

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 – February 2022

**Next Zoom Meeting: March 19, 2022**  
**"Building a Deck House from Scratch"**  
by Bill Nyberg

## Table of Contents

<b>February</b> .....	1
<b>Business</b> .....	1
<b>Membership Dues</b> .....	1
<b>Presentation Planning - 2022</b> .....	1
<b>Library Display</b> .....	2
<b>Road Trip</b> .....	2
<b>Webinar</b> .....	2
<b>Presentation:</b> .....	2
<b>Ships on Deck:</b> .....	3
<b>Mary Powell</b> .....	3
<b>Bluenose - Restoration</b> .....	3
<b>Margaret Olwill</b> .....	4
<b>Red Jacket</b> .....	4
<b>Tips &amp; Techniques</b> .....	4
<b>Belying Pins</b> .....	4
<b>Other Notes: "Stuff", Tugs &amp; Things</b> .....	5
<b>Nautical Terms</b> .....	5
<b>Webinar</b> .....	5
<b>National Museum of the Great Lakes</b> .....	5
<b>Wellington Trust</b> .....	5
<b>The Society of Nautical Research</b> .....	5
<b>Houston Maritime Center</b> .....	5
<b>U.S. Naval Institute</b> .....	6
<b>Nautical Research Guild</b> .....	6
<b>Model Figurines</b> .....	6
<b>Nautical Research Journal</b> .....	7
<b>Web Site</b> .....	7
<b>Tugs</b> .....	7
<b>B. W. Aldrich</b> .....	7
<b>Alfred W.</b> .....	7
<b>Presentation Schedule:</b> .....	8
<b>Events &amp; Dates to Note:</b> .....	8
<b>Wooden Steamers on the Great Lakes</b> .....	9
<b>1857-C</b> .....	9
<b>Some Notes</b> .....	15

## February

Saturday, February 19<sup>th</sup>, thirteen of us gathered via Zoom for an enlighten session, excellent presentation and welcoming gathering of friends and comrades after this long pandemic-imposed period. If you could not make it, I encourage you to set aside the third Saturday of each month to join us and share what you are working on and your talents.

I repeat my monthly advice and urge all of you to take care of yourself and your families. Look to those you know who may need help or are lonely and need human contact.

Your editor.

## Business

### Membership Dues.

For those few who have not paid their 2022 dues, know that they are due. Write that check and send it in so that we can be done with this yearly badgering.

Our club constitution states: "The annual dues for Regular members shall be \$20.00, payable by January. Annual dues for Associate members shall be \$10.00 payable by January."

Make your checks out to "**Shipwrights of Ohio**" and send by USPS to:

**Lee Kimmins**  
**Shipwrights of Central Ohio**  
**5298 Timberlake Circle**  
**Orient, OH 43146-9249**

### Presentation Planning - 2022

Share your experience and knowledge with your fellow shipwrights. We still need presenters for the late fall presentations.

**Nov: Rigging: Mast & Yard Making**

**Dec: Standing/Running Rigging**

I have prior copies of the following PowerPoint presentations that you can use as a foundation.

- Mast making - 10/2007
- Yard, boom & Gaff – 11/2007
- Yard Rigging Jig –
- Stays, Shrouds, Ratlines – 9/2016
- Blocks & tackles – 10/2015
- Running Rigging – 10/2019

If one of the two topics highlighted interests you, and you either have experience in or are interested in doing the research on the topic, you will not only share your knowledge with others but you can also learn from them.

Our objective is for all of us to grow as ship modelers. Let's hear from you. Respond back by email to [shipwright@wowway.com](mailto:shipwright@wowway.com).

## Library Display

"The display has been a hit, just about everyone who comes in seems to stop and marvel at the boats! I've made sure to tell folks about some of the details you shared with me and they're always impressed at the level of detail and time that went into them. Thanks again for sharing your passion with the library and community!" A note from Mary Nice, the Adult Services Director at the Sunbury Community Library,

We had been asked by and responded to Mary, for an exhibition of our ship models. The case available is 48" wide x 56" high x 16" deep. Alan Phelps contacted the library and has on display his R/C craft. Besides his three models he also has on display Bob Mains model of a Viking ship (upper right).



The library is also interested in a display of our models in June and/or July. So, start thinking about what you have that could fit into that space.

Since we now, as a club, are spread out across the state, what is the chance that your local library would be open to a display of ship models. Could be a very good way to reach other ship modelers about the club and also attract new shipwrights to this craft. Stop at your local library and ask.

## Road Trip

Our meeting schedule calls for a "Road Trip" in August and we have started reviewing our options. They are, as of now:

- National Museum of the Great Lakes, Toledo. *Col. James M. Schoonmaker*, Bulk ore carrier, & tug *Ohio*. Toledo (144 mi, 2.5 hours)

- Ohio River Museum. Marietta. (126 mi, 2 hours)
- Tall Ships, Erie, PA -Aug. 25-28 (239 mi., 3 ¾ hours) [Alt: Tall Ships, Cleveland, July 7-10 (142 mi, 2 ¼ hour)]

There are also, the following:

- *William G. Mather*, Lake bulk carrier & *USS Cod*, Gato Class Submarine, Cleveland.
- Canal Fulton Heritage Soc., Canal Fulton – canal boats
- Roscoe Village – Coshocton – Ohio & Erie Canal.
- David Warther Carving Display, Sugarcreek – Carved ivory ship models

Plus, there are maritime museums at Put-in-Bay, Sandusky, Ashtabula, and Fairport Harbor. So, what are your interests?

## Webinar

A webinar is an online seminar that turns a presentation into a real-time conversation from anywhere in the world. We have been blessed with a number of sites that are sponsoring monthly presentations that you can view on your computer or cell phone. Links to the sites can be found at:

<https://www.shipwrightsofcentralohio.com/video.html>

Many, also make their presentation available on their web sites. A more detailed description of the organizations that I have frequented may be found on page 5 of this newsletter.

## Presentation:

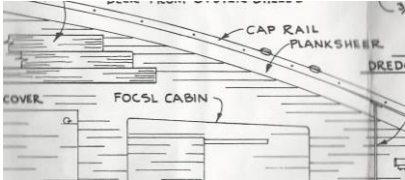
This month's presentation was "Planking a Deck of an 18<sup>th</sup>-19<sup>th</sup> Century Sailing Ship" by Darrell Markijohn.

Darrell, started his presentation with a descriptive explanation of the various decks that could be found on a wooden ship of this era. He also shared pictures from MSW of ship framing and interior planking.

