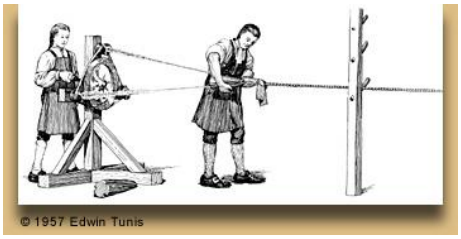


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

Ropewalk

The Newsletter for
Shipwrights of Ohio – April 2024

Next Meeting: April 20, 2024;
***"*Dioramas*"* by John Boeck**

Table of Contents

March

Very good turnout. Fifteen total with seven in-person and eight on Zoom. For March, Spring Break, and basketball tournaments, that is not bad.

We are planning for a display at the Westerville Public Library in June and will need ship models to be displayed. We are also planning a one-day workshop in June, maybe a Saturday, for 4 hours, as an introduction to ship modeling. We are thinking of using a library classroom, manned with table subjects: "Intro to ship Modeling"; Radio control ship modeling; 3D printing of parts; Demo table on building Plank-on-bulkhead and another on Plank-on-frame. We are open to ideas, so let me know your thoughts.

The 46th Annual Midwestern Model Ships and Boats Contest is scheduled for May 17-19, 2024. This is a great way to find out how good a ship modeler you are and what you may need to work on. The registration information is below. If you plan on attending, try to carpool to save on travel cost and to have company traveling to and from Manitowoc.

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.

Shipwrights of Ohio - Announcements

Westerville Public Library Display

The club has reserved the display cases in the main hallway at the Westerville Public Library to showcase our ship models, for the month of June. Our last display there was in 2018.

As you review your models, keep in mind the following case dimensions:

Long Case: 72" x 12.75" x 12.75" (length x height x depth x length), qty – 2: Each case will hold two or three models depending upon length. The critical dimension is height, so plan for a 12": - bottom of base to top of model

Tall Case: 57.5" x 19" x 76.5" (length x depth x height: The case contains a three shelf stand that we had made by a past member of the club. The critical dimension is the space between shelves, which is 25"

Here are photos from the 2018 library display showing the display cases:

And the two long cases:

In addition to displaying our models, we had a discussion about also holding a one-day event, to share ship modeling, introduce entry model kits, and to talk to those who join us about how to get started.

Bob Mains rmains1@columbus.rr.com will be the primary coordinator and will accept all volunteers. If this works out well, we may replicate the event and display at other libraries around Ohio. We have three primary objectives: Display our completed ship models (No case covers please); Introduce ship modeling to the general public; and grow our club membership.

Wisconsin Maritime Museum

. Mark your calendars: May 17-19, 2024: 46th Annual Midwestern Model Ships & Boats Contest & Display.

- April 17th – Cut-off date for hotel room block registration.
- May 1 – Closing date for Competition Registration
- May 17–19 - Model Ships & Boats Contest & Display.

For additional information:
Model competition categories & rules

- Awards
- Online Model Entry Registration
- Contestants’ Information
- Lodging Options
- Weekend Schedule
- Online & PDF Entry Form (mail-in)
- Attending (no entry) registration form

All can be found at:
https://www.wisconsinmaritime.org/programs-and-events/midwestern-model-ship-contest/

So, who plans to attend?

Presentation

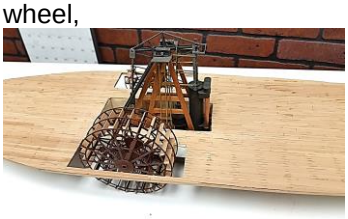
Using 3D CAD Software by L. Kimmins

Lee, introduced us to the first half of “CAD, 3D Printing”, the continuum to Julie’s January introduction to 3D printing. Lee, being a retired CAD (Computer Assisted Drawing) professional, has been using CAD and 3D printing to build his prize-winning sidewheel and sternwheel steamers.

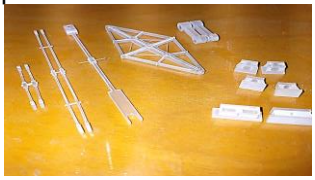
So, you asked: Why use CAD parts in your model building?

- Parts may be easier to produce, with more detail, then parts made by carving, machining, or cast moulding.
- When making parts in volume, they may be more consistent
- Once a part is modeled up, it can be 3D printed in different scales and materials.

An example of CAD, 3D printing in Lee’s ship modeling is his walking Beam engine and paddle wheel,



Made up of individual parts as shown below. All drawn up on CAD software and printed on a 3D printer.



The following are some basic guidelines for using 3D CAD software.

- There are many CAD software products available on the web, from free versions that you design on their site to versions you download on your computer.
- Some versions are for 2D CAD drawings only and cannot do 3D modeling.
- Software prices range from free to several hundred dollars up to 4-5 thousand.
- Most CAD software operates on the same principle, using sketch tools to create 2d sketches, that can extrude the sketch to create a 3D shape.
- CAD design parts can be broken down to simple geometric shapes. Additional detail can be added or removed from the part model.
- All 3D software has a long lead time to learn all the functions. Once you master the basic functions you can create simple parts.

So, what 3D software is available that is free and can be downloaded to your computer?

- Go to the web and type in: free 3D CAD software. A list off free to low-cost software will appear.
- The free to low cost is more suited for home use. Less function than high price units.
- Most 3D software will have training videos, from setting up to creating simple parts. As you master the basics other videos will explain more features.
- Some of the more common free to low-cost software are:
    - FreeCAD, Sketchup, Tinkercad, Turbocad.

Lee shared that he has used at work, before retiring: Commercial 3D software -Solid Works, Solid Edge, and AutoCAD Inventor which all come with a hefty price. For this presentation he used FreeCAD, the cost is free and it operates about the same as the software that he used professionally but with limited features.

Lee then shared some thoughts from his work on how to get started:

- All his models were created from 1/8” = foot scale (1/96) ship plans.
- Most CAD software and 3D printers use the default MM (millimeters). Use the same dimension scale for your model and printer.
- If you have full size plans or use 1=1 scale, the model has to be scaled down to the printer default. Printers can't print full size parts that are larger than their build platform.
- Lee scales the part from the plans using a MM scale and drawn to 1/8” = 1 ft.
- Scale conversion - 1” = 25.4 mm, (03937” = 1 mm.
- High detail printers can make parts down to .3 to .4 mm equal to .012” thick. (.012” x 96 = 1.15” actual size of part.)
- Cautions:
    - Know what material your printer is using, and the specs for your printer.
    - The size of the part to be printed is limit to min. and max. volume of the printer.
    - The material and type of printer will limit you how fine of detail you can print.

