

HAVEMEYERS & ELDER FILTER, PAN & FINISHING HOUSE, later known as the American Sugar Refining Company and the Domino Sugar Refinery, 292-314 Kent Avenue, Brooklyn. Built 1881-84; Theodore A. Havemeyer and others, architect.

Landmark Site: Borough of Brooklyn Tax Map Block 2414, Lot 1, in part, consisting of the land beneath the building (including the chimney).

On June 26, 2007, the Landmarks Preservation Commission held a hearing on the proposed designation as a Landmark of the Havemeyers & Elder Filter, Pan & Finishing House and the proposed designation of the related Landmark Site (Item No. 1). The hearing had been duly advertised in accordance with provisions of law. Nineteen people spoke in favor of designation, including the owner and representatives of the owner, as well as representatives of City Councilmember David Yassky, Churches United, Historic Districts Council, Landmarks Conservancy, Municipal Art Society, North Brooklyn Alliance, Pratt Center for Community Development, Roebling Chapter of the Society for Industrial Archeology, Society for the Architecture of the City, Metropolitan Chapter of the Victorian Society in America, and the Waterfront Preservation Alliance. Some speakers requested that the site be expanded to include related structures, while other insisted that designation should not interfere with the creation of affordable housing. The commission has also received many letters and petitions supporting designation.



Summary

Sugar production was Brooklyn's most important industry in the late nineteenth and early twentieth centuries. Of various factories that once lined the East River, the former Havemeyers & Elder Refinery, later known as the Domino Sugar Refinery, is the largest and most significant structure to survive. The three conjoined properties – the Filter House, Pan House, and Finishing House – are located on Kent Avenue in Williamsburg, between South 2nd Street and South 3rd Street. The Filter House, which was once the tallest structure on the Brooklyn waterfront, rises to a height of approximately 155 feet. The processing of the raw sugar began in this building, where it was mixed with water and filtered through canvas and charcoal. As foreign materials were

removed, the solution flowed to the Pan House, a nine-story structure at the southwest corner of Kent Avenue and South 2nd Street. Then reduced to syrup, it was pumped to the Finishing House to be dried and graded for sale. Frederick C. Havemeyer, Jr., son of the company's founder, first began operating a refinery in Williamsburg during 1856. Raw sugar was supplied from America's deep south, mainly Louisiana, and the Caribbean, where it was primarily harvested by slaves. Though slavery ended in the United States in 1865, it continued in Cuba, the world's largest exporter of raw sugar, until 1886. Most accounts of the refinery state that the Filter, Pan & Finishing House were built to replace an earlier facility that was destroyed by fire. Research, however, indicates that plans for the Filter House had already been filed with the Brooklyn Bureau of Buildings two months earlier, in November 1881. This building, as well as the Pan & Finishing House, was designed by Frederick's eldest son, Theodore A. Havemeyer, in association with Thomas Winslow and J. E. James, who are variously listed in contemporary journals as architects and builders. Like many contemporary industrial buildings, it was designed in the American round-arch style, a variant of the German Rundbogenstil and the Romanesque Revival style. Rooted in practical needs, the new refinery was conceived to be as fireproof as possible, with iron columns, beams and girders, as well as four hundred electric lights. A large oval smokestack dominates the west façade of the Filter House, facing Manhattan. Though the base of the chimney is original, most of the section that rises above the roof was added following a major expansion during the 1920s. Planned to produce at least 1,200 tons of sugar each day, the refinery's capacity gave the company a considerable competitive edge, allowing it to dominate the American market for several decades. This leverage also led to the creation of the Sugar Refineries Company in 1887. Originally consisting of as many as twenty firms, it was a monopoly that sought to control labor costs and prices. Renamed the American Sugar Refining Company in 1891, the "Domino" brand name was introduced in 1901. The Williamsburg refinery was sold to Tate & Lyle in 1988 and renamed the Domino Sugar Corporation in 1991. In subsequent years, the company ceased refining raw sugar at this location and the three buildings became vacant. The plant closed in 2004 and the site was acquired by C. P. C. Resources, the development arm of the Community Preservation Corporation.

DESCRIPTION AND ANALYSIS

The Havemeyers and Sugar Refining in the United States

At the start of the twentieth century, the Havemeyer family was said to control ninety-eight per cent of sugar production in the United States.¹ Headquartered in Manhattan's financial district, the business was based in Brooklyn where an immense refinery dominated the Williamsburg waterfront. The largest buildings, the Filter, Pan & Finishing House – sometimes collectively called the Processing House – stood steps from the East River and were visible from much of Manhattan's East Side. Active day and night, these large brick structures were powerful symbols of industry in Brooklyn and the accomplishments of the Havemeyer family.

As a predecessor to the American Sugar Refining Company, later called the Domino Sugar Corporation and Amstar, Havemeyers & Elder helped develop the sugar refining techniques used today. As early as 1876, it was reported:

The history of sugar refining in the western hemisphere is completely epitomized in giving the history of the founding, rise and growth of the house of Havemeyers & Elder, now the largest in the world.²

The Williamsburg refinery traces its roots to Manhattan in the early nineteenth century. Born in Germany, cousins William (1770-1851) and Frederick Christian Havemeyer (1774-1841) worked as sugar bakers in London before immigrating to the United States in 1799. After a brief period with Edmund Seaman and Company, the city's first sugar boiler, they established their own refinery in c. 1807, on Budd (now Van Dam) Street, between Greenwich and Hudson Streets, just south of Greenwich Village. The original building was small compared to later refineries, only 30 by 40 feet, but by the 1840s it stood ten stories tall and filled the entire block.³ Sugar became an important industry in the metropolitan area and by mid-century there were more than twenty refineries in New York and New Jersey.⁴

Sugar cane was supplied from America's deep south, mainly Louisiana, and the Caribbean, where the labor of enslaved Africans made it profitable to grow and harvest. Though slavery ended in the United States in 1865, it continued in Cuba, a leading exporter of raw sugar, until 1886, and in Brazil until 1888. Sugar mills were among the earliest factories in North America. Initially operated close to plantations, by the early nineteenth century most were located in major commercial centers. Here, owners could be close to consumers and distance themselves from the conditions under which raw sugar was harvested. William F. Havemeyer, Jr. (1804-1874), who headed the Van Dam Street refinery from 1828 to 1842, was elected mayor of New York City three times, in 1845, 1848 and 1872. Though he publicly criticized slavery and strongly opposed its expansion, like many New Yorkers he maintained that "no forcible interference" should occur "in states which it already existed."⁵

