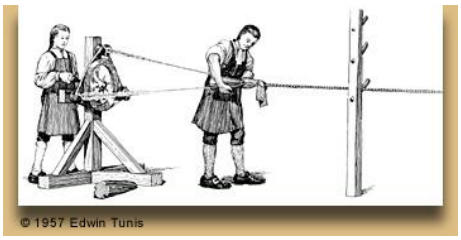


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969). Used by permission of the estate of Edwin Tunis.

Ropewalk

The Newsletter for
Shipwrights of Ohio – December 2023

Next Meeting: January 20, 2024;
***"CAD, 3D Printing"* by Julie Holloway**

Table of Contents

Wishing you and your family a very
Merry Christmas
and a
Happy New Year.

December

Wishing you and yours, a very Merry Christmas.

Sorry about canceling the December meeting. Woke up Tuesday morning with the right eye lid red and swollen. Wednesday the left eye lid was red and swollen. Doctor, diagnosed a bacterial infection, probably picked up when running errands to the post office, Giant Eagle or Starbucks - touched something and then rubbed my eye. Saturday morning to ER for eye pain, Monday to an eye surgeon. You know, growing old is so much fun!

We have two needs that are listed below: "Presenters for the 2024 meetings", and "2024 dues". Lee has added an additional way for you to pay your dues. Check it out.

If you have not responded, contact Bob or Lee. Their phone numbers can be found between the "Events & Dates" and the "Cargo Hold".

The planned presentation for December was to be "Mast and Yard Making". I have included it below – words and photos.

Also, find under "Other Notes:" a copy of an announcement sent to me by the UK "Society of Nautical Research" about a new podcast "Filming The World's Best Ship Models: Stockholm". Enjoy.

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

Your editor.

Welcome:

Shipwrights of Ohio - Reminders

As a ship modeling club, there are still two things that you need to attend to, if you have not done so yet.

Presentation schedule planning for 2024

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

He is in the process of recruiting presenters to do the research, and presentation development and present the topic at a 2024 meeting. The open topics are: "UV Resin Modeling", "Display Cases", "Planking", "Carving", "Small Boats", and Weathering Models".

Here is your chance to extend your knowledge and help your fellow shipwrights in their craft. We may have your topic on file as a past presentation topic.

You can find the 2024 presentation schedule on page 9 of this newsletter.

Dues collection for 2024

It is that time of the year again. The club dues for 2024 will be $20. We have four ways you may pay.

1. Cash, paid to Lee Kimmins in-person.
2. Check, made out to "Shipwrights of Ohio" and mailed to: Shipwrights of Ohio, 5298 Timberlake Circle, Orient Ohio 43146.
3. Down load an app called "Venmo". Follow the instructions to set up an ID and Password. It will ask you to link it to your bank account number. To make payment go to payment and enter ID: Lee kimmins@shipbuilder Password: Shipwright22! It will transfer money from your account to Shipwrights account.
4. If you bank with Chase Bank or another bank that has an account "Make payments thru Zello". Follow the instructions and make a payment to "Lee Kimmins" - email address "Lkimmins@columbus.rr.com".
5. If your bank setup has Zello you can send it direct payment to Huntington bank to our new Zello account instead of sending it to me.
    a. Open up your Zello account thru your bank. Use the following phone number 614 378 9344 and use name CK1540.
    b. It will then ask you "if the payment is for "Shipwrights of Central Ohio".
    c. Answer ok and set up your payment.

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

Presentation

Mast & Spar Making

by Bill Nyberg

The following information comes from: Steeles "Elements of Mastmaking, Sailmaking and Rigging"; Underhill's "Masting and Rigging"; Mondfeld's "Historic Ship Models"; NRG's "Ship Modeler's Shop Notes"; and personal experience scratch building the POF Marblehead Topsail Schooner "*Hannah* of 1776".

Mast and yard making follow the same three steps when you are building them from scratch:

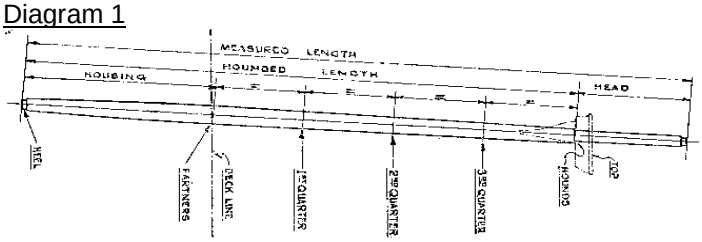
1. Determine the dimensions and taper;
2. Cut or form the taper to the dimensions;
3. Sand/finish the item.

Before we get into how to carve a mast or yard let's cover some technical information:

Wooden ships – Mast diameters are given at seven points along the length of the mast (see diagram 1 below.) They are:

- Heel, Partners, 1st Quarter, 2nd Quarter, 3rd Quarter, Hounds and Head.
- Partner: the point where the mast projects through the main deck. Provides the basic diameter from which all other diameters are calculated
    - Heel – 6/7 of the partner at the heel tenon.
    - Partner - the point where the mast projects through the main deck. Provides the basic diameter from which all other diameters are calculated – 61/61
    - 1st Q - 60/61,
    - 2nd Q – 14/15,
    - 3rd Q - 6/7,
    - Hounds – '3/4,
    - Head – 5/8, at the mast cap tenon.

Diagram 1



Mast lengths (Shown in Diagram 1)

- Measured Length – full length from heel tenon to mast cap tenon
- Hounded Length – from heel tenon to hound point – bottom of bibb (lower end of mast head.
- Head – bottom of bibb to top of mast cap tenon
- Housing – Base of the mast tenon to the Partner (top of deck surface)

In Monfeld's book, the length of the mast varied based upon the date and country. He also provides proportions for masts and topmasts, but does not state what his measures of mast length are in. It is

important to note that mast length varied over time and country.

- Dutch 1650 – 2,290
- British 1650 – 2,620
- British 1710 – 2,625
- British 1800 – 2,343
- French 1630 – 2,210
- French 1650 – 2,480
- French 1740 – 2,275
- French 1820 – 2,450

To be accurate to your ship models timeframe, it is important to be aware of the variation of mast length over time.

Yards, spars and gaffs also have history.

