



“Until it was actually built, no one could quite imagine it.”

JOHN VAN DER ZEE, AUTHOR OF *THE GATE*

One of the seven wonders of the modern world, the Golden Gate Bridge was the life mission of an engineer who had never designed or overseen the building of a suspension bridge. For six years Joseph Strauss, a bridge builder from Chicago, had been visiting San Francisco to supervise work on a small drawbridge, one of four hundred he had built around the world. But Strauss’s ambitions far surpassed any work his firm had ever attempted.

“There is an archetypal American kind of personality, I think, who comes to fruition mythically in the Wizard of Oz behind the curtain,” says historian Kevin Starr. “The promoter, the P. T. Barnum, the visionary — Joseph Strauss was that kind of person.”

On Monday, May 3 at 9pm, *AMERICAN EXPERIENCE* premieres *Golden Gate Bridge*, a one-hour film that documents the construction of what was then the longest suspension bridge in the world, built hundreds of feet above the dangerously churning waters of the entrance to San Francisco Bay, the Golden Gate. The premiere is complemented by a companion web site: **pbs.org/amex/goldengate**. *Golden Gate Bridge* is produced by Laura Longworth and Ben Loeterman, and written and directed by Ben Loeterman (*Rescue at Sea*, *Public Enemy #1*). David Ogden Stiers narrates.

Executive producer Mark Samels notes, “*Golden Gate Bridge* is in the great tradition of *AMERICAN EXPERIENCE*’s *Mount Rushmore* and *Hoover Dam*. It takes larger-than-life characters to get such massive projects off the ground, and Joseph Strauss was no exception.”

The 1920 census delivered San Franciscans a shock: Los Angeles had surpassed San Francisco as California’s largest city. While Los Angeles had plenty of land, San Francisco was bottled up at the tip of a peninsula. Economic survival depended on expansion. The idea of a bridge linking the city with its neighboring counties was very appealing, but the mile-wide gap between San Francisco and Marin presented huge challenges. At the mouth of the Gate, the oncoming force of the Pacific Ocean creates turbulent waves and ripping currents. The location is plagued by gale-force winds and dense fogs.

Strauss set his sights on bridging a spot that other engineers had deemed impossible. When he delivered his plans for the bridge, resistance emerged from every quarter. Environmentalists protested that the bridge would

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mar the Golden Gate's pleasing vista. Shipping companies claimed the bridge would impede navigation in the bay. Ferry companies were bent on protecting their monopoly on bay-crossings. The war department feared the bridge would become a target in wartime. But no amount of opposition would deter Strauss.

In 1925, he moved to San Francisco to drum up support. He set out on a road trip, speaking at public meetings in small towns in the northern counties, proudly presenting his own bridge design. "Most people, myself included, think that it was very ugly, to the point of hideous," says structural engineer Mark Ketchum in the film. Still, Marin County signed on, with Sonoma and Napa soon following. In all, six counties joined the Bridge District.

Strauss was not a world-class design engineer, and to retain the position of chief engineer he had to make some painful compromises. First, he was forced to hire as a consultant Leon Moissieff, a leading theoretician of suspension bridge design and one of Strauss's key rivals. Then, when Moissieff recommended building an elaborate suspension bridge, Strauss agreed to scrap his bridge design.

Strauss assembled a team of unknown, untested talents. Irving Morrow, an obscure San Francisco housing architect, would add the bridge's striking Art Deco styling and its signature color, International Orange. Charles Ellis, a University of Illinois civil engineering professor, is increasingly acknowledged as the bridge's true design engineer. But at the time, Ellis was barely recognized for the months of work he poured into designing a truly revolutionary structure. Eventually, relations between Ellis and Strauss would fray beyond repair.

By the time Strauss had public support and a bridge design in hand, the nation was plunged into the Great Depression. With no bank or bond house willing to buy bonds for the bridge, Strauss's project faced ruin. In desperation, he turned to A. P. Giannini, founder of a small bank that would grow into the Bank of America. The civic-minded Giannini saw the need and bought the bonds.

Work began in January 1933. Hundreds of men were hired to do the back-breaking work of removing three-and-a-quarter million cubic feet of dirt to make room for the anchorages that would hold the bridge's main cables in place. Throughout construction, the workers would be exposed to the severe weather and dangerous conditions of working high above the Golden Gate. "They were farm boys and clerks and taxicab drivers who became high steel men. They were my heroes, teetering along on a girder up there," says historian and Marin County resident Richard Dillon.

