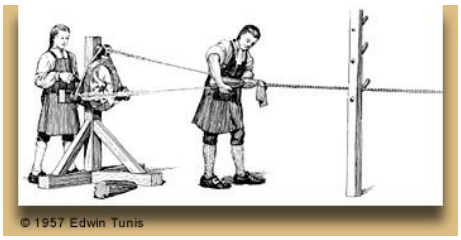


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

Ropewalk

The Newsletter for
Shipwrights of Ohio – October 2023

Next Meeting: November 18, 2023;
"Displaying and Mounting Ship Models"
– Stan Ross

Table of Contents

October

Busy morning' Hybrid meeting always seem to take longer to setup, with access to the library at 9 am and the meeting starting at 9:30, but we made it.

We had five members in-person and eight on Zoom. Plus, a noon game and the NRG workshop at 11:30, time was squeezed. Well, we started on time but with the discussions on 2024 presentation schedule, 2024 dues, and 2024 election of officers plus the presentation, and "ships on deck" we did not finish until 12:30 pm. Late for college football kick off and missed the workshop. We will schedule "Strategic Detailing" for a later date after the recording is available.

We had three club business activities that needed to be handled during this meeting: Planning for the 2024 presentation schedule; payment of 2024 dues (collection will be now through March); and the election of officers for 2024. Our club constitution states that officers will be elected for the next year in November.

You will notice that there is no presentation summation. Cliff did a super job of pulling information together on finishing (74 PowerPoint slides). My plan is to convert the presentation into a pdf format document and then send it out to you as a reference resource. For all, you will find this very useful

As you can see from the table of contents, we had a number of ships on deck for review. This is a good way to share what you are working on and pick up suggestions on how to improve your modeling skills. Plan on contributing, what you are working on or planning to work on, for the November meeting.

As always, take care of yourself and your families, look to those you know who may need help, are lonely and may be in need of human contact. Till next month.

Your editor.

Reminders:

NRG Members

Meeting of General Membership

The meeting of the membership of the NRG will be held on Saturday, November 18, at 10:30 am CENTRAL TIME (11:30 AM (EST). If you are an NRG member, make plans to attend, and remember to take into account your time zone's difference from CENTRAL TIME! This meeting will take the place of the NRG monthly workshop.

Our November meeting will also be Saturday, November 18th. We will endeavor to be done by 11:30 (Eastern Time). I have also extended

to 1:30 PM our schedule meeting at the library, so that the NRG members can participate.

Ohio State plays at Minnesota, that Saturday with the time of kickoff TBD, so we may have a conflict again.

Shipwrights of Ohio - Fall Activities

As a ship modeling club, we have three items that will occur this fall. They are:

Presentation schedule planning for 2024

First, thank you to all who have responded to the initial request for 2024 presentation topics request form. The list has been narrowed to 25 topics and an additional one added: "How to increase membership"

Bob Mains will be sending out a revised list to be narrowed down to 12 topics. As you select your choices, consider choosing a topic that you would like to know more about and volunteer to do the research and share that topic at a future meeting. We may have your topic on file as a past presentation topic.

Dues collection for 2024

The club dues for 2024 will be $20. We have four ways you may pay.

1. Cash, paid to Lee Kimmins in-person.
2. Check, made out to "Shipwrights of Ohio" and mailed to: Shipwrights of Ohio, 5298 Timberlake Circle, Orient Ohio 43146.
3. Down load an app called "Venom". Follow the instructions to set up an ID and Password. It will ask you to link it to your bank account number. To make payment go to payment and enter ID: Lee kimmins@shipbuilder Password: Shipwright22! It will transfer money from your account to Shipwrights account.
4. If you bank with Chase Bank or another bank that has an account "Make payments thru Zello". Follow the instructions and make a payment to "Lee Kimmins" email address "Lkimmins@columbus.rr.com".

Dues for 2024 will be collected from now through the end of the year. If you have not renewed by March 2024, you will be dropped from the club roster and no longer receive notices or newsletters.

Election of officers for 2024

- Article V, Section 2 of the "Shipwrights of Ohio" constitution and By-laws states: "The annual meeting shall be held in November, at which time officers shall be elected."
- We have two open positions:

The President: shall preside at the meetings. The President shall conduct the correspondence of the "Shipwrights of Ohio" unless delegated. The President shall plan monthly programs unless delegated.

The Photographer: shall record meeting activities, models displayed, special events, etc. and forward these items to the Editor for inclusion in the Monthly Newsletter

Reason for the open positions:

President – Why: age – turns 86 this month

Photographer – Why: health. (Cliff Mitchell has placed his name for this position.

Applicants wishing to run for these positions must notify the president (shipwright@breezelineohio.net) before or by November 15th.

If you want to find out more, what the responsibilities of each office is, send a note to shipwright@breezelineohio.net.

Presentation Schedule

The meeting presentation schedule for the remainder of 2023 has been revised.

- Nov. 18th Displaying & Mounting Ship models by Stan Ross
- Dec. 16th Open – Any ideas

Presentation

Finishing

Cliff Mitchell did the research and developed the content for this presentation. Rather than try to summarize the content of the 74 PowerPoint slides, we will convert his presentation into a Adobe, pdf format, resource document for each of you to use as a resource.

Excellent presentation.

Ships on Deck

Le Soleil Royal – 1699 France

John Boeck

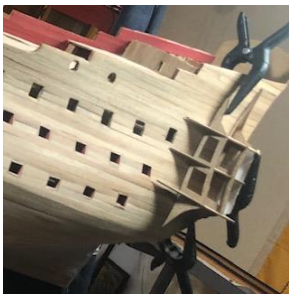
John is building a four-foot model of *Le Soleil Royal* (*Royal Sun*). She was a French 104-gun ship of the line and flagship of Admiral Tourville.

She was built in Brest between 1668 and 1670 by engineer Laurent Hubac, and was launched

in 1669. She stayed unused in Brest harbour for years. She was recommissioned with 112 guns and 1200 men when the “Nine Years War” broke out in 1688 as the flagship of the *escadre du Ponant* (squadron of the West).

She served in the Battle of Beachy Head in 1690 against the English; and the Battle of Barfleur in 1692, against the English and Dutch.

During the night of 2 and 3 June 1692, she beached at the Pointe du Hommet, and was attacked by 17 ships, which she managed to repel with artillery fire. However, a fireship set her stern on fire and the fire soon reached the powder rooms. There was only one survivor among the 883 (or even 950)-strong crew.



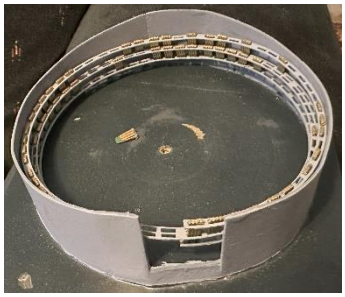
He is working on installing the stern porch, as shown above.

DD847 USS Robert L. Wilson

Steven Keller

The DD 847 *Robert L. Willson (Willie Boat)* model in 1:48 scale. The hull is strips of 1/16” plywood on 3/16” plywood frame. After renovating the level 1 waterway that retains the upper levels, the model is now ready for installation of deck features to complete the build.

