



**Baltimore City Landmark
Designation Report**

**Raffel Building
107 W. Heath Street**

August 14, 2007

The Raffel Building is being nominated for Baltimore City Landmark Designation by the owners, Heath Street LLC, (Mike Burton). Betty Bird and Associates prepared the following documentation:

Architectural Description of Property

The Raffel Building today consists of a four-story utilitarian brick building constructed in 1911 that now faces north onto Heath Street. The Raffel Building is flanked on the east by a four-story reinforced concrete addition dating to 1927 and on the south by a one-story concrete block addition. The Raffel Building is situated in the southernmost part of the Federal Hill neighborhood. Although the Raffel Building is set within a larger block of modest, two-story rowhouses, the block faces an industrial precinct off the Middle Branch. To the west, a railroad spur and several tracks isolate the building. Clarkson Street, a former alley, is immediately east of the 1927 addition. A four-story reinforced concrete building, once part of the earlier Raffel property, occupies the southern part of the block.

The Raffel Building rests on a raised basement. The building, which has a flat roof, has a tall elevator shaft rising from its northeast corner. The front (north) façade, which faces Heath Street, is articulated by four brick piers that stop abruptly above the 4th floor windows. Instead of a cornice, the building is topped by a coping that steps from pier to pier. The building displays graduated window openings with segmental brick arches; there are also small openings in the basement. Sash has been removed from the windows, which are all now sealed with concrete block, glass block, and boards. There are two pedestrian entrances at the east end of the Heath Street façade. A painted concrete block platform with steps provides access to these doors. Only length differentiates the two door openings from the window openings. Alterations to the building are concentrated at the 1st floor and basement level. On the primary north façade, a concrete block platform has been added and openings reworked. Loading bays along the west façade have been extensively altered. The interior of the building consists primarily of open plan space with an exposed structural system.

The 1927 addition is a four-story reinforced concrete structure typical of the period. The present appearance of this addition reflects its most recent use as a storage and warehouse facility. The exterior facades consist of reinforced concrete with brick spandrels. The May Company Department Store probably sealed the large openings that run between the piers above the spandrels on the upper three floors in much the same fashion as the similar building on the south has been treated. This infill has been removed. On the ground floor, brick spandrels remain on the east side of the building and on the two central bays of the north façade. The openings above the 1st floor spandrels have been sealed. The bay closest to the Raffel Building is entirely open; the easternmost bay also features a large opening for truck access. The interior of this addition consists of open plan space with exposed concrete and mushroom columns.

There is a one-story, concrete block trapezoidal structure to the south of the Raffel Building that occupies the footprint of Boiler House, now gone. The structure, which has a flat roof and ribbon windows along its west side, postdates the 1951 Sanborn Map.

History and Support

The J.M. Raffel Company and the Raffel family

Jacob M. Raffel (1874 – ca. 1918) owned and operated the manufacturing business. Born in Connecticut to immigrant parents, Raffel came to Baltimore as a child. His father, Isaac Raffel was Russian, his mother Gertrude, Polish. In 1890 both Isaac and Jacob Raffel were associated with Aaronson & Raffel; by 1900 Jacob was married and owned a paper box manufacturer. The 1913 Baltimore City Directory lists the J.M. Raffel Company at the Heath Street location, noting that Jacob M. Raffel was president. The company appears under listings for paper box manufacturing and is the sole manufacturer listed under the category of

cardboard tubes. Raffel appears to have been alive through 1914; his wife, Bertha, was a widow in 1920.¹ The Raffel family was associated with paper manufacturing through their cousin, the inventor Samuel Samuels, who worked for the American Corrugated Paper Products Company.

Jacob's older brother, Tobias (ca. 1864 – ca. 1920) invented machines for manufacturing corrugated paper. Tobias, who was born in Hartford, Connecticut, had married and moved to Manhattan by 1900. He remained in New York through 1920, when he lived in Brooklyn. Tobias manufactured machines for producing corrugated paper packaging. His company, the Paper Working Machines Company, challenged the control of the corrugated packaging cartel, to which Jacob did not belong, until Tobias's death in 1920.

