

Architect Moulton elevates Duluth

BY PATRICK LAPINSKI



The Wisconsin-built vessel *Saginaw* takes on a load of grain from the south elevator complex at Ceres/Riverland Ag in Duluth on Dec. 5, 2021. Architect Joseph T. Moulton and his son, George, designed and built these elevators, known originally as Elevators H and I of the Lake Superior Elevator Company, in 1887.

Adam Bornberg

It was 1870. Upper Midwest wheat fields were opening, and the Twin Ports had no elevator. Duluth was a roughshod hillside community, barely a town, but optimism was in the air. The recently completed Lake Superior and Mississippi Railroad was open, connecting the milling districts of Minneapolis and St. Paul with this potential market to the north.

Joseph T. Moulton arrived in Duluth at this pivotal point in history. Already a renowned grain elevator architect, he had been hired to build a grain elevator for the Union Improvement Elevator Company—a project local press dubbed the “Great Grain Elevator of Duluth.” Moulton could see the potential for more elevators at the head of the Great Lakes. History showed he was right.

The craftsman

Born on Aug. 27, 1826, in Gilford, New Hampshire, Moulton was the great grandson of a Revolutionary War general and son of a farmer. Young Moulton spent summers working the fields and winters attending school. He was hungry for knowledge and eager to see the world.

Moulton would not be tethered to the horse and harness. He left the farm at 19, moving to Waltham, Massachusetts. There, he found work at Waltham Bleachery. Proving to be an intelligent worker, he soon advanced above his entry-level peers, but Moulton had other interests that would lead him in a different direction. While working at Waltham, he made time to learn carpentry, a trade at which he excelled. He also found love, marrying Maria Babcock in April 1846. The couple soon had three sons: Charles, William and George.

Soon Moulton grew restless again, this time eyeing the rapidly growing “west.” He moved his family to Chicago, a metropolis being built lock, stock and barrel out of lumber. There was plenty of work for a man with his newly honed skills.

Historian Dr. Thomas Leslie of Iowa State University, author of *Chicago's Other Skyscrapers: Grain Elevators and the City, 1838-1957*, writes that Moulton “emigrated to Chicago in 1853, gaining experience in elevator operation and construction by taking work as a laborer in one of the city’s riverfront structures. After opening a contracting business with engineer Alexander Miller—who had assisted (John M.) Van Osdel with the Newberry & Dole elevator

(Chicago's first grain elevator)—Moulton revolutionized grain elevator construction and design by standardizing construction and incorporating new conveying innovations to provide more efficient operation.”

Moulton sets new industry standard

As Moulton prepared for a trip to Duluth, he reflected on the break that jump-started his career. The year was 1855, and his son, George, who would one day inherit and build upon the business, was three years old. Joseph Moulton's first elevator as an architect was the 700,000-bushel Sturges-Buckingham Elevator A, on the mouth of the Chicago River. His design would become the standard for new elevators. According to Leslie, “Moulton's structure nearly doubled the city's storage capacity. Within two years Moulton built a second structure, 50 percent larger, on an adjacent site. At 130 feet tall, Sturges and Buckingham's so-called 'A' and 'B' elevators represented the state of the art in elevator construction.”