Steve completed the waterway reconstruction on level 1 topping and repainted. The main deck and level one bulkhead are now ready to add the many fittings and accessories that have been made.



The 40 mm shell racks for the three quad 40 mm and two twin 40 mm gun tubs were made from maple veneer using a laser cutter. The four round clips were purchased from a 3D printing vendor, painted and secured in place. Installation will require completion of the vertical supports between every four clips on the rack.

U.S.S. Constitution

Steven Keller

For the spar deck framing, made all of the lodging knees and installed them on alternating cross beams. On the gun deck, installed hanging shot lockers between cannons and sponge tubs between every other gun.

HMS Sphinx

Cliff Mitchell

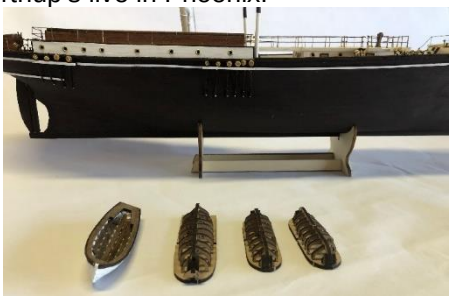
Cliff has been working on planking the hull. The first picture below, is the first layer of pear wood: Picture shows that he has sanded and used filler to smooth out the planking:

Second photo below, shows the second layer of Pear wood being applied:

HMS Endurance

Jeff Northup

Jeff sent in photo of his build of the *HMS Endurance*. He missed the meeting because of a trip to Idaho - 63 days at 110 or more is a bit much – The Northup's live in Phoenix.



U.S.S. Cleveland C-19

Bill Schwartz

Above: Port holes & Haws Pipes

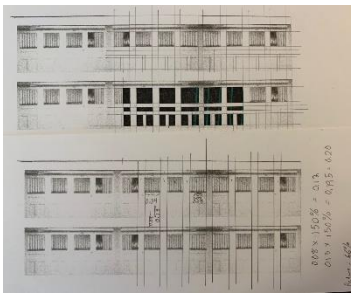
Searching for the right material for the propeller shafts – The above are not working!

A better solution.

U.S.S. Ohio - 1920

Rick Stratton

The interior walls on the *Ohio*, including the exterior-facing walls below the poop deck have a paneled design. I simulate that paneling by using card stock paper and cutting out the rectangular panels, then gluing that strip to a flat surface, usually another piece of card stock, sometimes wood.



Previous work done on the below decks have been using a photo of the paneled design and doing my best to determine exactly where to cut out the panels. The above picture demonstrates this. Also visible in the picture are the resultant inconsistencies due to guessing where to draw the line, the thickness of the pencil line, and the fact that the photo has been concatenated together multiple times to make the strip longer with inconsistent spacing.

I decided to try to put my computer to work. Using Apple Pages (similar to Microsoft Word), I created a table and adjusted the width of the columns and height of the rows to match my needs. The above photo shows a couple of my super-sophisticated calculations from the previously used photo. Now part of the fun here is that I could not get either the row height or the column width to get small enough in the table. So the calculations included making the table in the document larger than I needed. Once I printed that out, I then copied that to card stock and reduced it to 66%. The end result was nice crisp and consistent lines for cutting out the panels.

Results are not perfect but a lot better using the computer to generate the lines than the previous method. Here are a couple photos after the installation on the ship:

Note that in the above photo, though almost invisible, the windows are actual windows cut from thin plastic transparency sheets.

Fun fact: For completion of this set of walls, I had to cut out 515 rectangles. Not including the times I screwed up a strip and had to start all over.

Once I finish the interior walls, I can proceed with planking the poop deck.

L’Indiscrete (Xebec)

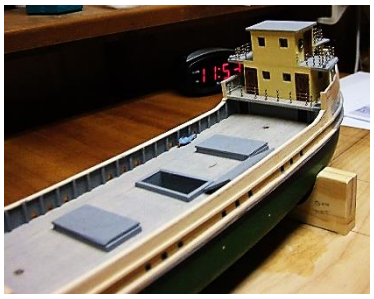
Bill Nyberg

Restoration finished. Returned to owner, Tuesday the 17th.

Margaret Olwill- 1887

Bill Nyberg

The photo below, is where I left off 6 months ago. Pilot house complete, stern crew quarters and engine room a work in process.



Other Notes: “Stuff”, Tugs & Things

Nautical Terms

Lofting: In boat construction, a drafting technique used to convert a scaled drawing to full size.
Loggerhead: 1. A bollard mounted in the sternsheets of a whaleboat for snubbing the whale line as a harpooned whale swam away from the boat.. 2. An iron ball attached to a long handle, used for driving caulking into seams and (occasionally) in a fight; hence the expression "at loggerhead.
Long Forties: An area of the northern North Sea which is fairly consistently 40 fathoms (240 feet; 73 metres) deep. On nautical charts with depths indicated in fathoms, it appears as a long area with many "40" notations.
Longboat: 1. In the Age of Sail, a double-banked open boat carried by a sailing ship, rowed by eight or ten oarsmen, two per thwart, although designed also to be rigged for sailing; more seaworthy than a cutter or dinghy and with a beam greater than that of a gig. Eventually supplanted by the whaleboat. 2. The largest, and thus the most capable, of boats carried on a ship.
Longliner: A fishing vessel rigged for longline fishing ("longlining").
Longship: A type of ship invented and used by the Vikings for trade, commerce, exploration, and warfare, evolving over several centuries and appearing in its complete form between the 9th and 13th centuries.
Lookout: A member of the crew specifically assigned to watch surrounding waters for other vessels, land, objects in the water, hazards, threats, etc. Lookouts usually have duty stations high on a vessel's superstructure, in a specially designed top or crow's nest, or in her rigging, in order to enhance their field of view.
Loose-footed: A fore-and-aft mainsail that is not connected to a boom along its foot.
Lower deck: 1. The deck of a ship immediately above the hold. 2. In British usage, those members of a ship's company who are not officers, often used in the plural (e.g. "the lower decks").
Lowers: The lower brails on the mainsail.

Nautical Terms Wikipedia

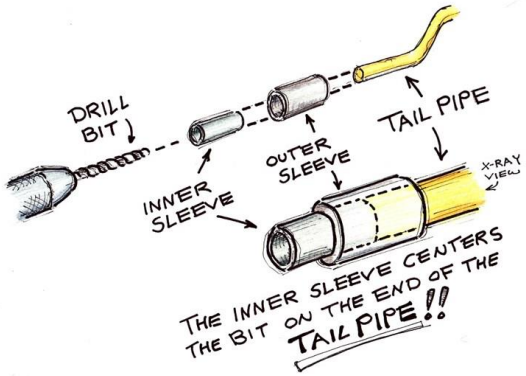
Tips to Motivate Your Modeling

The following tip is from Gregg Mundkowsky, Tenn, and was originally posted in the October 2023 “The Forecastle Report”.
Title: **“Drilling Perfect Holes in Rod Ends”**

Here’s how to drill a perfect hole into the end of a rod.

Put a piece of tubing over the piece. Slide a second piece inside the first, then insert your drill bit into that one. Using a pin vise, you can now drill a perfectly centered hole that will run straight down the rod without drifting toward the side.”

