

## Brother Jonathan Exhibit - Ships Specifications

BROTHER JONATHAN AS BUILT AND MODIFIED, 1850-1865

(Source: National Register of Historic Places Registration Form, National Park Services, United States Department of the Interior, July 5, 1995)

As built in 1850, BROTHER JONATHAN was a 1,359 52/95-ton, two-masted sidewheel steamer. The vessel's registered dimensions were 220 feet, 11 inches in length, with a 36-foot beam, and a 21-foot depth of hold. The New York HERALD of November 27, 1850, commenting on the steamer, described the construction of the hull:

Her floors are solid, 14 inches in depth, bolted together with 1-3/4" iron; five keelsons and head pieces caged and bolted to the solid floor. The frame, at the turn of the bilge, is peculiar for its great strength, being additionally secured by strong iron diagonal braces, forming a perfect network from stem to stern; over which is laid yellow pine planking from five to eight inches thick and all square fastened. The decks are of the most substantial description, being thoroughly secured with lodging and hanging knees. The outside is planked with white oak, and well treenailed and copper fastened. She has a billet-head and bowsprit, which give her a most neat and beautiful finish.

The JOURNAL OF THE FRANKLIN INSTITUTE, reporting on BROTHER JONATHAN in May 1851, corroborated the dimensions reported in the HERALD and noted that the hull was built of "live oak, white oak, locust and cedar, secured by diagonal braces of flat iron bar 5 feet apart, 4-1/2 inches wide by 3/4, and extending from stem to stern.

An 1851 painting of the steamer shows her as built with a modified barkentine rig, a single stack abaft the foremast but forward of the sidewheels, a straight bow and a round stem. A pump brake windlass is carried at the bow along with a capstan. The bow was ornamented with trailboards and a billethead. The hull was painted black with a blue wale and buff deckhouses. The main deckhouse was located amidships, and was surmounted by the prominent "walking beam" of the engine; a smaller house, located forward and between the stack and foremast served as the wheelhouse. The wheelboxes, as shown in the painting, are black and red, with gilt eagles on the side panels. The stern also carries a gilded eagle. The painting shows BROTHER JONATHAN equipped with four lifeboats, two immediately forward and two abaft the wheels.

The New York HERALD reported in 1850 that "her saloon will be fitted up in a chaste but elegant style, with paneling being white enamel and gold, and her arrangements for ventilation are most excellent." As built, BROTHER JONATHAN had accommodations for 365 passengers, most below decks in the steerage. E.S. Capron, aboard the steamer PROMETHEUS in 1853, described that near-sister of BROTHER JONATHAN's steerage; "it is situated in the very bottom of the vessel; a damp, dark poorly ventilated hole. Here, often, from three to five hundred human beings are congregated for a voyage... Better accommodations were found on the next, or 'tween deck. The main saloon was a 70-foot long compartment lined with 24 staterooms, twelve on each beam. Franklin Langworthy, a passenger aboard BROTHER JONATHAN in April 1853, noted the steamer had berths for 500 passengers; the saloon is below the main deck, towards the stern, and is about eighty feet in length by twenty feet in width, surrounded by staterooms having doors of panell [sic] work, ornamented with gildings .... The floor is carpeted with oil-cloth carpeting of bright and variegated colors. The seats consist of chairs and settees with crimson cushions.

BROTHER JONATHAN's sidewheels were driven by a single beam engine. This type of engine, usually employed on river and sound steamers, had recently been introduced to ocean steamers. The engines, manufactured by T.F. Secor and Co., were originally from the Long Island Sound steamer ATLANTIC, wrecked off Fishers island near New London, Connecticut on November 26, 1846. Salvaged from the wreck, they were rebuilt by the Morgan Ironworks of New York and installed in BROTHER JONATHAN.

The JOURNAL OF THE FRANKLIN INSTITUTE, commenting on the recent installation of beam engines in BROTHER JONATHAN and four other steamships, noted the controversial nature of the installation. "The objection urged against this form of engine has been, that it elevates the center of gravity" through the introduction of the large "walking beam," a 10-ton casting elevated "12 to 15 feet above the deck." However, the weight of the boilers, and other machinery counter-balanced the walking beam. Thus, the "recent introduction of the ordinary beam engine of our river boats into several sea steamers of magnitude has been so far attended with complete success," and gradually replaced the earlier favorite, the sidelever engine. [6] The

JOURNAL noted BROTHER JONATHAN's engine had a 72-inch diameter cylinder with an 11-foot stroke. The 400-h.p. engine drove two 33-foot diameter paddlewheels with a nine-foot face and 30-inch deep paddles. Steam was provided by two coal-fired shell boilers 12 feet in diameter and 28 feet long.

In March 1852, BROTHER JONATHAN was altered by a new owner to carry more passengers. The bulwarks were raised and accommodations were increased to 750 berths. The deckhouses were cut back forward, opening the bow, which was rebuilt to a straight stem with an enlarged well and forecastle. The deckhouse was extended aft to the fantail, adding accommodations, and the stack was relocated aft to amidships from its earlier, forward position. A third mast, a fore and aft rigged mizzen, was added. The appearance of BROTHER JONATHAN after this modification is best captured in an engraving of an unnamed steamer, possibly BROTHER JONATHAN, that appears on the cover of Hutchings' California Magazine for January 1858.

In 1858, BROTHER JONATHAN was strengthened with the introduction of 6,000 new iron bolts in the hull. The ship was again hauled and rebuilt in May 1861 at San Francisco. The hull planking was removed, two bilge keelsons and a reinforcing false keel were added, and the hull planks were replaced with Oregon oak and copper sheathed. The editors of the San Francisco DAILY ALTA CALIFORNIA commented that she looked "for all the world like the skeleton of some antediluvian megatherium or mastodon raked out of the ruins of an extinct creation..."

The machinery was overhauled and the boilers were replaced with two patented Martin tubular boilers with six furnaces. The accommodations below and on deck were rebuilt to increase cargo capacity to 900 tons of freight.. The saloon was ripped out and replaced by a new one, panelled in California redwood and 120 feet long. Plans announced in the DAILY ALTA CALIFORNIA called for all passenger accommodations to be located on the main deck, with family suites and double cabins.

An 1863 photograph of San Francisco's waterfront as seen from Telegraph Hill captured BROTHER JONATHAN at anchor off the Broadway Street wharf and shows her as she appeared after the rebuild and at the time of her loss in 1865. The hull's lines are unchanged. The vessel is rigged as barkentine with three masts, with an elevated pilothouse immediately forward of the stack