

While one man cranks the spinner, the one holding the "top" walks meeting backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

Ropewalk

The Newsletter for
Shipwrights of Ohio – June 2026

Our Next Meeting: July 18, 2026.
Presentation Topic: ?

Contents

June:	1
Response Required:	1
Open Presentation Slots:	1
Reminders & Announcements:	2
Sea History Activity - Brig Niagara Update:	2
Ship Modeling Helps:	4
Echo Cross-Section Model	4
Shop Notes 1 & 2	4
How to Plank Your Ship's Deck	4
Model Ship World - Update	4
Ships on Deck	5
From The Ohio Scene	5
National Museum of the Great Lakes	5
Events & Dates to Note:	6
2026 Tentative Schedule	6
Presentation Schedule:	6
Cargo Hold	6
Wooden Steamers on the Great Lakes	7
1881-E	7
Notes	13

June: It is the middle of the year 2026, and it looks like we are in the "summer doldrums". Did you get Jeff's updated presentation with the photos? Did it help you understand what he was presenting?

The June 2026 scheduled road trip to the Warther Carving Museum was canceled due to lack of interest. Lee and Donna Kimmins went, and hopefully, so did Bill Schwartz and Phil Neldon. And I really liked all the progress reports on your ship modeling. As you will see, the "Ships on deck" is a "blank sheet". Did anyone get anything done?

We still have an open presentation slot for July. Ladies and gentlemen, this is not difficult. With today's technology you can present a topic from anywhere. If you have doubts, ask Julia. She has presented from France. So, it is not technology that is holding you back and it is certainly not a lack of topics. We have at least 89 different topics that have been presented in the last 23 years. So, what is it?

If you look at the presentation schedule, found on page 5, you will notice that your "Ropewalk" editor has his name posted three times: January, August and October. It is your club, so where is yours?

If you will be traveling east in the next two weeks, take advantage of the 250th celebrations, or drive up to Erie to welcome the *Nigeria* home.

"And finally: take care of yourself and your families, look to those you know who may need help or are lonely and may need human contact."

And finally, I pass on to you and old seaman's comment: "You can't control the wind, but you can adjust your sails."

Have a great Fourth.

Response Required:

Open Presentation Slots:

Currently, there is still one open presentation slot available: July 2026. For those of you who have never presented, this is an opportunity for you to learn and to share your knowledge. The subject can be on a topic that you have done research, and you will be sharing that knowledge with the rest of the members.

It was suggested that the July's presentation may cover "rigging cannons". Four years ago, Dr. Steven Keller gave a talk on "Cannon Rigging and Accessories". I also have Roger Holmes paper on "Gun Tackle Operations" from 2015. In my files, I also have Making Cannon carriages by Bob Hunt, 2017; and a few short papers on Naval Truck Carriages. This may be a skill that you will need to know and understand in your present build.

A list of past presentations was attached in the April "Ropewalk" Look over the list and if something grabs your interest, check with the skipper, we may already have an older presentation that you can use, adapt and update, before presenting.

Reminders & Announcements.

Sea History Activity - Brig Niagara Update:



*U.S. Brig Niagara - Tracking a Milestone
June 2, 2026*

The major structural preservation and refit work on the U.S. Brig *Niagara* is officially 100% complete!

This week, Captain Richard Bailey and the crew began the 2,000-nautical-mile voyage back to Pennsylvania. We look forward to welcoming the flagship back to her berth at the Erie Maritime Museum on **July 2nd**.



She left on her return journey, June 22, 2026, at 12:37 pm. Last report puts her in the Saint Lawrence River, June 22, just south of Montreal.

A Recap: After a year-long rebuild, historic War of 1812 ship heads home to Lake Erie



BOOTHBAY HARBOR, Maine — A day before USS *Niagara* was scheduled to go back into the water — after a nearly year-long refit and restoration — shipyard workers are still, quite literally, plugging holes.

Ross Branch, the lead shipwright at Bristol Marine, was installing a valved water intake in *Niagara*'s underside, using a marine sealant called Sikiflex.



"The launch is tomorrow, and Sikiflex can cure underwater. So, it's a good choice in this instance," he says, holding the fitting from the bottom while another worker cinches it down flush and watertight.

It's one of a long list of tasks that must be completed before *Niagara* slips back into the water, capping the extensive restoration at the Boothbay Harbor shipyard that includes work to the hull, deck and other structural parts.

Once completed, the two-masted, 20-gun brig — credited with a pivotal victory in the War of 1812 — will head home to Erie, Pa., just in time for America's 250th anniversary celebrations.



José Hernández-Juviel, who specializes in traditional rigging, climbs USS *Niagara*'s mast.

Captain Greg Bailey first volunteered aboard *Niagara* when he was just 12, more than 30 years ago. He says that the preservation of such tall ships is important to keep nautical traditions alive. "If we aren't actively working to pass on these maritime traditions, they just go away," he says.

Likewise with the construction techniques. Bristol Marine's Samples Shipyard is one of the few in the country that combines the kind of local expertise for restoring a historic wooden-hulled vessel with the facilities to dry-dock a vessel the size of *Niagara*, which is about 200 feet from the tip of the bowsprit to the transom.



Captain Greg Bailey says the current ship does not have many of the original pieces after being extensively rebuilt over the decades.

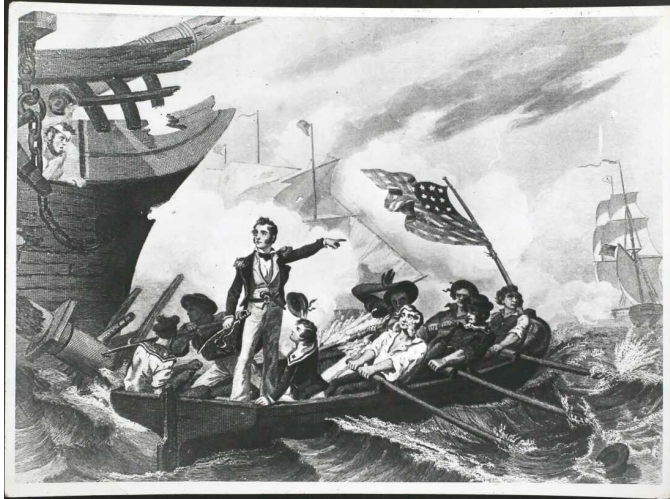
"We specialize in this type of work. ... This project is very much a job that's right in our wheelhouse," Branch says. It combines "traditional

boatbuilding techniques with the need to achieve Coast Guard certifications."

That sign-off from the Coast Guard is necessary because Niagara — normally berthed at the Erie Maritime Museum — is more than a floating exhibit. Each summer, the ship serves as both a training vessel used to teach teenagers to sail and a goodwill ambassador on the Great Lakes, sailing under a 15-star, 15-stripe American ensign — the version of the flag that [inspired "The Star-Spangled Banner"](#) — alongside Niagara's famous "Don't Give Up the Ship" battle flag.

To meet modern safety standards while preserving its historic character, Niagara incorporates contemporary systems and materials. The ship recently received new diesel engines, along with electrical generators, plumbing and modern galvanized fasteners securing replacement hull components in places where the original vessel would have relied entirely on wooden pegs known as treenails.

