ADDRESS: 1108-10 SHACKAMAXON ST AND 121-31 E WILDEY ST
Name of Resource: 1108-10 Shackamaxon St - Hindley Gear Company Machine Shop and Storehouse; 121-31 E Wildey St - Morse Elevator Works Blacksmith and Car Shops
Proposed Action: Designation
Property Owner: 1115-27 Frankford Dris LP
Nominator: Kevin McMahon, Powers & Company, Inc.
Staff Contact: Alex Till, alexander.till@phila.gov

OVERVIEW: This nomination proposes to designate two properties with a shared history located at 1108-10 Shackamaxon Street and 121-31 E. Wildey Street and list them on the Philadelphia Register of Historic Places. Both parcels contain buildings that were part of a larger manufacturing complex first established by Morse, Williams & Company at Frankford Avenue and E. Wildey Streets in 1885. The parcel at 1108-10 Shackamaxon Street includes two buildings, a one-story brick machine shop and a two-story brick rowhouse. The machine shop was built by the company around 1918 and the c. 1860 rowhouse was acquired by the same company in 1906 and converted to use as a storehouse. The parcel at 121-31 E. Wildey Street also includes two buildings, a two-story, reinforced concrete and brick manufacturing building designed and constructed for the company in 1906 as a blacksmith shop, and a one-story car shop that is entirely surrounded by other buildings at the manufacturing complex with no exterior walls. The nomination contends that both properties satisfy Criteria for Designation A and J.

Morse, Willams & Company, which was folded into the Otis Elevator Company after an acquisition in 1898, were among the largest and most prominent elevator firms in the United States in the late nineteenth and early twentieth centuries. The companies made numerous major contributions to early elevator and gear technology and the two properties by association have significant character, interest and value as part of the development and heritage of the City, Commonwealth or Nation, satisfying Criterion A. As part of the longstanding manufacturing complex established by Morse, Williams & Company, the properties also exemplify the cultural, political, economic, social or historical heritage of the community, satisfying Criterion J.

STAFF RECOMMENDATION: The staff recommends that the properties at 1108-10 Shackamaxon Street and 121-31 E. Wildey Street satisfy Criteria for Designation A and J.

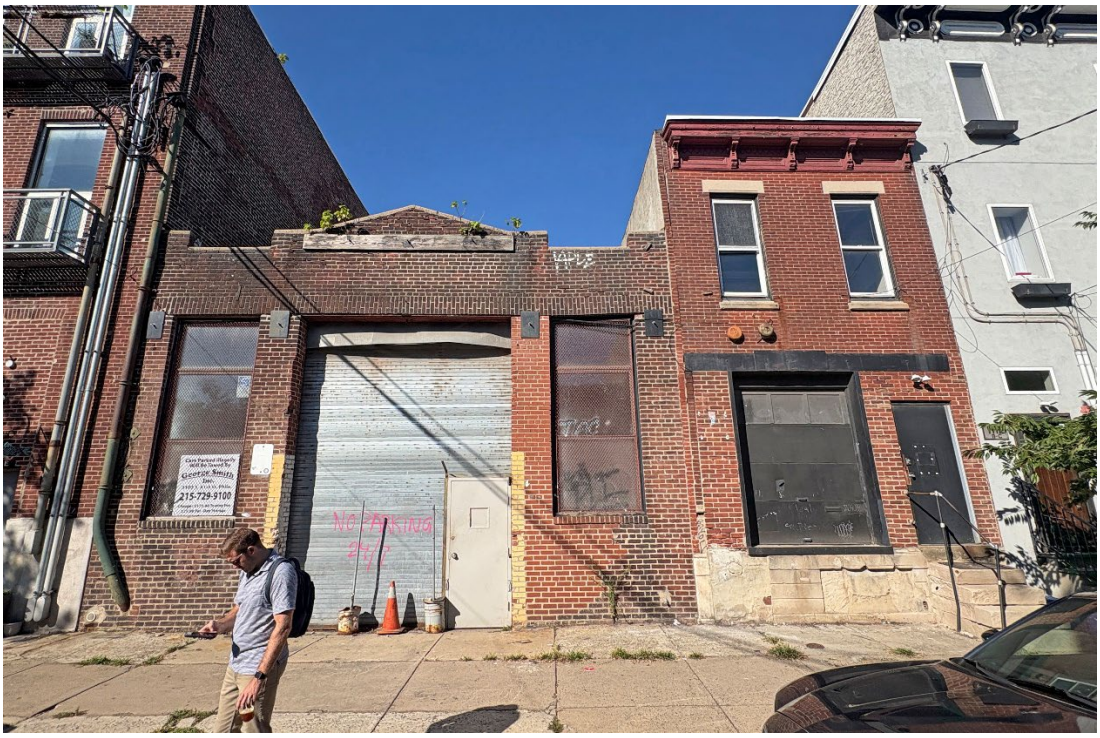


Figure 1: Photograph of the front facades of 1108-10 Shackamaxon Street from the nomination.



Figure 2: Photograph of the front facade of 121-31 E. Wildey Street from the nomination.

