



Iwakuni City, Yamaguchi Prefecture

錦帯橋

KINTAIKYO-BRIDGE

Aiming for World Heritage

To become a World Heritage Site

KINTAIKYO BRIDGE

Suo Province: Iwakuni, Kintai-kyo Bridge,
from the series Famous Places in the Sixty-odd Provinces (Utagawa Hiroshige),
from the collection of Iwakuni Chokokan Museum

Over 340 Years of

From the Warring States Period to Peacetime

The Kikkawa Clan, who belonged to the Western Army, the loser in the Battle of Sekigahara, was banished from Izumo Province area to Iwakuni, reducing their land value from 140,000 koku units to 30,000 koku.

Times were still so tense that a war could break out at any moment. Hiroie Kikkawa, the first-generation lord, established his center of political affairs in Yokoyama. This was because the area's topology, intersected by the Nishiki River with mountains in the background, was advantageous in terms of defense.

A bridge was constructed early on, in order to connect the castle town segmented by the Nishiki River. However, the bridge was washed away every time the river flooded.

Eventually, when the shogunate system came into place and a peaceful age arrived, the construction of a flood-proof bridge became the earnest wish of the Iwakuni Domain.

"Map of the Inner Domain" (1668)



From the collection of Iwakuni Chokokan Museum

The area intersected by the Nishiki River, with Mount Shiroyama in the background was chosen as the residence of the feudal lord and some of his vassals, and the opposite riverbank was chosen for the dwellings of the remaining majority of vassals and the townspeople.

Concept and Foundation of the Bridge

Hiroyoshi Kikkawa, the third-generation lord, grappled with research on bridges, but a solution was not easily reached.

One day, Hiroyoshi obtained a book on China's famed West Lake from the Ming Chinese monk and scholar Obaku Dokuryu. In this book was an illustration of a six-arched bridge connecting five small islands. It is said that this is how Hiroyoshi acquired the idea for the Kintaikyo Bridge.

This concept was to build four piers in the Nishiki River and to connect them using five bridges. In order to achieve this, further research was repeatedly conducted in addition to the civil engineering and architectural techniques that were cultivated during the Warring States era.

Then in 1673, the concept and technology resulted in reality, as the Kintaikyo Bridge was built.

Illustration for "Travel Records of the West Lake"



From the collection of Iwakuni Chokokan Museum

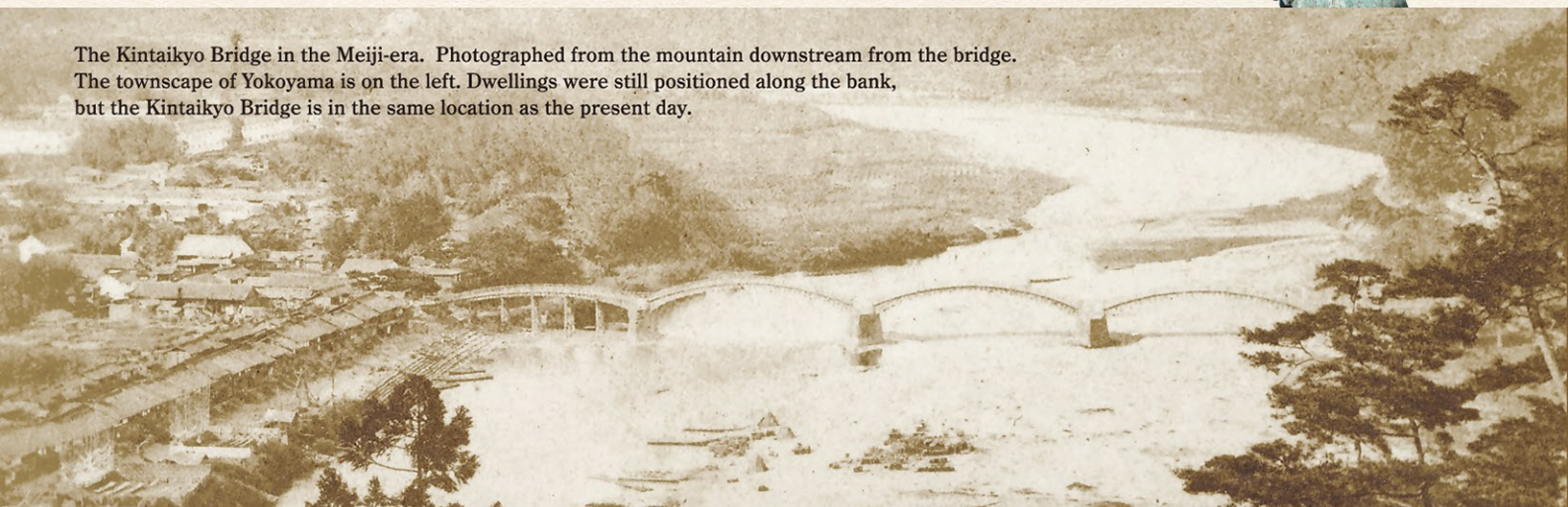
It is said that Hiroyoshi acquired the idea for the Kintaikyo Bridge from a picture of a bridge that spanned the islands of the West Lake (China).

