

The Napoleon Series

River Crossings in the Peninsular War: the Bridge at Alcantara

By [Richard Tennant](#)

(The article on the Loyal Lusitanian Legion in Edition 91 of *First Empire* includes some photographs of the model of the broken bridge in the Spanish Army Museum. These show it as being the third arch from the bank, next to the tower, which was repaired. Just as this article was being published, an article by Robert Burnham on the website 'napoleon-series.org/military/virtual' was brought to my attention. It is entitled *The Destruction of the Bridge at Alcantara : 14 May 1809*. His article brings out more interesting details about the bridge, particularly the further confusion about specifically which arch was destroyed by order of Col Mayne.)

In June 1810, Lieut. Colonel Dickson RA was touring the area together with General Hamilton and they made a visit to the bridge. In the *Dickson Manuscripts*, he leaves a graphic account of what he found and this has been amplified upon by the editor of his diaries,¹ Major JH Leslie. They approached from the south, via Membrio and the Bridge of Salor, towards the river:

Alcantara is not discoverable until nearly at it, being sunk under the hills which rise above the Tagus. It has been fortified with bastions and curtains, and several outworks, all now much out of repair. Although there is still a Governor belonging to it, indeed from the number of points by which the works are commanded it never could have made much resistance.

The Tagus runs in a very deep and rocky channel, the hills rising very abruptly and to considerable height on each side. The river here is narrow, being confined between the rocks, but is very deep and rapid. On top of the hill immediately above the bridge and within the works of the town stands the considerable Nunnery, the church of which is that of the order of the Knights of Alcantara², and below this there is a castle with walls and towers, now much ruined, which connects on each side of the bridge, and the body of the place, and was the security of that end of the bridge.

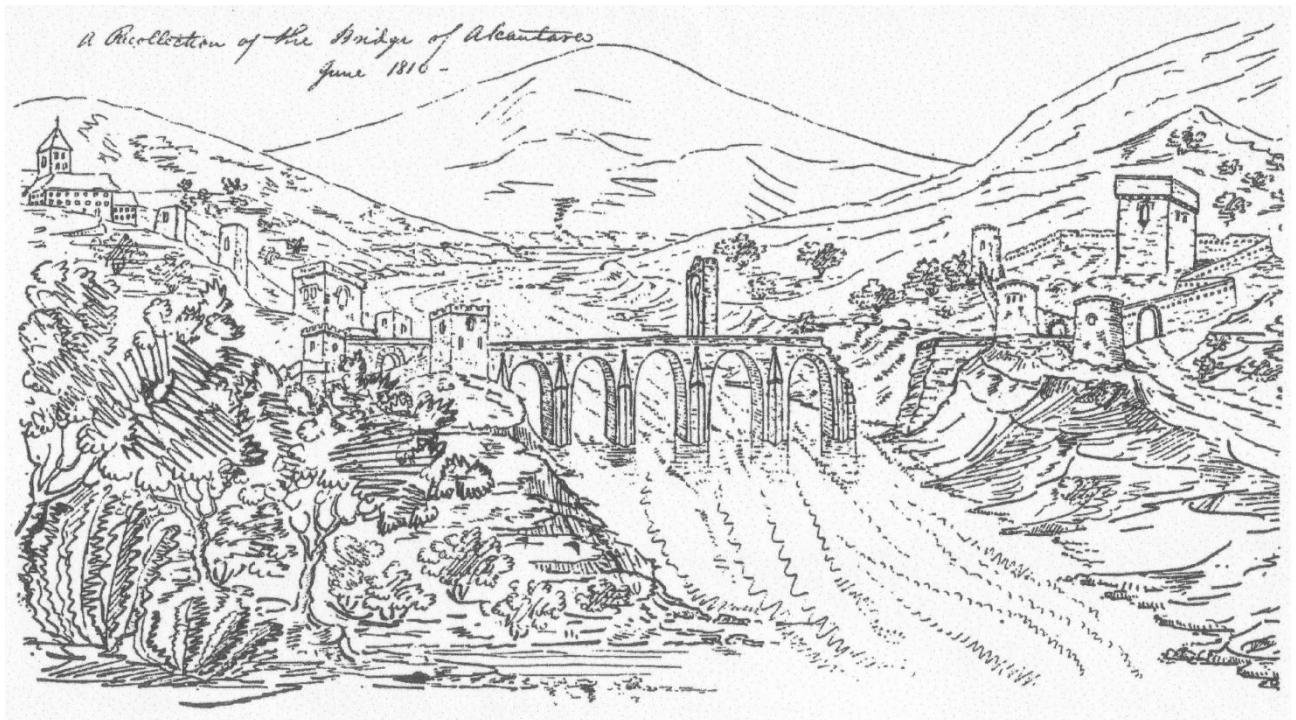
On the contrary side there is a *tête de pont* in the ancient style of fortification with loopholed walls and towers, and the upper part of it a very large tower, but the hill rises so steep immediately behind it that a stone might be easily thrown on the top of the tower which must be quite exposed to view from above.