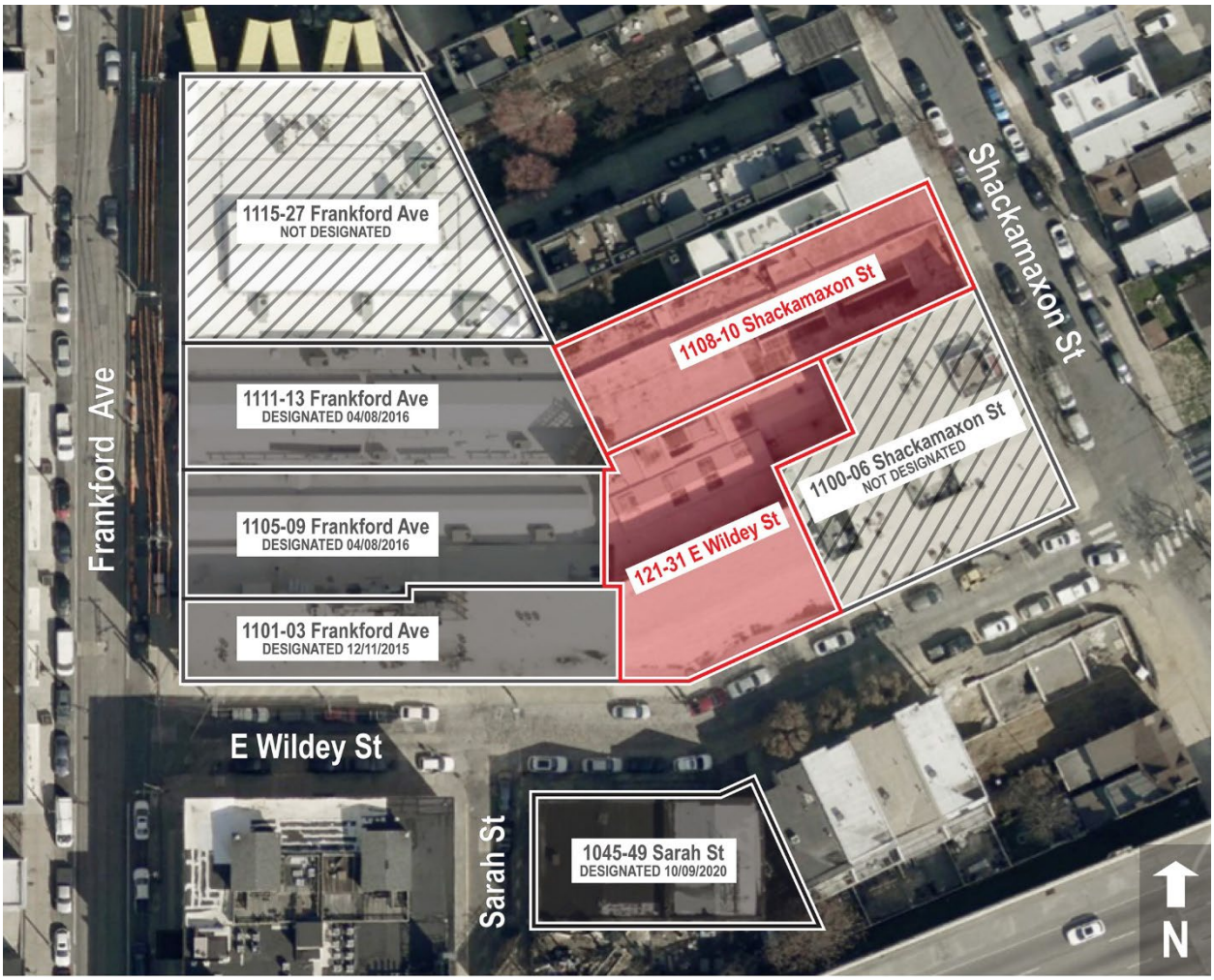


Figure 3: The subject properties are located within a larger manufacturing complex near Frankford Avenue, E. Wildey Street, and Shackamaxon Street. The two subject properties are highlighted in red.

NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT
PHILADELPHIA REGISTER OF HISTORIC PLACES
PHILADELPHIA HISTORICAL COMMISSION

SUBMIT ALL ATTACHED MATERIALS ON PAPER AND IN ELECTRONIC FORM (CD, EMAIL, FLASH DRIVE)
ELECTRONIC FILES MUST BE WORD OR WORD COMPATIBLE

1. ADDRESS OF HISTORIC RESOURCE *(must comply with an Office of Property Assessment address)*

Street address: 1108-10 Shackamaxon Street

Postal code: 19125

2. NAME OF HISTORIC RESOURCE

Historic Name: Hindley Gear Company Machine Shop and Storehouse

Current/Common Name:

3. TYPE OF HISTORIC RESOURCE

☑ Building ☐ Structure ☐ Site ☐ Object

4. PROPERTY INFORMATION

Condition: ☐ excellent ☐ good ☑ fair ☐ poor ☐ ruins

Occupancy: ☐ occupied ☐ vacant ☐ under construction ☐ unknown

Current use: Vacant

5. BOUNDARY DESCRIPTION

Please attach a narrative description and site/plot plan of the resource's boundaries.

6. DESCRIPTION

Please attach a narrative description and photographs of the resource's physical appearance, site, setting, and surroundings.

7. SIGNIFICANCE

Please attach a narrative Statement of Significance citing the Criteria for Designation the resource satisfies.

Period of Significance (from year to year): from 1895 to 1927

Date(s) of construction and/or alteration: c. 1860, 1906, 1918

Architect, engineer, and/or designer: N/A

Builder, contractor, and/or artisan: N/A

Original owner: Hindley Gear Company (subsidiary of Otis Elevator Company)

Other significant persons: N/A

CRITERIA FOR DESIGNATION:

The historic resource satisfies the following criteria for designation (check all that apply):

- [x] (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or,
- [ ] (b) Is associated with an event of importance to the history of the City, Commonwealth or Nation; or,
- [ ] (c) Reflects the environment in an era characterized by a distinctive architectural style; or,
- [ ] (d) Embodies distinguishing characteristics of an architectural style or engineering specimen; or,
- [ ] (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or,
- [ ] (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or,
- [ ] (g) Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or,
- [ ] (h) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; or,
- [ ] (i) Has yielded, or may be likely to yield, information important in pre-history or history; or
- [x] (j) Exemplifies the cultural, political, economic, social or historical heritage of the community.

8. MAJOR BIBLIOGRAPHICAL REFERENCES

Please attach a bibliography.

9. NOMINATOR

Organization: Powers & Company, Inc. Date: 9/22/26

Name with Title: Kevin McMahon, Senior Associate Email: kevin@powersco.net

Street Address: 1315 Walnut Street, Suite 1717 Telephone: 215-636-0192

City, State, and Postal Code: Philadelphia, PA 19107

Nominator ☐ is ☑ is not the property owner.

PHC USE ONLY

Date of Receipt: 9/23/2026

☑ Correct-Complete ☐ Incorrect-Incomplete Date: 9/30/2026

Date of Notice Issuance: 10/16/2026

Property Owner at Time of Notice:

Name: 1115-27 FRANKFORD DRIS LP

Address: 1824 Spruce St, Ste 100

City: Philadelphia State: PA Postal Code: 19103

Date(s) Reviewed by the Committee on Historic Designation:

Date(s) Reviewed by the Historical Commission:

Date of Final Action:

☐ Designated ☐ Rejected

NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT
PHILADELPHIA REGISTER OF HISTORIC PLACES
PHILADELPHIA HISTORICAL COMMISSION

SUBMIT ALL ATTACHED MATERIALS ON PAPER AND IN ELECTRONIC FORM (CD, EMAIL, FLASH DRIVE)
ELECTRONIC FILES MUST BE WORD OR WORD COMPATIBLE

1. ADDRESS OF HISTORIC RESOURCE *(must comply with an Office of Property Assessment address)*

Street address: 121-31 E. Wildey Street

Postal code: 19125

2. NAME OF HISTORIC RESOURCE

Historic Name: Morse Elevator Works Blacksmith and Car Shops

Current/Common Name:

3. TYPE OF HISTORIC RESOURCE

☑ Building ☐ Structure ☐ Site ☐ Object

4. PROPERTY INFORMATION

Condition: ☐ excellent ☐ good ☑ fair ☐ poor ☐ ruins

Occupancy: ☐ occupied ☐ vacant ☐ under construction ☐ unknown

Current use: Vacant

5. BOUNDARY DESCRIPTION

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6. DESCRIPTION

Please attach a narrative description and photographs of the resource's physical appearance, site, setting, and surroundings.

7. SIGNIFICANCE

Please attach a narrative Statement of Significance citing the Criteria for Designation the resource satisfies.

Period of Significance (from year to year): from 1895 to 1927

Date(s) of construction and/or alteration: 1895; 1916

Architect, engineer, and/or designer: Ballinger & Perrot

Builder, contractor, and/or artisan: Appleton & Burrell

Original owner: Morse, Williams & Company

Other significant persons: N/A

CRITERIA FOR DESIGNATION:

The historic resource satisfies the following criteria for designation (check all that apply):

- [x] (a) Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; or,
- [ ] (b) Is associated with an event of importance to the history of the City, Commonwealth or Nation; or,
- [ ] (c) Reflects the environment in an era characterized by a distinctive architectural style; or,
- [ ] (d) Embodies distinguishing characteristics of an architectural style or engineering specimen; or,
- [ ] (e) Is the work of a designer, architect, landscape architect or designer, or engineer whose work has significantly influenced the historical, architectural, economic, social, or cultural development of the City, Commonwealth or Nation; or,
- [ ] (f) Contains elements of design, detail, materials or craftsmanship which represent a significant innovation; or,
- [ ] (g) Is part of or related to a square, park or other distinctive area which should be preserved according to an historic, cultural or architectural motif; or,
- [ ] (h) Owing to its unique location or singular physical characteristic, represents an established and familiar visual feature of the neighborhood, community or City; or,
- [ ] (i) Has yielded, or may be likely to yield, information important in pre-history or history; or
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Address: 1824 Spruce St, Ste 100

City: Philadelphia State: PA Postal Code: 19103

Date(s) Reviewed by the Committee on Historic Designation:

Date(s) Reviewed by the Historical Commission:

Date of Final Action:

☐ Designated ☐ Rejected

5. Boundary Description

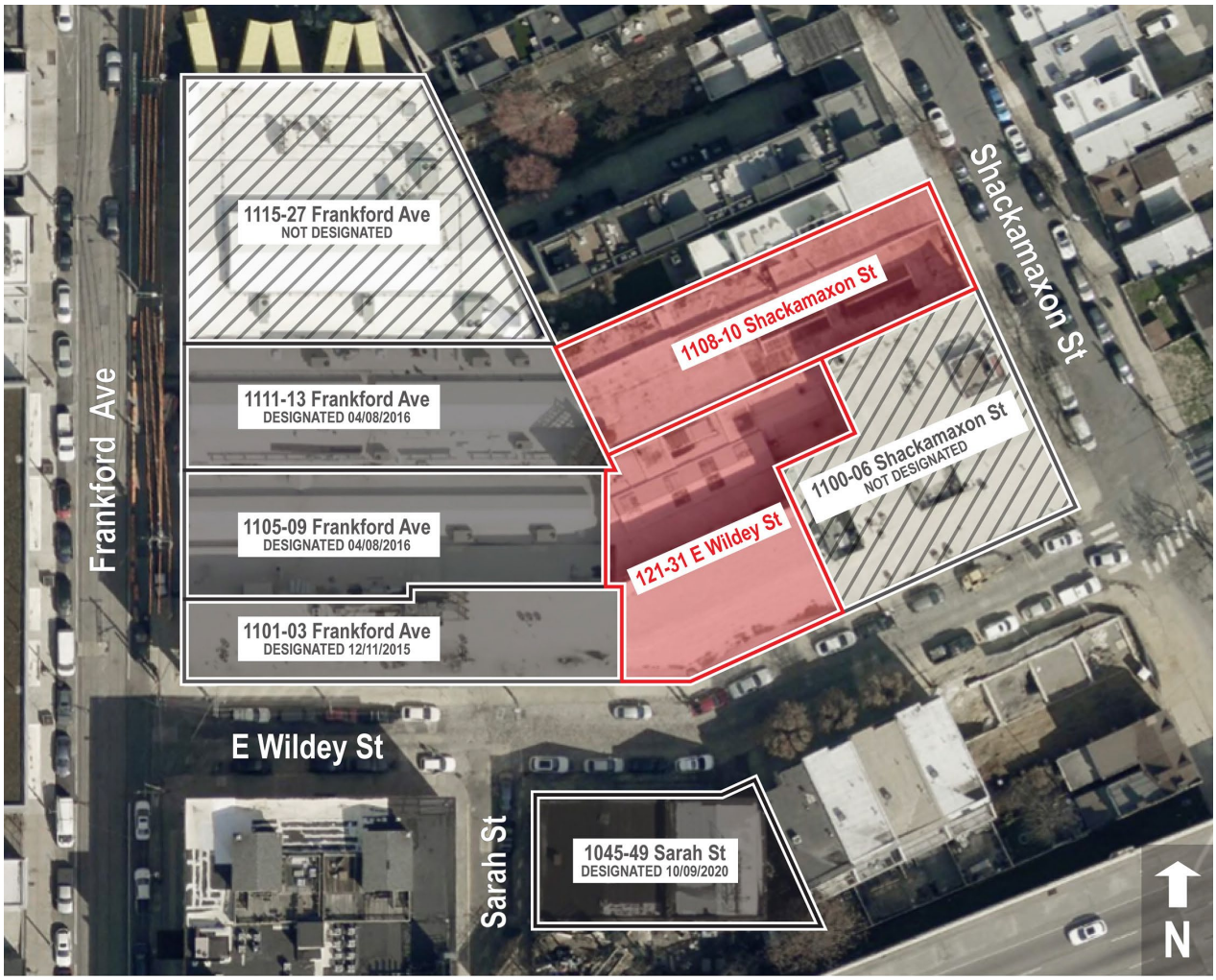
121-31 E. Wildey Street OPA #884342855

BEGINNING at a point in the Northwesterly side of Wildey Street (Fifty feet wide) at the distance of Ninety-eight feet, one inch West of the Southwesterly side of Shackamaxon Street (Sixty feet wide); thence extending along the said Northwesterly side of Wildey Street in a Southwesterly direction South sixty-seven degrees, thirty-three minutes, three seconds West Sixty-three feet, seven and seven-eighths inches to a point; thence still along the Northerly side of Wildey Street North eighty-eight degrees, twenty-two minutes, fifty-seven seconds West Twenty-six feet, eleven and one-half inches to a point; thence extending in a Northerly direction at right angles to said Wildey Street through the center line of a thirteen inch brick wall Thirty-five feet, three inches to a point; thence extending in a Westerly direction through the center line of a thirteen inch brick wall Four feet, eleven inches to a point; thence extending in a Northerly direction again at right angles to said Wildey Street through the center of a thirteen inch brick wall Four feet, two inches to a point; thence extending in an Easterly direction through the center of an eighteen inch brick wall one foot, eleven and one-quarter inches to a point; thence extending along a line in a Northwesterly direction through the center of an eighteen inch brick wall four feet, nine and three-eighths inches to a point; thence extending in a Northeasterly direction through the center of an eighteen inch brick wall at right angles to Shackamaxon Street ninety-one feet, eight and one-eighths inches to a point; thence extending in a Southeasterly direction through the center of an eighteen inch brick wall along a line at right angles to Wildey Street Thirty feet, five inches to a point; thence extending in a Southwesterly direction through the center of a twenty-two inch brick wall along a line parallel with Wildey Street Thirty-three feet, one inch to a point; thence extending in a Southeasterly direction through the center of an eighteen inch brick wall; and thence a twenty-four inch brick wall along a line extending at right angles to Wildey Street Fifty-nine feet, one inch to the first mentioned point and place of beginning.

1108-10 Shackamaxon Street OPA #884342755

BEGINNING at a point on the Southwest side of Shackamaxon Street Eighty-nine feet, six inches Northwestward from the Northwest side of Wildey Street; thence extending Southwestward on a line at right angles to the said Shackamaxon Street and passing through the middle of an eighteen inch brick wall one hundred and Fifty-six feet, eight and one-eighth inches to a point; thence extending North twenty-two degrees, seventeen minutes, fifty-seven seconds West passing through a certain eighteen inch brick wall Forty-five feet, six inches to a point; thence extending Northeastward on a line at right angles to the said Shackamaxon Street and passing through a certain thirteen inch brick wall one hundred and Fifty-six feet, six and three-quarters inches to a point on the said Southwest side of Shackamaxon Street; thence extending South twenty-two degrees, twenty-six minutes, fifty-seven seconds East along the said Southwest side of Shackamaxon Street Forty-five feet, six inches to the first mentioned point and place of beginning.

Please refer to the boundary map on following page.



Boundary Map Historically, the buildings at 121-31 East Wildey Street and 1108-10 Shackamaxon Street were part of the larger Morse Elevator Works complex of Morse, Williams & Company (later acquired by the Otis Elevator Company). As seen here, several of the other properties have already been designated. The entire Morse Elevator Works site was listed in the National Register of Historic Places in 2026 (NRHP Ref. #100012554).

6. Description

The two parcels each contain two buildings as illustrated in the map below: 121-31 E. Wildey Street contains the historic Morse Elevator Works Blacksmith and Car Shops, and 1108-10 Shackamaxon Street contains the historic Hindley Gear Company Machine Shop and Storehouse (see Figure 1).



Figure 1: Site plan for 121-31 E. Wildey Street and 1108-10 Shackamaxon Street.