Telescoping, thin-wall brass and aluminum tubing are available on line or at a well-stocked hobby shop. If the diameter of the inner tubing leaves you with a smaller hole than you want, use that as a pilot hole and enlarge it with a larger bit.



Tugs: Great Lakes

O.W. Cheney 1881

The *O.W. Cheney*, a wooden towboat, was built by the Union Dry dock Co., Buffalo in 1881. Launched in May 27, of that year, she was owned by Thomas Maytham, Buffalo. In April 1882, she was enrolled at Port Huron and listed her owner as L.P. Mason, East Saginaw, MI. Her measures were: 66' x 16' x 9.8'; tonnage:46 grt, 24 net. She was issued official number 155034. Powered by a high pressure, non-condensing engine, 350 hp @ 115 rpm, built by Sutton Brothers, Buffalo, she was equipped with a firebox boiler, 6'6" x 12', 100 pounds steam. In September 1886, she collided with the schooner *Dreadnaught* (6837), sinking her off Pt au Gras, MI.

Her ownership was changed in April 1887 to Charles L. Thompson. In March 1889, her ownership was changed to Captain Inman for $6,500. In April of that year, she was enrolled at Duluth and her owner was listed as B.B. Inman.

In 1890, she was sold to Hurley & Br. of Sault Ste. Marie. In August 1894, she was struck by the bulk freighter *Fayette* (138235) and sank in 16 feet of water, at Sault Ste. Marie by. She was raised and dismantled in 1908.

BGSU University Libraries; Historical Collections of the Lakes & Alpena County George N. Fletcher Public Library; C. Patrick Labadie Collection

,

Sanuel J. Christian 1868

The wooden tug, *Samuel J. Christian,* was built at Kaighns Point, NJ in 1868 and not brought to the Great lakes until 1885, when she was readmeasured: 74' x 17' x 7'; 55.17 grt/27.59 net. She was rebuilt at Buffalo in 1886. She was owned by captain Mike Enwright, Toledo in May 1887. In 1888 her owner is listed as Port Clinton Twine Co. In 1891, her ownership is listed as Fred Cleaver, Port Clinton.

October 19, 1901, the tug *Samuel Christian* was struck by the steel bulk freighter *J.J. Albright* (77456) at the head of Gross Isle, MI, Detroit River. The tug was cut in two and sank. Three of the five crew were lost. She was raised and dismantled.

BGSU University Libraries; Historical Collections of the Great Lakes & Alpena County George N. Fletcher: Public Library; C. Patrick Labadie Collection

Presentation Schedule:

2023- Tentative
Jan 21 – ~~Principles of Rigging~~
Feb 18 – ~~Research: internet, Historical~~
Mar 18 – ~~Getting Started with RC Boats~~
Apr 15 – ~~Fixtures: Rudders~~
May 20 – ~~Capstans & Windlasses~~
June 17 – ~~Standing Rigging & Deadeyes~~
July 22 – ~~Running Rigging, Blocks, Belaying~~
Aug 19 – ~~Making Sails~~
Sep 16 – ~~Soldering~~
Oct 14 - ~~Finishing: Natural & Paint~~
Nov 18 – Displaying & Mounting ship models
Dec 16 - Open

Events & Dates to Note:

2023 Tentative Schedule
~~**Columbus Woodworking Show**~~
~~**Ohio Expo Center**~~
~~**January 20-23, 2023**~~

~~**IPMS Columbus**~~
~~**BLIZZCON 2023**~~
~~**Makoy Center, Hilliard, OH**~~
~~**Saturday, February 18, 2023**~~

~~**Miami Valley Woodcarving Show**~~
~~**Christ United Methodist Church**~~
~~**Middletown, OH**~~
~~**March 4 & 5, 2023**~~

~~**46th Midwestern Model & Boat Show,**~~
~~Wisconsin Maritime Museum, Manitowoc, WI~~
~~**May 19 - 21, 2023**~~

~~**U.S. Navy "Blue Angles"**~~
~~**Rickenbacker Int. Airport**~~
~~**Columbus, OH**~~
~~**June 16-18, 2023**~~

~~**Lakeside Antique & Classic Wooden Boat**~~
~~Lakeside Hotel, Lakeside, OH~~
~~**July 16, 2023**~~

~~**U.S. Air Force "Thunderbirds"**~~
~~**Dayton Int. Airport**~~
~~**Dayton, OH**~~
~~**July 22-23, 2023**~~

~~**U.S. Air Force "Thunderbirds"**~~
~~**Cleveland Burke Lake Front Airport**~~
~~**Cleveland, OH**~~
~~**September 2-4, 2023.**~~

~~**Ohio River Sternwheel Festival**~~
~~Riverfront Park, Marietta, OH~~
~~**September 8 – 10, 2023**~~

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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.

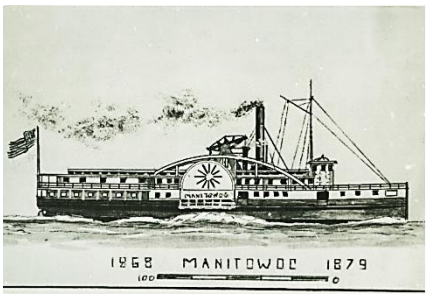
There are currently two logo styles available**:**

- **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

Written by William E. Nyberg

1868-b

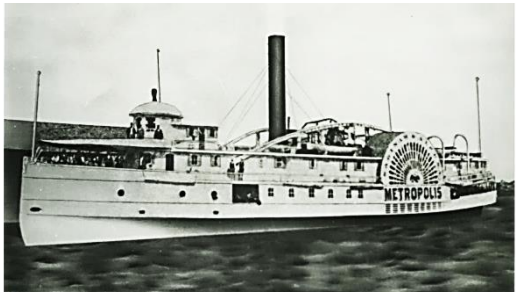


Manitowoc: On April 25, 1868, the wooden sidewheel steamer *Manitowoc* was enrolled at Milwaukee, Built by Green S. Rand, Manitowoc, WI for the Goodrich Transportation Co., Chicago, IL; A. E. Goodrich, president, her measures were listed as: 211.28' x 52.0' x 13.0'; 569.60 grt. Powered by a vertical beam engine, 46" bore x 132" stroke, 450 horsepower, built by Fletcher & Co., Hoboken, NJ, originally installed in the sidewheel steamer *May Queen* built in 1853. She was equipped with two firebox boilers, 9' x 181", 35 pounds steam, built by Cuyahoga Iron Works, Cleveland. At enrollment, she was issued official number 90465. The steamer *Manitowoc* was built for the passenger, package freight trade on Lake Michigan and ran from Chicago to Milwaukee. The steamer *Manitowoc* was damaged in a collision with the schooner *Jefferson* (US12762) four miles from Chicago in April 1869. In May of that year, she broke her wheel off Waukegan, IL and in June, she again broke her wheel off Port Washington, WI. In 1873, the steamer *Manitowoc* caught fire and burned, with the fire badly damaging her superstructure. Goodrich Transportation Co., had the hull converted to a barge and her engine was transferred to the *Chicago* (U125338). In September 1879, the enrollment record for the *Manitowoc* was updated to: schooner barge, 3 – masts; 210.42' x 29.25' x 13'; 507.14 grt, 479.57 net.

