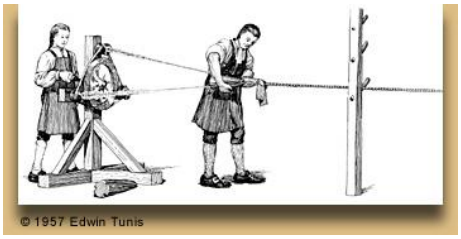


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

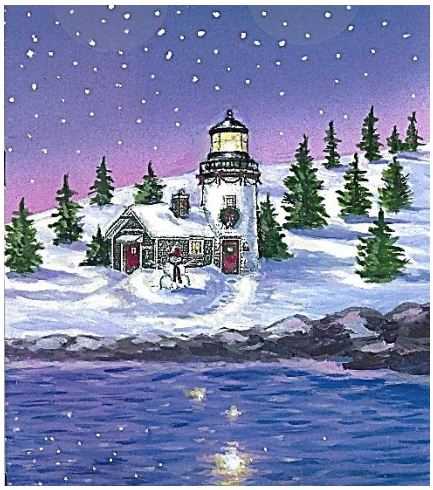
Ropewalk

The Newsletter for
Shipwrights of Ohio – December 2025

Our Next Meeting: January 17, 2026.
Hybrid – Classroom C & Zoom
Topic: ***"Card Modeling"***
by Julia Holloway/Bill Nyberg

Table of Contents

December:



To all ship modelers, their families, and extended families, wishing you a very Merry Christmas, and fair winds and calm seas throughout 2026.

Editors' Comments.

NOTE: We did not hold a meeting in December. The third Saturday of December was the 20th and the start of Christmas week. As I always say: "take care of yourself and your families, look to those you know who may need help or are lonely and may be in need of human contact." Have a very Merry Christmas.

Skipper's report

Bob and Cliff Mitchell are in Egypt and will return on the first day of winter. While we are preparing for Christmas, they will be learning about the archeological history of the pharaohs and the richness of Egyptian culture. So instead of skippers' report, you will be entertained by your editor.

But, first, we still need volunteers. The three areas for club survival:

- Transition Planning
- Continuity Planning
- Market Planning: How to expose the public to ship modeling.

To volunteer, contact Bob at:
rmains1@columbus.rr.com.

We have an election of officers for 2026 coming up, and our experience, since COVID, has shown that leadership roles do not have to be in central Ohio.

So, what is a transition and continuity plan? It includes things like:

- How to identify future club officers and the duration they should/can hold their office.
- How to train perspective skippers, treasurers, editors, etc.
- What needs to be transferred to the new office holder; what documents do we need to keep and how.

- How do you run a meeting, reserve a room, and what equipment is needed.

With three of the present club officers in their 80's We need volunteers:

1. To step up to running the club in the future.
2. To build a continuity plan for long run club stability.
3. To develop a marketing plan including participation in outreach activities and advertising.

We are developing an "intro to ship modeling" course that can be used with parents and young children as well as newly retired; an "Intro to RC modeling course," has been developed by our own Alan Phelps. this needs to be dusted off and held; and we are developing short teaching moments on ship modeling subjects that will be used during the meetings..

Bottom line, we need volunteers, to step up to running the club in the future, to replacing older club officers, to building a continuity plan for long run club stability, and to lead ship modeling classes for future ship modelers, as well as displaying our work at craft shows, etc.

Think about what and how you can volunteer to provide and help grow "The Shipwrights of Ohio" and respond back to Bob Mains.

Reminders & Announcements.

2026 Club Dues

Have you paid you 2026 dues yet?

Your dues support our web hosting, our monthly Zoom subscription, our NRG Charter Club status, besides our normal monthly meetings and postal cost.

There are 3 ways to make payment of dues to Shipwrights of Ohio. The dues are $20.00 for 2026 and is due before December 31, 2025.

1. Pay Cash, (easiest) directly to the club treasurer. Send them by mail (address below).
2. Write a check, (2nd easiest) for the dues amount, made out to "Shipwrights of Ohio", and either hand to check to the club treasurer; or send to:

Shipwrights of Ohio
5298 Timberlake Circle
Orient, Ohio 43146.

3. Using the Venmo app. This is a simple way to transfer funds from person to person, by downloading an app to your phone or computer for free. The parent company is PayPal. It will enable you to set up an account online where you can deposit or send money to others. The account can be attached to your checking account where you can move money between your checking account and "Venmo".

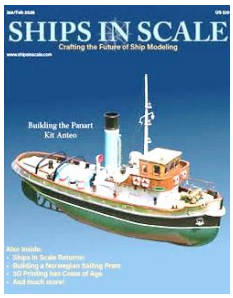
Any questions call Lee Kimmins at 614-378-9344.

Nautical Research Guild

2026 dues: Starting January 1, 2026, NRG dues will be raised by $5. Digital only: $45; Print only: $60; Digital/Print: $70.

Sea Watch Books

Ships in Scale



The relaunched *Ships in Scale* magazine will publish six issues per year starting with the January/February 2026 edition.

There are two subscription options:

- Print & Digital
- Digital Only

Pricing:

- Digital: $39.95/year
- Print & Digital: $44.95 (US); $54.95 (Canada); $64.95 (International)

To take advantage of the Pre-Launch Discount: Subscribe before the end of 2025 and get 10% off your first-year subscription.
www.Simplecirc.com/subscribe/ships-in-scale/relaunch

Speaking of Christmas

Sea Watch books highlighted the following:
"*Royal Stuart Yachts of King Charles II*": by David Antscherl & Effie Moneypenny: an illustrated volume of the 25 yachts built or gifted to King Charles.
"*USS Essex*": A detailed build by Walter Zimmerman, of a scratch-built model of the U.S. Frigate *Essex.* A seven-year project, drawing on rare historical documents to ensure complete fidelity to 1799 vessel.

Also available:
"*The Rogers Collection of Dockyard Models at the US Naval Academy*" by Grant Walker - $96
"*Caring for Ship Models*" by Ron Napier - $75.
"*The Royal Yacht Fubbs of 1682"* by David Antscherl - $80.
"The Ketch-rigged Sloop Speedwell of 1752", Vol I & II by Greg Herbert & David Antscherl - $75 each.
"*Hayling Hoy of 1759*" by David Antscherl - $70.

Sea History Activity

SNR - Chairman's Column

By David Dawes, Chairman
Society of Nautical Research (SNR)

"I suspect that the eyebrows of more than a few SNR members will be raised, as mine were, at the news that the Royal Navy is reinstating sail training for junior

officers and ratings from 2026. No doubt jokes will be cracked about HMS *Victory, Trincomalee* and *Unicorn* being sent back to sea to make good the acute shortage of operational hulls, but the new scheme has a serious purpose.

Chartering the splendid square-rigged *Pelican* of London to carry thirty-two trainees and four instructors at a time is apparently intended to demonstrate 'the value of traditional seamanship in developing core naval skills…Training on a sailing vessel allows sailors to focus on fundamental skills such as navigation, watchkeeping, leadership and teamwork in a live environment' (Navy Lookout). Some might say that this is a long overdue flash of insight from the 'powers that be', even if its genesis owes much to the aforementioned shortage of ships and therefore of seagoing training berths. After all, some navies never abandoned sail training: witness those magnificent sights and unrivalled ambassadors for their respective nations, the *Libertad* of the Argentine navy, Brazil's *Cisne Branco*, Italy's venerable *Amerigo Vespucci*, the *Eagle* of the United States Coast Guard, and the Peruvian navy's splendid *Unión*, which passed through Tower Bridge earlier this year. Those of us who have been involved in cadet training at one time, or another (including your editor) know full well the benefits that young people can obtain under sail, including, for example, self-confidence, responsibility and other valuable 'life skills'. One can only hope that the scheme is established on a permanent basis, although perhaps it is too much to hope that the bean counters of Whitehall will contemplate the acquisition of a permanent, commissioned sail training ship for the Royal Navy.