The road descending to the bridge from Alcantara is pretty steep making one or two zig-zags. The bridge itself is a very noble one. I should judge it about 250 yards in length from one extremity to the other, about 70 yards high, and

¹ *The Dickson Manuscript*, vol. 2, page 214.

² A religious order of Spanish knighthood founded in 1156 as a military fraternity for the defence of estramadura against the Moors. The knights follow(ed) the rule of St Benedict.

30 feet broad, entirely built of large square stones. There are six arches, 5 of which are perfect, and the 6th, being the one on the opposite extremity from Alcantara was broken down last year about May, by order of Colonel Mayne of the Loyal Lusitanian Legion on the approach of the enemy."



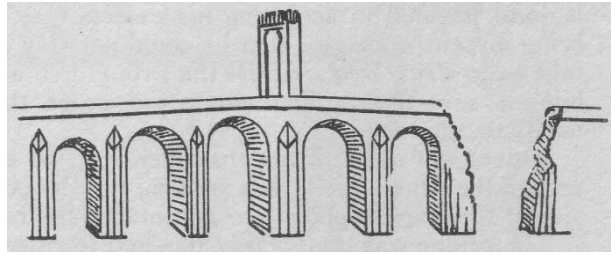
[The sketch is reduced from the original drawing made by Dickson. It was most probably elaborated at a later date, from the small sketch and description in the diary. The sketch is taken looking down stream, the town of Alcantara being situated on the left bank.]

The above image is used with the permission of Ken Trotman Books.

The Spaniards are very angry at its having been broke, and the more so, as it has since been ascertained that it was done in consequence of the approach of a small body of cavalry only³. They say that the bridge was permitted by the Goths, Moors, and other barbarous nations to exist without injury, but that at last it was destroyed by the Portuguese who are the most barbarous of all. I am sorry to have to remark in exculpating the Portuguese, that the deed was done by order of an Englishman. There is no doubt however that it has been of considerable service in preventing the enemy from using it as a communication.

Although only one arch is broke down and that not the largest, it makes a gap I should think very nearly two hundred feet wide, and from the great height, it would be very difficult if not impossible to repair it with wood, or in any other temporary manner. To understand the reason of the gap being of so great a breadth, see the Mem. (*memorandum / drawing*)."

³ An interesting entry, particularly since he was met at the bridge by Colonel Grant of the LLL who would have been able to tell him how the action actually developed.



The arches are very high, but not broad in proportion, being what are called upright, but they are nevertheless very broad, particularly the two centre ones. In the center of the bridge there is a triumphal arch which has on each side of it the inscription: (*translation of the Roman text*) *To the Caesar, son of the divine Nerva, Nerva Trajanus Augustus, Germanicus, Dacicus, Supreme Pontiff, in the 8th year of his Tribunical power, when Imperator for the 6th time, consul for the 5th time, Father of his Country*⁴."



Detail of the left of the archway



Detail of the right of the archway

The river forces through the arches with very great rapidity and is at the same time excessively deep.

⁴ He was Emperor from AD 98 to 117. Thus the date of the building of the bridge is AD 105.



The view west – downstream

The pavement of the bridge is particularly handsome and perfect, consisting of large squared stones.”



