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Queen of the Lakes

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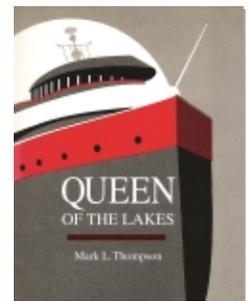
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Canadian Royalty

The shipping industry on the Great Lakes has had a binational character dating back to 1755, when the first British vessels built at Oswego, New York, first shared Lake Ontario with the small, preexisting French fleet. After the British took control of Canada in 1763 and the U.S. gained its independence from England in 1783, vessels flew either the British ensign or the stars and stripes of the new nation south of the lakes until 1867. In that year, Canada was granted dominion status, and ships in the large Canadian fleet began operating under their own national flag.

Ships flying the national ensigns of the U.S. and Canada shared the busy shipping lanes of the Great Lakes after 1867, yet from the debut of the iron-hulled *Onoko* in 1882 through the launchings of Shenango's *Schoonmaker* and *Snyder, Jr.*, in 1911 and 1912, the successive heirs to the Queen of the Lakes title had always been U.S. ships. Trading mainly between ports on the upper lakes and urban and industrial centers on Lake Ontario and the lower St. Lawrence River, the Canadian ships were limited in size by the dimensions of the locks in the Welland Canal, which first connected Lake Erie and Lake Ontario in 1829. Although the canal had been modernized in 1850 and again in 1867, in the second decade of the twentieth century the locks could still only accommodate ships of up to 270 feet in length.¹ Because of the importance of the trade to Lake

Ontario and the lower St. Lawrence, most Canadian shipowners were hesitant to build ships too large to transit the Welland.

STR. W. GRANT MORDEN

625'x59'2"x27'9"

Queen of the Lakes

April 4, 1914 to June 23, 1926

The long U.S. monopoly of the Queen of the Lakes title finally came to an end on Tuesday, April 4, 1914, at Port Arthur, Ontario. Thousands of excited residents of Port Arthur and neighboring Fort William joined with many of their country's top shipping executives and government officials at Western Ship Building and Dry Dock Company two days after Easter to watch the launching of the *Str. W. Grant Morden*. At 625 feet in length and 8,611 gross tons, the *Morden* was the largest ship ever built in Canada, the longest ship on the Great Lakes, and the first Canadian Queen of the Lakes.

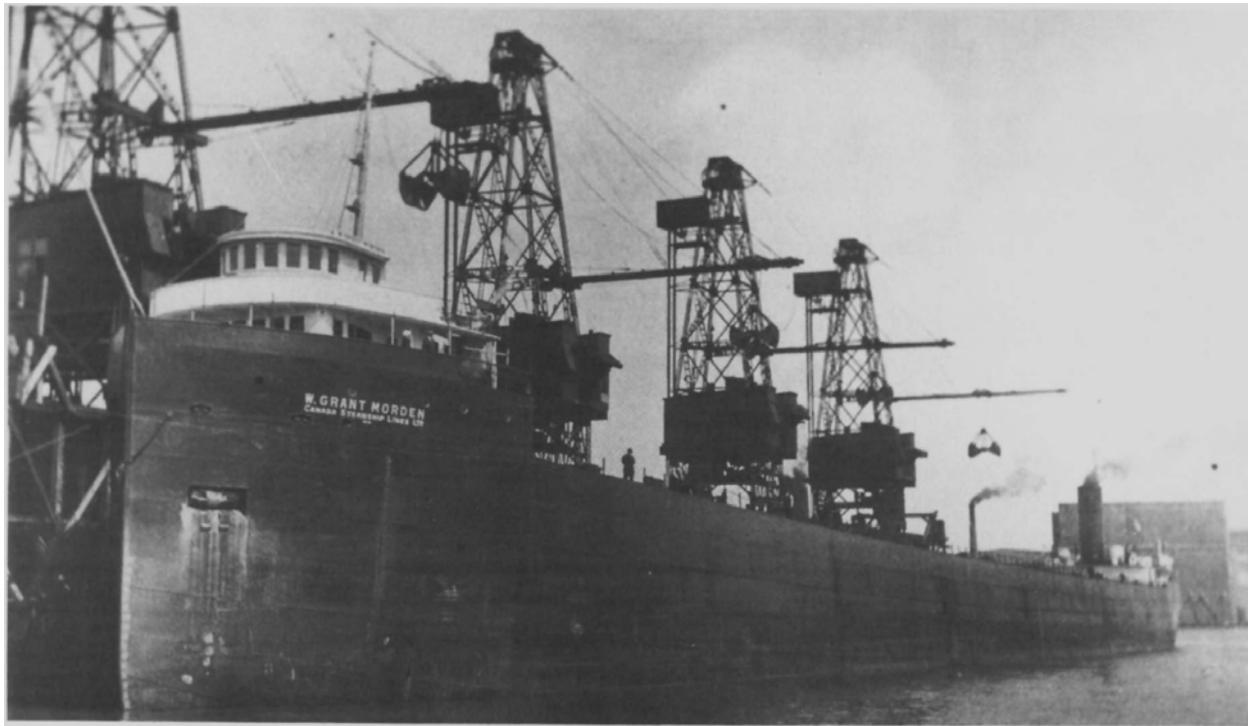
The *Morden* had been built for Canada Steamship Lines (CSL), Canada's oldest and largest shipping company. CSL could trace its colorful history back to the formation in 1845 of