Lee uses a printing company called Shapeways (a global, 3D printing marketplace service, found at https://www.shapeways.com/ They have a large selection of printer types along with many different materials. Lee uses the “Fine Detail Plastic” and prints on a HP Multi Jet Fusion printer. It has the highest resolution for fine detail, other printers resolution may be lower and sharp edges may print with rounded edges. The parts must fit in the max. bonding box of “282 x 181 x 150 MM”. Min. bonding box “x+y+z = 12MM. The minimum supported walls are: .3mm (.011”) thick, (.011” x 96 = 1.13” full size.)

Your part size must fit to your printer table, and the type of printer and material you use must meet your scale resolution. If parts are to large it may need to be broken down into multi parts.

While at the Shapeways site, under the materials heading at the top, click on it. A new window will open with a “Materials Guide” and a “Materials Design Guidelines”. Click on either and a detailed chart will open and can be printed. The guides are 8 font.

If you are interested in learning more about CAD and 3D printing, go to the web site “Freecad video” for a “FreeCAD Tutorial for beginners” on YouTube. There is also a tutorial when you search on “FreeCAD video Ships”. On Model Ship World (MSW), search on “Exploring FreeCAD for ship modeling”.

Finally, the Westerville Public Library, has a 3D Printing lab, offering printing capability and in-person tutorials on getting started.

Ships on Deck

Soleil Royal

Loran Black

This is a plastic kit. Loran is working on adding the fancy works on the hull.

Swift

Julie Holloway

Julie, regretted using the Sharpie marker method for the plank seams for her Swift decking. She tore it off and has redone the aft deck so far.

DD847 USS Robert L Wilson

Steven Keller

Steven is working on the lockers and doors on his “Willie Boat”.

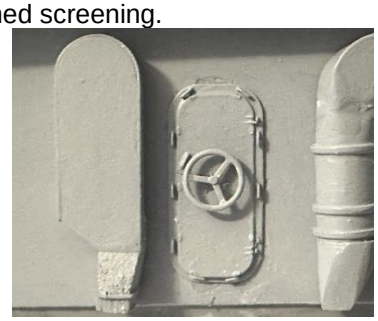
This photo (above) shows the progression of creating the 20 mm ready service lockers. Lower left shows the molded plastic part that was purchased. Holes were drilled into the four tabs along each side and eyebolts were inserted (shown lower right) to simulate the latches to hold the top in place. Plastic angle irons were cemented on the bottom.

An example of the 20 mm Oerlikon and drum magazines are shown in the picture. At the top of the picture are the 40 mm Bofors spare gun barrel storage boxes. These were cut from ash and the tops were made from maple veneer. Examples of 40 mm guns are shown top right for scale.

The above photo shows the superstructure deck just aft of the forward stack. Ladders going up to the next level on the left and right side of the stack have been removed for construction. Quick access water tight doors were added to the port side of the stack to access spaces under the twin 40mm platform (left) and the CIC (center).

A dogged water tight door was added to the starboard 40mm platform.

In the center are two vegetable lockers (purchased plastic formed.) Just to the right is the gooseneck vent made from wood with appropriate photoetched screening.



The last photo, above, shows the three spoke QAWT (Quick Acting Water Tight) door handles that now replace the four spoke wheels that came with the 3D printed doors.

Lastly, in progress are completing the water tight passage hatches (bow and stern) that are closed, and the interior passing hatches in the fore and aft fan rooms and in the central passage, all of which are just inside open QAWT doors. At least two of these are in the open position showing access toa false lower deck.

HMS Sphinx

Cliff Mitchell

Cliff has made progress on the hull of his *HMS Sphinx*. The following photos and script shows his progress.

Windows installed on the stern and side galleries

Thin brass decorations painted gold and applied to the hull.

Deadeye and Chain Plate assemblies installed

Cabin bulkheads installed along with windows

Working on gun decks details: hatch coamings, ladders, chain pumps

Model Boats

John Sparks

John contacted us through our web site and is interested in attending our meeting. He sent two photos of work he has completed.

This is a little boat I remember from my first tour of duty in South Vietnam waters. I was on the USS Camp (DER-251,) an old WWII-era destroyer escort. We would anchor at the mouth of some of the larger rivers down in IV Corps. We were "mother ship" to small squadrons of South Vietnamese Navy riverboats, and some U.S. Navy "Swift boats" patrolling offshore. We provide chow, medical support, fuel. ammo, fresh water, lube oil, etc. We were also a unit of "Operation Market Time," patrolling offshore for boats and small ships, junks, sampans, etc. carrying supplies and support to the enemy in the South. This is one of the small patrol boats of the South Vietnamese Navy

A little tugboat one might find down south, maybe on the Southern Mississippi River, tugging around sections of pipe for a dredging operation.

The boats are hand carved, twelve inches in length, because that is the length of balsa blocks I could get. The deck planks are coffee stir sticks, and everything else is whatever I could pick up as I walked around.

By the way; John is a retired Master Chief Petty officer, U.S. Navy. Welcome John, and thanks for your service.

Margaret Olwill – 1890

Bill Nyberg

Paint and trim, trim and paint!

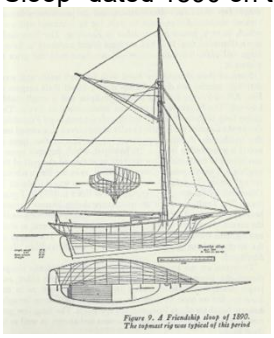
Friendship Sloop

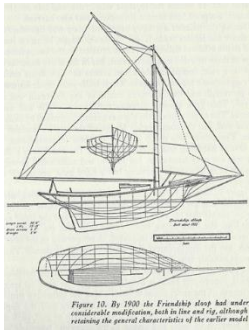
Bill Nyberg

This is a restoration project. Received a contact through our web site. Columbus resident asking if someone could repair a ship model that belonged to his brother who had passed. Model was built in the early 1950's: solid hull, built in and around Boston area. Gift to the boy in 1953 by grandparents

Rigging is rotted, sails should be replaced, boom broken, very dirty.

