

© 1957 Edwin Tunis

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

Ropewalk

The Newsletter for
Shipwrights of Ohio – April 2026

Our Next Meeting: May 16, 2026.
Hybrid – Classroom & Zoom
Topic: "Cases, Bases, & Display"
by Jeff Northup

Contents

April:	1
Skipper's Report	1
Response Required:	1
June Road Trip: David Warther Carving	1
Open Presentation Slots:	2
Books for Sale:	2
Presentation:	2
Reminders & Announcements	4
National Museum of the Great Lakes	4
Sea History Activity - Brig Niagara Update:	4
Ship Modeling Helps:	4
Manitowoc 2026	4
Echo Cross-Section Model	4
Shop Notes 1 & 2	4
How to Plank Your Ship's Deck	4
Ships on Deck	5
HMS Sphinx	5
USS Ohio	5
Oseberg	6
Events & Dates to Note:	7
2026 Tentative Schedule	7
Presentation Schedule:	7
Cargo Hold	7
Wooden Steamers on the Great Lakes	9
1881-C	9
Notes:	16

April: Great turnout. We had seven in-person and eight on zoom. We do need to figure out how we can all see each other during the meeting. So far, we (in-person) see the in-room camera of the participants and three of the zoom participants.

In this newsletter, I am tasked with three requests that require your input:

- **June Road Trip;**
- **Open Presentation Slots** for July & August,
- **John Kinkel's Nautical Book/Plan Sale.**

If you do not read anything else, at least pursue those three topics. They will be found right below the Skipper's Report.

"And finally: take care of yourself and your families, look to those you know who may need help or are lonely and may need human contact. Then get back into the hobby shop and at work on that ship model. We need your model photos."

Skipper's Report

Thanks for the crew muster - Zoom-in and in-person participation was great. I managed to get the meeting 'on-air', with assistance, thankfully.

Our meeting agenda sequence focuses first on Presentations and Ships on deck, followed by club business and futures. I hope this flow is more appealing and effective for you.

Steve Keller's presentation on Blocks and Tackle was an amazing learning experience for both sailors and modelers. Cliff's *HMS Sphinx* rigging update was a perfect follow-up to show the actual installation and challenges modelers experience in work with these important components of ships of sail. Rick Stratton's update on his *USS Ohio* clearly shows his attention to detail on the gundeck, and his focus on capstan use and research for the 'Charlie Noble' galley stack. I missed Rob Washburns report on the *Oseberg*. It is included in the newsletter. All, fantastic efforts and examples of the skill and dedication that exists in our club!

See you next month.....Bob

PS - I hope we have interest in the proposed Road Trip for June. Read about it below.

Response Required:

June Road Trip: David Warther Carving

David Warther, a fifth-generation carver of Swiss heritage, is continuing his family's carving legacy in the center of Ohio's beautiful Amish country. The museum is located at Sugarcreek, OH, 8 miles west of I-77 and New Philadelphia.

The carvings created by David, out of Ivory (including the rigging), depict the "History of the Ship" from 1st Dynasty Egypt, circa 3000 B.C., to the present day, and collectively form an artistic and highly educational exhibit that culturally enriches all who view these extraordinary works of art. With over 80 major pieces in his collection, David carves daily in his workshop to add to this unique and amazing display.



Our road trip is scheduled for Saturday, June 20th, 2026. We need to know if you are interested and if so, send an affirmation to shipwright@breezelineohio.net.

You have two options:

- Carpool or
- Drive individually and meet us at the museum.

Respond back: "I will attend" or "I cannot make this trip". I sent an email, Sunday, April 19th that you can reply through.

Open Presentation Slots:

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

It may be a skill that you have learned or want to become more knowledgeable about. In example, I am working on one now. Don't be a "Sump Pump Grump". This is based upon a graduate level thesis from Texas A & M and deals with all ships, old and new.

I have attached a list of past presentations after the "Events and Dates" page. Look over the list and if something grabs your interest, check with the skipper, we may already have an older presentation that you can use, adapt and update, before presenting.

Books for Sale:

John Kinkel, a "Plank Owner" in the Shipwrights of Ohio, is reducing his library and has put both books' periodicals, and ships plans up for sale. If you are interested, contact him at: johnfkinkel@gmail.com or phone 614 578-5273.

The list was attached to an email sent to you, titled "Publication/Plan list". The attached Excel sheet 1 contained 148 items, two of which are a package. Price is included:

#147 is the complete set of "Model Shipwright".

Published by Conway Press, London, UK. The price includes all 144 periodicals.

#148 includes 40 years of the Nautical Research Journal.

Some of the authors and their books, are collected by ship modelers as references that they turn to frequently. Such as: Chappelle, Lavery, Hahn, Goodwin, Feldman and Takakjian.

David Steel's "Elements of Mastmaking, Sailmaking and Rigging" originally published in 1794, is quoted or copied in many ship modeling references.

Excel sheet #2 contains a list of ship plans also for sale. Most are 17th or 18th Century ships.

Finally: If you want to learn about rigging and practical seamanship, Darcy Lever's book "The Young

Sea Officer's Sheet Anchor" originally published in 1808 and republished in 2000 is a must read. It can be found on the book list.

Presentation:

Our presentation for April was "Blocks & Tackle" presented by Dr. H. Steven Keller.

Before we get to that, let me ask you a question. "When you are rigging your sailing model, do you ever think about why you are rigging the model or are you just following instructions, assuming that the kit maker knows what they are doing?"

The reason I ask, is back 10 years ago, we had a member that was a graduate from the U.S. Coast Guard Academy" Roger Holmes would share with us/me stories about sailing on the *Eagle*. Most of his stories dealt with rigging. The one that Saturdays talk triggered, was about being sent to the bosun locker to get "tackle" to rig on the deck, to be used to haul sails and yards up a mast. As Roger told the story, it was easier to haul a heavy weight up a mast if the seaman were hauling a line that was parallel to the deck, rather than parallel to the mast. Think about that.

The other thought that I had concerned ship model competitions and whether the judges looked at whether the block & tackle used would be correct for the size of the yards and spars.

The following, is my summation of Stevens presentation:

Most of us build models incorporating "rope tackle", what were the advantages?

- Rope tackle was not just a simple convenience, but was a complex designed technology developed over thousands of years.
- Ships size and hull strength caused displacements up to 500 tons for brigs to ~2200 tons (*USS Constitution*) to ~3500 tons (*HMS Victory*).
- With that displacement the *USS Constitution* at a speed of 14 knots, a total wind force of approximately 24,680 lbs. (roughly 12.3 tons) must be exerted on its sails.
- Flexibility of the structure, including masts, spars, gaffs and ropes, were critical to accommodate changing weather and sailing conditions.
- Blocks are the dynamic nodes in the rigging structure that allow continuous movement to dissipate stresses and for the crew to apply force to move and secure masting components as sails.
- Blocks and ropes must have the strength and flexibility to withstand the load forces of weight and wind.

So, what are "Blocks and Tackle"?

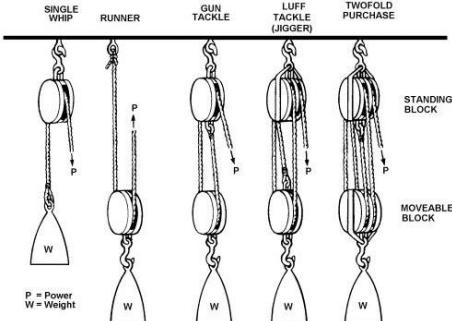
- Blocks are pulley assemblies specially designed for a wide variety of applications aboard ships.
- Blocks and pulleys consist of one or more grooved wheels (sheaves) mounted in a frame that acts as a low friction guide for a reeved rope.
- Tackle refers to a complete assembly of blocks and rope roved between multiple blocks (usually only two).
- Blocks and tackle acts as a force amplifier used for lifting heavy loads or reducing the force applied to the roved ropes.