Frederick C. Havemeyer, Jr. (1807-91) played a key role in the company's early development. He joined the firm in c. 1823 and was later described as "the venerable head of the well-known Havemeyer family of this city and the founder of the great sugar-refining industry in this country."⁶ He lived on West 14th Street and after 1862 moved to Throg's Neck on the Long Island Sound. With Samuel Tilden and Andrew Green, he also invested in a local ferry company. Though he and cousin William retired in 1842, Frederick rejoined the family business when his nephew John C. Havemeyer (1833-1922) and Charles Bertrand began operating a small refinery in Williamsburg.⁷ In subsequent years, the company was known as: Havemeyer & Bertrand (c. 1856); Havemeyer, Townsend & Company (1858); and Havemeyer & Elder (1863). Though Joseph Lawrence Elder, Frederick's son-in-law, died in 1868, the partnership's name was maintained well into the twentieth century.⁸

Theodore A(ugustus) Havemeyer (1839-1897), Frederick Jr.'s eldest son, began working in the Manhattan refinery during the 1850s.⁹ He recalled:

We were taught our business thoroughly. After leaving school I was sent to Europe to learn all I could concerning the business I was to follow for a livelihood. In 1857 I went to the Hamburg refineries, and thence, after quite a lengthy experience, I went to other cities in Germany, where I gained the most advanced methods of that day.¹⁰

An important figure in the company's continued growth; he was associated with the business for more than thirty years. Promoted to partner in Havemeyer, Townsend & Co. in February 1862, he was identified as the plant's manager in 1868, and was later called "America's great sugar king."¹¹ Theodore lived with his wife Emilie de Loosey at 244 Madison Avenue (demolished), at the corner of East 38th Street in Manhattan, in a house that was described as "one of the most beautiful in New York."¹² Though sugar was the primary source of his fortune, he also invested in banks and real estate, erecting the Havemeyer Building (George B. Post, 1891-93, demolished) on Church Street, between Dey and Cortlandt Streets.

Theodore worked beside his father, Frederick, during the expansion of the refinery in the late 1860s and had an intimate knowledge of the entire operation. He proudly claimed:

There was no part of the manufactory or no part of the refining business with which we were not thoroughly familiar. I knew how to fire up under the boilers, how to run the engine. I built an engine once myself. I knew how to refine the sugar and how to market it . . . We were always on the lookout for some better way to do a thing and our success is largely owing to invention brought out by observation and experiment.¹³

After Theodore became partner, his youngest brother, Henry Osborne (also called Harry or H. O., 1847-1907) joined the firm in 1865, as did his cousins, Hector (1840-99) and Charles (c. 1845-95). Following several years in the Manhattan office, in 1869 Henry became a full partner. Whereas Theodore's concerns were generally practical, focusing on the manufacturing end of the business, Henry "mastered the mercantile side [devoting himself to] a study production and markets."¹⁴ He commissioned a large mansion with interiors by Louis Comfort Tiffany at 1 East 66th Street (demolished) in 1889-90. He and his wife, Louisine Waldron Elder, were leading art collectors and the bulk of their collection, especially their nineteenth-century French paintings, was donated to the Metropolitan Museum of Art upon her death in 1929.

Hector and Charles left the Williamsburg plant in the mid-1870s to operate a refinery at North 2nd Street, co-owned by the Decastro & Donner Sugar Refining Company. Theodore and Henry Osborne also worked closely with another cousin, Charles H(enry) Senff (1841-1911), who managed the plant and was later described as one of "the refinery builders."¹⁵

Industrial Williamsburg

New York City established itself as a major port in the first half of the nineteenth century, with ship-building facilities, cargo terminals, and piers serving the harbor. Though John Jackson's shipyard (later known as the Brooklyn Navy Yard) was located on Wallabout Bay by the 1790s, it was not until the 1850s that a substantial number of businesses had moved to, or were established in, Brooklyn, where the waterfront stretches from Newtown Creek in Greenpoint to Jamaica Bay.

Businesses began to relocate to Williamsburg during the 1850s. Land costs were relatively low, the population was increasing, and the East River was well-served by passenger ferries and commercial fleets. Founded as part of the town of Bushwick in the mid-1600s, Williamsburg was incorporated as a village in 1827. A gridiron plan was soon adopted, with named and numbered streets running perpendicular from the river. Most industrial and commercial activity was concentrated here, with residential blocks to the east. Williamsburg grew rapidly; by 1851 it was the twentieth largest city in the nation and in 1854, along with neighboring Bushwick, it became part of greater Brooklyn.

By 1874 five major sugar refineries were active in Brooklyn: Havemeyers & Elder, Greenpoint Sugar Refining Company, Decastro & Donner, Brooklyn Sugar Refining Company, and Dick & Meyer.¹⁶ Two of these firms would later come under Havemeyer control, Decastro & Donner in 1874, and Greenpoint in 1880. They also owned a "vast" cooperage on North 5th Street to manufacture wood barrels for packing sugar, as well as the Eastern District Terminal, a waterfront rail facility that extended from North 3rd Street to North 10th Street. Established in 1867, for nearly a century it linked local businesses to New Jersey and points west. Served by tugs, floats, lighters and locomotives, the terminal was the ideal location for a sizeable warehouse, which Henry's son, Horace Havemeyer (1886-1956), built and leased to Austin, Nichols & Company, one of the world's largest wholesale grocers, in 1914-15.¹⁷

The Havemeyers & Elder Sugar Refinery¹⁸

Within the network of businesses owned by the Havemeyer family, the Williamsburg sugar refinery was the largest and most important. At about the same time that Williamsburg became part of Brooklyn, the family began to lease property on the west side of Kent Avenue,¹⁹ between South 3rd Street and South 4th Street. It has not been determined whether the original refinery was located in a leased warehouse or a new structure financed by Frederick C. Havemeyer, Jr. An undated image from the *Brooklyn Daily Times* portrayed it as consisting of a five-story building with rectangular windows and shutters, a pair of single-story structures with round-arched window openings, and a free-standing chimney.²⁰

Sugar had been especially scarce during the Civil War and a surge in demand was widely anticipated. Toward the end of the conflict, steps were taken by the Havemeyers to expand the refinery. They purchased the parcel on which the original refinery stood, as well as lots between South 3rd Street and South 4th Street (c. 1863) and South 2nd Street and South 3rd Street (1865). These sites had been previously used as brick, lumber and shipping yards.

The Havemeyers & Elder refinery is located between Wallabout Bay and Bushwick Creek. At this location, the river is deep and most types of vessels could be accommodated. Raw sugar, consequently, was delivered directly to the refinery, without hauling it to a custom's house for inspection. The *Brooklyn Eagle* later reported:

In securing a water front for their operations the refiners effect a great economy, for not only do they ship the sugar directly on steamers and freight cars, but the raw material is brought to their doors from Pernambuco, Manila, Hawaii, Cuba, Egypt and Java and poured into their melting pans after a single handling, hardly thirty steps from the wharf where it landed.²¹

Water was also important in the refining process, used to clean the raw sugar and cool the machinery.