In 1879, ownership of the schooner barge *Manitowoc* was changed to J.J. Boland et al, Buffalo, along with the steamer *Westford* (U80068) and her other consorts *Monitor* and *Atmosphere* (U1027).

In November 1899, ownership of the schooner barge *Manitowoc* was changed to Thompson Transportation & Wrecking Co., Port Huron. In November 1900, the *Manitowoc* went ashore on North Manitou Island, Lake Michigan and was wrecked.

Final enrollment for the schooner barge *Manitowoc* was surrendered at Erie, PA, November 10, 1900 and endorsed "wrecked, abandoned".



Metropolis: Alvin A. Turner, Trenton, MI, built for the River & Lake Shore Steamboat Line, Detroit; investors: Montgomery, Sloan & Goldsmith; a wooden sidewheel steamer. She was first enrolled at Detroit and issued official number 17608. Her measures were: 168.25' x 26.33' x 9.10'; 425.49 grt, 321.38 net. She was powered by a vertical beam engine: 37" bore x 108" stroke, 280 horse power, originally installed in the sidewheel steamer *Pearl* (1851). The steamer *Metropolis* was built for the passenger, package freight trade. Her master for the 1868 to 1872 seasons was Captain John Robertson. In October 1869, the steamer *Metropolis* broke her machinery at Saginaw, MI.

In September 1870, ownership of the steamer *Metropolis* was changed to Englemann Transportation Co., Milwaukee. In September 1872, the *Metropolis* broke a crank pin at Manistee, MI.

Ownership of the steamer *Metropolis* was changed in 1873, to Joshua B. Culver & George G. Barnum, Duluth, MN. The *Metropolis* ran between Duluth, L'Anse and point on Portage Lake. Her master for the 1873 – 74 seasons was Captain Barton Atkins.

In March 1874, ownership of the steamer *Metropolis* was changed to Duluth Lake Transportation Co., William R. Stone, president.

In April 1876, ownership of the steamer *Metropolis* was changed to Sidney Luce, Duluth, MN. Her master for the 1878 season was Captain John M. Mitchell. Early in September 1878, the schooner *Georgia* collided with the sidewheel steamer *Metropolis* near the mouth of the Cuyahoga River, Cleveland. Both vessels were damaged.

Ownership of the steamer *Metropolis* was changed to S. H. Crowe, A. M. Harmon & C. B. Gardner, Cleveland, late in September 1878.

In May 1879, ownership of the steamer *Metropolis* was changed to Luther Westover, Bay City, MI.

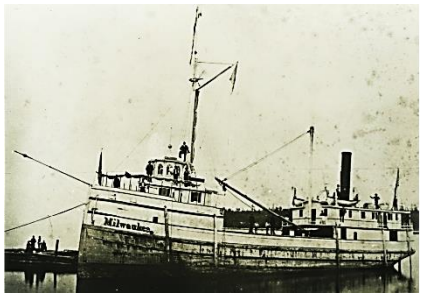
In July 1881, ownership of the steamer *Metropolis* was transferred to Darius Cole, Bay City & Ira F. Holt, Detroit. In July 1884, she collided with the Third Street bridge, Bay City. Her master for the 1887 season was Captain William E. Comer.

In October 1890, ownership of the steamer *Metropolis* was transferred to Ira F. Holt, Detroit. He had the steamer rebuilt at Wheeler's Yard, Bay City, where she received a firebox boiler, 8.5' x 15', 200 pounds steam, built by M. Riter & Co., Buffalo.

In May 1895, ownership of the steamer *Metropolis* was changed to the Peoples Steamboat Co., Monroe, MI. She was used in the day excursion trade.

In 1899, ownership of the steamer *Metropolis* was changed to Charles West, Monroe, MI. She was laid up at Toledo for the 1900 & 1901 seasons. After being laid up for two years, in June 1902, the steamer *Metropolis* caught fire and burned to a total loss at her Toledo dock.

Final enrollment documents for the sidewheel steamer *Metropolis* were surrendered, June 30, 1902, and endorsed "loss by fire".



Milwaukee: A.C. Keating, Ogdensburg, NY, with C. W. Pearson, Master Carpenter, built a wooden steambarge for the Northern Transportation Co, Cleveland. Enrolled at Cleveland on July 4, 1868, her measures were: 135.42' x 26.0' x 10.75'; 419.11 grt, 192.09 net. The *Milwaukee* was powered by a low-pressure engine; 22.5" bore x 40" stroke, 300 horsepower, builder unknown. She had been built for the bulk freight lumber trade. The steambarge *Milwaukee* was assigned official number 17984.

In November 1868, the steambarge *Milwaukee* collided with the propeller *City of Boston* (U4375) off Point Waugoshance, Straits of Mackinaw, Lake Michigan. The *City of Boston* was severely damaged and sank. No lives lost. In June 1869, she was damaged when fouled by a dredge at Milwaukee WI. The following month, her upper works of the steambarge *Milwaukee* were damaged in collision with the schooner *Garibaldi* at the Welland Canal. In August of that year, she went aground on the Saint Clair Flats, Lake St. Clair and required lightering to be released. In December of 1869, the steambarge *Milwaukee* broke her machinery near Port Colborne. For the 1871 season, the steambarge *Milwaukee* ran between Ogdensburg and Chicago. In September of 1871, the steambarge *Milwaukee* broke her crank pin when she arrived at Detroit. In May 1873, bound from Chicago laden with 12,600 bushels of corn, the *Milwaukee* went ashore above Sherwood's Dock, St. Clair River. In the Fall of 1873 steambarge *Milwaukee* and the three-masted schooner *Arendal* (US105281) collided at Milwaukee. Master of the steambarge *Milwaukee* for the 1874 season was Captain William Leonard. In October of that year, she went ashore at Bois Blanc, in the Detroit River. In the 1875, her boiler shifted and the steambarge *Milwaukee* was laid up at Holland, MI for repairs.

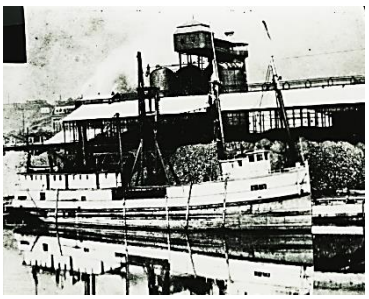
Ownership of the *Milwaukee* was changed in March 1876 to Philo Chamberlain, Cleveland. Her master for the 1876 to 78 seasons was Captain Lyman H. Waterbury.

In March 1875, ownership of the *Milwaukee* was transferred to Northern Transit Co., Rockport, OH.

In April 1881, ownership of the steambarge *Milwaukee* was changed to Giles M. Wing & James W. Morgan, Milwaukee.

In February 1882, ownership shares were transferred to E. J. Wing, C. E. Morgan & William H. Harford, all from Muskegon, MI. During winter layup of 1882/83 the steambarge *Milwaukee* was rebuilt: one deck, 279.79 grt, 192.09 net. July 1883, *Milwaukee* went aground on Fisherman's Reef, Green Bay; Released.

