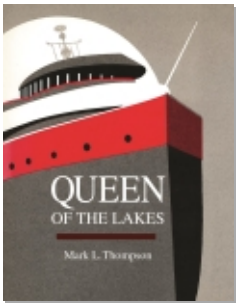
Queen of the Lakes

Mark L. Thompson



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The First 400-Footers

In 1892, a gala celebration was held at the Detroit Dry Dock Company shipyard at Wyandotte, not in conjunction with the launching of a ship, but to promote their imposing new graving dock. The 378-foot dry dock was the second largest on the lakes, and "vessel men thought [it] would be ample for a generation."[1] While the 362-foot *Christopher Columbus* and the latest freighters—such as the 332-foot *E. C. Pope* and the 359-foot *Selwyn Eddy,* both built at Detroit—were almost as long as the new drydock, shipyard officials confidently assured their guests that it would be many years before bigger ships would sail the lakes. Their argument was based on sound logic.

The draft of vessels operating on the lakes was severely limited to a maximum of fourteen feet, six inches by the shallowness of the harbors and river channels. For structural reasons, the length of a ship has to be proportional to the depth of the hull, so longer ships would have to wait until after a dredging program of Herculean proportions. The smug officials of Detroit Dry Dock were convinced that such an expensive undertaking was not in the offing.

Even if it were likely, however, longer and deeper ships would necessarily have higher sides, making it impossible for them to get under the chutes at ore loading docks on the upper lakes. And if that limitation were somehow overcome, harbor turning basins were clearly too small to accommodate longer ships. It was common knowledge that many of the current generation of vessels, like the *Centurion,* were finding it difficult, if not impossible, to negotiate the narrow and winding rivers in the system.

To those in attendance at the unveiling of the new dry dock at Detroit, the arguments presented by the shipyard officials were extremely persuasive. As Yogi Berra is reported to have said once, however, "It's hard to make predictions, especially about the future." Regardless of how reasoned the arguments against longer ships might have seemed, they were, of course, wrong.

The obviously risky move to still larger ships was led by Pickands Mather and Company, one of the giants of the iron mining and lake shipping industries. James Pickands, Samuel Mather, and Jay C. Morse had established the company in 1883 to mine, broker, and ship iron ore. In 1889, the trio joined with other investors to form the Minnesota Steamship Company. Their growing fleet already included some of the giant ore boats, including the *Maritana, Mariposa,* and *Merida,* but they were committed to building even larger ships.

In 1894, Washington I. Babcock and his staff of naval architects at Chicago Shipbuilding developed plans for a new bulk freighter that was revolutionary in its design. With drawings in hand, Babcock and his staff approached a number of shipping companies in an effort to land a contract to build a ship from the plans. It seems to have been an easy sale. Bab-

cock and his associates returned to Chicago with not one, but two, construction contracts. One of the new ships would be built for Pickands Mather, while the second would join the fleet of American Steamship Company's "City Line."

Plans for both of the leviathans were finalized in succeeding months and their keels were laid early in 1895. The only vessels under construction at Chicago Ship Building at the time, they were the total focus of activities at the yard. The first was ready for launching on June 29.

