

Shooters Island, Ships Graveyard: Vessel 53

HAER No. NY-162-B

(Minerva) (ex. Jane Moseley)

Newark Bay

Staten Island

Richmond County

New York

LINER
NY
43-50071
3-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

REDUCED COPIES OF MEASURED DRAWING

Historic American Engineering Record
Mid-Atlantic Region
National Park Service
Department of the Interior
Philadelphia, Pennsylvania 19106

HISTORIC AMERICAN ENGINEERING RECORD

HAER
NY
43- SHOOT
3-

Shooters Island, Ships Graveyard: Vessel 53
(MINERVA) (JANE MOSELEY)

HAER No. NY-162-B

Location: On Shooters Island on Newark Bay
Staten Island, Richmond County, New York, and
Elizabeth-Bayonne, Hudson and Union Counties, New
Jersey

Date of Construction: 1870

Present Use: Not in use.

Significance: Vessel 53, the MINERVA (formerly the JANE MOSELEY), is
a sidewheel steamer that was built in Brooklyn in 1870.
Most of its hull is below water, but the assembled
wooden A-frame for the walking beam engine is still
preserved above the surface. This is the only known
extant example of this American engineering
accomplishment.

Project Information: Mitigative documentation of vessels on Shooters Island
was undertaken in compliance with a Memorandum of
Agreement among the Advisory Council on Historic
Preservation, the New Jersey State Historic Preserva-
tion Office, and the New York District Corps of
Engineers in accordance with Section 106 of the
National Historic Preservation Act of 1966. Documenta-
tion was prepared by Historic Sites Research of
Princeton, New Jersey, during the winter of 1984-1985.
The project was conducted by Dr. Susan Kardas and
Dr. Edward McM Larrabee, archaeologists and
supervisors, with architectural technician Robert Nash
and Leslie Duffy Nash. Consultants included Norman
Brouwer of the South Street Seaport Museum.

Edited, Retyped
and Transmitted by: Jean P. Yearby, HAER, 1987

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The JANE MOSELEY was launched on April 2, 1873, at the shipyard of Lawrence and Sneed in Brooklyn, New York. She had a wooden hull 200 feet long and 37 feet wide. The paddleboxes for her two sidewheels, plus the heavy timber fenders known as "guards" protecting them, increased this to 50 feet at the level of the main deck. Her depth of hold under the main deck was 11.2 feet. She was propelled by a vertical beam engine with one cylinder. The internal diameter of the cylinder measured 48 inches, and the stroke of the piston 11 feet. The engine was rated at 400 indicated horsepower.

The MOSELEY'S first certificate of enrollment was issued at New York on June 27, 1873, listing Oliver Charlick as sole owner. Charlick was the president of the Long Island Railroad, and the steamer had been given his wife's maiden name. The boat was used to initiate a freight and passenger service between Greenport, Long Island, near the railroad's eastern end, and Newport, Rhode Island. The railroad was hoping to divert some of the lucrative New York to New England trade from the Long Island Sound steamers and the direct rail services. The experiment was not a success, and the MOSELEY was taken off the route after the summer and fall of 1873.

The JANE MOSELEY, as built, was a typical American medium-sized bay-river-or-sound steam boat of the period from 1840 to 1910. She had a number of features that set steamboats built in North America apart from those built elsewhere in the world. The two-story structure was fully enclosed amidships to provide passenger lounges and dining areas, but open at either end, though sheltered from the weather by decks or awnings (see Figure 21 of written data for HAER No. NY-162). The fully-enclosed wheelhouse stood on a third level, around one-fourth of the boat's length aft from the bow. The only other structure on the third deck was a small day cabin for the officers immediately abaft the wheelhouse. Heavy timber trusses called "hog frames" spanned the superstructure from bow to stern on either side to give longitudinal strength to the relatively light shallow draft wooden hull. Two short masts, one abaft the wheelhouse, and a corresponding one aft, support systems of "hog chains," iron bars, and, to either side, support for the overhanging decks extending out to the guards forward and aft to the paddleboxes.

The paddlewheels were of the large diameter "radial" type, with fixed blades called "buckets" or "floats." These were simply flat boards which remained at the same angle to the axis of rotation throughout the revolution of the wheel. No construction plans have been found for "Engine No. 144" (the GENERAL SLOCUM) which illustrates typical construction of radial wheels (see Figure 21 of written data for HAER No. NY-162).

In the early 1890s, this type of paddlewheel was superceded by the feathering wheel which, by means of a cam system, regulated the angle of the buckets to strike the water at the angle of maximum efficiency. This greater efficiency made possible wheels of much small diameter. One result was the demise of the very prominent paddlebox. Most boats built with feathering wheels simply hid

their location behind rows of fake windows. The JANE MOSELEY had paddleboxes typical of her era, with an ornate sunburst of carved wooden decoration, doubling as a system to vent any internal pressure that might build up (see HAER Photographs NY-162-B-3 and NY-162-B-4). In the center of the sunburst was a rising sun "lunette," with a polychrome bas-relief carving. These usually either related to the name of the boat or its intended service, or were simply patriotic, with the spread eagle being the most popular.