<u>121-31 E. Wildey Street</u> – Morse Elevator Works Blacksmith and Car Shops

The Morse Elevator Works Blacksmith Shop is a two-story, reinforced concrete and brick manufacturing building, which stands on the north side of East Wildey Street between Frankford Avenue and Shackamaxon Street. Built in 1906, the Blacksmith Shop was designed by Ballinger & Perrot for Morse, Williams & Company, which by then was operating as a relatively independent division of the Otis Elevator Company. The Blacksmith Shop replaced a small group of earlier, one-story manufacturing buildings and structures, which dated from the mid- to late-nineteenth century. The south elevation follows the line of Wildey Street. The two westernmost bays are flush with the south elevation of the adjacent building at 1101-03 Frankford Avenue, and the remaining six bays are angled toward the northeast. At the first story, the brickwork is partially painted. The first (or westernmost) and sixth bays contain roll-down metal garage doors, which are late-twentieth century replacements. The other bays contain tall, rectangular window openings, which are largely infilled with concrete blocks, which surround small, single-light vinyl windows. Two of these openings – in the second and seventh bays, also contain painted hollow metal doors. At the second story, all bays except the sixth bay contain tall window openings with segmental arched heads and are largely infilled with concrete blocks. As on the first story, the concrete blocks surround small, non-historic windows in some of the openings. In the sixth bay on the second story, directly above the first-story garage door, is a larger rectangular opening, which is infilled with concrete block but has a stone lintel rather than segmental arched head. The top of the south elevation features subtle brick corbelling but does not have a cornice.



Figure 2: South elevation of the Blacksmith Shop at 121-31 E. Wildey Street, looking north.

On the north elevation, the first story of the Blacksmith Shop abuts an earlier one-story building known as the Car Shop, which is described below. At the second story, the north elevation has an exposed concrete frame with six irregularly sized openings. The easternmost opening is entirely infilled with brick. The other five openings have large window openings with segmental arched heads. The openings, which are infilled with concrete blocks, are framed by brickwork along the sides and tops.



Figure 3: North elevation of the Blacksmith Shop at 121-31 E. Wildey Street, looking south. In the foreground is the roof of the one-story Car Shop.

The one-story Car Shop was built by Morse, Williams & Company in 1895 on the east elevation of the earlier (and extant) Machine Shop at 1105-09 Frankford Avenue. Because the building is entirely surrounded by other Morse Elevator Works buildings, it has no exterior walls. The Car Shop has a very shallow gabled roof, which has two raised monitors and several skylights. A modern synthetic membrane covers the entirety of the roof, including the monitor and skylights.



Figure 4: Roof of the one-story Car Shop at 121-31 E. Wildey Street, looking northeast.

1108-10 Shackamaxon Street – Hindley Gear Company Machine Shop and Storehouse

The current parcel known as 1108-10 Shackamaxon Street contains two buildings: 1) at the historic address of 1108 Shackamaxon, a one-story brick machine shop built by the Otis Elevator Company, successor to Morse, Williams & Company, for a closely related subsidiary, the Hindley Gear Company, around 1918, and 2) at the historic address of 1110 Shackamaxon Street, a two-story, circa 1860 brick rowhouse, which Otis acquired in 1906 and modified for use as a storehouse (on the first floor) and offices (on the second floor).



Figure 5: East elevations of the Hindley Gear Company Machine Shop (left) and Storehouse (right) at 1108-10 Shackamaxon Street.

The east elevation of the Machine Shop is three bays-wide. In the large center bay, there is a roll-down metal garage door, which appears to be a late-twentieth century replacement. In the narrower bays on either side, there are one-over-one, double-hung aluminum replacement windows with single-light transoms, which were installed within the last twenty years. Along the top of the east elevation is a brick parapet, which is pedimented in the center and has concrete coping. The Machine Shop abuts buildings on all other sides. The eastern half of the roof has two rectangular, gabled-roof skylights with replacement polycarbonate glazing. The remainder of the roof is flat.



Figure 6: Roof of the Blacksmith Shop at 1108-10 Shackamaxon Street, looking southeast.

On the east elevation of the two bay-wide Storehouse, the first story has a loading dock with a large, circa 1920, roll-down wood garage door, which sits stop the building's original, circa 1860 marble water table. To the north of the garage door is a painted hollow metal door, which was installed within the last twenty years, but sits at the top of the building's original, circa 1960 marble stoop. Along the top of the garage door and extending across nearly the full width of the east elevation is a painted steel lintel, which was presumably installed when the first story was altered for use as a loading dock. At the second story, there are two one-over-one, double-hung vinyl replacement windows, which were installed within the last twenty to thirty years. These openings have their original, circa 1860 marble sills and lintels. Along the top of the east elevation is an original painted wood cornice with brackets.

7. Significance

The Morse Elevator Works Car and Blacksmith Shops at 121-31 East Wildey Street and the Hindley Gear Company Machine Shop and Storehouse at 1106-08 Shackamaxon Street are four buildings within the historic (and largely intact) manufacturing complex first established by Morse, Williams & Company at Frankford Avenue and East Wildey Streets in 1885. During the late nineteenth century, Morse, Williams was among the largest and most prominent elevator firms in the United States. The company made numerous major contributions to early elevator technology and by 1905 had built upwards of 17,000 elevators for use in buildings of virtually every description across the United States and in many countries around the world. Reflecting Morse, Williams' significance as one of the country's preeminent elevator manufacturers, several buildings within the Morse Elevator Works complex have already been individually designated, including 1101-03 Frankford Avenue (12/11/2015), 1105-09 Frankford Avenue (4/6/2016), 1111-13 Frankford Avenue (4/8/2016), and 1045-49 Sarah Street (10/9/2020). With this nomination, four additional buildings representing the growth and evolution of the Morse Elevator Works during the early twentieth century will be designated. As discussed below, these four buildings merit listing on the Philadelphia Register of Historic Places by satisfying the following criteria as established in the Philadelphia Historic Preservation Ordinance §14-1004 (1):

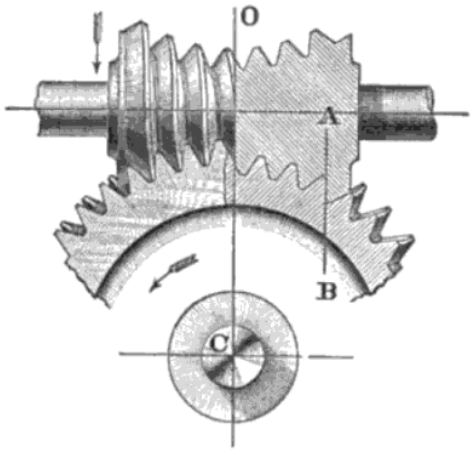
> CRITERION A
> Has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, Commonwealth or Nation or is associated with the life of a person significant in the past; and
>
> CRITERION J
> Exemplifies the cultural, political, economic, social or historical heritage of the community.

Early History of Morse, Williams & Company

The history of Morse, Williams & Company begins with Clem & Morse, a partnership formed by the machinist David B. Clem (c. 1841-1914) and inventor Stephen Ambrose Morse (c. 1826-1898) in Philadelphia around 1877. In their workshop at 413 Cherry Street in Old City, Clem & Morse began manufacturing steam and hand-powered freight elevators and lifts to manufacturers in Philadelphia and as far away as Williamsport, Pennsylvania that year.