STR. VICTORY

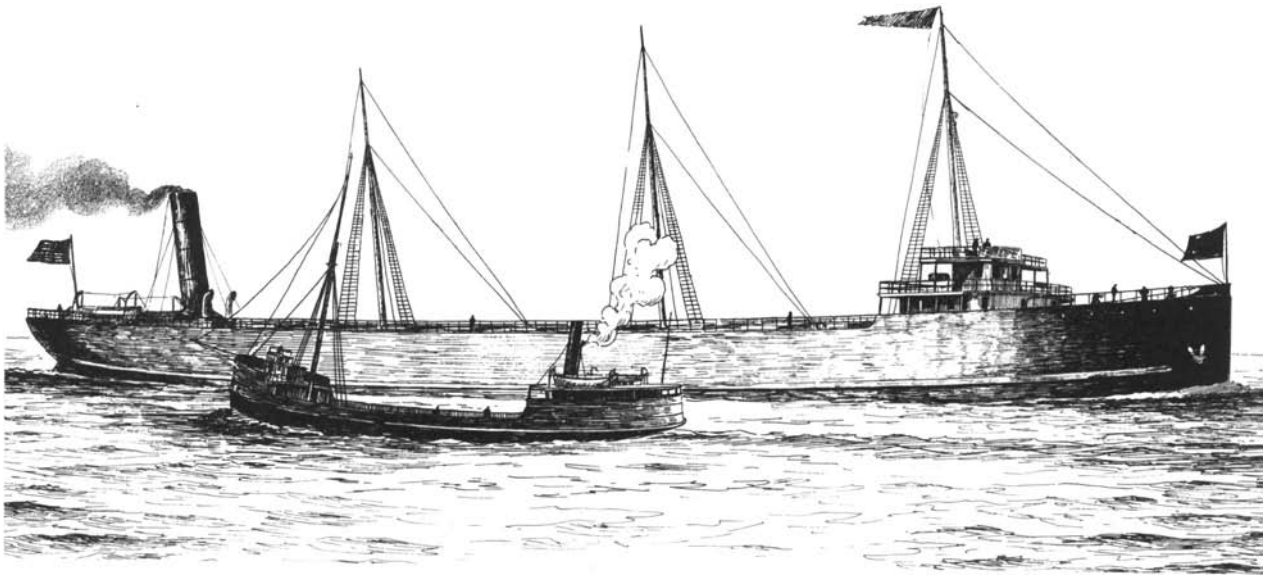
398'x48'3"x22'5"
Queen of the Lakes
June 29, 1895 to December 23, 1895

Pickands Mather had named the new ship *Victory,* and when she slid off the ways at Chicago she did indeed represent a victory for both her owners and builders. While generally referred to as the first of the 400-footers, she was actually 398 feet in overall length, with a beam of 48 feet, 3 inches and a depth of 22 feet, 5 inches. *Victory* was measured at 3,774 gross tons and, even more significantly, her unique construction gave her a net tonnage of 3,339, more than twenty-five percent greater than the *Curry.*

The construction of the *Victory* and her sister involved a building technique invented by a marine surveyor for the U.S. Standard Register of Shipping several years earlier. Used first at Chicago Ship in constructing the bulk freighter *Kearsarge* for Pickands Mather in 1893-94, the channel system of construction replaced traditional angle iron beams with U-shaped steel channels. The system produced ships that were both stronger and lighter in weight. The resulting savings in weight translated directly into greater carrying capacities for ships such as the *Kearsarge* and *Victory*.[2]

Like the *Maritana* and *Mariposa* that had also been built at Chicago, the design for the *Victory* and her sister included a

Stanton's drawing of Pickands Mather's *Str. Victory* that became Queen of the Lakes in 1895. The immense freighter was designed by Washington I. Babcock with a "submarine stern"; all of her aft accommodations were located below the level of the main deck. The smaller freighter in the foreground is not identified by Stanton, but is similar in size and design to the *R. J. Hackett,* the 1869-built ship that was the first steam-powered bulk freighter. The differences between the two vessels in the drawing vividly illustrate the dramatic progress made in shipbuilding on the lakes in a period of less than two decades. (Author's collection)



hatch between the forward cabin and the raised forecastle deck. According to a naval architect who started work at the yard the day the keel of the *Victory* was laid, the forward hatch eliminated reserve buoyancy in the bow of the ship and allowed cargo to be spread evenly throughout her hold.[3]

Later, when the available draft was increased from 14 feet, 6 inches to 16 feet, it created substantial excess buoyancy in the bow of the *Victory* and other ships built along her lines. The excess buoyancy caused the *Victory* to sag in the middle because there was less buoyancy there than at the bow and stern. This caused some of the steel beams in her main deck to buckle. Naval architects solved the problem by developing loading tables for use by the ship's officers. The tables told them how much cargo to put into each hatch to compensate for the excess buoyancy at the ends and reduce stress on the hull. Basically, more cargo had to be put into the outer hatchs to weigh down the buoyant ends of the ship. Loading tables similar to those developed for the *Victory* are still used today by deck officers responsible for loading the big freighters.[4]