Researching the vessel through Chapelle to see if I could find a similar rig as a work drawing Two things: Found a drawing of the "Friendship Sloop" dated 1890 on the left and 1900 on the right.





Checked with the brother and he remembers that the model rigging on the right plan matching the rigging on the model. So, we have a set of plans to work from.

Second thing: did you know that Chapelle wrote two books on American Sailing Craft

- American Sailing Craft – Published 1935, blue cover, 231 pages
- American Small Sailing Craft – Published 1951, 348 pages

Other Notes: "Stuff", Tugs & Things

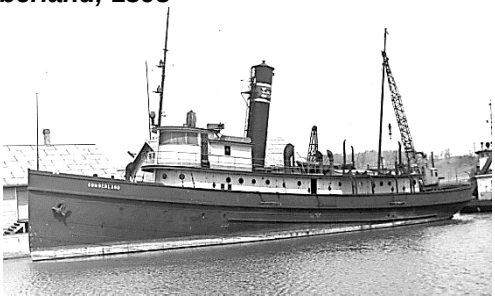
Nautical Terms

Winch: A mechanical device for pulling on a rope (such as a sheet or halyard), usually equipped with a pawl to assist in control. It may be hand-operated or powered.
Wind-over-tide: Sea conditions in which a tidal current and a wind are moving in opposite directions, leading to short, heavy seas.
Windage: The wind resistance of a boat.
Windbound: A condition wherein a ship is detained in one particular station by contrary winds.
Winding tackle: A tackle formed of two triple blocks or a triple and a double, used to raise heavy loads such as guns and anchors.
Windjammer: A large iron- or steel-hulled square-rigged sailing ship of the late 19th and early 20th centuries with three, four, or five masts, built mainly between the 1870s and 1900 to carry cargo on long voyages.
Windlass: A winch mechanism, usually with a horizontal axis, designed to move very heavy loads. Used where mechanical advantage greater than that obtainable by block and tackle was needed (such as raising the anchor on small ships).
Windsail: A wide tube or funnel of canvas used to convey a stream of air into the lower compartments of a ship for ventilation.
Windward: In the direction that the wind is coming from.
Wing: An extension on the side of a vessel, e.g. a *bridge wing* is an extension of the bridge to both sides, intended to allow bridge personnel a full view to aid in the maneuvering of the ship.
Wiper: The most junior rate among personnel who work in the engine room of a ship, responsible for cleaning the engine spaces and machinery and assisting the engineers as directed. A wiper is often serving an apprenticeship to become an oiler.
Working up: Training on a warship to achieve the best possible effectiveness, usually after commissioning or a refit.
Worm, parcel and serve: (*Often collectively called* ***service****.* To apply a multilayered protection against chafing and deterioration to a section of line by laying yarns to fill in the contlines (*worming*), wrapping marline or other small stuff around it (*serving*), and stitching a covering of canvas over all (*parceling*). It can be applied to the entire length of a line, such as a shroud, or selectively to specific parts of a line, such as over the spliced ends of a stay, where the chafe on the middle section of the stay precludes complete protection.

Nautical Terms Wikipedia

Tugs: Great Lakes

Cumberland, 1898



Built in 1898, by the Columbia Iron Works & Dry Dock Co., Baltimore, MD, for the Consolidation Coal Co. She was used towing barges loaded with coal. In 1920, her ownership was changed to the U.S. Army, Corp. of Engineers and transferred to the Great Lakes. She was of steel construction and had measures: 135.0’ x 27.0’ x 15.0’; 377 grt, 209 net. She was rebuilt and repowered during winter layup 1950/51. She was under charter in 1964 – 65 to Pringle Barge Line for the Detroit-Toledo coal run.

In 1950, ownership was changed to Roan Steamship Co., Sturgeon Bay. She was rebuilt and her tonnage change to 405 grt; and renamed, *John V. Roen*.

In 1974, she was acquired by Eder Barge and Towing Company of Milwaukee.

In 1980, she was sold out-of-country, and renamed *Trio Bravo.* She sank at a dock in Port Everglades, FL, January 1981. Raised, she was intentionally sunk in December 1983 to serve as an artificial reef at 115 feet depth.

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

,

Custodiam, 1919

This large wooden tug was built in 1919 by M.M. Davis & Sons in Solomons, Maryland as the *Custodian*. Her measures were: 126.0’ x 29.75’ x 13.58’; 359 grt, 199 net. She was transferred to the United States Shipping Board during World War I.

In 1920 she was sold to the Pringle Barge Line of Cleveland, Ohio. She towed coal barges between Toledo and Detroit. The tug burned to a total loss, four miles east of West Sister Island, Lake Erie, on June 23, 1925. No lives lost. She had been underway, with the barge *Maida* in tow, bound up, from Cleveland for Toledo, with a cargo of coal.

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

Presentation Schedule:

2024 – Schedule Tentative
~~Jan 20 CAD, 3D Printing~~
~~Feb 17 Display Case~~
~~Mar 16 CAD, 3D Printing, Advanced~~
Apr 20 Dioramas
May 18 Adhesives
June 15 UV Resin Molding
July 20 Scratch Building
Aug 17 Air Brushing
Sep 21 Planking
Oct 19 Weathering
Nov 16 Carving
Dec 21 Small Boats

Events & Dates to Note:

2024 Tentative Schedule
~~**Columbus Woodworking Show**~~
~~**Ohio Expo Center**~~
~~**January 19-21, 2024**~~

~~**IPMS Columbus**~~
~~**BLIZZCON 2024**~~
~~**Makoy Center, Hilliard, OH**~~
~~**Saturday, February 24, 2024**~~

~~**Miami Valley Woodcarving Show**~~
~~**Christ United Methodist Church**~~
~~**Middletown, OH**~~
~~**March 3-4, 2024**~~

46th Midwestern Model & Boat Show,
Wisconsin Maritime Museum, Manitowoc, WI
May 17-19, 2024

Westerville Library Display
June 1 – 28, 2024

Columbus Air Show
U.S. Air Force "Thunderbirds"
Columbus Rickenbacker International Airport
June 14-16. 2024

Lakeside Antique & Classic Wooden Boat
Lakeside Hotel, Lakeside, OH
July 14, 2024

Ohio River Sternwheel Festival
Riverfront Park, Marietta, OH
September 6-8, 2024

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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.

