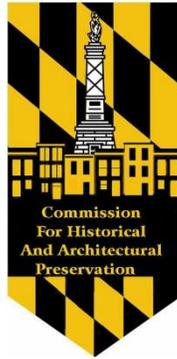


**Baltimore City
Commission for Historical and
Architectural Preservation**



**Landmark Designation Report
October 11, 2022**

Canton Railroad Transfer Bridge
Ward 01, Section 10, Block 1902-F, Lot 001
Baltimore, Maryland



Commission for Historical & Architectural Preservation

ERIC HOLCOMB, *Executive Director*

Charles L. Benton, Jr. Building 417 East Fayette Street Eighth Floor Baltimore, MD 21202-3416
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BRANDON M. SCOTT
Mayor



CHRIS RYER
Director

Significance Summary

The Canton Railroad Transfer Bridge is a significant surviving industrial maritime structure in Baltimore. Located in the water just south of Canton waterfront, it was built for the Philadelphia, Baltimore Washington Railroad in the early twentieth century. This transfer bridge allowed for the transport of railroad cars across the harbor on “carfloats” between Canton, Locust Point, and the Inner Harbor. Cargo passing through the transfer bridge was shipped up and down the East Coast along the railway of the Pennsylvania Railroad and its subsidiaries. This structure is an engineering landmark that reflects the intertwined histories of railroads, maritime industries, and manufacturing that were all so critical to Baltimore’s leading role in industrial heritage in 19th and 20th centuries.

Architectural Description

The Canton Railroad Transfer Bridge is a large steel bridge-like structure, that is located on concrete piers in the water approximately 50 feet from the shoreline of the Canton Waterfront Park. The transfer bridge features two towers which support a plate-girder span that runs between them. When the transfer bridge was in use, the plate girder would have had machinery that would have adjusted two parallel spans of railroad tracks running from the land towards the water. The structure overall is approximately 53 feet wide, 14 feet deep, and 38 feet tall.

Property History

Located in the water just off of the north shore of Baltimore’s harbor in the Patapsco River in the Canton neighborhood, this transfer bridge was built on a pier in the early twentieth century to allow for the transfer of railroad cars over water. This property was historically part of the Canton Company’s extensive landholdings. Founded in 1828 as a real estate venture, the Company once owned over three thousand acres in what was then Baltimore County, including over two acres on the Patapsco River that was ideally situated for both industry and shipping.¹ The Canton Company developed railroads, ironworks, shipping companies, and was also a real estate developer, constructing housing, businesses and houses of worship for all of the employees of its various business ventures.² It was its own industrial town. Later, the waterfront became home to a number of canneries and other industrial ventures were started in Canton, including breweries, fertilizer plants, and oil refineries, and cargo was shipped all over the world from its piers³. The industries in Canton employed generations of Baltimoreans, and was an economic engine for the City into the 1970s, when nation-wide deindustrialization occurred. The area today still has some key industrial sites, but most of the former industrial sites have been redeveloped, with several representing some of the earliest adaptive-reuse projects in the city in the 1980s.

The Canton Company sold or leased much of its land by the late 19th century. By that point, a portion of waterfront south of Boston Street, in the same location as the Canton Waterfront Park today, served as a railroad yard for the Philadelphia, Wilmington and Baltimore Railroad.⁴ The site had multiple piers and a ferry slip, which allowed for the transfer of railroad cars onto tugboats or carfloats.

This “carfloat” or ferry system allowed for the transfer of railcars across the City in a way that bypassed the chokepoint of downtown Baltimore, where the use of steam engines on downtown streets was not allowed.⁵ This meant that trains had to be pulled by teams of horses downtown,

which was much slower than steam engine. Although the Pennsylvania Railroad had established an all-rail route through the city in 1873 with the construction of the Union and Baltimore & Potomac tunnels, it is likely that the sheer volume of trains – both passenger and freight – required that the Pennsylvania Railroad use all of the resources at its disposal to keep trains moving, and this included the waterfront railroad transfer bridge.⁶ Carfloats were also used to quickly transfer goods directly from ships onto railcars – such as transferring delicate, ripening bananas from boats on Pier 1 to refrigerator cars on the carfloats, and from there to the transfer bridge, and onto the final destinations via rail.⁷

While railroads typically were in competition with one another, the Philadelphia, Wilmington and Baltimore Railroad briefly allowed the B&O the use of its transfer bridge to ferry railcars, including entire passenger trains, across the harbor from Locust Point, from 1880-1881.⁸ However, the relationship quickly soured, and the B&O Railroad constructed its own transfer bridge, in Canton on S. Clinton Street at Danville Ave.⁹

The Philadelphia, Wilmington and Baltimore Railroad merged with the Baltimore and Potomac Railroad in 1902 to become the Philadelphia, Baltimore, Washington Railroad.¹⁰ This railroad was owned by the larger Pennsylvania Railroad.¹¹ Some of this railroad's tracks further north in the city still are used today by Amtrak, such as the B&P tunnel. President Street Station, a portion of which is still extant today and is designated as a Baltimore City Landmark, was the Baltimore railroad station that served this line.

The railroad transfer bridge as it exists today, with the metal bridge-like structure, likely dates to the 1910s. The transfer bridge design was based off of a 1903 patented design by Arlington Humphrey Mallery for a transfer station with a “swiveling headblock” which offered greater flexibility for the transfer bridge at the point of connection with the carfloats.¹² Maps and aerial photographs of this property through the course of the twentieth century show that the railroad transfer bridge was in use through the 1950s, and likely remained in use even later.