Technically speaking, the ship is a replica of the vessel that Commodore Oliver Hazard Perry commanded in his decisive defeat of the British at the Battle of Lake Erie in September 1813. The original was intentionally scuttled in the shallow waters off Erie a few years after the war to keep it from rotting and preserve it for possible future use. But it wasn't raised until 1913 to play a ceremonial role in the battle's centennial celebration.



Commodore Olive Hazard Perry is rowed to the Niagara after his first flagship, Lawrence, was destroyed during the War of 1812 in Lake Erie. *Hulton Archive/Getty Images*

After undergoing multiple extensive rebuilds over the years — including this latest one in Maine — little of the original remains. Bailey likens the today's Niagara to the Ship of Theseus, the ancient philosophical paradox that asks whether something can still be considered the same object after all of its parts have been replaced.

"There are pieces of the original that are in there," he says, but not many. What counts more is the people who sail Niagara and the vessel's mission, he says. "It's still very much the same ship."

The year of careful work has taken longer than the approximately eight months required in 1813 to complete

Niagara and its sister ship Lawrence, which was destroyed in the September battle that year. The two

largest and most powerful ships in the American lake flotilla were built in extreme haste to meet an impending British threat.

The original Niagara was made from "all green wood" — not great for ship construction, but there was no time to season any timber, according to Bailey. "They only needed it for one summer. Whether it was going to be captured, destroyed or victorious."

In fact, Niagara emerged victorious and helped secure the Great Lakes and America's northern frontier against the British.

Last-minute preparations



Left: Each summer, the ship serves as both a sail-training vessel for teenagers and a goodwill ambassador on the Great Lakes. **Right:** Hernández-Juviel trained as a biologist, but took a class on rigging 20 years ago and eventually found his niche specializing in traditional ships. *Ryan David Brown for NPR*

The day before Niagara's momentous relaunch, Branch and about a dozen other workers are busy getting last-minute items crossed off the punch list.

José Hernández-Juviel is a subcontractor who specializes in traditional rigging. He started out as a biologist, but about 20 years ago, took a class on rigging. He's found his niche.

"There's probably a handful of us," he says. "This is my passion. This is my bliss. It was a hobby that turned into a second career."

Niagara's rigging is a blend of materials, including modern high-tech Kevlar and traditional tar, so "there is still some of the traditional smells aboard," he says.



Sam Perkins is one of the shipwrights working on Niagara. *Ryan David Brown for NPR*

Down below, some sections of Niagara have only a few feet of headroom. That's where Sam Perkins is putting a galley stove and counter back in around the foremast. Although working on a traditional vessel like Niagara is something of a specialized trade, Perkins came into it by chance.

"I answered an ad on Craigslist," he says. "It said 'enthusiasm counts more than experience.' And I was like, 'I got that.'"

Lillian Kiser Taylor, Niagara's newly hired third mate, also took a circuitous route to the job. For starters, she's from landlocked Tucson, Ariz. She only began sailing a few years ago. "I started as an engineer ... on a rebuild of a boat," she says.



Left: Lillian Kiser Taylor is the third mate on the USS Niagara. **Right:** The vessel on blocks at Bristol Marine's Samples Shipyard as crew members complete final preparations for launch. *Ryan David Brown for NPR*

She will be helping bring Niagara home, but under a new captain — after overseeing the refit, [Greg Bailey is stepping aside](#) for Richard Bailey (no relation).

Since part of the masts and Niagara's square sails are back in Erie, the ship's new engines will power it for the approximately 2,000-mile voyage through the St. Lawrence River, with its extensive lock system.



Shipwrights from Bristol Marine and crew members of the USS Niagara work to secure the vessel against the dock after its relaunch. *Ryan David Brown for NPR*

Kiser Taylor is looking forward to a summer of sailing on the Great Lakes. "I think one of the most beautiful things about [Niagara] is just having square sails, which we have on both masts," she says. "You're climbing aloft every day to set a square. ... It just becomes something that's a part of your life here in the sky all the time, which I love."

But right now, she's focused on getting Niagara back to home port. The biggest challenge for this voyage? The "skeleton crew" of just 14. "When you're underway, you have a 24-hour watch cycle that's just very challenging on your body and mind," she says. "I think it's just the endurance part of getting so little sleep."



An aerial view of the vessel after it meets water in Boothbay Harbor on May 14. *Jay Losiewicz/Pennsylvania Historical and Museum Commission*

On launch day, Niagara was ready to make a splash — at least metaphorically. There are no champagne bottles to be smashed or ribbons to be cut — and no dramatic lurch as the ship meets the water. Instead, a signal is given, and the hull is slowly eased into the harbor, accompanied by the screeching and groaning of a massive chain attached to a cradle running on rails.

The ship will spend another two weeks at the dock in Maine before shoving off for the return to Lake Erie, the waters that made its name famous more than two centuries ago.

Ship Modeling Helps:

Echo Cross-Section Model

In 2012, David Antscherl and Greg Herbert held an in-person workshop on the framing of a cross-section model for *Echo*, a sixth-rate ship-rigged sloop built in 1782. In 2015, David and Greg took the model to another level by publishing a manual describing how to fit out *Echo*. For years, the instruction manuals were sold on the Admiralty Models website. Since the retirement of Admiralty Models, these resources were no longer available to the modeling community.

David and Greg have graciously given permission to the Nautical Research Guild to republish the manuals. <https://thenrgstore.org>

Shop Notes 1 & 2

The NRG's old standbys, Ship Modelers' Shop Notes 1 and 2, have recently been put in digital format and are now available for purchase at the NRG Online Store. Both "Shop Notes 1 & 2 are useful companions to your ship modeling tools. <https://thenrgstore.org>

How to Plank Your Ship's Deck

NRG director Toni Levine has created a monograph that demonstrates how to lay out your ship's deck on paper and then transfer that plan for the actual construction. The presented example is of a late 18th century British naval vessel, but techniques applicable to other eras are also demonstrated.

The above three documents can be found at the NRG Store, accessible through the following link:

<https://thenrgstore.org>

Model Ship World - Update

Reminder: Model Ship World is back online.

Members will need to sign up anew. If you have saved your build logs, please consider re posting them.

Ships on Deck

The intro photos for each ship shown above the title is for reference to what the model may look like when finished.



So, what are you working on?

Your editor is accepting photos of your efforts for the June 2026 “Ropewalk” photo file. Include a description of your work shown and any suggestions you have learned on doing the task.

From The Ohio Scene

National Museum of the Great Lakes

The National Museum of the Great Lakes, Toledo, Ohio, was honored at the 2026 Ohio Museums Association Conference in Columbus, receiving both: **Institution of the Year** and **Best Exhibition** for *Dark Waters: True Crime & Mystery on the Great Lakes*.

Presently on display are:

“Currents of Change: The living History of the Great Lakes” – Exhibit – April 22 to October 18, 2026. This exhibit examines the evolving relationship between people and the Great Lakes, highlighting environmental challenges, conservation efforts, and stories shaping the future of our region.

“Lake Erie Starts Here”, a temporary micro exhibit created in partnership with the Lake Erie West Regional Council. This collaborative exhibit highlights the connection between our local waterways and Lake Erie, while encouraging visitors to think about how everyday actions can make a lasting impact on the health of the Great Lakes.