The Third-generation Lord of Iwakuni
Hiroyoshi Kikkawa
(1621-1679)

Constructed the Kintaikyo Bridge.



The Kintaikyo Bridge in the Meiji-era. Photographed from the mountain downstream from the bridge. The townscape of Yokoyama is on the left. Dwellings were still positioned along the bank, but the Kintaikyo Bridge is in the same location as the present day.



History

A Bridge Across the Ages

The year after its construction, the Kintaikyo Bridge was washed away due to collapse of its piers during a flood. However, restoration was immediately commenced, and the reconstruction work was completed within the year.

After this, the bridge supported the passage of people over many years, while undergoing frequent restoration and rebuilding. It was swept away again in 1950 in a typhoon, but the townspeople worked in unison to achieve reconstruction.

In this way, the Kintaikyo Bridge has spanned the ages, and even now continues to exist in the same shape in the same location.

Design

Twelve drawings, with the 1699 blueprints as the oldest, and full-sized “templates” from modern times onwards, are in existence.

These serve as evidence that the design of the Kintaikyo Bridge has been passed down for more than three hundred years.

Materials

Materials were selected in accordance with the properties, economic efficiency and procurement potential of timber, such as by using pine and zelkova as the main structural materials and rot-resistant woods such as Japanese cypress as decorative materials.

Workmanship

Even before the development of photography and filming, bridge-building technology was handed down through repeated drafting of drawings each time the bridge was rebuilt.

Because of this, the Kintaikyo Bridge now exists in a shape unchanged from three hundred years ago.

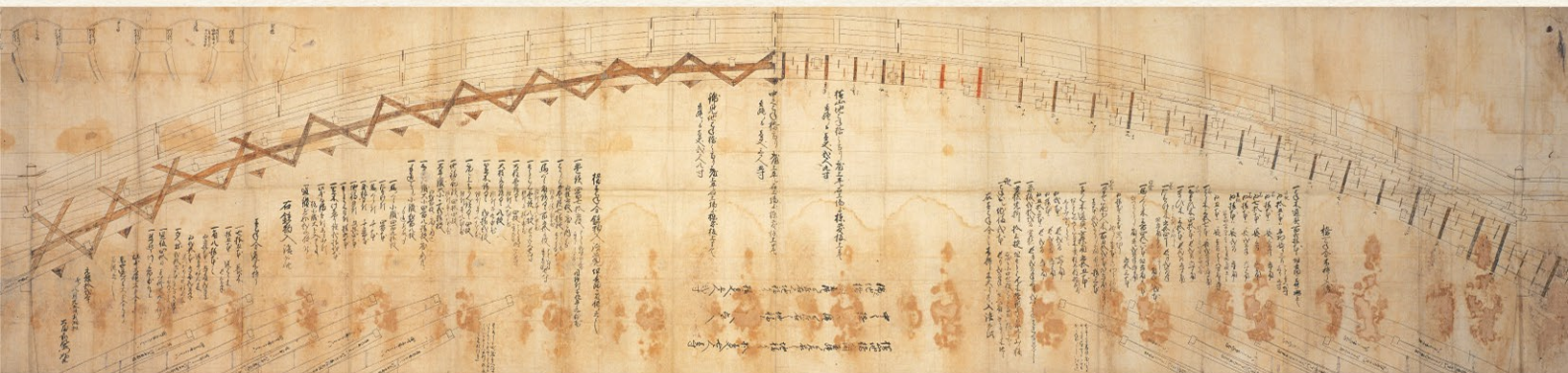
Setting

Inspection of early modern archaic maps indicates that the setting of the Kintaikyo Bridge has not altered from history to the present day.