He continued with a few thoughts, listed below:

- Caulking & Tree Nails
  - A half inch plug at ¼" scale is .010" or so small you would have a hard time seeing it.
  - Caulking between the deck planks"
    - Some modelers use black paper on the edge of the plank to simulate caulking.
    - Some use a black pen on the edge.
    - Others do not show caulking.

- A worn deck would not show caulking or treenails
- It is up to the modeler what you want to show
- Plank width: maximum
  - 16<sup>th</sup> C. – 18"
  - 17<sup>th</sup> C. – 15"
  - 18<sup>th</sup> C. – 14"
  - 19<sup>th</sup> C. – 8 "
- Plank length: 18 to 20 feet long or at 1/4" scale: 4.5 to 5" long.
- Plankshear – A continuous planking that covers the timber-heads of a wooden ship.



- The first deck plank is called a "King Plank"
  - Runs down the center of the ships deck
  - Check that the plank divides the deck
    - into two equal halves'
    - the planks when laid, at widest point, don't end up with an odd width.
    - Adjust deck plank width so that the last strakes are neither wide or narrow.

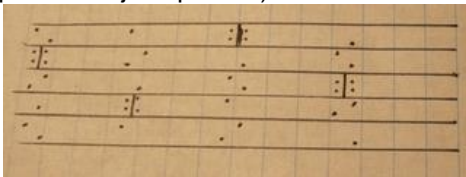
Planks are all the same width and, if possible, the same length

All planks run in a straight line fore and aft.

All plank butts centered on a deck beam

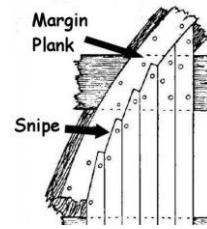
Butts: run parallel across the deck & perpendicular to deck plank edge.

Four planks between any two butts athwart ships (4 plank butt joint pattern)

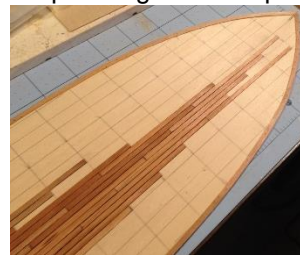


When a straight running deck plank butts against a margin plank at a curve, it must be joggled into the margin plank. Square end of joggled plank must be half the width of the plank. The snipe must be joggled when the "snipe" is more than twice the width of the plank

- Snipe – not less than twice the planks width
- Nib (Square end) – half the plank's width



He then shared a method he has used to plank the deck of a model he worked on. The base is a very thin plywood form in the shape of his model's deck with the margin plank installed. This is scored with fore & aft lines the length of his deck and evenly space line, perpendicular, to form quadrants to align his planking. See the photos below:



## Ships on Deck:

The following is an update on what your fellow craftsman have been working on. As you can see, the progress covers from finishing prior work, restoration, to new builds. Thanks to all who submitted their progress and questions.

### Mary Powell

Lee Kimmins



Working on lower hand rails and paint

### Bluenose - Restoration

Cliff Mitchell



After the cap rails and bulwarks were painted white, the top including the deck was covered with tape.

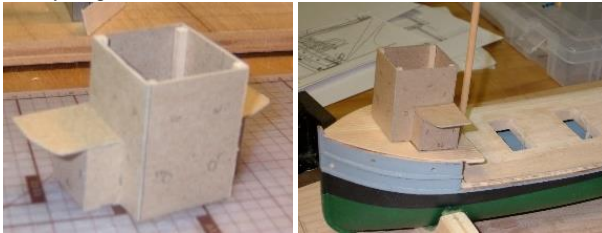




Primer was applied, then the hull was painted white where the waterline would be established. Above the scuppers yellow paint was airbrushed and thin yellow tape was applied. Waterline was drawn using a homemade device and it was covered with thin tape. Everything above the waterline was covered and now I am beginning to airbrush the area below the hull with red paint. This will probably take five coats. Each coat was sanded first with 800 grit and then 1500 grit sandpaper.

### **Margaret Olwill**

Bill Nyberg



Building a card model of the bow structure including the pilot house. Using the only photo of the ship found that showed details..



Above is the only view of the pilot house and is from the aft end. The prototype was too large for the model so back to the drawing board. The photo was taken at the North Dock, Kelly's Island, Lake Erie, the day before the *Margaret Olwill* sank in a storm off Lorain, Ohio.

### **Red Jacket**

Stan Ross



Still have the sheets and clewlines to do, then the lower shrouds and ratlines, then on to the mainmast.

**NOTE:** I encourage each of you to share photos of your works in progress, what you have completed in the past, and what you plan to work on in the future. Send it to your editor in jpeg format with a short write up.

### **Tips & Techniques**

#### **Belaying Pins**

In deciding what size belaying pins to use on your model there are some general rules to follow:

- Most ships used one size of pin with the largest required size prevailing
- The diameters of pins were generally not less than the diameter of the ropes belayed to them.
- Sea-going naval and commercial vessels had pins from 1 to 1½ inches in diameter with lengths of 12 to 18 inches.
- Smaller vessels could have pins of ½ inch diameter and lengths of 6 inches.
- A general rule of thumb was ½ in. + ½ in. per 100 feet of ships length for the diameter and 6 in. + 6 in. per 100 feet of ships length.
- Pin shapes varied slightly but all had rounded ends, shoulders on the upper portions a slight taper to the shaft. Upper portions were generally between 3/8 and 1/3 the length of the pin. For example:
  - ❖ 30' ketch – length 7 ¾ inches, diameter ½ inch
  - ❖ 160' schooner – length 15 inches, diameter 1 ¼ inches
  - ❖ 200' ship – length 18 inches, diameter 1 ½ inches

Information provided by Julius Shinko, assoc. member, Avon Lake, OH. Originally shown in the December 2018 "Ropewalk"

## Other Notes: "Stuff", Tugs & Things

### Nautical Terms

**Becket:** A short piece of line usually spliced into a circle or with an eye on either end.

**Before the mast:** Literally, the area of a ship before the foremast (the forecastle). Most often used to refer to men whose living quarters are located here: officers were typically quartered in the sternmost areas of the ship (near the quarterdeck), while officer-trainees lived between the two ends of the ship and become known as "midshipmen".

**Belay:** 1. To make fast a line around a fitting, usually a cleat or belaying pin; 2. To secure a climbing person in a similar manner; 3. An order to halt a current activity or countermand an order prior to execution.

**Belaying pin:** A short movable bar of iron or hard wood to which running rigging may be secured, or "belayed". Belaying pins are inserted in holes in a pin-rail.