In addition to the cargo hatch between the forward cabin and the forecastle, the *Victory* had ten other hatches spaced on twenty-four-foot centers down her long deck. She had no stern cabin, as her galley and crew accommodations were located below her main deck. The only protuberances at her stern were her tall smokestack, lifeboat davits, and several funnel-shaped vents for carrying fresh air to the engine room. The uncluttered "submarine stern" gave the *Victory* a particularly sleek profile, not unlike the earlier *Owego* and *Chemung* that had also been built at Globe in Cleveland.

To the delight of her owners, the *Victory* proved to be a prodigious carrier. On her maiden voyage under the command of G. B. Mallory, the senior captain in the fleet, she carried 3,689 long tons through the Soo on a draft of just over fourteen feet. When channels had been deepened sufficiently to allow her to operate on her maximum design draft of eighteen feet, she was ultimately able to move cargoes of as much as 5,200 tons.

Unlike many of the bulk freighters and package freighters that preceded her, the *Victory* had no intermediate 'tween decks in her hold. All of her cargo was carried directly on the floor of her cargo hold, referred to as her "tank tops," which was lined with three inches of wood planking. The planking protected structural members under the hold from damage by the mechanical unloaders that were then in use. Between her cargo hold and the bottom of her hull was a double bottom five and a half feet deep. The double bottom was subdivided into ballast tanks that could be filled with water to give the ship greater stability when she was running light.

The giant Pickands Mather vessel was powered by a 1,100-horsepower triple-expansion steam engine with Scotch boilers. Each of the two huge boilers was almost fifteen feet in diameter and more than thirteen feet long.

STR. ZENITH CITY

398'x48'3"x22'3"
Queen of the Lakes
August 16, 1895 to December 23, 1895

On August 16, the *Victory*'s twin sister was launched. Ships in the American Steamship Fleet were all named for cities around the lakes, and this new ship was christened *Zenith City* in honor of Duluth. Except for being two inches shallower and having slightly different boilers, the *Zenith City* was identical to the *Victory.* Where the *Victory* had the low pressure Scotch boilers that had been in use for a long time, the *Zenith City* was built with newer water tube boilers. In Scotch boilers, the hot gases from the burning of coal passes through tubes that give off heat to water surrounding the tubes. The water around the tubes is heated to the boiling point and gives off steam used to drive the pistons in the reciprocating engine. While Scotch boilers achieve steam pressures of about 220 pounds per square inch, the newer water tube boilers could generate as much as 500 pounds pressure. In them, the water is contained within the tubes and heated by gases that surround them. Because the water is contained, much higher temperatures and pressures can be achieved.[5]

Pickands Mather and American Steamship had gambled wisely. When the two companies signed contracts for construction of the new ships in 1894, 5.8 million tons of iron ore was shipped on the lakes. During 1895, the first year the *Victory* and *Zenith City* operated, ore tonnages exceeded 10 million tons for the first time in history, and totals would continue to climb.