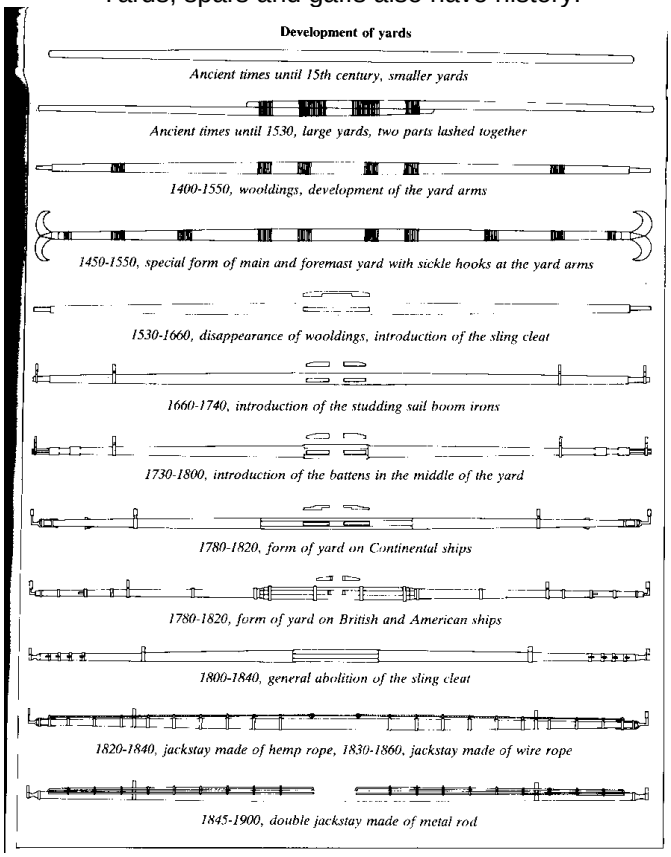


Diagram 2

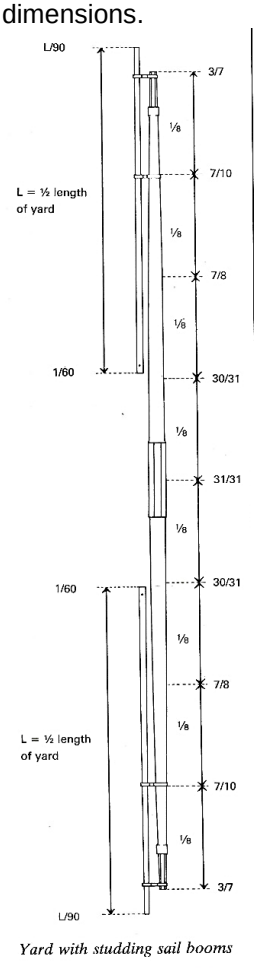
The design of yards remained virtually unchanged for thousands of years.

- Small Yards – single length of wood
- Longer Yards – assembled & lashed together
- Yards assembled from square-section timbers were introduced between 1400 – 1550. Diagram 2 displays the development of yards

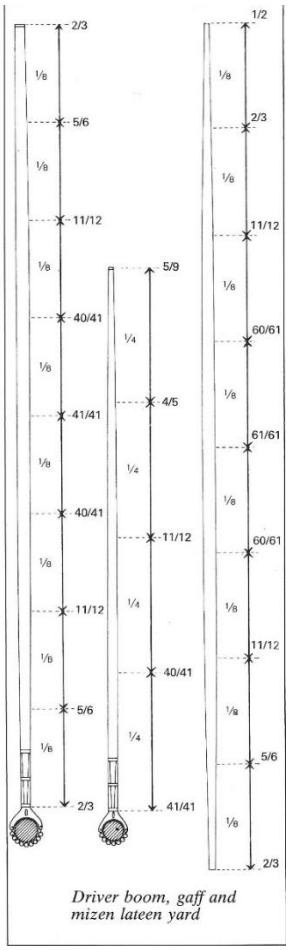
Footropes came into use on the lower yards after 1640. Their purpose was to provide a footrest for the seaman when reefing sails. They were rigged, using strong ropes, 3-inch circumference on the lower yards and hung about 30 inches below the yard. They came into use:

- 1640 - lower yards
- 1680 - Topsail yards
- 1700 - Remaining yards

Like masts, yards, booms and gaffs have dimensions.



Yard with studding sail booms



Driver boom, gaff and mizen lateen yard

Diagram 3 Diagram 4

Diagram 3 covers yards. The center of the yard in 31/31. The yard is divided into 8 parts, each measured from the center,

- 30/31 at first 1/8 from center
- 7/8 at second 1/8 from center
- 7/10 at third 1/8 from center
- 3/7 at fourth (or end) 1/8 from center

. Diagram 4 displays from the left side: boom, a gaff, and a laten yard. The lateen yard evolved from the Mediterranean and was adopted in Northern Europe in the 15th C. The dimensions for each are:

- Boom: divided into eight parts
  - Length measures from end of boom to end of boom in jaws

- Thickness on boom is at 4/8's from either end
- Tapers to 2/3 at either end

➢ Gaff: divided in four parts:
- Length measures from end of gaff to end on gaff in jaws
- Thickness on gaff is from jaw 41/41 and tapers to 5/9 at end

➢ Lateen Yard is divided into eight parts:
- Length measures from end of yard to end of yard
- Thickness on yard is at 4/8's from either end
- Tapers to 2/3 at one end and ½ at the other
- The yard Is not symmetrical around its thickness point, but rather an oval shape.

Remember – all masts, yards, booms and gaffs are tapered. Also, unless the viewer is a professional shipwright, the majority of viewers will not know whether your masts, yards, booms and gaff are correct, unless they are out of proportion.

So how do you get started? You have two choices:

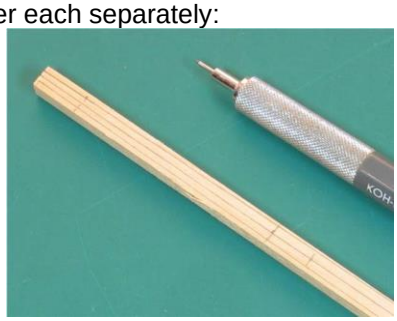
➢ use a lathe or electric drill (drill press or hand held)
➢ hand carved.

Since I hand carve my masts, booms, and gaffs, the following is the method I use. If I remember correctly, Darrell uses a lathe to taper his masts, etc. If he will provide a writeup with photos, we will include then in a future newsletter.

To hand carve you need the following:

➢ Square stock
➢ Carving tools
➢ A fixture to help stabilize your wood for carving

Let's cover each separately:



Start with straight grain, square stock. Pick stock that will not warp – Straight grain, no knots etc.: i.e. Sticka Spruce, Maple (Hard), Lime Wood, Boxwood, fine grain pear wood. Stock needs to be uniform thickness, and may require sanding to achieve uniform thickness. You may also want to glue together layered pieces, placed in opposite direction to offset tendency to curl/ or warp.