Moreover, records of historical rebuilding also inform us that the bridge's location has remained unchanged.

Oldest Drawing

“Kintaikyo Bridge Rebuilding Plan” (1699), the oldest extant drawing. From the collection of Iwakuni Chokokan Museum



1600 Keicho5	Battle of Sekigahara Hiroie Kikkawa receives 30,000 koku of land in the Iwakuni vicinity
1664 Kanbun4	Hiroyoshi Kikkawa sees “Travel Records of the West Lake”, acquires the idea for the Kintaikyo Bridge
1673 Enpo1	The Kintaikyo Bridge is constructed
1674 Enpo2	Washed away by flooding Rebuilt
1677 Enpo5	Rubble stones is strewn in the riverbed around the Kintaikyo Bridge, and stone pavements are reinforced
1699 Genroku12	Oldest extant plan is drawn

1871 Meiji4	Abolition of the feudal system and establishment of prefectures
1922 Taisho11	Designated a national spot of scenic beauty
1943 Showa18	Additionally designated a scenic area
1950 Showa25	The Kintaikyo Bridge is swept away by Typhoon Kezia
1951 Showa26	Showa Reconstruction commences (completed in 1953)
2001 Heisei13	Heisei Rebuilding commences (completed in 2004)



1898 Meiji 31
Rebuilding



1950 Showa 25
The Bridge is swept away by a typhoon



2001 Heisei 13
Rebuilding beam assembly

A Manifestation of

A Globally Unique Construction

Wherever you search in the world, there are no other wooden arched bridges constructed like the Kintaikyo Bridge.

However, if we look at bridges made from stone, there are some arched stone bridges. In the Anji Bridge, which was built in Sui, China, at the beginning of the seventh century, oblong “circle stones” (arch-shaped stones) are joined together using metal and fixed in place to achieve a robust arch structure.



Anji Bridge, China (arched stone bridge)

Conversely, timber is an intrinsically soft material, and in addition, each timber is slim, making wood difficult to form into an arch shape. Even when the same construction method as stone is used, the necessary strength cannot be achieved. To this end, the “Kintaikyo-type arch” was devised, which combines together components such as beams, wedges, crossbeams and ridge beams.