**Bell rope:** A short length of line made fast to the clapper of the ship's bell.

**Bell buoy:** A type of buoy with a large bell and hanging hammers that sound by wave action.

**Below:** On or into a lower deck.

**Below decks:** In or into any of the spaces below the main deck of a vessel.

**Bend:** 1. A knot used to join two ropes or lines; 2. To attach a rope to an object; 3. Fastening a sail to a yard.

**Bermuda rig or Bermudan rig:** A triangular mainsail, without any upper spar, which is hoisted up the mast by a single halyard attached to the head of the sail. This configuration, introduced to Europe about 1920, allows the use of a tall mast, enabling sails to be set higher where wind speed is greater.

**Bermuda sloop:** A fore-and-aft rigged sailing vessel with a single mast setting a Bermuda rig mainsail and a single headsail. The Bermuda sloop is a very common type of modern sailing yacht.

**Berth:** 1. A location in a port or harbor used specifically for mooring vessels while not at sea. 2. A safe margin of distance to be kept by a vessel from another vessel or from an obstruction, hence the phrase "to give a wide berth". 3. A bed or sleeping accommodation on a boat or ship.

**Best bower (anchor):** The larger of two anchors carried in the bow; so named as it was the last, "best" hope for anchoring a vessel.

**Between wind and water:** The part of a ship's hull that is sometimes submerged and sometimes brought above water by the rolling of the vessel.

Glossary of Nautical Terms Wikipedia

## Webinar

### National Museum of the Great Lakes

The NMGL has announce their Spring lecture series and will include a lecture on "The Underground Railroad", "Life on the Great Lakes", and "The Great Lakes History of the Army Corps of Engineers".

All lectures will begin at 7 PM, EST, and are offered both virtually and in person. Event registration is free but required. The dates are Wednesday, February 23, March 23, and April 6<sup>th</sup>.

Go to [www.nmgl.org](http://www.nmgl.org) to register via their events page.

### Wellington Trust

I do not know how many of you took advantage of the invite sent out by the Nautical Research Guild to participate in the Zoom broadcast.

The presentation was sponsored and hosted by the Wellington Trust, upholding Britain's Maritime History. Their next session will be in March and has yet to be announced. Past lectures are available on their web site listed below.

<https://www.thewellingtontrust.org/whats-on/upcoming-events/>

### The Society of Nautical Research

A British research and model organization located in the UK also presents webinars. January 2022, they broadcast, for members only, "Writing Global Maritime History: The Second War" by Prof. Evan Mawdsley. And in February their broadcast was "Doing Maritime History Research Online".

They have also released a podcast commemorating the 110<sup>th</sup> anniversary of the Titanic disaster. It can be found on the Mariner's Mirror Podcast YouTube page.

<https://snr.org.uk/news-categories/events/>

### Houston Maritime Center

Tuesday, April 12th, the Houston Maritime Center in their History Lecture Series, will present "Decarbonization" by David Cummins.

The lecture is listed to cover the exploits of the self-taught shipbuilders, Noah and Adam Brown, who over the course of the War of 1812, built everything from gunboats to ships of the line. Their

work included some of the most successful privateers of the war; the sloop *Peacock*, which took more prizes than any other U.S. Navy ship; and Robert Fulton's steamship *Demologos*. However, their most impressive work was on the lakes. They built Perry's squadron at Lake Erie with nothing but hand-powered tools in the winter of 1813. And in 1814, they built Macdonough's squadron on Lake Champlain, which included launching the brig *Eagle* in 19 days after laying the keel. In both cases, the brother's ingenuity and resourcefulness contributed directly to American victories.

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

### U.S. Naval Institute

Not a sponsor of webinar broadcasts they do list articles that may be relevant to ship modeling.

In the February 2022 issue of Naval History, contains an article by William Prom "The Brothers Brown". The article is the story of Noah & Adam Brown and how their ship building impacted the War of 1812.

<https://www.usni.org/about-us/mission-and-vision>

### Nautical Research Guild

#### Model Figurines



#### Now available in the NRG Store

Complete your model with beautifully designed model figurines from the NRG figurine collection. These figurines have been designed by NRG member Frank Shurick who graciously donated the 3D printing files to the NRG.

The model figurines are available in a variety of designs and scales. Not all figurines are available in all scales. Each figurine is 3D printed on-demand when you order. Please note that figurines are

UNPAINTED, and **must** be ordered separately from other NRG products.

#### SHIPPING INFORMATION

These products are fulfilled by Shapeways and are made after you order. Please allow 3-10 business days for your figurines to be made, and additional time for shipping. It may take 3+ weeks from the date of your order for the figurines to be delivered. Figurines will be shipped to you directly from Shapeways.

#### MODEL SCALE

Before purchasing, check the size and the scale desired to ensure that it is suitable for your project. Scales of the figurines are 1/24 (1/2"), 1/48 (1/4") and 1/64 (3/16"). Not all figurines are available in all scales. Plans and purchased models are not always exactly to scale. If unsure, buy one to verify suitability prior to committing to a larger order.

#### MATERIALS

Each figurine is 3D printed at a specific scale and in a specific material.

- Gray PA12 Nylon is gray nylon plastic.
- Smooth Fine Detail Acrylic is acrylic plastic featuring high detail and a white semi-transparent appearance.
- White Natural Versatile Nylon is a white nylon plastic with a slightly rough matte finish.

#### PAINTING YOUR FIGURINE

These figurines are delivered unpainted. Prior to painting, it is strongly suggested to clean and prime the surface. To clean: dip in acetone to remove dust and oils. Then, apply a 3D primer such as [Badger 3D Prime](#) to seal the striations and porosity associated with the printing process. 2 to 3 coats should do the job. The primer can be applied with an airbrush or with a brush to provide a nice smooth surface for painting.

Paints come in many colors including many flesh tones and others common to the navies of these times. Choose a paint that is compatible with nylon plastic material. You may protect the paint with a coat of varnish or lacquer.

**Please order figurines separately from other NRG products.**

You may order any number of figurines in a single order but **combining figurines with other products from the NRG Store will result in your order being cancelled.**

*This product is not eligible for the NRG member discount.*



## Nautical Research Journal

If you are not already an NRG member, go to [info@thenauticalresearchguild.org](mailto:info@thenauticalresearchguild.org). Yearly subscription is available in three forms: Print copy, On-Line copy (E-Journal) and a combined both Print & On-line.

Print Journal - \$55

E-Journal - \$40

Combined - \$65

In each journal, there is always something to expand your knowledge of ships, ship modeling and maritime history.

### What are the advantages?

Besides the Journal, "Model Ship World" the NRG hosts Webinars on subjects that are helpful to we ship modelers.