The extended Raffel family rose to considerable prominence and success in Baltimore. Their proficiency at devising, patenting, and manufacturing objects were all recognized by the late 19th century. An entry in *Illustrated Baltimore, the Monumental City* reveals that there was a J. Raffel & Co., located at 107 S. Charles Street, in 1873.² The company manufactured a patented Raffel's companion school strap and combination match safe. Raffel was sole proprietor of the business after the retirement of his partner, Kohner, in 1889. He engaged in wholesale business only, manufacturing for concerns east of the Mississippi River. The *Monumental City* entry testifies to Raffel's attention to his Charles Street facility, boasting that, "the premises occupied are spacious and commodious, centrally located and fully equipped with all the necessary machinery and appliances, power being supplied by an electric motor."

The Isaac Raffel family moved up in the world from their initial quarters at 253 West Fayette Street to Bolton Hill. In 1912, the *Jewish Social Register* noted that Mr. and Mrs. I. Raffel, the "Misses Raffel" and Mr. S. Raffel lived at 2101 Bolton Street. After working as a paper box salesman when he was 20, Daniel Raffel (ca. 1900-1965), the son of Jacob Raffel and a nephew of Gertrude Stein, became a prominent geneticist who served as an aide to Herman J. Muller, who won the Nobel Prize for his work.³

Baltimore and the Packaging Industry

Throughout the 19th century, freight was shipped in wooden crates or barrels. In Baltimore, wood product industries were situated along the waterfront because of the port's insatiable need for packing crates. Between 1850 and 1870, manufacturers began to replace wooden crates and tin packaging with paper bags and boxes. By the end of the 19th century, the Baltimore paper container industry rivaled Midwestern states where this packaging had originated. By 1902, paper packaging dominated the Baltimore container industry.⁴ Later, corrugated boxes were inextricably linked with both Baltimore's glass and canning industries. Corrugated boxes provided a more easily manufactured, lighter substitute that was particularly well-suited to packaging cans. As canneries increasingly replaced bottling facilities, corrugated boxes became more and more important. While wood boxes could be assembled with common technology by any worker with carpentry or cooperage skills, manufacture of corrugated packaging required capital, sophisticated technology, and specialized machinery that skilled workers operated and maintained.

The Development of Corrugated Paper Packaging

The corrugated container industry received its start around 1897 when the Hinde & Dauche Company of Sandusky, Ohio produced a corrugated wrapper for lamp chimneys. Corrugated paper and paper boxes caught on rapidly in metropolitan areas where users could substitute them for wooden or metal containers. But acceptance was thwarted by rail freight shipping regulations and rates set by the Interstate Commerce Commission (ICC). In 1903, cereal manufacturers won an exemption to use corrugated packaging to ship

¹ U.S. Manuscript Census, 1913 Baltimore City Directory.

² The company was likely owned by Isaac Raffel since "J" and "I" appear interchangeably in 19th century records.

³ *Jewish Social Register*, U.S. Manuscript Census, and Daniel Raffel obituary. There is no mention of "Raffel" in the earlier 20th century *Jews of Baltimore*.

⁴ *Baltimore: Industrial Gateway on the Chesapeake*, p. 55 and 57.

their product by rail. By 1906, the railroads' Official Classification Committee approved the use of specific corrugated paper boxes for most types of shipment. Finally, in 1914, R.L. Pridham won a favorable ruling from the ICC, placing wooden and paper boxes on the same cost footing.

During these years major corrugating packaging concerns banded together to dominate the market. They organized a trust to increase their market share by striking down cost and regulatory obstacles to rail shipment. They also restricted competition by tightly controlling who could acquire the machinery needed to manufacture corrugated paper. The Corrugated Paper Patents Company, as the trust was known, controlled patents. When the Sherman Antitrust Act clamped down on anticompetitive practices, the trust continued their control through the acquisition of Samuel Langston's 1908 patent for conveying machinery, a technological breakthrough that eventually became the standard machinery used in paper manufacture.⁵

There were, however, a number of smaller machine builders who refused to be controlled by the cartel, chief among them Tobias Raffel. Within this volatile business environment, Tobias Raffel came to play a brief, but critical, role in the evolution of the packaging industry. Between 1904 and 1906, Tobias Raffel built machines for companies outside the trust. From around 1910 to 1920, the trust and Raffel's company engaged in lengthy patent litigation. Fueled by personal animosity between Langston and Raffel, the litigation did not stop until Raffel's death in 1920. Meanwhile companies outside the trust were able to exploit Langston's invention by imitating and making minor changes to his converting machinery.