In September 1883, ownership of the steambarge was changed to L.G. Mason, Muskegon, MI. Her master for the 1886 season was Captain Alexander. Bound from Chicago for Muskegon in fog in July 1886, the steambarge *Milwaukee* was struck by propeller *C. Hickox* (U125133) and sank in mid-lake, about thirty miles off Muskegon, MI. One was life lost.



Nashua: Frank Quelos & Louis Lafrinier, both from Cleveland, built a wooden propeller for the Northern

Transportation Co. She was enrolled at Cleveland, October 03, 1868, and her measures recorded as" 134.58' x 25.75' x 11.60'; 440.59 grt, 366.57 net. She was powered by a high pressure, non-condensing engine, 26" bore x 30" stroke, 300 horsepower, built by Atlantic Works, Boston, MA. She was designed and built for the passenger and bulk freight lumber trade. At enrollment she was assigned official number 18537. In 1869, the *Nashua* was damaged in a collision with the schooner *Toledo* at Milwaukee. In 1871, the *Nashua* made 5 round trips to Lake Superior ports and in 1872, 9 round trips. Her propeller *Nashua* sprang a leak which damaged her cargo while she was in the Straits of Mackinac. The loss to the hull was set at $1,000, and to the cargo $2,000. In June of 1874, the *Nashua* broke a cylinder head at Glen Harbor. Her loss was set at $1,200.

In March 1876, ownership of the propeller *Nashua* was changed to Philo Chamberlain. Thirteen days later, March 23, the ownership was transferred to the Northern Transit Co., Rockport, OH. Master of the propeller *Nashua* for the 1877-78 seasons was Captain John Wesley Duddleson. In April 1878, the *Nashua* was chartered to Flint & Pere Marquette Railway and she ran Detroit and Milwaukee. In 1879, she ran between Chicago and Sarnia, Ont. in the grain trade. In late 1880, again chartered to the Flint & Pere Marquette Railway for winter transit between Chicago, Milwaukee & Ludington.

April 1882, ownership of the propeller *Nashua* was changed to William E. Warriner, Detroit. She ran on Peoples Line – Detroit, Alpena, & Mackinac, MI. Her master for the 1882 season was Captain W.S. Shay. In 1884, she ran on Ashley & Mitchell's steamer line. The *Nashua* was rebuilt in 1885 and she ran in Ward's line, engaged in carrying copper pigs from Houghton and Hancock on Lake Superior to Buffalo.

April 1886, ownership of the propeller *Nashua* was changed to Charles Hamilton, Buffalo, to be used for the coal & grain trade. In November 1886, she went aground on Grass Island, in Green Bay.

In April 1888, ownership of the *Nashua* was changed to Sturtevant Lumber Co., Cleveland. And she ran in the lumber trade. Her chief engineers for the 1888 season were Charles B. Keeler and James D. Mitchell. For the 1890 season, she ran in the lumber trade between Cleveland and Oscoda, MI.

In March 1891, ownership of the *Nashua* was changed to Decatur B. Millen et al, Detroit. During winter layup, she had been cut down and converted to a steambarge and her enrollment was updated to: 134.4' x 25.9' x 11.6'; 298.17 grt - 246.22 net. Her master for the 1891 season was Captain Richard Millen. In October of that year, the steambarge *Nashua* with the schooners *William Young* (U62866) and *Newsboy* (U18086) in tow, all laden with coal, lost the *William A. Young* in heavy seas, which sank in the Straits of Mackinac. (

In April 1892, ownership of the steambarge *Nashua* was changed to Wolverine Barge Co., River Rouge, MI. Her master for the 1892 season was Captain David Shepard with John Putnam as chief engineer. In October of that year, bound from Bying Inlet, Georgian Bay for Toledo, the steambarge *Nashua,* with the barge *C.C. Ryan* in tow, both laden with lumber, capsized in a heavy gale, about ten miles north of Goderich, ONT., Lake Huron. All hands, fifteen lives were lost. Wreck located floating upside down, minus boiler and machinery, eight miles off shore Bayfield, ONT. The *C.C. Ryan* survived.

Final enrollment surrendered at Detroit, MI, December 21, 1892.

Norseman: In June 1868, the wooden sidewheel steamer *Norseman* was enrolled at Kingston, Ont. and assigned official number C96911. Built by J. Augustus Cantin, Montreal, for the Lake Ontario and Bay of Quinte Steamboat Co., Ltd.; Charles F. Gildersleeve, Kingston. She was built for the passenger, package freight trade and ran between Rochester, NY, Port Hope and Cobourg, Ont. At enrollment, her recorded measures were: 153.90' x 25.90' x 10.0'; 295 grt, 224 net. She was powered by a vertical beam, low pressure engine, 36.5" bore x 120" stroke, 435 horsepower, built by E. E. Gilbert, Montreal. Her master for the 1868-72 seasons was Captain R. C. Carter and for the 1873-76 season, Captain Crawford. In April 1874, the schooner *Echo,* while entering the river at Charlotte, Ont. from Lake Ontario, collided with the steamer *Norseman.* The steamer did not sustain any damage.

The steamer *Norseman* masters for the 1877 – 80 seasons was Captain Sherwood with Captain George Crawford for the 1882-83 seasons. In November 1881, bound up Lake Ontario, the steamer *Norseman,* laden with 900 bushels of peas,

went ashore 2 miles east of Oshawa, Ont., sinking in seven feet of water. She was raised and a small hole in her hull was found and repaired, then she was towed to Kingston for overhaul. In 1883, her boiler was converted from wood firing to coal.

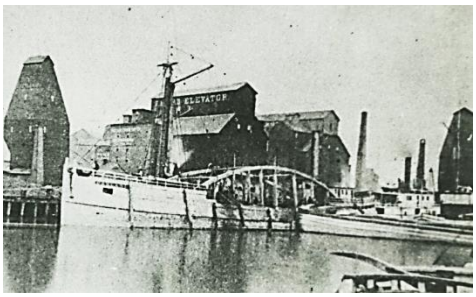
The steamer *Norseman* masters for the 1884 season was Captain R. Crawford; for the 1885 – 87 season, Captain George Crawford; and for the 1888-89 seasons, Captain Andrew Dunlop. In May 1888, while going astern from Cobourg harbour, the steamer *Norseman* struck a pile projecting from a pier and stove in a few boards between the wheel-house and the kitchen. She steamed to Port Hope for repairs. In August 1889, bound from Charlotte to Port Hope with a weekly excursion for the Thousand Islands aboard, the steamer *Norseman* had her machinery disabled. A leak was discovered in a boiler seam and repairs were required. The steamer docked at Kingston for repairs and her American tourists were sent back by rail.

The steamer *Norseman* masters for the 1890 – 91 seasons was Captain Howard Nicholson with T. Nilne as chief engineer. May 1890, the steamer *Norseman* and the schooner *Jessie McDonald* collided at Charlotte, NY on Lake Ontario. Both vessels were damaged. During winter layup, 1890/91, the steamer *Norseman* was rebuilt by Davis and Son, Kingston with consultation of Frank and J. W. Pearce. Her enrollment measures were 175’ x 43’ x 10'; 873 grt, 499 net. She was renamed *North King* and enrolled with official number C96911. She ran Cobourg, Port Hope’ and Charlotte during the 1891 season. In July 1891, the steamer *North King* and the sidewheel steamer *Maynard* collided on the St. Lawrence River, with both slightly damaged.