The NRG Online Store now has 3D printed figurines. They are featured in different scales, and poses, and in some cases, different materials. Over 70 different subjects will be available in the future Note: they will come unpainted.

## Web Site

Have you visited our web site:

[www.shipwrightsofohio.com](http://www.shipwrightsofohio.com) lately?

We now have a video page that connects you to YouTube. On the home page, click on to the "Access Videos on Modeling" The new page highlights categories: Tools, Construction, Rigging, sails, Lighting, Finish/paint, and Historical presentations. While out there, explore what else, John has posted as information for you to use and to help you in your build process

Just as a reminder: our web master has installed a button on our web site home page (at [www.shipwrightsofohio.com](http://www.shipwrightsofohio.com)) that allows you to click on it and come directly into our monthly club zoom meetings.

## Tugs

### **B. W. Aldrich**



Built by Allen Mclelland & Co. at Milwaukee.

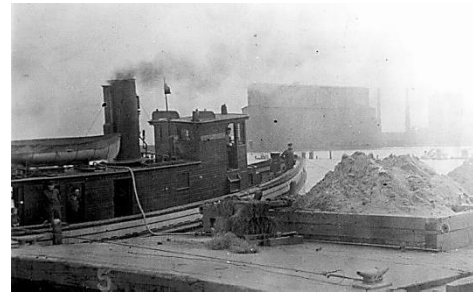
She was enrolled August 1, 1868 with measures: 65.2' x 15.1' x 6.7' with a tonnage: 48 grt, 24 net. She was made of wood and her official number was 2701. She was steam powered. Her original owner was Rider & Casswell, Pentwater, MI. In 1870, she caught fire, three times while at Muskegon, MI. In 1871, her ownership was changed to Kenosha, WI and she caught fire in that year at Ludington, MI. Ownership changed in 1873 to Caswell, Ludington where in the following year she caught fire and sustained \$5,000 in damage.

In 1899, her ownership was changed to a D.C. Pelton. That same year, she sank while on the St. Clair River.

March 1902, she was purchased by James Reid & Sons, Sarnia, Ont. and enrolled Canadian with official number 116387. In 1915 the tug *B.W. Aldrich* also known as *J.M. Diver* was abandoned.

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

### **Alfred W.**



The wooden tug, *Alfred W.*, was built at Green Bay, WI by A. S. Johnson and was first enrolled at Marquette, MI with measures of: 66.2' x 17' x 10.5' and a tonnage of 56 grt, 19 net. She was steam powered. She was assigned official number 202643.

In 1906, her ownership was recorded as the Duluth-Superior Dredging Co., Duluth, MN. June of that year, she struck a rock near Pie Island, Lake Superior and foundered. Her final enrollment was surrendered in 1933.

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

## **Presentation Schedule:**

### **2022**

~~Jan 15 – Canceled~~  
~~Feb 19 – Planking a deck~~  
Mar 19 – Deck house from scratch  
Apr 16 – Cannons and Accessories  
May 21 – Jigs & Fixtures - discussion  
Jun 18 – Flags  
Jul 16 – History: Marietta, ship building  
Aug 20 – Road trip  
Sep 17 – Scratch Building  
Oct 15 – Finishing: natural & paint  
Nov 19 – Rigging: mast & yards  
Dec 17 – Rigging: standing/running

## **Events & Dates to Note:**

### **2022 Tentative Schedule**

#### **Columbus Woodworking Show**

Ohio Expo Center  
January 21-23, 2022

#### **IPMS Columbus**

##### **BLIZZCON 2022**

Delaware County Fair grounds  
236 Pennsylvania Ave.  
Delaware, OH  
Saturday, February 19, 2022

#### **Miami Valley Woodcarving Show**

Christ United Methodist Church  
700 Marshall Rd., Middletown, Ohio 45044  
March 6 & 7, 2022

**44<sup>th</sup> Midwestern Model & Boat Show,**  
Wisconsin Maritime Museum, Manitowoc, WI  
**May 13-15, 2022**

#### **Lakeside Antique & Classic Wooden Boat**

Lakeside Hotel, Lakeside, OH  
July 17, 2022

#### **NRG Conference**

Oct. 2022

**Editor:** Bill Nyberg  
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## Wooden Steamers on the Great Lakes

Written by William E. Nyberg

### 1857-C

**North America:** Luther Moses at Cleveland, built a wooden propeller with the dimensions of 152.7' x 26.8' x 10.3', with a tonnage (old style) of 397 82/95. The *North America* was enrolled at Cleveland on May 16, 1857 and was intended for the package freight trade and ran Detroit to Dunkirk, NY. She was owned by her builder.

Her master for the 1857 season was Captain Perew. July 1857, the *North America*, laden with a cargo of oats, fish, flour and glass, went ashore at Fairport, OH. She was released without damage.

Her master for the 1858 season was Captain Wilson. The *North America* was chartered by The Lighthouse Service to carry supplies for the 1858 season. In July 1858, Up bound from Detroit, MI, laden with cedar posts and coal, the *North America* anchored in the St. Clair Flats for the night, caught fire and burned to a total loss. In September of that year, she was raised and her machinery was salvaged.

**Ozaukee:** July 7, 1857, the sidewheel boom tug *Ozaukee* was enrolled at Chicago. Her measures were 92.8' x 17.5' x 6.5' with a tonnage (old style) 102 73/95. Built by L.L. Slyfield, Port Washington, WI, she was owned by Alva Trowbridge, et al, Chicago and was intended for use in towing log rafts.

The tug *Ozaukee* had a series of owners who used her as a tug towing log rafts and also for the passenger, package freight trade.

In July 1860, ownership of the *Ozaukee* was changed to Jakab Beidler, et al, Chicago, IL. In November 1865, she was readmeasured and her enrollment updated to: 94' x 17.5' x 6.2'; 67.5 grt. And was assigned official number 19002.

July 1866, her ownership was recorded as F. B. Gardner, Chicago, IL where she was used in the passenger, package freight trade. In February 1868 her enrollment owner was changed to Erastus Bailey & Tristan Vincent, Lake Forest, IL. May 1870, ownership reverted back to F. B. Gardner, Chicago, IL. He had her rebuilt at Sturgeon Bay, WI. During the winter layup of 1875-76.

Early in 1879 her ownership was changed to O. A. Ellis, Green Bay, WI and it is believed that she returned to towing log rafts. May of that year, February 22, 2022

ownership shares were changed to J. R. Shepard, James & H. R. Durfee, Depere, WI. February 1880, her ownership was transferred to J. R. Shepard and H. J. James, Ashland, WI.