In 1968, Pennsylvania Railroad and New York Central Railroad merged to form Penn Central Railroad, which declared bankruptcy in 1970.¹³ By the late 1980s, the land that had been the Pennsylvania Railroad's waterfront property in Canton south of Boston Street had been purchased by the City of Baltimore and was transformed into the Canton Waterfront Park.¹⁴

According to Dr. Ray Bahr, historian for the Canton Community Association, the railroad transfer bridge was restored by Streuver Bros, Eccles and Rouse Inc. in the late 1980s when the company converted the adjacent Tin Decorating Company Building and former air filter factory now known as Canton Cove into housing.¹⁵ Newly painted in time for the opening of the Baltimore Harbor Promenade in October 1989, the railroad transfer bridge was celebrated “as a monument to Canton's industrial past and a symbol of the spirit of the working harbor.”¹⁶

Historical Context: Railroad Transfer Bridges

A transfer bridge allows for railroad cars to be transported across the water by transferring them from rail lines on land to the rail lines on a floating barge called a carfloat or ferry. The carfloat could then be pulled by a tugboat to another waterfront location with rail lines. These transfer

bridges offered a way to cross water, to easily and affordably switch railroad cars to different rail line tracks, which was beneficial in dense urban environments, or to line up railroad cars alongside ships to allow for efficient transfer of cargo.¹⁷

Transfer bridges were designed to “have a flexible section of railroad track that permits the land-based railroad equipment to be rolled on and off a rail-equipped floating vessel, the deck height of which varies with water levels and vessel loading.”¹⁸ They were used up and down the East Coast in the 20th century, including in the Chesapeake Bay, but nowhere were they used as intensively as in New York City, where in the 1920s, 80 to 90 railroad transfer bridges were in operation.¹⁹

Historian John G. Teichmoeller outlines the three types of railroad transfer bridges that were developed: “1) pontoon style, where the outer, or waterside, end is supported by a floating pontoon; 2) a suspension style, where the outer end is suspended from an overhead, counterweighted structure; and 3) the incline, or traveling cradle, style, where fixed rails continue down a trestle into the water and a sliding platform permits transfer to the vessel, functioning much like a marine railway.”²⁰ The pontoon style was the simplest design, and likely was the style of railroad transfer bridge employed at this site until the early 20th century. The suspension style railroad transfer bridge is what survives at this site today. The suspension style transfer bridge allowed surprisingly efficient loading and unloading of freight, apparently handling up to 800 tons of cargo in fifteen minutes.²¹

Here is how a transfer bridge worked, as described in the Historic American Engineering Record (HAER) documentation of the other two surviving railroad transfer bridges in Baltimore:

A railroad tugboat maneuvered a carfloat into the slip, and the waterside ends of the two bridge spans would be raised or lowered to match the level of the carfloat’s deck using the electrically-powered operating drums. If the carfloat was listing—a slight amount of list was common—the two bridge spans would be set at different levels to match the carfloat’s tracks. The carfloat tracks would be aligned with the tracks on the transfer bridges using steel bars known as “toggle bars” that slid through hollow fittings called “pockets” on the deck of the transfer bridge’s tilting heads and, in turn, into pockets on the deck of the carfloat when the latter was properly aligned. A prybar would be inserted into a slot in the shoreward end of the toggle bars and levered against a steel plate with transverse slots mounted to the deck of the transfer bridge. This leverage allowed one man to slide a toggle bar into and out of the pockets. This required no small effort, but when in service, the toggle bars would have been well greased. With the carfloat properly aligned, mooring cable hooks would be attached to each side of the bow of the carfloat. Using spoked wheels similar to a ship’s wheel, operators then manually turned the mooring winches to tighten the cables and pull the carfloat snugly to the face of the bridge span’s tilting head.

Once the carfloat had been moored to the tilting head, the operating-drum brake held that end of the pick-up counterweight’s cable in place. When cars were pushed across the transfer bridge—idler cars were used to keep locomotives off the span—the end of the span moved downward. This motion was conveyed via cables to the top of the pick-up counterweight, which began to lift the top counterweight. Additional motion raised additional counterweights until the live load had been balanced. Because the operating drum-to-pick-up counterweight cable passed through a block pulled by a doubled cable connected through the dead-load counterweight to the span, the vertical

motion at the pick-up counterweight was twice that of the span. After the unloading and loading operations were completed and one of the... tugs had been tied to the carfloat, it was cast off by unhooking the mooring cable and disengaging the toggle bars.²²

There are only three surviving railroad transfer bridges in Baltimore City: this railroad transfer station and two B&O Railroad transfer bridges located on the waterfront of Locust Point just east of Hull Street on CSX-owned property. The B&O transfer bridges are inaccessible from land and only visible from the water at a distance.

Application of Landmark Designation Criteria

The property meets CHAP Landmark Designation criteria, as follows:

The quality of significance in Baltimore history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, public interiors, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

B. A Baltimore City Landmark may be a site, structure, landscape, building (or portion thereof), place, work of art, or other object:

1. That are associated with events that have made a significant contribution to the broad patterns of Baltimore history; or
3. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

The Canton Railroad Transfer Bridge is a significant surviving industrial maritime structure in Baltimore. Located in the water just south of Canton waterfront, it was built for the Philadelphia, Baltimore Washington Railroad in the early twentieth century. This transfer bridge allowed for the transport of railroad cars across the harbor on “carfloats” between Canton, Locust Point, and the Inner Harbor. Cargo passing through the transfer bridge was shipped up and down the East Coast along the railway of the Pennsylvania Railroad and its subsidiaries. This structure is an engineering landmark that reflects the intertwined histories of railroads, maritime industries, and manufacturing that were all so critical to Baltimore’s leading role in industrial heritage in 19th and 20th centuries.