The irony of Langston's litigious battle to control Raffel on behalf of the trust was that it backfired. The production and development of imitation machines increased. As litigation with other competitors wore on, Langston's patent was continually weakened. When Raffel's Paper Working Machines Company went bankrupt under the weight of litigation in 1916, Raffel's skilled machinists and other employees formed companies such as the S & S Corrugated Paper Machinery Company and the Progressive Corrugated Paper Machinery Company, spreading the technology that Raffel developed. After Raffel's death, the Corrugated Paper Patents Company, a coalition of fifteen of the Corrugated Paper Patents Association's competitors, took over Raffel's patents. In its own way, the J.M. Raffel Company illustrates how the movement of technology and skilled workers served to counteract monopolistic control. Tobias Raffel's prolonged litigation ultimately thwarted the corrugated paper trust by fostering an obsessive focus on the trust's strategy of controlling technology and barring entry. While this strategy appeared effective in the short run, it distracted members of the trust from more promising competitive strategies such as vertical integration, technical innovation, and market-based expansion – strategies they were forced to adopt to survive later.

The Hinde & Dauche Company

The Hinde & Dauche Company, a Sandusky, Ohio concern that acquired the J.M. Raffel Company in December 1927, was a founding member of the corrugated paper trust. Around 1897, Hinde & Dauche produced a corrugated wrapper for shipping lamp chimneys – said to be the first use of a corrugated container. By 1920 it was the world's largest paper box manufacturer. After World War I, the company finally realized that the key to increasing its margins in the changed economic climate was eliminating overproduction. The company expanded into other regions from their Midwest base of operations and concentrated on manufacturing corrugated paper. By reducing their dependence on specific markets and developing sufficient capacity to control pricing, Hinde and Dauche maintained their dominant position. Concerned about customers such as Procter & Gamble developing their own plants, Hinde & Dauche rapidly purchased or set up regional operations close to the consumers. Their purchase of the Raffel Company was no doubt part of this aggressive strategy.⁶ The Hinde & Dauche Company controlled the building for ten years until it was occupied by Hochschild Kohn.

⁵ When the trust acquired the patent from Langston, who worked outside the trust when he applied it, they required a non-compete provision forbidding Langston from making or selling converting machines for corrugated paper.

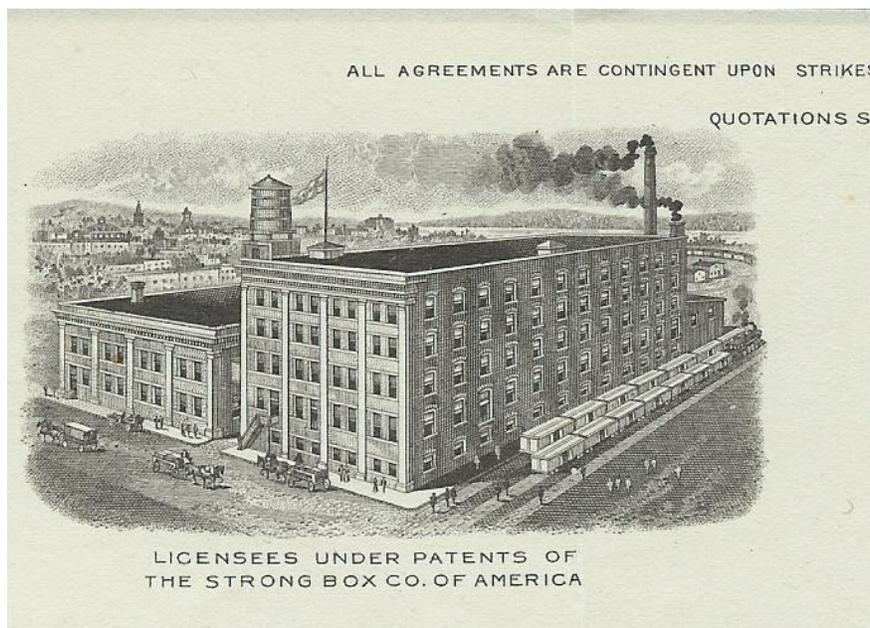
⁶ Since Baltimore became a center of regional operations for national companies in the 1920s, Hinde & Dauche would have been foolish not to acquire a foothold in the Baltimore market.

Physical History of Building

Presently the property consists of an ell-shaped building comprised of the original four-story brick Raffel Building and a 1927 poured concrete addition. Sanborn Fire Insurance Maps provide an abstract of site development. The first Sanborn Map to depict the site shows that in 1901 it was a largely vacant industrial site, possibly used for brick manufacture. A covered coal trestle extended diagonally across the property. Small wood and frame buildings, including a stable, were clustered along the northeast corner of the block at the intersection of West Heath and West Clarkson. The only labeled buildings are an office and a frame building used for brick storage.