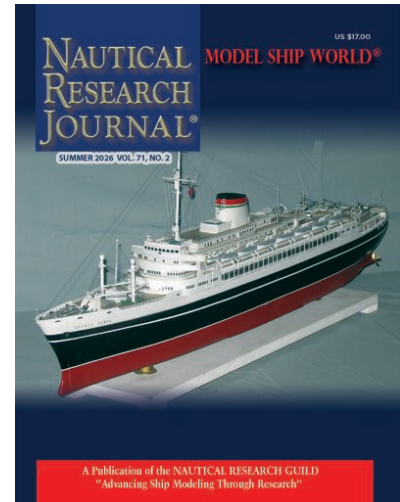
Nautical Research Journal 71.2, Summer 2026 Now Available

The Summer 2026 edition of the Nautical Research Journal is now available for viewing and download. Digital subscribers can access the digital editions using the following link:

<https://content.yudu.com/web/43br1/0A43day/NRG-Summer-2026/index.html>

If you have not yet set up your digital edition access, [click here](#) for instructions on setting your password, or if you have lost your login information, you can reset your password at any time following the instructions AT THIS LINK:

<https://thenrg.org/page-1075423>



Events & Dates to Note:

2026 Tentative Schedule

Lakeside Antique & Classic Wooden Boat

Lakeside Hotel, Lakeside, OH
July 19, 2026

2026 IPMS/USA National Convention

Grand Wayne Convention Center
120 W. Jefferson Blvd.
Fort Wayne, IN 46802
August 5-8, 2026

U.S. Navy “Blue Angles”

Sept. 5-7, 2026, Cleveland

Ohio River Sternwheel Festival

Riverfront Park, Marietta, OH
September 11-13, 2026

Presentation Schedule:

2026 – Schedule Tentative

Jan 17 — ~~Card Modeling~~ — Holloway/Nyberg

Feb 21 — ~~HMS Victoria~~ — Mitchell

Mar 21 — ~~Canceled~~

Apr 18 — ~~Blocks & Tackles~~ — Keller

May 16 — ~~Cases, Bases & Displays~~ — Northrup

Jun 20 — ~~Road Trip~~ — ~~Canceled~~

Jul 18 – Open

Aug 15 – Sump Pump Grump - Nyberg

Sep 19 – Ironclads - Mitchell

Oct 17 – Wooden Steamers on the G.L. - Nyberg

Nov 21 – Thread Railing - Holloway

Dec 19 – Planking & Mayflower Images - Buchanan

Shipwrights of Ohio

2026 Officers & Staff

President – Bob Mains.....614-306-6866

Vice Pres. –

Communications – Bill Nyberg...614-370-5895

Recruitment – Jeff Northrup740-585-0383

Treasurer – Lee Kimmins.....614-378-9344

Web Master – John Boeck..... 937-620-0258

Zoom Master – Steven Keller... 513-280-2210

Web Site: www.shipwrightsofohio.com

Email: shipwright@breezelineohio.net

Editor: Wiliam Nyberg

Shipwrights of Ohio

Shipwright@breezelineohio.net



Cargo Hold

www.shipwrightsofohio.com/cargo_hold/

Here you will find how to order **Challenge Coins**, as shown above, on left, that have been used historically for Identification within an organization, Recognition of achievements, Appreciation of services and Trading/Collecting. Our Shipwrights of Ohio coin contains both the Club Logo and the Club Coat-of-Arms. You can also order Logo shirts from “Lands End”. They offer an on-line link for direct, personal purchases of many of their products without Shipwrights of Ohio logo.

There are currently two logo styles available:

- Full Club logo – with Motto, for digital print use on the backside of T-shirts. 10” or 12” round.
- Small Club logo – without Motto for embroidered or digital print on the front of items. 4” round.



Wooden Steamers on the Great Lakes

Research & written
By William E. Nyberg

The Gilded Age was a period in the United States from 1873 to the early 1890s, and marked by rapid economic growth, political corruption, and social inequality:

- Economic growth: The US became the world's leading producer of coal, oil, steel, and food, and saw a huge increase in the importance of the factory system, railroads, mining, and finance.
- Political corruption: The Gilded Age was marked by widespread political corruption, with wealthy industrialists and bankers holding the most political power. Tammany politicians in New York used fraud, violence, and intimidation to win elections.
- Social inequality: The Gilded Age saw the rise of two distinct classes, separated by a gulf of wealth and circumstance. Women faced a sexual double standard and inequalities in marriage, with limited access to divorce and few long-term career options.
- The Gilded Age name: The term comes from the 1873 novel "The Gilded Age" by Mark Twain and Charles Dudley Warner, which satirically depicted the era's corruption and political figures.
- The Panic of 1873 was blamed for setting off the economic depression that lasted from 1873 to 1879. This period, called the Great Depression, until the even greater depression of 1893 received that label, which it held until the even greater contraction in the 1930s, now known as the Great Depression.
- Other events during the period were: The US seized the Philippines, Puerto Rico, and Cuba after the Spanish-American War (1898).

Supporting the economic growth was the change from wooden vessels on the Great Lakes to larger iron and then steel vessels. To transfer the growing needs of the steel mills and the transfer of grain crops to populated areas, Great Lakes ships needed to be structurally stronger to support the increase cargo weight. Longer vessels were required to support the larger cargos and this required stronger hulls to prevent "hogging" which impacted wooden ships structural keels.

The last wooden steamer, at 100 gross tons or greater, built on the Great Lakes in 1928, was the tug *F.H. Anson* at Collingwood, Ont. The first two iron hulled vessels were built on the Great Lakes in 1844, The *Colonel Albert* for the U.S. Army, at Buffalo, NY; and the *USS Michigan*, for the U.S. Navy, at Erie, PA. The first steel vessel was the propeller *William Chisholm* built by Globe Iron Works at Cleveland, OH in 1884.

1881-E



Thomas H. Smith: Rand & Burger, at Manitowoc, WI, built a wooden steam barge for Leatham & Smith, Sturgeon Bay, WI. Initial enrollment was issued at Milwaukee, December 31, 1881; with her measures recorded as: 130.42' x 27.50' x 11.0'; 281.11 grt, 198.10 net. She was assigned official number 145284. Her original engine is unknown. The steam barge *Thomas H. Smith* was built for towing barges loaded with stone. She was used in 1882 in the lumber trade, plying between Sturgeon Bay and Chicago. In 1890, the steam barge *Thomas H. Smith* received a steple compound engine, 19", 36" bore x 30" stroke, built by Manistee Iron Works, Manistee, MI.

Ownership of the steam barge *Thomas H. Smith* was changed, in 1892, to Leatham & Smith, Towing & Wrecking Co., Sturgeon Bay, MI and was used for wrecking purposes. Her master for the 1893 season was Captain Thomas Olson. In November 1893, with a dense fog hanging over Lake Michigan, the steel package freighter *Arthur Orr* (U107005) collided with and sank the steam barge *Thomas H. Smith*, 5 miles east of Racine, WI. No lives lost.

Her documents were surrendered, Dec. 31, 1893, at Milwaukee and listed as "total loss".