NOTE: Your editor had the privilege to attend the US Merchant Marine Academy in the late 50's and worked on the *SS Emery Rice*, a three masted, iron hull, steam/motor vessel. Some of the discipline and skills learned 70 years ago are still practiced today.

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:

U.S. Brig *Niagara* - Discovery Phase complete
https://www.eriemaritimemuseum.org/blog/journey-of-the-us-brig-niagara

All About the Caulking - Dec. 11, 2025

Wooden ships are not singular, solid forms but rather a multitude of smaller pieces of wood fastened together into a whole. The "skin" that forms the outer layer of the ship consists of deck and hull planks that are laid or hung longitudinally as tightly as possible to the adjacent planks. However snug these planks are installed, they alone will not keep the water out. Long, long ago, shipwrights figured out how to staunch the flow of water coming in between the planks by driving a compressible fiber into the seams and using some form of "goop" (pitch or sealant) to protect and keep those fibers in place. The materials and processes haven't changed much in the years since the War of 1812.

The first step in caulking existing seams is to "reef out" all of the old caulking, which is accomplished using a reefing hook to pull the material out of the seams. Once everything has been thoroughly cleaned of the old caulking—or the new planks have been faired in (planning the outer surface to create a smooth finish)—skilled tradespeople will first firmly drive a bead of cotton into the seam.

Cotton compresses into the seam, becoming more solid in the process. This not only fills the void but also acts as a wedge to drive the planks together. If you read any literature of the era that speaks of shipyards and caulking, you'll often read of the sounds emanating from the yard changing from dull thuds to a higher pitched ringing—a function of the entire ship getting closer to being that solid "whole."

After the cotton, a bead of oakum (a loosely spun and oily hemp fiber) is driven in above the cotton. Once the fiber portion of the caulking is complete, the final step can be accomplished: paying the seams. In 1813, the deck seams would have been payed with pitch cooked down from pine sap which then hardens when cooled. Today we use a product called Jeffery's Marine Glue, which is a synthetic version of pine pitch that behaves in much the same way. We must pay greater attention to the temperature of the melted "pitch" to ensure that it stays flexible and not brittle in the seams. Regardless of how well a ship is caulked, as soon as she slides off the ways and enters the dynamism of our lakes and oceans, entropy takes over. Mother Nature tries to turn the whole ship back into its thousands of smaller pieces of wood. With proper maintenance and operation, we can delay this for a very long time, but the first casualty from a ship "working" (the forces of nature acting upon the ship) in a seaway is almost always a leaky deck.

If you have been below deck in *Niagara* during any rain, snow melt, or washdown in the last few years, you may have noticed that water was making its way through the deck. Here in the yard, all the new hull planking will be caulked anew, and we have also undertaken to completely reef and re-caulk the entire deck. As of this blog post, the crew at Bristol Marine's Sample's Shipyard has completed 40% of the deck project and the caulking of new hull planking is well underway. Going forward, we will complete maintenance caulking every couple of years (perhaps a quarter of the deck at a time) to ensure that we abide by Rybka's Rule number one: the water stays on the outside of the ship.

Ship Modeling Helps:

Ropewalk

A three-masted sailing ship required a large variety of rope sizes, ranging from the very thick anchor cables (up to 24 inches in circumference, or about 8 inches in diameter) to the much thinner lines used for small control functions and the ratlines, with dozens of intermediate sizes for the numerous functions of the rigging.

The specific number of distinct sizes (diameters) varied by ship design, size, and era, but the different applications on a large sailing ship dictated a complex system of proportionality:

- Standing rigging (fixed lines that hold the masts in place) was typically made of thick, tarred black rope to provide strength and durability.
- Running rigging (movable lines used to hoist, lower, and control the sails) varied greatly in thickness, with heavier ropes used on the larger lower yards and progressively lighter ones higher up the masts.
- Anchor cables were among the largest lines on the ship, massively thick to secure the vessel.
- Ratlines (the small ropes tied horizontally between the shrouds to form a ladder for climbing the masts) were the smallest in diameter.
- Specialty lines included items like the "bell rope" and "tiller rope," which might have specific traditional sizes.

Instead of a single fixed number of sizes, shipwrights and boatswains would follow detailed specifications that ensured each of the hundreds of individual lines was proportional to its specific load and function.

Lees “Masting and Rigging” tables will give you the rope circumference of every line. At the scales we, ship modelers, normally work with, the only way to get exact circumferences for every line is to make your own, but there are so many that are close in size, 5 to 10 sizes would probably be more than enough depending on the vessel and scale.

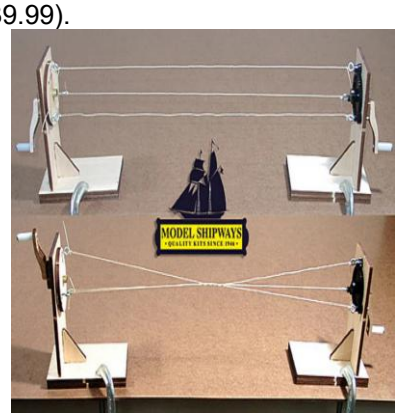
So, what is a ropewalk? A ropewalk is **a long straight narrow lane, or a covered pathway**, where long strands of material are laid before being twisted into rope.

The state of Ohio has a unique ship building history. In 1787, a group of forty veterans of the Continental Army left for the Ohio Territory and founded a wilderness settlement at the joining of the Muskingum and Ohio rivers. That settlement was called Marietta. In that group were shipwrights who started shipyards on the Muskingum River to build sailing ships that were sailed down the Ohio & Mississippi River to New Orleans and then on to their new owners on the east coast of to Europe. Due to the abundance of trees and the shipbuilding talent of the New England settlers, twenty-nine ocean going vessels were built in eight shipyards from 1800 to 1812.

With the opening of the Ohio Territory, others moved to the shores of Lake Erie to also build ships, with the first U.S. wooden steamer built at Sackett’s Harbor, NY in 1817. Shipyards were operational at Conneaut, Ashtabula, Cleveland, Lorain, Vermillion, Sandusky and Toledo. In total, over 1600 wooden steamers were built on the Great Lakes along with multiple sailing vessels..

You ask, what does this have to do with ropewalks? Rope was famously made in long, narrow buildings called ropewalks in **Xenia, Ohio**, which became a major cordage center by the Civil War, with firms like Hooven & Allison and others forming part of the National Cordage Trust, with history documented in the documentary "Ropewalk: A Cordage Engineer's Journey".

So, how do you make rope? When I built “The Lumberyard’s” POF lumber kit of the topsail’s schooner *Hannah,* drawings by Harold Hahn, back in 1998, I had an assortment of problems. 1, It would take me 14 years to finish; 2, I didn’t know what the hull would look like, so needed to carve a half-hull as a model; 3, I would need a backup supply of cherry wood, in case I made a mistake; 4, No rigging material was provided. The last was solved by a donation from a member who had recently passed and the family gave me two large, tangled hanks of yarn of a purplish color. With that, I purchased a ropewalk, shown below, from Model Shipways (paid $29.99, now listed as $39.99).



To operate the ropewalk, I clamped the right unit (black gear and turning crank) to the workbench, and while cranking held the left unit (it has a peg to hold the white crank in place), to keep the line taut. This unit was used

to make all the lines I used on the model. I started with a 6-foot strand that when done would be 3 feet in length. I made three different sized lines for standing rigging, and 5 different sized lines for running rigging.

Hannah, first ship in George Washingtons Army. At Manitowoc, Midwestern Model Ship & Boat Contest, POF, advanced category: Silver Award. I lost points from gold due to the different woods used planking the hull.

The following was printed in The Society of Nautical research "Topmast" publication, Edition # 56, November 2025

It is essential for a scratch-building model shipwright to have some way of producing individual cordage, given the huge variety of differing scales, colors and lays carried by any fully rigged ship. My ropewalk is made from bits and pieces and is now forty years old, having spun cordage for all the models and the repairs which have come my way- it has literally spun miles and miles of thread and polymer into miniature versions of the full-sized article.