When Clem & Morse began operations in the late 1870s, the company was the only elevator manufacturer in Pennsylvania and one of only a few in the United States. Steam- and hand-powered hoists and lifts had been used in mining and manufacturing since the mid-nineteenth century. The passenger elevator, which was introduced by Elisha Otis in 1853, was installed in several buildings in New York City just a few years later, and the Otis company quickly became the largest manufacturer of its kind in the country. Despite these early developments, the elevator industry was still in its infancy in the 1870s. But as industrialization in the United States intensified after the Civil War, and as buildings became larger and taller thanks to steel frame construction, the demand for elevators grew rapidly. Clem & Morse, as one of the pioneer elevator manufacturers, were well positioned to make an impact in this field. The firm's introduction of the pneumatic safety break, an improved version of the device first tested by Otis

in 1853, was one of their key selling points, as was their employment of the Hindley worm gear. First manufactured in the United States by Morse himself, this innovative type of gear was concave in shape, making it much stronger and more reliable than standard elevator gears (Figure 7). Other features of the Clem & Morse elevator were automatic hatch doors, which opened and closed simply by the action of the elevator passing over levers on each side of the shaft (Figure 8). A significant advancement in elevator design, automatic hatch doors, which made elevators safer and prevented elevator shafts from becoming chimney flues during a fire, soon became standard across the industry.



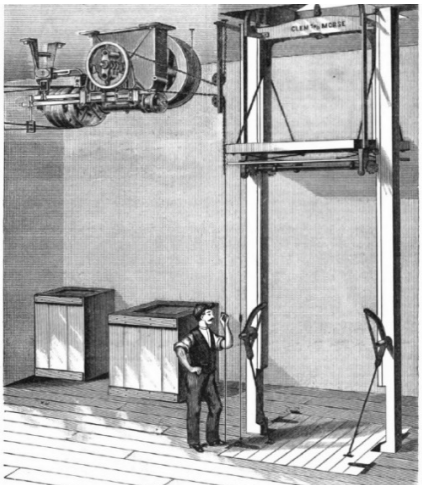


Figure 7 (left): Illustration of the Hindley Screw, which Morse, Williams & Company were the first to implement in elevator machinery. The company held the exclusive right to this innovative type of gearing for many years, making their elevators some of the most efficient on the market.
Figure 8 (right): Illustrative view of a Clem & Morse elevator with automatic hatch doors.

By the end of 1880, Clem & Morse was selling freight and passenger elevators to customers throughout the country, with one Philadelphia newspaper reporting that the firm was then "engaged on elevators for Texas, Maine and Canada, and are also actively at work upon what will be the second largest elevator in the United States," the latter to be installed in the massive sugar refinery of Harrison & Havemeyer in New York (this claim has not been verified).[1] And in one 1881 advertisement, Clem & Morse listed no fewer than 75 customers, some in places as far afield as Richmond, Virginia; New Orleans; and Galveston, Texas.[2] Reflecting Clem & Morse's national customer base, the company engaged sales agents in cities across the United States. By 1883, the firm had representatives in Memphis, Kansas City, New Orleans, and Salt Lake City, among other locales, and had opened their own branch office in New York City.

After Clem left the company around 1882, Morse was joined by two new partners, including his own son, Edwin F. Morse, and a Camden, New Jersey-based manufacturer, Carlton M. Williams.[3]

[1] "Current Trade Notes," *North American* (Philadelphia), October 16, 1880.
[2] Clem & Morse advertisement, *American Manufacturer and Iron World* (January 7, 1881): 16.
[3] Edwin F. Morse and Carlton M. Williams first appear as partners in Clem & Morse advertisements in 1882, but no information relating to the departure of Clem from the company has been uncovered to date.

The partnership continued to be known as Clem & Morse until 1885 when it was renamed Morse, Williams & Company.[4]

The Morse Elevator Works on Frankford Avenue: 1885-1910

Without the space required to satisfy a growing number of orders, Clem & Morse (soon to be Morse, Williams & Co.) in November 1884 acquired a large former hosiery mill at 1101-03 Frankford Avenue (the northeast corner of Frankford Avenue and East Wildey Street) in the Fishtown section of the city.[5] Built by the hosiery firm of Martin Landenberger & Company in 1851 and enlarged in 1856, the four-story building measured roughly 35' by 150', representing a significance expansion for the elevator manufacturer (Figure 9). By 1885, what had become known as Morse, Williams & Company had moved into the building.

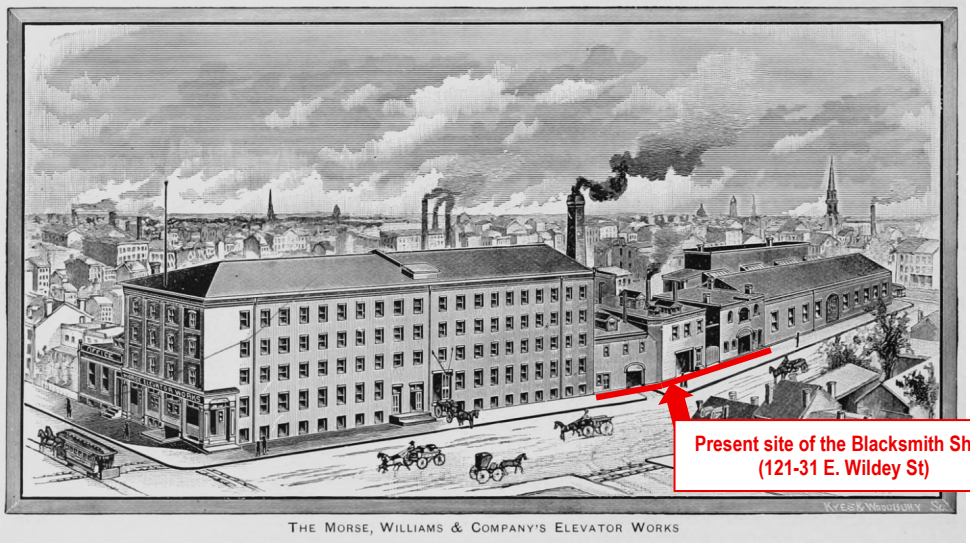


Figure 9: Engraved view of the Morse Elevator Works around 1890, looking northeast from Frankford Avenue and East Wildey Streets. Shown here are several small, two-story buildings that were demolished and replaced by the present Blacksmith Shop at 121-31 E. Wildey Street in 1906.

In their new plant on Frankford Avenue, Morse, Williams & Company continued to make advancements in elevator technology. Like many of their competitors, the company made hydraulic elevators a particular focus during the 1880s. First introduced around 1868, hydraulic elevators were powered by a piston inside a cylinder, which relied on pressure from water or oil to raise or lower the elevator car. Unlike steam-powered elevators, which were slow, could only be used in buildings of very limited height, and required a boiler tended by live person, hydraulic elevators were relatively fast, were suitable for use in buildings as high as twenty stories, and could be connected to a municipal high pressure water system without the need for constant supervision. While steam- and even hand-powered elevators remained popular in industrial settings, hydraulic elevators quickly became standard for passenger use, primarily because they allowed a frequency of operation that modern high-rise office buildings demanded. As elevator

[4] "Firm Name Changed," *Courier-Post* (Camden, NJ), January 24, 1885.

[5] Deed: Henry Berger, dyer, and Pauline, his wife, and William Berger, dyer, and Emma, his wife, to Stephen A. Morse, Charlton M. Williams, and Edwin T. Morse, trading as Clem and Morris, elevator builders, 26 November 1884, Philadelphia Deed Book J.O'D., No. 234, p. 281.

historian Lee E. Gray writes, "Hydraulic power paved the way for the elevator systems that made skyscrapers of the 1880s and 1890s possible."[6]

During the 1880s and early 1890s, after the company moved to Frankford Avenue, Morse manufactured and installed elevators for use in factories, stores, hotels, courthouses, train stations, and various other building types throughout the country. According to one report, by 1892 the company had produced over 8,000 elevators in all forty-five states since its inception about fifteen years prior.[7] Included in this impressive portfolio were hydraulic elevators in many of Philadelphia's most prominent commercial buildings of the era, including the six-story Philadelphia Record Building (1880), the nine-story Hotel Hanover (1893), the eight-story Philadelphia Inquirer Building (1894), and the twelve-story Fidelity Mutual Life Association Building (1896). Outside of Philadelphia, Morse, Williams reinforced its national reach by opening additional branch offices in Boston, Chicago, Washington, D.C., New Haven, CT, and Scranton, PA, and expanded their network of sales agents in other cities.