Hand tools, to remove the wood, can be a hand plane, file, or a scraper. A tool that allows you the take off a thin sliver of wood at a time.

Yes, that is a quarter to provide a reference to size

Starting with the upper left, clockwise:

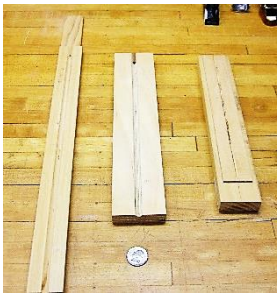
➢ 25mm Luthiers' finger plane by IBEX ($82-Highland tools))
➢ Xacto finger plane 11/16" cutting surface. Not sure if it is still available – this was my dad's from 60-80 years ago.
➢ Draw knife 7/8" cutting surface.

The third item is a method to support your future mast, boom or gaff while shaping it.

.

Simple Fixture for tapering

➢ Two pieces of wood, longer than your mast about an 1" wide by ¼" thick.
➢ Cut an edge on each at 45 degree angle
➢ Glue both on to another board so that chamfered edges meet
➢ Bottom board can be same length or longer.
  ➢ Same, glue a stop on bottom to prevent slippage when planning
  ➢ Longer, can be clamped to work surface.
➢ Cut and glue a square stop at the end you are planning towards.



I have three, one for long masts and shorter ones for topmasts, yards, etc.

So how do you proceed?

- Build a table
  - Take and record the dimensions from your plans
  - Most difficult – use a divider or detailed ruler.
  - Results will depend on clarity of your plans
  - Convert your readings to a dimension that will be usable to you.

For my masts, I marked and drew a centerline on all four sides of my square stock. I then marked where the partner, quarters, and head were located on all four sides. I then marked the width of each and then picked two measures that were close and drew a line the length of the mast stock for the taper.

Length	13.75"	
Head	1.375	5/8 = .175 (>11/64)
4th Q	2.75	3/4 =.211 (< 7/32)
3rd Q	2.75	6/7 = .241 (> 15/64)
2nd Q	2.75	14/15=.262(<17/64)
1st Q	2.75	60/61 = .276 (<9/32)
Partner		.61/61 = 281 = 9/32
Housing	1.375	
Heel		6/7 = .241 (> 15/64)

  - Lightly mark with a pencil or scribe the whole length what you will cut away
  - Plane or scrape the four corners down to your marks, resulting in an octagonal piece, correctly tapered all the way.
  - Plane the eight corners to a 16th sided taper.
  - Scrape the 16 corners to 32.
  - Finish by hand with progressively finer sandpaper

Sounds simple, right?

- Remember, all masts, yards, booms, and gaffs are tapered.
- Tapering:
  - Start with square stock, longer than the length required
  - Mark Center, Eights or Fourths on all four sides.
  - Mark the width at each section and then connect the dots
  - Plane the correct taper on two opposing sides, rotating from side to side.
  - Plane the correct taper on the other two sides
- Lightly mark with a pencil or scribe the whole length what you will cut away
- Plane the four corners down to your marks, resulting in an octagonal piece, correctly tapered all the way.
- Plane the eight corners to a 16th sided taper.
- Scrape the 16 corners to 32.
- Finish by hand with progressively finer sandpaper.

Ships on Deck

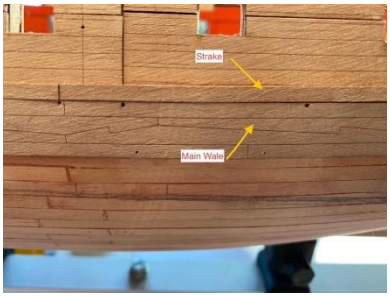
HMS Sphinx

Cliff Mitchell

Next step in my progress was using a waterline tool to temporarily mark a line on the hull. The area below the mark will be further sanded, filled and painted. Everything above the line will be treated differently later on.

Installation of the Main Wale Patterns (below). Were first soaked in hot water and then pinned on the hull overnight to dry. Using PVA glue they are attached with pins to dry.

Next the thin strake was installed above the Main Wale using the same procedure:



The First Upper Counter and Stern Fascia (showing the 5 windows) are pinned and installed:

Next Up: The Quarter Gallery Patterns

HMS Flirt – 1782

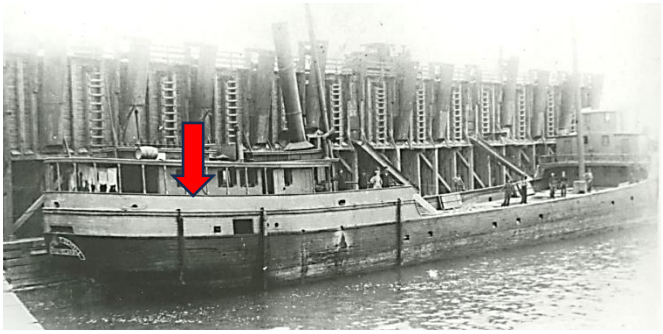
Rob Washburn

Hull is complete. Paint is Vanguard’s set for 18th and early 19th century ships. Exception is lower hull for which I used Model Shipways hull tallow

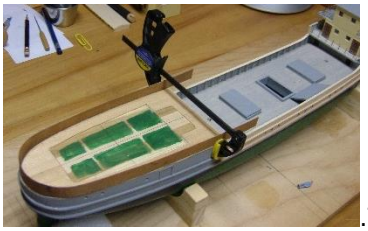
Margaret Olwill – 1890

Bill Nyberg

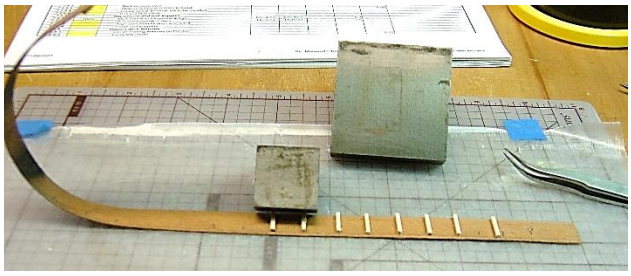
Well, after an eight month pause while repairing and restoring the xebec, I finnally got back to my steambarge. When I left off, the hull was almost complete, the pilot house and cargo deck were complete, plus the stern deckhouse and stack had been built. But, before they coud be installed, I needed to fabricate the stern deck bulwarks.



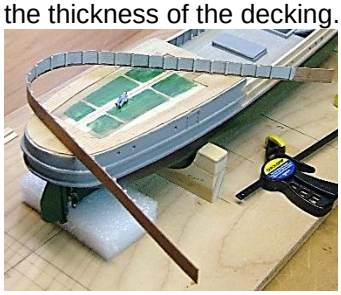
The red arrow points to the bulwark (the raised woodwork running along the sides of a vessel above the level of the deck) The bulwarks are made from 5/256 wood laminate, supported on the deck side with 1/16” stanchions.