La Société de Navigation de la Rivière Richelieu, the Society for the Navigation of the Richelieu River. The historic company had been formed by a group of farmers who lived along the banks of the Richelieu River in St. Charles, Quebec, and who were interested in finding a way to transport their produce to markets in Montreal. A collection taken at the organizational meeting of the society financed the fleet's first vessels, the *Str. Richelieu* and its barge consort, the *Sincennes*. The grassroots venture proved to be highly successful, and the Richelieu fleet eventually combined with a number of other Canadian shipping companies to form CSL in 1913. That same year, CSL contracted with Western Ship Building, a subsidiary of American Ship Building, to construct the *Morden* for their upper lakes trade.²

In addition to its record-breaking length, the *Morden* is remembered as having been one of the early Great Lakes freighters built on the Isherwood system.³ Developed by Sir Joseph W. Isherwood, a British naval architect, the system involved the use of longitudinal rather than transverse side framing. The main advantage of Isherwood's technique was that ships built with longitudinal framing were much lighter. The biggest negative was that ships with longitudinal framing were exceptionally flexible and tended to undulate in a seaway.

James G. Wallace, president of American Ship Building, thought the Isherwood system was perfectly suited to the peculiarities of shipping on the Great Lakes.⁴ Because longitudinal framing reduced a ship's weight, it resulted in a vessel that could carry more cargo than a conventionally framed ship of

The *W. Grant Morden* of Canada Steamship Lines, the first Canadian Queen of the Lakes, discharging a cargo of coal at Port Arthur, Ontario, one of two neighboring communities on the rugged north shore of Lake Superior that later merged to form the thriving city of Thunder Bay. Built at Western Shipbuilding in Port Arthur, and launched on April 4, 1914, the *Morden* was one of the few ships on the lakes built according to the Isherwood system of longitudinal framing. The *Morden* was too large to fit through the diminutive locks of the Welland Canal that connected Lake Erie and Lake Ontario. (Institute for Great Lakes Research, Bowling Green State University)



equal size operating at the same draft. Drafts on the lakes have always been severely limited by the shallowness of river channels and harbors, and the ratio of depth to length on bulk freighters has always been extremely high. At a time when the accepted rule of thumb for ocean ships was to make the length ten times the depth, Great Lakes ships had lengths that were routinely eighteen times their depth.⁵ In 1910, AmShip signed a licensing agreement with Isherwood giving them exclusive rights to use his system on the Great Lakes. Although it was in vogue for four or five years, the Isherwood system fell from favor with shipowners not long after construction of the *Morden*.⁶

Another early Isherwood-framed ship was the *Str. Renown*, launched at AmShip's Lorain yard on May 20, 1911. Owned by Standard Oil Company, the 390-foot vessel was the first U.S. tankship on the Great Lakes. The world's first tankship, the *Glaukauf*, had been built in England in 1886 for the German-American Petroleum Company. While Imperial Oil Company of Canada employed several vessels to haul liquid petroleum products as early as 1902, the first real tanker on the lakes was their 200-foot, English-built *Imperial*, which went into service in 1910. The following year, a second tanker, the 243-foot *Impoco*, joined the *Imperial* in moving oil products from Imperial's refinery at Sarnia, Ontario, to ports throughout Canada.