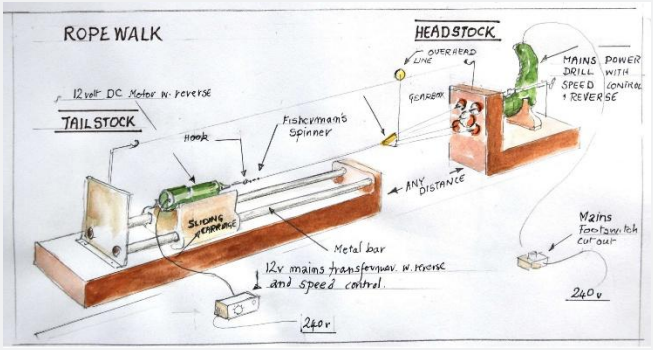


Figure 2. Sketch of Tailstock and headstock.

The first sketch of the ropewalk – the tailstock and headstock – shows the requirement needed to spin a four-stranded miniature rope. The all-important feature between the two is the sliding carriage. As rope is formed, it shortens, and without a slide it will snap. The tailstock can be set at any distance from the headstock, but I find 3 meters is ideal. The thicker the strands being used, the more the length will shorten on the slide.

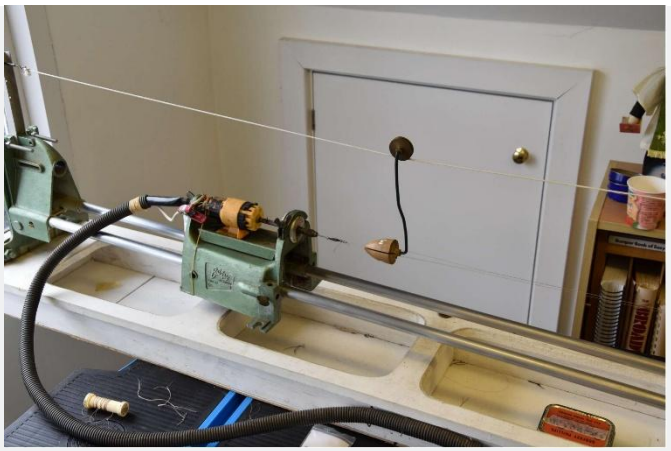


Figure 3. Tail-stock end mounted on the sliding carriage.

At the tailstock end, and mounted on the sliding carriage, is a 12volt DC motor, with a hook protruding from the chuck, linked to a fisherman's spinner. The spinner has a further hook on the lead end, to which the single strands are attached and knotted under tension. This allows the strands to be spun into one another, creating a tension which holds the rope together as it is being formed. The rotation for this comes from the headstock.

Tension is imparted using a 'top' (a sliding grooved cone) which is placed at the head of the rope, and which will slide along as the rope is formed, squeezing it together. At the same time, the carriage will be slowly moving down the guides, as the rope is shortening. I have heard it described as 'two people ringing out a wet towel.' The 'top' can be fitted with an overhead traveller wheel, but this is not essential, and more often than not, I do it by hand.

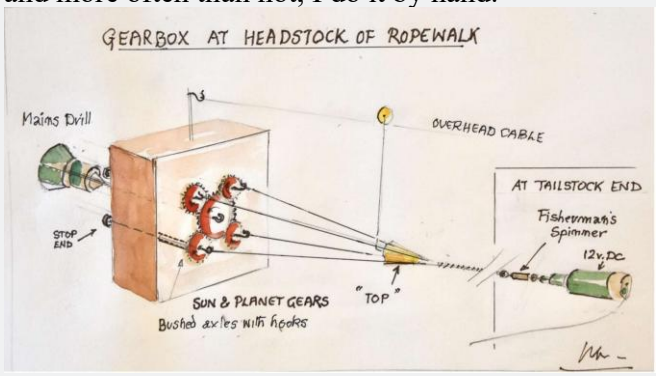


Figure 4. Sketch of Headstock for the ropewalk

In order for the ropewalk to be able to spin left-handed or right-handed cordage, the headstock power must be fitted with reverse gear, as well as adjustable speed. This is because thread and other strands are manufactured with either a left hand or right hand lay, and whichever it is, it must be spun in the opposite direction, for it to hold together.
The spin from the headstock is provided by a "Sun and Planet" gearing, where a central cogwheel has 4 planetary cogs engaged with it; with 4 cogs attached,

this gives the opportunity for 2, 3 or 4 stranded roping, or multiples of that number, and there is a big difference between how a 3 stranded rope looks as opposed to 4 stranded one.

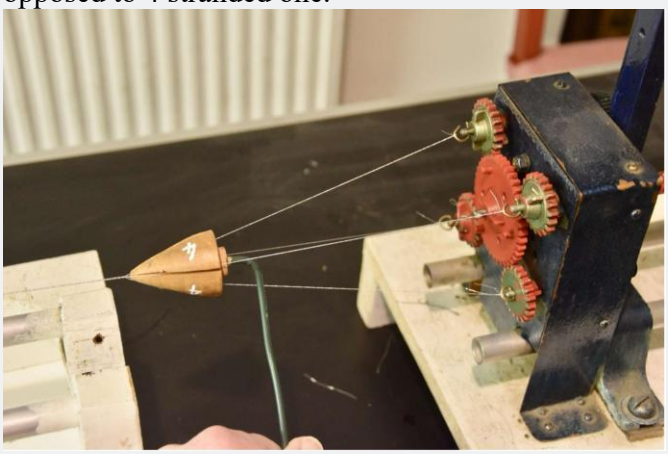


Figure 5. Gearbox components.

The cogwheels in my set up are fixed to axles, through a block of hardwood, and bushed in tubing. The driveshaft from the drill is fitted with a Huco Universal coupling, to take out any misalignment. 4 hooks are bored through the protruding axle ends, to which the strands are tied. This is the first operation in the whole process of manufacture. The strands are cut to length and then attached to the hook of the fisherman's spinner at the tail-end, knotted and then trimmed.

The sliding carriage is pushed towards the tail end, and all is tensioned in place, with the 'top' inserted into the mouth of the spinner. The headstock is put into motion, having checked the lay of the cordage, and the process of ropemaking can begin. When the 'top' reaches the headstock end, it is removed, for the second process to take place.

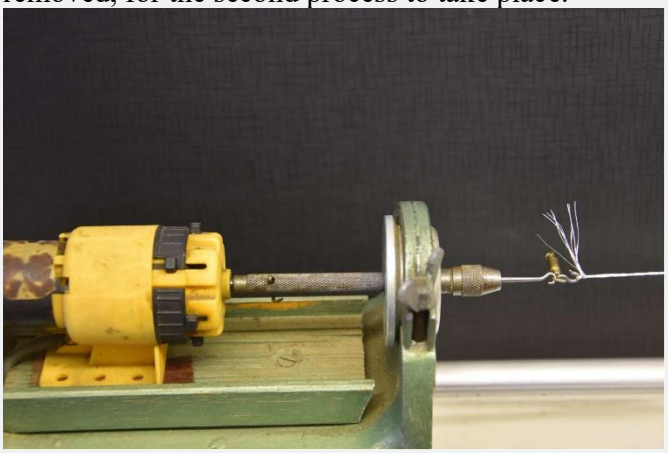


Figure 6. Rope-hardening.

Rope-hardening is the next stage and requires the spinner to be taken out of the equation in order to have direct drive from the tailstock end. This is easily done by simply joining the two hooks together which cancels the free rotation given by the spinner. The whole rope is now going to be tightened using the 12volt DC motor at the tailstock end. This will once again shorten the length of the rope by a small percentage but requires the carriage to slide once more. This procedure means that not only have the strands been turned in on each other, but the whole rope now has its own tension and gives it a look of miniature rope rather than string, and also a tension which needs to be carefully coiled if it is not to be fitted straight away. In the demonstration pics, the 'rope' is actually a polymer with aluminum added- sold as a silver thread (Gutterman's) to simulate wire rigging.