Albert Soper: Duncan Robertson, at Grand Haven, MI, built a wooden steam barge, for Soper & Pond, Inc. Chicago. Initial enrollment at Chicago, April 20, 1881, listed her measures as: 143.42' x 28.00' x 10.42'; 410.50 grt, 324.78 net. Her official number was 105977. She was powered by a high-pressure engine, 25" bore x 30" stroke, 295 horsepower, built by Robert Tarrant, Chicago, in 1881. Steam was generated by a firebox boiler, 7.5' x 16', 90 pounds steam, built by Burt Iron Works, Detroit, in 1881. The steam barge *Albert Soper* was built for the bulk "lumber" trade with a capacity for 450 tons; or 418,000 feet lumber. Her master of the steam barge *Albert Soper* for the 1881 to 1895 seasons, was Captain James Hogan.

Ownership of the steam barge *Albert Soper* was transferred in April 1885, to Soper Lumber Co. 85/120 share; Captain James Hogan, 20/120 share; and

Howard E. Perry, 15/120 share; all from Chicago. In March 1889, the steambarge was rebuilt and readmeasured, with her enrollment updated at Chicago to: 143.42' x 23.25' x 10.42'; 349.35 grt, 268.87 net.

Ownership shares in the steambarge *Albert Soper* were transferred in April 1895, to: Soper Lumber Co. 85/120 share; Alexander C. Soper, 20/120 share; and Howard E. Perry, 15/120 share, all from Chicago. In May 1898, she went on the rocks at Algomah, MI. Released. Her master for the 1900 – 1904 seasons, was: Captain James Hogan, with Frank Costello in 1900; William H. Brown in 1901; Fred Grenell in 1902 and 03; and Harry O'Hara in 1904, as chief engineers.

In October 1904, ownership of the steambarge *Albert Soper* was changed to Nessen Transportation Co. Michigan City, IN. her masters of the steambarge *Albert Soper* were: Captain A. E. Anderson in 1905 with Harry Moore as chief engineer; Captain George Thorsen in 1906, with William Martin as chief engineer; and Captain Harry Nelson in 1907 with Peter Mander as chief engineer.

In February 1908, ownership of the steambarge *Albert Soper* was changed to Winand Schlosser, 1/3 share; Ole Hansen, 1/3 share; and Gustav Clausson, 1/3 share, all from Milwaukee WI. Her master for the 1908 and 09 seasons, was Captain Gus T. Clausson with George F. Hunt in 1908 and Peter Mander in 1909, as chief engineers.

In April 1910, ownership of the steambarge *Albert Soper* was changed to Herman A. Greiling, Green Bay WI.

Chief engineers for the steambarge *Albert Soper* were: Fred Wright and Thomas Toseland as chief engineer in 1912.

In March 1914, ownership of the steambarge *Albert Soper* was transferred to Greiling Brothers, Green Bay WI

In 1916, ownership of the steambarge *Albert Soper* was changed to Bahamas Transportation Company, British West Indies, UK. In March 1920, the registry for the steambarge *Albert Soper* was transferred to Nassau, British West Indies. The steambarge *Albert Soper* broke her crankshaft and had her propeller slipped off. She sank in Governor's Harbour, B.W.I., sometime in 1920.

Southeastern: Augustine Cantin, at Montreal, built a wooden propeller for the Canadian Pacific Car & Passenger Transfer Co., Prescott, Ont. to be used as a car ferry and ran between Prescott, Ont. and Ogdensburg, NY across the St. Lawrence River. Enrolled at Montreal, Que., April 02, 1882, her measures were: 182.0' x 30.0' x 10.0; 395.31 grt, 268.82 net. Her official number was Canadian 80690. She was powered by a two, high pressure, inclined engines; 22" bore x 20" stroke, 400 horsepower, built by Gilbert & Sons, Montreal, Que. in 1878. Steam was generated by a boiler, 2.5' x 18', 85 pounds steam, built by Gilbert & Sons.

In 1886, ownership of the car ferry *South Eastern* was changed to Richelieu and Ontario Navigation.

In 1892, ownership of the car ferry *South Eastern* was changed to Canadian Pacific Railroad Co. at Prescott, Ont. She ran between Prescott and Ogdensburg, NY. In June 1897, while docked at Buckley's Dock, Prescott, the car ferry *South Eastern* caught fire and burned to the water's edge than sank in fifteen feet of water. She was raised and rebuilt. In 1898, she was renamed *International*. Master of the car ferry *International*, for the 1907-08 seasons was Captain William Henry with Thomas Murphy as chief engineer. In 1908, she was rebuilt as a barge. She was dismantled in 1914.

The barge *International* was dismantled in 1914.



C. H. Starke: The Milwaukee Shipyard Co., at Milwaukee, WI, built a wooden steambarge for the Milwaukee Tug Company, Milwaukee, whose primary owners were: Conrad H. Starke, ½ share, Milwaukee; et al. Her enrollment was issued at Milwaukee, September 21, 1881. Her recorded measures were: 149.42' x 30.10' x 9.58'; 317.98 grt, 266.71 net. Her official number was 125945. She was powered by a fore & aft compound engine, 18". 28" bore x 20" stroke, 295 horsepower, built by Vulcan Iron Works, Milwaukee and rebuilt 1881. The engine was originally installed in the tug *W. K. Muir* (26367). She was built as a steambarge for the bulk freight lumber trade. Her complete cost was \$45,000. She had the capacity to carry 500,000 feet of lumber. Her masters were: 1881 to 1896 with Captain Orlando J. Parker in 1890; her chief engineer for the 1896 season was John Lacey. In October 1883, downbound, from Muskegon for Chicago, the steambarge *C. H. Starke*, laden with lumber, went ashore at North Point, Milwaukee, in heavy fog. Released after part of the deck-load of lumber was thrown overboard. In 1890. the steambarge *C. H. Starke* was rebuilt and received a scotch boiler, 10' x 10', 110-pound steam, built by McGregor, Milwaukee, WI.

Ownership of the steambarge *C. H. Starke* was changed, in march 1891, to: John Stevenson, ½ share, Detroit; and Paul H. Hoeft, ½ share, Rogers City MI.

In February 1896, ownership of the steambarge *C. H. Starke* was transferred to: Paul H. Hoeft, Rogers City. Her masters were: for the 1896-1906 & 1908-1913, Captain William J. Crosby with John Elsey in 1900; 1901-03, John Lorey; 1904-06 & 1908, John Lacey; and for 1909-13, Herman Radtke as chief engineers.

In March 1916, ownership of the steambarge *C. H. Starke* was changed to Charles H. Bennett, Port Huron MI

In April 1916, ownership of the steambarge *C. H. Starke* was changed to Lake Steamship Co., Mentor OH. Her masters were: 1916 season, Captain William C.

Ziem; and for the 1917 & 18 seasons, Captain H. J. Kendall with Charles Rice as chief engineer in 1918.

Ownership of the steambarge *C. H. Starke* was changed in 1920 to: Cuyahoga Lumber Company, Cleveland.

Final enrollment certificate was surrendered October 10, 1924 and endorsed "abandoned".



