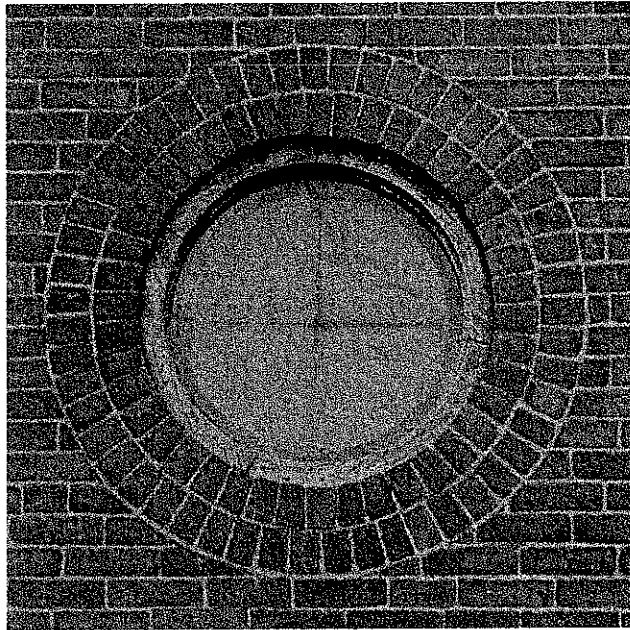


BIGELOW BOILER WORKS COMPLEX

198 RIVER STREET
NEW HAVEN, CT 06513

EXISTING FACILITIES: CONDITION REPORT ADA PROJECT #0302

PREPARED FOR
THE CITY OF NEW HAVEN, CONNECTICUT
JULY 12, 2004



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HISTORY OF BIGELOW BOILER WORKS

In 1833, a foundry and machine shop started up on Whitney Avenue, near the Farmington Canal. This business was eventually passed on to a man named Hobart Bigelow. Mr. Bigelow was destined to become an important man, and, as told by Doris Townshend in her book, *Fair Haven: A Journey Through Time*, would make his “mark as president of the Merchants National Bank, mayor of New Haven and more prominently as governor of Connecticut (1881-83)” (Townshend, 1976, p. 100).

In 1868, before Mr. Bigelow’s rise to political success, he began to manufacture steam boilers, a large item for his small foundry. A year later, he moved his business to Grapevine Point in the Town of Fair Haven, which would be incorporated into the City of New Haven in 1870. Grapevine Point, as it was then called, was situated along River Road (now River Street). There was not much in the area at that time; aside from the remnants of the Civil War barracks of Camp Terry, the only other buildings on River Road belonged to carriage manufacturers Wiswell & Company and F.J. Plumb Company. The rest of Fair Haven, however, was a thriving town in its own right and a new bridge, the Ferry Street Bridge, had just been built at the end of River Road to connect Fair Haven to East Haven.

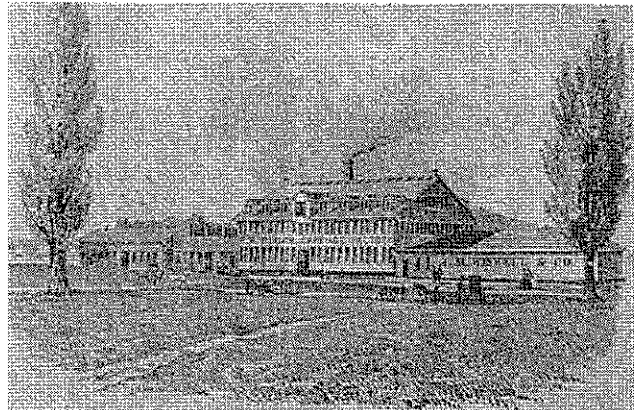


Figure 2: Wiswell & Company and F.J Plumb Company
(Townshend, 1976, p. 99)

When Bigelow’s machine shop first moved to River Road, operations were reportedly set up in one of Camp Terry’s twelve abandoned wood army barracks. The company’s wood frame structures were replaced by masonry buildings A and B (see plan) in 1873. The distinctive buildings were designed using cutting-edge technology for the time. The flammable wooden attics of older textile mills were eliminated in favor of low-slope roofs placed directly above the uppermost floor. The buildings also featured unusually large doors to accommodate the passage of boilers on both floors.

These were busy times for Hobart Bigelow; “In the post-Civil War period the factory ran full tilt, producing machinery for use in the newly-opened gold mines of the West, the fledgling oil wells of Pennsylvania, and the extensive sugar cane areas of the Caribbean. The name Bigelow was becoming known throughout the country” (Townshend, 1976, p. 100). By 1879, Hobart Bigelow was Mayor of New Haven.