Her master for the 1894 season was Captain Jarrell with James Hickey chief engineer. In 1897, the steamer *North King* was reboilered, receiving two locomotive boilers, 7'6" x 22'4", 45 pounds steam, built by Weir & Sons, Montreal, P.Q.

In 1898, ownership of the steamer *North King* was changed to Lake Ontario & Bay of Quinte Navigation Co. The masters of the steamer *North King* were Captain John Jarrell (1899 - 1901, 1906 - 12), with O. J. Hickey (1899 - 1903, 1905), Thomas Barlow (1904), George Boyd (1906 - 08, 1911 - 12) and D. J. Leslie (1910) as chief engineers. In July 1911, the *North King* broke her crank shaft and unable to make steerage she drifted ashore on a gravel beach near Port Hope. Ont., Lake Ontario. Released.

Ownership of the steamer *North King* was changed in 1913, to Richelieu and Ontario Navigation Co. Ltd., Montreal; later to become Canada Steamship Lines, Ltd. Her master for the 1913-14 seasons was Captain Robert Carnegie with George Boyd as chief engineer. In 1915, the steamer *North King* was retired from service. She was broken up in 1922.



Oakland: Scott & Hearn, Erie, PA; John Hearn & William L. Scott; had William Loomis, also of Erie, built a wooden steambarge on the hull of the sidewheel steamer *Missouri* (1840), which had been abandoned and dismantled at Erie, in 1848. Her measures recorded at enrollment were: 184.0’ x 28.66’ x 9.66’. 311.23 grt, 259.45 net. Her official number assigned was 19298. The steambarge was powered by a low-pressure engine, 30” bore x 28" stroke, built by David Bell, Buffalo. She was equipped with a tubular boiler, 8’ x 16', 60 pounds steam, also built by David Bell, Buffalo. The *Oakland* was intended for the bulk freight trade. In April of 1869, laden with a cargo of lumber, the steambarge went aground on Elk Island, Saint Clair River and required lightering to be released. The following month, she was damaged by ice near Buffalo. In October 1870, the *Oakland* carried 15,500 bushels of grain between Toledo and Buffalo. Her master in 1875 season was Captain Samuel Murdock with William Clancy for the 1871 season and Charles H. Phillips during the 1873 season as chief engineers.

Ownership of the steambarge *Oakland* was changed to Thomas H. Orton, Buffalo in Fen 1873.

In May 1876, her ownership was changed to John Ledger, Buffalo.

In June of that year, her ownership was changed to Samuel W. Gear, Buffalo. The following month, July 1876, ownership of the steambarge *Oakland* was transferred to Samuel W. Gear, and J.H. Tyler, both from Buffalo. In August of that same year, the steambarge *Oakland* collided with the barge *Midnight,* staving in her stern, at Bay City, MI. In May 1877, bound down from Saginaw to Cleveland, the steambarge *Oakland,* with a barge in tow, went aground and sank on West Sister Reef, Lake Erie. Released.

In August 1877, J.H. Tyler, Buffalo, became sole owner of the steambarge *Oakland.*

Ownership of the steambarge *Oakland* was changed to Michael J. Galvin, Buffalo in May 1878.

In September 1878, ownership of the steambarge *Oakland* was changed to George F. Haywood, Buffalo. In October 1878, while entering the port of Ashtabula during a northwest gale, the steambarge *Oakland* ran into the west pier, making a breach in the pier and cutting her hull below the water line and leaving her stern in the breach. She grounded on the bank of the river.

In May 1879, after repairs, the ownership of the steambarge changed to Charles D. Marshall, Buffalo. She would tow the schooner-barge *Buckeye State* (2858), schooner *Sylvia Morton* (23055) and *Sunbury* (22395) in the Saginaw to Cleveland lumber trade.

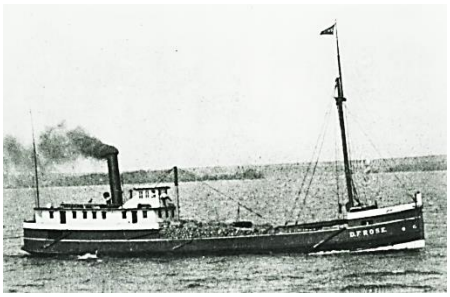
Ownership of the steam barge *Oakland* was changed in 1880. to Harry Stephens, Cleveland. Her master for the 1880 – 82 seasons was Captain Francis M. Stenton and Captain George L. Stevens for the 1883 season with E. H. Stern as chief engineer. In September 1883, bound down from Bay City to Erie, with a cargo of lumber, the steambarge *Oakland,* foundered off Conneaut, OH, Lake Erie. She was declared a total loss. No lives lost.

Her final enrollment was surrendered at Cleveland, OH, September 30, 1883 and endorsed "vessel sunk and abandoned".

Prince Edward: M. Simpson, of St. Catharines, Ont. built a wooden sidewheel steamer in 1868 for the passenger ferry trade to run across the Bay of Quinte, from Belleville, Ont. to Prince Edward Island. Her original owner was A. L. Bogart, Belleville. When enrolled, her measures were recorded as: 81' x 36' x 8'; 72-unit tons.

In 1869, she was inspected and her tonnage listed as 112 grt.

Ownership of the steamer ferry *Prince Edward* was changed to J. Jellitt, Belleville in 1878.The ferry *Prince Edward* was rebuilt in 1878, assigned an official number: C71095. Master of the ferry *Prince Edward* was Captain John Jellitt. In March 1880, she broke her rudder in ice. Repaired. June 1884, the steamer ferry *Prince Edward,* which ran Belleville to Ameliasburg, Prince Edward, caught fire at Belleville, and burned to the water's edge. The hulk was towed into the bay and sank.



D. F. Rose: Enrolled at Port Huron in April 1868, the wooden barge, built by George Koening, Marine City, MI, had measures: 140.0' x 26.25' x 10.75'; 258.82 grt, 203.89. She was Built for the bulk freight lumber trade with a capacity for 350,000 feet of lumber. For the 1868 & 69 seasons, the barge *D. F. Rose* was towed by the steambarge *Redmond Prindiville* (US21192). In May 1870, her enrollment notes that the barge *D. F. Rose* was converted into a steambarge with the installation of a high pressure 75 horsepower engine. Her official number was 35149. Her master from 1870 to 73 was Captain Joseph Shackett. The steambarge towed the schooner *Twilight (24155), Mohawk, Forester, Mary Stockton* (50515). In May 1871, she broke her machinery off Goderich, Ont., Lake Huron. She received repairs at Detroit.

In March 1874, ownership of the steambarge was changed to L. B. Parker and George & J. C. Lester, Marine City.

She towed the schooner *Transport* (24155)*, S. Clement* (57467)*, and Wolverine* (62522). In September 1876, the steambarge *D. F. Rose,* lumber laden, caught fire in her engine room, and was scuttled to extinguish the fire, at Tonawanda, NY, on the Niagara River. She was later pumped out and raised.