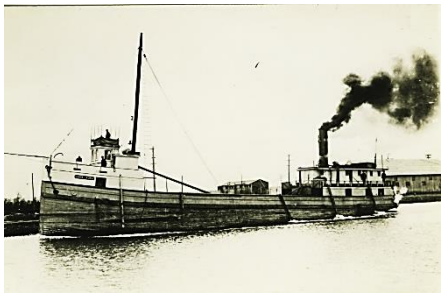
There are currently two logo styles available**:**

- **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

1871-A



Annie Laura: The wooden propeller *Annie Laura,* built by Philip Rice at McElroy's Yard in Marine City, MI, was enrolled at Port Huron, September 6, 1871. Owned by Philip Rice, ¾ share, & Crockett McElroy, ¼ share, both from East China, MI. Her measures were recorded as: 133.0' x 24.6' x 10.7'; 356.0 grt. She was powered by a high pressure, non-condensing engine, 20" bore X 24" stroke, rated at 141 HP, builder unknown. She was assigned official number 105106. The propeller *Annie Laura* was built for the bulk freight trade.

In March 1872, ownership of the steambarge *Annie Laura* was changed to Charles Means, 2/3, Linden MI and William Anderson, 1/3, Chicago.

In March of the following year, ownership of the *Annie Laura* was changed to H.R. Greene, 5/9 share, Chicago; and John Ebbert, 4/9 share, also from Chicago.

August 1878, ownership of the steambarge *Annie Laura* was changed to Simon Cobb, Chicago. In April 1879, her enrollment tonnage, at Chicago, was updated to: 248 grt, 175 net. The following month, during a storm, the steambarge *Annie Laura* and the schooner *Annie Vought* collided damaging the schooners transom.

In June 1880, ownership share of the steambarge *Annie Laura* were transferred from Simon Cobb, ½ shares, Chicago; to Henry S. Symonds, ½ shares, Boston MA. Running empty, in May 1885, the steambarge *Annie Laura* collided with an unknown vessel mid-lake, Lake Michigan. April 1887, enrollment tonnage was updated to: 244 grt, 189 net. In July off Chicago. During winter layup, 1887-88, the steambarge *Annie Laura* was rebuilt and re-engine ; given with a HPNC engine 20" bore x 24" stroke; 285 hp @ 110 rpm; built Cowie Engine Works; she also received a Johnston Bros; firebox boiler 6 ½' x 12'. August 1893, downbound on Lake Superior for Chicago, with a cargo of lumber, the steambarge *Annie Laura* went ashore at Seul Choix Point, MI, 14 miles East of Manistique, MI. The *Annie Laura* was pulled off by wrecker *Monarch* and taken to Manitowoc, WI for repairs.

In Februay,1893, all ownership shares of the steambarge *Annie Laura* were transferred to Simon Cobb, Chicago.

In July 1895, ownership of the steambarge *Annie Laura* was changed to O.S. Richardson, Chicago.

In October 1895, ownership of the steambarge *Annie Laura* was changed to Carter Lumber Co. Ludington MI.

In march 1897, ownership of the steambarge *Annie Laura* was changed to Carrie M. Koch, Sandusky OH. Master of the steambarge *Annie Laura,* for the 1910 season was Captain D.O. Lockhart. (1910 - 1910), with Jerry Shampaign as chief engineer was from 1901 – 1911.

In April; 1912, ownership of the steambarge *Annie Laura* was changed to Jerry Shampaign, Sandusky.

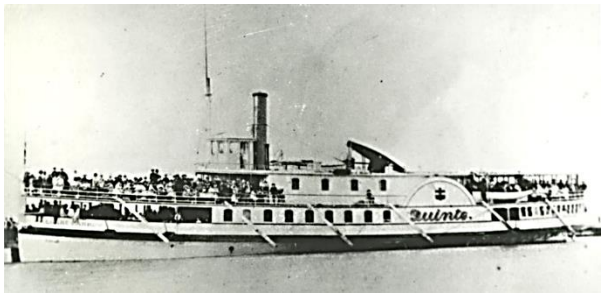
In June 1913, ownership share in the steambarge *Annie Laura* were transferred to Jerry Shampaign, ½ shares, Mae Lockhart, ½ shares, both from Sandusky. In 1913, the steambarge *Annie Laura* was converted to a sandsucker.

December 1918, ownership shares in the sandsucker *Annie Laura* were changed to Mae Lockhart. August 1922, with 11 persons on-board, the *Annie Laura* caught fire and burned to the waterline at the St. Clair Flats, Lake St. Clair. No lives lost but vessel was a total loss.

S. C. Baldwin: Built as a wooden steambarge for the bulk iron ore trade by the Detroit Dry Dock Company (Campbell & Owen), Detroit, hull number 00013, for the Escanaba & Lake Michigan Transportation Co., Marine City, MI. At enrollment, her measures were: 160.0' x 30.0' x 11.0': 418 grt. The steambarge *S. C. Baldwin* was assigned official number 23957. She was powered by an engine: 26" bore X 32" stroke built by Dry Dock Engine Works, Detroit in 1871. Her master for the 1871 season was Captain Hugh McGraw with James Howard as chief engineer. In July 1871, down-bound, between Sheboygan, WI and Chicago, the steambarge *S. C. Baldwin* sprang a leak and had to jettisoned 75 tons of pig iron into Lake Michigan. In 1873, her enrolled tonnage was changed: 633 grt. August 1874, with a

cargo of ore, the steambarge *S. C. Baldwin* sprang a leak on Lake Michigan. In April 1877, laden with a cargo of iron ore, she went aground on the reef near Thunder Bay Light, Lake Huron, during a blinding snow storm. She was released and repaired. Her master of the steambarge *S. C. Baldwin* for the 1878 season was Captain Henry Carter. In 1884, her enrolled tonnage was changed to: 412 grt - 356 net. In May of that same year, the steambarge *S. C. Baldwin* broke her engine during a storm shortly after leaving Buffalo. She had to put into Port Colborne for repairs. Master of the steambarge *S. C. Baldwin* for the 1885-86 seasons was Captain Charles W. Lockwood. In August 1886, the steambarge *S.C. Baldwin*, during heavy fog and smoke, went aground in Lake George, Saint Mary's River, Sault Ste. Marie. She was released by the tug *Mystic* (US90199). Her chief engineer for the steambarge *S. C. Baldwin* was William McKittrick for the 1889 – 90 season and E.C. Miller for the 1891 season.

