

TCaption...



Bridge that gap!

Barry Cole explains how he came to build models of famous large span girder bridges for Roger Daltrey's HO scale layout! *Photography as credited.*

We travel under or over them in our busy lives, but who gives them a second's thought? Yet they are a cornerstone of civilisation. If it wasn't for bridges the world infrastructure would probably not exist, and without them where would the human race be? I think you could go as far as to draw a parallel with the invention of the wheel, in fact I would say the two go together - they complement each other, they have become synonymous with the development of civilisation.

We can now span huge voids thought impossible not that many years ago. Look at the USA as a classic example of the art of bridge construction, it's not that long ago that this

country was a wilderness. When the first steam powered locomotives arrived from Britain forward looking people saw the way ahead in opening up this vast country and releasing the locked in natural resources of this huge land. Engineers were brought in from all over Europe to assist American engineers with this massive project. Allowing for the fact that back in those days heavy machinery was not an option, many bridges had to be built mostly from timber of which, fortunately, there was an abundance.

What was the result of all this? Well they built the largest railroad system known to man and America became the richest nation on earth, all thanks to tenacious Civil Engineers who would not except the phrase 'it can't be done'. No

matter how high or wide the obstacle they would have to overcome, nothing was going to stand in their way. To this day American railroads move masses of freight long distances over thousands of bridges, some small and some huge, so without this infrastructure the USA would not be the super power it is today.

My parents moved to South London from the countryside when I was a child, Battersea to be precise, home of the famous power station and dog's home. Opposite our house were the main railway lines from Victoria and Waterloo serving the south coast, west of London and west as far as Cornwall. I had a ringside seat for all the steam engines that passed by, sometimes doubled up pulling overloaded goods trains,



The classic American Warren truss was patented in 1848 by its designers James Warren and Willoughby Theobald Monzani. Its configuration combines strength with economy of materials so it can therefore be relatively light. *Barry Cole*

whistles blowing, wheels spinning, smoke and steam exiting from the chimneys like a mini volcanic eruption. I would open the window of my bedroom on these occasions no matter how late this fanfare took place. A night with a full moon was always the best time to view this fantastic display.

As time went by I got to know what time the top expresses of the day would pass by, like the 'Atlantic Coast Express' and 'Bournemouth Belle', plus the boat trains pulled by one of the highly polished Bulleid 'Spam Cans', and later the impressive rebuilt 'Merchant Navy' class express locomotives heading non-stop to Southampton to whisk off rich celebrities and business people onto a Cunard Liner bound for New York.

There was a large steel bowstring bridge that a number of these trains passed over before they disappeared out of sight on their onward journey. For a young child this was a sight to behold and I guess I have never forgotten it.

Probably, and without realising it, this was the reason I got into Civil Engineering. By the time I returned to bed I was frozen - for some reason the cold weather added to the spectacle being played out.

On nice sunny days during school holidays my mates and I would take ourselves off to view the trains at close range, as we knew where some of the large steel span bridges were located. We would sit way up high on the steel girders waiting for the next steam engine to hurtle by and nearly knock us off the structure into oblivion with the force of the engine's exhaust. At times, when a really slow goods train came by, I have to say it did scare us a bit. We must have been stupid now I come to think about it. If my parents had known what I was up to I would have been in real trouble. How we never lost our eyesight with all the bits of grit we had to remove from our eyeballs I will never know!



The Warren truss bridge model as seen on Cliff Parson's Gresley Beat layout. The bridge model is approximately 0.70 metres long. *Brian Longhurst*



Caption....

So this gets me back to the subject dear to my heart, namely bridges. Whilst we were risking our lives scampering round these massive steel structures I couldn't help noticing great large new sections that had been spliced into place. I think that's what got me interested in Civil Engineering. I started to look at the way these impressive structures were put together.

I found it most interesting, the damaged parts I mentioned were due to bomb damage from the Second World War. So I pursued a life in Civil Engineering, all no doubt due to my childhood experiences which brings me to the reason I have

written this long, some might say boring, but necessary essay.

Whilst visiting a family friend, Roger Daltrey, to view the fantastic layout he has constructed over a number of years (most impressive, it is modelled on an area in the mountains of Southern Germany, a real Alpine scene), a conversation started about a new future section to be built. Unfortunately there was a big problem, how to get the trains over the many tracks emanating from the main line station and then going onto yet another mountain pass, not easy. On the face of it, it did not seem possible.

One answer was to put a large single span double track bridge over all the lines. This appeared to be the solution, but then we found out that there was nothing on the market that Roger could purchase to solve the problem. Then I said, why don't I construct one? Easier said than done of course, but having said that I felt confident I would be up to the task having studied this type of bridge in the past so I would give it my best shot.