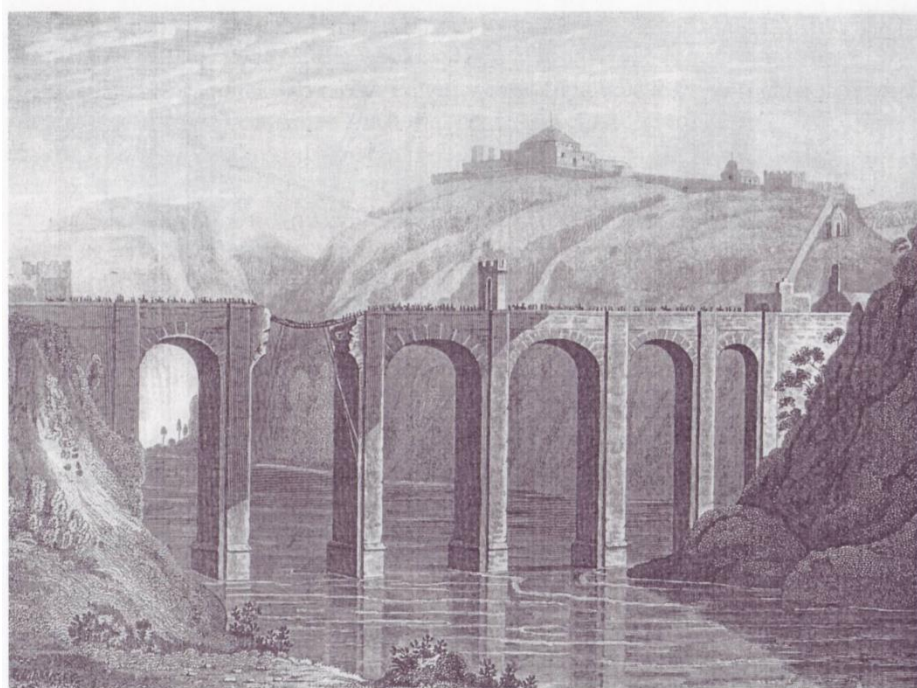
Looking south, with the ruins of Alcantara on the left and the road to the bridge snakes down the valley to the right

At the entrance of the bridge on the Alcantara side, is a small Roman temple with a long inscription which I could not make out, but I understand it records the name of the architect which was [Caius Julius. Ed] Lacer and the cause of building the bridge.

The bridge being now impassable the river is crossed by a ferry higher up. People have passed over by a rope on which a box is hung with sliders to go from side to side, and there are small windlasses on each side to draw the box backwards and forwards. The rope however is at present broke.”



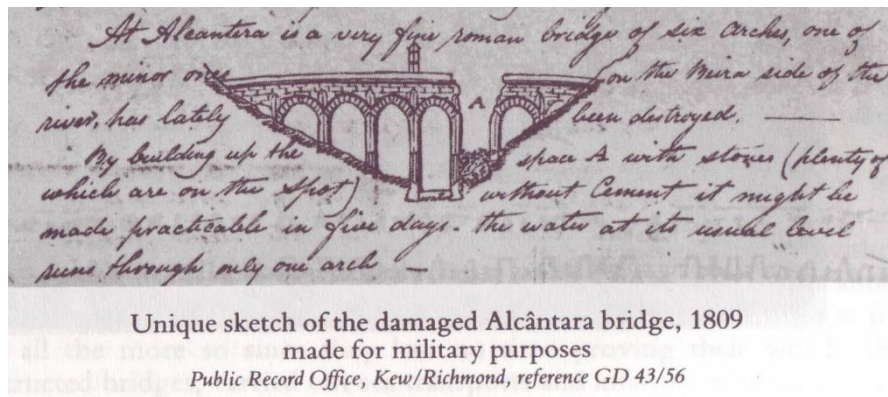
[In Sir Howard Douglas' *Military Bridges*, 3rd edition, 1853, there is a picture of this bridge showing the broken arch as that *next but one* to the north bank. Baedeker's *Spain and Portugal*, 1901 gives it as *the 2nd arch from the north bank*, as does O'Shea's *Guide to Spain and Portugal*, 6th edition, 1879. Douglas says that it was destroyed in 1809 *by the French* which is certainly incorrect.]



A Contemporary View of the Bridge at Alcántara as Seen from the Left Bank. By Major General Howard Douglas

(Also, the sketch illustrated⁵, taken from a manuscript in the PRO, shows this particular arch as being destroyed. Again, there is a sketch in the *Royal Engineers Journal*, attributed to Major Sturgeon, clearly showing it to be the second arch from the north bank.)

⁵ Public Record Office, reference GD 43/56



At Alcântara is a very fine roman bridge of six arches, one of minor ones on the Beira side of the river has lately been destroyed. By building up the space A with stones (plenty of which are on the spot) without cement, it might be made practicable in five days. The water at its usual level runs through only one arch.

Note: compare the water level in this sketch with it as shown when sketched by Dickson in the month of June. His editor, Major JH Leslie, notes that 'the usual depth of the water is 37 feet, but in time of flood it sometimes rises in the narrow gorge to a height of 180 feet.'