Havemeyers & Elder acquired the block where the Filter, Pan & Finishing House was built in two separate transactions; purchasing the first parcel, about one third of the site, in 1865, and a larger parcel in November 1881. The latter parcel had been owned by John Minturn who since the 1860s had leased it to a rival refiner, Wintjen, Dick & Harms. Later known as Dick & Meyer, they also operated a refinery on Kent Avenue, between North 7th Street and North 8th Street.²²

On the evening of January 8, 1882, much of the Havemeyers & Elder refinery was destroyed by fire, especially the block between South 3rd Street and South 4th Street, where the refinery had originated more than two decades earlier. The loss, valued at more than \$1.5 million, included the 200-by-150-foot-long refinery and finishing house, as well as machinery and structures devoted to storage and shipping. Insurance was estimated to cover about half the value of what was lost.²³ Enormous crowds gathered in New York and Brooklyn to watch the blaze and the event gained national attention. According to Theodore A. Havemeyer, who handled most media inquiries, 1,200 men had been employed in the refinery, as well as 2,500 to 3,000 men in related jobs.

Most historical accounts state that the Filter, Pan & Processing House was built to replace structures destroyed by the fire. Research, however, indicates that this was not completely true and that Theodore A. Havemeyer was already planning to expand the refinery. On November 19, 1881 – less than two months before the fire – he filed plans with the Brooklyn Bureau of Buildings for a “ten-story brick sugar house,” probably the Filter House. The estimated cost was \$100,000.²⁴ Construction began at once and accounts described the site as already “in the course of development” when the fire occurred.²⁵

Plans for a second structure were filed with the Bureau of Buildings less than two months later, in March 1882. Described as a “nine story brick sugar house,” it would become the Pan & Finishing House. Measuring 250 by 70 feet, the estimated cost was the same as the Filter House.²⁶ In most refineries, the Filter House and the Finishing House stand side by side, suggesting that Havemeyer intended to construct them together, in close succession, or as soon as economic circumstances permitted. Urban factories were often built this way. Master plans were rarely prepared and refineries grew as demand increased and nearby properties became available.

The Filter, Pan & Finishing House were most likely designed by Theodore A. Havemeyer, the firm's senior partner. Contemporary listings identify both “T. H.” and “F. A.” Havemeyer as the architect. This was a probable misspelling, or misreading, of T. A. Havemeyer. There is no evidence that he trained as an architect, but he did have twenty-five years experience working with this type of structure and many nineteenth-century

factories were constructed under similar circumstance. The *Brooklyn Eagle*, reported that the “plans were perfected under [his] immediate direction and supervision.”²⁷

In terms of the builder, different individuals were credited. The November 1881 application lists “Thos. Winslow and J. E. James” as builders, but the March 1882 application has “J. James” (along with Havemeyer) as architect, with no builder. Havemeyer collaborated with them at least three times during the early 1880s. Little is known about Woodruff or James, though James may be J. K. (John King) James, who was part of the architectural firm James & James, active in New York, Kansas City, and other locations, from the 1880s to the early 1900s. His brother, Arthur, was trained in England and moved to the United States in 1878. For a brief period, he worked in the Boston office of H. H. Richardson. It seems likely that Havemeyer planned the layout and interiors and a builder was hired to address structural issues, or perhaps, prepare renderings for submission to the Bureau of Buildings. They were also assisted by the engineer John Van Vorst Booraem (1838-1923), who worked for Decastro & Donner from 1870 to 1882, and long-time refinery superintendent Ernest Gerbracht.

Insurance paid some of the costs but other expenses were covered by Frederick C. Havemeyer, Jr. who sold stocks, bonds, and property to finance reconstruction.²⁸ At the time of the fire, it was estimated that the work would take twelve to eighteen months to complete. This estimate proved accurate; the “monster chimney” reached a height of one hundred feet in October 1882 and the rest of the refinery was nearing completion, less than a year later, in July 1883.²⁹ The *Brooklyn Eagle* reported that Theodore:

. . . personally superintended the erection of the present structure, which Phenix [sic] like arose from the ashes of the old one . . . When the refineries were completed Mr. Havemeyer in May [1884], departed for the continent to take a needed rest.³⁰

At this time, his younger brother, Henry Osborne, became the firm’s chief partner.

Refinery Design³¹

New York City was a bustling port in the nineteenth century and various types of utilitarian structures were built to support the maritime trade, including store and loft buildings, warehouses, and factories. Store and loft buildings were the most common and many distinctive examples can be found in the Tribeca and SoHo Cast-Iron Historic Districts. Built to serve retail and wholesale functions, the upper stories were frequently used for storage and related commercial purposes. While some early examples were located in converted dwellings, most date from the last quarter of the nineteenth century. Schemerhorn Row, part of the South Street Seaport Historic District, is an early group of warehouses, also called “counting houses.” Built in 1811-12, these simple brick buildings resemble Federal-style residences but were used as offices and commercial storage. A significant group of later examples can also be found in Brooklyn: the Empire Stores (1865-85) in the Fulton Ferry Historic District and the quarter-mile-long Beard Street warehouse (1864-73) in Red Hook. Constructed on piers or alongside the East River, these large brick buildings have arched window openings through which goods could be easily hoisted.

Sugar refining became a significant local industry during the mid-nineteenth century. In New York City, the earliest known surviving structure is 79-101 Laight Street (now apartments), between Washington Street and West Street, in the Tribeca North Historic District. Built in 1853-54, it is the last remaining component in the Grocers Steam Sugar Refinery. Nine and ten stories tall, it has thick brick walls, regularly-spaced round-arched windows, and iron shutters – common features in subsequent refineries.

New York City prospered in the 1880s, attracting a great number of large factories to the waterfront, where delivery and shipment of goods was convenient. Twelve thousand factories were in operation by the mid-1890s, scattered along Manhattan’s west side, and in Brooklyn, Queens, and the Bronx. *King’s Handbook of New York* observed:

But perhaps few people recognize that a prime distinction of New York is its preeminent position as a manufacturing city, crowded with ingenious artificers, and pouring its multifarious products all over the Great Republic. While one section of the city includes its financial powers . . . several sections are given up to manufactories.³²

Sugar and food production was important, as was publishing and the manufacture of clothing and musical instruments. Most companies occupied low-rise horizontal structures, often distinguished by a single vertical element that identified the owner. Clock towers were popular and notable examples include: Joseph Loth & Company Silk Ribbon Mill (Hugo Kafka, 1885-86) in Washington Heights, Manhattan, Estey Piano Company Factory (A. B. Ogden, begun 1886-86) in Mott Haven, the Bronx, and the Sohmer & Company Piano Factory (Berger & Baylies, begun c. 1886) in Astoria, Queens. All are designated New York City Landmarks. Other substantial complexes that survive from this period include the Eberhard Faber Pencil Factory (begun 1870s) in Greenpoint, Brooklyn, the former New-York Biscuit Company (now retail and offices, later known as Nabisco, begun 1880s) in Chelsea, Manhattan, and the Ansonia Clock Company (now apartments, begun 1880s) in Park Slope, Brooklyn.