Superior: John Simpson, at Owen Sound, Ont., built a wooden propeller tug for R. Power, Barrie, Ont. Launched, May 11, 1881; her first enrollment was issued at Owen Sound, Ont., April 8, 1882. Her recorded measures were: 92.0' x 18.3' x 10.0', 88.51 grt, 70.81 net. Her official number 80908. She was powered by an engine; 15", 27" bore x 24" stroke, 175 horsepower, built by Copp Brothers, Hamilton, Ont. in 1882. The *Superior* was built for towing and delivery of supplies to lumber camps.

In 1895, ownership of the tug *Superior* was changed to J. Waldie, Toronto, Ont.

In 1901, ownership of the tug *Superior* was changed to J. Granley, Sault Ste. Marie, Ont. The final enrollment for the tug *Superior* was closed March 16, 1917 and endorsed 'broken up'.

Ownership of the abandoned tug *Superior* was changed to Canadian Towing & Wrecking Co., Port Arthur, Ont. They in turned had tug *Superior* rebuilt at Port Arthur, Ont.; She was renamed at Canadian enrollment, 1917, as *A. B. Conmee*, 138006: 81' x 20' x 11.66'; 133 grt, 62 net. Masters of the tug *A. B. Conmee* were: for the 1917 & 19 seasons: Captain William S. Nuttall with James Keenan as chief engineers in 1919; and in 1918, Captain A. McKay with P. St. Germain as chief engineers.

In 1921, ownership of the tug *A. B. Conmee* was changed to Russell Timber Co., Port Arthur, Ont. her master for the 1921-24 seasons was: Captain Charles Moore with Louis Williams in 1921; George Hill in 1922; 1923 & 24, David E. Moore; and in 1926, W. Tom as chief engineers.

Ownership of the tug *A. B. Conmee* was changed, in 1935, to A. E. Fader Co., Port Arthur, Ont. In May 1937, the tug *A. B. Conmee* was dismantled and scuttled at Thunder Bay, Ont.



Martin Swain: Built by James M. Jones, at Detroit, for the S. B. Grummond Line, Cleveland, she was launched in the mid 1870's and allowed to remain in an unfinished condition until the winter of 1880, when she was completed. She was valued at \$30,000. Enrolled at Detroit, May 5, 1881, her measures as recorded, were: 123.66' x 25.75' x 10.0'; 285.39 grt, 211.19 net. Her engine is unknown. The tug *Martin Swain* was built as a wrecking tug. Her official number was 91308.

Master of the tug *Martin Swain*, for the 1881-1893 & 1897 seasons was Captain Ed Tormey with William F. Cullen, in 1897, as engineer. In September 1881, bound down, the propeller *Jay Gould* (75117), collided with the up bound, tug *Martin Swain*, with a tow of schooners off Amherstburg, Ont, Detroit River, sinking her. The *Swain* lay on her port side in 13 feet of water at the head of Bois Blanc Island, where she went as soon as she could free herself from the *Gould*. She was raised, drydocked at Spring Wells, MI and repaired. In November 1883, the tug *Martin Swain* was struck and damaged by the propeller *St. Paul* (116762) in the De Tour Passage, St. Mary's River. Property loss was set at \$500. In June 1891, she towed the schooners *Kate Winslow* (14281), *Dauntless* (83021[?]), *Mary Ganges*, and *A. Boody* (872) in the largest tow of the season. In December 1898, the tug *Martin Swain* caught fire and burned to the waterline just above Detour, MI, on the St. Mary's River. She sank in 20 feet of water and was declared a total loss. No lives lost.



Tacoma: Thomas Quayle's Sons, at Cleveland, built a wooden propeller for the bulk freight trade with a capacity of 53,000 bushels of wheat at a cost of \$125,000. She was built with steel arches, diagonal straps on her frames for stability, a steel boiled house, a providence steam windlass, and seven hatches and two decks. Her original owners were: Thomas Wilson, 5/14 share, Cleveland, OH and J.E. Upson, Thomas Quayle, and George L. Quayle. Enrolled at Cleveland, September 9, 1881, her measures were recorded as: 260.58' x 38.58' x 21.58'; 1879.12 grt, 1609.59 net. She was powered by a fore & aft compound engine, 28", 52" bore x 48" stroke, 600 horsepower, built by Globe

Iron Works, Cleveland, in 1881. Steam was generated by a two, firebox boilers, 8' x 16', 95 pounds steam, built by Globe Iron Works. Her official number was 145268. Her master for the 1881 season was Captain John Lowe with Granger Burk as engineer.

Ownership of the propeller *Tacoma* was changed, in March 1882, to Lehigh Valley Transportation Co., Buffalo, NY for the coal trade. Master of the propeller was Captain Fred LaSalle, for the 1883-86 season. In October 1885, bound up, laden with coal, the propeller *Tacoma* became disabled when she lost her rudder, mid-lake on Lake Superior. Repaired and her property loss was set at \$2,500. Her master for the 1886 season was Captain Steven Maitland Murphy. In June 1887, the propeller *Tacoma*, laden with grain, was damaged in a collision with the propeller *Continental* (126016) near Detroit. Masters of the propeller *Tacoma* were Captain James M. Todd in 1888 and Captain Dennis J. Driscoll in 1891 with Adam Haig in 1891, and George F. Hale in 1895, as chief engineers. In 1895, the *Tacoma* received two scotch boilers, 12.5' x 11.5', 140 pounds steam, built by Morgan Iron Works, New York City. Her masters in 1899 were Captain S. Lyons with Samuel Moore, in 1899 & 1900 as chief engineers.

In April 1900, ownership of the propeller *Tacoma* was changed to Lake Shore Transit Co., Vermilion, OH. Her masters were: Captain J. P. Cottrell, in 1900; and Captain George Trotter for the 1901-02 season, with James Hyde in 1901 and Gustave Rogers in 1902, as chief engineers.

In April 1903, ownership of the propeller *Tacoma* was transferred to Gilchrist Transportation Co., Mentor, OH.

Masters of the propeller *Tacoma* were Captain Pierre Bouille in 1903, and Captain Paul Gutch, 1904-05, with T. J. Fowler, 1903-05, as chief engineer. The propeller *Tacoma*, bound up, light, went ashore, in July 1904, on Stag Island, Saint Clair River. Released. Her masters for 1906-08 season was Captain John M. Lohr, with Captain L. J. Laveley in 1909 and Captain Ed Moore for the 1914 season, with J. G. Fowler in 1906, Peter Robertson, 1907-08, and John Abbott in 1914, as chief engineers. In September 1913, the propeller *Tacoma* was damaged in a collision with the steel bulk propeller *P. P. Miller* (200346) in Buffalo Harbor. After lying idle most of the summer at South Mill dock, Ludington, MI, Lake Michigan, in August 1914, the propeller *Tacoma* caught fire and burned to the water's edge.

Nellie Torrent: The Detroit Dry Dock Co., at Detroit, built a wooden schooner, hull # 00052' for John Torrent, of North Muskegon, MI, to be used as a schooner barge for the bulk freight trade. Her initial enrollment was issued at Detroit, July 30, 1881. Her recorded measures were: 140.5' x 28.70' x 10.0'. Her official number was: 130206.