The history of the use of blocks & tackle dates back 4,000 years.

- **1991-1802 BCE in Egypt:** Ropes running over grooved stone cylinders hauling loads up sloped surfaces

- **1500 BCE Mesopotamia:** Pulleys were used to raise containers of water
- **400 BCE Greece:** Archytas devised the mathematics to show force multiplication using systems of pulleys.
- **265-214 BCE Greece:** Archimedes of Syracuse is credited with making the first block and tackle for use as a force multiplier. Using a compound pulley system of multiple sheaves, he demonstrated to King Hiero II that one person could move a fully loaded ship.
- **First Century:** Hero of Alexandria described cranes formed from assemblies of pulleys. Illustrated versions of Hero's *Mechanica* (a book on raising heavy weights) show early block and tackle systems
- **During the Middle Ages,** their use expanded in maritime applications.

Block, Tackle, Purchase: Mechanical Advantage:



- Mechanical advantage (MA) is a measure of force amplification.
- Hauling Power is equal to the Weight(W)/MA Number of parts of the fall contacting the moving block.
- Velocity Ratio (VR) is the extra length of haul required to move the object and is equal to the MA (discounting friction).
- Examples disregard friction at the block which can be considerable. 2-> 1.67 or 3-> 2.5
- If the hauling rope comes away from the moving block it is said to *rove to advantage*.

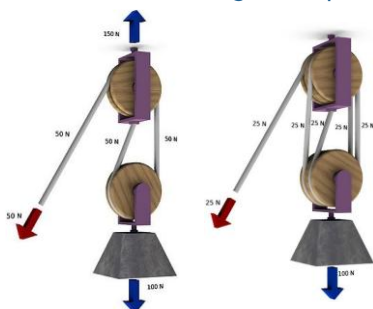
Otherwise, *rove to disadvantage*.

- Load on the standing block is equal to the weight + the pull on the hauling part

The key to understanding how block & tackle works is dependent upon your understanding of "Mechanical Advantage".

- "Mechanical advantage (MA) is the factor by which a machine multiplies the input force to overcome a resistance (load), calculated as the ratio of output force to input force. It allows for lifting heavy objects or applying greater force using less effort, commonly applied in levers, pulleys, and gears, with a trade-off of applying that force over a greater distance."

Mechanical Advantage Examples



In the image on the left, two single blocks, the weight to be lifted is 100 and requires a pulling force of 50. On the

right: two double blocks, the weight to be lifted is 100 but only requires a pulling weight of 25.

The need for mechanical advantage is determined, in part, by the number of people present or the power of the pulling machine. i.e.:

- The sustained horizontal pulling power of a single man on a rope is about 30% to 60% of their body weight. For a 150 lb. man, this is about 45- 90 lb.
- A vertical pull is limited by the person's body weight. 150 lb. for the example above.
- For the *HMS Victory*:
 - Main yard weighs 5-6 tons (11,000-13,000 lb.)
 - Fore Yard ~5,000 lbs.
 - Main sail ~1,800 lb. (4,000 lb. when wet)
 - Total sail weight (hemp canvas) 20-25 tons when dry
 - Main mast weighs ~50,000 lb.
 - Anchor lift that includes cable 9,000 lb.

The other factor for consideration is Rope Strength:

- Modern Manilla Rope 1.25" Dia
 - Breaking load - ~12,150 lbs.
 - Age, exposure, tarring, moisture reduces strength
 - Applying 1:5 Safety Factor 2,430 lbs.
- Based on 19th-century naval and industrial standards, a 1-inch diameter (approximately 3-inch circumference) hemp rope made in 1810 had a breaking tensile strength of roughly **7,000 to 8,100 pounds-force (lbf)**.
 - Applying 1:5 Safety Factor 1,620 lbs.

We were then taken through:

- the different types of blocks that were used in sailing ships.
- how one would go about strapping a block.
- tensioning the standing rigging.
- setting the mast.
- anchor weighing.
- Jeers – the heavy, tackle-based rigging systems used on sailing ships to hoist or lower the lower yards, that typically consist of massive ropes and double or treble blocks attached to the mast head, enabling crews to manage the significant weight of the main or fore yards'.
- Boat hoisting.
- Lifting and striking the yards.
- Dealing with cargo and deck loads.
- The handling of topmasts.
- Deadeyes.
- And finally, the repairing of broken or cut stays.

The following list of books were used to develop this presentation:

- J. Lees, *The Mast and Rigging of English Ships of War 1625-1860*, Naval Institute Press. Annapolis (1984)
- K.H. Marquardt, *Eighteenth-century Rigs & Rigging*, Conway Maritime Press, London (1st 1992,2003)
- J. Harland and M. Myers, *Seamanship in the Age of Sail*, Conway Maritime Press, London (1984)
- K.H. Marquardt, *Anatomy of the Ship: The 44-Gun Frigate USS Constitution*, Naval Institute Press. Annapolis (2005)
- O. Eriksen, *Constitution: All Sails Up and Flying*, Outskirts Press (2009)
- G. Biddlecombe, *The Art of Rigging*, Dover Publication, Garden City, NJ (1990)
- D. Lever, *The Young Sea Officer's Sheet Anchor: Or a Key to the Leading of Rigging and to Practical Seamanship*, Dover Publication, Garden City, NJ (1st 1808,1998)

Reminders & Announcements.

National Museum of the Great Lakes

The National Museum of the Great Lakes, located at Toledo, OH, provides a lecture series in a hybrid format. Since Toledo is a bit of a drive for an hour and a half presentation, you can access their web site to sign up if broadcast. The Spring lecture, to be held Wednesday, June 3 at 7:15 PM “Loving a Lighthouse”

The story is about how the Fairport Harbor West Lighthouse was saved and restored into a livable historic home by Larry & Karen Bettcher. Free lectures and registration required. At this time, I am not sure if it will be broadcast via Zoom.

New temporary exhibit scheduled from April 22 to October 18, 2026. “Current of Change” the living history of the Great Lakes.

<https://nmgl.org/events/>

Sea History Activity - Brig Niagara Update:



The brig *Niagara* presently is in the Bristol Marine’s Sample’s Shipyard, Boothbay Harbor, ME, receiving critical repairs.

To follow the work:

<https://www.eriemaritimemuseum.org/blog/journey-of-the-us-brig-niagara>

U.S. Brig Niagara - Heading into the Homestretch April 13, 2026

Shipyard projects usually march along at a steady, rhythmic pace. But when the finish line finally appears on the horizon, the momentum shifts. This week, we’ve hit two major milestones that signal the beginning of the end of our time in Boothbay Harbor—and the start of *Niagara*’s 2,000-mile journey home.

Major Milestones: Planks and Power

The first big news: The hull is now fully planked! We recently discovered a cracked plank aft on the port side after removing a lightning protection patch for USCG inspection, but that has been addressed and the hull is once again whole.

The second big-ticket item was the repower. If you’ve been following our progress, you know two new engines have been waiting in the belly of the ship. I am thrilled to report that at 2:30 PM on April 1st, that new machinery came to life for the very first time. Hearing those engines run was a defining moment for this ambitious project!

The Homestretch: Precision in the Final Details

With these major milestones behind us, we have officially entered the final stretch of the project. This is a rewarding phase where the heavy lifting gives way to the precise, finishing touches that bring the ship back to life.