According to a history of the area compiled by Bruce Clouette and Matthew Roth for the National Register of Historic Places, “In 1883, the company was incorporated with \$60,000. It covered a three acre site and employed nearly one hundred people. Although steam engines were manufactured here, the principal business was building boilers, tanks and plate iron whorl for clients around the country. They also manufactured feed-water heaters, foundry cupolas and slaughterhouse equipment.” (National Register, 1988.)



*Figure 3: Hobart Bigelow
(Townshend, 1976, p. 100)*

It was around this time that Hobart Bigelow, along with several other prominent New Haven businessmen, established the National Pipe Bending Company across the street at what is now 196 Chapel Street. National Pipe Bending had a symbiotic relationship with Bigelow Boiler; “The company was the sole manufacturer of the National Feed-Water Heater, one of the most popular appliances in use in the country for heating feed water for boilers. It is understandable that this plant was closely aligned with in both proximity and administration with the Bigelow boiler works” (Townshend, 1976, p. 103).

Bigelow Boiler Works, still thriving, built a new brick structure in 1886 (Building C) to the west of the two earlier buildings. The long, narrow building extends south toward the harbor and has a single, large opening on River Street; cases for the boilers were manufactured here. The interior of the building, with its two rows of broad masonry columns and high windows, resembles the nave of a cathedral, despite the fact that it has since fallen into disrepair.

Bigelow Boiler Works expanded again in 1889, adding a new building along River Street to the east of complex (Building D). This structure has a two-story portion to the west and a one-story portion to the east; the gently sloping roof at the one-story portion helps to give the building its unique profile, still visible today.

Hobart Bigelow passed away on October 12, 1891 (*The Political Graveyard*: Kestenbaum, 2003) and his son, Frank Bigelow, took the reins of Bigelow Boiler Works. At this time, "it was decided to devote the entire plant to the manufacture of boilers, which were in constant demand in many parts of the world" (Townshend, 1976, p. 100-101). Bigelow filled in the courtyard formed by the existing buildings in 1900 (Building E) and constructed a masonry office building along River Street in 1902. The company leapt into the 20th century in 1905* with the addition of a tall, steel-framed structure with a fully glazed perimeter. Bigelow began producing water tube boilers and sales skyrocketed with the approach of World War I.

In 1917, George S. Barnum, who had been an officer of the company since the 1870s, became president. He played an important role in bringing the railroad to River Street. Doris Townshend describes this achievement by telling the story below, which also sheds some light on the history of New Haven Harbor:

"Under Mr. Barnum's leadership, the Manufacturers' Railway Company was organized to serve the factories in Fair Haven. Before then the products had to be laboriously loaded into horse-drawn carts and hauled to the Cedar Hill railroad depot.

"The private railway sidings greatly expedited the shipment of commodities, but it was with some relief that the members let their railway corporation be bought by Charles S. Melon, president of the New York, New Haven and Hartford Railroad Company. Two days after the purchase, an accident occurred which re-affirmed the wisdom of the decision.

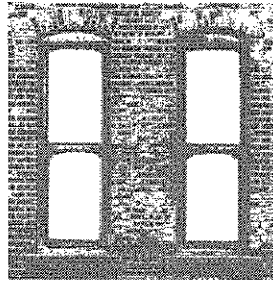
"The story goes that the little locomotive was returning from the American Steel & Wire Company on Fairmount Avenue, pulling a train of cars along Forbes Avenue. For some reason the draw at Tomlinson's bridge was open, and the engine rolled right off the tracks into the water. Mr. Melon telephoned Mr. Barnum and with a wry sense of humor imparted the news: 'I wish you'd kept that [expletive deleted] railroad! Our locomotive is now in Long Island Sound.'" (Townshend, 1976, p. 101).

George Barnum's son, Starr H. Barnum, became president of the Boiler Works in 1933. Two more generations of Barnums would continue to be affiliated with the company, even after it was sold in 1963. Starr H. Barnum II, who served as Chairman of the Board after the corporation was sold, was proud of his work. As he stated in an interview with Doris Townshend, "This company...has pioneered many of the improvements of our industry and constantly seeks new methods for making a better, more efficient product" (Townshend, 1976, p. 102). Bigelow boilers served Yale's Central Power Station, SNET, Sargent, and other clients all over the world.

*There is a conflict as to the date of construction of this building. Doris Townshend sets the date circa 1905, but the National Register of Historic Places Nomination Form sets the date circa 1915. This building was demolished during the compilation of this report.