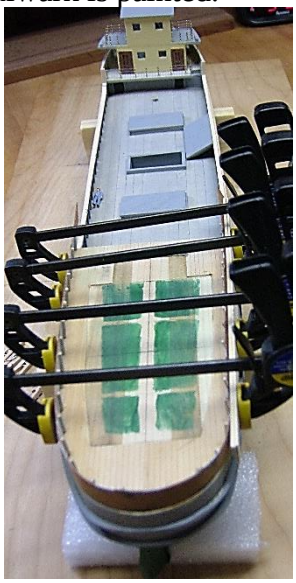
.The bulwark after soaking in warm water and fitted to the stern for shape. .



Adding stanchions to the interior surface of the bulwark. Space on the bottom of each stanchion is the thickness of the decking.



Interior of bulwark is painted.



I have also sent a note to the Kellys Island Historical Society. The photo above of the vessel at Kellys Island was taken June 25th, 1899. The photo shows the captain, his wife, 10 year old son and a family friend were about to take a tour of Kelly's Island as the crew (on deck) loads stone. The ship left the Island at midnight for an 8-hour trip to Cleveland, OH. Off Lorain, she encountered a Nor-ester, parted her steering chain, broached and sank. Of the crew and passengers (12), four survived. In 2017, CLUE (Cleveland Underwater Explorers) with Carrie Sowden, Underwater Archaeologist for NMGL, located the wreck 8 miles off Lorain in 50 feet of water.

My question concerns the cargo of stone which was intended for the Cleveland breakwater. My question concerns a conflict of information. I have two newspaper articles concerning the wreck. It appears that L.P. & J.A. Smith, owners of the Olwill, ordered the captain to load additional stone on her upper deck. In the two newspapers accounts, one states that 30 tons were loaded in her hold and 60 on her deck. The other states 300 tons in her hold and 600 on her deck. Which to me would make her very top heavy. I am asking if they have records that would show what the quarry would normally load into a steambarge when picking up stone.

Next step, Install a cap on the stern bulwark and then build the lifeboat supports on the stern deck house and installed the davits.

Other Notes: "Stuff", Tugs & Things

Society of Nautical Research

Latest Mariners' Mirror Podcast!

Filming The World's Best Ship Models: Stockholm

This episode looks at Lloyd's Register Foundation's new project Maritime Innovation in Miniature which is one of the most exciting maritime heritage projects of recent years and a leader in terms of innovation in the maritime heritage field. The aim of the project is to film the world's best ship models. They are removed from their protective glass cases and filmed in studio conditions with the very latest camera equipment. In particular, the ships are filmed using a macro probe lens, which offers a unique perspective and extreme close up shots. It allows the viewer to get up close and personal with the subject, whilst maintaining a bug-eyed wide-angle image. This makes the models appear enormous – simply put, it's a way of bringing the ships themselves back to life.

Ship models are a hugely under-appreciated, under-valued and under-exploited resource for engaging large numbers of people with maritime history. The majority of museum-quality ship models exist in storage; those that are on display have little interpretation; few have any significant online presence at all; none have been preserved on film using modern techniques. These are exquisitely made 3D recreations of the world's most technologically significant vessels, each with significant messages about changing maritime technology and the safety of seafarers.

The ships may no longer survive…but models of them do. This project acknowledges and celebrates that fact by bringing them to life with modern technology, in a way that respects and honors the art of the original model makers and the millions of hours of labor expended to create this unparalleled historical resource.

This episode looks in particular at the extraordinary models that were filmed in 2022 at the Swedish National Maritime Museum in Stockholm. *https://snr.org.uk/the-mariners-mirror-podcast/*

Nautical Terms

rubbing strake: An extra plank fitted to the outside of the hull, usually at deck level, to protect the topsides.

rudder: A steering device that is placed aft and pivoted about a (usually vertical) axis to generate a yawing moment from the hydrodynamic forces that act on the rudder blade when it is angled to the flow of water over it. There are several types of rudders, which are generally divide into outboard or inboard. An outboard rudder is hung (hinged) on the stern of the vessel. An inboard rudder has a stock which passes through a gland in the hull, with the structure of the hull continuing towards the stern above the rudder. A spade rudder is hinged solely on the stock and has no lower bearing to help take the loads.

rudder stop: A fitting that limits the swing of the rudder.

rudderstock: The structural part of a rudder that transmits the torque created by the tiller or steering gear to the rudder blade. It may consist of a steel tube which passes through bearings in the hull above the rudder, or with a stern-hung rudder, is the structure carrying all or some of the pintles or gudgeons on which the rudder pivots.

run: 1. The stern of the underwater body of a ship from where it begins to curve upward and inward. 2. A voyage, particularly a brief or routine one.

running before the wind: or ***running:***. Sailing more than about 160° away from the direction from which the wind is blowing (i.e. moving in the same or nearly the same direction as the wind). If moving directly away from the wind, it is called a dead run..

running backstays: A backstay that can be released and moved out of the way so that it does not interfere with sails or spars on the leeward side. On tacking, the new windward running backstay must be set up promptly to support the mast.[2]

running gear: 1. The propellers, shafts, struts, and related parts of a motorboat. 2. The running rigging of a sailing vessel.

running light: An alternative term for *navigation light*.

running rigging: *Also* ***running gear***. Rigging used to manipulate sails, spars, etc. in order to control the movement of a sailing vessel.

Nautical Terms Wikipedia

Tugs: Great Lakes

***K.D. Cora*, 1881**

The wooden tup, *K.D. Cora* was built at Buffalo and her measures were: 45.4' x 9.4' x 4.8'; 21.65 grt, 14.93 net. She was equipped with a steeple compound engine and a scotch boiler generation 140 lbs. steam. Her official number was 126067. In 1884 she worked out of Bay City, Mi and in 1888 from Sault Ste. Marie where she was renamed *Courier.* In July 1890 she was bought by B.B. Inman, Duluth and ran between Duluth and Oa-at-ka Beach. In October of 1890, she was owned by John Hanson and later that year she was sunk by the ferry *Estelle*. Raised and repaired, she caught fire at her layup dock in November 1891.

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

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***Nellie Cottin* 1867**

In 1867, David Bell, built an iron towboat at Buffalo.for Jas, ballentine and Mary McAlpine, detroit. Her measures were: 63'9" x 14'6" x 7'6"; 37.68 grt, 20.56 net; and assigned official number 18092. In 1881 she was towing log rafts. In September 1883, she was driven ashore near Duluth and required major repairs. She was rebuilt in 1893 and was again towing log rafts. In 1929, she had been owned by N.M. Dettaas, Marquette, MI. After 60 years of service, she was abandoned and cut up for scrape in 1929. .