The project’s pace remains steady as we approach the finish line. Our team and the experts at

Bristol Marine are now dedicated to the final list of refinements—ensuring that every detail, no matter how small, meets the exacting standards required for *Niagara*. It’s a period of high focus as we transition from a construction site back into a sailing vessel.

On the Horizon: Sailing Toward Home. As positive as this shipyard experience has been, ships aren’t meant to sit on the hard. We are eager to get *Niagara* back where she belongs: in the water, sailing with our trainees and volunteers, and serving as the community icon on our waterfront back home.

Don’t Give Up the Ship!

Ship Modeling Helps:

Manitowoc 2026

This year’s “Midwestern Model Ships & Boats Contest” will be held the weekend of May 16 and 17 at the Wisconsin Maritime Museum in Manitowoc, Wisconsin. This is Midwest’s longest running model contest! It is also co-sponsored by the NRG.

Everyone should consider submitting a model to the competition. Registration will begin this month and closes May 1, 2026. Register on their website:

www.wisconsinmaritime.org/explore/midwestern-model-ship-contest/

So, who is going? If you are, take lots of photos.

Echo Cross-Section Model

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

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

Shop Notes 1 & 2

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

How to Plank Your Ship’s Deck

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

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

<https://thenrgstore.org>

Ships on Deck

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

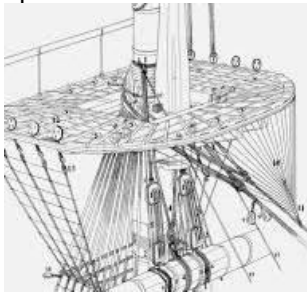


HMS Sphinx

By Cliff Mitchell

After 6 months, Cliff finished his build on the *HMS Sphinx*. Part of what took him so long is the rigging which was so complicated that making corrections to the yards was impossible. He has decided to accept the situation and here are the results.

Crowfeet and Euphroe:



All three masts had these installed:



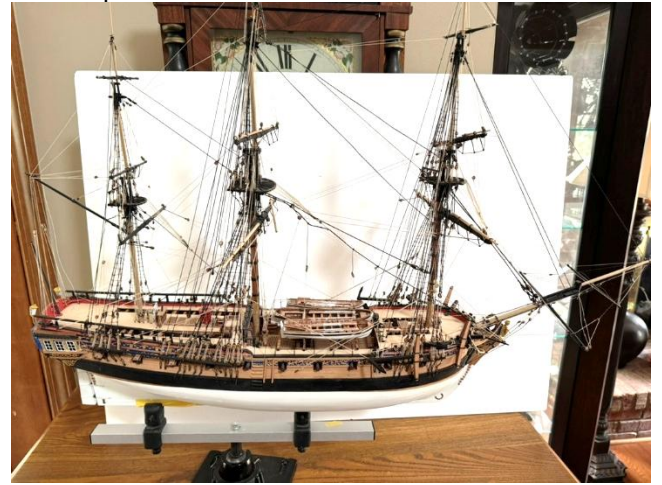
Ships boats installed:



Four Anchors constructed & Installed:



Finished photo:



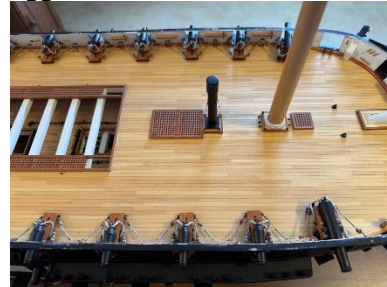
Great Job Cliff. What is next?



USS Ohio

By Ric Stratton

A major milestone was accomplished this month. All the upper deck guns have been mounted and rigged.



My compliments to Syren Ship Model Company for the quality of miniature rope. It's easy to work with and getting it to lay in a natural way, especially the larger breaching rope. Inspired by this progress and milestone, I also finished the pin rails that mount to the bulwarks, created a capstan, and galley stove pipe.

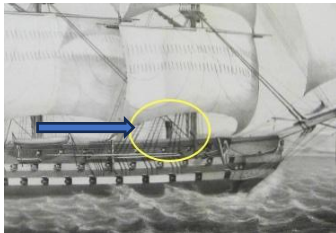
There was no standard for capstan design in the US Navy. So, I took guidance from this photo of the US Ship of the Line *Vermont*:



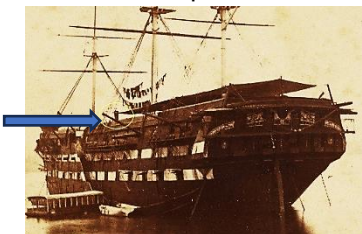
I think I made a sufficient representation in miniature (it's good enough for me at least):



For the galley stack, I have a blurry lithograph of the *Ohio* (below) as well as a blurry photo that shows the basic shape. Interesting, it appears to have a different design than most other galley stacks I see in other ship photos and models. Most seem to go up and divert at an angle. Or, those that go straight up, very often have a top that looks like a hat. Thus, at one time, the *Constitution* had one that was nicknamed "Charley Noble". The one on the *Ohio* appears to go straight up, expand in diameter at the top, and have a flat topper.



Here is the depiction in the lithograph:



Here's what I came up with to match as closely as I can imagine.



Editor's Note: A "**Charlie Noble**" is the smoke stack on a ship's galley. Around 1850, a British merchant service captain, named Charles Noble, upon discovering that the stack of his ship's galley was made of copper, ordered that it be kept bright. From then onwards the ship's crew referred to the galley smokestack as the "**Charlie Noble**". It still is.



Oseberg

By Rob Washburn

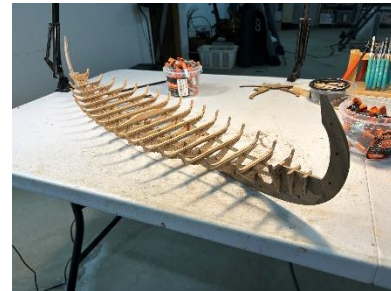
Hull support structure is complete.



Left: First jig used for that construction. Right: Picture with clamps shows structure in first jig with beams clamped and drying.



Second jig also shown. (above left) Holds hull inverted for planking then upright (above right) for completion



The frame of the *Oseberg*.

So, what are the rest of you working on?

I am accepting photos of your efforts for the May 2026 "Ropewalk" photo file.

Events & Dates to Note:

2026 Tentative Schedule

46th Midwestern Model & Boat Show,
Wisconsin Maritime Museum, Manitowoc, WI
May 15-17, 2026

U.S. Air force Show
Rickenbacker Air Base
June 19-21, 2026

Lakeside Antique & Classic Wooden Boat
Lakeside Hotel, Lakeside, OH
July 19, 2026

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

U.S. Navy “Blue Angles”
June 13-14, 2026, Dayton
Sept. 5-7, 2026, Cleveland

Ohio River Sternwheel Festival
Riverfront Park, Marietta, OH
September 11-13, 2026

Presentation Schedule:

2026 – Schedule Tentative

Jan 17 – Card Modeling – Holloway/Nyberg
Feb 21 – HMS Victoria - Mitchell
Mar 21 – **Canceled**
Apr 18 – Blocks & Tackles - Keller
May 16 – Cases, Bases & Displays - Northup
Jun 20 – Field trip – Warther Carving Museum
Jul 18 – **Open**
Aug 15 – **Open**
Sep 19 – Ironclads - Mitchell
Oct 17 – Wooden Steamers on the G.L. - Nyberg
Nov 21 – Thread Railing - Holloway
Dec 19 – Planking & Mayflower Images - Buchanan