Ownership of the steambarge *S. C. Baldwin* was changed in March 1892, to Captain John Kelly, East Saginaw, MI. In May of that year, the steambarge went aground on Grassy Island, Detroit River. Her master was Captain James A. Maddigan who commanded at start of 1899 season and was replace by Captain Jerry C. Cottrell for the remainder of 1899 and the 1900 season with Joseph Hall as chief engineer. Her master was Captain Thomas Shurkey, 1901 season, and Captain James A. Maddigan for the 1902 – 03 seasons, with the Henry Bayton in 1902, and John Sayle in 1903, as chief engineer. In November 1903. Bound down, Green Bay to Buffalo, laden with a cargo of lumber, the steambarge *S.C. Baldwin* stranded and sank off Long Tail Point, Menominee, WI. The vessel was declared a constructive loss. No lives lost. In 1904, the steambarge *S.C. Baldwin* was raised and her rig converted to barge. Masters of the barge *S. C. Baldwin* were Captain F.A. Crockett, 1904 season; Captain William Kelly, 1905 season; Captain Frank Morris, 1907 season and Captain L. Hanlon for the 1908 season. During a storm in October 1905, the barge *S.C. Baldwin* was thrown up on the beach at the west approach to the bridge at Sturgeon Bay, WI, Lake Michigan. A 300-foot channel had to be dredged to release her. In August 1908, while in tow of the tug *Torrent* (US24786), laden with stone for Sturgeon Bay, the barge *S.C. Baldwin* turned turtle in heavy sea off Twin River Point, WI, Lake Michigan and sank. Captain George Heim was in command. One life lost.



Beauharnois: Lubin Chobot, Quebec, built a wooden sidewheel steamer for the passenger, package freight trade. She was enrolled at Montreal in 1871, with measures recorded as: 138.0' x 22.6' x 7.6': 331.0 grt, 178.49 net. She was powered by a vertical beam engine, 30 5/8" bore x 96: stroke, 128 H.P.

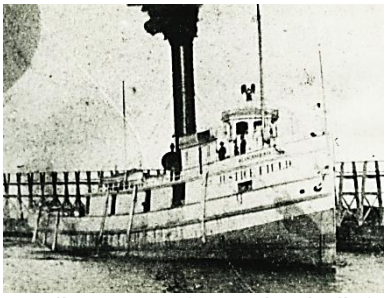
In 1874, her ownership was changed to the Beauharnois Steam Navigation Co.

In 1878, her ownership was changed to Stevenson & Co., Quebec.

In November 1881, her ownership was changed to Rathbun & Sons and she ran in connection with the Bay of Quinte Railway. She carried passengers to and from Picton, Ont. During winter layup 1882, the sidewheel steamer *Beauharnois* was repaired and rebuilt, receiving new frames and her upper works extended the full length of her hull.

In June 1883, ownership of the steamer *Beauharnois* was registered to Edward W. Rathbun, Deseronto Navigation Co.; 1 deck, 138' x 22.6' x 7.6'; 331 grt. She was renamed and registered as sidewheel steamer *Quinte* (C88242) at Deseronto, Ont. Her master for the 1884 to 88 seasons was Captain Frank Greaves, with chief engineers James Duggan, 1884-86; Henry O'Reilly in 1888. In July 1884, the steamer *Quinte,* proceeding to Picton from Deseronto with passengers was overtaken by the sidewheel steamer *Hero* (C77568) also bound for Picton. In the race that followed, the *Quinte* went hard aground on Buck Kiln Point near Picton, Ont. She was released the next day. In October 1885, the steamer *Hero* collided with the steamer *Quinte* stoving a hole in her side. The *Quinte,* bound for Kingston with 200 excursionists on board cut across the bow of the *Hero.* In August 1886, the steamer *Quinte* proceeding Napanee to Alexandria Bay with excursionists aboard struck a rock opposite the Thousand Island Park. She was pulled off, and continued on her course, leaking slightly. In January 1887, she received a new boiler. Masters of the steamer *Quinte* for the 1889 season was Captain Duncan B. Christie with Tom Short as engineer. In October 1889, bound from Deseronto, Ont. to Picton, Ont., laden with lumber and flour, and with a crew of 12 plus 20 passengers, the steamer *Quinte* caught fire near the fire hold and was beached on

Grassy Point, Deseronto, Ont., Lake Ontario where she burned to a total loss. Four lives were lost. .



Bismarck: Built as a tug for towing bulk freight schooners and barges by Alfred Stokes and John Gregory, Sheboygan, WI, for Tyson & Robinson, Manistee, Mi. The wooden propeller tugs measures were recorded as; 147.0' x 24.0' x 12.0'; 285 grt, 153 net. She was powered by a low-pressure engine, 42" bore x 36" stroke, 250 horsepower, originally installed in the propeller *Equator* (U7233). Her official number was 2767. Her master of the tug *Bismark* was Captain David Mitchell Cochrane for the 1871-72, with Captain Cornelius B. Chatterton completing the 1872 season.

In 1884, ownership of the tug *Bismark* was changed to Blanchard Navigation Co., Detroit, and she was renamed *Justice Field.*

In 1888, ownership of the tug *Justice Field* was changed to Benjamin Boutell (Saginaw Bay Towing Co.). The tug *Justice Field* was rebuilt at Bay City, MI during winter layup of 1889-1900, and her enrollment measures updated: 140' x 24' x 19'; 437 grt, 265 net. In 1891, she was renamed *Traveller.* The tug *Traveller* was re-engine, in 1898, with a Fore & Aft Compound engine, 25", 54" bore x 36" stroke built by F.W. Wheeler, West Bay City, MI.