The electrical hardware requires a transformer for the 12volt DC motor; I use an old model railway one, which has speed control and reverse and I have made, for the mains powered drill, a home-made speed controller fixed to the headstock drill's trigger. The drill has a reversing feature, which is now commonplace. A footswitch for the headstock end is a necessity, because hands at this moment are otherwise busy and fully occupied.

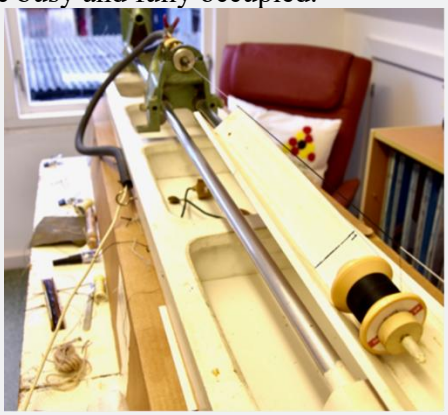


Figure 7. V Groove in parcel and serving.

The ropewalk has one further trick- it will 'parcel and serve' thread; by fitting a long "V" groove at an incline, between the headstock and tailstock, directly below the roping, it is possible to feed an external wrapping around a central core of thread either by hand or, (on a good day,) automatically.

Figure 8. Parcel and serving via model railway transformer.

This requires inserting the fisherman's spinner to the headstock end, with the drive coming from the tailstock motor. This is when it is very useful to have speed control, via the model railway transformer, because it is all a bit delicate if the wrapping starts to feedback on itself, or the tension alters the outer circumference of the serving. It is mostly well behaved, but a bit moody!

Notes:

Chatham Dockyard is, as far as I know, the only former Royal Naval dockyard in the UK, to still be making rope on a daily basis, as well as providing visitors with a first-class view and explanation of the skilled process of exactly how rope is made.

My first visit to Chatham Dockyard and the working Ropery in the 1980's, came as a deeply effective lesson. Not previously having considered or understood that it takes a shed of almost 1/3rd of a mile in length, if ropemaking in full scale is to be a profitable business on a commercial basis

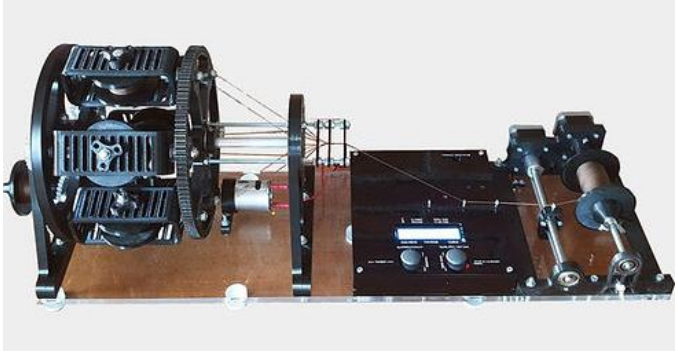
Rope for both 'standing' and 'running rigging' is essential for sailing ships, and in the UK, whole towns were given over to its production. A fine example of this is Bridport in West Dorset, whose citizens were encouraged by King John in 1213 "to make as many ropes and as many cables as you can." Bridport Museum heralds this legacy even further in history back into the 9th century.

Hemp rope itself has played it's part in construction work all over the world since time immemorial, although most of the basic material now spun is made of Manilla. The 'cave art' associated with the construction of the Egyptian pyramids depicts the ancient art. In this country (UK), monuments like Stonehenge and the many buildings of cathedrals and castles could never have been built without the use of rope, combined with 'block and tackle.' I am uncertain as to how really primitive rope was made, but it would initially have involved the use of 'hatchelling' that is to say drawing fibers of hemp though a giant comb before spinning them into 'yarn.'

Before the introduction of mechanical spinning in the 1860's, the process of spinning the yarn would have been done by hand, with a large driving wheel at the bottom of a frame, connected to a triangle of 3 hooked bobbins using a connected band of rope tensioned up to rotate the 3 hooks. The traditional domestic 'spinning wheel' works on much the same principle. In the ropery, one man would stand surrounded by a bale of hemp, teasing the fibers out, with great skill, whilst his colleague rotated the large driving wheel, to spin the fibers into yarn.

After my first visit to Chatham Dockyard, I came home and cut my original ropewalk mechanism in half, as it was a fixed 3ft in length, realizing that the distance between the driving headstock and the tailstock could be increased without any effect on the rope-making itself, saving an enormous amount of time on the 'tying up' of my threads at both ends of the machine.

If you are interested in pursuing a motorized ropewalk, Shipworkshop.com lists ropewalks between $295 to $1495. They are located in Poland.



High volume rope making machine - $1495.

Ships on Deck

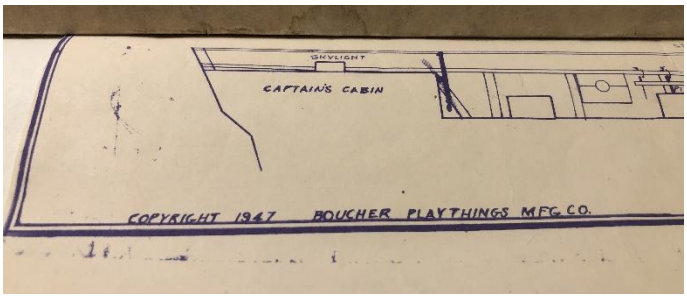
The intro photos for each ship shown before the title is for reference to what the model may look like when finished.

USS Perry

by Jeff Northup

I picked this kit up at a garage sale about 30 years ago for 5 bucks. It was manufactured by BlueJacket back when they were operating out of Shelton, Connecticut. There is no date on the kit, but the plans were copyrighted in 1947. The kit has a nicely milled solid pine hull, a few Britannia fittings and that's about it. The plans have just about turned to parchment. A fun project.

BlueJacket recently released a new, large version of the *USS Perry*.



Armed Virginia Sloop 1768

By Bill Nyberg

Two ship models on the workbench, a major research project and helping "She who must be obeyed", I realized had was not accomplishing anything. So, cleaned off the workbench and let outdoor chores languish until it was to cold to work outside, then returned to modeling.

The original kit from Lauck Street Shipyard, Inwood, WV was not to be planked. After completing the framing and adding the wales, I decided to plank the hull. Have been experiencing with plank sizes that will work at 3/8" scale. Using a base plank size of 3/8" (1' width) x 6" (20' long), I am now working on thickness of the planks, and it appears that 1/16" (2" thick) should be my planks.

Off to my mini saw and sander to make enough lumber.

C.S.S. Alabama

by Jason Smith

Progress on my *CSS Alabama* (Mamoli kit)
Finished main deck planking.

Painting outer upper hull next, then interior bulwarks.

Events & Dates to Note:

2026 Tentative Schedule

IPMS Columbus
BLIZZCON 2025, 9 am-4 pm
Makoy Center, Hilliard, OH
Saturday, February 21, 2026

Miami Valley Woodcarving Show
Christ United Methodist Church
Middletown, OH
March 6-7, 2026

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

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

2026 Photographic Ship Model Competition
NRG Sponsored
Registration opened June 15, 2026, $30 entry fee
Entries must be submitted by July 31, 2026
Winners will be announced at Annual Members Meeting

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 – Blocks & Tackles - Keller
Apr 18 –
May 16 –
Jun 20 –
Jul 18 –
Aug 15 –
Sep 19 –
Oct 17 –
Nov 21 –
Dec 19 –

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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.**

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There are currently two logo styles available:

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

Wooden Steamers on the Great Lakes

Researched & Written
By William E. Nyberg

The Gilded Age was a period in the United States from 1873 to the early 1890s, and was 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 was 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.

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 first two iron hulled vessels were bult 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.

M. C. Hawley: John Gregory, at Fort Howard, WI (south end of Green Bay) built a wooden sidewheel steamer for Thomas Hawley, of Green Bay, to be used in the passenger, package freight trade on Green Bay. Initially enrolled at Milwaukee, WI in April 1880, she was assigned official number 91228. Her measures, as recorded, were: 131.0’ x 20.0’ x 8.0’; 208.77 grt, 171.94 net. She was powered by a high-pressure engine, 23 ½” bore x 30" stroke, 275 horsepower, built by Eagle Iron Works, Fort Howard, WI. Steam was generated by a firebox boiler, 6'10" x 17', 85-pound steam, also built at Fort Howard, WI.