Shipwrights of Ohio
2026 Officers & Staff
President – Bob Mains.....614-306-6866
Vice Pres. –
Communications – Bill Nyberg...614-370-5895
Recruitment – Jeff Northup740-585-0383
Treasurer – Lee Kimmins.....614-378-9344
Web Master – John Boeck..... 937-620-0258
Zoom Master – Steven Keller... 513-280-2210
Web Site: www.shipwrightsofohio.com
Email: shipwright@breezelineohio.net

Editor: Wiliam Nyberg
Shipwrights of Ohio
Shipwright@breezelineohio.net



Cargo Hold

www.shipwrightsofohio.com/cargo_hold/

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

There are currently two logo styles available:

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



Presentation List

Fixtures: Anchors
Fixtures: Building a Deck House - Scratch
Fixtures: Capstans and Windlasses
Fixtures: Cannon Rigging & Accessories
Fixtures: Flags - Making
Fixtures: Ships' Bilge Pumps
Fixtures: Small Boats
Fixtures: The Rudder
General: Adhesives
General: Air Brushing
General: Cannon Rigging
General: Display case
General: Displaying & Mounting Ship Models
General: Finishing: Natural & Paint
General: Furniture & Fixtures
General: Photo Etching Brass Parts
General: Photographing Models
General: Raw Materials & Parts: Sources
General: Soldering
General: Super Detailing: Finding Materials
General: Wood Finishing: Round Table
History: Evolution of the Wooden ship
History: HMS Terror
History: Ironclads
History: Marietta: 19th C. Ship Building
History: Ship Modeling
History: Wooden Steamers on the Great Lakes
History: Ships during World War II
Hull building: Carving Half-Hulls
Hull building: Copper plating a hull
Hull building: Lapstrake Hulls
Hull building: Planking a deck
Hull building: Planking: Frames/Fairing
Hull building: Planking
Hull building: Planking - Spiling
Hull building: Solid, POB, POF

Rigging: Belaying Plan
Rigging: Blocks & Tackles
Rigging: Mast Making
Rigging: Right vs Left hand laid rope
Rigging: Running Rigging & Belaying
Rigging: Sail Making
Rigging: Standing Rigging
Rigging: Scale comparison thread to actual rope lines
Rigging: The Principles of Rigging
Rigging: Yards & Spars
Techniques: Building display cases
Techniques: Card Modeling
Techniques: Carving
Techniques: CAD, Comp. Assisted Drafting
Techniques: From CAD to Component Parts
Techniques: Bending Wood
Techniques: Dioramas
Techniques: 3D Printing & CAD Software Support
Techniques: Electro Plating
Techniques: Illuminating Models
Techniques: Lofting & Reading Plans
Techniques: Repairing/Restoring Ship Models
Techniques: Rope Walks: Making your own rope
Techniques: Ships in a Bottle
Techniques: Scratch building
Techniques: Soldering
Techniques: Thread Railings
Techniques: UV Resin Molding
Techniques: Weathering: Aging ship models
Tools: Jigs & Fixtures - used in ship modeling
Tools: Power & Hand tools, used in ship modeling
Tools: Sharpening tools

That highlighted in red are already scheduled.

Wooden Steamers on the Great Lakes

Research & written
By William E. Nyberg

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

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

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

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

1881-C



Silvanus J. Macy: Morley & Hill, at Marine City, MI, built a wooden propeller for the Peninsular Transportation Co., of Detroit, to be used in the bulk freight trade. Initial enrollment, was issued at Detroit, July 29, 1881. Her measures were: 3 masts, 164.0' x 31.0' x 11.0'; 548.42 grt, 474.93 net. She was assigned official number 115784. The steam barge *Silvanus J. Macy* was powered by a steeple compound engine, 19", 38" bore X 34" stroke, 450 horsepower, built by Christie & DeGraff at the Frontier Engine Works in 1881. Steam was generated by a boiler, 9' x 15', built by Thomas McGregor. In September 1881, up bound, on the Detroit River, the steam barge *Silvanus J. Macy*, collided with and sank the down bound schooner barge *Victor*, loaded with 16,000 bushels of wheat. She was in tow of the Canadian tug *Jerome* (75704), which also capsized and sank.

Ownership of the steam barge *Silvanus J. Macy* was bought, at a marshal's sale by Thomas S. Christie, Detroit.

In March 1882, the steam barge *Silvanus J. Macy* was sold to Inter-Lake Transportation Co., Detroit, MI. Stockholders of Inter-Lake Transportation Co. were Peter J. Ralph, Thomas S. Christie, Solon Burt, Herman C. Ralph, Joseph E. Watson, Lewis B. King, Alvin C. Burt and Cameron D. Waterman. For the 1885 season, the steam barge *Silvanus J. Macy* towed the schooners *Ishpeming* (100039) and *John Burt* (75300). In May 1885, the steam barge *Silvanus J. Macy*, bound down, laden with 33,000 bushels of corn from Chicago, to Sarnia, Ont., went ashore at Black Point, near Presque Isle, Lake Huron in heavy fog. 6,000 bushels of corn were thrown overboard to lighten the vessel before she freed herself. Hull loss \$1,000. During winter layup, 1887/88, the steam barge *Silvanus J. Macy* was rebuilt at John Oades yard, Detroit: 2 decks; 164.5' x 31.66' x 11.33'; 752.56 grt, 613.0 net. September 1891, the steam barge *Silvanus J. Macy* went ashore near Whitefish Point. She jettisoned 8,000 bushels of wheat to release herself. For the 1892 season, she towed the four-masted schooner *Mabel Wilson* (91872). In 1894, she received a firebox boiler, 9' 6" x 13', 120 pounds steam, built by Dry Dock Engine Company, Detroit. In June 1896, her enrollment record was updated showing that her rig had been changed to two masts, Detroit. For the 1902 season, master of the steam barge *Silvanus J. Macy* was Captain M. W. Gotham with W. F. Gregory as first engineer.

In November 1902, the steam barge *Silvanus J. Macy*, with her consort schooner barge *Mable Wilson* (91872), both loaded with coal, bound up from Buffalo,

for Kenosha and Racine, WI, foundered during a heavy gale off Point Burwell, Ont. Lake Erie. Fourteen lives were lost, all hands. Included in the loss, were Captain M.W. Gotham and his sons M.A. Gotham, mate, and L.R. Gotham, lookout.

Final enrollment was surrendered at Detroit, March 31, 1903, and endorsed "vessel lost".



Massassauga: W. J. Hingston, at Buffalo, built a wooden propeller for the river passenger trade. She was enrolled at Erie, PA, on January 18, 1881, and her measures were recorded as: 93.5' x 16.25' x 6.16'; 96.46 grt. Her official number was 91332. The propeller *Massassauga* was rebuilt and remeasured in 1884: 93.6' x 16.3' x 6.2'; 165 grt.

In June 1884, ownership of the propeller *Massassauga* was changed to C. A. Blood, Marine City, MI. She operated in the passenger trade, between Detroit and Gibraltar, MI on the Detroit River. During the 1886 season, the *Massassauga* was operated by the Lake & River Excursion Co.

Ownership of the propeller *Massassauga* was changed in March 1887, to Eugene Smith.

Ownership of the propeller *Massassauga* was changed in May 1888, to Harry S. Pole. In August 1890, the propeller *Massassauga* caught fire and burned to a total loss at Gibraltar, MI, on the Detroit River. No lives lost.

Her final enrollment was surrendered at Port Huron, MI, October 18, 1893, and endorsed "vessel burned - total lost".