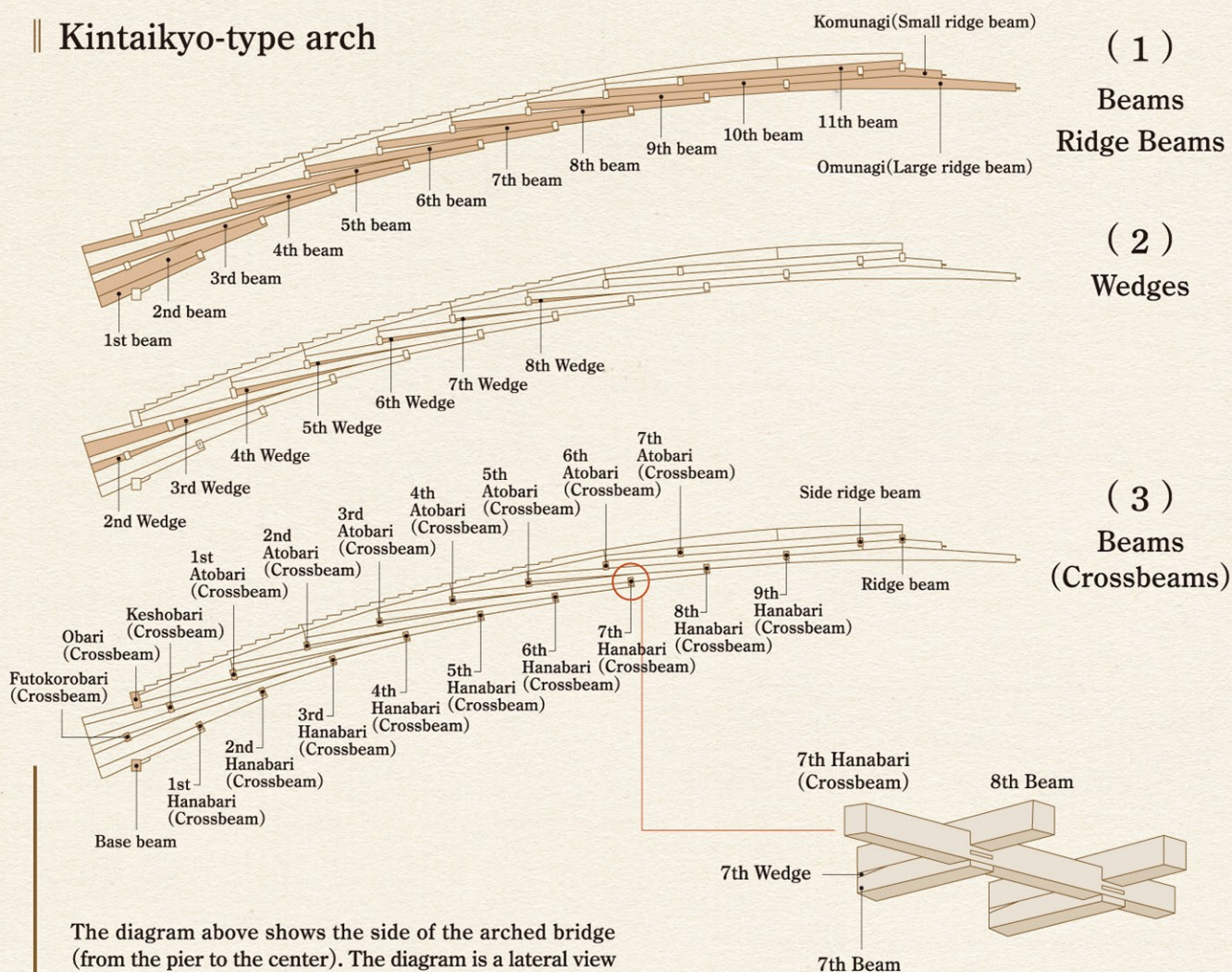
The beams face from the piers towards the center of the arch, overlaid and protruding outwards while setting angles. The gaps that are created by variations in these angles are filled using wedges. In addition, the five beams that lay parallel alongside each other are held in place transversely using crossbeams. In this way, the beams protruding from each pier connect together in the center using ridge beams. Also, the strength of the bridge is enhanced by binding the components using metallic belts.

This Kintaikyo-type arch is unique, with no other examples worldwide. Using this structure, wooden arches with the unprecedented span of 35.1m have become a reality.



Wisdom and Skill

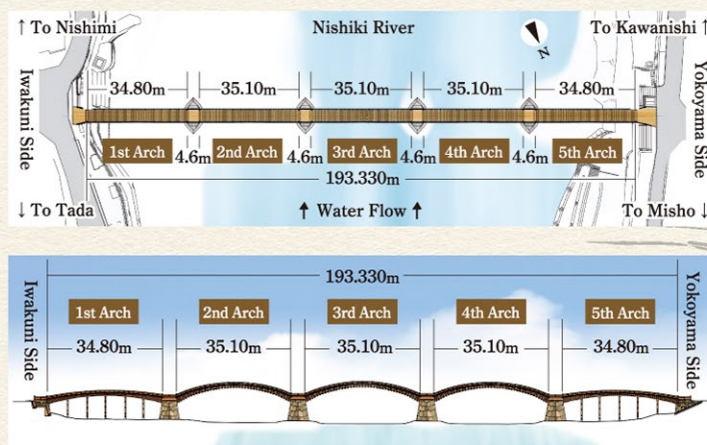
|| Kintaikyo-type arch



The diagram above shows the side of the arched bridge (from the pier to the center). The diagram is a lateral view of the five beams that run vertically in the photograph looking up at the underside of the bridge (left).

- (1) The beams protrude out at angles, from the 1st beam to the 11th beam, and are bound with metallic belts. The beams protruding towards the center are joined to the opposite components by the large and small "ridge beams."
- (2) The wedges are V-shaped components that fill the gaps that are created by variations in the angles of the beams above and below each wedge. They are bound together with the beams using metallic belts.
- (3) The crossbeams hold the five beams, which are arranged at equal intervals, in place transversely. As a result, the regular, aesthetically pleasing structure of beams running in parallel is achieved, as seen in the photograph on the left.

|| Dimensions of Kintaikyo Bridge



In Any Era

Many artists have depicted the Kintaikyo Bridge, including the world-famous ukiyo-e artists Katsushika Hokusai and Utagawa Hiroshige.