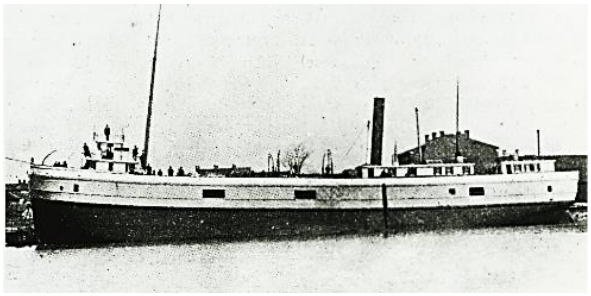
In July 1902, the tug *Traveller* was sold Canadian to Midland Towing & Wrecking Co. Ltd. (James Playfair, Mgr.), Midland, Ont. She was registered as *Traveler*, C111930: 140 x 24 x 19; 438 grt, 265 net.

In 1916, ownership of the tug *Traveller* was changed to Hugh Keefer, Port Arthur, Ont.

In 1920, her ownership was changed to Lake Superior Paper Co., Ltd., Sault Ste. Marie, Ont. She was renamed *G.R. Grey,* C111930. Master of the *G. R. Grey* was Captain J. P. Ramsay from 1920-36 with chief engineers Albert E. Lewis from 1920-30; Thomas O'Reily in 1931, Albert Lewis in 1933-34, Charles Saunders in 1935, and Hugh Gair in 1936.

In 1935, ownership of the tug *G. R. Grey* was changed to Abitibi Power & Paper Co., Ltd., Iroquois Falls, Ont. The tug *G. R. Grey* operated until 1943 and then was laid up at Sault Ste. Marie, Ont. Until sold.

In 1947, ownership of the *G. R. Grey* was changed to J.F. McColman, Thessalon, Ont. After 78 years, the wooden tug *G. R. Grey* was taken to the boneyard in Thessalon, Ont. and abandoned.



Gordon Campbell: Designed by S. R. Kirby and built, as hull # 00019, by Campbell, Owen & Co. (Detroit Dry Dock Company), Detroit, the wooden propeller was launched Saturday, September 2, 1871. Her owner, Campbell, Owen & Co. intended her for the bulk freight, grain trade between Buffalo and Chicago. Her measures were: 20542' x 32.42' x 13.00'; 996.14 grt, 709.00 net. She was equipped with two fore & aft compound engines: 22", 32" bore x 30" stroke, built by Dry Dock Engine Works that drove two screws Steam was provided by a firebox boiler, 7' x 15', 100 psi, built by Dry Dock Engine Works. She was issued official number 85184.

In April 1872, ownership of the *Gordon Campbell* was changed to the Erie & Western Transportation Co., Erie, PA. In November of that year, the vessel went aground in the Old Channel, St. Clair Flats, St. Clair River. In October 1873, the *Gordon Campbell* went aground on Charity Island, Saginaw Bay, Lake Huron. She was released. Her master for the 1880 season was Captain Joseph Corcoran with William Erskine as chief engineer from 1878 to 1880.In May 1883, bound up for Chicago, laden with a cargo of coal, the *Gordon Campbell* and consort *Annie Sherwood* went aground on Chickenoile Reef, Lake Erie. Both were released and repaired at Detroit. Her master for the 1884 season was Captain Dallas Ryder. Captain George L. Graser was master from 1888 - 1892 with John H. Forrester as chief engineer from 1889 - 1892. In July 1888, her enrollment registered tonnage was update to: 1,100 grt, 785.26 net.

In August 1899, ownership of the propeller *Gordon Campbell* was changed to Miles E. Barry, Chicago. In January 1900, ownership of the *Gordon Campbell* was transferred to Barry Brothers Transportation Co., Chicago. Her master for the 1900 – 1901 seasons was Captain Louis Larson with Christopher Smith as chief engineer.

In April 1902, ownership of the *Gordon Campbell* was changed to John H. Brewer, Chicago. Her master for the 1902 season was

Captain John McAvoy with Joseph Ridden as chief engineer.

In September of 1902, ownership of the vessel reverted back to the Barry family when Peter Barry, Chicago was listed as owner. In November the *Gordon Campbell* was transferred back to the Barry Brothers Transportation Co., Chicago.

In February 1903, ownership of the *Gordon Campbell* was changed to William F. Carroll, 2/3 share and Patrick J. Bowe, 1/3 share, both from Chicago.

In April 1904, ownership of the propeller was changed to John F. Lindgren, Chicago. Her master for the 1904 season was Captain J. A. Brownell with J. W. Gory as chief engineer.

In July 1904, ownership of the *Gordon Campbell* was changed to Ontario Navigation Co., South Dakota and her home port was Chicago.

In October 1905, she was sold Canadian to George Plunkett, Cobourg, ONT. When registered Canadian, the propeller *Gordon Campbell* was renamed *Strathmore*, C116813, and her measures recorded as: 206' x 33' x 12'; 1,158 grt. November 1906, bound down from Fort William, Ont, on the Kaministiquia River, to Port Stanley, Ont, Lake Erie, laden with a cargo of grain, the propeller *Strathmore* struck bottom and stranded on Michipicoten Island, Lake Superior. The *Strathmore* later caught fire and burned to a total loss. She was pushed into deeper waters by a later storm. No lives lost.

City of Montreal: Hyslop & Ronald, Chatham, Ont. built a wooden propeller for John MacKay, Hamilton, Ont. to be used in the passenger, package freight trade between Montreal, Que. and the Upper Lakes. She was enrolled July 18, 1871 at Chatham, Ont. and her measures recorded as 138' x 25.6' x 11.6'; 652.4 grt. 409.86 net. She was issued official number C71108. Her engine was built by Hyslop & Ronald, Chatham, Ont. In August 1871, the *City of Montreal* broke her machinery on Lake Michigan but manage to reach Port Oneida, MI. She was then towed to Milwaukee, for repairs. Her master for the 1872 season was Captain John Trowell. In June 1874, she went aground at the St. Clair Flats, St. Clair River and required lightered to be released.

In 1877, her ownership changed to Milloy & Leach, Toronto. Her master for the 1877-79 seasons was Captain Thomas Leach. September 1878, bound down for Collingwood, Ont., laden with 17,000 bushels of wheat, the propeller *City of Montreal* went ashore, during a gale, on the Upper Reef, Presque Isle, MI, Lake Huron. Early in October, she was released and towed to Collingwood, entering the dry dock. A portion of her cargo is wet.