Maps and Photos

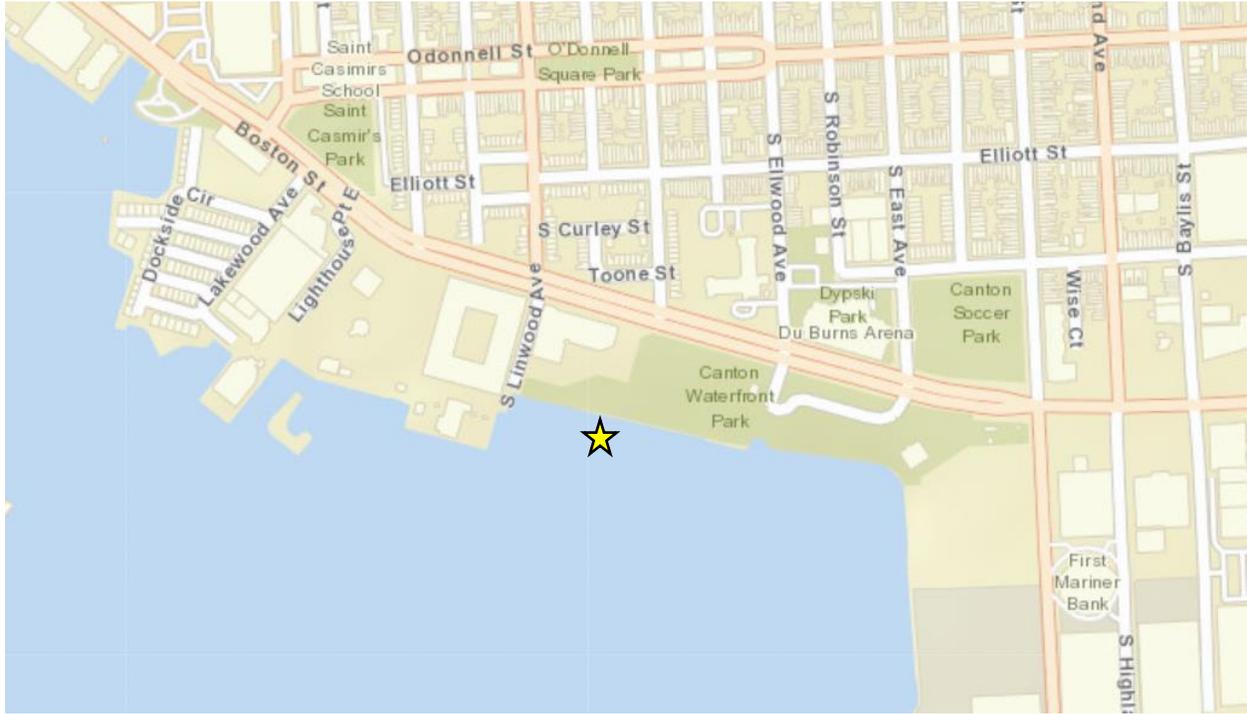


Image 1: Location of Canton Railroad Transfer Bridge, marked with a star, Baltimore City View