The Filter, Pan & Finishing House were designed to give the appearance of a single, monumental structure. The *Brooklyn Eagle* called the new facility “colossal” and claims were made that it had “the largest capacity of any refinery on either continent.”³³ Of various factories that survive from the 1880s, the Filter, Pan & Finishing House stands out, not for only its massive, approximately 250 by 150 foot, dimensions, but for its height. One hundred and fifty five feet tall (plus chimney), in 1883 it was said to be the tallest building on the Brooklyn waterfront, approaching the height of early skyscrapers in Lower Manhattan’s financial district. Refineries were normally taller than factories; owners not only wished to maximize storage potential but this vertical arrangement allowed them to exploit gravity as part of the refining and packing process. In Philadelphia, the Havemeyer & Company Refinery was ten stories tall, and in St. Louis, the twelve-story Belcher Sugar Refinery (1882) incorporated six million bricks and was said to be the “strongest and highest building of its kind in the nation.”³⁴

The reddish brick elevations tower above the narrow Williamsburg streets. Without setbacks, there are relatively few horizontal elements and most of the ornamental brickwork is concentrated on the upper floors. This type of treatment was practical, allowing construction to proceed with a minimum of delay and handiwork. Russell Sturgis, the noted architectural critic, admired this straightforward aesthetic, writing in 1904 that “one cannot but care for these [structures] because every great surface of hard, rough, well-burned bricks of dusky red color is attractive.” To demonstrate this point, he used a photograph of a similar refinery in Greenpoint, Brooklyn – also owned by the Havemeyers – and designed by Theodore in the late 1880s.³⁵

Along Kent Avenue, smooth shallow pilasters rise from the ground story, dividing each floor into wide and narrow bays. Above the fifth floor, a small vertical recess divides each pilaster, creating a shadow that accentuates the upper part of the façade. It draws the eye to the roof, especially toward the simple arches that crown two bays, as well as the corners. The elevation that faces west (toward Manhattan) is the more decorative one, especially near the base of the chimney. Less expensive than cast iron or carved stone, the bricks are set at different depths, forming rows, rectangles, squares, and chevrons. The corners were originally capped with pyramidal roofs, constructed with black brick, a variant of red brick that gained popularity in the 1870s and 1880s. Occasionally, bluestone was used to accent the brick – dirty though visible – as keystones, belt courses and simple triangular forms that rest above the arched window openings at the top story.

Aligned in long rows, the relatively wide spacing of the windows strengthens the visual impact of the walls, creating a subtle yet insistent rhythm. Like the Estey and Sohmer piano factories, the windows in the Williamsburg refinery are small, evenly spaced and round arched, similar to the kind that Theodore A. Havemeyer might have seen in buildings that he visited during his trips to Germany. Based on classical and medieval sources, this kind of treatment was an American variant of the German Rundbogenstil, also called the Romanesque Revival style. Known through pattern books and other illustrated sources; it influenced the design of all refineries built by the Havemeyers, from Van Dam Street in the 1840s to Williamsburg and Greenpoint in the last quarter of the nineteenth century.

Brick was the material of choice in most industrial buildings. It was inexpensive, durable, and easily supplied. More importantly, brick was resistant to fire. The walls were four feet thick at the bottom and two feet thick at the top. Most windows were deliberately crowned by brick arches, permitting the elimination of potentially flammable wood lintels. Similar goals shaped the design of the interiors. While many local factories continued to be built with wood joists and brick bearing walls, Havemeyer made extensive use of iron. The structure was quite sophisticated:

The floors are of brick, being a series of flat topped arches of 5 feet sweep, and they are supported by a labyrinth of cast iron columns and wrought iron beams and girders which are braced to sixty-six cast iron columns, each capable of standing a strain of 400 tons . . . In order to make the building as fireproof as possible all material of a flammable nature was eliminated in its construction. The entrance archways are secured with double iron doors and the hundreds of windows are supplied with doors of the same material. So well assured is Mr. Havemeyer of the safety of his building from fire that he will not insure them.³⁶

Other safety features included fire hoses and fire escapes, as well as more than four hundred electric lights. Less dangerous than gas lighting, there was considerable enthusiasm for the new technology and the buildings in the refinery were some of earliest in Brooklyn to be lit by electricity. Since no central generating plant existed in Brooklyn at this time, it seems likely that Havemeyers & Elder produced its own power.

From Manhattan, the most visually prominent feature was, and remains, the chimney. Originally one of the tallest in the metropolitan area, it was surpassed by only the twin chimneys of the New York Steam Company (demolished), constructed the same year.³⁷ Fueled by coal, the height of the chimney was determined by the type of coal used and the need to vent smoke safely.³⁸ Enormous quantities were used to power the plant and the refinery operated a fleet of ten barges to transport the fuel, each named for a different sugar producing country.³⁹ Built as the centerpiece of the west façade, the chimney was flanked by corner towers, which were of a similar shape, height and width. Like clock towers, it served both a functional and promotional purpose. Near the base, just above the top floor, was a prominent sign, visible from the East River and Manhattan, identifying the refinery and the date of construction. The chimney and the sign, however, were altered in the 1920s. About one third taller than the original, the upper section is constructed from curved, radial brick. Larger in size than conventional brick, such chimneys were introduced around 1900 and were stronger and less expensive to build.⁴⁰

Processing Sugar⁴¹

These connecting buildings formed the nucleus of the Havemeyers & Elder sugar refinery. At the time of completion, the daily capacity was estimated to be 1,200 tons.⁴² Directly west of the Filter House was the boiler house (demolished), a two-story facility that powered the plant, as well as piers, where incoming “hogsheads” of raw sugar and deliveries of coal were unloaded into large bins throughout day and night. Immediately east was Kent Avenue, a street served by various street car routes. Workers entered the plant here, through a series of archways that lined the ground story of the Pan House & Finishing House, using stairs and elevators to reach their steamy posts.⁴³

The first stage of processing occurred in the Filter House where the raw sugar was combined with water to create a dirty sweet solution. It was then strained and pumped to the uppermost floor to fill a “metal tank ten feet high and eight feet in diameter.” These circular containers were called blow-ups. During the next stage, aided by gravity, the liquid ran downward, filtering through canvas into more than one hundred cast-iron tanks with a “layer of boneblack at the bottom.” Twenty-feet-tall and nine feet in diameter, these filters could be automatically filled and emptied.