Ownership of the sidewheel steamer *M. C. Hawley* was changed in 1882 to McCormick & Co., Milwaukee, WI. The sidewheel steamer *M. C. Hawley* was renamed to *City of Green Bay* and her enrolment updated in June 1864 at Milwaukee.

In August 1885, ownership of the sidewheel steamer *City of Green Bay* was transferred to McCormick et al, & Thomas Hawley.

In October 1885, ownership of the sidewheel steamer *City of Green Bay* reverted back to Thomas Hawley. The sidewheel steamer *City of Green Bay* upper works were destroyed by fire at Green Bay, in November 1887. The vessel was valued at $18,000 and insured for $11,000. She was rebuilt at Manitowoc, WI and converted from a sidewheel steamer to propeller and her registry measures changed at Milwaukee, to: 134’ x 28.0’ x 7.5’; 257 grt, 178 net.

In 1891, ownership of the propeller *City of Green Bay* was changed to Haspold of Chicago. She ran between Lake Michigan and Lake Superior. June 1892, her registry tonnage was changed at Marquette, MI to: 198.74 grt, 121.73 net.

Ownership of the propeller *City of Green Bay* was changed in April 1893, to J. D. Lundquist, Marinette, WI. Her registry tonnage was changed to: 257.23 grt, 178.78 net.

Ownership of the propeller *City of Green Bay* was changed in 1898 to Booth P. Co., Chicago, IL.

In 1902, ownership of the propeller *City of Green Bay* was changed to P. C. Maloney, Green Bay, WI.

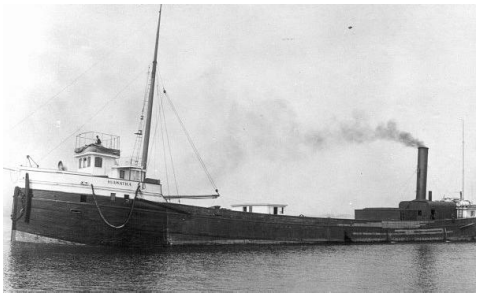
The following year, 1903, ownership of the propeller *City of Green Bay* was changed to M. & P. Transportation Co., Green Bay, WI. Her master for the 1904 & 1905 seasons was Captain P.S. Ranlett with Jule Schram in 1904, and James Prevost in 1905 as chief engineer.

In 1905, ownership of the propeller *City of Green Bay* was changed to Harts Steamship Line, W. P. Schilling et al, investors.

Ownership of the propeller *City of Green Bay* was changed in 1908 to Green Bay Transit Co. In

September of 1908, the propeller *City of Green Bay* was converted to a dredge at Bay City, MI and her measures changed at Port Huron, MI: 134' x 22.58' x 7'; 208 grt, 142 net. In August of the following year, 1909, the dredge *City of Green Bay* caught fire while crossing Saginaw Bay and burned to the waterline sinking off Sandstone Point (or Whistler's Point), Saginaw Bay. No lives lost.

The final enrollment for the *City of Green Bay* was surrendered at Port Huron, MI, August 24, 1909, and endorsed "vessel lost".



Hiawatha: Craig & Linn, at Gibraltar, MI, built a wooden propeller for the Wilson Transit Co., Thomas Wilson, Cleveland, OH; et al. Launched in June 1880, her first enrollment was issued at Detroit, in July 1880, when she was issued her official number 95600. Her measures as recorded were: 234.5' x 36.1' x 19.75': 1398.72 grt, 1159.90 net. She was powered by a low-pressure engine, 36", 36" bore x 44" stroke built by Detroit Dry Dock Co., Detroit. She was built for the bulk freight trade. Towing the barge *Minnehaha* (91220) in the ore trade, she ran between Duluth, MN and Lake Erie ports. In 1885, the propeller *Hiawatha* ran in the bulk grain trade between Duluth, MN and Buffalo, NY.

In March 1887, ownership of the propeller *Hiawatha* was changed to: Wellington R. Burk, ½ share, E. Saginaw, MI; Martha A. Simpson, ¼ share; and Charles H. Lane, ¼ share, both from Buffalo, NY. She ran in the Saginaw ore trade between Two harbors, WI and the lower lakes. In September 1889, she was disabled at Sailor's Encampment and required a tow by the tug *Winslow* (26243) from Sault saint Marie to Detroit for repairs. Also in 1889, the *Hiawatha* received two Scotch boilers, 12' x 12,6' at 125 # steam; and a fore & aft compound engine, 25" + 50" x 46", .750 hp at 85rpm, built by Frontier Iron Works

In April 1890, ownership of the propeller *Hiawatha* was transferred to Martha A. Simpson, ½ share; and Charles H. Lane, ½ share; both from Buffalo, NY. In 1891, the *Hiawatha* went ashore near detour, MI. Released.

In March 1892, ownership of the propeller *Hiawatha* was changed to J.C. Gilchrist, Vermilion, OH; et al.

In March 1897, ownership of the propeller *Hiawatha* was transferred to Lake Shore Transit Co. Vermilion, OH. She towed the schooner barge *S.L. Watson* (115270) and the wooden canalboat *J.L. Crosthwaite.*

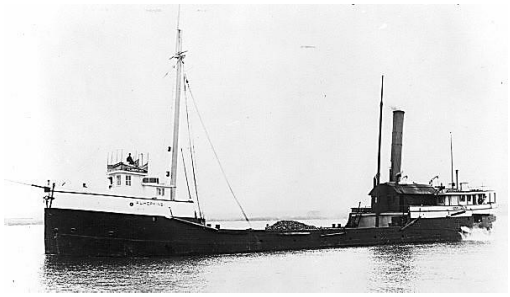
In April 1903, ownership of the propeller *Hiawatha* was transferred to Gilchrist Transportation Co. Mentor, OH. In August 1905, the *Hiawatha* was damaged by fire while at Duluth, MN. Her masters were: 1906 season; Captain George Dupuie; 1908 season; Captain R.H. Sturbridge.

The propeller *Hiawatha* was sold Canadian in 1913, to Cabotia Steam Ship Co. Montreal, Que. The *Hiawatha's* US certificate was surrendered March 06, 1913. She was registered Canadian as *Cabotia*, (133825) with Canadian measures of: 243.42' x 35.5' x 19.5'; 1530 grt, 932 net.

Canadian register shows that ownership of the propeller *Cabotia* was changed to the Canadian Shipping Co., Montreal. In 1916. Master of the propeller *Cabotia* for the 1917 season was Captain Robert Laing with Ferguson as chief engineer. In October 1917, the propeller *Cabotia* collided with the Belgian steamer *Tunisia* on the Saint Lawrence River, near Montreal, P.Q.

Ownership of the propeller *Cabotia* was changed in 1918, to the George Hall Coal & Transportation Co.
Master of the propeller *Cabotia* was Captain O.V. Percival with Albert Theriault in 1918, and N. Hamelin in 1919 as chief engineers. In August 1919, the propeller *Cabotia* went ashore on Main Duck Islands, Lake Ontario. She split her hull and became a constructive total loss.

Ownership was changed to Donnelly Salvage & Wrecking Co. The hull was salvaged, laid up in Kingston, ONT and then condemned and abandoned in 1921.



A. L. Hopkins: Morley & Hill, at Marine City, MI, built a wooden propeller for the package freight trade. She was enrolled in Detroit in October 1890, when her measures were recorded as: 170.66' x 32.33' x 12.16'; 756.86 grt, 640.00 net. She was assigned official number 105937. Her engine came from the steamer *Merchant* (16332) that was wrecked at Racine, WI in 1875. It was a low-pressure engine, with a 40" bore x 36" stroke built by David Bell Iron Works, Buffalo, NY, 600 horsepower. Steam was generated by a firebox boiler 9' 4" x 16', 60 pounds steam, built by Desotelle & Hutton, Detroit, MI. Her original owners were John J. Morley, ¼ share, Rochester, NY; William B. Morley, ¼ share, Marine City, MI; et al.
The package freighter *A. L. Hopkins* was built for package freight trade.