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

Presentation Schedule:

2024 – Schedule Tentative

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

Events & Dates to Note:

2024 Tentative Schedule

Columbus Woodworking Show
Ohio Expo Center
January 19-21, 2024

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

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

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

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

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

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

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Transitional Planning
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Cargo Hold

www.shipwrightsofohio.com/cargo hold/

Here you will find how to order Challenge Coins, as shown above, on left, that have been used historically for Identification within an organization, Recognition of achievements, Appreciation of services and Trading/Collecting. Our Shipwrights of Ohio coin contains both the Club Logo and the Club Coat-of-Arms.

You can also order Logo shirts from "Lands End". They offer an on-line link for direct, personal purchases of many of their products without Shipwrights of Ohio logo.

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

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

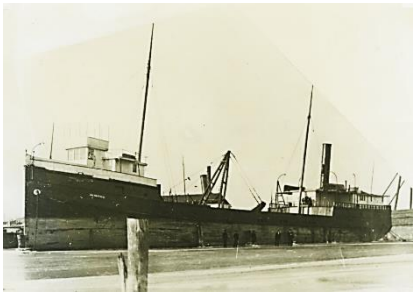
Wooden Steamers on the Great Lakes

Written by William E. Nyberg

1869-b

Oliver H. Perry: Built at Sandusky, OH by J. Monk, the wooden sidewheel steamer *Oliver H. Perry* was enrolled at Sandusky, OH, August 16, 1869. Her recorded measures were: 122' x 21.5' x 7.5', with a tonnage of 140 grt. She was powered by a low-pressure engine with a 22" bore x 60" stroke with steam generated by a firebox boiler
, 7 x 12' built in Toledo, OH. She was owned by Dotter, Hess, Fryensu & Elithorp all from Sandusky, OH and had been built for the passenger, package freight trade at a cost of $20,000. The steamer *Oliver H. Perry* ran between Sandusky, Port Clinton and the Peninsula on Lake Erie. September 5, 1869, while lying at her Sandusky dock, the steamer *Oliver H. Perry* caught fire near her engine room and was cast off, drifting into Sandusky Bay burning. The steamer was retrieved and was towed back to her dock where she burned to the waterline.

Declared a total loss.



Peshtigo: On May 20, 1869, the wooden barge *Peshtigo* was enrolled at Chicago. Built by Alvin A. Turner, at Trenton, MI for the Peshtigo Lumber Company, Chicago, her measures were: 198.16' x 34.16' x 12.75', with a tonnage of: 660.07 grt, 640.06 net. She was assigned official number 54218. She had been built as a barge with the ability to carry about 600,000 feet of lumber. The *Peshtigo* was towed between Chicago, IL and Green Bay ports such as Menominee, Peshtigo, Oconto and Green Bay, WI during the 1870's and 1880's. In October 1871, the barge *Peshtigo* was burnt by the "Chicago Fire" and declared a total loss. She was rebuilt and her rig was changed to schooner at Milwaukee, in April 1876. Her master for the 1878 season was Captain Lynch. On June 26, 1878, the schooner *Peshtigo*, up bound with a cargo of coal, collided with the schooner *St. Andrew* (U22416) down bound with a cargo of corn from Chicago, about five miles from Cheboygan, MI on Lake Huron. Both vessels sank. Two lives lost on the schooner *Peshtigo.* She was raised and repaired.

Ownership of the schooner *Peshtigo* was changed to S.R. Howell, Chicago in 1891.

Later that year, ownership of the schooner *Peshtigo* was changed to W.J. Calhoun, Chicago.

In 1895, ownership of the schooner *Peshtigo* was changed to Captain J.C. Pringle, Saginaw. The schooner *Peshtigo* was rebuilt at the Wyandotte Boat Co., Wyandotte, MI and her rig changed a screw steambarge. Her enrollment measures were up dated on April 4, 1896. to: 203.33' x 34.66' x 12.16'; 817.01 grt, 590.25 net. Her installed engine was a steeple compound, 17", 36" bore x 36" stroke, 400 horsepower, built by Cuyahoga Iron Works, Cleveland in 1869. She was equipped with a firebox boiler, 8' 6" x 15' @140 lbs. steam, built by Manistee Iron Works, Manistee, MI.

Ownership of the steambarge *Peshtigo's* was changed to A.M. and F.P. Chesbrough, Emerson, MI. and she was employed in the lumber trade under the control of Wolverine Boat Co. in 1896. In November 1897, the steambarge *Peshtigo,* laden with lumber, on the Niagara River, with high winds sweeping the river, crashed into the dock of Skillings, Whitney & Barnes, while trying to make her slip at Tonawanda, NY, Niagara River. Down bound with lumber, in October 1898, the steambarge *Peshtigo* was struck forward of the engine room by the steamer *George W. Roby* (U86301). The captain steered the vessel toward Alpena, MI where she settled in 22 feet water, one-half mile off the Thunder Bay River entrance with her decks awash. She was pumped out and raised, repaired, she was placed back in service within a few weeks.

Her master and chief engineers between 1899 and 1908 were: Captain Charles M. Haight (1899) with Charles M. Haight (1900), George Gourley (1900-01) as chief engineers; Captain M. W. Brooks (1901); Captain J. hay (1902) with E. Manion (1902) as chief engineer; Captain William M. Brooks (1903, 06) with Charles Scheonrock (1903-04) as chief engineer; Captain W. H. Brooks (1904); Captain A. G. Lewis (1905) with Edward Taubert (1906) as chief engineer; and Captain T. Smith (1908) with R. Lynch (1908) as chief engineers.

In October 1908, the steambarge *Peshtigo,* laden with lumber, was stranded at Mission Point, Mackinac Island, MI, Lake Huron during bad weather and became a total loss. No lives lost.

***Rose*:** The wooden steambarge was built by John Caruthers, Kingston, Ont. for George & William Chaffey, Kingston. Enrolled at Kingston, Ont. May 05, 1869, her measures were recorded as 103.9' x

22.7' x 5.9' and 121.1-unit tons. Her engine is unknown. The steambarge was built for the bulk freight trade on the Rideau Canal, running between Ottawa and the St. Lawrence River. On June 28, 1869, the steambarge *Rose,* laden with 115,000 feet of lumber and towing barges *Shamrock* and *Thistle,* both laden with 200 tons ore each from the Crosby Mine, arrived at Chaffey Brothers, Kingston, Ont.