Image 2: Canton Railroad Transfer Bridge parcel, Baltimore City View

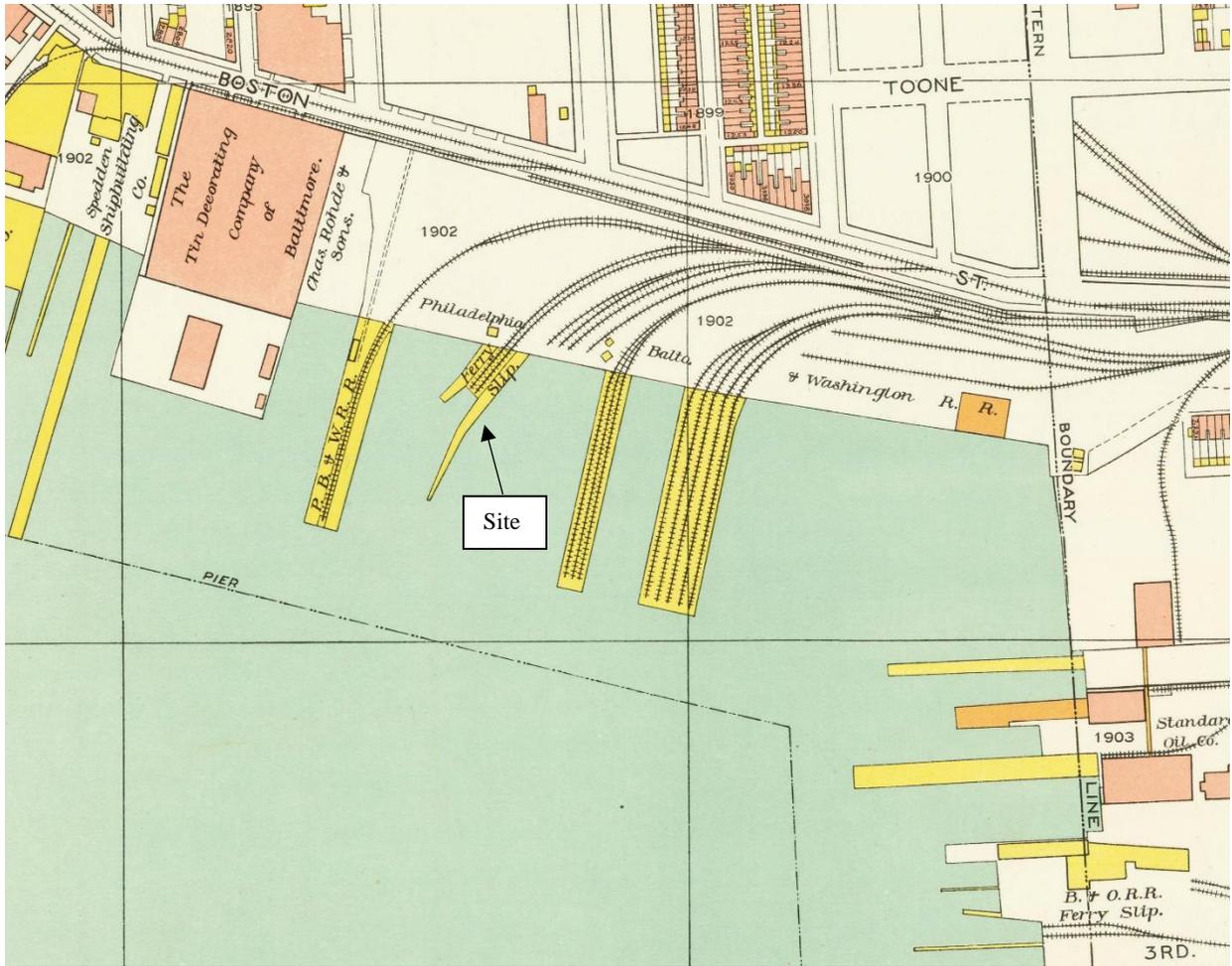


Image 3: Atlas of the City of Baltimore, Maryland 1914 (Sheet 31, 2S-3E&3S-3E), published by the Topographical Survey Commission. The wooden “Ferry Slip” is the site of the Canton Railroad Transfer Station; the steel gantry is not depicted in the map. The B&O Railroad Ferry Slip, which no longer exists, is depicted on the bottom right of the map.

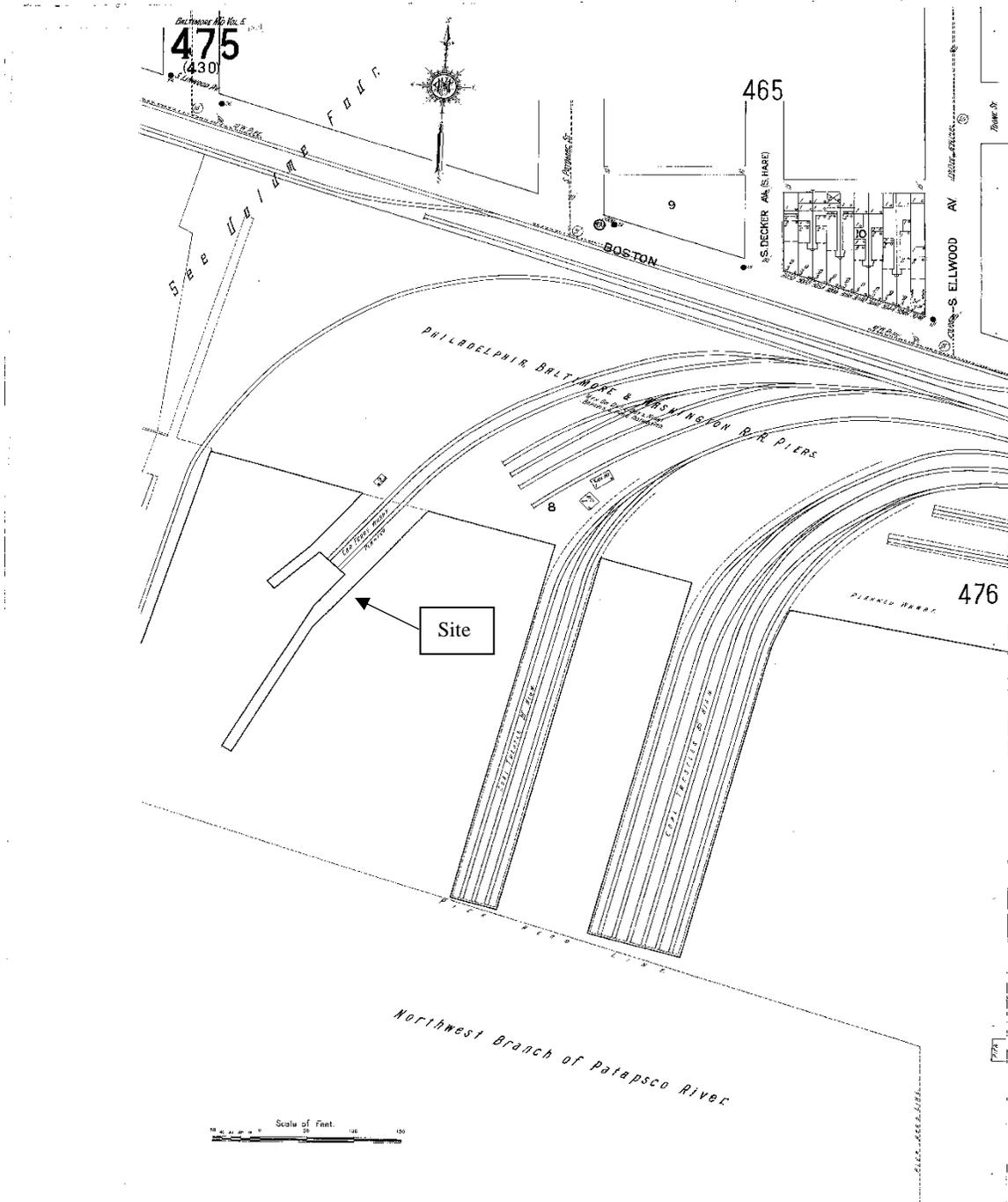


Image 4: 1914-1915 Sanborn Fire Insurance Map (Vol. 5, 1914, Sheet 475) with site outlined in red, which was referred to as a “car ferry wharf”. Again, the steel gantry is not depicted.

