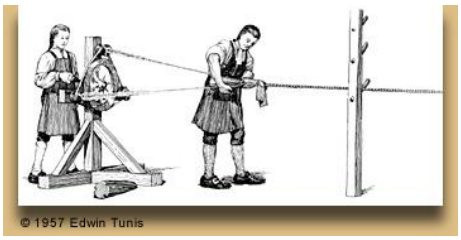


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

Ropewalk

The Newsletter for
Shipwrights of Ohio – January 2024

Next Meeting: February 17, 2024;
***"*Display Cases*"* by Darrell Markijohn**

Table of Contents

January

Welcome to 2024. My hope is that you will find the time to spend in this challenging hobby of ours and that all of you will join us for our meetings.

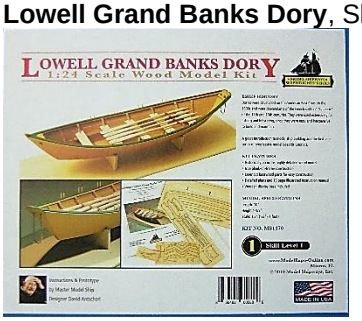
On page 3, is an invitation to join the NRG 2024 Virtual Workshop on "Origins of the 18th Century Sloop of War". Ian McLaughlin, presenter, will host the session from the UK. He is the author of "The Sloop of War: 1650 – 1763" – (NIP). The zoom access will be sent out to the NRG members, Thursday, January 25, 2024.

Be aware, due to conflicts with tax preparation at the Westerville Library, our hybrid meetings for February & March will be from Classroom D. The D classroom is off the audio/visual section of the library (enter from the parking lot, turn left into the library, bear right around the checkout desk. The classroom is on the far side of the audio/visual library section.

In the January 2024 "Scuttlebutt", page 7 & 8, they included a "Let's get more people into wooden ship modeling" request. We all know someone, well maybe all, who has, after viewing our modeling works, said: "I could never do ship modeling", I don't have the patience", or "I don't have the time", etc. etc.

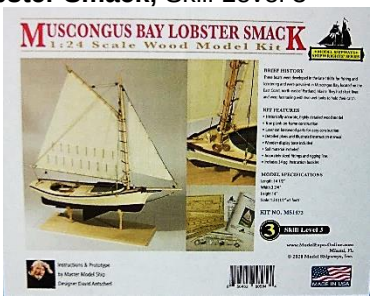
Model Shipways has produced a three ship model kits for beginners, to introduce them to ship modeling. The instructions and prototype were developed by Master Model Ship Designer David Antscherl. The three kits are available through Model Expo. They are:

Lowell Grand Banks Dory, Skill level 1.



Norwegian Sailing Pram, Skill Level 2

Muscongus Bay Lobster Smack, Skill Level 3



All three are reasonable priced.

Learn to build a fine wood boat and/or ship model. Start with an 1800's traditional fisherman's *Dory* at Skill Level 1. Included are 24 pages of instructions, tools, paint, and glue for your first build. Continue at Skill Level 2 with a fully planked historic *Norwegian Pram*. Finally, the *Muscongus Bay Lobster Smack* at Skill Level 3 will prepare you for any larger wood ship model you choose; even a 100-gun warship.

Includes tools, paint and glue, (clamps, tweezers, hobby knife, blades, saw blade, chisel blade, sandpaper, paint brushes.

So, who do you know that could use a good, absorbing hobby? Friend, neighbor, son, grandson?

We have two needs that are listed below: “Presenters for the 2024 meetings”, and “2024 dues”. Lee has added an additional way for you to pay your dues. Check it out. If you have not responded, contact Bob or Lee. Their phone numbers can be found between the “Events & Dates” and the “Cargo Hold” on page 10 of this newsletter.

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

Your editor.

Shipwrights of Ohio - Reminders

As a ship modeling club, there are still two things that you need to attend to for 2024. If you have not done so yet, do take care of this now.

Presentation schedule planning for 2024

Bob Mains has developed a the schedule for the 2024 meeting presentations.

He is in the process of recruiting presenters to do the research, presentation development and present the topic at a 2024 meeting. The topics outstanding are:

- “Planking” – September
- “Small Boats” - December

If you are still considering, here is your chance to extend your knowledge and help your fellow shipwrights in their craft. We may have a past presentation on the topic on file.

You can find the 2024 presentation schedule on page 10 of this newsletter.

Dues collection for 2024

It is that time of the year again. The club dues for 2024 will be $20. We have five 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 "Venmo". 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".
5. If your bank setup has Zello you can send it direct payment to Huntington bank to our new Zello account instead of sending it to me.
    a. Open up your Zello account thru your bank. Use the following phone number 614 378 9344 and use name CK1540.
    b. It will then ask you “if the payment is for “Shipwrights of Central Ohio”.
    c. Answer ok and set up your payment.

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

Financial Year-End-Review

The "Shipwrights of Ohio" ship modeling club is in good financial order, partially due to the limited expense activity besides meetings, and the influx of income from restoration work accomplished by club members at the Historical Society Museum, Norwalk, Ohio; and the Great Harry" or "*Henry Grace a Dieu*".

Balance 12/31/2022	$ 2,205.29
Revenue 2023	$ 460.00
Revenue 2024	$ 195.00
Expenses 2023	$ 231.84
Balance 12/31/23	$ 2,768.45

The clubs two major expense yearly are: IPower Web Hosting (paid every two years) and Zoom Usage membership (paid yearly).

Up Coming Activates/Changes

Nautical Research Guild

- 2024 virtual Workshop, Saturday, January 27, 2004, 11:30 AM EST. Ian McLaughlin will present "Origins of the 18th Century Sloop of War", based upon his book "The Sloop of War: 1650 – 1763".

Bluejacket Ship Crafters:

- Now handles Amita, Caldercraft & Vanguard model kits beside their in-house selection.

Lauck Street Shipyard, Inwood, WV:

- New website address: https://lauckstreetshipyard.com/

ShipIndex.org

- ShipIndex.org simplifies vessel research. Whether you're a genealogist, a maritime historian, a researcher, or just curious, they can help you learn more about the ships that interest you. They tell you which maritime resources, such as books, journals, magazines, newspapers, CD-ROMs, websites, and online databases mention the ships that interest you.

Society of Nautical Research (UK):

https://snr.org.uk/the-mariners-mirror-podcast/

- New podcast: "Filming the World's Best Ship Models - Stockholm" - This episode looks at Lloyd's Register Foundation's new project Maritime Innovation in Miniature which is one of the most exciting maritime heritage projects of recent years and a leader in terms of innovation in the maritime heritage field. The aim of the project is to film the world's best ship models.

2023 Winner "Navy News Year Log Entry

(written on News Year Eve, 2022. The *USS BUNKER HILL* (CG-52) 2023 New Year's Deck Log Entry was written by LT Artem M. Sherbinin. He wrote the deck log entry while serving as the Navigator onboard *USS BUNKER HILL* (CG-52).)

***Bunker Hill* CG-52** (guided missile cruiser)

As New Year's bells ring out tonight
We celebrate our warship's might.
In poetic form we must recall *Bunker Hill's* life before her 2023 mothball.
In '86 she first set sail,
Her hurricane bow impervious to the beau fort scale.
Within her clean lines a new surprise,
The MK-41 VLS—the first of its kind.
In '91 she was still young,
Tomahawks into Saddam's Iraq she flung.
Then in '06 with years of salt coating her steel *Bunker Hill* received new aegis upon her keel.
For the next ten years she was at-sea,
The place a sailor ought to be.
From San Diego to around the Horn,
Her spy-1 radars tracked everything airborne.
Then in '20 she faced new enemies big and small,
The Covid virus and NCT one port call.
Through '21 in Pacific water she remained,
Keeping Chinese warships contained.
But in 2023 she will become and absentee upon the sea,
For *Bunker Hill* will be no more.
Decommissioning is the fate of this great man-of-war,
And Team 52 will finally rest.
This wondrous crew has bested every test.
Fair winds and following seas to you,
On this last day of 2022.

Presentation

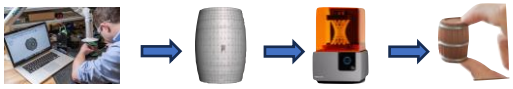
3D Printing for Ship Modeling:
from CAD (computer-aided design) to CAM (computer-aided manufacturing)

by Julie Holloway

The following information is meant as an introduction to the creation of solid objects for ship modeling using 3D digital printing techniques. It will familiarize the novice with the sequence of production, from the basics of computer-aided design using free software to 3D printing using hobbyist-level machines.