The 1914 Map, the first that depicts the present building, shows that it was occupied by J.M. Raffel & Co., manufacturer of corrugated paper boxes. The plant had its own siding extending from the rail lines. The basement was used for storage and the upper four floors for box manufacture. A brick power house (now gone) generating steam power was situated against the south end of the building. The sprinklered building featured two elevators. A large water tank rose from the roof at the northeast corner of the building. A 2nd floor bridge connected the manufacturing facility with a one-story brick office building at the corner of West Heath Street and Clarkson Street. It is likely that the Raffel property extended south to West Barney Street since no lot line is shown and since a one-story lumber storage building appears on the vacant southern portion of the lot along the alley.

A ca. 1919 engraving, roughly contemporaneous with the 1914 Sanborn Map, presents a somewhat idealized image of the building. The view, from the northwest, shows a 4 bay by 12 bay Raffel Building. A two-story shed-roof engine house is attached to the southern part of the building; two stacks belching smoke appear to rise above the engine house. A dignified, two-story brick office building to the east is attached to the Raffel Building by a bridge connecting the 2nd floor of the office building to the northeast corner of the Raffel Building. Both buildings face onto Heath Street. The engraving shows the articulated pier and spandrel system that delineates the Heath Street (north) façade, the paired and graduated window openings, and the shallow basement level of the Raffel Building. The entrance to the Office Building is situated at the easternmost 1st floor opening. The only visible entrance to the Raffel Building is situated at the 2nd opening from the east on the first full floor. A large wood water tower sits on a platform at the northeast corner of the building, which has two skylights or vent stacks on the roof. A tall flagpole and flag rise from the vent stack closest to the water tower.



The view of the primary, Heath Street façade depicts what was probably the original architectural conception of the building. The piers are fully articulated pilasters with bases and capitals supporting a full cornice. The fenestration pattern is virtually identical to that of the present building.⁷ However, the spandrel panels serve as lintels and sills. The reading of the surface of the Heath Street façade differs from more textured surface of the west façade facing the railroad tracks. This image of the Raffel Company bustles with vitality. Two sidings of box cars wait expectantly next to the building, with additional box cars visible at the edge of the image near the Middle Branch. Three horse-drawn wagons traverse a wide and spacious Heath Street with groups of pedestrians clustered on the sidewalks.

The 1951 Sanborn Map shows the facility expanded by the mid-1920s. A large concrete trapezoidal structure at the southern end of the block is given a construction date of 1924; the present addition to the east of the building was constructed in 1927. A bridge extended south from the Raffel Building to the 1927 concrete warehouse (not part of present property). A one-story frame loading dock extended around the west and south facades of the Raffel Building, occupying the area between the railroad tracks and the building.



Painted Sign depicting J.M. Raffel Co.

⁷ The openings appear to house one-over-one windows.

Staff Recommendation: the Raffel Building (107 W. Hearsh Street) qualifies for landmark designation meeting the following standards:

- #1 dates from a particular period having a significant character, interest, or value as part of the development, heritage, or culture of the City of Baltimore.

The Raffel Building, constructed in 1911, meets Criterion #1 for its significant character, interest, or value as part of the development, heritage, or culture of the City of Baltimore. Associated with the manufacture of corrugated boxes, the building housed both the J.M. Raffel & Company and the Hinde & Dauche Corporation. The Raffel Building encapsulates a wealth of associative values that contributed to Baltimore's pre-eminence in the late 19th and early 20th century – the importance of the packaging industry, the technical advances that gave its home-grown industries advantage, and the overwhelming importance of distribution and transportation to mercantile success. Corrugated boxes revolutionized packaging and transportation, industrial elements that were key aspects of Baltimore's success as an entrepot in the early 20th century. The juxtaposition of the building between small-scale rowhouses and the railroad tracks near the Middle Branch of the Patapsco typifies Baltimore's industrial geography.

J.M. Raffel & Co. occupied the building through the 1920s. Hinde & Dauch, the Ohio company that pioneered the use of corrugated paper in 1897, acquired the Raffel Company and its property in the late 1920s. In 1937, the Hochschild Kohn Department Store occupied the building as a warehouse, a use that continued when the May Company purchased Hochschild Kohn in 1950. The building is currently vacant and slated for rehabilitation into residential units.