In July 1882, ownership of the schooner barge *Nellie Torrent* was changed to M. Englemann, Manistee, MI. He had her rebuilt as steambarge by Wolf & Davidson Milwaukee. She received a steeple compound engine, 20", 34" bore x 30" stroke, 485 horsepower, built by Jim Sheriff's Co, Milwaukee, in 1881 and a firebox

boiler, 7.5' x 18', 80 pounds steam, built by Ricks & Davis, also from Milwaukee, in 1881. Her enrollment record was updated in September 1882: 302.66 grt. 276.76 net. Late in 1882, the steambarge *Nellie Torrent* was employed in lumber trade between Manistee & Chicago. In August 1883, the steambarge, with a top-heavy deck load of shingles, capsized and became waterlogged near the mouth of the Chicago harbor. The vessel was raised and required recaulking. In August 1884, the steambarge *Nellie Torrent* was damaged in a gale on Lake Michigan. She was repaired and her hull damage set at a loss \$400. In April 1885, laden with lumber, the steambarge *Nellie Torrent* went aground at Fox Point, Lake Michigan. She was released and her property loss set at \$1,000.

Ownership of the steambarge *Nellie Torrent* was changed, in April 1888, to Manistee Salt & Lumber Co., Manistee, MI.

In March 1889, ownership of the steambarge *Nellie Torrent* was changed to Penoyer Brothers, Oscoda, MI & George W. Pack, Ashville, NC. Her chief engineers, for the steambarge *Nellie Torrent* were: Lewis C. Purdy in 1891, and Henry Odette in 1891 & 92. In April 1892, the *Nellie Torrent* completed the install of a triple compound engine from Phoenix Iron Works. In September 1895, the steambarge *Nellie Torrent* went ashore at Shell Drake, Saint Mary's River. Released.

Ownership of the steambarge *Nellie Torrent* was changed to George D. Jackson, Bay City, MI. in April 1896. Her master of the steambarge *Nellie Torrent* for the 1898 season, was Captain Charles K. Jackson. Bound down, on Lake Superior, in April 1899, laden with lumber, the steambarge *Nellie Torrent* caught fire in her hold and was beached near Lime Island, abreast of Point Au Frame, on Lake Huron, where she burned to her water's edge. No lives were lost.

Her final enrollment certificate was surrendered at Port Huron, MI, June 30, 1899.



Virginius: Daly & Sons, Mount Clemens, MI, built a wooden schooner barge for William J. Daly, ½ share; and P.S. Shook, ½ share, both from Mt. Clemens, MI. Her official number was 25992. She was built for the bulk freight lumber trade. In 1882, the schooner barge was towed by steambarge *Pacific* (19616) with barge *Canton* (125614) in the Toledo to Milwaukee coat trade.

In April 1885, ownership of the schooner-barge *Virginius* was transferred to William J. Daley, ½ share; George W. Robertson, ¼ share; and James B. Eldridge, ¼ share, all from Mt. Clemens, MI.

In May 1885, ownership of the schooner-barge *Virginius* was transferred to William J. Daley, ½ share;

and Robert Shook, ½ share; both from Mt. Clemons, MI. During winter layup 1886-87, The schooner-barge *Virginus* was converted to a propeller. Her engine was a steeple compound, 17", 30" bore x 28" stroke, 380 horsepower, built by Samuel Hodge & Co., Detroit, in 1881. Steam was generated by a firebox boiler, 8'6" x 14', 100 pounds steam, built by Buhl Iron Works, Detroit. Her enrollment measures were changed, May 09. 1887, at Detroit, to: 160.5 x 31 x 11.5; 509.82 grt, 468.37 net.

Ownership of the steambarge *Virginus* was changed, May 10, 1887, to Simon Cobb, 1/3 share; Thomas D. Stimson, 1/3 share; and Howard E. Perry, 1/3 share, all from Chicago, IL. On May 18, 1887, the steambarge *Virginus* was renamed *Thomas D. Stimson*, (25992).

Ownership of the steambarge *Thomas D. Stimson* was transferred, November 1887, to: Thomas D. Stimson, 7/12 share; Simon Cobb, ¼ share; and Howard E. Perry, 1/6 share, all from Chicago.

In April 1890, ownership of the steambarge *Thomas D. Stimson* was transferred to Simon Cobb, Chicago, IL. In September 1890, the steambarge *Thomas D. Stimson* struck Gate No. 18, Welland Canal. Repaired. Lewis C. Purdy, served, 1892-97, as chief engineer for the steambarge *Thomas D. Stimson*.

Ownership of the steambarge *Thomas D. Stimson* was changed in January 1893, to: Charles Lonsby, ½ share; and J. Lonsby & Sons, ½ share; both from Mt. Clemons, MI. In May 1893, the steambarge *Thomas D. Stimson* went aground due to heavy winds, at the lower end of Lake George, MI, St. Mary's River.

Ownership of the steambarge *Thomas D. Stimson* was transferred, in June 1893, to Charles Lonsby, ½ share; and Louis Wolf, ½ share; both from Mt. Clemons, MI.

Ownership of the steambarge *Thomas D. Stimson* was transferred, in September 1895, to: Charles Lonsby, ¼ share; Louis Wolf, ¼ share; and James E. Tucker, ¼ share; all from Mt. Clemons, MI; et al.

In May 1896, ownership of the steambarge *Thomas D. Stimson* was transferred to: J. Lonsby & Sons, ¼ share; Thomas W. Newton, ¼ share; James E. Tucker, ¼ share; all from Mt. Clemons, MI; et al.

In April 1897, ownership of the steambarge *Thomas D. Stimson* was changed to George Storz, Port Huron, MI.

In April 1900, ownership of the steambarge *Thomas D. Stimson* was changed to: Charles O. Duncan, 2/3 share, Port Huron; and Forrest E. Ebelring, 1/3 share, Au Sable, MI.

In April 1902, ownership of the steambarge *Thomas D. Stimson* was changed to Arthur B. Slyfield, ½ share; and Mary E. Slyfield, ½ share; both from Port Huron, MI. In June 1903, the steambarge *Thomas D. Stimson*, laden with lumber, caught fire from an exploding engine room lamp while under way on Lake St. Clair at Riverside, MI, near Algonac. She burned to a total loss.



Wales: John Perry & John Dyble, at Sarnia, Ont., built a wooden, propeller, towboat for J. C. Hughston & Co. Enrolled at Toronto, Ont., in 1881, her measures were: 126' x 24' x 11'; 350.0 grt, 238.0 net. Her official Canadian number was 83375. She was powered by a high-pressure, double condensing engine, with two cylinders each 22 3/8" bore x 20" stroke, 520 horsepower, built by E. E. Gilbert, Montreal, Que. Steam was generated by two, tubular boilers, 7' x 15', 80 pounds steam; original installed in the Canadian towboat built in 1864, *Wales*. She was built as a wrecking towboat and for towing barges. Her master, in 1881, was Captain Alex Smythe.