In the same way that most U.S. bulk freighters on the lakes were significantly larger than their Canadian counterparts until the *Morden* came along, the *Renown* dwarfed the two *Imperial* tankers. It had a carrying capacity of 44,000 barrels—1,800,000 gallons—of liquid bulk products.⁷ By the time the *Morden* made its debut, tankships were well-established in the growing liquid bulk trade on the lakes.

The *Morden* looked much like the big Shenango freighters, except that she had an unusually high forecastle deck at her bow. Another minor difference that undoubtedly went unnoticed by most boatwatchers was the presence of anchor wells. In 1926, most ships on the lakes didn't have anchor wells. The stocks of their anchors pulled up into the round hawseholes in their hulls, while the flukes of the anchors hung outside the hulls. On the *Morden*, the anchor flukes pulled up into an anchor box set into the side of the hull. In that way, the anchor flukes did not protrude beyond the lines of the hull and could not foul on anything or be damaged when the ship was dockside.

The *Morden* was far from the first ship to be built with anchor wells. They dated back to at least 1886, when the *Str. Susquehanna*, then the Queen of the Lakes, was built with anchor wells to accommodate her large wood-stock anchors. The practice did not catch on with shipbuilders or shipowners,

however, until after the turn of the century. One of the early bulk freighters equipped with anchor wells was the 545-foot *Str. Harvey D. Goulder*, launched in 1906 at AmShip's Lorain yard. Even then, the standard 600-footers that also came out in 1906, and ships like the *Schoonmaker* and *Snyder, Jr.*, of 1911 and 1912, were built without anchor boxes. The innovation became slightly more common during the second decade of the twentieth century and gained fairly wide acceptance during the 1920s. While the *Morden* had been built with anchor wells, CSL continued to build ships without them as late as the 1950s, although they had by then become standard on U.S. bulk freighters.

The red-hulled *Morden* went into service two months after its launching. On June 15, 1914, it loaded its first cargo of iron ore at Escanaba, Michigan, and set sail for Port Colborne, Ontario, at the Lake Erie entrance to the Welland Canal. There the cargo was off-loaded for transfer to smaller, canal-size freighters that would carry the ore through the Welland to steel mills on Lake Ontario.

That first cargo was far from a record, however. Even though the *Morden* was the longest ship on the lakes, it was more than four feet narrower and had less carrying capacity than Shenango's *Schoonmaker* and *Snyder, Jr.* While it smashed all previous Canadian cargo records, the big CSL freighter did not set a Great Lakes record until it was well into its fourth decade of operation. On April 30, 1947, the first Canadian Queen of the Lakes finally got into the record books when it loaded 589,844 bushels of barley at Fort William for shipment to Kingston, Ontario. By then, the name of the ship had been changed, so it was the *Donnaconna*, not the *Morden*, that established the record. CSL executives had adopted the new name in 1926 to honor an Indian chief who had been taken to France by Jacques Cartier in 1535.⁸

While tankships were the newest breed of vessels on the lakes when the *Morden* was launched, a second new type came out two years later. In 1916, Huron Cement had the small bulk freighter *Samuel Mitchell* rebuilt as the first bulk cement carrier on the Great Lakes.⁹ Like the tankers, the "cement boats" rapidly carved out a niche for themselves. While they continue to play an important role in Great Lakes shipping, the tankers or cement boats are commonly called on to deliver cargoes to terminals that can only be served by relatively small vessels. As a result, tankships and cement boats have never been contenders for Queen of the Lakes honors. In fact, among the tankers and cement carriers that have operated on the lakes, the largest is the 552-foot *Str. Medusa Challenger*, owned by Medusa Cement. Converted for the cement trade in 1967, the *Challenger* can haul 11,600 tons per trip, enough to build over ten miles of two-lane highway or make 6,700,000 concrete blocks.¹⁰ Like

most cement boats, the *Challenger* is a converted bulk freighter. It predates the launch of the *Donnaconna*, née *Morden*, having originally been built in 1906 as the *William P. Snyder*, the first ship in the Shenango Furnace fleet.