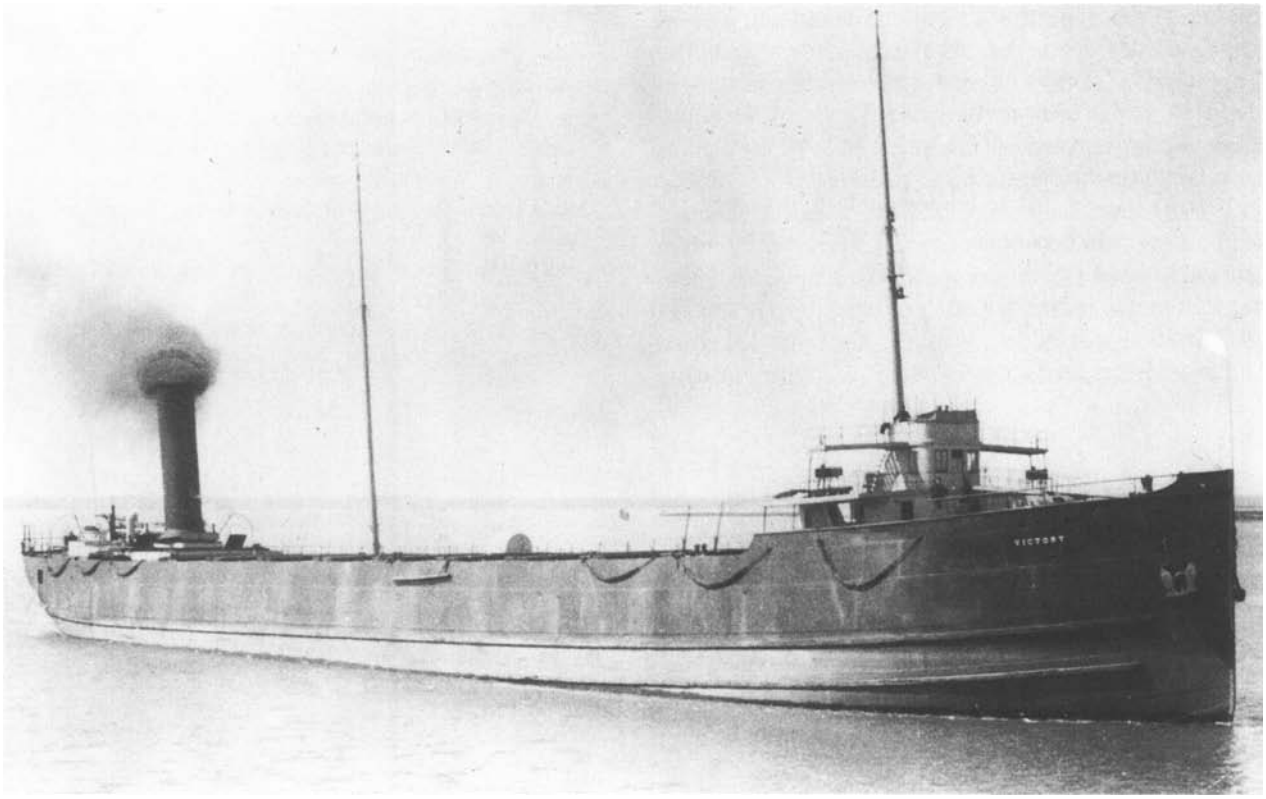
The *Victory* and *Zenith City* played important roles in the growth of the iron ore trade on the Great Lakes. Both had long and impressive careers. In 1901, the *Zenith City* and other vessels in the American Steamship fleet were absorbed into the newly organized Pittsburgh Steamship Company, owned by United States Steel. She continued to be owned by the Pittsburgh fleet until 1942, when they traded her to the U.S. Maritime Commission with some other older freighters in exchange for new Maritime-class vessels. Although her ownership had changed, she continued to be operated by the Pittsburgh fleet

until the war ended in 1945. When her services were no longer needed, the *Zenith City* was retired and laid-up in Presque Isle Bay at Erie, Pennsylvania, with other ships that had been traded to the Maritime Commission. In 1947, she was towed to Hamilton, Ontario, for scrapping.

The *Zenith City* led a rather uneventful life on the lakes, but the same was not true for her sister. In November of 1905, the *Victory* and her barge consort, the 379-foot whaleback *Constitution,* were downbound on Lake Superior on their last trip of the year. They weren't far out of Duluth when a terrible storm descended on the lake. In mountainous seas off the tip of the Keweenaw Peninsula, the towline connecting the two vessels parted, and the unpowered *Constitution* was adrift. Despite the heavy seas and blinding snow, the *Victory* searched for the *Constitution* for half a day, placing herself at great risk in the process. The dangerous exercise proved to be futile, however, and she eventually struggled on to the Soo. Days later the helpless barge was sighted off Keweenaw Point by crewmen aboard the *Str. C. W. Moore,* and they towed her to port before winter's ice closed down shipping on the lakes.