Ownership of the towboat *Wales* was changed in 1884, to Muskoka Mill & Lumber Co., Toronto, Ont. In May 1890, the propeller *Canisteo* (126360) down bound on the Niagara River, struck the down bound towboat *Wales* in the stern, sinking her. She was raised, drydocked and repaired. In August 1891, bound down from Muskoka Mills for Buffalo, the towboat *Wales*, towing the lumber barge *Lewis Hotchkiss* (C-1871), laden with lumber, had to cast the barge adrift during a gale on Lake Huron, when the *Wales* sprang a leak and started sinking. She made it to Port Huron and then to Sarnia where she was pumped out and repaired. The *Hotchkiss* broke up in the gale and her crew abandoned her and made it to Port Blake, south of Grand Bend, Ont., without a loss of life.

Ownership of the towboat *Wales* was changed in February 1892, to Captain F. T. Hackett, Amherstburg, Ont. She would be used in wrecking work and was stationed at Amherstburg, Ont.

In 1895, ownership of the towboat *Wales* was changed to Wescott Wrecking Co., Sarnia, Ont. In June 1902, operational control of the towboat *Wales* was transferred to Great Lakes Towing Co.

The towboat *Wales* was abandoned in 1904.

Belle Wilson: William Redmond, at Picton, Ont., built a wooden steambarge for Collier Ross et al, Picton, Ont. Initial enrolled at Picton, June 13, 1881, her measures were recorded as: 103.3' x 24.1' x 10.1'; 185.8 grt, 119.7 net. She was powered by a high-pressure engine, 16" bore x 18" stroke, 100 horsepower, built by Davidson & Doran, Kingston, Ont. The steambarge *Belle Wilson* was built for the package freight trade with a capacity for 12,000 bushels. Her official number was Canadian 80953. In August 1893, bound from Trenton, Ont., Bay of Quinte, to Oswego, NY, the steambarge *Belle Wilson*, laden with lumber, went aground on Morden's Bar. She was lightered to be released.

Ownership of the steambarge *Belle Wilson* was transferred to Walter Ross, Captain James Collier, James Gillespie and Stewart Wilson all from Picton, Ont. Her master for the 1886 & 87 seasons was Captain James Collier, and for 1888, Captain McGregor with

Charles Goyette as chief engineer for 1886 & 87. In November 1886, bound from Napanee and Deseronto for Oswego, NY, laden with 11,800 bushels of barley, the steambarge *Belle Wilson* went ashore on Ford's Shoal, four miles east of Oswego, during a snowstorm. The vessel had run eastward with good weather until reaching the Main Ducks. Struck by the storm, the *Belle Wilson* lost her rudder and the crew rigged a foresail which blew out and then rigged a jib and a drag with 600 feet of line to serve as a rudder. They reached Oswego and tried to make port but failed. They ran up the lake, turned around, and when close to the port let go the anchor but it failed. The vessel broached on Ford's Shoal which is a flat rock with about four feet of water. They were able to lower the boat and the captain and crew of 9 made shore. The waves raised the vessel off the shoal and carried her to the shore. Late in November 1886, the steambarge *Belle Wilson* was released and towed to dry dock for repairs. She had lost her rudder, shoe and strained her hull. In October of the following year, while entering the Detroit River, the steambarge *Belle Wilson* struck a sunken obstruction, damaging her stern bearings. She was towed to Detroit for repairs.

In July 1887, ownership of the steambarge *Belle Wilson* was changed to Alexander Kidd, Sarnia, Ont.

In April 1888, ownership of the steambarge *Belle Wilson* was changed to Blind River Navigation Co. Sarnia, Ont. On August 8, 1888, the steambarge *Belle Wilson* foundered on Lake Huron. Bound up, for Algoma Mills, the steambarge *Belle Wilson*, with the schooner *Aurora* in tow, both laden with coal, when she began leaking during a storm on Lake Huron. Her pumps were clogged with coal dust and taking on more water than the pumps could handle, her fires were extinguished and she finally sank. Her crew were picked up by the barge *Droke* and taken to port. No lives lost.



Albert J. Wright: R. Mills & Co., at Buffalo, NY; with John Humble as master carpenter, built a wooden excursion yacht for Labon B. Fortier, Buffalo. Enrolled at Buffalo, June 9 1881, her measures were: 115.0' x 21.60' x 9.00'; 258.48 grt, 214.54 net. Her assigned official number was 105993. She was powered by a low-pressure engine, 24" bore x 26" stroke, originally installed in the Seneca Lake steamer *Ontario*. Steam was generated by an Otis steel boiler, 8.5' x 14'. Her owner planned to use her on the Niagara River as an excursion steamer with a capacity for 800 – 900 passengers. Master of the steam yacht *Albert J. Wright* was Captain James Doyle for the 1881 & 82 seasons with M. A. Young as chief engineer in 1881; and Captain Thomas McGowan in 1882 with Robert E. Walker in 1883, as chief engineer. The yacht *Albert J. Wright* operated between Buffalo and Niagara River ports for the 1881 season. In July 1884, in route to Port Colborne,

Ont., Lake Erie, the steam yacht *Albert J. Wright* struck a rock and broke her wheel. She returned to Buffalo for repairs. In October of 1884, the steam yacht *Albert J. Wright* was altered to do towing.

Ownership of the steam yacht *Albert J. Wright* was changed, in May 1885, to South Shore Transportation Co., Chicago, IL

Ownership of the steam yacht *Albert J. Wright* was changed, in April 1886, to John B. Lyon, Chicago, IL.

Ownership of the steam yacht *Albert J. Wright* was changed, in July 1886, to William Botsford, et al., Port Huron, MI. For the 1886 summer excursion season, the *Albert J. Wright* operated between Port Huron and Port Hope, Ont.

Ownership of the steam yacht *Albert J. Wright* was changed, in July 1886, to William Botsford et al, Port Huron.

Ownership of the steam yacht *Albert J. Wright* was changed, in June 1888, to C. D. Thompson, Port Huron. The steam yacht *Albert J. Wright* was rebuilt at C. J. Rathborne, Port Huron: 2 decks, no masts, 118' x 23' x 10'; 240.57 grt, 124.63 net. The steam yacht *Albert J. Wright* was converted to a wrecker tug and received a steeple compound engine: 20 3/8", 36" bore x 28" stroke, 295 horse power, from Frontier Engine Works; and a firebox boiler, 9.33' x 16', 115 pounds steam from M. Riter, Buffalo. (Date unknown) Master of the steam yacht *Albert J. Wright*, for the 1891 season was Captain Washington B. Harrow with Henry Odette in 1889, and Andrew J. Wilson in 1892, as chief engineers. While in winter layup at Grand Haven, MI, the tug *Albert J. Wright*, caught fire and burned to her water's edge. Repaired, she also received a high-pressure non-condensing engine, 24" bore x 36" stroke, built by Cuyahoga Iron Works, Cleveland, OH. The tug *Albert J. Wright's* old engine was put into the schooner *I. N. Foster* (100031) as she was rebuilt as a steamer.

Ownership of the tug *Albert J. Wright* was changed, in March 1893, to Leathem & Smith Towing & Wrecking Co., Sturgeon Bay, WI. In October 1902, the *Albert J. Wright* went aground on Mackinaw Island, Straits of Mackinaw. Released. In October 1906, the *Albert J. Wright* was rebuilt at Sturgeon Bay, WI: 127' x 21.7' x 10.5', 191 grt, 130 net and renamed *Smith*.