On December 16, 1964, the pilothouse and forward quarters of the *Donnaconna* caught fire while the ship was downbound on Lake Huron, north of Port Huron. Extensively damaged, the ship was taken in tow to Walkerville, Ontario, by the tugs *Maine* and *Superior*. There, during the winter of 1964-65, the fire damage was repaired, and a totally new pilothouse was installed.

Five years later, CSL decided to scrap the fifty-five-year-old freighter. Decades of service on the lakes, combined with her light construction, had taken a toll on the *Donnaconna*. On July 12, 1969, the first Canadian Queen of the Lakes arrived in Bilbao, Spain, in tandem tow with the sixty-seven-year-old U.S. freighter *Ben E. Tate*, for scrapping.¹¹

The historic CSL freighter was the longest ship on the Great Lakes for eight years, from 1914 until 1926, longer than any previous ship had held the Queen of the Lakes title. At the same time, because of her narrow beam, the *Morden* could never equal the carrying capacities of the older *Schoonmaker* and *Snyder, Jr.*, or that of the *Fred G. Hartwell*, a near-identical sister to the *Schoonmaker* and *Snyder, Jr.*, that was launched in 1923. In 1924 and 1925, four new freighters with carrying capacities greater than the CSL ship were added to the fleet on the lakes.

The first of the four new giant carriers were the *Str. Joseph H. Frantz* and the *Str. Edward J. Berwind*, both launched in 1924. The *Berwind* was 612 feet long, while the *Frantz* was slightly longer at 618 feet. They were joined the following year by the *Str. John A. Topping*, 621 feet, 9 inches long, and the *Str. William G. Mather*, which was identical in size to the *Frantz*. All four were built at Great Lakes Engineering Works' new shipyard at River Rouge, Michigan. The *Berwind* was owned by Hanna Mining, while the *Frantz* and *Topping* were built for Oglebay Norton's Columbia Transportation Division, which had been formed in 1920. The *Frantz* was to be that fleet's new flagship. Similarly, the *Mather* was built as the new flagship for the Cleveland-Cliffs fleet. The three new freighters had 62-foot beams, and, while a few feet shorter than the *Morden*, they could carry about 13,900 gross tons per trip, compared to only 13,500 for the pride of the Canadian fleet. Interestingly, all fell short of the 14-15,000 gross tons that could be carried by the smaller *Schoonmaker*, *Snyder, Jr.*, and *Hartwell* with their 64-foot beams.¹²

Ships like the *Schoonmaker*, *Snyder, Jr.*, *Hartwell*, *Berwind*, *Frantz*, *Topping*, and *Mather* produced record profits for their owners. According to figures used by the Lake Carriers'

Association in a federal income tax dispute, during the 1916-20 period the average ship capable of carrying 10,000 gross tons of cargo generated gross revenues of about \$5.95 per mile. With expenses of about \$3.87 per mile, they earned their owners \$2.08 per mile in profits. By comparison, the average freighter capable of carrying in excess of 10,000 gross tons of cargo brought in income of \$7.56 per mile. Their operating expenses were only slightly higher than those of the smaller ships—\$4.48 per mile—so owners of the biggest boats recorded profits of \$3.08 per mile. The average ship with a cargo capacity of more than 10,000 tons per trip generated profits for its owners that were more than fifty percent higher than profits from ships that could carry only 10,000 tons, and more than seven times the profits from a ship that carried only 5,000 tons.¹³ It is no wonder that shipowners and shipyards were constantly trying to build ships with ever increasing carrying capacities. The economies of scale that exist within the industry ensured that the owners of the biggest ships would make the healthiest profits.