The 6,450-foot span would be the longest cable-spinning distance attempted to date. To spin the main suspension cables, Strauss hired Roebling & Sons, who shipped 80,000 miles of wire from New Jersey. On May 20, 1936, the last cable wire was laid, two months ahead of schedule. "The cable system is really the lifeline of a suspension bridge," says Ketchum. "That big cable, that looks so solid when we see it today, was spun in place from individual wires that are each about the size of a pencil."

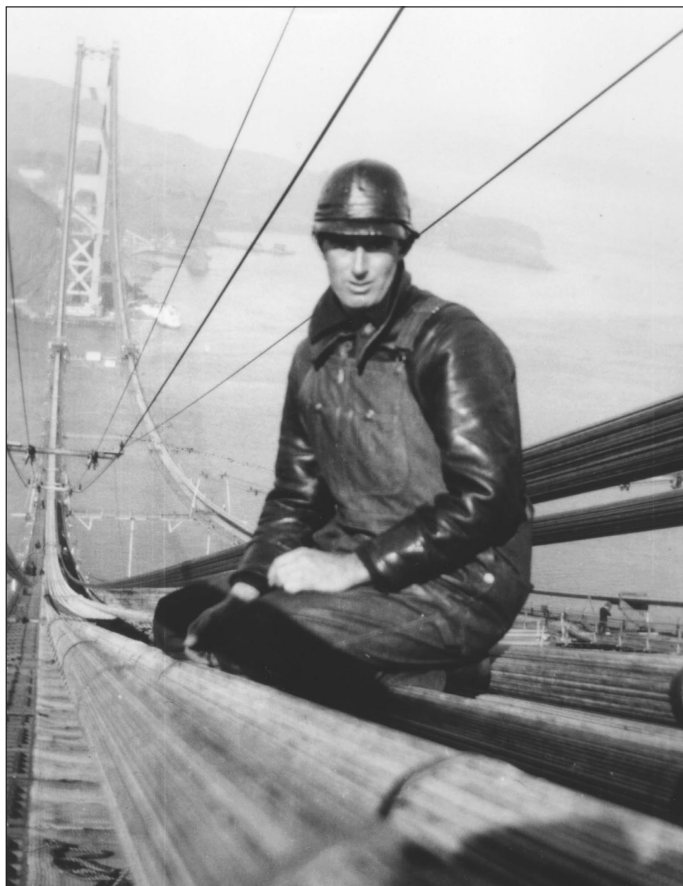
Fanatical about safety, Joseph Strauss made hardhats mandatory for the bridge workers, and introduced the most elaborate and expensive safety device ever conceived for a major construction job—a \$130,000 safety net. Thanks to this innovation, nineteen men, dubbed the Halfway-to-Hell Club,

would cheat death. But the net could not save everyone.

In a terrifying accident near the bridge's completion, a five-ton piece of scaffolding broke through the net and plummeted 220 feet into the icy water below. Ten men were dragged to their deaths, despite the desperate efforts of Slim Lambert, the crew's foreman, to save one of his companions. Slim's son, Skip, recalls, "It always bothered [my father] that he was regarded as a hero, because he said, 'I did nothing heroic. I wanted to save my best friend's life, and I did the best that I could.'"

On May 27, 1937, two hundred thousand people flocked to the newly completed bridge on opening day to walk, sprint, skate or cycle across. People performed tricks, airplanes buzzed overhead, and a parade was organized. A moment was set aside for the chief engineer to say a few words. "This bridge needs neither praise nor eulogy," said Strauss. "It speaks for itself."

"The Golden Gate Bridge is one of our best known, most appreciated icons," says producer Ben Loeterman. "The human drama that lies behind its building is a great story of one man's unstoppable quest that resulted in the unlikeliest teams achieving what was thought to be impossible."



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AMERICAN EXPERIENCE • GOLDEN GATE BRIDGE

CREDITS

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ACCESSIBILITY

AMERICAN EXPERIENCE is closed captioned for deaf and hard-of-hearing viewers, and described for people who are blind or visually impaired by the Media Access Group at WGBH. The descriptive narration is available on the SAP channel of stereo TVs and VCRs.

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AMERICAN EXPERIENCE, television's most-watched history series, is a leading producer of historical documentaries, related Web sites, and DVDs. The pioneer of quality historical programming for public television audiences, AMERICAN EXPERIENCE has won every prestigious broadcast award and enjoys consistent widespread support from television critics and viewers alike.

For more information about AMERICAN EXPERIENCE and *Golden Gate Bridge*, visit the World Wide Web: **pbs.org/amex**.

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