In April 1877, ownership of the steambarge *D. F. Rose* was transferred to L. B. Parker and McNeil. The steambarge *D. F. Rose* was rebuilt in 1882, receiving a HPNC, 24" bore x 26" stroke engine and a tubular boiler 7' 8" x 16', 70 pounds steam. Master of the steambarge *D. F. Rose* was Captain Cass M. Saph (1887-90, 1893 – 1900) with Anthony Ward (1893-95), and Hubert Mamon (1899), as chief engineers. In July 1895, the *D. F. Rose,* with barges in tow, went ashore on Garden City light reef. Released. In 1899, she received a steeple compound engine: 18", 36" bore x 26" stroke, 330 horsepower, built by S. F. Hodge Engine Works and a firebox boiler, 8.5' x 15', 100 pounds steam. In April 1901, the steambarge *D. F. Rose* was chartered for the pulpwood trade, running Georgian Bay to the Sault & then to Detroit by Sulfite Fiber Co. Master of the steambarge *D. F. Rose* was Captain Joseph Flaherty in 1901 with, Herbert

Marrion in 1901 and James A. Dillion in 1902 as chief engineers. In November 1901, bound down from the Blind River for Detroit, with three barges in tow, all laden with pulpwood, the steambarge *D. F. Rose*, went ashore in the fog on Scarecrow Island, Thunder Bay. In November 1902, the steambarge *D. F. Rose* and tow went ashore on Starve Island Reef, Lake Erie. The steambarge was released and towed into Put-in-Bay, OH. Her tow, schooner-barge *Amaretta Mosher* (US389) was wrecked.

June 1903, ownership of the steambarge *D. F. Rose* was changed to William Robertson, Frankfort, MI. He had the steambarge dismantled and burned at Sturgeon Bay, WI in 1910. Her engine went into the tug *Leathem D. Smith* (US141055).

Final enrollment for the steambarge *D. F. Rose* was surrendered July 24, 1910.

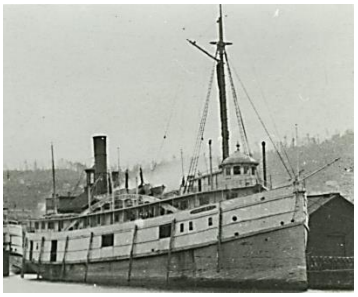
St. Albans: Ira Lafrinier, Drake & Company, Cleveland; with Elihu M. Peck, master carpenter. She was built for the Northern Transportation Co., Ogdensburg, NY and her measures were: 135.6' x 25.66' x 11.0'; 435.75 grt. She was powered by a high-pressure engine, 28" bore x 36" stroke, 200 horsepower, built by Atlantic Works, Boston, MA. At her enrollment, she was issued official number 23514. The propeller *St. Albans* was built for the passenger, package freight trade, connecting with the Vermont Central Railroad. Her master for the 1868 to 1873 seasons was Captain J. J. Knapp with N. R. Dutton as chief engineer in 1868. The Northern Transportation Co. owned steamers were divided by Vermont Central Railroad into two fleets with the *St. Albans* assigned to the Lake Michigan Fleet, and her route from Ogdensburg, NY to Chicago, touching at Detroit, Port Huron, Presque Isle, Cheboygan, Mackinaw, Glen Haven all of Michigan and Milwaukee, WI.

On January 26, 1875, the Northern Transportation Co. steamers were sold at assignee's sale. Ownership of the propeller *St. Albans* was changed to Northern Transit Co., Rockport, OH when the propeller *St. Albans* was sold at Milwaukee, WI January 26, 1875. The *St. Albans,* bound up, ran ashore, in dense fog, on Fox Point Reef, 12 miles north of Milwaukee in November 1878. In 1880, she was rebuilt at Port Huron, where she received new frames, arches and other repairs. Her master for the 1881 season was Captain Edward Casey with R. Walsh and Albert Calder as first engineers.

January 1881, bound from Milwaukee for Ludington, MI with 27 passengers and a cargo of general merchandise, flour, and cattle, the propeller *St. Albans,* rammed a cake of ice, which filled the hole below the waterline. While trying to reach shore, the ice melted and the vessel filled with water and sank, seventeen miles northeast of Milwaukee on Lake Michigan. Crew and passengers were all saved.

Final enrollment for the propeller *St. Albans* was surrendered at Chicago, February 13, 1882 and endorsed 'vessel lost'.

In June 1882, Philo Chamberlain set up an expedition to locate the wreck. In June 1888, her machinery was brought the Port Huron. In 1976, the wreck site of the *St. Albans* was located in 150 feet of water and her hull was almost intact.



St. Paul: Thomas Arnold, Marine City, MI; with Philander Lester as master carpenter, built a wooden propeller for Eber Ward, et al, Detroit, to be used in the passenger, package freight trade running between Buffalo, NY and Lake Superior She was assigned official number 23755, at her initial enrollment at Detroit, November 11, 1868. Her measures at that time were: 203.0' x 31.5' x 13.0'; 909.62 grt, 662.23 net. She was powered by a low-pressure engine, 45" bore x 40" stroke, 500 horsepower, built by Hodge & Christie, Detroit, with a firebox boiler, 10'6" x 20'; 35 pounds steam; built by Detroit Locomotive Works, Detroit. Her master for the 1872 season was Captain McIntyre with G. M. Newton, during the 1867-68 season and Alexander Morrison during the 1873 – 74 seasons as chief engineers. In November 1872, the propeller *St. Paul* was blown ashore during a gale at Duluth Harbor, MN. She was released & repaired.

In 1874, the ownership of the propeller *St. Paul* was transferred to Ward's Central & Lake Superior Line, Detroit.

Ownership of the propeller *St. Paul* was changed to F.W. Gilchrist et al, Alpena, MI. She was placed on a run between Detroit, Alpena, Cheboygan, & Mackinac, MI. Her master for the 1879 season was Captain L. R. Boynton with James Savage as chief engineer.

In 1881, ownership of the *St. Paul* was changed to John W. Wickham, Jr., Huron, OH. She was placed on a run between Erie, PA & Duluth, MN in the coal & grain trade. During the 81/82 winter layup, the *St. Paul* was rebuilt and for the 1882 season she ran between Chicago and Collingwood, ONT. Her master for the 1884-86 seasons was Captain Syd Scott with James B. Purvis during the 1882-83 season and P. W. Whelan in the 1889 season as chief engineer. In August 1883, the *St. Paul* went ashore in Whitefish Bay, Lake Superior. In November of the same year, she caught fire and burned when a fire originated in her hold in some lime. She was scuttled in Detour Passage, St. Mary's River to douse the fire. During winter layup, 1883/84, the *St. Paul* was taken to Detroit for repairs and had her passenger accommodations removed. In 1887 the *St. Paul* was converted into a steambarge and her enrollment measures were changed to: 760.39 grt, 525.17 net. She ran in the Ogdensburg Line, Chicago, IL to Ogdensburg, NY.

Ownership of the steambarge *St. Paul* was changed to G.B. Hodgman Manufacturing Co., Sandusky, OH in 1893.