In addition, Atsuhime, who married into the Tokugawa Shogun family from the Satsuma Domain, made a detour expressly to visit the Kintaikyo Bridge when she was traveling to Edo. Although at the time permission was required in advance for crossing the bridge, it is recorded that the impatient Atsuhime crossed without waiting for permission.

In the more than three hundred and forty years since its construction, the beauty of the Kintaikyo Bridge has attracted many people, not only artists, in any era.

We hope to leave this beauty unchanged for future generations. It can be said that the wishes of many people have preserved the Kintaikyo Bridge in an unaltered form in its location.

Splendor that Transcends Time

Unlimited Beauty

Pleasing to admire from afar, to gaze at up close, and to cross.

The Kintaikyo Bridge possesses an unlimited beauty that is not swayed by the location of the observer, or the time or season.



Rhythm of the Arches

When you look down at the Kintaikyo Bridge from the Iwakuni Castle, a five-part rhythmical work of formative art attracts your attention. As if a pebble has been tossed onto the surface of the water, the arches are formed rhythmically, captivating the observer. In this way, there is a beauty of “movement.”



Katsushika Hokusai

“The Splendid View of Famous Bridges in Various Provinces:
Kintaikyo Bridge in the Province of Suo”

From the collection of Hagi Urugami Museum



Utagawa Hiroshige

“Suo Province: Iwakuni,
Kintaikyo Bridge” from the series
“Famous Places in the
Sixty-odd Provinces”

From the collection of
Iwakuni Chokokan Museum



Utagawa Hiroshige II

“Kintaikyo Bridge at Iwakuni in
Suo Province” from the series
“One Hundred Famous Views
in the Various Provinces”

From a private collection



Harmony with Nature

If you gaze at the Kintaikyo Bridge from afar, you will notice that it is surrounded by abundant nature. Mount Shiroyama, where a virgin forest still remains, is in the background, with the townscape arranged in consideration of the view, and the Nishiki River, sparkling like a mirror. The Kintaikyo Bridge seems almost as if it is part of nature itself.



Stone and Wood

The wing-like wooden arches rise above the imposing stonework piers. This contrast of solidity and lightness creates an allure that is unique to the Kintaikyo Bridge. Moreover, the bridge's stable shape calms the observer's mind.



Simple and Complex

In contrast to the flat, simple upper part of the arches, when the arches are viewed from underneath, their appearance is surprisingly complex. The beams, crossbeams and other parts maintain a certain regularity, and the form of complication is very pleasing to the eye.

Place of Scenic Beauty, Kintaikyo Bridge



The Kintaikyo Bridge is a five-arched bridge over the Nishiki River in Iwakuni City, Yamaguchi Prefecture. Counted as one of Japan's three most famous bridges, with abundant nature in its background, it has been designated as a national spot of scenic beauty (the area including upstream and downstream).

It was constructed in 1673 through a manifestation of wisdom and skill, in the desire for a flood-proof bridge. That structure, crossing the river's width of around 200m, is exquisite and original. Furthermore, it boasts a beautiful shape.

More than three hundred and forty years since its construction, the technology and beauty of the Kintaikyo Bridge continue to be protected even today.



Aiming for World Heritage

World Heritage describes assets that deserve to be passed down to the future as humanity's shared treasures. These are broadly divided into Natural Heritage and Cultural Heritage. In order to be registered as a World Heritage Site, the value of the asset must be recognized worldwide, and the original value must be inherited, as well as other requirements.

The Kintaikyo Bridge is a treasure of Iwakuni, inherited in the present day thanks to the enthusiasm and efforts of our ancestors. We are promoting initiatives to pass it on to future generations as one of humanity's shared treasures.

Process of World Heritage Registration

Work towards entering
the "World Heritage Tentative List"



Enter the "World Heritage Tentative List"



Submit "Nomination" from national government
to the World Heritage Committee



Evaluation by Advisory Bodies



UNESCO World Heritage Committee decides
whether or not to select



Issued by Kintaikyo Bridge World Heritage Registration Promotion Council

Inquiries to Iwakuni City Industry Promotion Department Kintaikyo Bridge Section

Tel: 0827-29-5107 Fax: 0827-22-2866 e-mail: kintaikyo@city.iwakuni.lg.jp

1-14-51 Imazumachi, Iwakuni City, Yamaguchi, Japan 740-8585

URL: <http://kintaikyo-bridge.jp>