Fred McBrier: The F.W. Wheeler Co., Bay City, built a wooden steambarge for James McBrier & Co., Erie, PA, to be used in the bulk freight trade transporting lumber. She was enrolled at Erie, August 08, 1881, with measures recorded: 161.0' x 31.0' x 12.1'; 442.07 grt, 354.63 net. Her official number was 120452. The steambarge *Fred McBrier* was powered by a fore & aft compound engine, 22", 36" bore x 36" stroke, built by S.F. Hodge, Detroit, in 1881. Steam was generated by a

boiler: 10' 3" x 6', 100 pounds steam. She was equipped with a 9' 4" x 12' 6" propeller. Master of the steambarge *Fred McBrier* for the 1881 & 82 seasons was Captain Cumming S. Geel. In June 1884, she carried coal from Cleveland to Duluth, MN. In August 1886, the steambarge *Fred McBrier* went ashore on Middle Bass Island, Lake Erie. Released. Later that year, she received iron arches to prevent hogging.

In July 1887, ownership of the steambarge *Fred McBrier* was changed to Minor Lumber Co. Alpena, MI. In July of that same year, the steambarge *Fred McBrier*, laden with a cargo of wheat, sprang a leak on Lake Erie. She was repaired and the hull damage was set at \$1,000, with her cargo damage set at \$2,500.

Ownership of the steambarge *Fred McBrier* was transferred, in April 1889, to Minor Lumber Co., ¾ share, Alpena, MI; Dennis G. Clary, ¼ share, Sandusky, OH.

Ownership of the steambarge *Fred McBrier* was changed, in April 1890, to Nelson S. Whipple, 2/3 share; and John Andrews, 1/3 share; both from Detroit, MI. In 1890, Master of the steambarge *Fred McBrier* was Captain John Andrews. In October 1890, down bound in fog, the steambarge *Fred McBrier*, laden with a cargo of iron ore and towing schooner barges *A. Stewart* and *J.B. Lozen* (76868), was struck amidships by the propeller *Progress* (150205) in the Straits of Mackinac, seven miles east of Waugoshance Point, MI, and sank. Cause of collision was a misunderstanding of signals between the two steamers. The steambarge *Fred McBrier* was valued at \$43,000. No lives lost.

Final enrollment for the steambarge *Fred McBrier* was surrendered at Detroit, MI, October 03, 1890.



R. McDonald: Daley & Shook, at Mount Clemens, MI; with Michael Laprice as master carpenter, built a wooden steambarge for the transport company of Daley & Shook, Mount Clemens. She was enrolled at Port Huron, June 15, 1881, and her measures were recorded as: 134.0' x 28.0' x 11.25'; 344.76 grt. She was assigned official number: 110469. She was powered by a steeple compound engine, 16", 30" bore x 24" stroke, Builder unknown. 125 nominal horsepower. She was built for the bulk freight "lumber" trade.

In June 1881, ownership of the steambarge *R. McDonald* was changed to Torrent & McDonald, Muskegon, MI. In May 1883, she was renamed *Ida M. Torrent*, 287.42 grt, 218.68 net.

In April 1884, ownership of the steambarge *Ida M. Torrent* was changed to William Meglade, Chicago, IL.

May 1885, ownership of the steambarge *Ida M. Torrent* was changed to Patrick A. Ducey, Muskegon, MI.

October 1885, ownership of the steambarge *Ida M. Torrent* was changed to Frank Wood, Muskegon, MI.

June 1886, ownership of the steambarge *Ida M. Torrent* was changed to Spooner R. Howell, Chicago, IL. The steambarge *Ida M. Torrent* was rebuilt at Chicago, during winter layup 1888/89: 2 masts, 135' x 28.2' x 10.33'; 338.6 grt, 250.68 net.

March 1890, ownership of the steambarge *Ida M. Torrent* was changed to Frank Harlow, ½ share, Chicago, IL; and William J. Harlow, ½ share, Toledo, OH. Master of the steamer *Ida M. Torrent*, for the 1890 to 93 seasons was Captain William J. Harlow. For the 1892 lumber trade season, the steambarge *Ida M. Torrent* towed the schooner barges *H.C. Sprague* (42652), *William Case* (26643), and *Wyandotte* (26246). In October 1893, the steambarge *Ida M. Torrent* caught fire and burned to a total loss, sinking at Cross Village, MI (west of Mackinaw, MI).

Final enrollment for the steambarge *Ida M. Torrent* was surrendered at Chicago, IL, November 8, 1893.

Ownership of the hulk of the steambarge *Ida M. Torrent* was changed in April 1894, to Messrs. Monroe, Nichols and Stevens of Charlevoix, MI. Examination of the hull showed it to be in good shape and machinery uninjured. She was rebuilt in 1895, by Rooney Brothers, Charlevoix, MI. The steamer was launched as *Pine Lake*, (*Pine Lake* is the earlier name for Lake Charlevoix).

The initial enrollment of the steambarge *Pine Lake* was issued at Grand Haven, MI, July 31, 1895, official number 150695: 137.3' x 28.1' x 10.9'; 388 grt, 274 net. She was equipped with a steeple compound engine, 16", 30" bore x 24" stroke, 250 horsepower, built by Wilson & Hendrie, Montague, MI and a firebox boiler, 9' x 121", 115 pounds steam, built by Johnston Brothers, Ferrysburg, MI. Masters of the steambarge *Pine Lake* were Captain Ephraim S. Small, 1899 season; Captain Herman Oertling Jr., 1900 season; Captain Ephraim S. Small, 1901 -1903 season; with John Chemock, 1899-1902; and Joseph Prevot, 1903-04 as chief engineers. In August 1905, the steambarge *Pine Lake*, upbound laden with coal, in heavy fog, stranded in Hay Lake, Saint Mary's River. She was lightered to release. Her masters from 1905 through 1908, were: Captain George Weaver, in 1905; and Captain J. E. Jacobson for 1906-08; with Harry Campbell, 1905-06; and William L. Martin, 1907-08 as chief engineers.

In 1908, ownership of the steambarge *Pine Lake* was changed to John Hickler, Buffalo, NY.

In 1909, ownership of the steambarge *Pine Lake* was changed to John M. McKerchey, Detroit, MI. In the 1910 season, the steambarge *Pine Lake* was converted to a sand sucker at William Oades Shipyard, Detroit. Masters of the sand dredge *Pine Lake* were Captain A. Lavigne, 1910; and Captain G. H. Ferguson, 1912; with George Smalley as chief engineer in 1910.

Ownership of the sand dredge *Pine Lake* was changed in 1912, to E. P. Merritt, Detroit, MI. In October

of that year, the sand dredge *Pine Lake* collided with the wooden steamer *Fleetwood* (81145), abreast Belle Isle, MI., Detroit River, and sank in the channel. Two lives lost.

Final enrollment for the sand dredge *Pine Lake* was surrendered at Detroit, November 10, 1912, and endorsed "vessel lost". The wreck of the sand dredge *Pine Lake* was later dynamited as an obstruction.

Mentor: Soren Anderson, at Fort Howard, near Green Bay, WI, built a wooden sloop to be used for general freight service. She was owned by Lambert Nau, ½ share, Green Bay; and Soren Anderson, ½ share, Ft. Howard. Enrolled at Milwaukee, October 10, 1881, her measures were: 118.0' x 26.0' x 9.0': 230.1 grt, 218.6 net. The sloop *Mentor* was assigned official number 91378. For the 1886 season, the sloop *Mentor* was towed the steambarge *Alpena* (105351) with schooner *Winona* (pre-1881), *Banner*, and barge *Dan Rogers* (35476).

Ownership of the sloop *Mentor* was changed, in April 1887, to Jay Hursley, Pequaming, MI. He had her rebuilt as a steambarge at Buffalo: 305.38 grt, 257.3 net. She would be powered by a fore & aft engine: 20", 38" bore x 24" stroke, builder unknown.