In March 1893, her ownership was changed to Homer Durand, Toledo. Master or the steambarge *St. Paul* in 1892 was Captain Homer Durand with William F. Robinson in 1892, John Broderick in 1892 & 93, and Henry Odette in 1893 as chief engineers.

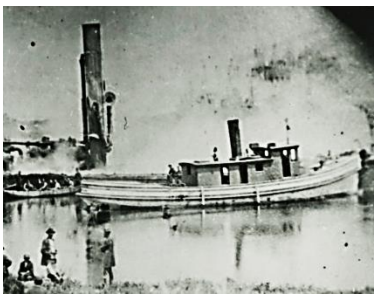
In April 1894, ownership of the steambarge *St. Paul* was changed to Barney Wilds, Detroit. In a collision between the steambarge *St. Paul* and the whaleback #107 on the Detroit River in 1895, her frames & deck beams were broken. Repaired. Her chief engineer for the 1896 season was John Broderick.

In 1898, ownership of the steambarge *St. Paul* was changed to King Navigation Do., Hamtramck, MI.

The following year her ownership was changed to James Corrigan, Wickliffe, OH. Her master for the 1899 season was Captain James Jackson with Captain Edward Rains as master in 1900. Her chief engineers were John Davidson in 1899 and John Radford in 1900. In July 1899, the *St. Paul* went aground on Garden Island, Lake Michigan. In November 1900, she caught fire off shore of Alpena, MI on Lake Huron. After the fire was under control, she was towed in and settled near the mouth of Thunder Bay. In 1901, the steambarge *St. Paul* was recovered and towed to Cleveland for repairs.

In August 1902, ownership of the steambarge *St. Paul* was changed to George W. Pfohl, Buffalo, and she was renamed *Pfohl*. In September of that year, the steambarge *Pfohl,* bound up to Lake Superior, laden with coal, went aground on the middle ground opposite Pipe Island, Saint Mary’s River. Her master for the 1903 season was Captain Symes. In May 1903, the steambarge *Pfohl,* bound up, laden with coal, caught fire when a lamp exploded in the engine room while the ship was in the middle of Lake Huron. Her master steered for Goderich, ONT, on the east side of Lake Huron, hoping to make land before the ship sank, but had to abandoned ship before reaching shore. No lives lost.

Final enrollment for the steambarge *Pfohl* was surrendered at Buffalo, June 30, 1903, and endorsed ‘vessel lost”.



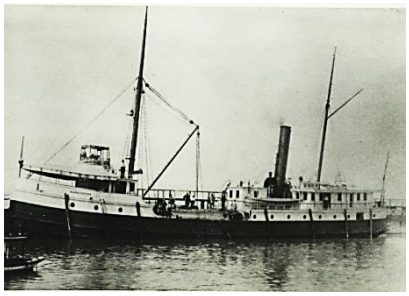
Vulcan: Campbell & Owen Shipbuilding, Detroit, built a wooden towboat for towing rafts of logs as well as vessels in 1868. When enrolled at Detroit, August 10, 1868, her owner was Livingston & Co., Detroit, and she had measures of: 140.0’ x 22.0’ x 13.0’; 249.43 grt, 158.0 net. Her official number was 25760. She was powered by a high-pressure engine, 28” bore x 36" stroke, built by Hodge & Christie, Detroit, MI. She was equipped with a firebox boiler, 6’ x 18', 94 pounds steam. Her cost was $160.000. Her master for the 1868 season was Captain J. P. Hodges with Jeremiah Havelick as chief engineer in 1869. In December 1871, while laid up at winter quarters at Detroit, the tug *Vulcan* caught fire and was partially burned. Hull loss set at $4,000. Her master for the 1872 season was Captain McGregor.

In 1873, ownership of the tug *Vulcan* was changed to E.W. Hudson, Detroit.

In May 1873, her ownership was changed to Moore & Alger. She ran Buffalo to Detroit with log rafts. In September 1875, the tug *Vulcan* went

aground on the St, Clair Flats. In 1876, when the tug *Vulcan* arrived at Belle Isle from Black River she had a record log raft in tow of 4,000,000 feet.

In 1879, ownership of the tug *Vulcan* was transferred to Russell A. Alger, Detroit. Her master for the 1883 season was Captain W. H. Rolls. In June of that same year, bound down, from Saginaw for Cleveland, with log raft in tow, the tug *Vulcan* caught fire and burned and sank off Sandusky on Lake Erie. Her crew took to the small boat and rowed to Vermilion. The hull was raised in October, her machinery salvaged and then she was dismantled.



Henry Warrington: James M. Jones, Detroit built a wooden steambarge for the bulk freight trade for Redmond Prindiville, Chicago. Enrolled at Chicago, June 1868, her measures were recorded as 142.0’ x 26.42’ x 9.66’; 257.37 grt. She was assigned official number 11857.

In 1869, ownership of the steambarge *Henry Warrington* was changed to Paul Marlatt, Winona, MI. in November of that year, the steambarge went ashore at Alabaster, MI, Saginaw Bay. She was released and towed to Detroit for repairs.

January 1870, the steambarge *Henry Warrington* was converted to lighthouse tender. Her enrollment documents were surrendered at Port Huron and her ownership was changed to the U. S. Light House establishment and the vessel was renamed *U.S.L.H.S. Warrington.* She would spend the next 41 years in the construction, maintenance and inspection of light houses on Lake Superior. Her master, in 1872, of the *U.S.L.H.S. Warrington* was Captain George Scott.

The lighthouse tender *Warrington* was rebuilt in 1886, at Detroit: 152’ x 25.42’ x 11.42’; 300 grt. Her masters over the years were Captain James B. Watts in 1892, Captain John Ford in 1893-94, and Captain Amos P. Foster 1895–98.

In February 1911. the lighthouse tender *Warrington* was de-commissioned and her ownership was changed to the Hines Lumber Co., Chicago, to be used in the lumber trade. She was enrolled as *Warrington*, U11857, and her enrollment tonnage was changed to: 375 grt. In August 1911, bound down, from Boyne City, MI for Chicago, the steambarge *Warrington,* laden with lumber, sprang a leak in heavy weather and stranded one mile south of Charlevoix, MI on Lake Michigan. She was driven into the shallows, and pounded to pieces. No lives lost.

Some 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 then 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: Tonnage= ((length - (beam x 3/5)) x Beam x 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 harbour and other vessel fees.

Up to 1848, most freight was shipped, on steamers or propellers, as package freight. This meant that coal, grain, apples, and produce had been placed in a container or sack and carried aboard on the back of a laborer. Bulk freight in the form of lumber would have been loaded on barges and schooners and towed by a steam driven ship. In 1848, Joseph Arnold built at Port Huron, MI, a the steambarge *Petrel* (found in the third section) 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, some 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 back 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 1533$^{7}/_{94}$ 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, when 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 was 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 is 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 was then divided by 100 to determine 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: almost every imaginable item of merchandise – bags of onions, grain, etc., processed foods, bags of coal, stoves, furniture, which can be packed and moved by manpower from dock to hold and reverse.

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: Will include the names of wooden steamers that will not be 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.)