March 1883, her ownership of the was transferred to H. J. James & Charles Gehen, Ashland, WI. May 1884, while towing a log raft Lake Superior, the *Ozaukee* was driven ashore in a storm, striking a sandbar three miles off Bad River, SE of Chequamegon Point. She was declared a total loss. No lives lost. (05/27/1884)

**Quincy:** C. A. Van Slyke, Notter & Co, Buffalo, built in 1857 a wooden, steam driven propeller for Elijah K. Bruce of the same city to be used in the package freight trade. She was enrolled at Buffalo on May 12, 1857 and the following measure were recorded: 135.6" x 26.2' x 12', with a tonnage (old style) of 396 2/95. She was powered by an engine with a 24" bore and 36" stroke. She had a boiler: 18' x 7.5' that was built that same year. She was a sister ship to the *City of Madison* and her cost was set at \$30,000. Her master for the 1857 season was Captain Charles Hamilton

Four days after she was enrolled, her ownership changed to Henry Fitzhugh, DeWitt C. Littlejohn, ½ shares each, both from Oswego, NY. Her master was Captain Gibson Williams. In July of that same year, bound down from Chicago, IL with a heavy load, the *Quincy* went hard aground below Algonac, MI on the Detroit River. She was lightered to be released.

In September 1857, ownership of the *Quincy* was transferred to Old Oswego Line, DeWitt C. Littlejohn, president. The *Quincy* was laid up due to the Panic of 1857 for the 1858 season.)

June 1859, the *Quincy* was sold at a marshal's sale to a Mr. Keep of Buffalo for \$9,100.

March 1860, ownership of the *Quincy* was changed to Gibson T. Williams, 1/3 share, Buffalo and the Bank of Buffalo, 2/3 shares. Her master for the 1860 season was Captain George Chalmers.

May 1860, ownership of the *Quincy* was changed to Eber W. Owen, Ann Arbor, MI and her enrollment transferred to Detroit, MI. Her master was Captain Aeugis Smith. April 1861, the *Quincy*, bound up on the Saint Clair River, was forced into the ferry *Huron* by the river current, colliding with the ferryboat at her wharf at Sarnia, Ont. The *Quincy* was badly damaged.

Ownership of the *Quincy* was changed in May 1862, to Peter J. Ralph, Detroit. The *Quincy* burst her steam pipe off Rondeau, Ont, Lake Erie

incurring a property loss of \$500. In June of 1862, the *Quincy*, laden with flour, went ashore at Point Abino, Lake Erie. Her property loss was set for her hull at \$160 and her cargo at \$180.

In November 1862, ownership of the *Quincy* was changed to James S. Whitney, Boston, MA and the vessel was taken to the coast. Her master was Captain George Eggleston. That month, she was chartered by the Union Army for the period November 21, 1862 to February 5, 1865. December 20, 1865, the transport propeller *Quincy* foundered off Cape Hatteras, NC, Atlantic Ocean with a loss of sixteen lives.

***Reindeer*:** Campbell and Company, Detroit, with S. C. Keller as master carpenter built a wooden towboat for E. C. Merrick & Co. also from Detroit, to be used for the lumber trade. Enrolled at Detroit, November 7, 1857, she had measures of: 101.6' x 22.8' x 10.0' and a tonnage (old style) of 201.55. Her engine was built by Kellogg and Company, Detroit, and her boiler by John Dunlap. She had the capacity to tow a raft of 120,000 feet of lumber. She was part of the Detroit Tug Association and her master was Captain S. C. Keeler with John Ferguson as chief engineers.

Her ownership was changed to Henry Esseltyne, Clayton, NY & John N. Fowler, Detroit, in April 1859 and her master was Captain George M. Smith. In May 1860, the *Reindeer* passed down the Detroit River with eight loaded vessels in tow, setting a record for vessels in tow on the river. In July 1861, the *Reindeer* was chartered to tow a timber raft from Saugeen, Ont., Lake Huron to Port Colborne, Ont., Lake Erie. The raft consisted of 120,000 cubic feet of rock elm timber, drawing 5 feet of water and was 50 feet wide. The rafts final destination was Toronto, Ont.

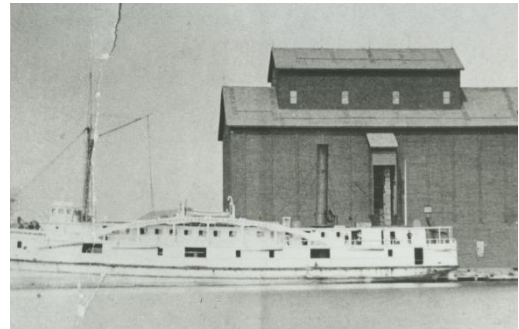
October 1862, ownership of the *Reindeer* was changed to Henry W. Burt and John S. Noyes, Buffalo, NY. Her master was Captain S.C. Keeler with James Reid as chief engineers and she towed the schooner barges *Sultana*, *Empire*, and *St. Lawrence*. May 1863, the schooner *John S. Reid* (US12711) collided with the tug *Reindeer* off Long Point, Ont., Lake Erie. November of that same year, the sloop barge *Sultana* (US-1846), lumber laden, under the tow of the *Reindeer*, stranded and sank 15 miles below Point Aux Barques, MI, Lake Huron. That same moon, the towboat *Reindeer* struck a rock near Point Aux Barques, MI, Lake Huron and broke her screw. She was towed to Detroit for repairs.

In August 1864 the *Reindeer* was sold Canadian, and enrolled at Montreal, Que. as *Reindeer* (C46247).

February 22, 2022

In 1866, her ownership was changed to John Cameron, Montreal. She was rebuilt in 1869 and her tonnage was 126 grt. Oct. 1871, the towboat *Reindeer* sank near the mouth of the Thames River, Lake St. Clair. She was raised and repaired.

Ownership of the towboat *Reindeer* was changed to John Wilson, Quebec in 1877. In August 1880, the towboat *Reindeer* took fire while at her wharf at Montreal, Que., and drifted down the St. Lawrence River until all her decks and upper works were destroyed.