However, taking into consideration the extreme care which Dickson always displays in his diary when recording details, I think that one is quite justified in accepting his evidence as the best, for I cannot bring myself to imagine that he could possibly have made such a mistake as to *draw and describe* the wrong arch as the broken one. He himself saw the bridge, which the other three authorities above mentioned did not. It does not seem to me that there can be any doubt as to which arch of the bridge really was broken, viz. the one *next to the bank* on the side of the Tagus opposite to Alcântara – the north bank.

The bridge is made wholly of granite without the use of mortar. Its length is 616 feet; its width 26 feet. The two middle piers are about 190 feet high, and the two middle arches have a span of 150 feet. The usual depth of the water is 37 feet, but in time of flood it sometimes rises in the narrow gorge to a height of 180 feet.

The entire bridge was thoroughly restored in 1860 by the architect Alejandro Millan.
Ed. *Major JH Leslie*]



The bridge viewed from the south bank, looking north



This view from the south bank appears to show the repaired arches

The town of Alcantara gives title to an order of Knighthood which was formerly one of the great military orders in Spain, but now I don't believe is of much estimation.⁶

Alcantara is in a most wretched state and deserted by the greatest part of the inhabitants who have removed to the other side of the river for fear of the enemy and whenever they approach Caceres the most of the remaining people also remove. In consequence of this, Ceclarin and the other villages on the opposite side are very full of people. ... Alcantara is a place capable of containing at least 5,000 inhabitants, and appears to have formerly of some consideration, but it is now a miserable place."

In the report of the action it describes how Mayne fired the explosives but was unable to destroy the bridge. Enough of it remained for Victor to send a brigade of infantry across to secure the bridge and the Portuguese began to withdraw. No contemporary writer mentions when the damaged arch fell, but obviously within a year it had fallen completely.

So, as is noted from Major Leslie's editorial comments to Dickson's diary, there remains some major confusion on which arch of the bridge was actually destroyed.

At the same time as Wellington had ordered General Hill to destroy the Bridge at Almaraz he took in hand a scheme for facilitating his communications north and south, which was to have a high strategic importance. As long as Ciudad Rodrigo and Badajoz were in enemy's hands, the most easterly crossing of the Tagus practicable for the Anglo-Portuguese army was the boat-bridge of Villa Velha. But when these two fortresses were regained in January and April 1812 respectively, it was possible to open up a line further east, which had not been available for two years. Since Mayne had blown up Alcantara, the middle Tagus had been impassable for both sides. The allies had usually been in possession of both banks of the Tagus in this direction, but so intermittently that it had never been worth their while to restore the passage, which would have been lost to them whenever the French (as not infrequently happened) extended their operations into the Coria – Zarza Mayor country on the north bank, or the Caceres – Albuquerque country on the other. But when the enemy had lost both Badajoz and Rodrigo, and had no posts nearer to Alcantara than the Upper Tormes, the forts of Miravete and Zalamea, when, moreover, he had adopted a distinctly defensive attitude for many months, Wellington thought it worthwhile to recover possession of this passage which would shorten the route from Estremadura to the frontiers of Leon by a hundred miles, and would therefore give him an advantage of six marches over the enemy in transferring troops from north to south.

The dates vary, but between 25th April and 24th May 1812, Wellington then gave the orders for Lieutenant Colonel Henry Sturgeon,⁷ Royal Staff Corps, to repair the damage done to the bridge. It was intended that if this engineering problem should

⁶ As described in the previous article 'after the action at Alcantara, the Prior of the Military Order of Alcantara insisted on taking the Cross of the Order from his own breast and affixing it to Colonel Mayne's.'

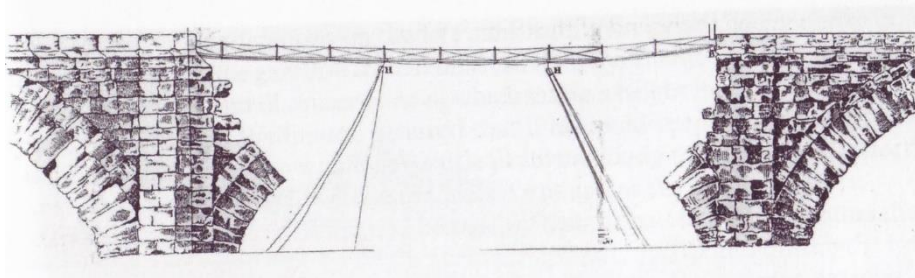
⁷ Formerly in the Royal Artillery – No 932, and nephew to the Marquess of Rockingham. He fell before Bayonne in 1814.

