

The Loretto Chapel in Santa Fe, New Mexico, USA, is a former Roman Catholic church that is now used as a museum and a wedding chapel. Loretto Academy was founded in 1853 and continued to operate until 1968. Afterward, the previously all-male St. Michael's High School turned co-ed in order to accommodate the Academy's female students. Born in Santa Fe in 1917 (1917–2005), Mary Frances Hill attended the Loretto Academy from 1920 until 1935 and she is believed to have attended the Academy longer than any other student and she is also believed to have climbed the miraculous staircase more times than anyone else as a result of having been a member of the Academy's choir. It is known for its unusual helix-shaped spiral staircase (the "Miraculous Stair"). The Sisters of Loretto credited St. Joseph with its construction. It has been the subject of legend, and the circumstances surrounding its construction and its builder were considered miraculous. Three mysteries surround the spiral staircase in the Loretto Chapel: the identity of its builder, the type of wood used, and the physics of its construction. When the Loretto Chapel was completed in 1878, there was no way to access the choir loft twenty-two feet above. Carpenters were called in to address the problem, but they all concluded access to the loft would have to be via ladder as a staircase would interfere with the interior space of the small Chapel. Legend says that to find a solution to the seating problem, the Sisters of the Chapel made a novena to St. Joseph, the patron saint of carpenters. On the ninth and final day of prayer, a man appeared at the Chapel with a donkey and a toolbox looking for work. Months later, the elegant circular staircase was completed, and the carpenter disappeared without pay or thanks. After searching for the man (an ad even ran in the local newspaper) and finding no trace of him, some concluded that he was St. Joseph himself, having come in answer to the sisters' prayers. The stairway's carpenter, whoever he was, built a magnificent structure. The design was innovative for the time and some of the design considerations still perplex experts today. The staircase has two 360 degree turns and no visible means of support. It is said that the staircase was built without nails—only wooden pegs. Questions also surround the number of stair risers relative to the height of the choir loft and about the types of wood and other materials used in the stairway's construction.

In the early 2000s, research by amateur historian Mary Jean Cook identified the probable builder of the staircase as François-Jean "Frank" or "Rochas (1843–1894), a reclusive rancher and occasional carpenter who came to New Mexico from France around the 1870s. A key piece of evidence was a short article in the *Santa Fe New Mexican* describing his death by murder in 1895, which noted: "He was a Frenchman, and was favorably known in Santa Fe as an expert worker in wood. He built the handsome stair-case in the Loretto chapel and at St. Vincent sanitarium." Cook also found an entry in the Sisters' logbook stating that Rochas had been paid US \$150 (equivalent to \$3,974 in 2019) for "wood" in 1881, confirming that he had done some type of carpentry work for them. At the time of his death, Rochas reportedly owned an extensive set of carpentry tools including: "five saws, a saw clamp and set, nine planes, nineteen molding planes, two squares, five gauges, six chisels, two gouges, a draw knife, a brace, three augers, ten auger bits, a reamer, two clamps, and a pair of trammel points (for drawing large circles). Although the design of the Loretto stairs is highly unusual, other spiral staircases without center supports are known to exist. One example can be found at the Old Washoe Club in Virginia City, Nevada, which also dates to the 1870s. This staircase was described by *Ripley's Believe It or Not!* as "the longest of its kind without a supporting pole". Although it has fewer turns than the Loretto staircase. Another staircase is in the Gdańsk Town Hall in Poland, which was reported to the *New Mexican* in 1944 by a government official named Bonnie Foster. The paper wrote: "It is tall, spiral, and without steel nails, but the wood is different. It is in the town hall, of the 14th to the 16th century. How it was constructed, and whether there is a miracle story back of it, Mrs. Foster could not say. But she declared it is strikingly like St. Joseph's in design.