Summery

CAD (Computer-Aided Design)	CAM Computer-Aided manufacture
Creating digital file	Converting the file
-From existing files, by scanning existing objects or created de novo -Types of software needed to manipulate the data files -Types of scanners	-Prepare the file - Additive vs. subtractive Printing vs milling - Types of material



3D printing follows the same sequence, regardless of the object to be produced:

- Step 1: Creation/modification of a digital model using computer-aided design software (CAD)
- Step 2: Export the digital model to a specialized 3D printer to produce a three-dimensional solid object (CAM)
- Step 3: Sand/finish the object

Step 1: Computer-aided design (CAD)
One can create a digital file of the desired object in three basic ways:

- From existing files that one can search for on the internet
- Scan existing objects using a 3D scanner
- Create the object *de novo* using design software

Existing digital files of many nautical objects (Cannons, barrels, etc.) are readily available on the internet. Many are free, some require payment of a fee to download the file to your computer. Quality varies and may require you to modify the file using design software to get the exact object you require, i.e., most cannons are generic and would require digital manipulation to be accurate for your particular ship.

What type of digital file should I look for?
Digital files store the information about 3D model, by encoding the surface geometry of a 3D model which is composed of lines, polygons, and freeform surfaces. The file extension of the digital model corresponds to the type of information in the file.
.stl file - The most dominant file format in the world of 3D printing is ".stl", which stands for "Stereolithography or Standard Triangle" file. Simple 3D models will usually have an ".stl" file extension after the file name and are pretty much the standard 3D printing format.
.obj file – Another common file extension is the OBJ file format or ".obj". These are larger size files that not only contain an object's surface geometry data, but also contain color and surface texture information.
Other file types that you may encounter include: .mtl, .3mf, .ply, .fbx, .g (.gco), .x3g, .amf, and .vrml. These are file types that are either specific to a specific software and are therefore not universal or contain data that is not used for 3D printing. Therefore, if you are tempted to buy an expensive .vrml file online, but you may not need to invest in a fancy color figure witch are meant to be used in video games.

Scanning existing objects using a 3D scanner
3D scanning is a technique used to capture the shape of an object using a 3D scanner, currently an expensive technology. The result is a 3D file of the object which can be saved, edited, and 3D printed. Many different 3D scanning technologies exist to scan objects, environments, and people. Each 3D scanning technology comes with its own limitations, advantages, and costs.
Scanning small model parts to duplicate them is still problematic due to the scanning resolution needed, which is directly proportional to the price of the scanner.

Creating an object *de novo* using design software
In order to make a digital object from scratch, you must first decide what software to use, as there are many different software options available. Software ranges from "beginner-type" software (free) to expensive, robust professional level software as used in industry. One must also take into account the level of computing power that will be needed and if your laptop will support it. When using a laptop, a mouse (preferably with a wheel) is necessary, as laptop touchpads often cannot replicate the combination of clicks, grabs, etc. needed for 3D modeling. Free software (freeware) is often laptop friendly for small files, professional level and large files often require substantial computing power. Some software requires you to be online for computing support (cloud) and can take the burden off your computer (somewhat). Some freeware saves your work to the "cloud" and you may encounter fees for downloading your data files from the cloud in order to print it. Some freeware available on the internet include Tinkercad, Meshmixer, DesignSpark Mechanical, and Blender. The Westerville library utilizes Tinkercad for their classes and has it available on their computers in the Innovation Lab, as well as tutorials on their website.

Step 2: Export the digital model to a specialized 3D printer to produce a three-dimensional solid object
Once you have a digital model, you will need to export it in order to print it. The software will ask you in which format you would like to export, choose the .stl (preferably) or .obj file format. It will save it to your computer, usually in the downloads folder.

Preparing the file for 3D printing:
Typically, the software of the printer does all the work for you. This work involves slicing the object into layers that are then sequentially printed one on

top of the other to create the final object. These “slicer” programs are often printer-dependent and also allow you to determine if support will be needed to print your object successfully. One of the unique advantages of 3D printing is the possibility to scale your object digitally, so if you want three small barrels and one big one you only need to make one “digital barrel” file. Just duplicate the barrel file as many times as you wish and scale one of those duplicates larger for the large barrel, all from a single parent file.

Additive (printing) methods are the most common usage at the hobbyist level, as the printers and materials are affordable. Subtractive manufacture methods mill (CNC) the object from a solid block of stock material and are therefore wasteful, expensive, and typically reserved for hard materials such as alloys. The two most useful printing methods available to the hobbyist are FDM and SLA printers.

An FDM printer works by extruding melted PLA (a biodegradable plastic) from a heated nozzle in a thin layer onto a build platform in a precise pattern. Once the first layer is complete, the next layer is melted onto the top sequentially building up the layers of the digital file, creating a solid object. Industrial-grade FDM 3D printers use soluble supports to alleviate some of these issues and offer a wider range of engineering thermoplastics/composites. While hobbyist FDM printers can be purchased for as low as $100, they use a thermoplastic resin filament, resembling fishing monofilament line, to build up the layers of the object. These printers require that supports be used to ensure printing success, which leaves areas to smooth after the support is removed. The final object is rather rough, the layers (~ 0.3mm) are readily evident to the human eye and require extensive finishing techniques to create a smooth surface. The time needed to print an object can be between 30 minutes to 7 days, as influenced by the object: height (taller objects take longer), footprint (volume), and degree of complexity of the geometry. A hobbyist-grade FDM printer has the lowest resolution and accuracy when compared to other plastic 3D printing processes and may not be the best option for printing complex designs or parts with intricate features.

Stereolithographic (SLA) printers utilize lasers to photoploymerize layers of liquid resin to achieve a solid object. Whereas FDM printers build their objects from the build surface up, SLA printers use an inverted build surface which is submerged in liquid resin during manufacture. Once complete, the object must be washed several times in isopropyl alcohol (IPA) to remove the excess unpolymerized resin, a sometimes messy job that requires good ventilation. Some specialized resins require a post-curing heat and light treatment to achieve their stated properties. While more expensive than FDM printers, they produce high quality resin objects with fine detail and good surface finish. The objects require supports, much like FDM printers do, which means some finishing is still needed. There are a wide variety of resins available for most SLA printers, they vary in hardness, flexibility, translucency and other desirable properties such as flame resistance and impact resistance. The surface finish, accuracy, and variety of resins available make an SLA printer a better choice for ship modeling.

Step 3: Sanding/finishing/coloring 3D printed objects

Objects printed on either FDM or SLA printers will need sanding to remove the residual support attachments. Anyone who builds models knows that paint hides no flaws. Without treatment, small step-marks or support marks will show through on the final surface, along with any large triangles left by the 3D printed mesh. FDM is more difficult to sand, as the thermoplastic material is easy to melt using rotary tools and gums up sandpaper easily, resulting in a rather low level of finish and no gloss. Most resins used in SLA printers sand easily. Hand sanding is most effective on simple shapes, but it can be hard or impossible to sand complex objects with deep crevices and internal supports.

Coloring SLA-printed parts can be achieved by several methods:

- Printing With Dyed Resin
- Dyeing SLA Parts After Printing
- Painting With Acrylic
- Spray Painting
- Clear coat
- Electroplating

Prior to any paint application, the object should be cleaned and primed. The goal of priming is to create a pristine print surface before painting. To achieve a smooth surface, buff and polish the primed surface. Using nail buffing sticks, gently polish the surface starting with level #2 (buff) and finishing with level #3 (polish). Afterwards, the surface will look glossy. Remove the dust with a tack cloth prior to spray painting. For a high gloss, to fully polish SLA 3D printed parts, you may want to coat them instead of using one of the painting methods mentioned above. Generally, a clear spray coating is best to bring parts to a glistening finish. Spray coatings should be applied only after the part has been meticulously sanded.

Electroplating is an electro-chemical process in which metal ions are deposited in a thin layer on the surface of a part. Electroplating surfaces significantly strengthen their underlying parts and improve material resistance to wear, UV exposure, and corrosion. This is excellent for end-use parts, and is a cheaper alternative to metal 3D printing. Electroplating printed objects with a 0.004-inch-thick layer of nickel results in parts that look and feel like metal, without the weight.

Ships on Deck

Here is what we have been working on this past month,

Swift

Julie Holloway

Completed planking of hull. Plans to add treenails.

HMS Sphinx

Cliff Mitchell

Work began on the quarter galleys

Filler was then used to smooth and shape the galley.

The wales and inner galleries were then painted black.

Ship is masked off and filler was used to make a good surface with no cracks or holes. Ronseal natural wood filler was used. Its advantage is that it can be watered down to a thin consistency.

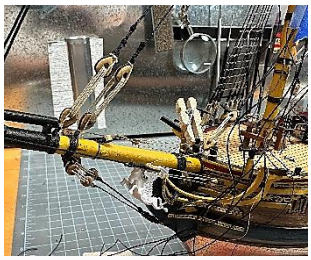
White primer airbrushed was then applied and will be followed by many coats of white acrylic paint. Each coat sanded until smooth.

