



## Bridge of the Month No46, October 2014 Clopton Bridge, Stratford-on-Avon



Shakespeare country this month, with a bridge named for its sponsor rather than its location. I am off to New Zealand on 3<sup>rd</sup> Nov till 30<sup>th</sup>. Maybe I can find something there for November.



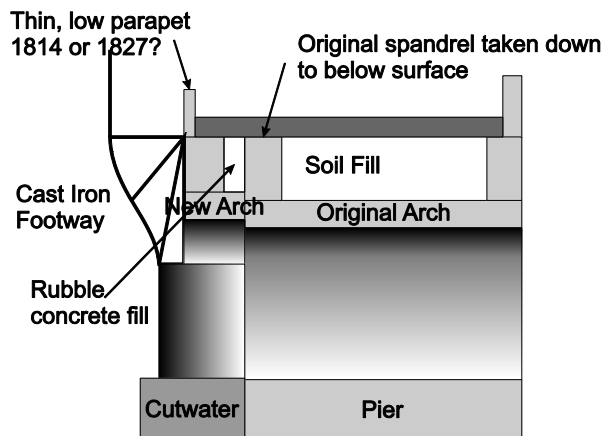
This picture shows just 5 of the 14 spans.

Looking at the [map](#), it seems perverse to build the bridge across so much water when the river is much narrower just upstream but it is a long time since 1480 and the river has surely changed a lot in that time. Indeed the bulk of land upstream and down might well be caused by the bridge. No doubt the wide (and therefore shallow) nature of the river here is the basis of the ford in Stratford anyway.

A closer look from the river shows the progressive widening of the bridge.



The arch was added in 1814, with the pedestrian refuges removed to make room for them. Then in 1827 a separate pedestrian space was made by adding a cast iron cantilever. The cantilever brackets are tied right through the stone bridge with pattress plates and nuts on the downstream face.





This is the same span viewed from downstream showing the anchors for the cantilever footbridge. Notice also the dramatic change in weathering at crown level. This suggests that the piers are full, not of soil but of something in the range from concrete to masonry.

The river floods deep and often, though rarely as deep as in this 1932 postcard looking upstream to the Stratford side.



Even when running full, the water does not reach the crown of the arch except possibly at the upstream edge. As a result the lower reaches of the stonework are scoured clean while the crown gathers dirt.





This, and most other photographs are taken with a Canon 5D with a 14mm lens. It is a spectacular combination, delivering very wide angles with no barrel distortion. As you can see in this photograph the beds appear straight even at the edges.

I wonder whether the deep grooves in the bottom right stone are a result of normal erosion of a softer layer of stone or of ropes pulled round the edge.

This image is typical of the 12 non-navigation spans. All the joints remain tight and the stone is only slightly eroded. Compare that with a navigation span.





Here the boats are travelling predominantly downstream. The spans are signed. The boats that do the damage are the holiday narrow boats which strike and gouge the arch at the corner of the steel roof about 1.5m above the water. These blows have shattered some stone at the edge and it has been replaced in a different material. That, in turn, is now badly damaged.



This square shot of the span shows the position of the damage with respect to the rubbing strakes, which are clearly not up to the job.

What I found most interesting though is the extent of mortar loss. The joints are obviously all but empty right up into the dirty patch at the crown. The flooded river has then severely eroded the corners of the stones so that any repointing will be rather exposed and will probably be washed out in the first flood unless a very special material can be found.



A closer look shows how deep the notches are at the downstream edge.





The view from downstream shows that the widening arch actually drops below the original at the crown. This is the only span in which this is true.



He boaters obviously find the upstream passage much easier. No impact damage on the edges here, though the span itself is similarly eroded.



The southernmost span has also been used for navigation in the past and shows similar damage, though less severe than the two main traffic spans.