Ownership of the *City of Montreal* changed to J. H. G. Hagarty, Toronto in 1880. Her master for the 1883 season was Captain William Boyd. In June of 1883, the *City of Montreal* went ashore in fog on the Main Ducks, Lake Ontario. 600 barrels of flour and whiskey were jettisoned to release her.

Ownership of the *City of Montreal* was changed to T. Marks, Port Arthur, Ont. in 1884. Her master for 1884 was Captain Paul Howell. She had been lengthened 36 feet and converted to a steambarge at Owen Sound: her enrollment measures were updated to: 138.0 x 26.0, 297 grt. Bound up early in the 1884 season, the steambarge *City of Montreal* ran hard aground near Church's Landing in the "Soo" river. Released by the tug *Peck* after lightering. After receiving complaints about taking on water, the Government Inspector of hulls, Captain Thomas Harbottle, inspected the steambarge *City of Montreal* and found the following: during the 1884 season, the steambarge struck a rock off Otter Head, Ont., Lake Superior and sprang a leak about ten feet from the bow. A crew member while searching for the leak, bored through her ceiling within ¾ inch of the outside hull. Any blow to the hull would have let water into the hull. The vessel was drydocked and repaired in February 1885. Master of the steambarge *City of Montreal* was Captain James Radford, 1887 season.

In 1888, ownership of the steambarge *City of Montreal* changed to A. Cambell, Toronto, Ont. Her master for the 1888 season of the steambarge *City of Montreal* was Captain Charles Redfearn. In May 1888, bound up, the steambarge *City of Montreal* ran hard aground near Church's Landing in the "Soo" river and broke her rudder. Released by the tug *Superior,* she was towed to the drydock. In October 1888, bound for Chicago, laden with 475 tons of building stone, the steambarge *City of Montreal,* overtaken by a severe gale, had her engines break down and became unmanageable. She was beached on Michipicoten Isle, Ont., Lake Superior where she sank. Her crew drifted for three days in a lifeboat before being picked up.

City of Traverse: Quayle & Martin, Cleveland, built a wooden propeller for the passenger, package freight trade for the Chicago and Grand Traverse Line with accommodations for 100 passengers. The initial enrollment for the propeller *City of Traverse* was issued at Cleveland, OH, April 26, 1871. Her measures recorded were: 214.42' x 33.16' x 12.66': 1153.33 grt, 925.98 net. She was issued official number 5928. Powered by a steeple compound engine, 24", 44" bore x 56" stroke; and a firebox boiler 6.5' x 17.1', 80 pounds steam, both built by Cuyahoga Iron Works, Cleveland. Her original owners were: Albert T. Lay, 1/4, Chicago; Perry Hannah, 1/4, Traverse City; James Morgan, 1/4; William Morgan, 1/4.

First enrollment for the propeller *City of Traverse* issued at Cleveland, OH, April 26, 1871. Master of the *City of Traverse* was Captain George Baldwin for the 1871-85 seasons and Captain T.G. Baldwin for the 1885-87 seasons with Peter D. Bauld as chief engineer in 1886.

In June 1887, ownership changed to: Joseph Austrian, 1/4, Chicago; Samuel F. Leopold, 1/4, Chicago; Joseph F.A. Springer, 1/4, Chicago; et al. In September, bound from Chicago to Lake Superior, the propeller *City of Traverse* struck on Racine Reef, Lake Michigan, in heavy fog. She released herself and went into dry dock at Wolf & Davidson where her keel forward and fore foot were found damaged and had to be replaced.

March 1888, ownership of the propeller *City of Traverse* was changed to Lake Michigan & Lake Superior Transportation Co., Chicago. Her master for the 1888-97 seasons was Captain John M. Twitchell. In 1891, with the completion of the rail connection between Kewaunee, WI and St. Paul and Minneapolis, MN, the Delaware & Lackawanna Railway, with controlling interest in the Flint & Pere Marquette Railway, chartered the Lake Michigan & Lake Superior Transportation, propeller *City of Traverse* for the package freight trade during the winter months between Kewaunee, WI. and Manistee, MI. her masters were: Captain E.C. Evans, 1899 season; Captain John M. Twitchell, 1899 – 1900 seasons; Captain Neil McCormick, 1902 – 1902 season; Captain Thomas C. Herrick, 1903 season; and Captain Joseph White for the 1904 season. Her chief engineers were: Edward F. Meeh, 1897-1907 season; C. E. Grobben in 1899, and James H. Miller in 1903.

In June 1905, ownership of the propeller *City of Traverse* was changed to Stephen Jones, Chicago.

In July 1907, ownership of the propeller *City of Traverse* was changed to J.S. Morton, Benton Harbor, MI.

In September 1907, ownership of the propeller *City of Traverse* was transferred to Graham & Morton Transportation Co, Benton Harbor, MI. November 1915, the *City of Traverse* was dropped from documentation. The vessel was dismantled and converted to a floating dry dock for service at St. Joseph, MI.

Coral: William Taylor, Wallaceburg, Ont. built a wooden steambarge for Robert Daly, Wallaceburg for river traffic only. Her measures were: 86' x 21.17' x 7.17'; 118.53 grt.

Ownership of the steambarge *Coral* was changed in 1878, to Hiram Ives, Windsor, Ont.

In April 1881, ownership of the steambarge *Coral* was transferred to W. Stokes et al., Newbury, Ont., and John McRae, Glencoe, Ont.

In April 1885, ownership of the steambarge *Coral* was transferred to John McRae and J. M. Tully.

In October 1886, ownership of the steambarge *Coral* was transferred to W. Stokes, and J. M. Tully, Windsor, Ont.

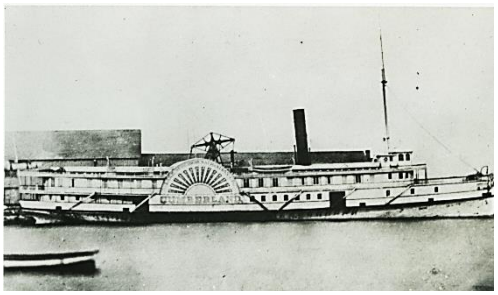
In the late fall of 1886, the steambarge *Coral* ran ashore near Rondeau, Ont, Lake Erie. She was not released until the spring of 1887 after spending the winter ashore.