USS Cleveland

By William Schwartz

HMS Pegasus

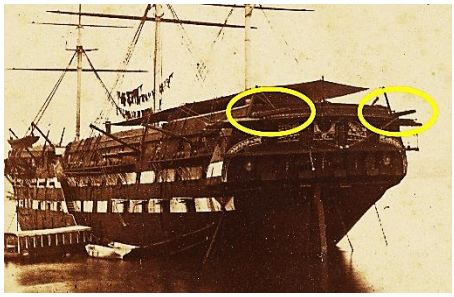
By Jason Smith

Working on the crowfeet, stays, and backstays. The ratlines are finally finished. Those are the lines with blue tape to keep them organized. I also did the ship's boat.


USS Ohio

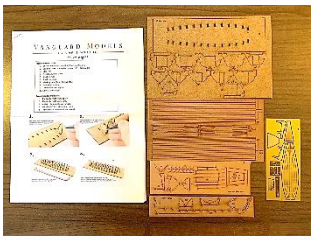
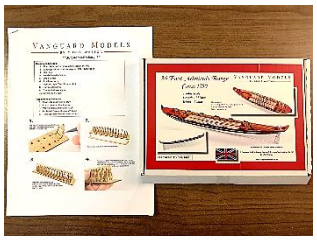
Rich Stratton



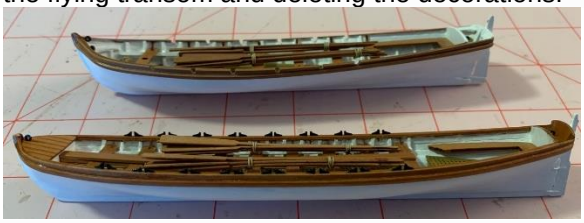
Hanging off of the stern but mounted to the top of the poop deck are boat davits. I have an historic photo (above) of the stern but it's at a funky angle that makes it difficult to determine the actual length:

According to Charles G. Davis in The Ship Model Builder's Assistant, on the American ships of the line, 2 boats were hung from the stern davits: a gig and a barge. To help determine the length of the davits before I mount them to the poop deck, I needed to build a gig and a barge. Instead of building these boats from scratch, I decided to get kits from Vanguard/Chris Watton since they're of the right scale.

https://vanguardmodels.co.uk/product/ships-boats-various-types/

On the left is the 32-foot barge kit from Vanguard. On the right is the 36-foot admirals barge from Vanguard. For the gig, I opted to get the Admiral's barge and simplify and Americanize it to serve more as a Captain's gig. Simplifying and Americanizing the Admiral's Barge involved deleting the flying transom and deleting the decorations.



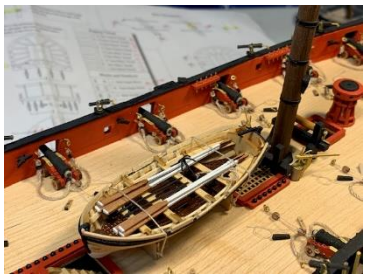
Here are the completed boats:

There's interesting history involving the stern davits on American warships that I will share … hopefully next meeting.

HMS Flirt – 1782

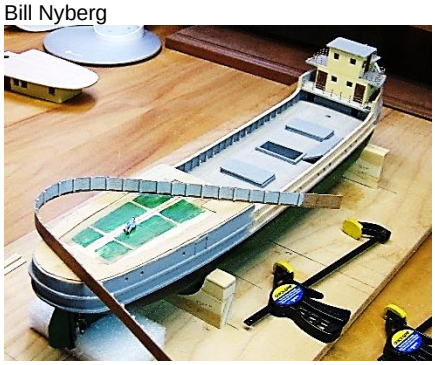
Rob Washburn

Deck boats and crowsnest.

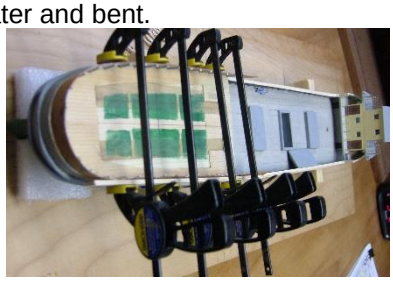



Margaret Olwill – 1890

Bill Nyberg



Adding stern deck bulwarks. Used a single strip 1/32” x 16/32” @ 1/8 scale. The bulwark supports are were added after the strip was soaked in warm ater and bent.



Clamping bulwark to hull & deck edge.

Bulwark installed. Also, took the time to determine how to mount the model when completed. Already had the base (shown with model above, sitting on it),

Other Notes: “Stuff”, Tugs & Things

Nautical Terms

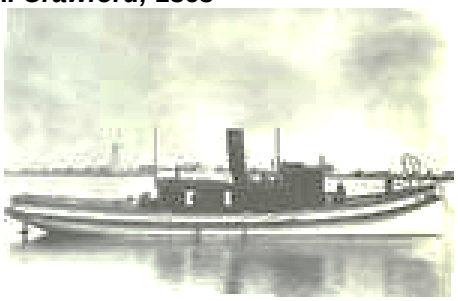
Shackle: U-shaped iron, with a screw pin at the open end used for securing stays to sails, allowing easy removal.[2]
Shaft: 1. A propeller shaft. The term *shaft* can be used instead of “propeller" to describe the number of propellers a ship has, e.g., *The ship has two shafts* or *the ship's engines drive three shafts*. 2. To push or propel (a boat) with a pole.
Shaft alley: The section of a ship that houses the propulsion shaft, running from the engine room to the stuffing box, vessel's deadwood, keel, or keelson at the point where the stern tube passes through the hull.
Sheave: (traditionally pronounced "shiv") The wheel in a block, which rotates as the rope runs.
Sheave-hole: A hole or slot in a spar, fitted with a sheave to allow a rope to run.
Sheer: The upward curve of a vessel's longitudinal lines as viewed from the side.
Sheer line: The intersection of the external hull surface and the main deck surface, shown by a line on the sheer plan.
Sheer plan: In shipbuilding, a diagram showing an elevation of the ship's sheer viewed from the broadside sheer.
Sheet: A rope attached to the clew and used to control the setting of a sail in relation to the direction of the wind. The sheet is often passed through a tackle before being attach to fixed points on the deck, or in the case of a barge, to a traveler on the main horse.
Sheet anchor: Historically, the heaviest anchor aboard a sailing ship, to be used only in case of emergency, and located amidships. In more general usage, the term has come to mean a person or thing that is very reliable in times of emergency. (For example, during the first inauguration of Thomas Jefferson, he advocated, "the preservation of the General [Federal] Government in its whole constitutional vigor, as the sheet anchor of our peace at home and safety abroad.")
Sheet Bend: A bend to attach a rope to a small eye or clew. e.g. to attach a hammock to a clew or a painter to the Jacobs Ladder.
Shelter deck: An upper deck having no overhead protection from the weather itself, but sheltering the deck below it.
Ship: 1. Strictly, a sailing vessel of three-masts or more and square-rigged on all masts. 2. More generally, any medium or larger seagoing vessel. Smaller vessels or those used in sheltered waters are generally called boats. Exceptions include submarines which are always referred to as boats. 3. To send (an item or cargo) via waterborne transport, or in the derived meaning, by any means of transport (such as rail). 4. To bring something aboard a vessel. 5. To put something in its place aboard a vessel, ready for use. 6. To take employment to serve aboard a vessel. 7. To embark or travel on a vessel. 8. To take water over the bow or sides of a vessel, e.g., "The freighter *shipped* a great deal of water during the storm."
Ship Breaking: The demolition of ships for spare parts and scrap metal. A ship on her way to be scrapped is said to be going to *the breakers*.
Ship-of-the Line: A type of sailing warship constructed from the 1600s through the mid-1800s to serve as part of the line of battle; one of the largest and most powerful warships of the era.
Ship Graveyard: *Also called a* ***ship cemetery****.* 1. A location where the hulls of discarded ships are left to decay and disintegrate. 2. An area where shipwrecks

accumulate due to hazardous navigation conditions, deliberate scuttling, or losses in combat. 3, An anchorage for ships of a reserve fleet.

Nautical Terms Wikipedia

Tugs: Great Lakes

John A. Crawford, 1863



Jacob W. Banta, built a wooden tug, in 1863, for Crawford & Bowman, Chicago. Her measures were: 69’ x 16’ x 9’, 80 grt. In May of her first year, her boiler exploded at Chicago, killing 3, and sinking her. She was raised and rebuilt in 1872, and used as a tug and in the excursion trade. In September 1880, the *John A. Crawford,* was damaged in a collision with the tug *Flossie Thielcke* (120372), on the Chicago River.