Ownership of the tug *Smith* was sold Canadian, in late 1916, to Reid Towing & Wrecking Co., Sarnia, Ont and enrolled as *Smith*, 138371: 120' x 22' x 10'; 218 grt, 115 net. Final U.S. enrollment surrendered at Milwaukee, December 07, 1916, and endorsed "sold foreign"

Ownership of the tug *Smith* was changed in 1930, to Sincennes McNaughton Co., Montreal, Que.: 127' x 21 2/3' x 10' with a fore & aft compound engine; 30" + 54" bore x 45" stroke, built by H. G. Trout, Buffalo, in 1884 and a firebox boiler, 8 1/2' x 17', 110 pounds steam from M. Riter Co., Buffalo, NY in 1884. In October 1930, the tug *Smith*, during a gale, foundered four miles southwest of Long Point, Ont, Lake Erie. No lives lost.

Notes:

Black River, Ohio: Drains Medina County, emptying into Lake Erie at Lorain, OH.

Cargo-carrying capacity in cubic feet, another method of volumetric measurement. The capacity in cubic feet is divided by 100 cubic feet of capacity per gross ton, resulting in a tonnage expressed in tons.

Freshet: a great rise or overflowing of a stream caused by heavy rains or melted snow.

Mail Steamer: Chartered by the Canadian government to carry the mail between ports.

Navigation: The reader may wonder what, with so few vessels on the lakes, why steamers could not avoid each other. Two main reasons, the visibility during storms and the vessels did not carry any lights so you came upon a vessel you could not determine if the vessel was approaching or departing from you.

Old Style Tonnage: The formula is: $\text{Tonnage} = ((\text{length} - (\text{beam} \times 3/5)) \times \text{Beam} \times \text{Beam}/2)/94$

where: *Length* is the length, in feet, from the stem to the sternpost; *Beam* is the maximum beam, in feet.

The Builder's Old Measurement formula remained in effect until the advent of steam propulsion. Steamships required a different method of estimating tonnage, because the ratio of length to beam was larger and a significant volume of internal space was used for boilers and machinery. In 1849, the Moorsom System was created in Great Britain. The Moorsom system calculates the tonnage or cargo capacity of sailing ships as a basis for assessing harbor and other vessel fees. Up to 1848, most freight shipped on steamers or propellers, as package freight. This meant that coal, grain, apples, and produce were placed in a container or sack and carried aboard on the back of a laborer. Bulk freight in the form of lumber would be loaded on barges and schooners and towed by a steam driven ship. In 1848, Joseph Arnold built, at Port Huron, MI, the steambarge *Petrel* for the bulk freight trade answering a need to move bulk coal to the northern communities and iron ore, lumber, and grain south to the growing cities in the East. By 1848, ships built in that year, continued to operate beyond the "War of Rebellion" and may be listed with two different tonnage ratings. Most ships built on the Great Lakes were rated as Tonnage (Old Style). This dates to the 1600's and comes to the U.S. from our cousins.

Tonnage (Old Style): The British took the length measurement from the outside of the stem to the outside of the sternpost; the Americans measured from inside the posts. The British measured breadth from outside the planks, whereas the American measured the breadth from inside the planks. Lastly, the British divided by 94, whereas the Americans divided by 95. The upshot was that American calculations gave a lower number than the British. For instance, when the British measured the captured *USS President* (a three-masted heavy frigate), their calculations gave her a burthen of 1533⁷/₉₄ tons, whereas the American calculations gave the burthen as 1444 tons. The British measure yields values about 6% greater than the American. The US system was in use from 1789 until 1864, until a modified version of the Moorsom System was adopted (see below).

Unit Ton - The unit of measure often used in specifying the size of a ship. There are three completely unrelated definitions for the word. One of them refers to weight, while the others refer to volume.

Measurement Ton (M/T) or Ship Ton Calculated as 40 cubic feet of cargo space. Example, a vessel having capacity of 10,000 M/T has a bale cubic of 400,000 cubic ft.

Register Ton - A measurement of cargo carrying capacity in cubic feet. One register ton is equivalent to 100 cubic feet of cargo space.

Weight Ton (W/T) - Calculated as a long ton (2,240 pounds) In 1849, a Royal Commission was formed in England with the secretary of the commission as George Moorsom, and the resulting tonnage admeasurement system called the "Moorsom System". The idea of this system is that the fees charged to vessels should be directly proportional to their potential earning capacity, i.e., the space occupied by passengers or cargo. A vessel was measured at a series of sections throughout its length, the transverse area determined at each section, and the areas integrated to determine the volume. The total internal volume, divided by 100, determines the vessel's "tonnage", since at that time, 100 cubic feet was determined to be the appropriate factor so that vessels would maintain approximately equal tonnages under the new and old regulations. There were two tonnages determined under the Moorsom System: "gross" and "net" tonnage. Gross tonnage reflected the entire measured volume of the vessel less certain "exempted" spaces, initially spaces used only for the crew or for navigation of the vessel, and spaces in the superstructure not used for cargo. Net tonnage was equal to gross tonnage less a deduction for the machinery space, reflecting the earning capability of the vessel.

A measurement of the cargo-carrying capacity of merchant vessels depends not on weight, but on the volume available for carrying cargo. The basic units of measure are the *Register Ton*, equivalent to 100 cubic feet, and the *Measurement Ton*, equivalent to 40 cubic feet. The calculation of tonnage is complicated by many technical factors.

The current system of measurement for ships includes:

Gross Tons (GRT) - The entire internal cubic capacity of the ship expressed in tons of 100 cubic feet to the ton, except certain spaces which are exempted such as: peak and other tanks for water ballast, open forecastle bridge and poop, access of hatchways, certain light and air spaces, domes of skylights, condenser, anchor gear, steering gear, wheel house, galley and cabin for passengers.

Net Tons (NT) - Obtained from the gross tonnage by deducting crew and navigating spaces and allowances for propulsion machinery.

P.Q.: Province of Quebec

Packet Freight: Is almost every imaginable item of merchandise – bags of onions, grain, etc., processed foods, bags of coal, stoves, furniture; that can be packed and moved by manpower from dock to hold and reverse.

Room & Space: This term has a specific meaning in the context of shipbuilding, referring to the frame and the gap between the frames of a wooden ship's hull.

Patriot War: A conflict along the Canada – U.S. border where bands of raiders attacked the British colony of Upper Canada more than a dozen times between December 1837 and December 1838. This so-called war was not a conflict between nations; it was a war of ideas fought by like-minded people against British forces.

Ship Inventory: Includes the names of wooden steamers that are identified in the manuscript. The research project that the information was gathered for, included all wooden steamers built on the Great Lakes or St. Lawrence River and operated on the Great Lakes with a gross tonnage at or over 100 tons.

Up-bound: Going against the current – St. Lawrence River to Lake Superior. (Lake Michigan – steaming north)

Down-bound: Going with the current – Lake Superior to the Saint Lawrence River. (Lake Michigan – steaming south)

(Original Source: "Wooden Steamers on the Great Lakes" – Great Lakes Historical Society; Bowling Green State University – Historical Collection; Thunder Bay National Marine Sanctuary Collection; Maritime History of the Great Lakes; and the scanned newspaper collection of the Marine Museum of the Great Lakes, Kingston, Ont. and 746 additional documented sources.)