Ownership of the steambarge *Mentor* was changed, in December 31, 1890, to Wayne Hursley et al, Sault Ste. Marie, MI, to be used as a wrecker.

Ownership of the steambarge *Mentor* was changed, December 28, 1891, to George Kemp, Sault Ste. Marie, MI; et al. She was used in 1891 as a lighter. Her chief engineer in 1895, was Charles S. Shriver.

Ownership of the steambarge *Mentor* was changed, in March 1898, to William J. Hunkin, ½ share; and Samuel Hunkin, ½ share, both from Cleveland, OH. The master of the steambarge *Mentor* during the 1903 season was Captain McGregor.

In April 1908, ownership of the steambarge *Mentor* was changed to Joseph Normand et al, Cleveland, OH. Later that month, ownership of the steambarge *Mentor* was transferred to Joseph Normand, ½ share; George Normand, 1/4 share; and James Stanton, ¼ share, all from Cleveland. Masters of the steambarge *Mentor* were Captain Frank Freschette, 1909 season; Captain Ed La Joie, 1910 season; Captain P. C. Hart, 1911 season; and Captain W. A. Hall, 1912 season; with Thomas Jones, 1909; Louis Ouillette, 1910; and Charles Morrison, 1911-12, as chief engineers.

Ownership of the steambarge *Mentor* was changed, in April 1912, to Carl Schweikart, 2/3 share; and Andrew Leland, 1/3 share; both from Detroit, MI.

In March 1914, ownership of the steambarge *Mentor* changed to Sidney C. McLouth, Marine City, MI.

Final enrollment for the steambarge *Mentor* was surrendered in 1916 at Port Huron, MI; and endorsed "abandoned, unfit for service".

The steambarge was rebuilt as a sand & gravel dredge at Marine City, and enrolled, in 1916, as a new vessel named *Superior*, (214461): 138' x 30.42' x 8'; 327 grt, 160 net.

Ownership of the dredge *Superior* was changed in 1928, to Frank J. McCarron, Detroit. In June 1929, the sand & gravel dredge *Superior*, struck a bar, caught fire and burned to a total loss at Detour, MI, Saint Mary's River. No lives lost.



Middlesex: Simon Langell, at St. Clair, MI, built a wooden steambarge for David Whitney, Jr., Detroit. She was enrolled at Detroit, April 26, 1881, and her measures recorded were: 190.0' x 32.5' x 12.3'; 567.58 grt. Her engine was not recorded. She was issued official number 91307. The steambarge *Middlesex* was built for the bulk freight "lumber" trade and valued at \$48,000. The steambarge *Middlesex*, moored at Hebard & Thurber's Lumber Dock, L'Anse, MI, Pequaming Bay, Lake Superior in November 1881, with her consort, the schooner barge *Melbourne* (91253). Both had arrived "light" to take on a cargo of lumber. The steambarge *Middlesex*, caught fire around the boiler and with a gale blowing the fire was soon out of control. The ship burned to a total loss. The burned hull, drifted to a neighboring point and broke in two.

Final enrollment, was surrendered at Detroit, November 30, 1881, and endorsed "burned- total loss".

In October 1882, the remains of the steambarge *Middlesex* hull were raised and towed to Algonac, MI, by the tug *Ontario* (19127). She was rebuilt by John J. Hill at Abram Smith Yard as a 2-masted schooner barge: 186' x 32.5' x 12.4'; 618.46 grt, 587.54 net. Her new enrollment was issued at Port Huron, August 31, 1883, as schooner barge *Middlesex* (91307)

In 1883, ownership of the steambarge *Middlesex* was changed to Commodore Allen, Abram Smith and Captain Albert Stewart, Algonac, MI. Master of the schooner barge *Middlesex*, for the remainder of the 1883 season, was Captain Albert Stewart. Early in 1887, the schooner barge *Middlesex*, was towed by the propeller *Simon Langell* (116091) in the Duluth to Buffalo grain trade. November 1887, the schooner barge *Middlesex*, laden with coal, while docked at the lighthouse pier, Buffalo, was struck by the steamer *Avon* (105377), crushing her starboard side. Temporary repairs were made and the *Middlesex* continued to Milwaukee with her cargo.

Ownership of the schooner barge *Middlesex* was changed in April 1890, to John Kelly, Saginaw, MI.

Ownership of the schooner barge *Middlesex* was changed in 1894, to Shores Lumber Co., Ashland, WI. In July 1897, the schooner barge *Middlesex*, under tow of the steamer *James H. Prentice*, (76581), went hard aground at Mackinaw Point, Straits of Mackinaw. Released. In December 1898, the schooner barge

Middlesex was crushed by ice, near Pelee Island, Lake Erie. She was towed to Cleveland for repairs. Master of the schooner barge *Middlesex* for the 1899 – 1905 seasons, was Captain Paul T. Weimar,

Ownership of the schooner barge *Middlesex* was changed in 1900, to Albert Soper Lumber Co., Chicago.

Ownership of the schooner barge *Middlesex* was changed in 1903, to J. A. Calbick & Co., Chicago.

Ownership of the schooner barge *Middlesex* was changed in 1906, to Marine Transportation Co., Ogdensburg, NY. Master of the schooner barge *Middlesex* for the 1906 to 1912 seasons, was Captain Archie Grandee.

In 1913, ownership of the schooner barge *Middlesex* was changed to Captain Henry Brock, Cleveland. Master of the schooner barge *Middlesex* for the 1913 – 16 seasons, was Captain Henry Brock.

In 1916, ownership of the schooner barge *Middlesex* was changed to R. R. McCormick, Chicago.

He in turn, sold the schooner barge *Middlesex* in 1916, to Ontario Transportation & Pulp Co. In August 1917, the schooner barge *Middlesex* became stranded on the St. Lawrence River near Morrisburg, Ont. During winter layup 1917-18, the schooner barge *Middlesex* was rebuilt at Sorel, P.Q.: 184' x 32.5' x 12.3'; 646 grt.

March 1918, ownership of the schooner barge *Middlesex* was changed to 'The Barge Twin Sisters Co.' Quebec and renamed *Woodlands* 138504. In 1918, ownership of the schooner barge *Woodlands* was changed to Atlas Transportation Co., Montreal, Masters of the schooner barge *Woodlands* were: Captain E. Bonaventure, 1919-20; Captain Ovida Daoust, 1921; Captain W. Nenault, 1922; Captain A. Fleury, 1923; and Captain N. Bonaventure, 1924-25.

In 1928, ownership of the schooner barge *Woodlands* was changed to Sincennes McNaughton Line, Montreal.

Final enrollment for the schooner barge *Woodlands* was surrendered May 1929 and endorsed "broken up".



C.W. Moore: James Elliott, at Allegan, MI, built a wooden steambarge, for William Turnball, ½ share, and C.W. Moore, ½ share, both from Douglas MI. Enrolled at Grand Haven, MI, July 6, 1881, her measures were: 124.0' x 24.4' x 9.3'; 207.64 grt, 158.06 net. She was powered by a high-pressure non-condensing engine, 22" bore x 24" stroke, 385 horsepower, built by Bloecker Engine Works, Grand Haven, in 1881. She was assigned official number 125924. The steambarge *C.W. Moore* was built for the passenger, package freight

trade. In September 1882, she was recalced at Chicago drydock. In May 1885, the steambarge *C.W. Moore* received a new cabin and was rebuilt, with her enrollment register changed at Milwaukee: 383.37 grt, 294.73 net.

In June 1885, ownership of the steambarge *C.W. Moore* was changed to H.W. Hart, ½ share; & C.B. Hart, ½ share, both from Green Bay WI. In 1886, the steambarge *C.W. Moore* received a firebox boiler, 7.5 x 14', 95 pounds, built by O'Leary Brothers, Oshkosh, WI.