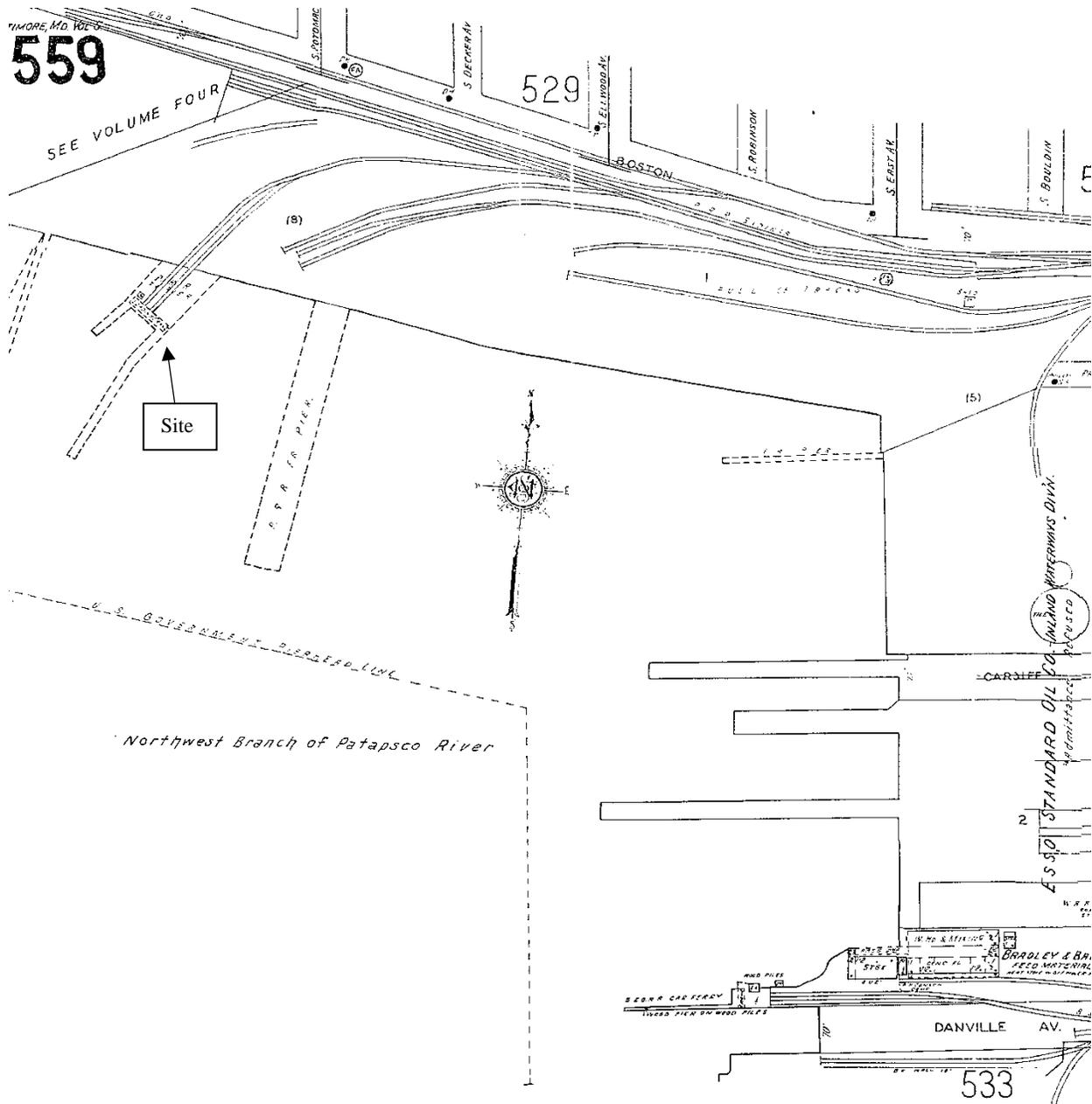


Image 5: 1914-1953 Sanborn Fire Insurance Map (Vol. 5, 1936, republished 1953, Sheet 559) with property outlined in red, depicting the steel gantry, which is labeled “Loading Cars” on the PRR RR Pier, referring to the Pennsylvania Railroad. (The B&O Railroad’s Canton transfer bridge is also visible at the bottom right of the map, on Danville Ave.)



Image 6: 1948 aerial photograph of the Inner Harbor, depicting the railroad transfer bridge (Approaches to Baltimore Harbor, Aerial Photography 1948 and Controlled Mosaic, 1949 Prepared for the District Engineer, Baltimore, Maryland, By Aero Services Corp., Photographic Engineers, Philadelphia, PA. <http://jhir.library.jhu.edu/handle/1774.2/36067>)