Several other major developments of note occurred on the lakes while the *Morden* was the reigning Queen. In 1915, passage of the LaFollette Act brought an end to the two-watch system for the U.S. merchant marine. Until then, crews aboard U.S. ships had always stood two six-hour watches each day, with six hours off in between. The federal legislation mandated that in the future, crewmembers would work no more than eight hours in any twenty-four-hour period. The two-watch system was replaced by a three-watch system, with crewmembers standing two four-hour watches each day, with eight hours off in between each watch. The Coast Guard granted exceptions where there were shortages of officers, however, and some officers were still standing six-and-six watches as late as 1936. The shift to the three-watch system added about eight additional people to the crews aboard most ships, creating a "housing shortage." In some cases, shipping companies converted passenger quarters for use by the extra crewmembers or replaced the standard double berths with triple-tier bunks. On many ships, the owners solved the problem by installing deckhouses. The deckhouses, referred to commonly as "doghouses," were generally installed in between hatches on the main deck or on top of the stern cabin.¹⁴

In 1925, the 604-foot *Str. William C. Atwater*, built at Great Lakes Engineering Works at River Rouge for Wilson Transit, became the first ship with full-size hatches to have single-piece, steel hatch covers.¹⁵ The heavy hatch covers were lifted by means of an electric hatch crane that straddled the hatches and could be moved up and down the deck on a set of tracks. Once lifted off the hatch coamings, the covers were stowed in the open deck areas between the hatches while loading or unloading.

The single-piece hatch covers had several advantages over the telescoping hatch covers that had become standard on the ore boats after they first appeared on the *Str. Wolvin* in 1904. Because they didn't leak like the telescoping ones did, they did not have to be covered with tarps during inclement weather. In addition, they could be removed or replaced much faster than telescoping hatches. In short, the new hatch covers were much less labor-intensive than telescoping hatch covers. Most new ships built after 1925 had single-piece hatch covers, and many owners of ships built before that time converted their vessels from telescoping to single-piece covers. Today, there are only a couple of ships left on the lakes still using telescoping hatch covers.

Canadians were justly proud of their first Queen of the Lakes. Many hoped that its launching had marked a turning point for the Canadian shipping industry. Like their counterparts on the American side of the lakes, they were infatuated by such giant freighters as the *Donnaconna*. The little canallers that had been the mainstay of the Canadian industry for so many years were workhorses, to be sure, but they were not as awe-inspiring as ships that were more than six hundred feet long. Those who yearned for the Canadian industry to make the transition to big freighters must have been delighted when the *Donnaconna's* title as Queen of the Lakes was passed on to another Canadian freighter in 1926.

Notes

1. Jacqueline Rabe, "The Four Welland Canals," *Telescope* (Nov–Dec. 1985): 147–51.
2. In 1916, CSL purchased Western Ship Building from its American owners.
3. *The American Ship Building Company* (Cleveland: American Ship Building, 1915), 24.
4. Richard Wright, *Freshwater Whales* (Kent, OH: Kent State University Press, 1969), 175.
5. *American Ship Building Company*, 36.
6. Wright, 175.
7. Fred Landon, *Lake Huron* (New York: Bobbs-Merrill, 1944), 361.
8. Gary S. Dewar, "The Steamer *William G. Mather* and Her Contemporaries," *Inland Seas* 46, no. 2 (Summer 1990): 100.
9. Robert E. Lee, "The Green Fleet," *Telescope* 10, no. 7 (July 1961): 124.
10. *Medusa Challenger* (Detroit: Medusa Cement, 1967), 2–3.
11. Ship Biography, Institute for Great Lakes Research, Bowling Green State University.
12. Dewar, 100–03.
13. Lawrence A. Pomeroy, Jr., "The Bulk Freight Vessel," *Inland Seas* 2, no. 3 (July 1946): 197.
14. Harry F. Myers, "Remembering the 504s," *Inland Seas* 44, no. 2 (Summer 1988): 89–90.
15. The whaleback barges and freighters built between 1888 and 1898 by Captain Alexander McDougall had single-piece steel hatch covers, but those hatches were much smaller than covers on conventional freighters. The hatch covers on the whalebacks were small enough to be moved on and off the hatches by crewmembers.