In 1881, ownership of the tug was changed to Jas, R. Sinclair. In 1887, she was rebuilt at Toledo. Her measures were: 69’ x 15.7’ x 8.5’; 38.1 grt. She was renamed *Pathfinder.*

January 1888, the *Pathfinder* she was enrolled at Toledo and assigned official number 12770. Her owner was Edward S. Smith, Duluth, MN.

In 1893, ownership of the *Pathfinder* was changed B.B. Inman, Duluth. In 1895, the tug collided with the tug Medina in a race for the tow of the steamer *Joliet* and sank, one crewman drowned. She was recovered and rebuilt.

In 1898, ownership of the tug *Pathfinder* was changed to James McGee, Duluth; in 1899 her ownership was changed to C. S. Barker, Duluth.

The tug *Pathfinder* was abandoned in 1909.

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,

W. R. Crowell, 1875

In 1875, Gibson & Craig, Buffalo, built a wooden tug for Frank Perew, Buffalo. At enrollment, her measures were recorded as: 74’ x 17.1’ x 8.3’; 57 grt, 27 net. She was assigned official number 80531.

In 1879, her ownership was recoded as: Fortier & Perew, Buffalo.

In 1881, ownership was chnaged to James Dempsey, Manistee, MI.

In December 1893, while attempting to salvage the steamer *Frank W. Wheeler* (120676) that had stranded one mile of Michign City, MI in a snowstorm. The tug lost the effort to salvage the vessel and foundered. Her crew was rescued by the tug *T.T. Morford* (145385).

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

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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Wooden Steamers on the Great Lakes

Written by William E. Nyberg

1870-a

P. H. Birckhead: Lester Ship Building Co. (David Lester), built a wooden propeller at Marine City, MI for his own use. Her first enrollment was issued at Port Huron, May 20, 1870, and her measures were recorded as: 156.8' x 27.9' x 11.3'; 378.69 grt. She was powered by twin, low-pressure engines driving a single shaft, 22 1/2" bore x 40" stroke, built by J.B. Woods, Detroit, MI in 1869. Her boilers were, 82" x 14 1/2' built by John Brennan, Detroit. The propeller *P. H. Birckhead*was was built for the bulk freight trade. At enrollment, she was assigned official number 20400.

In July 1870, ownership of the propeller *P. H. Birckhead* was changed to the Toledo & Saginaw Transportation Co., Toledo. In October 1871, bound for Bay City, MI with a tow of barges, the *P. H. Birckhead* broke her wheel. Repairs were at a cost of $1,000 including loss of time. During winter layup, 1873/74, she was rebuilt at Port Huron, as a steambarge. Her enrollment measures were changed: 156.66' x 27.75' x 13.33'; 568.86 grt, 413.91 net. William Brake was chief engineer of the steambarge *P. H. Birckhead* for the 1879 to 1882 seasons. Down bound on the Niagara River in May 1879, under the tow of the tug *Sarah E. Bryant* (US22282), the steambarge *P.H. Birckhead* was forced into the bow of the barge *Waubaushene* (Canadian–1872), staving in the bow and breaking several planks on-board the barge. The *Birckhead* was damaged slightly. Master of the steambarge *P.H. Birckhead* was Captain Robert Gains with Frank Whiting as chief engineer for the 1885 season.

In Marck 1888, ownership of the steambarge *P.H. Birckhead* was changed to Frederick Louden & Jacob Swartz, of E. Saginaw, MI, ½-share each. Her master for the 1891 – 93 seasons was Captain Alexander P. Gallino. Up-bound from Tonawanda, NY for Buffalo in April 1895, the steambarge *P.H. Birckhead,* light, while on the Niagara River, struck bottom below the water works crib and lost her shoe and damaged her rudder. She was dry docked for repairs.

Ownership of the steambarge *P.H. Birckhead* was changed in May 1895, in a partnership of 1/3 shares each, between William F. Warren, Charles K. Pederson, and John Nelson, all from Tonawanda, NY. In the same month the steambarge was remeasured at Buffalo and her enrollment tonnage updated at Buffalo to: 540.34 grt, 360.64 net. Her master for the 1900-03 seasons was Captain W. J. Hayes with H. DePew as chief engineer in 1902.

In April 1902, ownership of the steambarge *P.H. Birckhead* was transferred to William F. Warren, Tonawanda.

In March 1903, 1/3 share in ownership of the steambarge *P.H. Birckhead* was transferred to William J. Hayes, Tonawanda, NY.

August 1903, ownership of the steambarge *P.H. Birckhead* was changed to James O'Connor, Tonawanda, NY.

During winter layup, 1903/04, the steambarge *P.H. Birckhead* was rebuilt at Buffalo, with enrollment measures updated in May 1904 to: 156.66' x 27.75' x 11.66'; 495 grt, 222 net.

Bound up, in September 1905, from Ashtabula, OH to Racine, WI, laden with coal, the steambarge *P. H. Birckhead* blew a cylinder head off Au Sable and was towed into Alpena, MI. There she caught fire at the dock and burned to a total loss.

B. W. Blanchard: Quayle & Martin, Cleveland, built a wooden propeller for the Union Steamboat Co. Buffalo. Enrolled at Cleveland July 27, 1870, her measures were recorded as: 212.25' x 32.33' x 12.16'; 1173.01 grt. She was powered by a steeple compound engine, 24", 54" bore x 36" stroke, 400 horsepower, built by Shepherd Iron Works, Buffalo, in 1870. She was assigned official number 2806. She was built for package freight trade, and ran between Chicago, Milwaukee and Buffalo, from 1870 to 86. She often towed schooner barges *G. S. Hazard* (US85338) or *F. A. Georger* (US120193). Her initial build cost was: $90,000.

In October 1870, the propeller *B. W. Blanchard* collided with the propeller *Idaho* (US12069) in the Chicago River, Chicago. Both vessels badly damaged. In April 1872, the *B. W. Blanchard* was readmeasured at Buffalo and her enrollment updated: 212.25' x 32.33' x 12.33'; 1142.79 grt, 1023 net. May 1873, bound up, Buffalo to Chicago, the *B. W. Blanchard* collided with the propeller *Arizonia* (US1768), bound down, at the head of the St. Clair Flats, Lake St. Clair, MI, sinking the latter in two and a half fathoms of water. The *B. W. Blanchard* was not hurt. October 1878, in an attempt to avoid a collision with the scow-schooner *Mary Garrett* (US50906), the *B.W. Blanchard* went aground on Harsens Island, Saint Clair River. She severely damaged the schooner that also went aground. Both were released and repaired. In 1880, she received a firebox boiler, 9' 4" x 16', 66 psi, built by Detroit Locomotive Works, Detroit. June 1883, the vessel went aground on Sleeping Bear Shoal, Lake Michigan. Released. In June 1885, the *B. W. Blanchard,* while at Milwaukie, WI, loading 3,100 sacks of flour for Buffalo, when she caught fire, believed due to spontaneous combustion in her coal bunkers, and sank. Vessel and cargo damage valued at $20,000. She was raised and repaired.

Ownership of the propeller *B. W. Blanchard* was changed to: Aaron A. Parker, Byron W. Parker, Hugh W. Days, et al., Detroit in November 1886. Bound down, in June 1887, Milwaukee to Ogdensburg, when the crown sheet in the boiler burned through and dropped two inches, stranding the propeller *B. W. Blanchard* off South Manitou Island, Lake Michigan. $15,000 damage. In October 1891, the *B. W. Blanchard* went ashore at Cheboygan, MI. She was released by a harbor tug. The propeller *B. W. Blanchard* chartered from A.A. Parker by the Clover Leaf Steamboat Line and assigned to the Toledo to Buffalo run for the 1892 season. Her master for the 1893 to 1901 seasons was Captain Thomas Meikleham with Robert Bailey as first mate, 1893-97; and John Bloome as chief engineer, 1899 – 1904.

In February 1902, ownership of the *B. W. Blanchard* was changed to: Charles W. Kocher, ½ share, Michigan City; Charles W. Restrick, ½ share, Detroit. In March of that year, her enrollment was changed showing the *B. W. Blanchard* had been reduced from package freight to bulk carrier "lumber hooker" at Detroit. Her enrollment tonnage reduced to: 221.3' x 32.4' x 12.2'; 919 grt, 526 net. During the conversion the *B. W. Blanchard* hogging arches were left in place, helping to contain any lumber on the main deck. Her master for the 1902-04 seasons was Captain William Crocket.