Ownership of the steambarge *C.W. Moore* was transferred, in April 1889 to Hart Steamboat Line, Green Bay. In September 1891, the *C.W. Moore* was leased to West Michigan Traction Co., Benton Harbor, MI. Masters of the steambarge *C. W. Moore* were: 1899, Captain E. W. Hart with Jules Schram, 1899-1900 as chief engineer; and in 1901, Captain Gus LaCompte with T. Hudson as chief engineer.

In March 1902, ownership of the steambarge *C.W. Moore* was changed to Graham & Morton Transportation Co., Benton Harbor. Her master for the 1902 season was Captain Albert J. Simons with Owen McIntee as chief engineer.

December 1902, ownership of the steambarge *C.W. Moore* was changed to A. Booth & Co., Chicago. Her master for the 1903 – 05 seasons was Captain Ed S. Smith with Fred W. Lee as chief engineer.

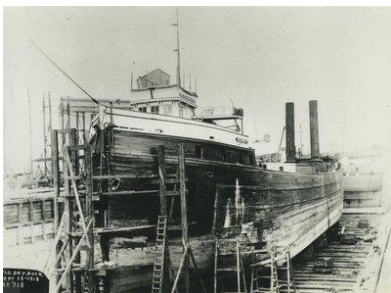
December 1908, ownership of the steambarge *C.W. Moore* was transferred to C.W. Turner, St. Paul, MN & William J. Chalmers, Chicago as receivers of A. Booth & Co., Inc. due to insolvent.

May 1909, ownership of the steambarge *C.W. Moore* was transferred to Booth Fisheries Co.

August 1910, the steambarge *C.W. Moore* was sold Canadian to Dominion Fish Co. and enrolled as *C.W. Moore*, 126864, 124' x 24.5' x 16'; 428 grt, 260 net.

The final U.S. enrollment for the steambarge *C. W. Moore* was surrendered at Duluth, MN, August 30, 1910, and endorsed "sold alien".

Canadian enrollment indicates that the ownership reverted to U.S. ownership in 1914. In 1920, the steambarge *C.W. Moore* was abandoned in the Chicago River.



Oceanica: James Davidson, as original owner, built a wooden propeller at West Bay City, MI. She was first enrolled at Port Huron, August 17, 1881, with measures: 262.66' x 37.16' x 19.75'; 1490.40 grt, 1241.74 net. Her official number was: 155040. The *Oceanica* was powered by two, fore & aft compound engines, 27", 50" bore x 40" stroke, 600 horsepower, built by S. F. Hodge & Co., Detroit. Steam was generated by two firebox

boilers, 9' x 16', 95 pounds steam, built by Carroll Brothers in 1881. She was built for the bulk freight trade with a capacity for 60,600 bushels. Her master for the 1881 season was Captain William Dickson, with Robert A. Walker, 1882, as chief engineer.

In October 1881, ownership of the *Oceanica* was changed to Robert A. Packer, 99/100 shares, Sayre, PA; and Robert Goodman, 1/100 share, Buffalo.

In March 1882, ownership of the propeller *Oceanica* was changed to Lehigh Valley Transportation Co. Up bound to Chicago, in April 1882, the *Oceanica*, laden with coal, went aground at Bay Point, Lake Erie. She was lightered to release her. In August 1882, she went aground near Waugoshance, MI. In October 1882, her boiler broke from her fastenings during a storm. One member of the engineering crew was killed. Master of the propeller *Oceanica*, for the 1884 season, was Captain Stephen Maitland Murphy. Downbound, in September 1889, the propeller *Oceanica*, laden with wheat, collided with the bulk freighter *Robert L. Fryer* (110766) off Sand Beach near Duluth. In 1890, the propeller *Oceanica* towed the *Reuben Dowd*. Master of the propeller *Oceanica* in 1892, was Captain Dennis J. Driscoll. On August 14, 1896, upbound from Buffalo to Chicago, laden with a cargo of coal, the propeller *Oceanica* collide with propeller *William Chisholm* (81050) near Grosse Pointe Lightship, Detroit River, and sank. In September 1896, the propeller *Oceanica* was raised by Capt. Harris W. Baker and taken to Detroit Dry Dock Co. Orleans Street Yard for repairs. Master of the propeller, for the 1899 season, was Captain J. Todd with Thomas J. Bluett, 1899-1900, as chief engineer. In October 1897, the propeller *Oceanica* broke a bucket valve, disabling her machinery, near Mackinaw City, Lake Huron.

In February 1900, ownership of the propeller *Oceanica* was changed to Tonawanda Iron & Steel Co., N. Tonawanda, NY. Masters of the propeller *Oceanica* were: 1900-02 seasons, Captain Charles S. Furey, with Ahern in 1901, and Edward Knibbs for 1902-03 seasons as chief engineers. Master of the *Oceanica* for the 1903 season was Captain John R. Hesson with James B. Hurd in 1904 as chief engineer. In March 1903, the propeller *Oceanica*, while being towed into the harbor from Tonawanda, was caught in a large field of ice near Horseshoe Reef, Niagara River. Released. In 1904, *Oceanica* lost her tow, the lumber schooner *Massasoit* (75605), at Buffalo, NY, Niagara River. The tow wrecked on the waterworks intake in the Niagara River. The owners of the propeller *Oceanica* were libeled \$25,000 for mismanagement by the pilot and crew. Masters for the *Oceanica* were: 1905, Captain T. L. VanDusen with Rudolph H. Shinsky for 1905-06 as chief engineer; 1906, Captain James A. Fleck. The *Oceanica* received repairs in 1906 and ran between Duluth and Tonawanda in the lumber trade. Master of the *Oceanica* in 1907: Captain Charles C. Hanley with J. I. Kinsey as engineer; 1908, Captain Francis A. Gould, with James Rossan as chief engineer; 1910, Captain C. H. Daniels, with Newton W. Penny as CE; 1913 & 14, Captain B. C. McLaren with J. M. McLaren in 1913, and Wallace Boyd in 1914, as chief engineers.

In May 1916, ownership of the propeller *Oceanica* was changed to Twin City Transportation Co., Tonawanda, NY.

In April 1918, ownership of the propeller *Oceanica* was changed to Western Steamship Corp., Tonawanda.

In May 1918, ownership of the propeller *Oceanica* was changed to Lake Transportation C., Mentor, OH

In July 1919, the propeller *Oceanica* caught fire and burned at Montreal, P.Q. The hulk of the *Oceanica* was dismantled by LaChance Ltd in 1921.



Ogemaw: Simon Langell, at St. Clair, MI, built a wooden steambarge for Wood, Perry & Co., Cleveland. Her initial enrollment was issued at Port Huron, June 18, 1881. Her measures were: 167.58' x 30.16' x 13.0'; 615.18 grt, 333.03 net. Her official number was 155035. She was powered by high pressure engine, 27" bore x 30" stroke, 500 horsepower, built by Globe Iron Works, Cleveland. Steam was generated by a firebox boiler, 8'6" x 18'0", 100 pounds steam. The *Ogemaw* was built as a steambarge for the bulk "lumber" freight trade and would run from Au Sable, MI to Cleveland. Master of the steambarge *Ogemaw* for the 1881 season, was Captain Fish.

Ownership of the steambarge *Ogemaw* was changed in March 1884, to Penoyer Brothers, Oscoda, MI.