prove too hard, a flying bridge of raft, boats or pontoons should be established at the water level.⁸ However, they quickly established that a pontoon bridge was impossible due to the high riverbanks. Since the gap to be spanned was 75 feet and large trees of that size were extremely scarce, a conventional repair of the 75 foot gap would also not work. According to Jac Weller, Wellington discussed with Sturgeon the possibility of using a form of suspension frequently employed in India. Drawing on the substantial stores at the fortress of Elvas, he first set up the structure across the massive space of the Pontoon House. Once this was completed, the bridge was removed from the wall and rolled into a bundle. This bundle was then placed on two pontoon carriages, each needing six oxen. To transport the rest of the materials they needed eight large four oxen carts and seventeen lighter two oxen carts. It is estimated that it all weighed about 8 tons / 8,200 kilograms. Within a few days after arriving on site, the bridge was carrying heavy artillery. The whole design, building, transport and assembly of the bridge was achieved in about three weeks.

The best simple description of how the temporary bridge was constructed comes from Andrew Leith Hay, serving on the staff of his uncle General Leith, commander of the 5th Division.

The work was commenced by placing two beams on supporters four feet high and ninety feet asunder. These were secured to the side and end walls of the building by braces and tackles, to prevent their approximating by the straining of the ropes. Eighteen cables were then stretched round them, extending from end to end; eight pieces of timber, six inches square, at equal distances, were placed upon the ropes, with notches, one foot asunder, cut in their surface to secure them; these notches were seared with hot irons to prevent the ropes from chaffing. The cables were then lashed to the beams; they were netted together by rope-yarn, and chains of sleepers were bolted and laid on the network, and secured to the two beams originally placed at the extremities of the work. Planks were cut and prepared for being laid across, bored at the ends so as to receive a line destined to secure them to the sleepers and to each other. ... The next point was to prepare the edge of the fractured part of the bridge, and to cut channels in the masonry for the reception of the purchases. When arrived on the spot, four strong ropes were stretched from side to side, as conductors, for passing the cable-bridge across, the beam on the south side having been previously sunk into the masonry; the whole was then stretched by windlass erected on the opposite pier, by which means it was so tightly drawn as to prevent any great sinking or vibration which might render it insecure and dangerous, even when heavy weights were passed over."

⁸ Wellington to Graham, 23 and 24 May, *Dispatches*, ix. pp. 163-5

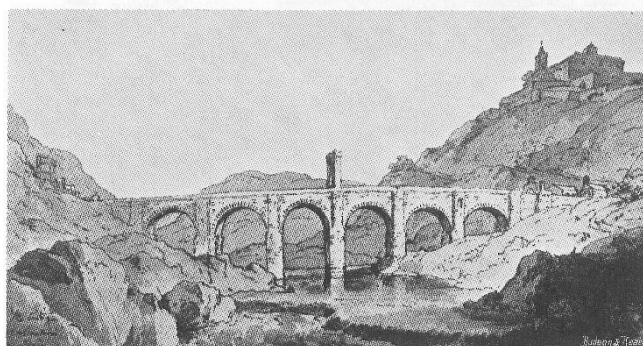


A screen of tarpaulins supported by guide ropes acted as parapets to block the vision of the horses and oxen, and thus prevent a possible panic. Even so, a couple of diaries reported that many animals (and even a regimental paymaster) took fright at the swaying and the height. Hand-operated windlass/ capstans were also necessary to adjust the cables for changes in length due to moisture and to better support heavy vehicles.

The whole thing could be taken up or set in place within a few hours if the enemy appeared in the neighbourhood, which was necessary several times.

A detailed account of the method and materials of the repair is given in Douglas' *Military Bridges*, pp 353 – 359 (including the illustration above), referred to earlier by Major Leslie.⁹

This construction, which has been described as 'Europe's first suspension bridge', remained in use until the arch was repaired in 1860.



**Viewed from the west, with the town of Alcantara on the southern ridge to the right
(from a drawing by R.K. Porter)**

(The photographs of the Alcantara Bridge have been kindly provided by Alan Waters from his considerable private collection.)

Placed on the Napoleon Series: April 2019

⁹ The details of how this was achieved are also described in *Inside Wellington's Peninsular Army 1808-1814*, in the chapter *British Bridging Operations in the Peninsular* by Robert Burnham, pages 241-246.