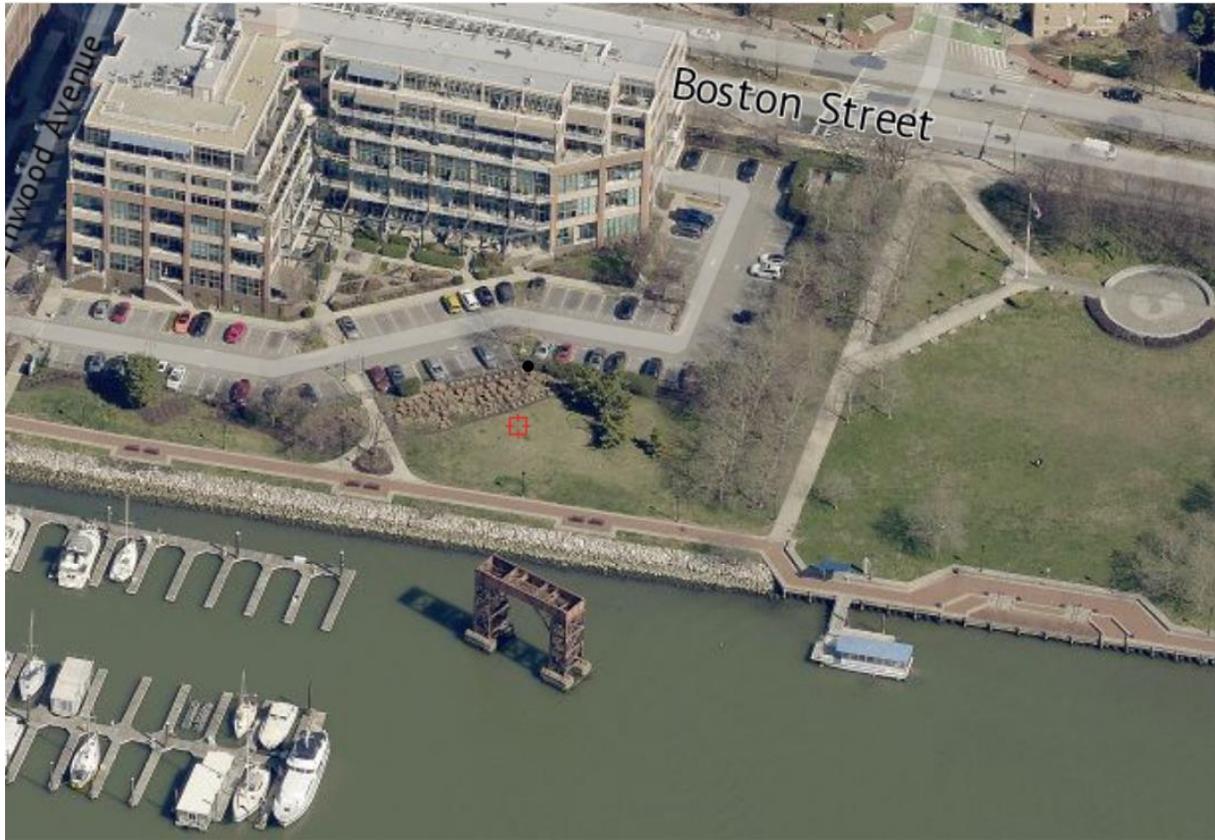


Image 7: Aerial view of Canton Railroad Transfer Bridge from south, Connect Explorer, March 2022

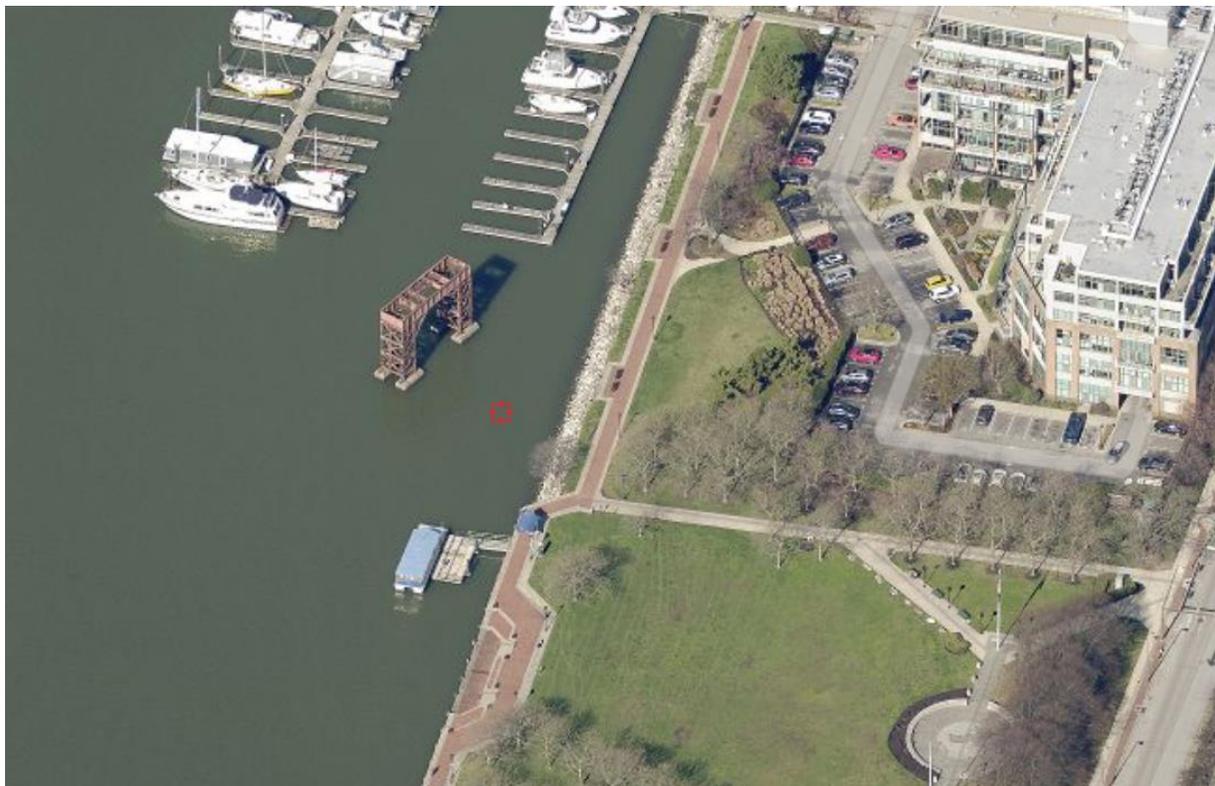


Image 8: Aerial view of Canton Railroad Transfer Bridge from east, Connect Explorer, March 2022

No. 743,901.

