



By George Worthylake

Mile Rocks Light Station San Francisco Bay, CA



Mile Rocks Lighthouse shortly after construction, circa 1908.

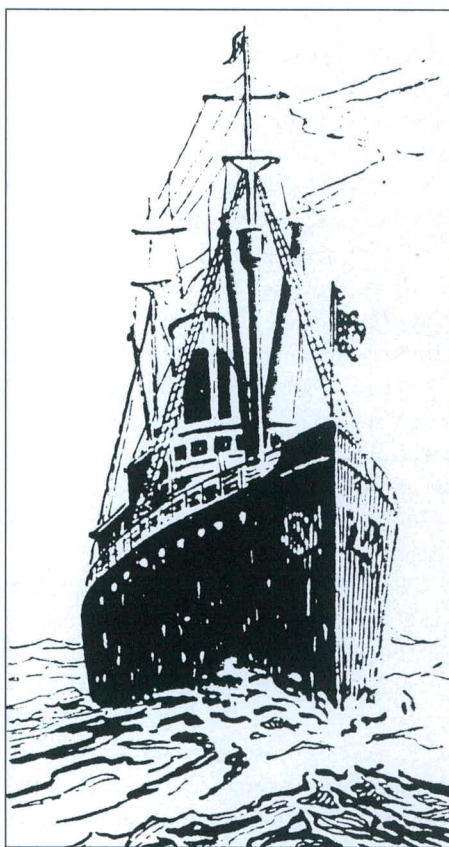
The Wreck of the City of Rio de Janeiro.

In 1878 the Pacific Mail Steamship Company launched their *City of Rio de Janeiro*. She was an iron-hulled vessel with a length of 344 feet and built for service, and certainly no beauty. Her main mission was hauling cargo and passengers between Asia and west coast ports.

In January 1901, the *Rio*, fully loaded with passengers and a cargo of silk, rice and tea, departed for San Francisco. With 79 successful voyages to her credit, this, her 80th, would be her last. The crossing was particularly rough and most of the passengers were sick. She was two days behind schedule when the lookout spotted the Marin Headlands on February 21. Suddenly fog enveloped the ship and the captain was forced to heave to and drop the anchor about 4 miles west of land.

At 4:30 a.m. on the morning of February 22 the fog lifted and the lights of San Francisco could be seen twinkling in the distance. The local pilot, who had boarded the ship the previous evening, conferred with the captain and both agreed it was safe to raise the anchor and continue the voyage. At 5:00 a.m. the ship was underway. As they entered the Golden Gate Strait the fog suddenly began to envelope the *City of Rio* and in minutes the forward mast couldn't be seen from the bridge. Although they had quickly taken a fix of their position, they were unaware that a heavy ebb tide was running and setting them to starboard (right). Suddenly, at 5:25, a white and red flashing light appeared dead ahead. It was the light of the Fort Point lighthouse. The ship ran hard aground on the Fort Point Ledge. The captain gave the order to lower the ship's boats and evacuation began smoothly. However, fifteen minutes after striking the ledge the ship suddenly slipped back into the strait and quickly sank. It was two hours before the Bonita Cove Lifeboat Station was aware of the disaster and by that time most of the bodies had been swept to sea. Out of the 227 passengers and crew, only 81 survived.

The wreck was one of the principal reasons that the Lighthouse Service took immediate steps to erect a lighthouse on the Mile Rocks. While the Mile Rocks are farther west of the Fort Point Ledge, a light and fog signal



at that location would assist the mariner in remaining in the center of the strait.

Before the Shipwreck

The Mile Rocks, on the south side of the Golden Gate were a menace to mariners for years, especially in fog. The strong currents that run through the Golden Gate and the presence of summer fog made navigating the area very tricky before the advent of modern on-board electronic navigation equipment like radar and GPS.

In 1890, the 12th Lighthouse District reported they recently established a bell-buoy, moored off Mile Rocks, in the entrance to San Francisco Harbor, on November 1, 1889. It was an excellent signal and quite efficient until the heavy rains of winter increased the strength of the ebb tides to such a degree that it was held under water for hours at a time, for several weeks each year. This buoy was fitted with the light wire pennant (mooring wire, in lieu of heavy chain), which provided excellent results in deep water; but in so strong a current as flows through the Golden Gate under the above conditions it didn't prevent submersion. As this fault seemed irremediable, the buoy was removed on May 1, 1890. The Mile Rocks, lying, as they do, in the entrance to the important harbor of San