Beyond the implementation of hydraulic mechanisms to their elevators during the 1880s, Morse, Williams & Company made significant contributions to the development of electric elevator technology while in their Frankford Avenue plant. The company was a pioneer in this area, building what were among the very first commercially successful electric elevators in the United States. Isolated experiments in attaching electric motors to elevator machinery took place as early as 1883, but it was not until the latter part of the decade that the electric elevator industry took off. As early as 1886, Otis began to explore electricity as a power source for elevators. In 1887, Morse, Williams & Company partnered with Frank J. Sprague (1857-1934), the inventor who was pivotal in the development of the electric motor, to make the first known public demonstration of an electrically powered elevator, at the American Institute Fair in New York City (Figure 10).[8]

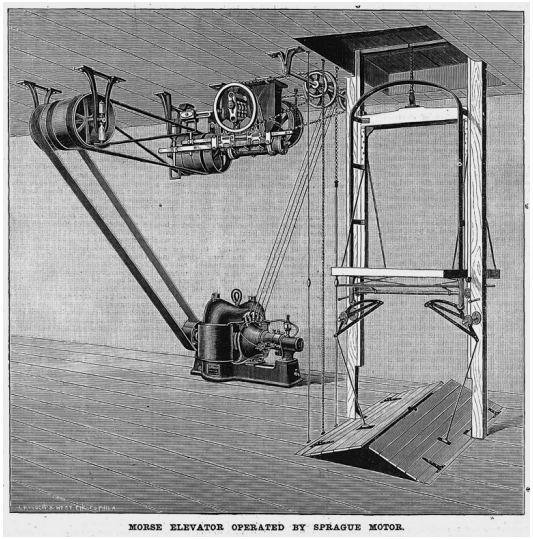


Figure 10: Illustration of a Morse elevator equipped with the Sprague electric motor.

[6] Lee E. Gray, *From Ascending Rooms to Express Elevators: A History of the Passenger Elevator in the 19th Century* (Mobile, AL: Elevator World, 2002), 85.
[7] "Christened a Horse," *Times Leader* (Wilkes-Barre, PA), April 7, 1892.
[8] "The American Institute Fair," *The Manufacturer and Builder* (November 1887): 258.

Morse, Williams and their competitors invested significantly in research and development in this area. Between 1887 and 1893, over two dozen patents were issued for various forms of electric elevators, several of which Morse was either directly involved in or had acquired. The company's work culminated in a major exhibit at the World's Columbian Exposition in Chicago in 1893. There, Morse, Williams installed a working elevator that provided free transportation to the upper gallery of the fair's Transportation Building (Figure 11). Although Otis and a few other manufacturers had similar exhibits, it was Morse, Williams who won the prize medal in this category, an achievement Gray attributes to the elevator's use of the Hindley gear.[9]

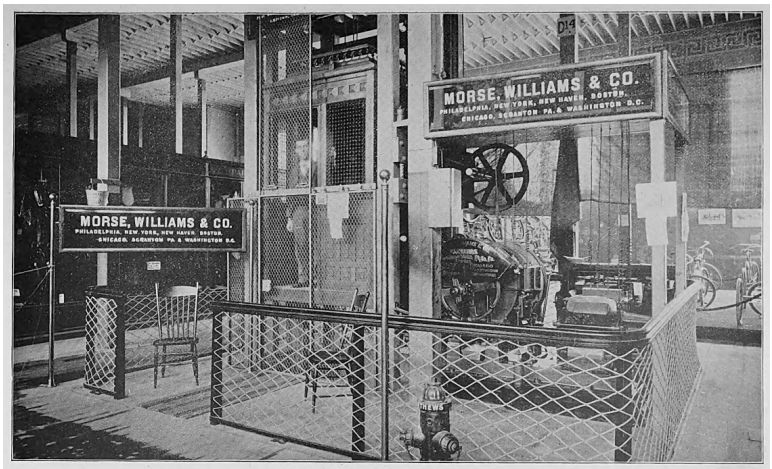


Figure 11: Photographic view of Morse, Williams & Company's exhibit, a working electric elevator, at the World's Columbian Exposition in Chicago in 1893.

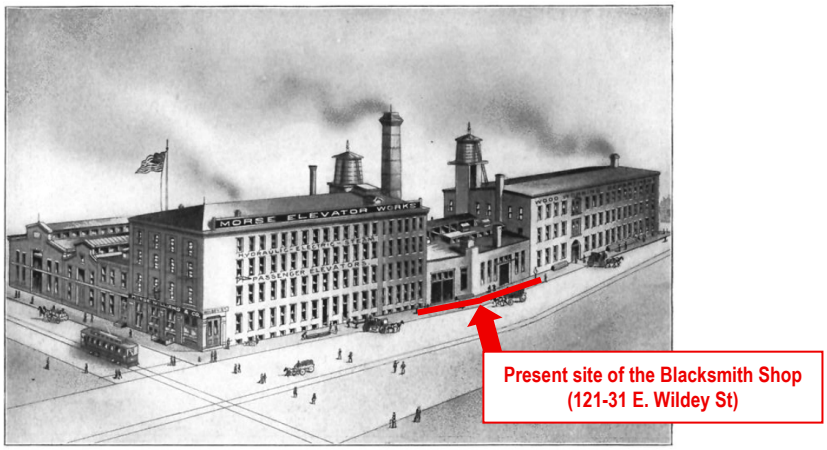
As electricity became more widespread as a reliable source of motive power, electric elevators gradually reduced and then virtually eliminated the height limitations of hydraulic elevator systems, making it possible to build the modern skyscraper of the early twentieth century. In being among the very first to experiment with electrically powered elevators and to sell the devices commercially, Morse played a major role in the development of a groundbreaking technology that transformed the American city. The Hindley gear was one of primary features that distinguished Morse, Williams elevators from those of its competition. According to one report in *The Electrical Age* in 1897, "The improved Morse, Williams & Company 'Hindley' worm and gear is so carefully designed that the efficiency of its action is rated at 56.25, while those of mediocre construction in open tests show an efficiency of 43.25. There is a direct saving of twenty-eight percent in power by the use of the Morse, Williams & Company worm and gear…when applied to electric, steam or hydraulic elevators."[10] In this new age of electricity, the electric elevators of Morse, Williams & Company were "the most efficient and smoothest running of any the market affords.[11]

As *The Electrical Age* claimed in 1897, "The reference list of [Morse, Williams & Company] is so great that a casual glance over it will quickly impress a prospective purchaser with the evident

[9] Gray, 185.
[10] "Electric Elevators," *Electrical Age* (December 18, 1897): 357.
[11] "Electric Elevators," 358.

superiority and popularity of their elevators."[12] Even a cursory glance at Morse, Williams' portfolio bears this out. Among the company's most notable jobs during the 1890s and early 1900s were the elevators in the United States Courthouse and Post Office in New Haven, CT (1896); the Camden Station of the B&O Railroad in Baltimore, MD (1897); the Union Station of the Pennsylvania Railroad in Pittsburgh, PA (1900); the Virginia State Capitol Building in Richmond, VA (1905); and the Pennsylvania State Capitol Building in Harrisburg, PA (1906). Among Morse, Williams' thousands of other jobs were many hotels, stores, office buildings, apartment houses and factories throughout the United States, including dozens of high-rise buildings in Philadelphia and New York City. In the United States, Morse's geographic reach extended to Los Angeles, Seattle, and Honolulu where several of the company's elevators was installed around the turn of the century. During the 1890s, the company also received orders from international customers in Canada, Mexico, Cuba, Brazil, Peru, Britain, South Africa, and several other countries. By 1905, one trade journal claimed, Morse, Williams had built and installed over 17,000 elevators since the company was founded, an increase of about 9,000 since 1892.[13]