In November 1904, bound down from Cheboygan to Detroit, during a gale, Laden with lumber and towing the schooner barges *John T. Johnson* (US75556) & *John Kelderhouse* (US13664), the *B. W. Blanchard* became unmanageable and stranded on a reef, off North Point, MI, above Alpena, breaking in half. Her boiler and partial cargo were salvaged. No lives lost.

Final enrollment was surrendered at Detroit, December 31, 1904.

Jennie Briscoe: Campbell & Owen, Detroit, with E.G. Merrick as master carpenter, built, in 1870, a wooden steambarge to be used for the bulk freight trade. Her original owner was Francis Tufts, et al. Enrolled June 1870 at Detroit, her measures were: 84.6' x 22.0' x 5.3'; 82.59 grt. She was assigned the official number 75203. Her master for the 1870 season was Captain Francis Tufts. Laden with stone, in September 1870, the steambarge *Jennie Briscoe,* sank in a collision with the propeller *Free State* (US9157) on the Detroit River off Grosse Isle, MI. One life was lost.

The steambarge *Jennie Briscoe* was sold, as a wreck, Canadian to R. W. Elliott, Toronto, Ont., and renamed *Herald.* She was rebuilt and enrolled, April 1871, at Toronto, Ont, C61138, with measures: 89 x 22 x 5; 102 grt.

Master of the steambarge *Herald* for the 1873-76 seasons, was Captain R. Hawley, Jr., Goderich, Ont. In July 1873, laden with tanbark, the steambarge *Herald* was sunk by collision with the up bound steambarge *Dunkirk* (US75203) off Forester, MI, on Lake Huron. The *Herald* was headed for the Michigan shore and sank with her bow level with the water and stern about three feet under the water. She was raised and repaired at Detroit, MI. One life lost. April 1876, the steambarge *Herald,* laden with coal, and in a leaky condition and not steering well, came to anchor, with a heavy sea running during a gale, about a mile off Port Stanley, Ont., Lake Erie. The crew was saved and the steambarge sank with her masts above water. She was raised and taken into Port Stanley for repairs.

Ownership of the steambarge was changed to Fred George, Kingston, Ont. in 1877. In 1883, the steambarge *Herald* stranded off Port Stanley, Ont., Lake Erie.

In December 1891, ownership of the steambarge was changed to R.W. Elliot, Toronto.

Final disposition "Unknown".

Carlyle: John Doran, Bedford Mills (Kingston), built a wooden steambarge for Robert Makins, Kingston,

Ont. Enrolled Canadian at Kingston, July 1870, her measures were: 105.3’ x 20.4’ x 6.5’; 114.57-unit tons. She was powered by a 12-horsepower engine built by Kingston Foundry, Kingston, Ont. The steambarge *Carlyle* was built for the Rideau Canal and Bay of Quinte freight trade.

In 1870, ownership of the steambarge *Carlyle* was changed to George Chaffe*y*, Kingston. She was re-measured in September 1877: 120.37 grt, 83.10 net. June 1880, while traversing the Rideau Canal at Black Rapids, Lock 13, the steambarge *Carlyle,* laden with iron ore, blew her cylinder-head and threw her piston through the deck and it then fell through the cabin roof, just missing the cook. The vessel was towed to Kingston for repairs. During the 1880/81 winter layup, the *Carlyle* was overhauled on the ways at Portsmouth, Ont. September 1883, the steambarge *Carlyle* wrecked during a storm near Picton, Ont., Lake Ontario. She was rebuilt at Redmond’s Yard, Kingston, during the 1883/84 winter layup.

Registration for the steambarge *Carlyle* was closed September 1883 and endorsed “wrecked”. It was also reported to have been “broken up” in 1885, and/or condemned in 1885. The British Whig reports the *Carlyle* on the stocks in Redmond’s Yard in 1884 and Mills List shows that ownership was changed to W. Redmond, Picton, Ont. in 1886.

Final disposition “unknown”.

Champlain: A. C. Keating, built a wooden propeller at Ogdensburg, NY for the Northern Transportation Co. to be used in the passenger, package freight trade. Enrolled at Cleveland, August 03, 1870, her measures were: 135.16’ x 26.0’ x 11.50’; with tonnage: 437.92 grt, 356.82 net. She was powered by a high-pressure engine, built by Cuyahoga Works, Cleveland. The propeller *Champlain* was towed to Cleveland to have her engine installed. She was issued official number 5848. In May 1871, the *Champlain* broke her machinery on Lake Michigan and put into Milwaukee for repairs. In August 1871, she broke her crank pin and was repaired at Detroit. Her master for the 1873 season was Captain Ira Bishop. In April 1874, the propeller *Champlain* was damaged by ice in Straits of Mackinac. In September of that same year, she went ashore on Peche Island, Detroit River.

1875, all Northern Transportation vessels were to be sold at an assignee's sale.

In March 1876, ownership of the *Champlain* was changed to Philo Chamberlain, Cleveland.

Ownership of the propeller *Champlain* was transferred to the Northern Transit Co., Rockport, OH in that same month. July 1878, up bound with a large load, the propeller *Champlain* ran hard aground on Fighting Island in the Detroit River. She was released by the Canadian wrecking tug *Jessie*.

Ownership of the propeller *Champlain* was changed to Peter J. Klien & John Seymor, Milwaukee, and her enrollment transferred to Milwaukee. Master of the *Champlain* for the 1882-87 season, was Captain Edward Casey with John McCaffrey as chief engineer in 1887. She was rebuilt in 1884. In April 1887, bound Chicago to Cheboygan, WI, the propeller *Champlain* caught fire when an engine room lamp exploded, catching the engineer and the engine room afire so that the pumps could not be started. The *Champlain* was grounded on Fisherman’s Island, Grand Traverse Bay, Lake Michigan. Property loss was set at: hull $25,000; cargo $11,000. Twenty-two lives were lost of the 57 passengers and crew. Most of the lives lost were due to drowning. The burned-out hull of the propeller *Champlain* was towed into Harbor Springs, MI, and then to Milwaukee, where she was rebuilt at the Milwaukee Shipyard, Milwaukee. She was registered at Milwaukee, WI as the *City of Charlevoix*: 165.33’ x 28.33’ x 12.33’; 710.35 grt, 516.52 net. She had been lengthened 30 feet. Her original engine was compounded at the same time as the rebuild. While wintering at Manitowoc, WI, 1891/92, the propeller *City of Charlevoix* had a portion of her upper works removed so that a Hodge, fore & aft compound engine, 23", 46" bore x 40" stroke, could be installed. She was also reboilered with two firebox boilers, built by J. Mohr & Sons, Chicago.

In May 1892, ownership of the *City of Charlevoix* was changed to the Northern Michigan Transportation Co., Chicago. In September 1894, the propeller *City of Charlevoix* was stranded in thick, smoky weather, three miles north of Charlevoix, MI; $2500 loss.

During winter layup, 1894/95, the propeller *City of Charlevoix* was rebuilt, Chicago, IL and her registered measures updated to: 185.5’ x 33.3’ x 12.6’; 835.2 grt - 588.14 net.

Ownership of the *City of Charlevoix* was changed to Northern Transportation Co., Chicago in 1899. Two firebox boilers were installed, 8’3” x 14’,

125 # steam, built by J. Mohr & Sons, Chicago. Her master for the 1899-1901 season was Captain Peter McGuiggan with James W. Myers as chief engineer.

Ownership of the *City of Charlevoix* was changed to Northern Michigan Transportation Co. WI in 1901. For the 1902-03 seasons, her master was Captain Frank Richardson with Henry Burton as chief engineer. October 1903, the *City of Charlevoix* was stranded on a reef at Northport, MI. Released next day. In March 1904, the Northern Michigan Line enrolled the vessel at Duluth and renamed the propeller *City of Charlevoix* as *Kansas* with measures: 185.5 x 33.3 x 12.6; 835 grt, 588 net). Chief engineers for the propeller *Kansas* during the 1904 season was George Layman, and for the 1905 season, John Morton. Her master for the 1907 season was Captain C. A. Small, with Captain E. S. Small for the 1910 season and George E. Williams for the 1910 & 1911 season as chief engineer.

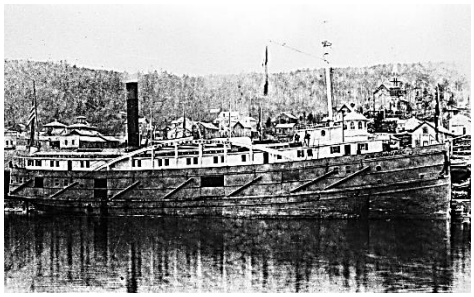
Ownership of the propeller *Kansas* was changed in 1912 to the Chicago, Racine & Milwaukee Line and her enrollment transferred to Chicago. Her master for the 1911-17 seasons was Captain John Thorpe with Charles Bensinder for the 1912 season, followed by Robert E. Burns in 1913, William Burns in 1914, and Edward Doucett in 1915 as chief engineers.