***Rocket*:** Peck and Masters, Cleveland, built for the New York Central railroad Co., Dean Richmond, Batavia, NY, as wooden propeller that was enrolled at Buffalo with the following measures: 181.0' x 29.1' x 12.0' and a tonnage (old style) of 611 13/95. She was equipped with a low-pressure oscillating engine built by Cuyahoga Steam Furnace Co. Cleveland. She was designed as a freighter for service between Buffalo, NY and Green Bay, WI. And had passenger accommodation added during the 1857-58 winter layup. Her master for the 1857 season was Captain William Watts with G. L. Barker as chief engineer and in 1858 her master was Captain Rice. In July 1859, the *Rocket*, went ashore in thick fog on North Point, Lake Michigan. Released. In September of that year, bound down, the *Rocket*, after leaving Mackinac, Straits of Mackinac, caught fire which was extinguished by the crew causing slight damage. Her chief engineers were Robert Fleming for the 1860 & 61 season and C. L. Scoville for the 1865 and 66 season. Her master during the 1865 season was Captain William Wetmore. In September 1865, the *Rocket* was readmeasured at Buffalo and her enrollment updated to: 183.5' x 30' x 10.75'; 702.47 grt. She was issued official number 21144.

Ownership of the *Rocket* was changed to William G. Fargo, Buffalo in 1867.

In 1868, her ownership was changed to David M. Kelly, Green Bay. Her master was Captain Gaylord for the 1868 to 73 seasons.

In 1870, her ownership was changed to Lake and River Transportation Co., Green Bay, WI.

In 1873, ownership of the *Rocket* was changed to H.M. Hanna, George W. Chapin, and Seth Caldwell, of Cleveland.

In 1874, ownership was reduced to H.M. Hanna and George W. Chapin. Her master was Captain H. Nichols with C. L. Scoville as chief engineer in 1875. May 1874, the *Rocket* went hard aground at the head of St. Joseph's Island, Green Bay. In November of that year, inbound with a heavy cargo of merchandise and 100 tons cement, she was damaged by ice and grounding, finally sinking at her pier in the Maumee River at Toledo. She was repaired and returned to the Lake Superior ore trade. In March 1876, the *Rocket* was listed for sale.

Ownership of the *Rocket* was changed in May 1877, to E. Doville and Jane Coats, both of Cleveland.

Her ownership was changed to E. Doville and Alva Bradley, both of Cleveland, in May 1877. Her enrollment was updated in October 1877, listing the *Rocket* as rebuilt as a barge at Cleveland with a tonnage of 371.04 grt. Her master was Captain E. Doville. November 1877, the barge *Rocket* was overwhelmed by a storm while approaching Buffalo Harbor and drifted near shore just south of the lighthouse pier, where she was scuttled. Despite efforts to extricate her over the next two years, the barge *Rocket* was abandoned as a total loss in 1879.

Final enrollment was surrendered in June 1879 at Cleveland, OH and endorsed "abandoned".

**Noah P. Sprague:** Frederick Nelson Jones, Buffalo, built for a consortium of investor, Johnson et al, Buffalo, a wooden tug to be used in the general towing trade. Her measures were: 98.6' x 20.0' x 9'6" and had a tonnage (old style) of 173 7/95. She was powered by a high-pressure engine, 20" bore x 20" stroke. In October 1857, the tug *Noah P. Sprague* collided with the sloop *Sweeper* (US-1851) in the Detroit River causing damage to the sloop valued at \$100. The following month, her boiler exploded and she sank in the Detroit River, killing ten lives. The property loss to the tug was set at \$17,000. In September 1858, the sub marine diver, made examinations of this tug. The remains of the *Noah P. Sprague* were sold at Marshall's sale to George H. Parker, Detroit, MI for \$425 in October of that year. The tug was rebuilt at Detroit and refitted at Buffalo and operational by June 1859. Her master of the tug *Noah P. Sprague* was Captain Jas. F. Snow.

Ownership of the *Noah P. Sprague* was changed in 1860 to her original owner, Johnson & Captain Snow both of Buffalo.

In 1862, her ownership was changed Canadian to E. C. Jones, Toronto, Ont. and enrolled: C33576, 97 x 22 x 9; 119 grt.

In 1864, her ownership was changed to W. G. Cassels, Hamilton, Ont. In 1865, the *Noah P. Sprague* was reboilered, 7' 5" x 17' tubular boiler, 70 pounds steam. Her master for the 1866 season was Captain Burgess. While lying in the slip near the Lake Huron dock, Buffalo harbor in August 1866, the tug *Noah P. Sprague* took fire near the water jacket. She was scuttled in not sufficient water. Her hull was saved but her upper works were badly damaged. Rebuilt.

Her ownership was changed in 1869, to St. Lawrence Towing Company, Montreal, P.Q.

In 1875, ownership of the *Noah P. Sprague* reverted back to U.S. ownership and listed as owned by Evans et al, Tonawanda, NY and enrolled 126.74 grt. She was issued official number US130038 in May 1876. Her chief engineer was James E. Evans for the 1878 & 79 seasons and her master for the 1880 season was Captain B. C. Yocom.

In 1882, her ownership was changed to Peter Smith et al, Cleveland, OH. September 1883, the *Noah P. Sprague* and her consorts' barges *Baldwin* and *Pacific*, laden with stone, went ashore on the rocky north shore of Kelly's Island, Lake Erie. The *Sprague* and *Pacific* were released but were leaking while the barge *Baldwin* was scuttled. For the 1884 season, her chief engineer was William J. Slate. July 1884, the *Noah P. Sprague*, down bound, towing ore laden schooners, broke her shaft in Lake Huron. The entire tow, including the *Sprague*, was taken over by the tug O. *Wilcox* (U19289) for the balance of the trip to Cleveland, OH. In the Pelee Passage the *Noah P. Sprague* began to leak and sank within 15 minutes in Pigeon Bay, Leamington, Ont. Her crew was taken off by the *Wilcox*. Later that month, Captain George McLeod has returned after making an examination of the tug *Sprague*, sunk in Pigeon Bay. He found her listed over and badly twisted out of shape. Many bolts are drawn through on her port side; her cabin is entirely gone, while her hull is broken and has 9 feet of water in the inside. Her boiler and engine may be taken out, but nothing else is recoverable.





**Union:** Launched November 1856 by builder J. S. Jenkins, Walkersville, Ont. with master carpenters: Charles Hunt & Stephen Knight, the wooden sidewheel steamer *Union* was built for the Great Western Railroad Co., Windsor, Ont. for the transfer of rail cars between Windsor, Ont. and Detroit, MI. across the Detroit River. Because of the track gauge between Canadian and U.S. tracks, the vessel did not have rail tracks installed. Her hull was covered with boiler iron, built in the shape of a sled runner, so that she could run up on the ice, smashing it down to open a sea lane. Her measures were: 163' x 33.3' x 10.0' with a tonnage of 1,190-unit tons. The *Union* was powered by two low pressure engines, 40" bore x 96" stroke, built by Bartley & Gilbert, Montreal, Que. She shuttled rail cars across the Detroit River from 1857 to 1874. In December 1859, the car ferry *Union* had ice jammed in her wheel. While trying to free the wheel it moved and one man was seriously hurt. In February 1866, while crossing the Detroit River in ice, the car ferry *Union* had one of her wheels damaged. In 1869, the *Union* was listed at 1,000 tons and valued at \$35,000. In the winter of 1874, the *Union* was brought to Sarnia to assist in keeping the St. Clair River between Sarnia, Ont. and Port Huron, MI free of ice. The *Union* was laid up at Port Huron, MI in 1875. In June of the following year, while laid up at her dock below Black River, Port Huron, the *Union* caught fire, burned and then sank. Declared a total loss.