Ownership of the package freighter *A. L. Hopkins* was changed in April 1881, to the Wabash, Pacific, & St. Louis Railway Co. For the 1882 & 83 seasons, she ran between Toledo and Buffalo in the

grain trade. In September 1884, the package freighter *A.L. Hopkins,* with a cargo of wheat, ran aground at Toledo, OH, Lake Erie. Released. Her chief engineer for the 1885 season was Eugene Passano. In May 1885, the package freighter *A.L. Hopkins* collided with the schooner *Homer D. Alverson* (95847) on the southwest bend of the Saint Clair River, damaging her starboard side.

In April 1886, the package freighter *A.L. Hopkins* was sold at auction to the Ogdensburg & Lake Champlain Railroad Co.

Ownership of the package freighter *A.L. Hopkins* was changed in January 1890, to the Lake Erie Transportation Co. Munroe, MI. Masters of the package freighter *A.L. Hopkins* were Captain Francis M. Stenton (1891 season), Captain Thomas C. Herrick (1891-93 seasons), with Charles Rice in 1893 as chief engineer.

In early in March 1893, ownership of the package freighter *A.L. Hopkins* was changed to Michael J. Galvin, Buffalo, NY

Later that same month, March 1893, ownership of the package freighter *A.L. Hopkins* was changed to: William Hayden, 10/24 share; J. Root, 5/24 share; Isabella Bills, 3/24 share; E.D. Chilson, 3/24 share; John J. Freeman, 3/24 share; all Tecumseh, MI. Master of the *A.L. Hopkins* was Captain Charles L. Chilson (1893-98 seasons) with Lawrence D. Weeks in 1895, as chief engineer. During the 1893 season, the *A.L. Hopkins* towed the schooner barge *Edward Kelly* (8997), as well as during the 1898 & 99 seasons.

In February 1896, ownership of the package freighter *A.L. Hopkins* was transferred to: Tecumseh State Savings Bank, Tecumseh, 10/24 share; J. Root, 5/24 share; Isabella Bills, 3/24 share; E.D. Chilson, 3/24 share; and John J. Freeman, 3/24 share; all from Tecumseh, MI.

In January 1899, ownership of the package freighter *A.L. Hopkins* was changed to: Joseph H. Smith, Charles A. Slayton, Trustees, Tecumseh, MI.

In June 1899, ownership of the package freighter *A.L. Hopkins* was changed to: P.W.A. Fitzsimmons, Tecumseh, MI. The package freighter *A.L. Hopkins* was rebuilt at Toledo OH and her registry measures changed in July 1893 to: 174' x 31.42' x 12'; 639 grt, 500 net.

In April 1901, ownership of the package freighter *A.L. Hopkins* was changed to: Norman D. Carpenter, 3/8 share, Detroit; Lillian A. Smith, 3/8 share, Ecorse, MI; and James McLarty, ¼ share, Detroit. Master of the package freighter *A.L. Hopkins* was Captain James McLarth (1901 season) with William Naugh as chief engineer.

In March 1902, ownership of the package freighter *A.L. Hopkins* was transferred to: Norman D. Carpenter, 5/8 share, Detroit; Lillian A. Smith, Ecorse, MI, 3/8 share. Master of the package freighter *A.L. Hopkins* was Captain D.R. Parsons (1902 season), Laurence D. Brown (1902-03) as chief engineer.

In April 1903, ownership of the package freighter *A.L. Hopkins* was changed to: John Dorrington, Detroit, MI. Her master for the 1903 season was Captain John Dorrington with Laurence D. Brown as chief engineer.

Ownership of the package freighter *A.L. Hopkins* was changed in June 1904, to: Norman D. Carpenter, Detroit, MI

Masters of the package freighter *A.L. Hopkins* were Captain L.E. King (season 1905), Captain James Cassin (1906) with Anton S. Zeitler as chief engineer.

March 1907, ownership of the package freighter *A.L. Hopkins* was changed to: Lawrence Brown, Chaumont, NY ½ share; and Alfred Dixon, Cleveland ½ share. Master of the package freighter *A.L. Hopkins* was Captain Alfred Dixon (1907-09, 1911 seasons) with Laurence D. Brown (1907-08, 1911) as chief engineer. In June 1910, the package freighter *A.L. Hopkins* was struck and disabled by the *Syracuse* (116025) near the Southwest Shoal, Lake Erie. The *Syracuse* took the *Hopkins* in tow. Repaired. In October 1911, the *A.L. Hopkins,* loaded with lumber, became waterlogged, and was abandoned by her crew, 16 miles northeast by east from Michigan Island MI, off Ontonagon, MI, Lake Superior. The vessel, a derelict, floated in the path of other vessels before she finally sank 60 miles off Michigan in Lake Superior. The crew of twelve were rescued by *Alva C. Dinkey* (206090).

Final enrollment for the package freighter *A.L. Hopkins* was surrendered at Detroit, Mi, December 3, 1911.

Huntress: Built as a private, wooden steam yacht, by Union Dry Dock Co., Buffalo, for Captain Jacob Imson, also from Buffalo. She was enrolled at Buffalo, in July 1880, and her measures recorded as: 109.0' x 18.0' x 6.2'; 114.79 grt, 79.65 net. She was assigned official number 95608. Her engine is unknown.

Ownership of the propeller *Huntress* was changed, in May 1883, to Captain J. M. Mitchell et al, South Haven, MI. She would run in the passenger, package freight trade between South Haven, MI and Chicago, IL. In October that same year, the *Huntress* was seized to satisfy a mortgage debt of $17,000 held by Captain Imson.

In November 1883, the propeller *Huntress* was sold at auction to Captain Imson for $10,000. In June 1884,

the propeller *Huntress,* with a 300-passenger capacity, was chartered to Buffalo & Lake Erie Excursion Co. for summer excursions out of Buffalo, NY. Masters of the propeller *Huntress* were Captain Horace Bedell (1884 season), and Captain Booth (1886 season).

Ownership of the propeller *Huntress* was changed in 1897, to W. H. Johnson, Buffalo, NY. In

1909, the propeller *Huntress* was abandoned at Buffalo, NY.

Final enrollment for the propeller *Huntress* was surrendered at Buffalo, NY, December 3, 1909, and endorsed “abandoned”.

Iron Age: Detroit Dry Dock Co., at Detroit, converted hull # 00037 into a wooden bulk freighter, with the help of master carpenter; A. McVittie. Assigned official number 100256 at enrollment in April 1880, her measures were recorded as: 116.0’ x 34.0’ x 16.33’; 859.46 grt, 712.0 net. The bulk freighter *Iron Age* was powered by a: Low Pressure engine, 42” bore x 32” stroke; listed as engine #91 built by Dry Dock Engine Works, Detroit, in 1880. Steam was generated by a Scotch boiler, 13’ x 11’, 110 pounds steam, also built by Dry Dock Engine Works, Detroit, in 1880. Her original owner was Detroit Transportation Co., Detroit MI. For the 1880 season, her master was Captain James W. Miller with E.C. Miller as chief engineer. In July of her first year, she went aground in Lake Superior. Released. In April 1883, the propeller *Iron Age* was carried down by ice, to the dumping ground, at Buffalo. 2,000 bushels were lightered off by canal boats. Her master for the 1884 season was Captain George Miner. In September 1886, the propeller *Iron Age* stranded on a reef near Hyde Park reef, Lake Michigan. Released. During winter layup, 1886/87, the *Iron Age* was lengthened to 48 feet at Detroit, MI. Her new registered measures were recorded in April 1887: 226’ x 34.4’ x 16.8’; 1114 grt. In October 1889, the propeller *Iron Age* stranded near Topsail Island Shoal, Sault Ste. Marie, Released. Her master for the 1890 season was Capt. W. W. Carter. In 1896, the *Iron Age* was reboilered, 12.5’ x 11.5’ scotch boiler, 125 pounds steam built by Dry Dock Engine Works, Detroit, MI. Master of the propeller *Iron Age* for the 1895 & 96 seasons was Captain John Phelan. In August 1898, the propeller *Iron Age* had her bed plate broken and nearly all her machinery battered. Her engine was replaced by a steeple compound, 24”, 44” bore x 32” stroke, 485 horsepower, compounded by Dry Dock Engine Works.