This building type is becoming more rare in New England with each passing year. Although some of New Haven's early factory buildings, like the Marlin Building and Winchester Repeating Arms Co. (now Science Park) have been renovated and reused with success, most have not survived. The New Haven Clock Factory on Hamilton Street, built in 1850 by inventor/manufacturer Hiram Camp, is an example of a piece of unique local architecture that has *not* seen much in the way of reuse or restoration. The last few decades have not been kind to the Clock Factory; the building had been nearly vacant for many years, and gradually, as the windows were broken, the structure became unable to keep out the weather. After a few winters of wind-driven exposure to water, the structural integrity of the old factory has seriously declined; restoration of this complex is now likely to be prohibitively expensive. Bigelow Boiler Works will follow this path unless changes are made to restore building systems which keep out the wind and water, such as roofing and glazing. Portions of the complex are currently exposed to the weather, and rapid action should be taken to preserve these sections while they can still be saved.

B. River Street Industrial Timeline



RIVER STREET INDUSTRIAL TIMELINE

- 1820: Farmington Canal opens.
- 1850: Wiswell & Company and F.J. Plumb Co., both carriage manufacturers, are the only buildings on River Road, as it was then called. (These buildings no longer exist).
- 1862: Camp Terry is established to accommodate Union soldiers at "Grapevine Point," now the River Street area. The camp consisted of 12 wooden barracks and stretched from Chapel Street to the water. It remained in use until 1865.
- 1869: Bigelow Boiler works, previously located on Whitney Avenue, was built at 198 River Street by Hobart Bigelow.
- 1870: Fair Haven joins the City of New Haven.
- 1873: Bigelow's first two masonry factory buildings (198 River, A & B) constructed to replace original frame buildings.
- 1876: The first Ferry Street Bridge, designed by engineer Clemens Herschel, was constructed.
- 1882: Quinnipiac Brewery was begun by Peter Schleippman and William Spittler on Ferry & South Front Streets.
- 1883: Brick Factory Building constructed by the National Pipe Bending Complex (part of the Kilborn and Bishop Company Complex, 196 Chapel Street, A).
- 1885: The New Haven Nail Company Building is constructed (brick, 143 River Street).
- 1886: Bigelow constructs a brick erecting building (198 River, C) intended for the construction and passage of plate-iron boiler cases.
1890. The National Pipe Bending Company constructs two factory buildings (brick, 142 River, A & B).
- 1890: Connecticut Adamant Plaster Company moves to River Street. Cousins W.H. Kellogg and Marcus B. Hemingway, who started the business in 1887 at 480 Grand Avenue, build a new calcinating plant at 10 River Street.
- 1896: Quinnipiac Brewery completed by Brewery President Nathaniel W. Kendall.
- 1899: Lavigne Manufacturing Company constructs a frame storage building with a brick foundation and a brick boiler house (part of the Kilborn and Bishop Company Complex, 196 Chapel Street, B & C - *building and boiler house to be demolished due to heavy fire and structural damage*).
- c1900: Bigelow constructs a brick erecting building (198 River, E) intended for the construction and passage of boilers.
- 1902: Bigelow constructs brick office building (198 River, F).
- 1904: The Fosket and Bishop Company Building is constructed (brick, 76 Blatchley Avenue).

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- 1905: ** Bigelow's steel frame boiler shop (198 River, H) constructed at rear of plant by Hobart Bigelow's son, Frank Bigelow. Bigelow also constructs a frame garage (198 River, G). (Note that Doris Townshend's book states that the steel frame plant was built in 1905.)
- c1915: National Pipe Bending constructs the remainder of its complex, not including a post-1946 brick infill and garage building.
- c1915: Kilborn and Bishop constructs the remainder of its complex, not including a post-1946 brick industrial building.
- 1917: George S. Barnum becomes president of the Bigelow Company.
- 1920: Flint Dutee Wilcox Company Automobile Assembly Plant is constructed (brick, 5-17 James Street).
- 1921: Connecticut Adamant Plaster Company burns down and is rebuilt in steel and concrete.
- 1938: Hurricane floods businesses along River Street.
- 1940: The current Ferry Street Bridge, designed by architect William Julianelle of the City Bureau of Engineering with a bascule span designed by engineers Ash, Howard, Needles & Tammen, is built to replace the 1867 bridge.
- 1957: Connecticut Adamant Plaster Company sold to the National Gypsum Company.
- 1963: The Barnums sell the Bigelow Company, which was still operational at the time of the publishing of Doris Townshend's book in 1976.

** As noted earlier in this report, there is a conflict as to the date of construction of this building. Doris Townshend sets the date circa 1905, but the National Register of Historic Places Nomination Form sets the date circa 1915. This building was demolished during the compilation of this report.