Ownership of the propeller *Kansas* was changed in September 1918 to Merchants Transit Co., Chicago.

In October 1919, ownership of the *Kansas* was changed to Michigan Transit Co., Chicago. Masters of the *Kansas* were Captain George E. Johnson in 1919, Captain Walter J. Petroskey in the 1920-21 season and Captain John Thorpe for the 1923 season. Her chief engineers were Edward Doucett for the 1919-20 season, and Claude Waite in 1921. October 1924, the propeller *Kansas,* while at lay-up dock, Manistee, MI, caught fire and burned to a total loss. No lives lost.

Her final enrollment documents were surrendered November 24, 1924, at Duluth, MN and endorsed "fire - total loss".

The burned hulk of the propeller *Kansas* was junked in 1925 at Manistee Lumber Co., Manistee, MI.



R.G. Coburn: Thomas T. Arnold, at Marine City, built a wooden propeller for Eber B. Ward, Detroit, that would operate in Ward's Lake Superior Line in the passenger, package freight trade. Her measures were: 193.3' x 30.7' x 8.4; 867 grt. She was powered by a high-pressure non-condensing engine, 45" bore X 40" stroke built by Samuel F. Hodge, Detroit in 1870. The *R. G. Coburn* was assigned official number 21954. Masters of the propeller *R. G. Coburn* were Captain Charles R. Cleveland, 1870 season.

She was chartered by Atlantic, Duluth & Pacific Co. for the 1871 season. Her master for the 1871 season was Captain Gilbert DeMont with A.S. Robinson as the chief engineer. In June 1871, the *R.G. Coburn* ran aground at the entrance to the Portage Ship Canal, Lake Michigan. She was released and found to be badly damaged, Repaired. In July of that year, she had her rudder disabled, requiring repairs at Port Huron. She broke her crank pin in August of 1871 and required repairs at Detroit.

In October 1871, the propeller *R. G. Coburn,* while bound down from Duluth, MN for Buffalo with 75 passengers and crew and a cargo of 12,000 bushels wheat, 2,900 barrels of flour and silver ore, unshipped her rudder in a gale, which caused cargo to break loose, smashing bulwarks and allowing the hull to take on water. The *Coburn* sank about twenty-five miles off Point aux Barques, Saginaw Bay, Lake Huron. Thirty two lives were lost including 16 passengers, the captain and fifteen of the crew. Value of the steamer was $80,000 and the cargo $40,000.

Corona: George S. Rand, Manitowoc, built a wooden sidewheel steamer for the Goodrich

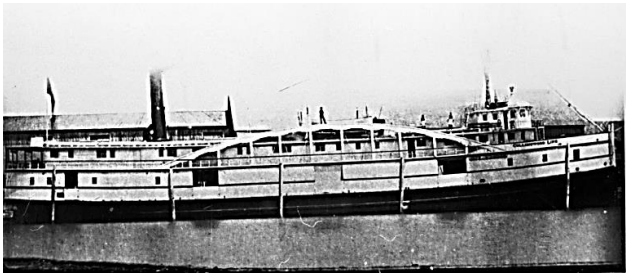
Transportation Co., Chicago. Enrolled at Milwaukee on April 22, 1870, she was assigned official number 125091. Her measures at enrollment were: 172.0' x 26.8' x 11.0'; 470.23 grt, 373.91 net. She was powered by a Vertical Beam engine, reconditioned after removal from the steamer *Comet* (U4353) which was being reduced to a barge. She was built for the cross-lake passenger, package freight trade from Chicago and St. Joseph, MI. Her master for the 1870 season was Captain N.W. Napier with H. Benny as chief engineer. In October 1874, the steamer *Corona* was damaged during in a gale at St. Joseph, MI.

For the 1876 season, the sidewheel steamer *Corona* was chartered by the Flint & Pere Marquette Railroad for use in cross-lake traffic, replacing the steamer John Sherman (75408). The steamers chief engineers by seasons were: Ray Flint, 1878-79; Nicholas Larson, 1880-81, 1889; and Willett A. Session. 1884. She ran in daily service between Ludington, Milwaukee and Manistee during the 1880 season. For the 1881 season, she ran Chicago, Milwaukee, Manitowoc. In 1882, Chicago, Sturgeon Bay, Menominee. In 1884, she did daily runs between Manitowoc and Menominee. The steamer *Corona,* in 1884, was equipped with a walking beam engine, 38" bore x 120" stroke, and a firebox boiler 9'3" x 19', 50 lbs. pressure. The steamer *Corona* was laid up from 1890 – 1892 seasons.

In January 1892, ownership of the steamer *Corona* was changed to John J. Ward, Chicago, at a price of $15,000, for use during the World's Fair in Chicago. Captain J. P. Hall was master of the steamer *Corona* with J. Wilcox as chief engineer for the 1892 season

In the fall of 1892, ownership of the steamer *Corona* was changed to R.L. Cowes, Buffalo, (Woodlawn Beach Co.) to provide excursions from Buffalo to Crystal Beach, ONT on the Niagara River. Master of the steamer *Corona* for the 1893-97 seasons was Captain Steven Maitland Murphy with P.W. Whelan in 1893 and Charles Rice in 1894 as chief engineers. In June 1893, while lying in the harbor at the foot of Main Street, Buffalo, the steamer *Corona* was rammed by the steamer *Idlehour* (US 100559) in the early hours. Repaired. In July 1894, the steamer *Corona* went into drydock for a general overhauling and boiler inspection. In August 1895, she had her steering gear disabled by the Northern Steamship Co. package freighter *Northern King* (US 130420) trying to moor at the dock at the foot of Main Street, Buffalo. In May 1897, prior to going back into service from layup, the steamer *Corona,* had repairs including her new boiler, that cost between $8,000 and $10,000. She also received new upper works. In November 1898. while laid up after the end of the excursion season, the steamer *Corona* caught fire and burned to the water's edge at Edgewater, opposite Tonawanda, NY. The fire was believed to have been of incendiary origin.

Her enrollment was surrendered at Buffalo November 18, 1898, and endorsed "vessel burned".



Annie L. Craig: Craig & Linn Shipyard, at Gibraltar, Michigan, at the entrance to the Detroit River, built a wooden propeller for the Eagle Transportation Co. (E. B. Ward), China, MI. to be used in the passenger, package freight trade between Chicago, IL and Buffalo, NY. her enrollment measures were: 184.25' x 31.58' x 12.08'; 889 grt. She was assigned official number 1892. She would be powered by a high-pressure engine, 26" bore x 36" stroke, 600 horsepower, built by Detroit Locomotive Works, Detroit, MI. Steam was generated by two tubular boilers, 6' 9" by 17', built by Detroit Locomotive Works, Detroit, MI. She was equipped with a Philadelphia wheel, 10' dia., four blades. Master of the propeller *Anne L. Craig* for the 1870 season was Captain Dodge with Charles L. Barron as chief engineer for the 1870 – 72 seasons.

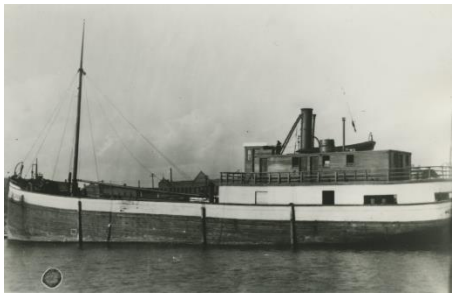
Ownership of the propeller *Anne L. Craig* was transferred to Eber Ward in 1873 and she was valued at $50,000.

In April 1874, ownership of the *Anne L. Craig* was transferred to Eber Ward's "Central & Pacific Lake Co.", Detroit, MI; she operated between Buffalo, NY and Duluth, MN. Early in September 1875, the *Annie L. Craig* collided with and sank the schooner *Ottawa* (US – 1862) in Sarnia Bay, Ont., in the St. Clair River. That same month she entered Clark's drydock, Detroit to receive a new wheel. Later that same month, she collided with the schooner *Sweepstakes* (US22358) at Cleveland, OH. Master of the *Annie L. Craig* for the 1877 season was Captain William Cunnings with William McKittrick in 1876 and Michael Chalk for the 1877 – 79 season as chief engineers.