In 1877, ownership of the steambarge *Rose* was changed to J. Swift, Kingston, Ont. in May of the following year, she was readmeasured and her enrollment updated: 121.6 grt, 92.2 net. For the 1881 season, the steambarge was engaged in the iron ore transport.

In 1882, ownership of the steam barge *Rose* was changed to W. Owens, Stonefield, Ont. She was rebuilt for use as a harbor tug. In 1887, the tug *Rose* caught fire and burned to a total loss.

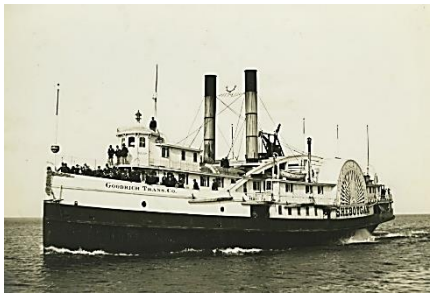
Her final location and disposition is unknown.

***Thomas A. Scott*:** Hitchcock & Gibson, Buffalo, built a wooden propeller for James C. & Edwin T. Evans, Buffalo.

Enrolled at Buffalo in May 1869, with measures: 201.0' x 33.7' x 13.8'; 1159.32 grt, and was issued official number 24785. She was powered by a low-pressure engine, 50" bore x 38" stroke and was equipped with a 10.5' x 20' boiler. The propeller *Thomas A. Scott* was built for the package freight trade with a capacity for 25,000 bushels. She ran on the Evans Line carrying freight only. In September 1869, she had her rudder disabled while on Lake Erie, and required to be towed to Detroit for repairs. In November of that same year, bound down for Buffalo, laden with a cargo of wheat, flour and other freight, the *Thomas A. Scott* struck a reef in the Mackinaw Straits, Lake Huron, and sank. In June of 1870, the Coast Wrecking Co. raised the *Thomas A. Scott* and had her towed to the Wolverton's yard, Detroit, by the tug *U. S. General Grant* (10283).

In 1871, ownership of the propeller *Thomas A. Scott* was changed to the Erie & Western Transportation Company, Erie, PA. For the 1871 season, she ran on the Anchor Line, between Chicago, Erie & Buffalo. Her masters for the 1871 season were Captain Dickson [Dickson Line] and Captain Alexander McDougall [Anchor Line] with Norton J. Warner as chief engineer. In September of 1871, the propeller sprung her arches on her last downward trip. She underwent the necessary repairs at the Union Drydock, Buffalo. In October 1874, laden with grain, she went ashore at Malden, Ont., Lake Erie. Property loss was set at $800. In April 1877, her owners had her machinery removed and she was converted into a four masted schooner by Union Dry Dock Company, Buffalo. Her enrollment measures were updated to: 740.91 grt, 700.93 net.

October 1880, bound down, Chicago for Erie, the schooner-barge *Thomas A. Scott*, laden with 44,000 bushels corn, anchored off Milwaukee to ride out a storm, and was struck and sank by the package freighter *Avon* (US105733). The schooner-barge went down in 23 feet of water. No lives lost.



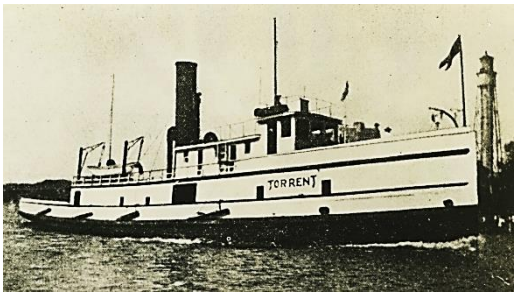
Sheboygan: At Manitowoc, WI, in 1869, Greenleaf S. Rand built a wooden sidewheel steamer for the Goodrich Transportation Co, Manitowoc. She was enrolled at Milwaukee, May 10, 1869, and her measures recorded: 208.0' x 30.5' x 12.7'; 623.9 grt, 461.4 net. She was powered by a Horizontal (Locomotive) engine, built by Buffalo Steam Engine Works in 1851 and rebuilt 1865; originally installed in *Garden City*, 1853, then in *City of Cleveland*, 1857. The engine had a 50" bore x 144" stroke, and rated at 400 horsepower, Steam was generated by a firebox boiler, 9' x 20'6", 30 pounds steam, built by Buffalo Iron Works in 1851. She was assigned official number 115119. The steamer *Sheboygan* was built for passenger and package freight trade.

In May 1869, the steamer *Sheboygan* had her wheelhouse badly damaged in a collision with the schooner *Bermuda* at Chicago. In August of that year, she went aground, in fog, near Sheboygan, WI and she was damaged in a collision at Racine, WI. The following month she struck a pier and was damaged at Manitowoc and she collided with the schooner *Kewaunee* (U14065) at Racine. Chief engineer for the steamer *Sheboygan* for the 1870-76 seasons was G. P. Roth. In September 1871, the steamer *Sheboygan* had her upper works damaged during a storm on Lake Michigan. During winter layup 1877-78, the *Sheboygan* entered the drydock for re-caulking, new arches & other repairs. June 1883, the steamer *Sheboygan* collided with the schooner *Mystic* (U17210), in fog off Grosse Point, WI. About six feet of *Mystic's* bow was carried away and she filled and started to sink. She was quickly towed to Chicago, and moored in the North Channel where she settled in the rivers bottom. The *Sheboygan* suffered little damage. Her chief

engineers were Felix Neider for the 1889-90 season and Edward T. Dixon for the 1893 season. In 1898, the steamer *Sheboygan* went aground south of the Sturgeon Bay Canal, Lake Michigan, in fog. She was repaired at Manitowoc. Her master for the 1900-1905 seasons were: Captain Charles T. Bronson in 1900; Captain Berlin N. Sniffin in 1901; Captain Elmer E. Redner in 1902; and Captain Asa E. Johnson for the 1903-05 seasons with chief engineers: Felix Neider 1898–1902; and Archie Galbraith 1903-05.

In 1906, ownership of the sidewheel steamer *Sheboygan* was transferred to Goodrich Transit Company to Maine from Wisconsin due to a lower tax rate. Her masters were: Captain C. Baldwin, 1906 season; Captain T. G. Baldwin, 1907 season; and Captain Adelbert C. Voigt for the 1908-09 season; with chief engineers: Archie Galbraith for the 1906-10 seasons. In July 1913, the sidewheel steamer *Sheboygan* collided with and sank Goodrich owned propeller *Iowa* (U100613), in fog, on the Chicago River.