The JANE MOSELEY's engines were also typically North American. By the 1840s, European steamboat engines had no working parts visible externally. Those using the beam engine principle, known as "side lever" or "grasshopper" engines, had their beams located in the hold below the main deck. However, American steam engine builders preferred the "walking beam" system, where the beam stood above the boat's superstructure, usually fully visible. The single cylinder stood vertically on a heavy timber bed forward of the paddlewheels. The piston's up and down motion was transferred to the forward end of the beam by a connecting rod. A second connecting rod linked the after end of the beam to a crank throw on the paddlewheel shaft, covering the up and down motion to the rotary motion needed to turn the wheels. The mechanism is illustrated in an 1853 drawing for the ship GOLDEN AGE (see Figure 23 of written data for HAER No. NY-162). A maritime disaster poster of 1840 shows how prominent the exposed beam appeared (see Figure 24). Historic photographs of the JANE MOSELEY, later MINERVA, also illustrate the exposed beam (see HAER Photographs NY-162-B-3 to NY-162-B-6).

The beam itself was a large diamond shape. Early examples had been wood, but this was soon replaced by a cast iron framework with a wrought iron strap running around its circumference. The beam was mounted at the top of an "A" frame, on which it rocked back and forth with a rhythm not unlike the rhythm of a person walking. This A-frame, also called the "engine frame" or "gallows frame," was actually two frames, each supporting a pillow block on which one end of the shaft on which the beam rotated was borne. The SYLVAN DELL, launched in 1872, had an A frame similar to that of the JANE MOSELEY (see Figure 25 of written data for HAER No. NY-162). Later steamboats, particularly those with iron or steel hulls, usually had iron engine frames. When the JANE MOSELEY was built, she was given a wooden engine frame. It is now the most prominent feature of the vessel that survives at Shooters Island.

The following chronology traces the career of the JANE MOSELEY after the failure of the Greenport-Newport service:

- Summer of 1874: Running between Pier 8, North River, Manhattan and Long Branch, New Jersey, with the RIVER BELLE.
- February 22, 1875: Ownership transferred from Oliver Charlick to the Long Island Railroad.

- March 5, 1875: Ownership transferred from the Long Island Railroad to George H. Plant & Co.
- March 1875: Refitting at yard of Harlan & Hollingsworth, Wilmington, Delaware, for service between Washington, D.C. and Norfolk, Virginia.
- April 5, 1875: Certificate of enrollment issued at Georgetown, D. C.
- May 16, 1875: Won race on the Potomac River with the steamer KEYPORT.
- June 26, 1875: Certificate of enrollment issued for change of owners to the Inland and Seaboard Coasting Co., John W. Thompson of Washington, president.

The MOSELEY had been bought to temporarily replace the steamer LADY OF THE LAKE, which had burned in January 1875, and later to serve as her running mate after she was rebuilt by Harlan & Hollingsworth. The LADY OF THE LAKE returned to the Washington-Norfolk route in July 1875. The work done on the MOSELEY at Wilmington included the addition of staterooms for overnight service.

- January 5, 1880: Collided with, and sank, barge MAGRUDER in the Potomac River, damaging her paddlewheel and shaft. Damages to barge \$800. Pilot of MOSELEY suspended.
- August 13, 1880: Collided with steamer T. V. ARROWSMITH in Potomac. Master of latter vessel suspended 60 days.
- August 11, 1883: Collided with steamer GEORGE LEARY at Old Point Comfort.
- October 18, 1883: Second collision with GEORGE LEARY near same spot.
- November 17, 1884: Under charter to the New York, Philadelphia and Norfolk Railroad to inaugurate service across the mouth of the Chesapeake Bay between Cape Charles Norfolk, until completion of steamer CAPE CHARLES in early 1885.
- December 1884: Suffered \$1,400 in damages by striking sunken anchor at Cape Charles.

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- January 2, 1885: Sinks tug HINTON in Elizabeth River, Virginia, causing \$6,025 in damages. Master of MOSELEY suspended.
- 1886: Operating between Baltimore and Bay Ridge, Maryland.
- February 18, 1890: Operating on Potomac again. On this day was run into by the ferry CITY OF ALEXANDRIA, while landing at that city, suffering damage to rudder.
- December 10, 1890: Fire around donkey boiler and boiler causes \$150 in damages.
- January 1, 1891: Rematch with CITY OF ALEXANDRIA. (According to another report, this was the CITY OF WASHINGTON.)
- July 30, 1891: Certificate of enrollment issued for new owner, George H. B. White.
- June 13, 1891: Steam chimney of starboard boiler exploded while landing at Portsmouth, Virginia, killing a watchman. Engineer suspended for 60 days.
- August 17, 1891: Certificate of enrollment issued for Peoples Norfolk & Washington Steamboat Co., Ross Thompson of Washington, secretary.
- 1892-1897: Passed through several owners, and spent a least part of this time laid up at Woodalls Shipyard, Baltimore. Subsequently operated on excursions to Colonial Beach, Virginia, on the Potomac by the Jane Moseley Steamboat Company.
- December 2, 1904: Sold to Lewis Jefferson of Washington, D. C. Operated in "colored" excursion service to Somerset Beach, 46 miles below Washington on the Virginia shore.
- May 2, 1911: Sold to George C. Wiedemeyer, to run between Newark, New Jersey and Coney Island with the steamer NEWARK. (The remains of the NEWARK turned up in Edgewater, New Jersey, during a recent survey by the author. They included much of the engine frame, which had been sawed off near its base and was lying in some tall grass. These remains were subsequently destroyed by landfill operations while the survey was still in progress.)

