at the age of nineteen, in charge of the cutting of the first tunnel under the Thames, a great undertaking designed by his father. The young man was enthusiastic about the Chester bridge project and made the astounding suggestion that such a bridge could be built in rubble for about £10,000. Thereafter there was a good deal of correspondence. The committee stressed the importance of the appearance of the bridge since it would be seen "in connection with the truly beautiful architecture of our Castle." It was felt that this material was "somewhat problematical" and many questions were asked concerning its practicability and durability. Finally Brunel was asked whether he would contract for the building of such a structure and for a certain number of years guarantee its standing. His assurances, however, were not very convincing and the scheme was abandoned.

1826.

Thomas Harrison's feelings in the matter can well be imagined. He was now eighty-two and for the past eight years had placed his skill and experience at the disposal of the bridge committee. He had drawn up many plans and specifications for a project which he knew must be his last great work. The construction of a single arch of 200ft. in stone was something which had never before been attempted and when completed would form a worthy adjunct to the magnificent Castle Buildings of which he could be justly proud. An arch of rubble had now been seriously considered. Little wonder that he should write to Finchett-Maddock on January 8th:—

Sir,

I am troubling you to request that you would be so kind as to acquaint the Bridge Committee as soon as convenient that I feel myself necessitated from my advanced age and the infirmities attending it to resign any further concern in designing or conducting the erection of the proposed Bridge at Chester. I trust the Committee will have no difficulty in acceding to my request or in procuring a younger and more competent person for the purpose who may be able to attend to the progress of this arduous work and live to see it completed, neither of which I can expect to do. The first is not in my power and the last I cannot hope for. Any drawings made for the purpose are at the service of the Commissioners should they be thought useful, but I am determined to avoid any official charge or responsibility whatsoever relating to the erection of the Bridge. At the same time I shall view with pleasure the successful progress of a work which has so long occasionally occupied my thoughts and had my earnest wishes.

I remain Sir,

Your very obedient Servant,

Thomas Harrison.

The Commissioners expressed their regrets, accepted the offer of plans and drawings with thanks and subsequently appointed William Cole, Jnr. one of Harrison's pupils, as his successor.

Strangely enough there was further correspondence with Brunel concerning the rubble bridge and when an application for a loan of £35,000 was made in February both the stone and rubble schemes were submitted together with estimates from Mr. James Trubshaw, a Staffordshire contractor. An anxious four months went by before the reply arrived. It was brief and devastating. The Loan Commissioners did not "feel themselves warranted in making the advance required." The committee followed the only possible course and asked for a copy of Telford's report which was duly forwarded. It seems that he had visited the city and made a careful inspection of the area concerned although there is no indication that he either saw or consulted the committee at the time. He approved the design for the bridge but objected to the site chosen where he felt that "upon such a foundation it will be quite inadvisable to attempt constructing an arch of the before-mentioned dimensions or indeed any bridge with a stone arch. But there is no occasion for this risk because at a distance of 110 yards down the River rock has been found at the very moderate dept of two to three feet under low water and of an extent to admit the foundation of a bridge. The width of the river being 160ft. an arch of 175ft. is sufficient. This situation is in direct line with the proposed new street and also suits the direction of the Wrexham Road. The embankment on the city side will be increased but the advantages and security outweigh all other considerations." An estimate of the cost was appended amounting to £50,698 with a reduction of £5,400 for an iron bridge. He considered that the work should be completed in three years.

When the report was shown to Mr. Trubshaw he was very much against any reduction in the width of the arch as this would be likely to impede the course of the river, an opinion with which the committee eventually concurred. Meanwhile the financial aspect was eased by the floating of a £30,000 Loan at 5% on the security of the tolls, a venture which proved very popular. The year closed with Mr. Trubshaw's contract duly signed and Mr. Hartley of Liverpool appointed as Clerk of works.

1827.

It is illuminating to read in the minutes of a meeting held in January that Mr. Harrison's account for "money expended" amounting to £77 6s. 0d. was approved for payment and a recommendation made that the Commissioners should pay him £315 for his professional advice. As far as can be gathered this small sum was all that the architect received for his skill and work in the designing of three bridges. In contrast, Finchett-Maddock and Potts collected huge sums from the legal business connected with the project while Telford charged £168 for his inspection and report.

Preliminary work on the foundations proceeded steadily through the spring and summer and at the same time agreements relating to property on the line of the new street were concluded. A great deal had to be demolished but there was

also much new building which was very carefully considered in view of the fact that the street "must of necessity become the principal avenue to the city." In September a pilot was engaged to guide vessels through the works of the bridge while the Mayor and Finchett-Maddock were deputed to wait upon Earl Grosvenor to ask him to lay the foundation stone on October 1st. The Earl readily consented and in addition promised to provide a dinner (with liquid refreshment) for the workmen. Schools and Benevolent Societies were invited to join the procession which, on the great day, marched through the city to the accompaniment of gun-fire from the Castle. At the site, a platform to hold 300 people had been constructed and with a silver trowel suitably inscribed Earl Grosvenor laid the stone, placing coins in the prepared cavity. Twelve days later Bishop Blomfield laid the foundation stone of the new St. Bridget's church.

1828—1832.

Work on the bridge and its approaches proceeded normally for some time but in July the Commissioners observed that "the work has not proceeded with the rapidity that was expected and earnestly call upon Mr. Trubshaw to employ more hands and to proceed with more expedition." There was another complaint later concerning "the apparent tardiness of the work" but it seems doubtful whether the magnitude of the task was fully appreciated. There were no complaints however about the new street which was formed on Telford's now famous plan (as used in the making of the Holyhead road) and it is significant that its width remains adequate for modern traffic.