PATENTED NOV. 10, 1903.

A. H. MALLERY.
TRANSFER BRIDGE.

APPLICATION FILED FEB, 7, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

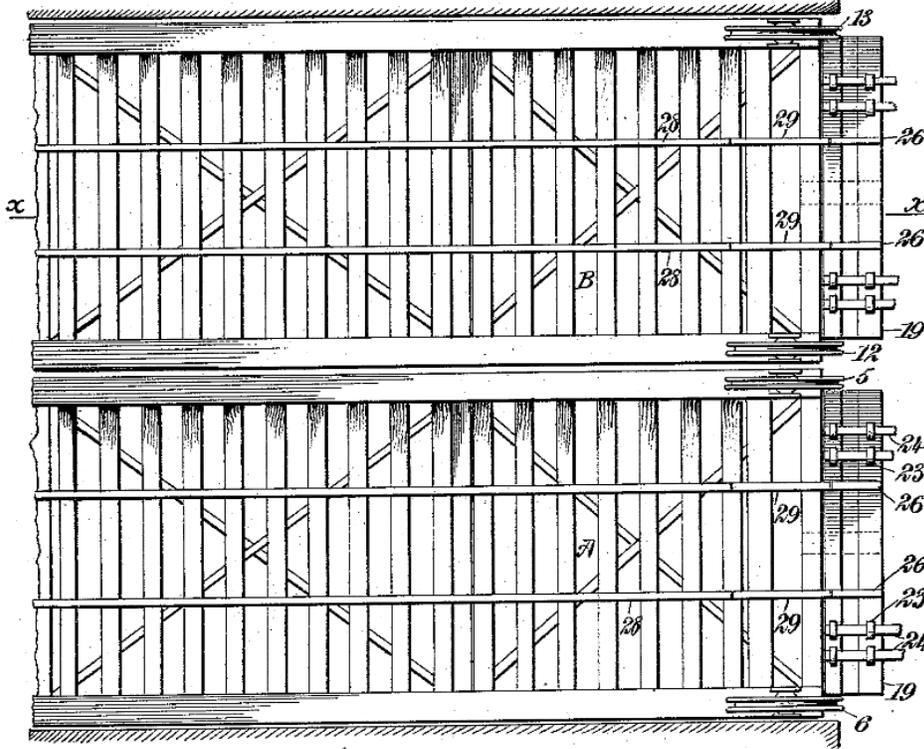


Fig. 1.

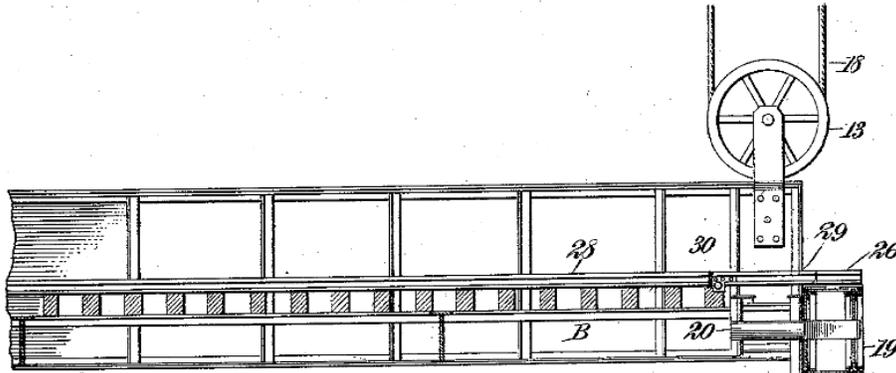


Fig. 2.

WITNESSES:
Geo. W. Taylor.
C. R. Ferguson

INVENTOR
Arlington H. Mallery
 BY *Munn*
 ATTORNEYS.

THE MORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

Image 9: The plan view (Figure 1) and section (Figure 2) of Mallery's transfer bridge patent, which was the basis of design for the Canton Railroad Transfer Bridge.