Throughout the storm, the crewmen on the *Victory* were unable to go out on deck, because the decks were constantly

The *Victory* later in her career. The first of the 400-footers originally had three masts that were used primarily to support rigging used to unload the ship. With the advent of more efficient shoreside unloading systems, one of the *Victory*'s masts was removed and the remaining two served mainly as flagstaffs and mounts for the ship's running lights. The *Victory* was built with a "submarine stern," clearly visible in the photo. Instead of a stern cabin housing crewmembers, accommodations were located below the spar deck to eliminate structures on the stern that might interfere with loading or unloading equipment. (Institute for Great Lakes Research, Bowling Green State University)



awash with waves that would have undoubtedly swept them overboard. The captain and other personnel who were housed at the bow of the ship were cut off from the stern, where the galley was located. Like deck crewmembers on most of the freighters caught out in the blow, the forward end personnel on the *Victory* went without food until they got into the sheltered waters of Whitefish Bay. At the same time, had it been necessary for them to abandon ship, they could not have gotten aft to where the lifeboats were located. After the 1905 storm, all ships on the Great Lakes were required to have fore-and-aft safety lines strung the length of their decks so that crewmembers could cross the decks even if they were awash.[6]

During the lay-up season at the end of 1905, the *Victory* was lengthened seventy-two feet at Superior Ship Building in Superior, Wisconsin. At the start of the 1906 shipping season, the *Victory* came out of the yard stretched to 470 feet in length, with a gross tonnage of 4,527. The lengthening raised her carrying capacity to 7,500 tons at maximum draft and greatly prolonged her life on the lakes.

In 1913, *Victory* was caught out in another of the famous November storms. The three-day blow that began on November 9 drove the big ship aground in the Livingstone Channel of the Detroit River, near where the river joins Lake Erie. While the *Victory* was lightered and released in the aftermath of the storm, virtually undamaged, many other ships were not so lucky. The 1913 storm is believed to have wrecked as many as thirty-two ships. About seventeen of the vessels were total losses, and two hundred and fifty people lost their lives as the hurricane-force winds tore their way across the lakes.[7]

That season, the *Victory* had become part of Pickands Mather's Interlake Steamship Company, which was formed to consolidate all of their vessel operations. The Interlake fleet was then second in size only to the giant Pittsburgh fleet. In 1940, Interlake sold the aging *Victory* to the Upper Lakes and St. Lawrence Transportation Company of Toronto, Ontario, which later became Upper Lakes Shipping. Placed under Canadian flag, she was renamed *Victorious,* after a famous racehorse owned by Canadian distiller Joseph Seagram.

Victorious operated mainly in the grain trade until she was laid-up for the final time at Toronto on December 6, 1968. The following year she was sold to the Toronto Harbour Commission, and on July 21, 1969, *Victorious* was sunk as breakwall in Humber Bay. Her career had spanned seventy-four seasons. Launched as the 398-foot Queen of the Lakes, by the time she met her end one Great Lakes shipping company was already in the process of building the first thousand-foot ore carrier. As the *Victory* and *Victorious,* she had seen shipments of iron ore grow from just over ten million tons a year in 1895 to more than eighty-six million tons in 1969. Few vessels in the history of shipping on the lakes had ever seen such changes. In retrospect, her names were wisely chosen.

Notes

1. "A Short Historical Sketch of the Detroit Dry Dock Company," *Telescope* 15, no. 4 (April 1966): 86.
2. Richard Wright, *Freshwater Whales* (Kent, OH: Kent State University Press, 1969), 8.
3. Dwight True, "Sixty Years of Shipbuilding," paper presented at the meeting of the Great Lakes Section, Society of Naval Architects and Marine Engineers, October 5, 1956, 11.
4. Ibid.
5. A. C. Hardy, *The Book of the Ship* (New York: Macmillan Company, 1949), 63.
6. Walter Havighurst, *Vein of Iron* (New York: World Publishing Company, 1958), 89–90.
7. Dana Thomas Bowen, *Lore of the Lakes* (Daytona Beach: Dana Thomas Bowen, 1940), 193.