In May 1887, ownership of the steambarge *Coral* was transferred to McRae & Tully, Windsor, Ont. and Amelia Lawson, Detroit.

In 1887, the steambarge *Coral,* owned by Martin F. Fleming, Detroit, MI, *laden* with horses, foundered in Georgian Bay.

The steambarge Coral was listed in "Inland Lloyds 1890 Vessel Register: Canadian Hulls, 1890 as a river scow with ownership by Tiffin et al., Wallaceburg, Ont.

NOTE: Newspaper listings show three Corals; a U.S. registered schooner, a U.S. owned racing yacht, and a Canadian steambarge. All three active in and around the Detroit River, Lake St. Clair area during the same period.

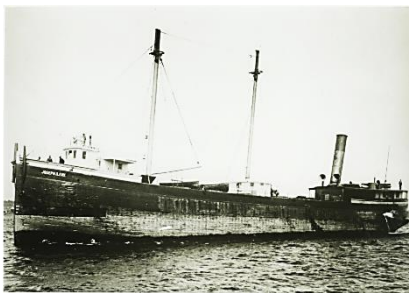


Cumberland: Melancthon Simpson, Port Robinson, Ont., built a wooden sidewheel steamer for Lake Superior Navigation Co; William Thompson, Toronto, Ont. to be used for the passenger, package freight trade between Collingwood, Ont. and Fort Williams, Lake Superior. Her measures

were: 204.5' x 26.0' x 10.7'; 418 grt, 228 net. She was powered by a vertical beam, low pressure engine: 44" bore x 132" stroke; built by Henry R. Dunham & Co., New York (originally installed in *Columbian,* C51695). The steamer was launched August 09, 1871. Master of the steamer in 1872 was Captain Pollock and in 1873, Captain McGregor. In June 1872, the steamer *Cumberland* went aground, due to low water, at the port of Owen Sound, Ont. Released. In October of the same year, the steamer *Cumberland,* with 50 passengers aboard, became frozen in at Bear Lake, Ont., east of Parry Sound. The steamer laid over until spring.

Ownership of the steamer *Cumberland* was changed in 1873, to Perry & Co, Toronto, Ont. October 1874, laden with cattle, the steamer *Cumberland* went ashore at Nipigon River, Ont., Lake Superior. 150 head of cattle were thrown overboard to release her. Property loss set: hull-$3,000, cargo $5,000. Later that month, the steamer *Cumberland* went ashore near Silver Islet, Lake Superior, during a blinding snow storm and gale. The vessel was scuttled to prevent further damage. After being released, the steamer *Cumberland* was thoroughly overhauled, refitted and painted during the winter 1874-75 lay over. Masters of the steamer *Cumberland* were Captain Orr in 1876 and Captain Jim Parsons in late 1876 and 1877. In September 1876, the steamer *Cumberland* ran aground at the mouth of the Sydenham, Owen Sound, Ont. A rope was fastened to the shore and around her shaft to release her. The strain caused the rope to snap, the broken end struck Captain Orr, breaking both legs. Released. In July 1877, upbound from Collinwood, Ont. for Duluth, MN, laden with general merchandise and passengers, the steamer *Cumberland* went aground in Nipigon Bay, Lake Superior and was stranded for three days. Her passengers were transferred to a Duluth-bound propeller *St. Paul* (US23755). Released and while skirting around Isle Royale, MI, she struck bottom and sank in relatively shallow water at Rock of Ages Reef, Isle Royale. She was later broken up by waves. Canadian charts did not have the reef documented. No lives lost.

Final enrollment for the sidewheel steamer *Cumberland* was closed August 24, 1877.



Joseph S. Fay: Quayle & Martin, Cleveland, built a wooden steambarge for a group of investors, including: Captain Alvin Bradley, Cleveland; H.H. Fay, Boston; Captain George Stone, et al. Her initial enrollment at Cleveland, listed her measures as: 215.60' x 33.60' x 14.80'; 882.31 grt. She was powered by a high-pressure non-condensing engine: 28 1/2" bore X 36" stroke, built by Cuyahoga Iron Works, Cleveland. She had a tubular boiler, 6' 10" x 17' 3", 84 pounds steam. She was assigned official number: 75315. She was built for the bulk freight trade at a cost in the neighborhood of $80,000. Her consort was the schooner *D.P. Rhodes* (U6697) built in 1871 by James M. Jones, Detroit. They were paired together for more than thirty years. In June 1874, she went aground at St. Clair Flats, Lake St, Clair. In 1879, the steambarge *Joseph S. Fay* ran into and sank the steambarge *Ontonagon* (U18963) as the later was leaving the wharf at Port Huron. In September 1885, the steambarge *Joseph S. Fay,* laden with a cargo of wheat, went ashore at Presque Isle, Lake Huron. Property loss of $3,000. In 1887, the *Joseph S. Fay* had her engine compounded by Globe Iron Works; 24", 44" bore x 38" stroke, drawing #24 September 1, 1883. She was re-measured: 215.6' x 33.6' x 14.8'; 1,220 grt, 1,110 net. In September 1887, the steambarge *Joseph S. Fay* went aground, near the cribs, at Toledo, Lake Erie. Released the next day by the tug A. Andrews, Jr. (U105340).

In 1893, investor change to Bradley Transportation: Morris A. Bradley, Cleveland, OH; et al. The steambarge had her two firebox boilers replaced by a new scotch boiler. In 1893, master of the steambarge *Joseph S. Fay* was Captain Warren E. Morris. September 1895, the steambarge *Joseph S. Fay* ran hard aground off Star Island Reef, in the south passage near Toledo, Lake Erie. Her master for the 1897-98 season was Captain Richard Neville Jr. with Frank V. Hickey as chief engineer. In October 1905, down bound from Escanaba, MI to Ashtabula, OH, laden with iron ore, with the schooner *D.P. Rhodes* (U6697) in tow, in a violent fall storm. The towline to the schooner ripped out the tow bitts and part of the *Fay's* stern. The captain, ran the vessel full ahead to keep her from filling and beached the vessel to avoid foundering, off Forty-Mile Point, MI, Lake Huron near Rogers City, MI. The vessel was pounded to pieces by the huge waves. One life, Mate Joseph Syze, was 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 $1533\frac{7}{94}$ 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.)