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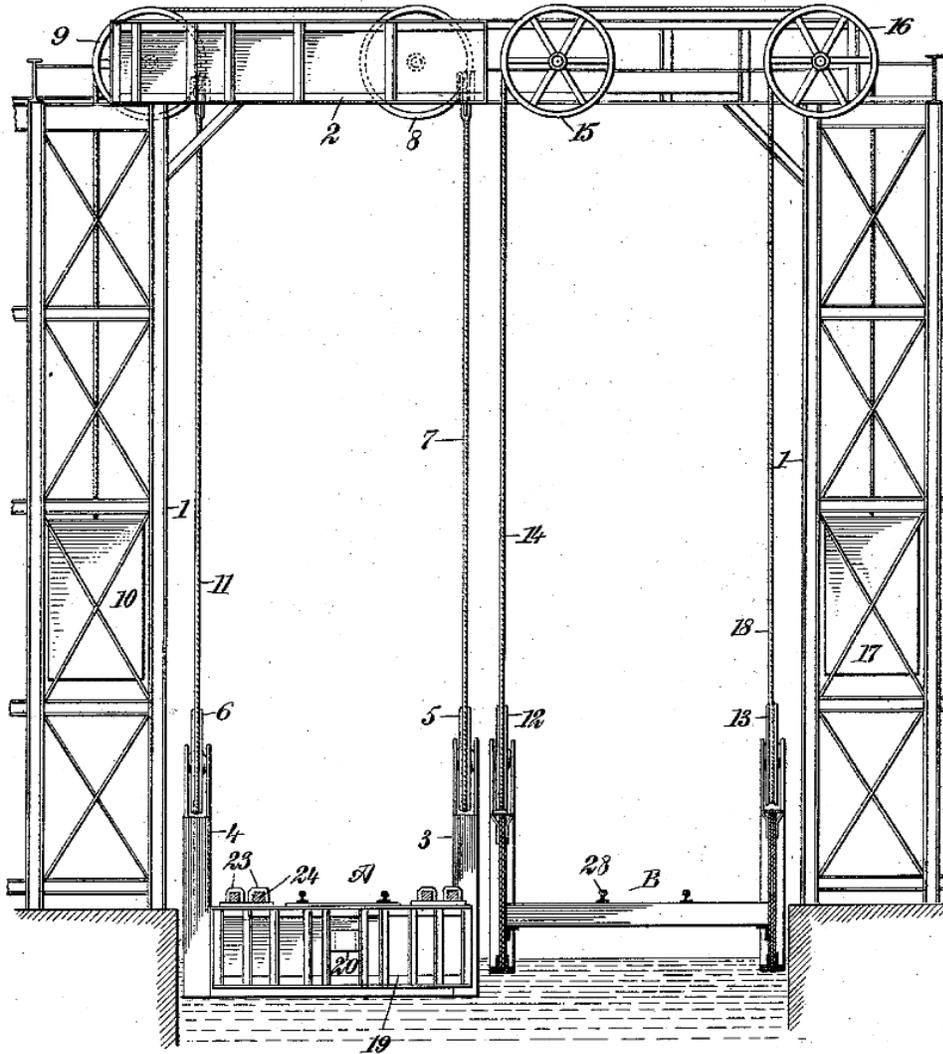
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Fig. 3.



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Image 10: Elevation (Figure 3) of Mallery's transfer bridge patent.



Image 9: Waterside view of B&O Railroad's Canton Transfer Bridge, ca. 1914, which was accessed from the intersection of S. Clinton St. and Third Street, today's Danville Avenue. It was similar in design to the Philadelphia, Baltimore, Washington railroad transfer bridge. (B&O photo, John Teichmoller collection; reproduced in the Written Historical and Descriptive Data for the Baltimore & Ohio Railroad, Locust Point Transfer Bridges, 1055 Hull Street, Baltimore, Baltimore (Independent City), MD, HAER MD-180, Historic American Engineering Record (HAER), Library of Congress. Accessible here: <https://www.loc.gov/pictures/collection/hh/item/md1932/>)



Image 10: The Canton Railroad Transfer Bridge, viewed from the waterfront, with the marker.



Image 11: The marker text.



Image 12: Another view from the waterfront.



Image 13: View east along the waterfront.



Image 14: Locust Point Railroad Transfer Bridges, view from north. (Eric Holcomb, October 2, 2022)

¹ Norbert Zaczek, Richard E. Choma, and John Hnedak, “Canton Historic District, National Register of Historic Places,” 1980, Section 8.

² Zaczek, Choma, and Hnedak, Section 8, Pages 1-3.

³ Raymond Bahr, “How Canton Came to Be,” n.d.

⁴ *Poor’s Manual of Railroads* (H.V. & H.W. Poor, 1917), 228.

⁵ John G. Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data” (HISTORIC AMERICAN ENGINEERING RECORD National Park Service U.S. Department of the Interior 1849 C Street NW Washington, DC 20240-0001, 2011), 7–8, <https://tile.loc.gov/storage-services/master/pnp/habshaer/md/md1900/md1932/data/md1932data.pdf>.

⁶ Teichmoeller, 8.

⁷ Teichmoeller, 9–10.

⁸ Teichmoeller, 8.

⁹ Teichmoeller, 8.

¹⁰ Philadelphia Company Baltimore & Washington Railroad, *Annual Report* (Office of the Secretary, 1904), 18.

¹¹ *Poor’s Manual of Railroads*, 226.

¹² Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data,” 7; A H Mallery, TRANSFER BRIDGE, APPLICATION FILED FEB, 7, 1903., Patent No. 743901, issued November 10, 1903.

¹³ “Penn Central Corporation - Social Networks and Archival Context,” accessed October 10, 2022, <https://snaccooperative.org/ark:/99166/w6zd4sq3>.

¹⁴ Edward Gunts, “Canton Cove: Preserving the Local Flavor,” *The Sun* (1837-), April 30, 1989, sec. Arts & Entertainment.

¹⁵ Raymond Bahr, Interview, October 10, 2022; Gunts, “Canton Cove.”

¹⁶ “Baltimore Tides: The Quarterly Newsletter of the Baltimore Harbor Endowment,” Summer 1989.

¹⁷ Kathleen A. Howe, “69th Street Transfer Bridge, National Register of Historic Places,” *New York*, 2003, Section 8, Page 1; Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data,” 2.

¹⁸ Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data,” 2.

¹⁹ Teichmoeller, 2–3; Howe, “69th Street Transfer Bridge, National Register of Historic Places,” Section 8, Page 1.

²⁰ Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data,” 2.

²¹ Howe, “69th Street Transfer Bridge, National Register of Historic Places,” Section 2, Page 1.

²² Teichmoeller, “MD-180, Baltimore & Ohio Railroad, Locust Point Transfer Bridges, Written Historical and Descriptive Data,” 6–7.