

## **What it means to be an American: Washington Roebling** **by Erica Wagner**

It was a day of celebration such as the two cities of Brooklyn and New York had never seen. On May 24, 1883 the Brooklyn Bridge -- after fourteen years of construction -- was opened at last. The mayor of Brooklyn, Seth Low, had declared the day a public holiday in his city; on the New York side, there was a "strong expression of sentiment" in favor of closing the Stock Exchange early. The president of the United States, Chester A. Arthur, along with Grover Cleveland, governor of New York, would make a ceremonial crossing from New York to Brooklyn -- the cities would be united as two boroughs of greater New York in 1898, no small thanks to the bridge. That night there would be a firework display of terrifying grandeur, fourteen tons of explosives let off from the bridge itself, serpents of fire, flowers of fire, showers of fire: the display could be seen in Westchester, in the mountains of New Jersey, on the Long Island shore. It went on for an hour, and finished with five hundred rockets shooting straight up from the center of the span, exploding seven hundred feet above the river in huge blooms of brilliance.

And of course there were speeches. Abram Hewitt, the politician and industrialist who had been a driving force behind the unprecedented construction, praised its builders. John Roebling, had conceived the bridge -- but had died suddenly in 1869, before work had even begun. It was his son, Washington, who had taken over the immense project at the age of 32, "braved death and sacrificed his health to the duties which had devolved upon him, as the inheritor of his father's fame, and the executor of his father's plans." But it was another orator, the prominent clergyman Richard Storr, who recognized what made the Brooklyn Bridge a truly American project, what has made it a truly American symbol.

For it was vital to consider that the builders of the bridge had been immigrants to the United States. "It was not to a native American mind that the scheme of construction carried out in this Bridge is to be ascribed," he said, "but to one representing the German people . . . the skill which devised, and much, no doubt, of the labor which wrought them, came from afar."

Washington Roebling's long life is a paradigm of what it means to be an American. He was born in 1837, on the frontier; he died in 1926, in the Jazz Age: a life that spans an American century. He was not only an engineer but a scientist, a musician, a linguist, a husband and father; he served four long years in the Union Army during the Civil War, promoted from lowly private to colonel by the war's end, and was known as Colonel Roebling to the end of his days. He was a man who made an American icon, a bridge that has not only served New York's commuters and tourists and lovers for nearly a century and a half, but has inspired poets and painters and photographers from Hart Crane to Georgia O'Keefe to Walker Evans.

But Washington Roebling spoke no English until he was eleven years old. His father, John A. Roebling, was born in 1806 in Saxony; Johann August Roebling was his name until he emigrated to America in 1831. He trained in Berlin as a surveyor and an engineer: but Prussian bureaucracy stymied the ambition of this visionary and energetic man and he resolved to make a new life for himself across the ocean. He would do all that and more. In 1842 he patented a design for making rope from wire, a development that made his, and his family's, fortune; wire rope would be the foundation of his great engineering works, not least his suspension bridge across Niagara Falls -- strong enough to carry a locomotive -- and the John A. Roebling Bridge across the Ohio River, which still connects Cincinnati and Covington, Kentucky today.

John and his brother Carl were two of the 150,000 people who left what we now know as Germany between 1831 and 1840. They acquired land in western Pennsylvania; they and their fellow immigrants swiftly built a lovely little town, still intact today, which they called Saxonburg. It was here that Washington was born, and where he lived, in a wholly German-speaking community, until he went to school in the late 1840s and learned to speak English. It was around this time too that John Roebling's wire rope business outgrew rural Saxonburg; he bought land in Trenton, New Jersey, then just becoming an industrial center, well-situated as it was between Philadelphia and New York. Washington would later note that the land his father bought in Trenton for \$100 per acre was worth \$22,000 per acre in 1894. Eventually wire made by John A. Roebling's Sons company would be incorporated not only in suspension bridges such as the George Washington and Golden Gate bridges, but also into the Wright Brothers' and Charles Lindbergh's airplanes, and into nearly all of Mr Otis' elevators.

Washington was born an American, but raised in an immigrant culture. His father had chosen America, though he understood too that it was not a perfect place. He saw that "the all-disturbing European" had displaced a native population; he despised the evil of slavery, and Washington would join the Union Army in the earliest days of the war to fight against that evil. (Washington's name, however, is not quite as patriotic as it sounds: he was not named for George Washington but for a fellow surveyor, Washington Gill, whom his father met in his first years in the United States. Washington always disliked his mouthful of a name.)

All his life Washington worked with men who had come from afar to be Americans; these were the men who built the Brooklyn Bridge. William Kingsley, the wealthy Brooklyn contractor who promoted the project along with Hewitt had been born in Ireland; as had Thomas Kinsella, editor of the *Brooklyn Daily Eagle*, the newspaper which ardently supported the bridge and Washington Roebling's work. Wilhelm Hildenbrand, one of Washington's most loyal and talented assistant engineers, had emigrated from Germany in the years after the Civil War; before his work on the Brooklyn Bridge he had designed the great train shed for New York's

Grand Central Depot (demolished in 1903 to make way for the structure that stands now).

And, as Richard Storr so correctly remarked, the men who worked in the deep foundations of the bridge, the men who cut the stone and set the great cables in place, the men who did the most dangerous and difficult work on site, came from all over the world. How many men died during the construction of the Brooklyn Bridge? It is hard to settle on an exact figure, since records were not kept in the same way they are now. Washington Roebling himself, however, was very nearly a casualty:

the towers of the bridge were built using “caissons”, chambers of compressed air sunk down into the river’s bed. Men, including the chief engineer, were stricken with “caisson disease”, now called decompression sickness: its cause not yet understood. During the worst years of his illness his remarkable wife, Emily Warren Roebling -- whose own family had come to America on the Mayflower -- would become the *de facto* project manager for the bridge, and she is rightly honoured with a plaque on one of the great towers.

In the rolls of the injured we can find James McGarrity, born in Ireland, who died in 1871 when a derrick collapsed. William Hines died in the same accident; he was Scottish by birth. Peter Koop, born in Germany, was twenty when he died in 1873; his foot got caught in some machinery. Harry Supple, a rigger renowned for his high-wire feats on the cables, was born in Newfoundland and had been a sailor; he died when a strand of cable snapped in 1878. Not all stories has such tragic endings: Edward Hansen, a Norwegian-born rigger, was badly injured in an accident in 1880 -- he sued the bridge for damages and won his case. (I am grateful to the work of Maggie Blanck for much of this detail.)

The construction of the great East River bridge cost these men their lives: but it remains their monument, and a monument to the engineers, father and son, who envisioned it and built it. John Roebling often told his oldest son that his success would never have been possible in his homeland. His newfangled rope enabled the construction of a suspension aqueduct in Pittsburgh in 1844-45, his first big engineering success; in later years he said that he would never have been able to undertake such a project in his homeland. “The dignity and pride of the supervising engineer would have ground down the ambitious attempt of the young engineer in even proposing such a structure which had no precedent,” Washington wrote. “America was the goal which all young men aimed to reach then as well as now.”

Washington Roebling’s life was as American as could be: precisely because of his origins across the Atlantic. America, a goal and an ideal, a place where an audacious, beautiful bridge could be constructed in the aftermath of a dreadful war, an embodiment of unity and progress in steel and stone.

Chief Engineer: Washington Roebling, The Man Who Built the Brooklyn Bridge *by Erica Wagner is published by Bloomsbury.*