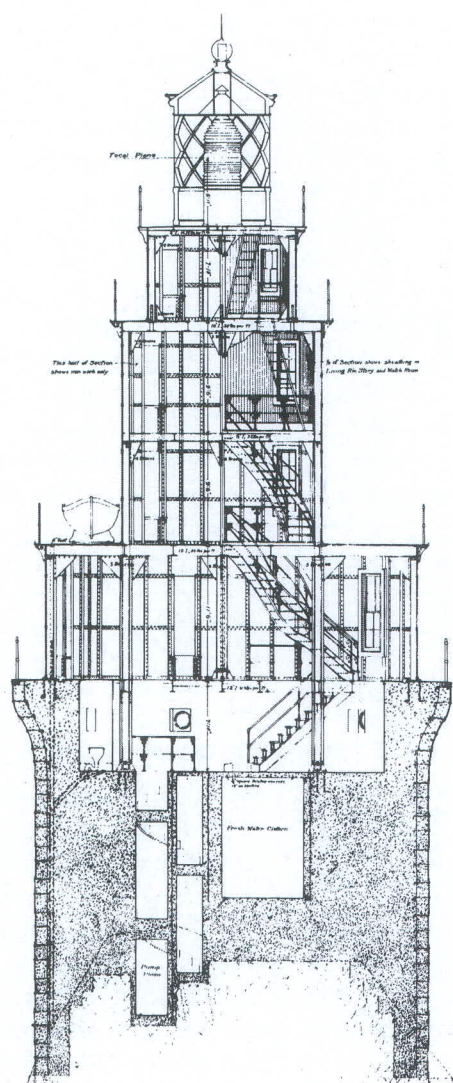
Francisco, must always have been a menace to navigation. They were particularly dangerous because of the eddying currents and fogs that prevail in that vicinity. The smallness of their area did not permit a well-appointed fog-signal to be established on them.

In 1897 the District reported to the Lighthouse Board, "Experiments were conducted to determine the practicability of establishing a bell struck by electricity as a fog signal on this rock. As the rock is exposed to the full force of the sea at the entrance to the harbor, it is impracticable to place any machinery on it. The plan most favored contemplates a station on shore in which a small dynamo run by a gasoline engine can be installed, with a device for opening and closing the circuit, the current to be carried by heavily insulated cables to the rock, where it is to excite the solenoid which operates the striker of the bell."

After the Shipwreck

In 1902, after the *City of Rio de Janeiro* went down on nearby Fort Point Ledge, the Secretary of the Treasury sent the following letter to the Speaker of the House of representatives, "This Department, at the instance of the Lighthouse Board, has the honor to state that the interests of commerce and navigation require the establishment of a light and fog-signal on the larger one of the two Mile Rocks in San Francisco Bay.

The two rocks, known as the Mile Rocks, are separated by a channel about 100 feet wide and lie nearly a mile to the northward and eastward of the northern Seal Rock off the western extremity of Point Lobos and a short distance within the limits of the entrance to the Golden Gate . . . These rocks, and those lying inshore from them, are a menace to navigation. The Lighthouse Inspector, at the instance of the Chamber of Commerce of San Francisco, recently recommended that these rocks be efficiently marked. The Lighthouse Engineer, who had examined the matter at the direction of the Lighthouse Board, submitted a project for the establishment of a bell on the larger of the two rocks, to be operated by electricity from a station on shore, but as a specially designed bell-buoy had been placed outside of the rocks, no action was taken on that recommendation. It has since been found that the bell-buoy in question would not work well because of the very strong currents in those waters.



Above - Cisterns for fuel and water are located in the base of the caisson. The first level of the tower is the engine room which furnished electricity for the lighthouse and contained the air compressors for the fog signals. The second level contained the office, kitchen and day room, above that level were two bedrooms and a bathroom for the four man crew. The smallest tier, or level, just below the lantern was used for storage (supplies, etc.). Note the diagonal astragals of the lantern. This British design was often used in this country after the Department of Commerce took over our lighthouse system in 1903.

The lighthouse originally had a 3rd order Fixed Fresnel lens installed. By 1912 an Eclipser was added to the lens to change the characteristic from a fixed white light to a group occulting characteristic every 20 seconds. The lens is presently located at the Point Loma Lighthouse, Cabrillo National Monument in San Diego.