In April 1878, the *Annie L. Craig was* sold Canadian to Smith & Keighley, Toronto, Ont. (Canadian Lake Superior Transit Co.) She was valued at $18,000 and renamed *City of Winnipeg*

(C71117) at enrollment her measures were recorded as: 184' x 32' x 12'; 1211 grt. Her master was Captain Kennedy, Toronto for the 1881 season. In July 1881, after a race up Lake Superior with the steamer *Manitoba,* the propeller *City of Winnipeg,* laden with a full cargo of freight and 150 passengers, moored at the Northern Pacific Dock, Duluth. Shortly after mooring, while unloading at 3:30 AM, fire was discovered in the wood-pocket besides her boilers and she was quickly enveloped in flames. Cut loose from her moorings to save the dock, she quickly burned to the waterline and sank in shallow water. The lives of four of the crew were lost.

F.W. Wheeler, Bay City, MI, purchased the sunken hulk of the propeller *City of Winnipeg* from the underwriters and then sold it to Captain J.D. Howard and Con. Plynn, Duluth. Captain Joseph D. Lloyd then purchased the hulk for $5,000, on speculation. He spent $4,000 to $5,000 trying to raise the hulk. Besides general merchandise, the cargo consisted of upward to 50 barrels of whiskey, or 3,000 gallons. In May 1898, Captain Inman had the contract to raise the hulk of the *City of Winnipeg.* Not until two months later was the hulk of the *City of Winnipeg* raised and towed into Lake Superior and resank.



Belle P. Cross: Alvin A. Turner, Trenton, MI, built a wooden steambarge for David C. Whitney, Jr., Detroit., Whitney Transportation Co., to be used for the bulk (lumber) freight trade. She was enrolled at Detroit, June 15, 1870, and her measures recorded as: 135.0' x 26.25' x 11.66'; 298.76 grt, 211.42 net. She was equipped with a high-pressure engine, 26" bore x 32" stroke, built by Dry Dock Engine Works, Detroit. She was assigned official number 2719. In May 1874, the steambarge (propeller) *Belle P. Cross* had her machinery disabled on the Detroit River, Detroit.

In May 1875, ownership of the *Belle P. Cross* was changed to: Philo E. Wright, 1/3, Detroit; Sarah H. Gordon, 1/3, Bay City; and W.R. Burt, 1/3, East Saginaw. In August 1878, the steambarge lost two flanges of her wheel at Bay City, and was towed to the Bay City drydock where she received a new wheel.

April 1880, ownership of the *Belle P. Cross* was changed to: Jethro Mitchell, 2/3, Cincinnati; and Hamilton McClam & Co., 1/3, East Saginaw.

January 1881, ownership of the steambarge was changed to: Henry A. Hawgood, 1/3, Milwaukee; Waldo A. Avery, 1/3; and Charles F. Eddy, 1/3, East Saginaw MI.

March 1882, ownership of the *Belle P. Cross* was transferred to: Henry A. Hawgood, 1/2, Milwaukee; and Waldo A. Avery, 1/2, East Saginaw. Master of the steambarge *Belle P. Cross* for the 1885 & 86 seasons was Captain Thomas C. Ellis. In November 1886, the steambarge *Belle P. Cross* and her tow barges went aground during a gale at China Beach on the Detroit River. Released In 1888, she was rebuilt at Bay City, during winter layup. The rebuilt cost $8,000. Mat 1890, down bound with a tow, the steambarge *Belle P. Cross* caught fire outside the Buffalo harbor and the tug *J. Kelderhouse* (U76567) came to her aid and assisted in putting out the fire. Damage was limited to her main cabin and its contents.

Ownership of the steambarge *Belle P. Cross* was transferred, in June 1891, to Hawgood & Avery Transit Co., Mantua OH. Her master for the 1892 season was Captain W.H. Buzzard with James Lee in 1892, Corey H. Buzzard in 1893, and George Dingman in the 1895-96 seasons, as chief engineers.

In June 1894, ownership of the *Belle P. Cross* was changed to B.B. Inman, Duluth MN. During winter layup 1894, the *Belle P. Cross* received a new boiler and had her engine steeple compound 20", 40" bore x 32" stroke.

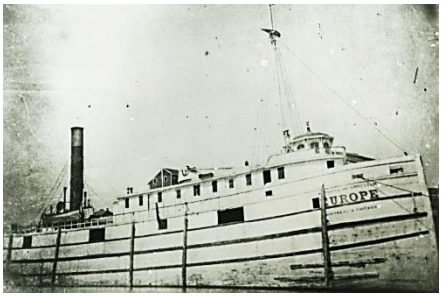
In May 1897, ownership of the steambarge was changed to Gertrude O. Flynn, Duluth. The steambarge rig was changed from a propeller to a barge, to be used as a lighter.

May 1899, ownership of the barge *Belle P. Cross* was changed to John H. Clow, Duluth.

July 1899, ownership shares of the barge *Belle P. Cross* were transferred to John H. Clow,1/2, and William M. Nicholson, 1/2, both from Duluth. In 1900, the rig of the *Belle Cross* was converted back to a propeller (steambarge) for the coal and lumber trade.

In January 1901, ownership shares were transferred to John H. Clow,1/3; Henry D. Clow, 1/3; and William M. Nicholson, 1/3, all from Duluth. She had also been rebuilt at Superior Ship Building Co. during the winter layup and in January 1901 her enrolment registration tonnage and dimension were change at Duluth to: 135' x 27.33' x 11.66'; 427 grt, 305 net.

April 1903, the steambarge was charter to Coolidge Fuel & Supply Co., Minneapolis. That month, while on a "beach combing" expedition for lumber, the *Belle P. Cross* stranded at Danger Castle, near Gooseberry River, MN on Lake Superior during a blinding blizzard-gale and broke up quickly. She was loaded with cedar post lumber valued at $14,000. No lives lost.



Europe: Built Canadian by Lewis Shickluna at St. Catharines, Ont., for Sylvester Neelon & James Norris, St. Catharines, the wooden propeller was enrolled at St. Catharines, on November 05, 1870. Her measures recorded as: 136.0’ x 23.2’ x 11.9’; 628.42 grt, 395.33 net. She was powered by a low-pressure condensing, 40” bore x 30” stroke, 300 horse power, built by G. N. Oille, St. Catharines, in 1870. The *Europe* was built for the passenger, package freight trade between Montreal to Upper Lakes. Master of the propeller *Europa* was Captain J. Clifford from 1872 through 1880 with Frederick Potts as chief engineer in 1878. In 1873, the *Europa* ran in the grain trade between Chicago and Montreal. In November 1873. the propeller *Europe,* while lying with steam up, a seaman filling a lamp with coal oil when the lamb burst in flames in the lamp room. The seaman was able to extinguish the flames before it got out of control. In 1875, bound up Lake Ontario, the propeller *Europe* broke her cylinder head. The engineer repaired it temporarily by means of wooden braces that held until she reached port for repairs. In September 1875, Cyrus Dean installed his patented condensing device on the *Europe’s* engine; savings of 30 cords of wood were seen on a run between St. Catharines and Montreal. In March 1880, the propeller *Europe,* with seven other steamers, was formed into a through line running between Chicago and Montreal by the Merchant’s Line. The steamers would call at ports on the St. Lawrence, Welland Canal, Amherstburg, Windsor, Detroit, Sarnia and Milwaukee. August 1881, the propeller *Europe,* laden with salt and pig iron and with a large schooner in tow, went aground in Lake St. Louis, St. Lawrence River. She required to be lightered to be released. November 1881, the propeller *Europe,* laden with 17,721 bushels barley for Buffalo, and passing through lock 1, Welland Canal, when the lock tenders commenced hoisting water, a snub line slipped off and the *Europe* went ahead, carrying away the head gates. Backing up she tore away the lower gates and collided with the schooner *Millard Fillmore* (US16395), tearing up the piles of the wharf and running into the harbor smashing a yawl boat then ran into the wharf below the tug office carrying away several stringers. The *Europa* received little damage. Navigation was impeded for several days.

February 1882, ownership of the propeller *Europa* was changed to J. Shickluna, St. Catharines for $16,000. Her master for the 1882 season was Captain John Sullivan with Captain Vaughan as master for the 1883 season. During winter layup 1883/84, the propeller *Europe* was rebuilt by Lewis Shickluna at St. Catharines., Ont. She was assigned register number C85423, and her measures recorded as: 136.0’ x 23.2’ x 11.9’; 709.1 grt, 449.5 net.

In 1884, ownership of the propeller *Europa* was changed to Graham Brothers, St. Catharines. Her master for the 1884 season was Captain Andrew Thompson, with Joseph Crossland as chief engineer. In April 1884, the propeller *Europe,* steaming light, caught fire in the Welland Canal and burned to a total loss. Hull loss $16,000.