Next, the solution flowed into the Pan House, at the southwest corner of Kent Avenue and South 2nd Street. Planned for nine or ten floors, it had one set of stairs and reached a height of approximately one hundred feet, with a twenty-foot deep cellar. This structure accommodated six or eight vacuum pans, each measuring sixteen feet in diameter. At \$25,000 per unit, it was the most costly machine in the complex.⁴⁴ Heated by copper coils, the solution was boiled and reduced to the thickness of honey and emptied into sixty-four centrifugal machines that spun and separated the molasses and sugar.⁴⁵

The final stage occurred in the Finishing House, a structure that was designed to be virtually indistinguishable from the neighboring Pan House. At the northwest corner of Kent Avenue and South 3rd Street, it was also planned for nine or ten floors and has a footprint that is approximately square in shape. In this building the sugar passed onto granulating machines where the grains were separated, roasted and dried. A reporter for the *Brooklyn Eagle* wrote in 1884, that he:

Examined and [ate] some of it and was satisfied that however filthy it had first been and however revolting some of the mixtures to which it was subjected were [,] it had been last become quite pure enough to be eaten by the most fastidious.⁴⁶

The refining process was now complete and the sugar was moved by conveyor to nearby buildings for storage, packing, and sale. These structures were located on both sides of Kent Avenue, as far south as South 4th Street.

Workers and Working Conditions

The Havemeyers & Elder refinery was an immense operation. It covered approximately eleven acres and required thousands of workers. All types of sugar were produced “from the dominoes and cubes of cut loaf, through the various grades of hard sugars, down to the cheaper grades of yellow, or straw-colored sugars.”⁴⁷ It was a major Brooklyn employer, hiring primarily untrained labor. The great majority were men and recent immigrants. They worked around the clock, in ten-hour shifts, at minimum. The *New York Tribune* strongly criticized conditions in the plant, writing in 1894:

. . . the severity of their labors is shown by the fact that they are nearly all thin and stooped and rarely above middle age, it being a well-known fact that men employed in the refineries rarely live to old age. They are nearly all new immigrants when first employed, and before work is given them, they must be found perfectly docile and obedient . . . Then begins a life of perpetual torture as long as he remains in the refinery, and not infrequently death comes quickly to his relief.⁴⁸

The earliest group, like the owners, came from Germany and “notices from management were printed in both English and German.”⁴⁹ Toward the end of the nineteenth century, the workforce became increasingly diverse, with recent arrivals from Ireland, Denmark, Poland, Hungary, Greece, and later, the West Indies. The *Brooklyn Eagle* observed in 1900:

There is little about the manufacture of sugar that calls for skilled labor, and the work has been lightened and conditions modified within fifteen or twenty years by improved machinery . . . the Pole has, therefore, arrived in time to benefit by these changes, though he would have taken the work just the same had it been twice as hot or hard.⁵⁰

Many workers lived in the vicinity of Kent Avenue, or along trolley lines that led to the waterfront, occupying former single-family residences that had been converted to boarding houses and tenements. Despite low wages, approximately \$13 per week, the average length of service in 1900 was more than eight years. Such wages, one writer observed, would insure “a good living” elsewhere, but not in Brooklyn.⁵¹

Refinery workers also had hardly any job security. Thousands were temporarily laid off due to the 1882 fire (and during subsequent conflagrations), as well as during periods when raw materials were in short supply. Increasing labor unrest, especially in the mid-1880s and after 1900, eventually led to wage increases and the creation of a pension plan in 1912 for disabled and retired workers. By 1920, approximately ten percent of the workforce was female, with many involved in clerical positions or packaging. Compared to their male colleagues, their working conditions were portrayed as comfortable:

In the final packing for grocery orders a number of girls find employment. They attend the machines that automatically pour, weigh, and seal small packages of sugar, enabling two girls to do the work recently done by eight, and do it more accurately. Some of the sugar is put up by them in bags and some in paper boxes. These girls have most of a room to themselves, with good dressing rooms, and free from heat.⁵²

The American Sugar Refinery Company was one of Brooklyn’s largest employers. With 4,500 workers on the payroll in 1919, threats to move to New Jersey in the late 1910s and early 1920s were taken seriously and the government permitted the closing of two streets, between Kent Avenue and the river, as part of a major expansion. The number employed, however, fell steadily after the Second World War. By 1959 there were 1,500 workers, 450 in 1996, and less than 300 in 2001. Not only was the demand for sugar hurt by the increasing popularity of corn syrup and other sweeteners, but to increase efficiency, only liquid sugar – first processed in Baltimore – was refined in the Williamsburg plant during the 1990s.

Subsequent History

The great capacity of the Filter, Pan & Finishing House gave the Havemeyer family a significant competitive edge and it was soon able to negotiate a merger of historic proportions. Rather than rebuild what existed before 1882, a much more ambitious structure was created, one that positioned Havemeyers & Elder as the dominant American firm for decades to come. Though published estimates of the cost of reconstruction and machinery were reportedly \$2.5 million, Theodore A. Havemeyer later admitted that almost three times that amount, \$7 million, was spent.⁵³

The Sugar Refineries Company, also known as the Sugar Trust, was established in October 1887. Henry Osborne Havemeyer was the first president and most members of the board of directors were drawn from the Havemeyer family or long-time business associates. It was renamed the American Sugar Refining Company in 1891 and *King's Handbook of New York* called it "without doubt . . . the greatest and most important manufacturing industry in the United States."⁵⁴ Originally consisting of as many as twenty firms, it was a monopoly – similar to that of the Standard Oil Company or the American Tobacco Company – that sought to control labor costs and sugar prices, as well as to influence government policy. Efficiency was critical to the new organization and following a six-month assessment only the five most productive refineries, including the recently-constructed Williamsburg plant, were allowed to operate.⁵⁵ This strategy proved to be a great success, and within two decades the company controlled 98 per cent of the refined sugar produced in the United States. Though claims were made that such techniques substantially lowered consumer prices, the trust immediately began to attract the attention of state and federal investigators. Antitrust legislation, followed by litigation and related scandals, would damage American Sugar's reputation, and ultimately, its market share.