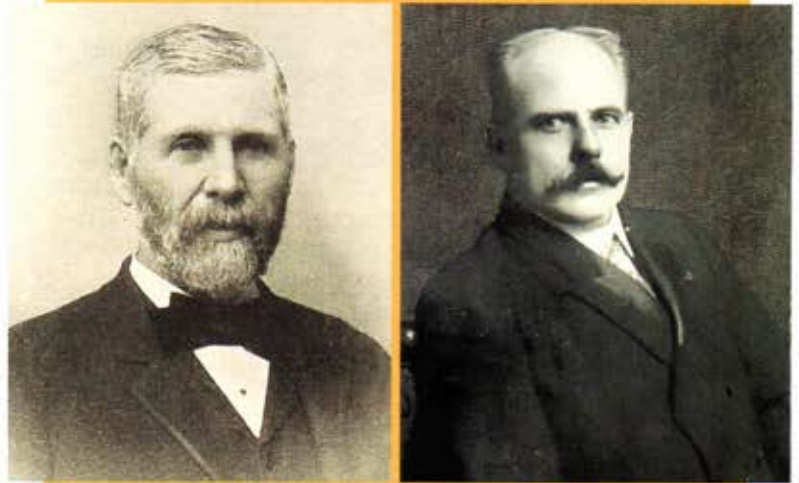
Moulton's next known work came in 1863, when he built a large elevator in Toledo, Ohio, for the Michigan Southern Railroad. The *Chicago Tribune* lauded his work, saying it, “combines strength, durability, and accuracy.” During the 1860s, Moulton also constructed a large elevator on the Mississippi River at Dunleith, Illinois, (now East Dubuque).

Duluth project raises architect's profile

Construction of the Duluth elevator marked Joseph Moulton's introduction to the Twin Ports and his son George's introduction into the family business. George was born in Readsboro, Vermont, on March 15, 1851, prior to the move to Chicago. He was educated in Chicago public schools and entered the business of designing and building grain elevators upon graduating from high school in 1868. Two years later, he accompanied his father to Duluth.

Over the summer of 1870, the Elevator A took shape along the lakefront. Construction details are reported in various issues of *The Minnesotian*. The first carload of grain was recorded on Sept. 24, 1870. A small ceremony took place at the Union Improvement Elevator site, a comingling of owners Clinton Markell, Col. C. H. Graves and Roger Munger, along with laborers and men of commerce. Moulton was presented an ebony cane and a jar containing a sample of grain from the first shipment. His family later donated that sample to the St. Louis County Historical Society, where it remains in the archives today.

He was back in Chicago the following year after a devastating fire leveled much of the city in October 1871. It would be a decade before he returned to Duluth. During the 1870s, Moulton designed and built a number of elevators in Chicago and other locations. High profile projects included the Green Bay & Minnesota's



Joseph Tilton Moulton (left) and son, George Mayhew Moulton (right) designed and built the elevators known as Elevators H and I of the Lake Superior Elevator Company in 1887.

grain elevator at Eastmoor on the Mississippi River, constructed in 1874. In 1876, Moulton built the largest elevator ever constructed in New York City when Elevator A was constructed for the New York Central & Hudson River Railroad Company.

Moulton's return to Duluth

Once Duluth's first grain elevator was built, it was inevitable that others would follow. A second elevator, called Elevator 1, soon was added to the outside of the harbor. However, protecting the elevator's wharf from stormy Lake Superior was expensive and futile. The 1880s would bring development of “Elevator Row” to Rice's Point—and the return of J.T. Moulton & Son's elevator-building genius to Duluth.

In 1880, the Lake Superior Elevator Company incorporated. It was essentially a sister company to the Union Improvement & Elevator Company, sharing a number of officers. Its leadership included Col. C. H. Graves and Roger Munger, as well as L.A. Marion, secretary, and George Rupley, treasurer and superintendent.

The Lake Superior Elevator Company entered into an agreement with the Northern Pacific Railroad to construct an elevator with a 1 million-bushel capacity. Lake Superior's Elevator B became the first elevator built within the safe confines of the inner harbor. It was constructed on property owned by the railroad, which in return provided track service to the elevator. In addition to the contract for Elevator B, the Lake Superior Elevator Company agreed to build at least three additional structures on the Northern Pacific site.

The architect was Joseph Moulton, who brought his elevator design back to Duluth with a few new twists. Unique to its contemporaries, Elevator B was equipped with shipper legs on both sides of the elevator, making it capable

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of loading vessels from either side. The first time this occurred was June 1, 1881. The completion of Elevator C in 1883 brought an additional 1.1 million bushels of capacity for the Lake Superior Elevator Company.