March 1890, ownership of the steambarge *Ogemaw* was changed to William H. Cowper, 1/5 share, Buffalo, NY; Captain John C. Pringle, 1/5 share, Au Sable, MI; and Edward Smith, Buffalo, NY; et al. William Elliott was chief engineer for the 1889-90 seasons. In December 1891, the steambarge *Ogemaw*, in heavy seas and gale winds, sprang a leak and sank in 11 fathoms water, 1 1/2 miles northwest of Burnt Bluff on Big Bay de Noque, Lake Michigan. The steambarge *Ogemaw* was removed from documentation December 1891 and endorsed as "total loss".

In September 1894, ownership of the steambarge *Ogemaw* was changed to Michigan Wrecking & Salvage Co., 7/8 share; Martin O'Toole, 1/8 share, both from Detroit. In September 1895, the *Ogemaw* was raised and rebuilt at Detroit: 162.5,' x 30, x 11.33; 594.17 grt, 325.68 net. Chief engineer, in 1895, for the steambarge *Ogemaw* was John B. Purvis. Master of the steambarge for the 1899 to 1903 seasons was Captain Martin O'Toole with Walter Harling, in 1899; and James H. Kendall for the 1900-02 seasons as chief engineer.

Ownership of the steambarge *Ogemaw* was changed, in April 1904, to E.B. Foss, 1/2 share, Bay City,

MI; and William F. Pierce, 1/2 share, West Bay, MI. Master of the steambarge for the 1904 to 1915 seasons was Captain William E. Pierce with Aaron P. Hagadon as chief engineer.

In April 1907, ownership of the steambarge *Ogemaw* was transferred to E.B. Foss, Bay City, MI. In 1908, the engine of the steambarge *Ogemaw* was replaced with a steeple compound engine, 22", 40" bore x 30" stroke, 430 horsepower.

In June 1916, ownership of the steambarge *Ogemaw* was changed to Argo Steamship Co., Mentor OH. Her master for the 1917 season was Captain Charles Keller.

In April 1918, ownership of the steambarge *Ogemaw* was changed to J.C. Garey, Saginaw, MI. her master, of the steambarge *Ogemaw*, was Captain Charles E. Garey, 1918-21; with G. Chipman as chief engineer for the same period.

Ownership of the steambarge *Ogemaw* was transferred, in March 1921, to J.C. Garey, 3/4 share; and Charles E. Garey, 1/4 share, both from Saginaw, MI.

In February 1922, ownership of the steambarge *Ogemaw* was transferred to estate of J.C. Garey, 3/4 share, and Louise B. Garey, 1/4 share, Saginaw, MI.

In May 1922, ownership of the steambarge *Ogemaw* was changed to William Burns, Detroit, MI. In December 1922, up bound, light from Toledo, OH, to lie up at Marine City, MI, the steambarge *Ogemaw* caught fire and burned to total loss 1 1/2 miles below Grand Point, MI, near Harsens Island, St. Clair River. No lives lost.

Ontario: Robert Davis, at Wolfe Island, Kingston, Ont., built a wooden propeller for J. Allen, of Perth, Ont., to be used in the passenger, package freight trade, Kingston to Montreal via the Rideau Canal and the Ottawa River. She was enrolled at Kingston, May 13, 1881, with measures recorded as: 104' x 22.6' x 5.8'; 259.08 grt, 160.34 net. She was powered by a vertical high-pressure engine, 11" bore x 12" stroke, 50 horsepower, built by Davidson & Doran, Kingston, Ont. When enrolled, she was assigned official number 80875. In May 1881

In 1883, the propeller *Ontario* ran aground between Kingston and Kingston Mills on the Rideau. Released. Her master for the 1883 season was Captain James McMaugh.

In October 1883, ownership of the propeller *Ontario* was changed to A. J. Tymon, Toronto, Ont. She would be used as a ferry in Toronto Harbor.

In 1884, ownership of the propeller *Ontario* was changed to John Sheriden, Toronto. In August 1885, the "Toronto Island ferry's", including the propeller *Ontario*, that were moored in the Church Street slip at Toronto, caught fire during the "Esplanade Fire" and were destroyed.

Robert A. Packer: William Crosthwaite, at West Bay City, MI, built a wooden steambarge for John Kelderhouse, 7/8 share; and Thomas Maytham, 1/8 share, both from Buffalo, NY. Her initial enrollment, September 14, 1881, recorded her measure as: 209.0' x 33.8' x 16.1': 921.0 grt, 770.0 net. She was powered by a steeple compound engine, 22", 42" bore x 42" stroke, 550 horsepower, built by H.G. Trout & Co., Buffalo, NY. Steam was generated by two firebox boilers, 7' x 14' @ 95 lb. steam, built by M. Riter & Co., Buffalo, NY. The steambarge *Robert A. Packer* was assigned official number 110491. The steambarge *Robert A. Packer* was built for the bulk freight coal and grain trade between Buffalo and Chicago. Her build cost was set at \$80,000.

Ownership of the steambarge *Robert A. Packer* was changed, in October 1881, to Robert A. Packer, 99/100 share, Sayre, PA; and Robert Goodman, 1/100, Buffalo, NY. In that same month, the steambarge *Robert A. Packer* collided with the Lake Street Bridge across the Chicago River at Chicago.

In March 1882, ownership of the steambarge *Robert A. Packer* was transferred to Lehigh Valley Transit Co., Robert A. Packer, president. In May 1883, the steambarge *Robert A. Packer* collided with the schooner *John Minor*. Masters of the steambarge *Robert A. Packer* for the 1884 season were Captain Louis Bogert and Captain Steven Maitland Murphy. In April 1884, the steambarge *Robert A. Packer* had her cargo damaged in a gale on Lake Michigan. The loss to her cargo set at \$300. In August of 1884, while unloading her cargo at the Anchor Line elevator, Buffalo, Captain Louis Bogert took ill and died. The cause of death believed to have been apoplexy. Masters of the steambarge *Robert A. Packer* were: 1886 - Captain James M. Todd; 1888 - Captain Dennis J. Driscoll with Henry C. Farrell as chief engineer; 1891-92 - Captain George McMinn, JR. with William Clancy in 1891; Charles W. Butler and Alexander T. Stewart in 1893, as chief engineers.

Ownership of the steambarge *Robert A. Packer* was changed in June 1899, to Miles E. Barry, Chicago.

Ownership of the steambarge *Robert A. Packer* was transferred in August 1899 to: Miles E. Barry, 3/8 share; Captain John A. Connelly, 3/8 share; Louis Windmuller, 1/8 share; all from Chicago; and H.A. Froom, 1/8 share, Milwaukee, WI.

Ownership of the steambarge *Robert A. Packer* was changed in April 1900, to Captain John A. Connelly, Chicago. Master of the steambarge *Robert A. Packer* was Captain John A. Connelly, 1901-04; with John Dusold in 1901; and E. B. Picke in 1902, as chief engineers. In November 1902, the steambarge *Robert A. Packer* caught fire and partially burned off De Tour Village, MI, Lake Huron. No lives lost. Repaired. She was rebuilt in 1905 and received boilers from the Canadian City of Collingwood, 94766,

Ownership of the steambarge *Robert A. Packer* was sold Canadian, in 1906, to Gourley Brothers. The vessel will be used on the Georgian Bay – Sault Ste. Marie, Ont. route. The steambarge *Robert A. Packer* was renamed and registered, in 1906, as *Batchawanna* (117032) with measurements: 220 x 34 x 18, 1027 grt. In

June 1907, the steambarge *Batchawanna* caught fire off Coppermine Point, Ont., Lake Superior and sank. No lives lost.

Notes:

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

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

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

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

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

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

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

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

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

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

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

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

Weight Ton (W/T) - Calculated as a long ton (2,240 pounds)

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

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

The current system of measurement for ships includes:

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

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

P.Q.: Province of Quebec

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

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

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

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

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

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

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