The "Domino" brand name was introduced in 1901. Though Havemeyers & Elder continued to manufacture their popular "H & E – Eagle" brand for many years, Domino became the company's best-known product and by 1974 all other labels had been retired. The Williamsburg refinery complex was modified continuously throughout the twentieth century, including, under chair Earl D. Babst, a major reconstruction program in 1926-27. Costing \$3 million, these improvements had relatively little impact on the exterior of the Filter, Pan & Finishing House. Increased productivity was the primary goal and according to the *Brooklyn Eagle*, the older manufacturing buildings were remodeled and "reequipped."⁵⁶

After the Second World War, the sugar business experienced considerable change, impacting both the American Sugar Refining Company and its Williamsburg branch. Paper cartons were introduced in 1915 and the shipping of sugar in wood barrels ceased in 1946, causing the closure of the cooperage. The research and development division moved to Philadelphia in 1958, but the company remained committed to operating in Brooklyn, and several new structures, costing \$16 million, were erected during the early 1960s. American Sugar changed its name to the Amstar Sugar Corporation in 1970 and a year later moved the New York City office from 120 Wall Street, where it had been since 1930, to 1251 Sixth Avenue in Rockefeller Center.⁵⁷ Tate & Lyle acquired the American Sugar Division of Amstar, consisting of the Williamsburg, Baltimore and Chalmette refineries, as well as other facilities, in 1988. It was renamed the Domino Sugar Corporation in 1991. Florida Crystals Corp., headed by Alfonso and J. Pepe Fanjul, purchased the company in 2001. The Williamsburg refinery closed in 2004 and the property was acquired by C. P. C. Resources, the development arm of the Community Preservation Corporation.⁵⁸

Description

The former Havemeyers & Elder Filter, Pan & Finishing House is located in Williamsburg, Brooklyn, on a block bounded by the East River, Kent Avenue, South 2nd Street and South 3rd Street. Each is a separate building connected by common party walls. The facades are built of reddish brick, patched with both historic and non-historic brick. Most of the windows are crowned by projecting brick segmental arches and some are trimmed with bluestone. The wood-framed windows, mostly painted blue or green, are historic, while the brown and silver aluminum windows are non-historic. At each corner, the brickwork is arranged to create tower-like forms. Each corner bay frames a pair of windows. Immediately below the top floor, the windows are rectangular. Here, the brickwork becomes more dense and lively, with keystones, multiple belt courses, and crenellated forms.

The west elevation of the Filter House faces Manhattan. The base is partially obscured by the former Boiler House (not part of the designation). A large chimney projects from the center of the façade. The upper oval section, above the roof, is not original but historic, probably dating from before the 1930s. The base of the

chimney is rectangular and embellished with decorative brickwork on all sides. A rusting metal sign, set below a wide brick arch near the eleventh story, displays the name: "HAVEMEYERS & ELDER." The letters have been almost entirely lost, but screws or pegs that once held them remain. To the north, from South 2nd Street to the chimney, four bays are visible, divided by projecting brick piers into groups of 2/3/2 window openings. The northernmost bay is crowned by a windowless red brick box, possibly a parapet. At the base, the lower three stories are obscured by the former Power House (not part of this designation). To the south, from the chimney to South 3rd Street, four bays are visible, separated by projecting brick piers into groups of 3/2/3/2 window openings. The base of this section is separated from the former syrup station (not part of this designation) by a passage that leads toward the base of the chimney stack. On the right side (east), the lower floors are visible. The north and south ends of the façade suggest towers, with window openings grouped in pairs.

The Pan House & Finishing House are located on Kent Avenue and face east. This façade is symmetrical and divided into three sections. The north and south sections are divided by projecting piers into three bays, each with a pair of round-arch window openings. The center section has nine round-arched window openings. At the south end (above the Finishing House) are brick bulkheads, as well as an iron frame. A single row of non-historic white metal ventilating units are located on the roof of the Pan House, arranged from north to south. The east façade of the Filter House, visible above the Pan & Finishing House, incorporates non-historic brick and four floors of non-historic fenestration. Some windows, especially at the lowest floor, appear to be sealed. Viewed from the east, the rear of the chimney is visible, as well as brick parapets at the north and south ends.

The north elevation faces South 2nd Street. The nine-story east section is divided by projecting brick piers into three bays. The wide center bay has three windows at each floor. The eleven-story west section is separated by projecting brick piers into three bays. The east bay has a single window opening at each floor. The center and west bays have a pair of window openings. From the base to the roof, the windows diminish in size.

The south elevation, facing South 3rd Street, has been altered with non-historic roll-down gates, metal conveyer tubes connected at 5th and 6th floors, and additions to the base. Above the west tube, at the 7th and 8th floors, the façade has been opened and filled with wood. To the west of these openings, a pair of openings has been sealed with brick. The taller section, to the west, is divided by projecting brick piers into three bays, with, from west to east, 2/2/1 window openings. Like the south bay of the west elevation, it resembles a tower with brick courses dividing it into four vertical sections. From base to roof, the windows diminish in size. A substantial number of windows are historic, though many have been modified or sealed, and one has been enlarged. At the south end of the roof, a large non-historic blue and white metal cylinder is visible.

Report researched and written by
Matthew A. Postal
Research Department

NOTES

¹ James Bradley, "Sugar," *Encyclopedia of New York City*, Kenneth T. Jackson, ed., (Yale University Press, 1995), 1140.

² *Industrial America* (New York: Atlantic Pub. and Engraving Company, 1876), 463.

³ Bradley.

⁴ *Tribeca North Historic District Designation Report* (LP-1714), (City of New York, 1992), prepared by Betsey Bradley, 17.

⁵ *Life, Letters and Addresses of John Craig Havemeyer*, (New York and Chicago: Fleming H. Revell Company, 1914), 98. This was the first of many family biographies that were privately published by members of the Havemeyer family. At the time of his death, William F. Havemeyer lived at 355 West 14th Street.

⁶ "Frederick C. Havemeyer," *New York Times*, (July 29, 1891), 5; "Death of Frederick C. Havemeyer," *Chicago Tribune*, (July 29, 1891), 3.

⁷ John Craig Havemeyer was the eldest son of William F. Havemeyer, Jr.

⁸ "About a Boat," *Brooklyn Eagle*, (October 1, 1858), 2; Carl J. Durham, "A History of Havemeyer to Amstar," unpublished manuscript, c. 1995, 6.

⁹ Various dates are given for his entry into the business, some as early as 1853. "Theodore A. Havemeyer Dead," *Brooklyn Eagle*, (April 26, 1897), 14; "T.A. Havemeyer's Story," *Brooklyn Eagle*, (February 2, 1896).

¹⁰ *Brooklyn Eagle* (February 2, 1896).

¹¹ "The Sugar King," *Brooklyn Eagle*, (May 15, 1885), 6.