Ownership of the sunken ferry *Union* was purchased by Captain Fred Merryman, Coast Wrecking Company in October 1876. The sunken ferry *Union* was raised in April 1877 and taken into a dry dock to be caulked and have the iron removed from her.

Final disposition of the car ferry *Union* is unknown.



**John Ward:** John Stupinsky, Detroit, built a wooden sidewheel steamer tug for the United States Government to be used for surveyors on the St. Clair Flats dredging. Her initial enrollment was issued at Detroit, May 1857, and her measures recorded as 113' 10" x 20' x 7' 6" with a tonnage (old style) of 160.79.

In 1861, ownership of the *John Ward* was changed to Captain John Pridgeon, Detroit, and the J. L. Wolverton shipyard installed the machinery from the Canadian sidewheel steamer *Gore* (C-1836). She would be used as a boom tug, in the lumber trade on the Saginaw River. Master of the *John Ward* for the 1861 season was Captain John Pridgeon.

Ownership of the *John Ward* was changed to Captain W. Caverly, Detroit. In July 1865, the *John Ward* caught fire and burned to a total loss, sinking at Bay City, MI.

Ownership of the hulk was changed to L. Mason sometime between 1865 & 66. The hulk was raised, her machinery salvaged, and the hull converted to schooner rig for use in the lumber trade. Her master for the 1.867 season was Captain F. C. Hart.

April 1868, ownership of the schooner *John Ward* was changed to W. W. Hart, Detroit. Her enrollment tonnage listed as: 112.11 grt. And she was issued official number 12791.

In 1871, ownership of the lumber schooner *John Ward* was changed to George Fletcher, Detroit who had her rebuilt. That same year, ownership was changed to J. P. Hempstead, Detroit.

In August 1877, ownership of the lumber schooner *John Ward* was changed to J. Plumsted, Chicago.

In April 1878, her ownership was changed to Mary E. Richardson, Milwaukee, and her enrolled measures recorded as: 2 masts, 114.4' x 22' x 6.9'; 101.68 grt. Master of the *John Ward* in 1878 was Captain Thomas Richardson.

In September 1878, bound from Pierport, MI for Chicago, the *John Ward*, laden with water-elm lumber, sprang a leak and capsized. Her captain and crew abandoned the vessel by small boat. The

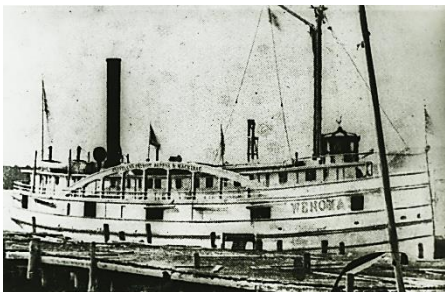
capsized lumber schooner was found drifting and waterlogged, twenty miles off Muskegon, MI. She was towed to Muskegon and beached to prevent sinking later that month. Her enrollment was surrendered.

In 1880, ownership of the hulk changed to R. C. Brittain, Saugatuck, MI. He had the hulk rebuilt as a steambarge by with James Elliott, master carpenter. She was enrolled at Grand Haven, MI, August 28, 1880, with measures: 116.3' x 22' x 7.8'. 173.28 grt, 145.02 net. She was powered by an 80 HP engine with 18' bore x 18' stroke. The vessel was renamed steambarge *J. S. Seaverns* assigned official # US76152. (The photo above) The *J. S. Seaverns* was built for the fruit and lumber trade between Lower Michigan ports on Lake Michigan. July 1881, the steambarge ran into the pier at Saugatuck, MI and was damaged.

May 1882, her ownership shares were transferred between R. C. Brittain, Saugatuck, and Charles McVea, Ganges, MI. March 1883, the *J. S. Seaverns* was operated by Graham's Steamboat Line and ran Saugatuck to Douglas.

In April 1883, ownership shares were transferred to R. C. Brittain et al, Saugatuck.

February 1884, the *J. S. Seaverns* was sold Canadian to Walter Ross & Co., Port Arthur, Ont; and rebuilt with full cabins for 54+ passengers. She would run between Chicago and Port Arthur, Ont., Lake Superior. Her master for the 1884 season was Captain Pritchard. In April of that year, her bow was iron plated to run against ice. In May 1884, while bound from Chicago, for Port Arthur, the *J. S. Seaverns*, was laden with general merchandise including pork, potatoes and machinery. While backing away from the harbor landing, she ran aground and then foundered in 10 fathoms of water, near Michipicoten Island, Lake Superior.



**Wenona:** Luther Moses, Cleveland, built a wooden propeller for the passenger, package freight trade. Enrolled at Cleveland, September 1857, her measures recorded as: 192' 11" x 30' 6" x 12' 3", with a tonnage (old style) of 688 38/95. Her original

owners were: Dean Richmond, 8/16, Ansel R. Cobb, 2/16 both from Buffalo; and James F. Clark, 6/16, Cleveland. She was powered by a low-pressure oscillating engine with a 50" bore x 40" stroke, built by Cuyahoga Steam Engine Works, Cleveland. She ran Buffalo to Chicago in 1857. Master of the *Wenona* for the 1857-58 season was Captain J. G. Huff.

Ownership shares for the *Wenona* were transferred October 1858, between Dean Richmond, 10/16, Buffalo; James F. Clark, 6/16, Cleveland. With the economy returning, the *Wenona* ran Buffalo & Cleveland to Mackinac & Green Bay; Racine & Milwaukee, WI in 1860.

In January 1863, ownership of the *Wenona* was transferred to Dean Richmond, Sheldon Pease, Buffalo; James F. Clark, Cleveland. Master of the *Wenona* was Captain Moses H. Collins in 1863 with A. B. Hamilton in 1865 and Daniel W. Chapman in 1865 and the 1867-68 seasons as chief engineer. In August 1864, the *Wenona* was damaged in a collision with the barque *Chenango* (US4335) on Lake Huron. In 1865, the *Wenona* went aground on Bar Point, Lake Erie and required to be lightered to be released.