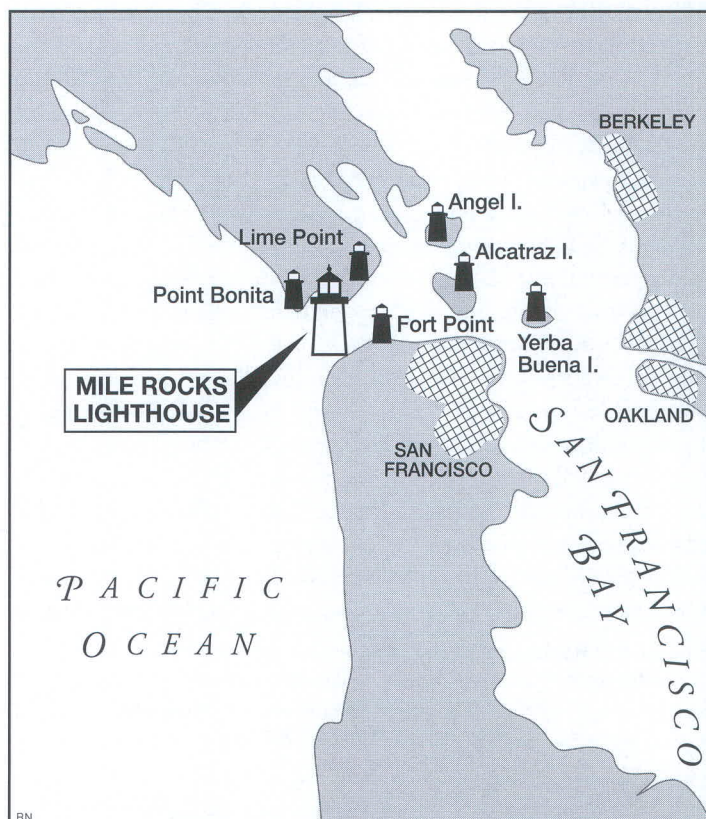
The matter has again, and recently, been considered by the Lighthouse Board which has reached the conclusion that the large and rapidly increasing commerce at San Francisco demands an aid to navigation on these rocks which will be absolutely reliable, and the Board decided at its session on October 7, 1901, that this can only be accomplished by the erection of a permanent structure on the larger of the two Mile Rocks and the establishment thereon of a light and fog signal. It is estimated that this light and fog signal can be established for a cost not exceeding \$100,000, and this Department ... recommends that an appropriation of this amount be made...

An Act approved on June 28, 1902 appropriated that amount. Soon thereafter a survey of the rocks was made and preliminary plans made. Bids were opened for the substructure, a caisson, on May 19, 1904 and for the superstructure on June 8 of that year. Work commenced in August 1904. In September a schooner fitted with quarters for the workmen and storage of materials was moored nearby. The District reported, "... but during a heavy blow she [the schooner] dragged her moorings and barely escaped being wrecked. She was ... moored father up the harbor and the men taken to and from her [and the rock] by launch. The work was difficult and hazardous

during the early stages, and proceeded slowly on account of the exposed position of Mile Rocks ... where it is subjected to all the violence of the sea. There was hardly a day during the year on which at some time the waves did not break over the rock. There were many days when no landing could be effected and many others when the party, after landing, was driven off with only a few hours of work accomplished. On several occasions it was necessary to call upon the neighboring life-saving crews to take the men off the rock..."

In June 1905, the caisson was completed. It was a monolith of concrete enclosed in steel plates. 1,006 barrels of cement were used in the 34-foot-high structure. The base contained a storeroom, cistern for fresh water and a stairway up to the landing platform.

The 1906 Report of the Lighthouse Board states, "This station is completed ... the lower floor contains the fog signal apparatus ... the upper part of the tower contains the living rooms of the keepers and the watch room. The lantern is of the new form with helical frames. The [lens] is of the third order, fixed red. Landing at this station is made during calm weather by steps on the rock and a door in the base; during weather too rough to land in this manner it is accomplished by means of a derrick on the deck ..."



Shortly after completion the 1906 earthquake shook the Bay Area, but did no damage to the lighthouse. The station was always an unaccompanied station, with the families living ashore. One of the three men assigned was ashore while the other two on duty. Although schedules changed over the years it was probably set up to have a keeper work two weeks on duty with one week on liberty. Even after the Coast Guard took control of our lighthouses in 1939, Mile Rocks remained an unaccompanied station.

In 1920, the *San Francisco Examiner* reported that a young lady wanted a marriage with a "kick to it." That is what 18-year-old Gaynel Dresser of San Francisco got when she and her fiancé were married on the gallery deck of the lighthouse. The entire wedding party had to scale the 50-foot rope ladder to gain access to the structure.