The rapid growth of Morse, Williams & Company over the 1890s was reflected in the significant physical expansion of the Morse Elevator Works that began around 1892 (Figures 12 and 13).[14] That year, the company built a two-story Machine Shop at 1107-09 Frankford Avenue (designated 4/8/16). This was followed by a similar but wider building, originally known as the Erecting Shop, at 1111-13 Frankford Avenue in 1899 (designated 4/8/16), and another two-story Machine Shop at 1115-27 Frankford Avenue in 1902 (not designated). On the other side of the site, Morse, Williams also built the one-story Car Shop at the rear of 121-32 East Wildey Street, providing additional space for the fabrication and assembly of often highly ornamental cast iron passenger elevator cars, among other types of cars. The 1890s expansion campaign also included the three-story Carpentry Shop at 1100-06 Shackamaxon Street in 1895 (not designated) and the one-story Boiler House at 1045-49 Sarah Street in 1904 (designated 10/9/20), the latter having become necessary to supply the significant increase in power requirements that arose as the plant expanded.



MORSE, WILLIAMS & CO.--MORSE ELEVATOR WORKS. Frankford Ave., Wildey and Shackamaxon Streets

Figure 12: Illustrative view of the Morse Elevator Works around 1905.

[12] "Electric Elevators," 358.
[13] "Morse, Williams & Co.," *Iron Trade Review* (January 26, 1905), 49.
[14] "Morse, Williams & Company," *Electrical World* (January 4, 1896), 36.

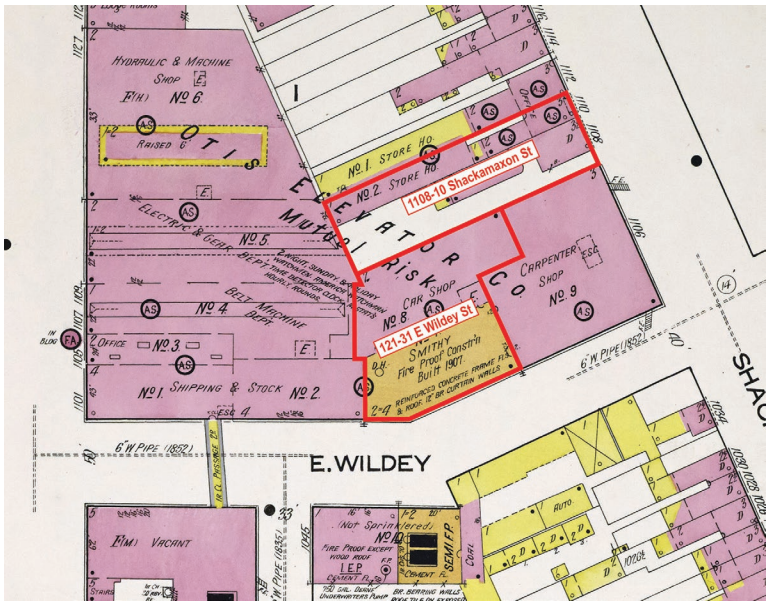


Figure 13: Sanborn fire insurance map, 1917 (from the Free Library of Philadelphia). This map was published just prior to the construction of the Machine Shop at 1108 Shackamaxon Street.

Although Morse, Williams & Company remained one of the largest elevator manufacturers in the United States in the 1890s, it faced a growing number of competitors as the decade came to a close. At the time, business leaders believed that ruthless competition between many firms was ultimately bad for business, and they sought to consolidate industries wherever possible. As early as 1891, efforts to create an elevator trust – mirroring the steel, oil, and tobacco monopolies that arose during this era – gained momentum. That year, five of the country's largest elevator manufacturers, including Otis, formed an alliance with the aim of colluding on prices and competitive bidding.[15] Although Morse, Williams did not participate in this effort, by 1898 the lure of consolidation had become stronger. In November of that year, the Otis Elevator Company acquired Morse, Williams and most of the country's other major elevator manufacturers, forming a near monopoly.[16] As part of this deal, Morse, Williams' then vice-president, Godfrey R. Rebmann, became a member of the board of directors of the Otis Elevator Company. A few years later, Rebmann also became vice-president of the parent company, a testament to the importance of Morse, Williams' business within the new corporation. [17]

After the 1906 consolidation, Otis shut down many of its former subsidiaries' plants, including Stokes & Parrish in Philadelphia. But even as Otis began to consolidate much of its manufacturing into its main plants in Yonkers and Buffalo, New York, it kept the Morse, Williams & Company plant open and invested significantly in its improvement and expansion. In 1906, the company built the two-story Blacksmith Shop at 121-31 East Wildey Street, replacing several smaller structures (see Figure 11).[18] As the first reinforced concrete building within the complex, the Blacksmith Shop not only housed more modern, high-ceilinged, light-filled workspaces, it

[15] "A Passenger Elevator Trust," *New York Tribune*, January 6, 1893; "Attempted Elevator Monopoly," *Electricity* (June 12, 1895), 297-299; "The Elevator Trust," *Electricity* (June 26, 1895): 323.
[16] "Elevator Combine," *Philadelphia Inquirer*, November 30, 1898.
[17] Obituary of Godfrey R. Rebmann, *New York Times*, May 2, 1947.
[18] *Philadelphia Real Estate Record and Builders' Guide*, April 4, 1906.

also made it possible for Morse, Williams to fabricate and assemble – in a centralized, more consolidated facility – more of the large steel components demanded by modern elevator systems (Figure 14). In this way, the Blacksmith Shop likely played a critical role in the company's ability to fulfill several major contracts during this period, the most significant being the 22 elevators ordered for the new Union Station in Washington D.C.'s Union Station, built between 1903 and 1908.[19]

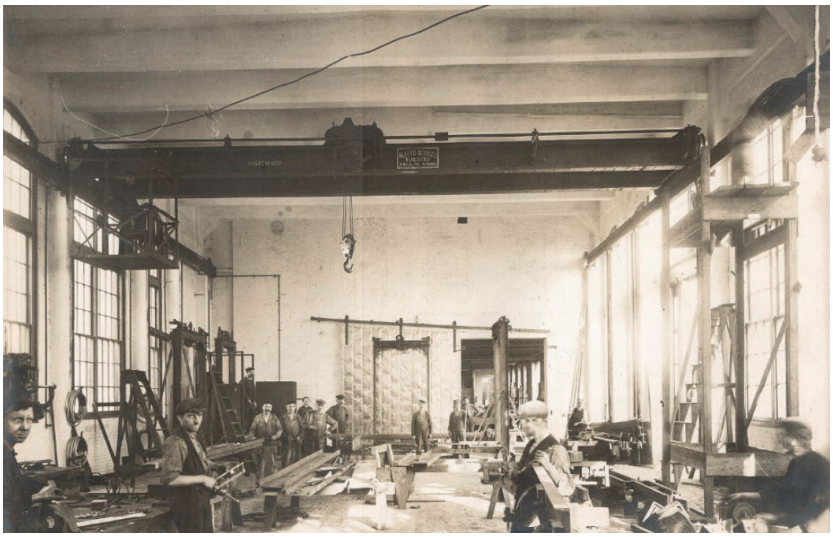


Figure 14: Interior view of the Blacksmith Shop, second floor, circa 1910 (Ballinger Collection Athenaeum of Philadelphia).