Ownership of the remains of the propeller *Europe* was changed to the Montreal Transportation Co., Montreal in 1886. The hull was rebuilt as a three masted schooner barge: 171.0’ x 25.7’ x 11.3’; 440.6 grt, 411.24 net; and registered at Montreal, as *Regina,* C85423, in May 1887. Masters of the schooner barge *Regina* were Captain Lafrance in 1888; Captain Ovide Trudell for the 1898 and 1899 seasons; and Captain Albeni Lalonde in 1900. Bound down, Chicago for Kingston, in August 1892, the schooner barge *Regina,* laden with wheat, put into Detroit leaking badly. A diver went under the vessel but could not find the leak. Tossing a large amount of sawdust around the exterior of the boat and stirring up the water using the wheel of a tug and at the same time still operating the pumps until the sawdust was drawn into the boat and stopped up the leak. The *Regina* left for Kingston with extra crew to work the pumps and under tow of the tug *David G. Thompson* (C85306), where she was repaired. In November 1901,
the schooner barge *Regina,* bound up from Montreal with cement, struck a pier in the Cardinal Canal, St, Lawrence River, and sank. Raised.

Enrollment for the schooner *Regina* was closed March 08, 1908 and endorsed “broken up”.

B. F. Ferris: At Sandusky, Ohio, John E. Monk built a wooden sidewheel steamer for Ellinthorp & Wehrie, Catawba Island, OH, for the passenger, package freight trade and would run between Sandusky, Port Clinton & the Marblehead Peninsula. Launched April 18, 1870, her measures were 124.8' x 21.8' x 7.7'; 168.0 grt, 93.0 net. She was powered by an inclined compound engine, 22" bore x 60" stroke, built at Toledo, OH. She was equipped with a return flue boiler, 7' x 12', built by Neil H. Moore. Her official number was 2721.

Ownership of the sidewheel steamer *B. F. Ferris* was changed in February 1873 to V. Doller, Put-in-Bay, OH.

In March 1882, ownership of the sidewheel steamer *B. F. Ferris* was changed to A. Wehrie, Put-in-Bay. Her master for the 1883 – 85 seasons was Captain A. J. Fox. In May 1883, the steamer *B. F. Ferris* collided with a barge smashing her yawl boat. Captain Fox purchased a new yawl for the barge. In April 1885, the steamer *B. F. Ferris* had her machinery overhauled. November 1887, enroute from the islands, the steamer *B. F. Ferris* sprang a leak between Kelly's Island and Marblehead on Lake Erie. She made Marblehead, where her hold filled rapidly extinguishing her fires, and she sank in twelve feet of water. She was raised and repaired.

July 1889, ownership of the steamer *B. F. Ferris* was changed to Conrad Van Tine et al, New Baltimore, MI to run between Detroit – New Baltimore, MI. In June 1890, the *B. F. Ferris* was holed and sank near Bay City, MI. Repaired.

June of 1891, ownership of the steamer *B. F. Ferris* was changed to Henry Turner, Saginaw, MI, and she ran Saginaw River ports – Tawas, MI. July 1891, while plying between Tawas, MI and Caseville, MI on Saginaw Bay, the steamer *B. F. Ferris* caught fire in her boiler room and burned to the waterline at her dock at Caseville. No lives lost.

Final enrollment for the sidewheel steamer *B. F. Ferris* was surrendered at Port Huron, October 17, 1893.

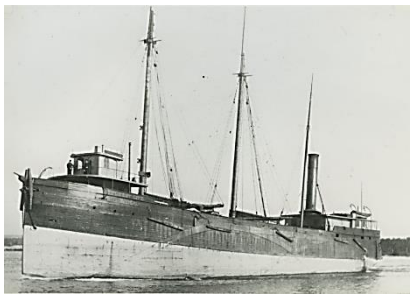
James Fisk, Jr.: Mason & Bidwell, Buffalo, built a wooden propeller for the Union Steamboat Co., Buffalo, NY, Stephen Caldwell, Vice President. Enrolled at Buffalo, August 6, 1870, her measures were: 216.25. x 32.5' x 12.33'; 1095.95 grt, 946.23 net. She was equipped with a steeple compound engine, 24", 54" bore x 36" stroke, 400 horse power, built by Shepard Iron Works, Buffalo in 1870. She also received a tubular boiler, 8' 6" x 18'. She was built for the bulk freight trade at a cost of construction - $85,000. Her official number was 75387. Her master for the 1870 season was Captain James Moore with Charles Holcomb as engineer. In October 1874, the *James Fisk Jr.* went ashore in the Maumee River at Toledo. Property loss was set at $300. Masters of the *James Fisk Jr.* were Captain Walter Robinson for the 1876-77 seasons and Captain Bowie for the 1878 season. August 1878, in clear weather, the propeller *James Fisk Jr*. collided with the schooner *Samuel H. Foster* (U115150), 12 miles from Thunder Bay Island on Lake Huron. Captain Bowie was thrown into a small boat by the impact and fractured his skull. He was transferred to a hospital in Mackinaw. The *James Fisk Jr.* received damage to her engine room house, funnels and whistles. In August 1884, the *James Fisk Jr.* caught fire on Lake Erie and received $3,000 hull damage. In October of the same year, laden with a cargo of wheat, she again caught fire at Detroit received $1,600 in damages.

In November 1886, ownership of the *James Fisk Jr.* was changed to Ward's Detroit & Lake Superior Line, Detroit. Her master for the 1887 season was Captain Francis M. Stenton. In February 1892, the Detroit & Lake Superior Line was renamed to the Crescent Transportation Co., Hamtramck, MI. Her master for the 1892 season was Captain Louis Elliott with Elmer Tucker as chief engineer. Captain M.G. McIntosh was master of the vessel for the 1894 season.

In May 1896, ownership of the propeller *James Fisk Jr.* was changed to Union Transit Co. Buffalo. Her master for the 1899 to 1901 seasons was Captain John Pearson with Henry Chalk in 1898, R.H. Lawson in 1900, and Joseph Bouffard in 1901 as chief engineers.

In April 1901, ownership of the propeller *James Fisk Jr.* was changed to Alvin Peter, Toledo, and she operated in the lumber trade. In May 1901, the *James Fisk Jr.* was rebuilt at Toledo: 213’ x 32.5’ x 12.25’; 914 grt, 737 net. Her master for the 1906 season was Captain Alex Clifford. In November of that year, bound light, on the St. Clair River, the propeller *James Fisk Jr.* caught fire from an overheated stove in the forward cabin and burned to the waterline. The vessel was run aground on the American shore at Southeast Bend. No lives lost.

Final enrollment for the propeller *James Fisk Jr.* was surrendered at Toledo, February 19, 1907. The wreck of the *James Fisk Jr.* was removed in 1920.



Forest City: Elihu M. Peck, Cleveland, known for opening the main deck for cargo by moving the pilot house to the bow and the engine room and crew quarters to the stern, built a wooden schooner barge for the Northwestern Transportation Co., Detroit. She was built as a schooner barge to be towed by the propeller *Colin Campbell* (U5719).

The Initial enrollment for the schooner *Forest City* was issued at Detroit, May 16, 1870, with her measures recorded as: 216.58’ x 32.42’ x 13.66’; 740.13 grt. Her official number was 9914. In May 1872, the schooner barge *Forest City* was converted to propeller with a steeple compound engine, 22”, 40” bore x 36" stroke, 550 horsepower, built by Cuyahoga Furnace Co., Cleveland in 1870. She was also equipped with two firebox boilers 7'3" x 17', 80 pounds steam. Her enrollment measures were updated to: 213.58’ x 33.42’ x 21.25’; 1236 grt, 993 net. In November 1872, down bound from Escanaba, MI, the propeller *Forest City,* laden with iron ore, went aground on the St. Clair Flats. In September 1873, the *Forest City* collided with the Rush Street Bridge, Chicago River. In 1877, she lost her rudder off Thunder Bay, MI. During winter layup, 1880/81, the *Forest City* was rebuilt and enrollment measures changed: 2 decks, 3 masts; 213.7’ x 33.5’ x 21.3’; 1236.39 grt, 1070 net. In November 1883, the *Forest City,* with her consort *H.H. Brown,* went aground in the Sault Ste. Marie River. She was remeasured in 1885: 216.7’ x 32.5’ x 13.8’; 993.60 net. In July 1887, the *Forest City* went aground at Neebish Rapids, Saint Mary’s River. Released.

In September 1892, ownership of the propeller *Forest City* was changed to Vulcan Transportation Co., Detroit. During 1898/99 winter layup, the propeller *Forest City* went into dry dock at Detroit Ship Building Co. for hull repairs. Her enrollment measures were update in 1899 to: 213’ x 33.6’ x 22’; 1,236 grt. In June 1904, in a dense fog, the propeller *Forest City,* laden with grain, stranded on Bear's Rump Island, at the northern end of the Bruce Peninsula, Georgian Bay, Ont. The vessel was declared a total loss. 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$\frac{7}{94}$ 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.)