

The Golden Gate Bridge: A San Francisco Icon



The Jon B. Lovelace Collection of California Photographs in Carol M. Highsmith's America Project, Library of Congress, Prints and Photographs Division.

San Francisco, the setting for the book *Dragonwings*, is located in northern California on a tip of a peninsula that is surrounded by the Pacific Ocean and the San Francisco Bay. San Francisco has unique weather: it tends to be very windy and extremely foggy all year round.

Spanish Colonists founded the city of San Francisco in 1776. But San Francisco only began to boom around 1849. The California Gold Rush caused this boom. After miners found gold in this area of California, thousands of people rushed to the area hoping to strike gold. The Gold Rush also brought many Chinese immigrants to San Francisco.

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The city of San Francisco was bustling by the early 1900s. Hundreds of thousands of residents had things to do and places to go. Many of these places included business in across-the-bay places like Marin County or Oakland. Unfortunately, the only way to get to either place was by ferry or by riding a few hundred miles out of your way.

The people of San Francisco needed a bridge. But there were many obstacles to building one. Firstly, no one had ever built a bridge this long. The bridge needed to connect San Francisco to Marin Headlands. Secondly, the San Francisco Bay has strong currents, winds, and waves. Thirdly, San Francisco has thick, soupy fogs. They make it hard to see where you're going. Finally, the bridge had to withstand San Francisco's earthquakes. A major earthquake in 1906 all but flattened the city.

In 1923, the city finally agreed to build a bridge across the Golden Gate Strait. This is the narrow body of water separating northern San Francisco from Marin County. Joseph B. Strauss led the project. He was the Chief Engineer. He hired a team of engineers, architects, geologists, and construction workers for the project. It cost \$35 million to build the bridge. In today's terms, that would be more than one billion dollars.

A few things about the bridge's construction are pretty interesting. The first is that it had to be a suspension bridge. This is different from a regular bridge. A regular bridge has several huge pillars that support the bridge. Some pillars are on land. Some are in the water. A suspension bridge only has two supports, or pillars. There is one pillar on each side of the bridge. On the Golden Gate Bridge, these pillars are called towers. No pillars support the center of the bridge. Instead, the bridge must be suspended in mid-air by its own strength—in this case, thick steel cables. A suspension bridge is more



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complicated to build than a regular bridge in some ways—in this particular case, it was more difficult simply because no one had built such a long suspension bridge before and they had to come up with new ways of engineering the structure.

Another way the construction of the bridge is unique is because Strauss insisted on following strict safety standards to protect the construction workers. Strauss required that construction workers wear anti-glare safety glasses, hard hats, safety lines, and a special hand and face cream to protect workers' skin against the strong winds. Workers had to eat a special diet to protect them against getting dizzy. Strauss also installed a gigantic net under the work areas, so that if a worker fell off the bridge, he wouldn't tumble to a watery death.

The safety net saved 19 men. These men formed the "Halfway to Hell" club. This was a real club. It had its own letterhead and all. An image on the letterhead showed a worker relaxing in a net.

Unfortunately, the net didn't save everyone. Eleven men died while constructing the bridge. Ten of them died in a single accident. They were working on a heavy scaffold. They fell into the net and the scaffold fell on top of them. It was so heavy that it tore the net.

Another interesting fact about the Golden Gate Bridge is its unique color. It's a deep orange. And there's a story behind that, too. The steel for the pillars of the bridge came coated in a special orange paint. The coating protected the steel from rain, saltwater, heat, sun, and wind. Strauss liked the color so much that he wrote a 29-page report to convince others to let him paint the entire bridge that color.



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The color of the bridge is more important than you might think. It has to stand out to airplanes, birds, and ships. It also had to stand out in the thick San Francisco fog. The U.S. Navy wanted to paint the bridge in yellow and black stripes. The Army Air Corps wanted red and white stripes. In the end, Strauss won. They painted the bridge "International Orange." Later, everyone agreed that the color not only stood out, but also looked good.

The bridge opened to the public in 1937. It was the longest suspension bridge in the world, until the Verrazano-Narrows Bridge in New York City was finished in 1964. Today, the Golden Gate Bridge is the second-longest suspension bridge in the United States.



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In 1923, the city finally decided to move forward in building a bridge across the Golden Gate Strait, the narrow body of water separating San Francisco from Marin County, in the north. Joseph B. Strauss led the project as the Chief Engineer. He hired a team of engineers, architects, geologists, and construction workers for the project. It cost \$35 million to build the bridge, which, in today's terms, would be more than one billion dollars.

A few things about the bridge's construction are pretty interesting. The first is that it had to be a suspension bridge. A regular bridge has several huge supports starting on land and standing up, out of the water. A suspension bridge only has two supports, or towers, and both are on the land on either side of the bridge. That means that there's no towers supporting the center of the bridge. Instead, the bridge must be suspended in mid-air by its own strength—in this case by thick steel cables. A suspension bridge is more complicated to build than a regular bridge in some ways—in this particular case, it was more difficult simply because no one had built such a long suspension bridge before and they had to come up with new ways of engineering the structure.



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Another way the construction of the bridge is unique is because Strauss insisted on following strict safety standards to protect the construction workers. Up until this point, it's safe to say that safety wasn't anyone's first priority when it came to construction. Strauss insisted that construction workers wear anti-glare safety glasses, hard hats, safety lines, and a special hand and face cream to protect workers' skin against the strong winds. Workers had to eat a special diet to protect them against getting dizzy. Strauss also installed a gigantic net under the work areas, so that if a worker fell off the bridge, he wouldn't tumble to a watery death.

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Another interesting fact about the Golden Gate Bridge is its unique color: it's a deep, dark orange. And there's a story behind that, too. The steel for the towers of the bridge came coated in a special orange paint that protected the steel from environmental factors like rain, saltwater, heat, sun, and wind. Strauss liked the color so much that he wrote a 29-page report trying to convince other decision makers to let him paint the entire bridge in that color.



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Spanish colonists founded the city of San Francisco in 1776, but the city really only began to boom around 1849, with the start of the California Gold Rush. After miners found gold in this area of California, thousands of people rushed to the area hoping to strike gold and get rich quick. The Gold Rush also brought an influx of Chinese immigrants to San Francisco.

The city of San Francisco was teeming with residents by the early 1900s, which meant that all these hundreds of thousands of people had things to do and places to go. Many of these places included business in across-the-bay places like Marin County or Oakland. Unfortunately, the only way to get to either place was by ferry or

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by riding a few hundred miles out of your way. Hundreds of ferries crossed the bay each day, but ferries were neither economical nor very practical.

The people of San Francisco wanted a bridge, but there were many obstacles to building one. Firstly, no one had ever built a bridge as long as the one they would need to stretch from San Francisco to Marin County. Secondly, the San Francisco Bay, though not very deep, has strong currents and waves, plus a good dose of rather robust winds. Thirdly, San Francisco's tendency toward thick, soupy fogs impeded visibility and happened frequently throughout the year. Finally, earthquakes: the longest bridge never yet built had to withstand San Francisco's earthquakes—a major earthquake in 1906 all but flattened the city.

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