When I returned home, I dug out my old books on bridges, and dusted them off to see what I could come up with. To my amazement there have been many long span railway bridges built over the past hundred plus years in many parts of the world. I found a bridge that would fit the bill perfectly - a steel arch bridge built in the early part of the 20th century in Germany. So I took myself off to the local model shop and purchased all that I needed to construct the said bridge. The next job was to transfer from a picture with few scant details to an accurate scaled down drawing. This, I have to say, took me some time as I had to make my own large scale protractor in order to get all the correct curves and angles, but in the end after some time I achieved my goal and the model bridge became a reality.

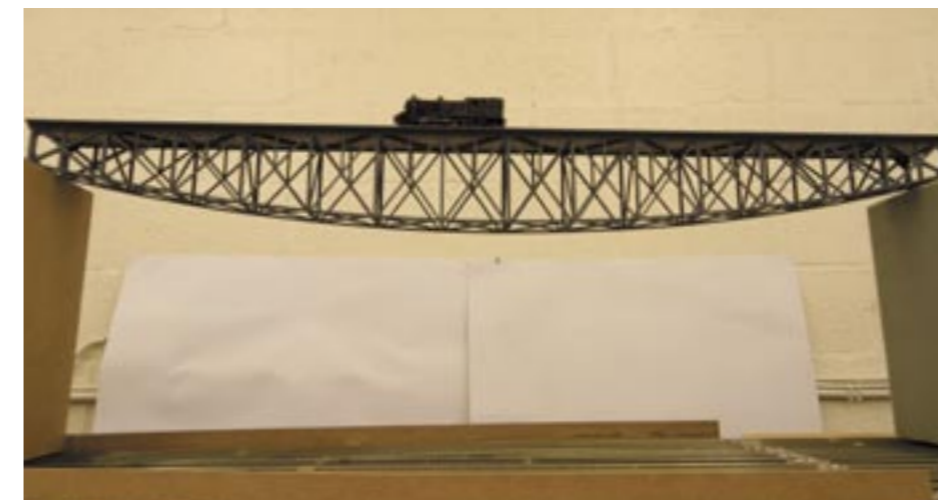
The next job was to take it to Roger to hear his thoughts along with some other people at the meeting. It was put to the vote, it was a unanimous yes it will do the job, so it was then positioned on the layout to see what it looked like. If I say so myself it looked most impressive and everyone agreed. Job done, Roger can now proceed with the new line. Everyone is happy, including me as I am getting a lot of interest in the new hobby I have found in my life! **BRM**



This model is based on the Ludendorff bridge - perhaps better known here as the bridge at Remagen - made famous by being captured intact during the Second World War, although it collapsed ten days later. Some idea of the scale of the two metre long model can be gained from this picture posed on the storage roads of Cliff Parson's Gresley Beat. **Brian Longhurst**



The Navajo bridge (above) crosses the Colorado River's Marble Canyon near Lee's Ferry in the US state of Arizona. The HO scale model is approximately 1.4 metres long. Below, at 99 metres high, the Sitter Viaduct is the highest railway bridge in Switzerland. Like many tall railway bridges in Europe large stone arch approaches give way to a long deck truss that sometimes looks a little out of place. The model is 1.35 metres long. **Both Brian Longhurst**



Bridge that gap!



Just like the real thing - or so the 1959 adverts said of the Airfix OO/HO girder bridge kit! Still going strong after 53 years, and the mainstay of miniature effects in Fireball XLS, Thunderbirds and other Gerry Anderson series, this granddaddy of girder bridge kits is now produced by Dapol and available from their stockists.



Brand new for O gauge modellers is this British-made arched girder bridge based on the well-known Hornby-Dublo model. The high quality cast metal sides and aluminium base make it equally suited to indoor or outdoor use and it will appeal to both coarse and finescale modellers. Assembly is extremely simple using the self-tapping screws provided. The bridge is available in orange/green, matched to the post war Hornby-Dublo bridge, or battleship grey, and in single or double-track versions. Prices are £99.00 (single track) or £129.00 (double track), plus £10.00 P&P. For further details call headboy Paul Lumsden at WJVintage on 07711 092497 or visit: www.wjvintage.co.uk.



Barry's Model Bridges
Retired Civil Engineer Barry Cole now offers a specialist model bridge building service for layout owners. Commissions include Teenage Cancer Trust Patron and The Who frontman Roger Daltrey. For further details visit the BMB website at: www.barrysmodelbridges.com or call Barry on 07743 448810.



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