In May 1899, the propeller *Iron Age* went ashore at Port Colbourne, Ont. Released.

In July 1899, due to the difficulty to charter vessels to transport ore, the ownership of the propeller *Iron Age* and 10 other bulk carriers were sold to Corrigan, McKinney & Co., James Corrigan, Trustee, Wickliffe, OH. Masters and chief engineers of the propeller *Iron Age* by season, were: 1899 - Captain John McAlpine; with John W. Deitsch; 1900 - Captain J.A. Nicolson with Fred Craig; 1901 - Captain David Hutcheson with Fred Craig; 1902 - Captain F.B. Chilson with J. Callan; 1903 - Captain U.S. Cody with Michael Callan; 1904 - Captain Thomas J. Brady with James Southgate; 1905 - Captain J.H. McCormick with E. Woodhall and 1906 - Captain John C. Hays with M. Good as chief engineers

. In January 1907, ownership of the *Iron Age* was changed to W.J. Willoughby, ½ share; and Richard Baxter, ½ share, both from Willoughby, OH. Masters of the *Iron Age* for the 1907 & 08 seasons were: Captain Charles Willows and Captain W.J. Willoughby with Richard Baxter as chief engineer. In June 1909, the propeller *Iron Age* caught fire and burned to the water’s edge, eight miles SSE below Bar Point in the Detroit River. No lives lost. The hulk was later dynamited as a hazard to navigation.

Final enrollment for the propeller *Iron Age* was surrendered at Cleveland, OH, June 14, 1909.

Keystone: Originally built and launched as the bark *Bridgewater* (2109) in 1866, built by Hitchcock & Gibson, Buffalo, NY, and abandoned after stranding on Waugoshance Point, Lake Michigan in 1878.

She was salvaged and rebuilt as the barge *Keystone* (U2109) at Buffalo, in 1880, by George F. Williams, as master carpenter, and enrolled at Buffalo in November 1880, with measures: 169.1’ x 34.4’ x 11.3’; 554.76 grt. Her official number was 14452 and her owner was Jas. S. Duncan, Oscoda, MI. In November 1880, the barge *Keystone* was blown ashore in a gale at Buffalo, NY. Her hull was damaged and her back broken. She was rebuilt as a screw bulk freighter and her enrollment register updated in July 1883 to: 1 deck, 3 masts, 163.9 x 34.4 x 11.3, 524.22 grt, 435.95 net. Engine unknown.

Ownership of the bulk freighter *Keystone* was changed, in May 1884, to George L. Colwell, Harrisville, MI. She towed the barkentine *Joshep G. Masten* (13750).

Ownership of the bulk freighter *Keystone* was changed to Thomas Axworthy, Cleveland, OH. She was readmeasured and her enrollment updated in April 1887 to: 2 decks, 3 masts, 722.54 grt, 654.27 net.

In March 1889, ownership of the bulk freighter *Keystone* was changed to F.B. Case, et al, Norwalk, OH. October 1891, the bulk freighter *Keystone* with schooner barge *Potomac* (19618) in tow, both laden with coal, went aground in low water at Racine, WI, Lake Michigan. Released. Master of the *Keystone* was Captain Carlton Graves from 1892 to 1898, who was a part owner in the

bulk freighter, with Charles E. Ager as chief engineer in 1896. In June 1894, she struck the dock at Perry's Coal Dock, Sault Ste, Marie, damaging her bow.

Ownership of the bulk freighter *Keystone* was changed in April 1895 to Frank C. Goodman, et al, Cleveland, OH.

In March 1898, ownership of the bulk freighter *Keystone* was changed to National Bank of Commerce, 17/20 share, Cleveland, OH; et al. In September 1898, battling a northwest gale, the bulk freighter *Keystone,* laden with coal, went ashore on Big Summer Island, Green Bay, Lake Michigan, caught fire and burned to a total loss.

Final enrollment was surrendered September 27, 1898.

Thomson Kingsford: J.E. Riley, at Oswego, NY, built a steambarge for J. K. Post et al, Oswego, NY, for use in the package freight trade. She was enrolled, June 1880, at Oswego, NY to operate in the Lake Ontario lumber trade. Her measures were recorded as: 116.2' x 23.0' x 9.1'; 238.41 grt. She was powered by an engine taken from the steamer *S.S. Ellsworth* (23796), high pressure, 90 horsepower. She was assigned official number 145223.

Ownership of the steambarge *Thomson Kingsford* was transferred to Caroline N. Mattoon, Oswego, NY in 1880. In July of 1880, the steambarge *Thomson Kingsford* went aground on Featherbed Shoal, between Cape Vincent and Carleton Island, Lake Ontario. Released. In September of that same year, the steambarge *Thomson Kingsford,* laden with grain, went aground at Brockville, Saint Lawrence River. Released.

Ownership of the steambarge *Thomson Kingsford* was changed in April 1881, to J.K. Post; J. H. Mattoon; O.F. Gaylord; and W.A. McCarthy; all from Oswego, NY. In September 1881, the steambarge *Thomson Kingsford* broke her moorings at Wellington, Ont., during a storm, and sank in six feet of water after some pounding. Her cargo of barley, for Morton of Owego, NY, was partially wet. She was pumped out, raised, and taken to Owego for repairs. Tonnage for the steambarge *Thomson Kingsford* was altered: 184.57 grt, 132.41 net.

Ownership of the steambarge *Thomson Kingsford* was transferred in 1882, to J.K. Post; J.H. Mattoon; O.F. Gaylord; and S. Hohmann; all from Oswego, NY. In August 1882, the steambarge *Thomson Kingsford,* loaded with lumber, was struck by the steambarge *Saxon* (71098), light, at Belleville, Ont., Lake Ontario, and sank. She was raised and repaired. No lives lost.

April 1885, ownership of the steambarge *Thomson Kingsford* was changed to Henry J. Pauly, Milwaukee, WI.

June 1885, ownership of the steambarge *Thomson Kingsford* was changed to John H. Pauly, Milwaukee, WI. I July her enrollment was updated when her name was changed to *John H. Pauly.* Later that same year, the steambarge *John H. Pauly* stranded in Lake Michigan. Released. Damage loss set at $1,500. Before the start of the 1886 season, the steambarge *John H. Pauly* had her engine rebuilt as a steeple compound, 14', 26' bore x 72" stroke. 250 horsepower. She also received a Love & Schofield firebox boiler 6' 6" x 13', 100 pounds steam.

April 1888, ownership of the steambarge *John H. Pauly* was changed to Hiram E. Staples et al, Whitehall, MI.

March 1889, ownership of the steambarge *John H. Pauly* was changed to P.D. Campbell et al, Whitehall, MI.

June 1892, ownership of the steambarge *John H. Pauly* was changed to L.W. Cook et al, Algonac, MI.

April 1896, ownership of the steambarge *John H. Pauly* was changed to John Stevenson, Detroit, MI. Masters of the steambarge *John H. Pauly* were: Captain George C. Burns (1896 season); Captain Fred D. Forrest (1898 season); and Captain George Ferguson (1899-1900 seasons); with William Westbrook (1896-98) and Milo O. Roach (1899-1900) as chief engineers.

Ownership of the steambarge *John H. Pauly* was changed in 1900, to Charles W. Kotcher, Detroit, MI. Masters of the steambarge *John H. Pauly* were Captain A.H. Shafer (1902-05 season), Captain J. Marsbero (1906 season) with Edward Gifford (1902), H. Hisloh (1904) and John Smith (1905) as chief engineers. In August 1906, the steambarge *John H. Pauly* caught fire at Sickens stave dock, Marine City, MI and drifted down the St. Clair River before beaching two miles south of Marine City, MI. at Port Lambton, Ont., where she burned to the water's edge. Declared a total loss. No lives lost. Final enrollment for the steambarge *John H. Pauly* was surrendered at Detroit, February 28, 1907. Endorsed "vessel lost by fire".