Ownership of the sidewheel steamer *Sheboygan* was changed to Manitowoc Iron & Metal Company, Manitowoc in 1914 to be scrapped. Her hull was towed into Lake Michigan and cut adrift and she went ashore two miles north of Manitowoc where she was burned for her iron.



Torrent: Quayle & Martin, Cleveland, with Elihu M. Peck as master carpenter, built a wooden towboat for Bissell, Moore & Alger, Detroit, to be used towing log rafts on Lake Huron. She was enrolled at Detroit, May 1869, with measures: 115.0' x 21.2' x 12.3'; 20376 grt, 140.12 net. She was issued official number 24786. Her master for the 1872 season was Captain Thomas Hackett.

In 1879, ownership of the tug *Torrent* was changed to Rolles, Detroit. In 1881, the tug *Torrent* received a rebuilt; high pressure, non-condensing engine, 26 ½" bore x 30" stroke, 380 horsepower; and a firebox boiler, 8.5' x 16', 85 pounds steam, both from Buhl Iron Works, Detroit. Master of the tug *Torrent,* for the 1883 season was Captain C. F. Moore with John M. Cronen as engineer for the 1881-96 seasons. In October 1890, the tug *Torrent* lost a large log raft during a storm on Lake Huron, storm near Sarnia, Ont.

In 1893, ownership of the tug *Torrent* was changed to Alger Smith & Co., Detroit, MI. Her master for the 1895 season was Captain Ralph Hackett. In July 1895, the schooner barge *Yukon,* under tow of the propeller *Sitka* (U116174)*,* took a sheer while in the Saint Clair Flats Canal, Detroit River, and her towline scraped the upper deck of the tug *Torrent.* Captain Hackett was killed outright and two of her crew were swept overboard and drowned.

In October 1898, ownership of the tug *Torrent* was changed to Saginaw Bay Towing Co., with her principal owner: Jas. Boulette.

In 1900, ownership of the tug *Torrent* was changed to George D. Nau, Mary P. Dennis, and Mary E. Dennis, of Green Bay, WI for a price of $4,500.

February 1908, ownership of the tug *Torrent* was changed to the Green Stone Co., Sturgeon Bay, WI. Her masters were Captain H. Tufts, 1909-11 seasons, and Captain A. E. Anderson, 1913-14 seasons, with A. Swan in 1913 and George Hebert in 1914, as engineer. In 1915, the tug *Torrent* was abandoned at Sturgeon Bay, WI and broken up.

Final enrollment was surrendered in 1915 for the tug *Torrent* and endorsed 'abandoned."

Westford: Alvin A. Turner, Trenton, MI, built a wooden steambarge for D. Whitney Jr., Detroit. She was enrolled at Detroit and her measures were: 134.0' x 25.8' x 11.6'; 302.3 grt. She was powered by a Steeple Compound engine, 20", 36" bore x 28" stroke, 385 horse power built by Phoenix Iron Works, Port Huron, in 1869. She was issued official number 80068. She was built as a steambarge for the bulk freight, lumber trade. In April 1871, the steambarge *Westford,* laden with lumber, went *a*ground on Point Au Barque reef, Lake Huron. The crew jettisoned a portion of her cargo to be released. In October of that year, the *Westford* collided with the schooner *Miami* (U16312) at Port Colborne, ONT. in October 1872, the steambarge *Westford* went *a*ground on Hickley's Flats, St. Lawrence River while trying to release the grounded schooner *S. H. Lathrop* (U22396). Both vessels were released by the *U. S. Revenue Cutter Salmon P. Chase.*

In March 1874, ownership of the steambarge *Westford* was changed to Eber R. Ayers & Barney Wilds, Sandusky, OH. That same month the *Westford* was damaged by a freshet at Oswego, NY and incurred a damage loss of $300. In April 1876, she went ashore on Pte aux Barque, MI. Released.

In October 1879, ownership of the steambarge *Westford* changed to John S. Miner, Alpena, MI.

In March 1882, ownership of the steambarge *Westford* was transferred to Miner Lumber Co., Alpena, MI. In May 1883, the *Westford* sank after a collision with the schooner barge *Grace Holland* (US39633) off Windmill Point Lighthouse, Detroit River. She was raised, drydocked, and repaired at Detroit, MI. In 1886, the steambarge received a new firebox boiler, 8 ½' x 14', built by Phoenix Iron Works, Port Huron, MI. May 1888, the enrollment measures for the steambarge *Westford* were changed: 302.30 grt, 223.69 net. Masters of the steambarge *Westford* were Captain John A. Stewart for the 1888 season, Captain Henry Warwick for 1889 and Captain Ludington for 1894-97.

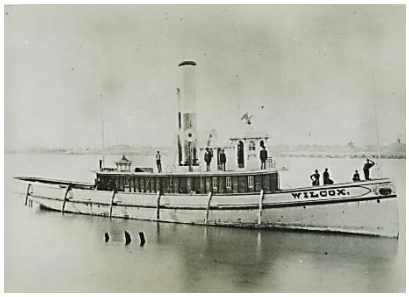
In October 1898, ownership of the steambarge *Westford* was changed to Charles L. Boynton & Charles D. Thompson, Port Huron, MI. In August 1899, ownership of the steambarge *Westford* was changed to Hammermill Paper Co., Erie, PA. Her master for the 1900 season was Captain John J. O'Hagan with J. Butler as chief engineer.

In March 1901, ownership of the steambarge *Westford* was changed to Moses W. Humphrey, Ashtabula, OH.

In April of 1901, ownership of the steambarge *Westford* was changed to Mary Humphrey & Anna E. Parker, Detroit, MI.

In September 1902, ownership of the steambarge *Westford* was changed to John J. Boland, Buffalo, NY. Masters of the steambarge *Westford* were: Captain Horatio N. Jex in 1903 and Captain John Griffin in 1904, with George H. Blineby in 1903 and L. Brown in 1904 as chief engineers. In May 1904, the steambarge *Westford* stranded in heavy weather and then caught fire on Robbins shoal, St. John's Island, Georgian Bay. Declared a total loss.

Final enrollment surrendered at Buffalo, NY, June 30, 1904.



O. Wilcox: James M. Jones, Detroit built a wooden towboat for Trowbridge, Wilcox & Company, Detroit, intended for the log rafting operations on Georgian Bay and river towing. Enrolled at Detroit, June 5, 1869, her measures were: 138.0' x 22.5' x 12.3'; with tonnage 158.73 grt. She was powered by a high-pressure engine, 26" bore x 36" stroke, built by Hodge & Christie, Detroit, MI. She was equipped with a boiler, 8' x 20', built by Desotelle & Hutton. She was assigned official number 19289. In October 1869, the towboat *O. Wilcox* broke a bucket (propeller blade) from her wheel in the Saint Clair River. Repaired. In August 1870, the towboat *O. Wilcox* participated in a wrecking expedition to Lake Superior to raise the propeller *Ontonagon* (U18963) which had sunk above Sault Ste. Marie. The propeller was raised in September 1870 and towed to Detroit for repairs at Campbell & Owen shipyard, Detroit. For the 1872/73 seasons, her chief engineer was Jeremiah Havelick.