¹² "Death of T.A. Havemeyer," *New York Times*, (April 27, 1897), 12.

¹³ "T.A. Havemeyer's Story," *Brooklyn Eagle*, (February 2, 1886), 14.

¹⁴ "H.O. Havemeyer Dead," *New York Tribune*, (December 5, 1907), 7.

¹⁵ Harry W. Havemeyer, *Frederick Christian Havemeyer - A Biography, 1807-91* (New York: privately printed, c. 2003), 94.

¹⁶ Early sugar refineries in Brooklyn included: Berger Hulbert & Livingston, Wallace & Schumacher, the Atlantic Refinery, and the Oxnard Refinery. All were located in the vicinity of Brooklyn Heights. See George L. Barta, "Old Sugar Days," *American Sugar Family*, (April 13, 1920), 2.

¹⁷ *Austin, Nichols & Co. Warehouse Designation Report* (LP-2163) (City of New York, 2005), prepared by Matthew A. Postal. Designation of this property was denied by the City Council.

¹⁸ A detailed history of "Domino: American Sugar Refinery, formerly the Havemeyers & Elder refinery," was last viewed in May 2007 at www.waterfrontalliance.org. The author was not credited.

¹⁹ First Avenue was renamed for Chancellor James Kent in the mid-1880s. Horse cars began to serve this street in 1854. Completed in two segments, the south section, between the city of Brooklyn and Grand Street, opened in 1828 and the north section, between Williamsburg and Flushing Avenues, opened during 1847.

²⁰ An unnumbered caption in *Merchants of Williamsburgh* described the original refinery as located in a building "erected by Frederick C. Havemeyer." See Harry W. Havemeyer, *Merchants of Williamsburgh* (privately printed, 1989). Durham, however, wrote that they "leased a sizable building" and "installed machinery." Durham, 5. For more information, read *Brooklyn Eagle*, "T. A. Havemeyer's Story." The original refinery building was variously known as the "Yellow Sugar House," the "Williamsburgh Husse," and "Father's Block."

²¹ Durham, 5.

²² Havemeyer, *Merchants of Williamsburgh*, 34-35.

²³ "The Havemeyer Fire," *New York Times* (January 10, 1882), 5.

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- ²⁴ *Real Estate Record and Builders Guide*, (November 19, 1881) (plan 971); *The American Architect and Building News* (December 24, 1881), 10, 313.
- ²⁵ “A Great Fire,” *Brooklyn Eagle*, (January 9, 1882), 4.
- ²⁶ *Real Estate Record and Builders Guide*, (March 11, 1882) (plan 153).
- ²⁷ “Colossal: Mr. Theodore A. Havemeyer’s New Sugar Refinery,” *Brooklyn Eagle*, (July 30, 1883), 2.
- ²⁸ Daniel Catlin, Jr. *Good Work Well Done: The Sugar Business Career of Horace Havemeyer, 1903-1956* (New York, privately printed, 1988) 94.
- ²⁹ “A Hed Carrier’s Frightful Fall,” *The Washington Post*, (October 20, 1882), 1.
- ³⁰ “The Sugar King.”
- ³¹ Relatively little has been written about industrial architecture and factory design in New York City. Sources consulted for this section include: “Notable Manufacturers” in *King’s Handbook of New York City* (Boston, 1892); Betsy Hunter Bradley, *The Works: The Industrial Architecture of the United States* (Oxford University Press, 1999); and various reports published by the New York City Landmarks Preservation Commission.
- ³² *King’s Handbook*, 58.
- ³³ “Colossal.”
- ³⁴ “Highest Sugar Refinery in the Country,” *Boston Daily Globe*, (October 24, 1882) 2.
- ³⁵ Russell Sturgis, “The Warehouse and The Factory in Architecture II,” *The Architectural Record*, (February 1904), 129.
- ³⁶ “Colossal.”
- ³⁷ “The Highest in New-York,” *New York Times*, (November 19, 1882), 5. The chimneys of the New York Steam Company were 210 feet high. In comparison, one of New York City’s first skeletal frame skyscrapers, the Tower Building (1889) was 150 feet high.
- ³⁸ Bradley, 52.
- ³⁹ *American Sugar Family* (June 14, 1920). Each barge carried 70 to 1250 tons of coal.
- ⁴⁰ Bradley, 52.
- ⁴¹ There are two particularly useful articles on sugar processing at the Williamsburg plant: “Sugar and Sugar Refining” in *Industrial America* (New York: Atlantic Pub. and Engraving Company, 1876), 460-470, and “Local Manufacturers: The Interesting Process of Sugar Making,” *Brooklyn Eagle* (August 17, 1884), 10.
- ⁴² “Colossal.”
- ⁴³ Two elevators were located in the Filter House and one in the Finishing House. The stairs were located near Kent Avenue in the Pan House.
- ⁴⁴ The vacuum pan was invented by Edward Charles Howard in 1813. By boiling the syrup in a closed vessel or vacuum less fuel was consumed and the sugar became less discolored. Viewed August 22, 2007 at <http://wikipedia.org>. Norbert Rillieux, a black sugar chemist and engineer, patented a triple evaporation pan system in 1843.
- ⁴⁵ Centrifugal filters were invented by Hurd in 1844 to expel water and sugar that could not be crystallized.
- ⁴⁶ “Local Manufacturers,” 10.
- ⁴⁷ *King’s Handbook*, 918.
- ⁴⁸ “Death in the Refineries,” *New York Tribune* (July 22, 1894), quoted in Durham, 24.
- ⁴⁹ Havemeyer, *Merchants*, 39.
- ⁵⁰ Charles M. Skinner, “The Sugar Trust and Its Employees,” *Brooklyn Eagle Library* (May 1900), 48.

⁵¹ Skinner, 50.

⁵² Ibid., 49.

⁵³ *Brooklyn Eagle*, (June 30, 1883); Catlin, 94. According to Horace Havemeyer, the cost of construction “exceeded the early estimates and as a result the entire financial resources of the family were needed.” See *Biographical Record of the Havemeyer Family* (New York, privately printed, 1944), 67.

⁵⁴ *King’s Handbook*, 918.

⁵⁵ Havemeyer, *Merchants*, 47.

⁵⁶ *Brooklyn Eagle*, (January 24, 1926), clipping, Brooklyn Collection, Brooklyn Public Library.

⁵⁷ American Sugar Refining Company is documented as the owner and/or lessee of 120 Wall Street, also known as 60-68 South Street. The architect was Buchman & Kahn.