Besides being isolated – with San Francisco temptingly close – the station was also a hardship when the fog rolled in and the diaphone fog signals were energized. There was no escaping the booming, blasting noise of the horn every 15 seconds. The fog sometimes hung around day and night for days on end.

Decapitation

In the early 1960s the Coast Guard tried to automate the lighthouse by, twice, running an armored steel electrical cable to the lighthouse from shore. However, the strong currents and the rough, rocky sea bed soon caused the cable to sever. Later in the 1960s the top living structure was removed and a helicopter landing pad installed. For a number of years unattended engine generators provided the power to the navigational aids of the automated station. Their actions were monitored at the Coast Guard operations center on Yerba Buena Island. In the 1980s a solar powered optic and sound (fog) signal was installed.

For 60 years, the unique Mile Rocks lighthouse watched over the famous Golden Gate as early morning fishermen headed out to sea and large cargo and passenger vessels made their way through the "Gate" and it seems like Only Yesterday.

Right – Mile Rocks Lighthouse with the Golden Gate Bridge in the background. The fog horns can be seen just above the left landing boom. The other boom is visible midway up the caisson, at right. Two booms on opposite sides ensures that one is usually in the lee. U. S. Coast Guard photo.



Coast Guardsmen on one of the two landing booms dropping a line to the supply vessel. The rope "Jacobs" ladder will be lowered to allow the relief crew to board the station. U. S. Lighthouse Society photo.

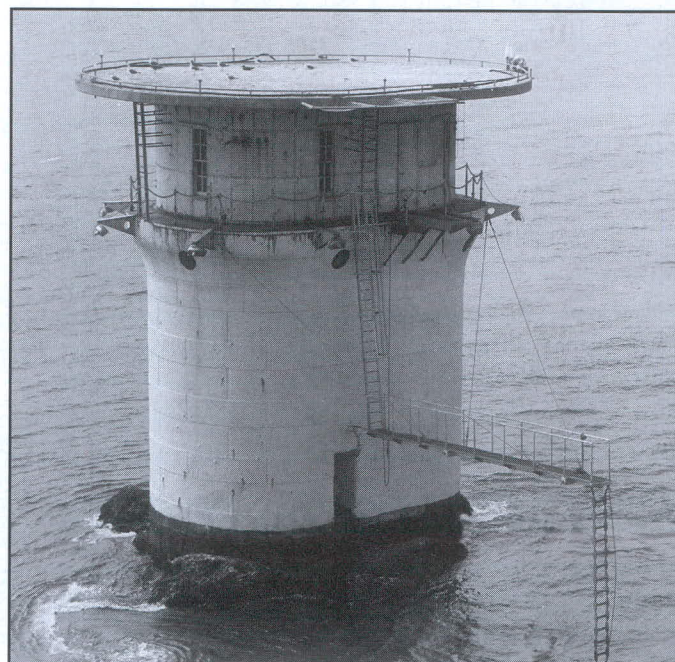




Left – The tides race through the Golden Gate as fast as five miles per hour, making access to the lighthouse very difficult at times. U. S. Coast Guard photo.

Below left – Workmen preparing the helicopter landing pad in the early 1960s. A modern optic (DCB 2-24) was placed on a small platform below the deck. U. S. Coast Guard photo.

Below – The converted lighthouse, caisson painted white. U. S. Coast Guard photo.

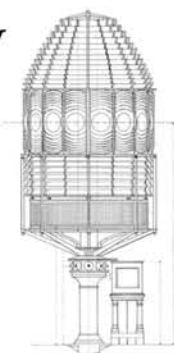


Right – In the early 1980s the caisson was painted with orange and white stripes to increase visibility in fog. Flood lights were installed under the flight deck. In this photo a solar array can be seen on the flight deck. A Coast Guard aids to navigation vessel is about to land service personnel. A 1990 photo by Sandra Shanklin.





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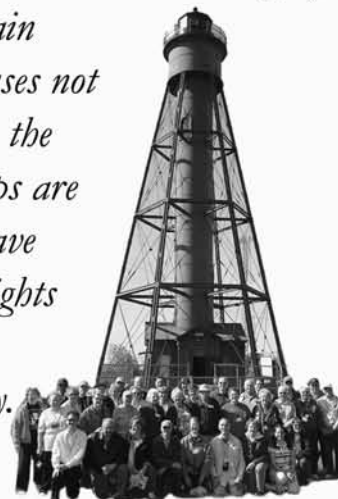
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