

## The first reinforced concrete bridge in Japan

Biwako Canal is a multipurpose irrigation canal running from Biwako to Kyoto. It is about 11km in length and consists of an open channel and a tunnel. Construction was started in 1885 and completed in 1890. Mr. Sakuro Tanabe, a new graduate of the Imperial College of Engineering (the former Tokyo Institute of Technology) supervised the construction. For his work, he received in 1894 a Telford prize from the British Institution of Civil Engineers.



**Prof. Tanabe at Kyoto University**



**Brick aqueduct bridge designed by Mr. Tanabe**

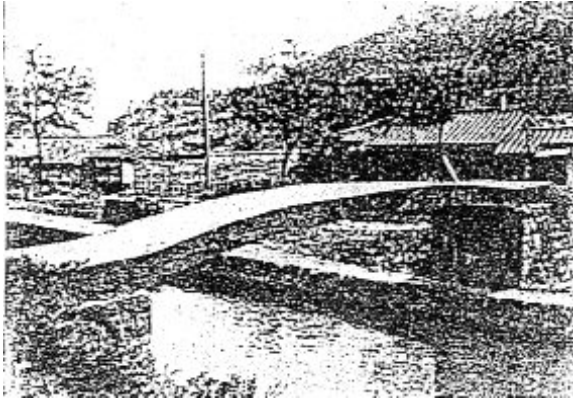


**Hinooka, the third water tunnel outlet**

Prof. Tanabe had been studying concrete ever since he became a professor at Kyoto University in 1900. During that time, he constructed the Hinooka RC11 Bridge, the first reinforced concrete bridge in Japan, near the third water tunnel outlet. It is a Melan-type arch girder bridge with a length of 7.3 m, a width of 1.5 m and a thickness of 0.3 m. Because the cement was produced in Japan and the construction materials included tram rails and other waste materials from the construction of the Biwako Canal, this bridge is presumed to have been construction as an experiment.

The next year, in 1904, Japan's first RC arch bridge was constructed by Mr. Chuzo Yamada under the instruction of Prof. Tanabe. This pedestrian bridge is 12.6 m in length and 2 m wide. Both bridges are still sound and in use 100 years after their construction.

In the next year, 1904, the first RC arch bridge was constructed in Japan by Mr. Chuzo Yamada under the instruction of Prof. Tanabe, which is a pedestrian bridge with the dimensions of 12.6m length and 2m width. These two bridges are still sound and used 100 years after their construction.



Bridge at the time of construction



Fences have been installed to prevent passersby from falling.

### Hinooka RC11 Bridge (1903)



**Surface of Hinooka RC11 Bridge**  
(The surface is still in excellent condition.)



The fences were installed later



Nameplate

### The first concrete arch bridge in Japan (1904)