Throughout the 1880s, Duluth saw leap-frog construction of several new elevators for both the Lake Superior and the Union Improvement grain companies.

Massive fire consumes wood elevator

The growing hillside community also saw its first major elevator fire in the 1880s. It occurred on March 6, 1880, and completely destroyed the second elevator built in Duluth—Elevator 1. The blaze was first reported in mid-afternoon, and by midnight, the framework had dissolved away under the flames, leaving smoldering mountains of grain.

The fire was terrifying for the community, with memories of the Great Chicago Fire still fresh in people's minds. Flames, fanned by a slight wind, spread out across the surrounding hillside, while the intense heat caused several nearby buildings to catch fire.

It was clear that elevators constructed of wood would always carry the risk of fire. George M. Moulton (Joseph's son) would later become president of the Pioneer Fireproof Construction Company, purveyors of fireproof tile in the construction of elevators. [Note: The Hansen-Mueller, former General Mills Elevator A on Rice's Point, is the only extant example of a tile grain elevator in the Port of Duluth-Superior.]

A superior system for grain handling

In 1887, construction began on the city of Superior's one and only elevator built by J. T. Moulton & Son. Located on land owned by the Chicago, St. Paul, Minneapolis and Omaha Railroad, this new elevator was built with industrialist A.J. Sawyer, noted for his Duluth grain commission business.

This would be the first time a real system was constructed at the same time. Up to this point, firms operating in the Twin Ports each built their elevators individually. Consorts or annexes were added at later dates to expand capacity. The Sawyer site would contain three major structures, including a workhouse and two adjacent grain storage buildings, or annexes.

The Sawyer System cost \$700,000 to build. The outside dimensions of the workhouse were 88 feet wide by 468 feet long, by 77 feet high. There were over 13,000 feet of conveyor belts run by 520-horsepower engines. The structures were wood-frame construction with iron-clad exteriors. A sawmill was set up at the construction site. An estimated 12 million feet of lumber and 10,000 kegs of nails were needed for construction. In February 1887, the Sawyer System officially incorporated under the auspices of the Duluth Elevator Company.

End of an era

The Union Improvement and Elevator Company added Elevator H to its system in 1887—the last elevator built for the company. It was designed and built by J.T. Moulton & Son and was soon followed by comple-

tion of Elevator I on Rice's Point for the Lake Superior Elevator Company.

In all J.T. Moulton & Son helped facilitate 10 grain elevator projects in the Twin Ports. At the end of 1887, the *Duluth Evening Herald* gushed that every elevator in the Duluth Harbor, except Great Northern, was a monument to these veteran elevator builders of Chicago.

Duluth's last wood-frame grain elevator was built in 1899 for the F. H. Peavey Company. It was not built by Moulton and did not last long before being consumed by fire in the early winter months of 1906. The headhouse was rebuilt of ceramic tile by Barnett & Record in 1907. Thus ended the era of the wood-frame grain elevators in the Twin Ports, nearly all of which were built by J. T. Moulton & Son.

Elevators H and I still stand on Rice's Point as part of the former Cargill Elevator (now Ceres/Riverland Ag). Along with the remains of the Duluth Elevator Company's No. 3 house, they are the only surviving examples of Moulton's elevator construction in the harbor. But the Moulton family will always hold an elevated place in Twin Ports waterfront history. ⚓



Chicago-based Norris Grain Company—its name emblazoned on Duluth's Elevator H in the photo above—purchased the Moulton-designed elevators from General Mills in 1944. The company was named for James S. Norris, who moved its headquarters from Canada to Chicago in 1897, and in 1908, installed his son, James E. Norris, as president. The younger Norris would operate the family company for decades, while also taking ownership stakes in multiple National Hockey League teams, including the Detroit Red Wings, who won the Stanley Cup five times under Norris' watch. In 1958, he was posthumously selected to the Hockey Hall of Fame. Two years later, Cargill acquired the Norris Grain Company holdings, including Duluth's Moulton-designed elevators.

Patrick Lapsinski collection