Lycoming: F.W. Wheeler & Co., West Bay City, MI; with Francis N. Jones, as master carpenter, built a wooden propeller for the Anchor Line of the Erie & Western Transportation Co., Erie, PA, to be used in the package freight trade. In August 1880, the propeller *Lycoming*

was enrolled at Port Huron, MI, with her measures recorded as: 251.0' x 36.0' x 15.25'; 1609.53 grt, 1423.45 net. Her official number issued was: 140416. The propeller *Lycoming* was powered by a Steeple Compound engine, 26", 54" bore X 36' stroke, 500 horsepower, built by H.G. Trout, Buffalo, NY. Steam was generated by a scotch boiler, 11' 6" x 11' 7", 100 pounds steam, built by M. Riter & Co., Buffalo. In July 1883, Lycoming collided with the schooner *Elbe* (7519) at the mouth of the Milwaukee harbor, requiring a tow into the harbor. In October of the same year, the *Lycoming* went aground off Peche Island in the Detroit River. Released. Master of the *Lycoming* for the 1886 to 89 seasons, was Captain Joseph Corcoran with Henry L. Miller (1883-85), and William Meade (1886-88), as chief engineers. In September 1887, the propeller *Lycoming* went aground on the head of Stag Island, Saint Clair River. She required her cargo to be lighter to release her. In May 1891, the *Lycoming* twisted and damaged her stem at Chicago. Repaired. Masters of the *Lycoming* were Captain R.A. Wright (1899-1901 seasons), Captain John H. McAvoy (1902) and Captain Moses Boggen (1903-04) with Alex J. Jones (1899-1900), Fredrick Rehbaum Jr. (1901), Charles Allender (1902-03) and Edward Stevenson (1904) as chief engineers.

In April 1905, ownership of the propeller *Lycoming* was changed to the Great Lakes Engineering Works, Ecorse, MI.

In February 1906, ownership of the propeller *Lycoming* was changed to James O'Connor, Tonawanda, NY. He had her rebuilt by Buffalo Dry Dock Co, Buffalo, where she was converted for use in the bulk lumber freight trade. The upper decks were cut down leaving her distinctive arches exposed. When completed, her capacity to carry lumber had been increased to nearly 1,200,000 feet of lumber. Her consort in the lumber trade was the schooner barge *Melvin S. Bacon* (90657). Her enrolled tonnage was updated in April 1906, for the *Lycoming* to 1448 grt, 1119 net. Master of the *Lycoming* was Captain William J. Hayes (1906) with Lawrence Brown (1906) as chief engineer.

Ownership of the propeller *Lycoming* was transferred, in January 1907, to James O'Connor, 9/10 shares, Tonawanda, NY; Lawrence Brown, 1/10 shares, Chaumont, NY.

In March 1907, ownership of the propeller *Lycoming* was transferred back to James O'Connor, Tonawanda, NY.

Masters of the propeller *Lycoming* were Captain F. McCann (1907) and Captain William J. Hayes (1908-10) with Adelbert Rhodes (1907-08) and Joseph Hemmett (1910) as chief engineers.

In October 1910, up bound, the propeller *Lycoming,* laden with a cargo of coal and towing the schooner *Emma G. Hutchinson* (8900), was caught in a storm on Lake Erie and while trying to reach the safety of the harbor at Rondeau, Ont, struck the west pier at the entrance, caught fire and burned to water's edge. The vessel sank and was declared a total loss. No lives lost.

The hull was raised by the Hackett Wrecking Company, Amherstburg, NY in May 1911.

Manitoulin: John Simpson, at Owen Sound, Ont., built a wooden propeller for the Great Northern Transit Company, Collingwood, Ont., to be used in the passenger, package freight trade on Georgian Bay between Collingwood and Sault Ste, Marie. Her initial enrollment at Collingwood, Ont. recorded her measures as: 152.0' x 30.36' x 11.4'; 705.88 grt, 480.0 net. Her official number assigned was C71189. She was powered by an inverted vertical direct-acting engine, from the *America* (built Canadian 1863), built by George M. Oille & Co. and rebuilt by George Corbet & Co., Owen Sound, Ont.; 30" bore x 34" stroke, 75 horsepower. Steam was generated by a 8' x 22' boiler. Master of the propeller *Manitoulin* was Captain Peter McNab (1880) with William Bell (1880) as chief engineer. Down bound in October 1881, the propeller *Manitoulin* heard the call of distress from the propeller *City of Owen Sound* (C71181), which had gone on the rocks ten miles off Gore Bay. 6,000 bushels of wheat were transferred to the *Manitoulin,* and another 2,000 bushels were cast over board before the *City of Owen Sound* was cast free. The rudder of the *City* was jammed and the *Manitoulin* towed her into Gore Bay. Master of the propeller *Manitoulin* was Captain Neil "Black Pete" Campbell (1882) with William M. Lockerbie (1882) as chief engineer. Bound down from Michipicoten Island, Ont. Lake Superior for Algoma Mills, Ont., Lake Huron, in May 1882, with general freight and passengers, the propeller *Manitoulin* approaching Shoal Point, four mile off Manitowaning, when a lamp exploded in the engine room and the vessel caught fire. The captain ran her ashore allowing some of the passengers and crew to escape. The *Manitoulin* burned to the water's edge, then sank. At least fourteen lives were lost.

In June 1882, the burned-out hulk of the propeller *Manitoulin* was raised and towed to Owen Sound dry dock to be rebuilt. Rebuilt by John Simpson and launched as the *Atlantic*, she was enrolled at Collingwood, Ont. October 04, 1883 and given official number C85491 with measures: 147' x 30' x 11'; 682.63 grt, 441.69 net; steeple compound engine: 21", 36' bore x 32" stroke built by Doty Engine Works, Toronto, Ont. with a firebox boiler 8' x 18' 1", 55 pounds steam. Masters of the propeller *Atlantic* were Captain P. M. Campbell (1883), and Captain James Wilson (1883).

In April 1889, the Great Northern Transit Co. and the North Shore Navigation Co. merged into the Northern Navigation Co. Ltd. The propeller *Atlantic* was

placed in the Collingwood to Sault Ste. Marie run. Masters of the propeller *Atlantic* were Captain James Wilson (1895 – 1901) and Captain Fred G. Moles (1903) with J. Aston (1896), Fred Cleland (1898-1901) and D. McLoed (1902-03) as chief engineers. In July 1903, the propeller *Atlantic* stranded on Topsail Island near the Soo. Released. In November 1903, bound for Bying Inlet with lumber camp supplies, the propeller *Atlantic* was caught in a 60-mph gale, sprang a leak and took refuge on the lee side of Pancake Island. It was discovered that a fire had broken out and the vessel was destroyed. sinking. No lives lost.

Albert Miller: James Bowers, at Algonac, MI, built a wooden propeller, steambarge, for Abraham & J. A. Smith, Algonac, MI. Enrolled at Port Huron, August 1880, her recorded measures were: 141.1' x 26.0' x 9.8'; 283.91 grt. Her official number was 105930. The steambarge *Albert Miller* was built for the bulk freight lumber trade. She had the capacity for 275,000 feet of lumber. Chief engineer for the steambarge *Albert Miller* was Thomas J. McDonald (1880-82).

In May 1881, ownership of the steambarge *Albert Miller* was changed to Michael Englemann, Manistee, MI. The steambarges enrollment was transferred to Grand Haven, MI. She ran Manistee MI to Chicago, IL in the lumber trade. In August 1881, bound Manistee, MI for Chicago, IL, the steambarge *Albert Miller,* laden with 300,000 feet of lumber, when abreast Big Sable Point, MI, Lake Michigan, caught fire from her boiler and was run ashore on Big Sable Point where she burned to the water's edge. Total loss. 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 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 harbor 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.

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: 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.)