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- 1911: Underwent rebuilding at Elizabethport, New Jersey. Renamed MINERVA.
- August 1, 1913: Went aground in Raritan River. Damages \$500.
- August 9, 1913: Went aground on Singer Flats while avoiding tug. Damages again \$500.
- September 4, 1914: Part of one wheel gave way while leaving Newark.
- September 1919: Sold for use as a freight steamer between Baltimore and Newport News, Virginia, by the Baltimore and Southern Steamboat Co.
- 1923 Had been brought back to the New York area to operate as a freighter between New York and Albany, but service was never initiated.
- April 23, 1927: Sold to Theodore H. Franklin
- March 7, 1932: Final enrollment surrendered at New York. Notation: "Engine & boilers removed - Vessel dismantled."

During the initial survey of the wrecks at Shooters Island, the author questioned Captain William O. Benson of Kingston, New York, as to the identity of the large timber engine frame. Benson, who had been working on tugs on the harbor and the Hudson River as early as the 1920s, recalled the boat's name being MINERVA. A search of the annual Department of Commerce lists of Merchant Vessels turned up only one MINERVA, and that vessel could have been the former JANE MOSELEY. The above JANE MOSELEY chronology was compiled by Potomac River steamboat authority Harry Jones of Waldorf, Maryland. The last entry in Harry Jones' notes on the MOSELEY reads "September 18, 1944: Part of wheel-housing, gallows frame can be seen at Shooters Island."

Vessel 53 was laid up at Shooters Island, alongside the old shipyard fitting-out pier, where she was eventually abandoned. A number of historic photographs were located on the vessel, some of which were copied and are included in the Index of Photographs as part of this report. Others were available only in the form of xerographic prints. HAER Photographs No. NY-162-B-4 and NY-162-B-5 show the JANE MOSELEY during her period of use as a passenger excursion boat, under steam and tied up. They illustrate how the wide main deck, with paddle boxes and timber fenders, overhung the entire length of the hull. HAER Photograph No. NY-162-B-5 is a detail of the forward part of the superstructure, showing the wheelhouse and other details during an excursion near the turn of the century. In Figure 21 of written data for

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HAER No. NY-162, we see the ship after she was renamed the MINERVA in 1911, but before her 1919 conversion to a freighter, passing under the Manhattan Bridge. In Figure 26 of written data for HAER NY-162, the MINERVA had been converted to a freighter, creating a high, boxy appearance. Finally, HAER Photograph No. NY-162-B-6 shows the MINERVA rotting alongside the south pier at Shooters Island in 1936. There are two other views which show the ship in her final resting place, before all wood above the waterline was lost, except for the A frame. These are HAER Photographs No. NY-162-B-2 (1930) and NY-162-B-3 (about 1940), both oblique aerial views already presented in the section on the history of the Shooters Island Ships Graveyard.

The superstructure of the JANE MOSELEY had disappeared, and the hull is no longer visible. What can still be seen is the A frame, or "gallows frame," that supported the walking beam, and remnants of the paddlewheels. The engine was scrapped some time after she was abandoned, along with the paddlewheel shaft and the hubs of the wheels. However, what remains constitutes the most important artifact on or around Shooters Island.

As mentioned, the walking beam engine was a uniquely American technology. It was developed around 1820 and was still being build early in this century. A few were in use as late as the 1950s. They were popular because of their simplicity, and were employed in a wide variety of vessels, including lake and river steamers, excursion steamers, ferries, and coastal and oceangoing steamships. Only three examples of these engines, complete with paddlewheels, survive today. One is in the ferry EUREKA, which is preserved at San Francisco, and another in the lake steamboat TICONDEROGA, preserved at Shelburne, Vermont. The third, from the steamer OLYMPIAN, lay beside the Straits of Magellan in southern Chile, where she was wrecked in 1903. The JANE MOSELEY predates all of these. By the 1880s, iron A frames were replacing wooden ones, while later in the century fixed float paddlewheels were replaced by feathering paddlewheels of smaller diameter. The JANE MOSELEY retained the earlier system in both cases. Information on walking beam engines, including the construction of paddlewheels and A frames, is not lacking. The South Street Seaport Museum had detailed plans and specifications for many such engines built by W. & A. Fletcher of Hoboken, New Jersey, probably the premier builder. However, the JANE MOSELEY remains are a unique relic of this technology and, as such, should be preserved as an exhibit by an appropriate institution.