The Hindley Gear Company

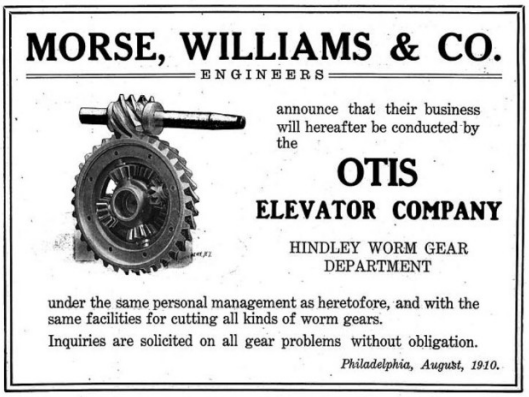
Before 1900, Morse primarily made Hindley gears for use in their own elevators, but the mechanism proved useful in a variety of other applications. As early as 1883, for example, Morse began supplying the United States government with Hindley gears for use in large naval vessels. In 1890, the company's Hindley gears were installed in the U.S. Navy's first battleships, the USS *Indiana* and the USS *Massachusetts*, which were built at the William Cramp & Sons shipyard in Philadelphia.[20] In these and many later vessels, Morse-manufactured Hindley gears were critical components in steering engines, windlasses, gun turrets, boat cranes, and various other mechanisms where the gears would be subjected to heavy loads and it was essential to stop lost motion.[21] In 1897, Hindley gears made by Morse in their Frankford Avenue plant were even installed in the steering apparatus of the *Argonaut*, which became the first submarine to successfully navigate the open sea when it traveled from Norfolk, Virginia to Sandy Hook, New Jersey in September 1898.[22] Hindley gears were used in similar ways in large commercial ships, including those being built at the Cramp shipyard nearby, and also proved useful in heavy machinery used in mining and iron and steel production.

[19] W.F. Strouse, "The Reconstruction of the Passenger Terminals at Washington, D.C.," *Transactions of the American Society of Civil Engineers, Vol. LXXI* (March 1911), 108.
[20] Victor S. Clark, *History of Manufactures in the United States, 1860-1914* (Washington, DC: Carnegie Institution, 1928), 325.
[21] Fleckenstein, 1005.
[22] "Lake Submarine Boat 'Argonaut," *Electrical Engineer* (December 29, 1898): 647.

Until the turn of the twentieth century, the manufacture of Hindley gears for non-elevator uses remained a side business of Morse, Williams & Company. But as the automobile increasingly became a fixture of everyday life in the United States, the demand for gears capable of smoothly and efficiently operating large vehicles, especially commercial trucks, grew dramatically. Around 1905, Morse began producing a heavy-duty Hindley steering gear designed specifically for use in commercial trucks, and in 1911 followed up with a Hindley spiral gear axle designed to replace the chain drive so common in vehicles of this type.[23]

As various studies by independent engineers concluded, the Hindley gear made steering mechanisms and axles more efficient and made it possible for commercial trucks to carry heavier loads than they could with a chain drive.[24] These innovations soon became widespread in the commercial vehicle industry, and Morse became a supplier to some of the largest truck manufacturers in the country, such as the Philadelphia-based Commercial Truck Company of America and the Blair Manufacturing Company of Newark, Ohio.[25]

In 1910, as Morse increasingly focused its efforts on Hindley gears rather than elevators, the Otis Elevator Company made the decision to abandon elevator production in Philadelphia. In August of that year, Morse, Williams & Company became known as the Hindley Gear Department of the Otis Elevator Company (Figure 14). Just three years later, in 1913, Otis established a new subsidiary corporation, the Hindley Gear Company, to manage the gear business. The new company occupied the Machine Shop at 1105-09 Frankford Avenue, the Blacksmith and Car Shops at 121-31 East Wildey Street, and the Storehouse at 1110 Shackamaxon (the Machine Shop at 1108 Shackamaxon Street had not yet been built). [26]


MORSE, WILLIAMS & CO.

ENGINEERS

announce that their business will hereafter be conducted by the

OTIS

ELEVATOR COMPANY

HINDLEY WORM GEAR DEPARTMENT

under the same personal management as heretofore, and with the same facilities for cutting all kinds of worm gears.

Inquiries are solicited on all gear problems without obligation.

Philadelphia, August, 1910.

Figure 15: Advertisement announcing that Morse, Williams & Company had been transformed into the Hindley Gear Department of the Otis Elevator Company (from *Machinery*, August 1910).

The Hindley Gear Company continued to be a major supplier of gears to commercial truck companies and the United States government throughout the 1910s and 1920s but finally began to face competition as its patents expired. In 1913, a former Morse engineer who had been

[23] "Morse-Williams Steering Gear for Trucks," *Cycle and Automobile Trade Journal* (September 1906): 188; "Gear-Driven Axle for Motor Trucks," *Machinery* (November 1911): 238.
[24] E.R. Whitney, "The Worm Gear as Applying to Motor-Driven Vehicles," in *Transactions of the Society of Automobile Engineers, Vol. 6* (1911): 622-639.
[25] *Motor Car Directory* (New York: Motor, the National Magazine of Motoring, 1911).
[26] "Hindley Gear Company," *Accessory and Garage Journal* (January 1913), 12.

instrumental in the development of the Hindley gear for automobile use, Minor Harvey, founded the Keystone Hindley Gear Company in Philadelphia.[27] The Albro-Clem Elevator Company, too, while it had shared in the Morse patents (as explained above, Charles E. Albro developed the machinery that first made production of Hindley gears possible), only began producing Hindley gears for non-elevator use in the early 1910s. The Hindley Gear Company remained an industry leader, however. With its depth of experience and decades-long specialization in Hindley worm gearing, the Hindley Gear Company remained a preferred supplier to the United States government, especially in critical military applications, and numerous large automotive manufacturers.

During World War I, a growing number of major government contracts led Hindley to expand its footprint with the construction of a new one-story Machine Shop at 1108 Shackamaxon Street in 1918. Hindley used the new Machine Shop, which was directly connected to the existing Storehouse at 1110 Shackamaxon Street, to increase its manufacturing capacity in the area of specialty gears for use in U.S. battleships, submarines, aircraft, and even weaponry (Figure 16). As one of the company's senior engineers wrote in 1919, the U.S. Ordnance Department used Hindley worm gears for the elevating, traversing, and sighting movements of guns, including the famous Howitzer, the Barbette mounted gun, and the Sutton trench mortar, among others.[28] Through various contracts, Hindley delivered nearly 5,000 sets of gears to the Ordnance Department between 1916 and 1918. The company's Hindley gears were so precisely made and so reliable that the government rejected virtually none of the gears they supplied.[29] In this way, Hindley played a critical role in the success of the United States and the Allied Partners during this major world conflict.



Figures 16: Advertisement detailing the Hindley Gear Company's government work (from *Machinery*, March 1918).

Hindley remained in operation at the former Morse Elevator Works complex until 1927. That year, Hindley joined the Otis Elevator Company at its brand-new Philadelphia branch office at 19th and Buttonwood Streets. It appears that the Hindley Gear Company was fully absorbed into the Otis corporation sometime during the early 1930s. Otis continued to own the former Morse Elevator Works properties until 1943, when they sold them to a number of different buyers. Since that time, the buildings have been occupied by a succession of industrial and commercial users.

[27] "Men and Makers," *The Commercial Vehicle* (August 15, 1913), 38.
[28] Fleckenstein, 1005.
[29] William Bradford Williams, *Munitions Manufacture in the Philadelphia Ordnance District* (Philadelphia, 1921), 450.

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