⁵⁸ Diane Cardwell and Rosalie Radomsky, “Developers Known for Residential Work Buy Domino Sugar Plant on Brooklyn Waterfront.” *New York Times*, (July 1, 2004), last viewed at <http://nytimes.com>. Also see Diane Cardwell, “Familiar Domino Sugar Refinery Will Shut Much of Its Operation,” *New York Times*, August 21, 2003, B1.

FINDINGS AND DESIGNATION

On the basis of a careful consideration of the history, the architecture and other features of this building, the Landmarks Preservation Commission finds that the Havemeyers & Elder Filter, Pan & Finishing House has a special character, special historical and aesthetic interest and value as part of the development, heritage, and cultural characteristics of New York City.

The Commission further finds that among its important qualities, the former Havemeyers & Elder Filter, Pan & Finishing House is an important reminder of the era when sugar production was Brooklyn's most important industry; that these three conjoined brick structures are among the largest and most significant to survive from this period in New York City; that the Filter House, at approximately 155 feet, was once the tallest building on the Brooklyn waterfront; that under Frederick C. Havemeyer the Williamsburg refinery began operating in 1856; that these structure were planned during 1881 and completed, following a disastrous 1882 fire, in 1884; that Theodore A. Havemeyer, son of Frederick, was the building's architect, assisted by Thomas Winslow and J. E. James; that the design of this German Rundbogenstil or round-arch style building was rooted in practical needs and conceived to be as fireproof as possible, incorporating iron columns, beams, and girders, as well as electric lighting; that the top section of the chimney was added during the 1920s; that the capacity of these colossal buildings allowed the Havemeyers to dominate the American market, leading to the formation of the Sugar Refineries Company in 1887 and the American Sugar Refining Company in 1891; that these companies soon became known as the Sugar Trust and were attacked for monopolistic practices, causing damage to its reputation and, ultimately, market share; that the amount of sugar production at this location steadily declined after the Second World War; that the refinery, which was renamed the Domino Sugar Corporation in 1991, ceased operations in 2004 and the site has been acquired by CPC Resources, a residential developer.

Accordingly, pursuant to the provisions of Chapter 74, Section 3020 (formerly Section 534 of Chapter 21) of the Charter of the City of New York and Chapter 3 of Title 25 of the Administrative Code of the City of New York, the Landmarks Preservation Commission designates as a Landmark the former Havemeyers & Elder Filter, Pan & Finishing House at 292-314 Kent Avenue as a Landmark, and designates Borough of Brooklyn Tax Map Block 2414, Lot, 1, in part, consisting of the land beneath the building (including the chimney) as its Landmark site.

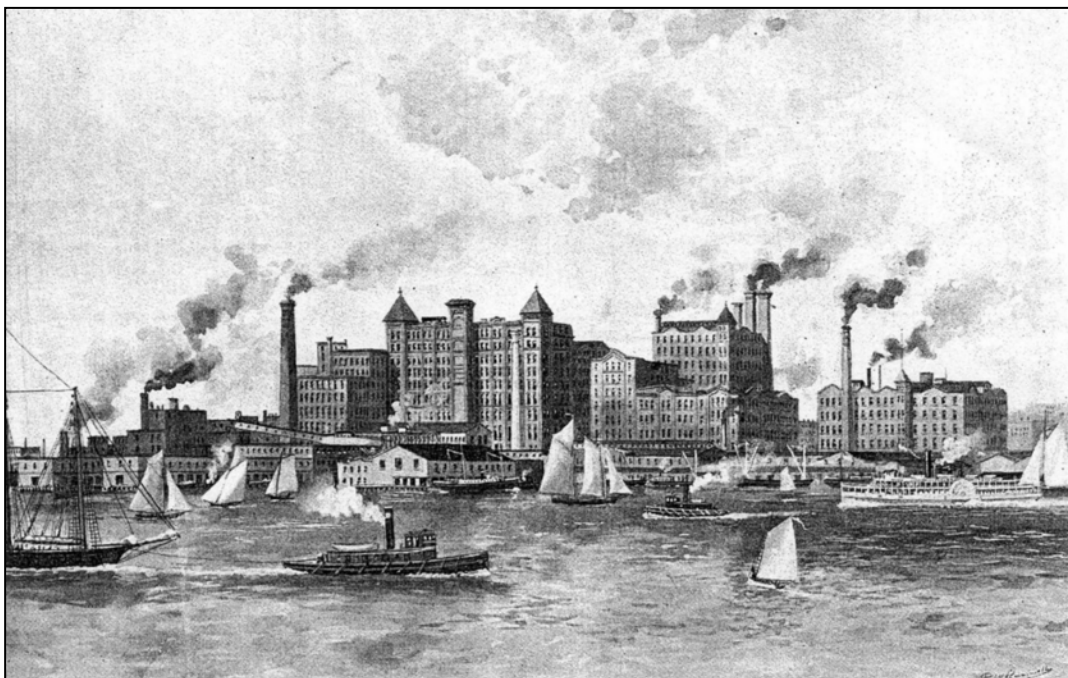
Commissioners:

Robert B. Tierney, Chair;

Pablo Vengoechera, Vice Chair

Diana Chapin, Roberta Brandes Gratz, Christopher Moore,

Margery Perlmutter, Elizabeth Ryan, Roberta Washington



“The American Sugar-Refining Company”
Source: *King’s Handbook of New York*, 1893, 919.



“The Sugar Refineries at Night”
Source: *Harper’s New Monthly Magazine*, April 1893, 665



Havemeyer & Elders Filter, Pan & Finishing House

East and north elevations

Photo: Michael Sharon, c. 2007



West elevation

Photo: Matthew A. Postal



Kent Avenue façade, looking north
Photo: Carl Forster



Upper story window, Kent Avenue
Photo: Carl Forster



Base, Kent Avenue
Photo: Carl Forster



South 2nd Street facade, view from north
Photo: Carl Forster



South 2nd Street and west facade, view from northwest
Photo: Carl Forster



Base of chimney, view from southwest
Photo: Carl Forster



West facade, view from southwest
Photo: Carl Forster



Detail, southwest corner
Photo: Carl Foster



Metal sign, west façade, near roof
Photo: Carl Forster



South 3rd Street facade
Photo: Carl Forster



South 3rd Street facade, upper stories
Photo: Carl Foster



West facade, upper stories
Photo: Carl Forster



FORMER HAVEMEYERS & ELDER FILTER, PAN AND FINISHING HOUSE, LATER KNOWN AS THE AMERICAN SUGAR REFINING COMPANY AND THE DOMINO SUGAR CORPORATION (LP-2268), 292-314 Kent Avenue.
 Landmark Site: Borough of Brooklyn Tax Map Block 2414, Lot 1, in part,
 consisting of the land beneath the building (including the chimney).

Designated: September 25, 2007