On March 26th 1829, Thomas Harrison died at the age of eighty-five and was buried in a vault in St. Bridget's churchyard. Strange to relate there is no mention of his death in the minute books of either commissioners or committee. He left his delightful house, St. Martin's Lodge, to his daughter during her lifetime after which it was to become a rectory for the church. Miss Harrison died in 1857. It was shortly before the sale of the house in 1947 that the drawings for the church previously referred to were found in the basement. The font now serves as a garden ornament.

Mr. Hartley certified that the south abutment was completed in July 1829 and £4,330 was advanced to the contractor. The north abutment was finished shortly afterwards and preparations were then made for the construction of the massive timber centring which must support the voussoirs of the arch until locked by the keystone. From the Roodee the structure made an impressive picture and gave a hint of the majestic bridge which would finally emerge. There is a delightful water colour by Pickering made at this time (now in the Grosvenor Museum) and a very detailed and accurate drawing was made by John Musgrove. Further certificates indicate the steady progress of the work, while hundreds of loads of soil were brought to make up the embankments. A good deal of material came from the Cathedral graveyard where burials over a long period had raised the level of the ground very considerably. In October, 1830, Mr. Trubshaw suggested that it would

add to the beauty of the bridge if plain pedestals were substituted for the proposed columns, a suggestion which very fortunately was adopted (Pl. I, 2). On December 16th an important and satisfying stage was reached when the committee resolved "that the sum of twenty-one pounds be given to the workmen for a treat to celebrate the laying in the key-stone of the arch."

As the work proceeded financial difficulties arose for as yet no loan had been granted by the Exchequer. In September 1831 Lord Grosvenor made the journey to London and obtained a personal interview with the Loans Commissioners with a view to obtaining a loan of £56,000. It was not until the following February however that a decision was received—the Treasury would advance £13,100 only. Added to this misfortune was the fact that the Bridge Act expired on June 10th so that the legal costs for its extension had to be met. It was quite clear that unless further money could be obtained fairly quickly work on the bridge must be suspended and Lord Grosvenor was asked to advance £3,000. This he did not do, but fortunately the Exchequer loan was received in time to prevent a cessation of building operations, for Princess Victoria had already been approached with a view to her opening the bridge in October.

As might be expected *The Chester Courant* gave a very detailed account of the royal visit. The Princess, with her mother the Duchess of Kent arrived at Eaton Hall on Monday evening, October 15th and on the following day the Mayor and Corporation dined with the royal party. On Wednesday the procession assembled at the Castle and to the sound of bells and the roaring of cannon approached the unfinished bridge over the centre of which a triumphal arch had been erected. Invited by the mayor to name the bridge the Princess replied, "I seize the occasion of our being the first persons to pass over this magnificent bridge to lend myself to the feeling that prevails and name it 'Grosvenor Bridge'." It is interesting to read that Mr. Trubshaw had "taken care to render the passage over the bridge as easy as possible in its present unfinished state and the battlements were secured in such a manner as to prevent the possibility of accidents." The royal party then visited the Castle, the Infirmary and the Cathedral before returning to Eaton. The following day the royal coach left at 8.0 a.m. again passing through the city *en route* for Buxton which was reached at 6.0 p.m.

THE BRIDGE COMPLETED.

The great undertaking was slowly completed in spite of continued financial difficulties which frequently caused friction with the contractor. Lord Grosvenor, who had already done so much, added to his generosity by making a donation of £1,000 to the building fund but it was not until November 20th 1833, a quarter of a century after the magistrates' meeting which had set the scheme in motion, that Mr. Hartley delivered his certificate of the completion of the bridge and embankments. A balance sheet presented to the commissioners two weeks later placed the cost at £49,824 12s. 9d. and to this must be added the cost of toll houses and gates, the church, Grosvenor street and other ancillary works.

The commissioners operated for a considerable time after the completion of the bridge. A good deal of tree planting took place; the drainage of the embankments was improved by Davies in 1840; there was a prolonged legal battle with the Holyhead and Wrexham Mineral Railway in 1844 when the bridge commissioners claimed toll on traffic crossing the new railway bridge⁷ the matter being finally settled for a lump sum of £2,947. This useful sum helped in the building of a long retaining wall at the foot of the embankment facing the Roodee. By 1860 the receipts from tolls had dropped to £1,100 due to the building of the railways and maintenance was becoming each year a more difficult problem. One of the last meetings of the commissioners gave permission for the erection of the Combermere memorial in 1864 and when tolls were "abolished for ever" in the following year the commissioners retired and the bridge with its approaches became the responsibility of the Corporation.

After being in use for well over a century the graceful bridge still stands firmly upon its rocky bed and its great arch remains the widest masonry span in this country, exceeding that of the centre arch of Rennie's London Bridge by fifty feet. Built chiefly of Peckforton stone with Chester sandstone in the side arches and voussoirs of Scottish granite, it is a fitting memorial to its distinguished architect.

This paper has been completed from two hand-written volumes now in the City Archives, *The Proceedings of the Commissioners for the building of Grosvenor Bridge* and *The Proceedings of the Sub-Committee*.

The writer desires to express thanks to the City Archivist Dr. M. E. Finch and her assistant Miss J. L. Reid for their kindly co-operation, to Mr. G. K. Ridley for information concerning the Iron Bridge in Eaton Park and to Messrs. P. and C. Astbury for taking the photographs which illustrate this Paper.

⁷This bridge collapsed in 1847 whilst a train was crossing. There were many casualties.