In 1875, ownership of the towboat *O. Wilcox* was changed to William Livingstone, Detroit. He had the towboat *O. Wilcox* rebuilt in 1876, "housed in", and her enrollment measures for tonnage were changed to 193 grt. (1876)

In 1879, ownership of the towboat *O. Wilcox* was changed to A. Cheesebrough, Detroit. The towboat received large repairs and her enrollment measures for tonnage were changed at Detroit in September 1880 to: 193.14 grt, 113.67 net.

In 1893, ownership of the towboat *O. Wilcox* was changed to Timothy Hurley, et.al., Detroit. In August of that year, the towboat *O. Wilcox* sprang a leak during a storm and quickly foundered 12 miles off Tawas Point, MI, Lake Huron. No loss of life.

Final enrollment for the towboat *O. Wilcox* was surrendered at Detroit, September 1, 1893, and endorsed "foundered – total loss".

Anne Young: Campbell & Owen, Detroit, with E. C. Merrick, master carpenter, built a wooden package freighter, hull # 00009, for Duncan Stewart & J. L. Hurd, Detroit, to be used in the package freight trade, running between Saginaw, MI and Buffalo. She was enrolled at Detroit, April 24, 1869, and her measures recorded as: 187.0' x 32.3' x 11.8'; with tonnage 1006.52 grt, 793.11 net. She was issued official number 1760. In May 1869, the package freighter *Anna Young* went aground on St. Clair Flats, Lake St. Clair. She was lightered to be released.

In April 1870, ownership of the package freighter *Anna Young* was changed to Edwin T Evans & James C. Evans, Buffalo. Her master for the 1871 season was Captain C. M. Fellows with

Alexander Morrison as chief engineer. In September 1871, bound up the Detroit River, the package freighter *Anna Young* went aground on Fighting Island in smoky weather.

In February 1873, ownership of the package freighter *Anna Young* was changed to Erie & Western Transportation Co., Erie, PA (Anchor Line). In October 1874, she sprang an arch while on Lake Huron. Property loss $200. Master of the package freighter *Anna Young* for the 1877 season was Captain Alexander McFarland with John Jordon as chief engineer from 1875-76 & 1878. In 1882, the enrollment record for the package freighter *Anna Young* was changed to Erie, PA. Masters of the package freighter for the 1882 season was Captain W. D. Waite with Henry Miller (1880-82), Frederick Poots (1883), as chief engineers. October 1883, bound down from Chicago to Buffalo, the package freighter *Anna Young,* laden with general merchandise and flour, had her machinery disabled off Middle Island, Lake Huron. Temporary repairs were made and she continued down when a flange of her feed pipe broke while off Sand Beach, Huron County, Michigan. Due to rough weather, she anchored to make repairs. Masters of the package freighter *Anna Young* were Captain Thomas Casey, 1884 season; Captain P. O’Neill, 1886 season; and Captain Albert E. Huff for the 1889 season. Her chief engineers were: John Findlay in 1884, C. H. Wilson in 1885, Francis Harringer for 1883 to 85, and Harrington in 1886 as chief engineers. In October 1889, the package freighter *Anna Young* struck the bark *Phineas S. Marsh* (US19679) carrying away her jibboom, headgear, rail and stanchions. Master of the package freighter *Anna Young* was Captain Hugh Miller for the 1889 season. October 1890, bound up from Buffalo for Gladstone, MI, the package freighter *Anna Young* discovered a fire coming from an after hatchway off Lexington, MI. The wind fanned the flames, enveloping the after part of the vessel. Nine of the crew abandoned the ship in her yawl which capsized and all were lost. The captain and 13 crewmen were taken off by the steambarge *Edward Smith* (136106). The package freighter *Anna Young* burned to the water’s edge, then the hulk drifted south towards Port Huron, sinking within 6 miles of the entrance to the St. Clair River.

Final enrollment for the package freighter *Anna Young* was surrendered at Erie, PA, December 23, 1890, and endorsed “vessel destroyed by fire”.

Some Notes:

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

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

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

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

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

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

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

The Builder's Old Measurement formula remained in effect until the advent of steam propulsion. Steamships required a different method of estimating tonnage, because the ratio of length to beam was larger and a significant volume of internal space was used for boilers and machinery.

In 1849, the Moorsom System was created in Great Britain. The Moorsom system calculates the tonnage or cargo capacity of sailing ships as a basis for assessing harbour and other vessel fees.

Up to 1848, most freight was shipped, on steamers or propellers, as package freight. This meant that coal, grain, apples, and produce had been placed in a container or sack and carried aboard on the back of a laborer. Bulk freight in the form of lumber would have been loaded on barges and schooners and towed by a steam driven ship. In 1848, Joseph Arnold built at Port Huron, MI, a the steambarge *Petrel* (found in the third section) for the bulk freight trade answering a need to move bulk coal to the northern communities and iron ore, lumber, and grain south to the growing cities in the East.

By 1848, some ships built in that year, continued to operate beyond the "War of Rebellion" and may be listed with two different tonnage ratings. Most ships built on the Great Lakes were rated as Tonnage (Old Style). This dates back to the 1600's and comes to the U.S. from our cousins.

Tonnage (Old Style): The British took the length measurement from the outside of the stem to the outside of the sternpost; the Americans measured from inside the posts. The British measured breadth from outside the planks, whereas the American measured the breadth from inside the planks. Lastly, the British divided by 94, whereas the Americans divided by 95. The upshot was that American calculations gave a lower number than the British. For instance, when the British measured the captured *USS President* (a three-masted heavy frigate), their calculations gave her a burthen of 1533$\frac{7}{94}$ tons, whereas the American calculations gave the burthen as 1444 tons. The British measure yields values about 6% greater than the American. The US system was in use from 1789 until 1864, when a modified version of the Moorsom System was adopted (see below).

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

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

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

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

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

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

The current system of measurement for ships includes:

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

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

P.Q.: Province of Quebec

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

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

Ship Inventory: Will include the names of wooden steamers that will not be identified in the manuscript. The research project that the information was gathered for included all wooden steamers built on the Great Lakes or St. Lawrence River and operated on the Great Lakes with a gross tonnage at or over 100 tons.

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

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

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