In September 1865, ownership shares of the *Wenona* were transferred to Dean Richmond and Sheldon Pease, Buffalo; James F. Clark, J. N. McCullough, and Luther Moses, Cleveland. The enrollment records at Cleveland were changed after the *Wenona* was remeasured September 8, 1865: 193.3' x 30.5' x 11'; 841.23 grt. Her official number was 26169. In August 1866, the *Wenona* was damaged in a collision with the schooner *Forfar* (U9197) at Chicago.

September 1866, ownership of the *Wenona* was transferred to Mary Richmond, executrix of the estate of Dean Richmond, and Sheldon Pease, Buffalo.

May 1867, ownership of the *Wenona* was transferred to William C. Fargo, and Sheldon Pease, Buffalo. Master of the *Wenona* for the 1869 season was Captain Joiner. September 1869, the *Wenona* was damaged during a freshet at Buffalo. In November of that year, the *Wenona* struck the scow schooner *Fremont* (U9160) on the port bow, sinking her.

March 1870, ownership of the *Wenona* was transferred to The Western Transportation Co., Tonawanda, NY; William C. Fargo, Buffalo. Master of the *Wenona* for the 1870 season was Captain O. B. Joiner. The *Wenona* was chartered to Union Steamboat Company, Buffalo, March 26, 1870. Master of the *Wenona* for the 1871-72 seasons was Captain Louis R. Boynton.

In August 1871, ownership of the *Wenona* was changed to William E. Warriner, Detroit.

April 1873, the Alpena Transport Company, Detroit, took ownership of the *Wenona*. She received new arches, smokestack and a rudder. The propeller *Wenona* ran in the lumber trade to Tonawanda, NY. September 1874, the *Wenona* damaged her upper works on the Detroit River. Bound for Alpena and Bay City, MI, in April 1876, the propeller *Wenona* went aground at the Southwest Bend, Saint Clair River. In August of that same year, bound up, the *Wenona* went hard aground on Grassy Island, Detroit River.

May 1877, ownership of the *Wenona* was changed to Charles Bewick, Detroit. He had her converted into a schooner barge at Morley's Yard: 496.04 grt, 472.61 net. In April of the following year, the *Wenona* was converted into a 3-mast schooner.

Ownership shares of the schooner *Wenona* were transferred in April 1879 to Charles Bewick, Detroit and A.H. & William B. Comstock, Alpena, MI.

March 1882, ownership of the schooner *Wenona* was changed to William W. Tyler, Buffalo; Charles Hebard, Pequaming; and Michael Williams, Port Huron.

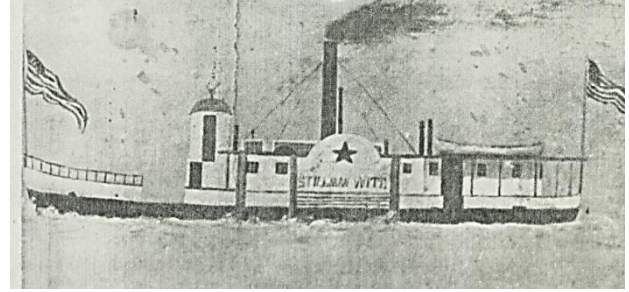
April 1886, ownership of the schooner *Wenona* was changed to William W. & Ella A. Tyler, Buffalo. She was towed by *Alpena* (U105351).

In April 1889, her ownership was changed to Edward C. Pecor, Charles Hubel & W.C. Brown, St. Clair, MI.

July of that year, her ownership was transferred to Edward C. Pecor, St. Clair, MI. She was towed by *Samuel Mather* (U116142).

September 1890, ownership of the schooner *Wenona* was changed to Duncan M. Smith, et.al., China, MI. Later that month her ownership was changed to John R. McGregor, Saginaw, MI, et.al.

April 1891, ownership of the schooner *Wenona* was changed to H.J. Davis, Buffalo, et.al. September 1893, the schooner *Wenona*, bound down the Blackwell River for Lake Erie, under tow of the tug *Grace Danforth* (U86017), collided with the, up bound, tug *Alpha*, with the barge *Craig* in tow. September 1898, bound from Hancock, MI for Ashland, WI, light, the schooner *Wenona* broke away from the steamer *Garden City* and stranded near the entrance to the Portage Ship Canal, Lake Superior. She lay on the beach until wrecked by gale waves, in September 1900. The skipper and his wife, her owners, stayed aboard for months in the hope she would be rescued



**Stillman Witt:** Donald O'Connor, Buffalo, built a wooden towboat for William J. Farrell, Buffalo. She was enrolled at Buffalo, July 17, 1857 with measures: 88' x 17' 5" x 9', with a tonnage (old style) 127 92/95. She was powered by a horizontal (locomotive), 16" bore x 18" stroke, built by McGinnis & Co., Albany, NY. Her boiler: 21' x 4.5' with SEE's patent heater to preheat boiler water. Her master for the 1857 season was Captain William J. Ferrell, owner. October 1857, while at her dock in Buffalo harbor, the towboat *Stillman Witt* burst her boiler and sank. Six lives were lost, including Captain Farrell and the pilot, William Starritt. The hull was raised and towed up the Creek. Her engine will be saved and there is enough of the hull to rebuild from. She was insured for \$10,000.

Ownership of the towboat *Stillman Witt* was changed to Charles Van Beurtingsen, Albany, NY. The tug was taken to New York for service in the Civil War. (NOTE: In the search of Civil War records of the Union and Confederate Navies, no record was found of a towboat called *Stillman Witt* serving either in the navy or as a transport for the army.)

February 1862, ownership of the towboat *Stillman Witt* was changed to Charles D. Harmon, New York, NY

March 1862, ownership of the towboat *Stillman Witt* was changed to John Reid et al, New York, NY.

September 1863, the towboat *Stillman Witt* was rebuilt as a sidewheel steamer.

In 1871, the sidewheel steamer *Stillman Witt* returned to the lakes and was enrolled with official number 22794.

In 1872, ownership of the sidewheel steamer *Stillman Witt* was recorded as changed at Fond du Lac, WI, 79.32 grt. In 1875, she operated as a ferry between Superior and Duluth, MN. In 1881, the tug caught fire and burned at her dock. The hull was towed to the ferry dock and dismantled at Park Point, Duluth, MN.

Enrollment surrendered and endorsed "abandoned".



## 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.

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:  $\text{Tonnage} = ((\text{length} - (\text{beam} \times 3/5)) \times \text{Beam} \times \text{Beam}/2)/94$

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<sup>7</sup>/<sub>94</sub> 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 forecandle 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, that 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.)