

© 1957 Edwin Tunis

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 - May 2021  
**Next Meeting: June 19, 2021**  
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## May 2021

Notice: The library is still closed to meetings, so this newsletter and our monthly Zoom meetings will continue to be your primary contact.

The library notice lists the following that are available. The library's doors are currently open to visitors. While here, you can: Browse the collections; Use the computer labs; Visit the History Center & Museum; Borrow and return items, all while wearing a face covering.

When will the library offer more services? Their top priority remains the community's health and safety. Services and amenities that remain temporarily unavailable include coffee service, donations, meeting rooms, and events (in-person) With the vaccine program roll-out for the general public, there is light at the end of this tunnel.

We are thankful for all those on the front lines, serving and protecting us during this pandemic.

Take care of yourself and your families. Schedule and get you COVID-19 vaccine if you have not already done so. I also ask that you look to those you know who may need help or are lonely and need human contact in this time of isolation. God bless. Your editor.

## Welcome

Carl Seech, Lima, OH has asked to join our club. Carl is an NRG member and is building "Fair America"

## Schedule Change

I need to change the schedule for June & July. The presentation "Evolution of the Wooden Ship" has been moved to July and the topic "Hand Metal Working" has been dropped since nobody has stepped up to present on the subject.

This June, I have two grandsons graduating, one from college and one from high school, both on the west coast. So, I will be spending time with family. Not sure what we will cover at the June meeting, so if anyone has an idea, let me know.

## May Meeting & Subjects

Someday. Someone will explain to me, why, no matter what the event or subject, it is a 'bear' to get people to remember and attend a meeting in the month of "May".

We zoomed again and had nine who joined our zoom gathering. Jack Bowers did an excellent presentation of making sails. Thanks Jack.

## Web Master

Have you visited our web site lately? "WOW, we have come a long way in a few months."

We are now storing the monthly meeting Zoom presentations recordings under the heading "Media". John Boeck ([boxlink@aol.com](mailto:boxlink@aol.com)) has converted our web site into a very professional site. If you missed our meeting, you can view the presentation on the web site under the "Media" page. We are also converting past presentations to pdf documents from PowerPoint.

I have 74 presentations from past meetings stored on my laptop that I am in the process of converting from PowerPoint to pdf format. Already converted and stored under library/club the following presentations in pdf format:

- Adhesives, Illumination and Electronics – A, Phelps.
- Hahn Jig – B. Nyberg.
- History of Ship Models – B. Nyberg
- Photographing Model Ship – A. Phelps.
- Sail Making with Cloth – J. Bowers
- Six Sail Making Articles – Rocky Mt. Shipwrights

## Zoom

If you are having trouble setting up a zoom contact or signing in, I encourage you to contact Bob Mains, **Please**. He can help you to connect. Bob can be reached at ([rmains43@gmail.com](mailto:rmains43@gmail.com))

## Announcements

### Midwestern Model Ship Contest

The 44th Annual Midwestern Model Ships and Boats Contest was held as a Virtual Contest with models judged by photographs submitted by the modeler. The contest is co-sponsored by the NRG and all judges are NRG members who have judged earlier contests at the museum.

Saturday May 15<sup>th</sup>, there was a virtual awards ceremony with 45 attendees. The club had two entries that earned awards.

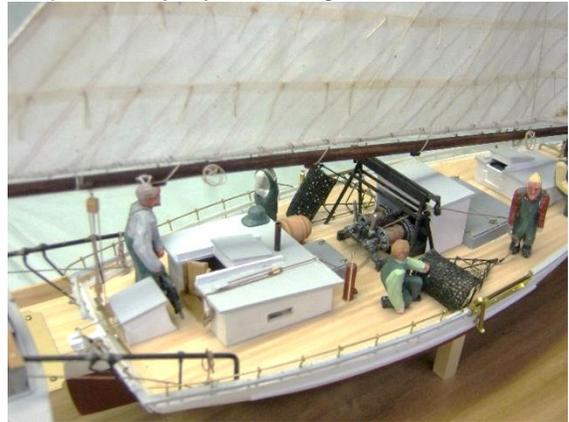


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In the Novice/Kit category, Bob Mains was awarded a "**Bronze**" for his model of the "Swift". (Shown above)

This was his first model and his first entry into an international ship modeling competition. He gives credit to all the help and advice he received from you, his fellow club members. Again, proof that "A ship modeling club is a modeler's most valuable tool".

In the Advanced/Kit category, your editor was awarded a "**Gold**" for my model, with crew, of a Chesapeake Bay Oyster dredge.



Thank you for your support and thanks to the NRG conference at Annapolis and their tour of St. Michaels where I learned much about skipjacks and oyster dredging.

### NRG Photographic Ship Model Competition

The Board of Directors of the Nautical Research Guild is pleased to announce the 2021 Photographic Ship Model & Juried Competition. The last NRG model photo competition was in 2015

The competition has been updated to make it easier to submit your photographs. All files will be submitted on-line...no more downloading the files to a DVD or driving to the post office. Entrants will also receive a written review of their model. Gold, Silver and Bronze medals will be awarded for the First, Second and Third place models in three categories: Apprentice, Journeyman and Master. A Best of Show medal will be awarded to the best Gold medal winner and ribbons will be awarded to models with qualifying points.

The competition is open to Regular Members in good standing of the Nautical Research Guild. If you are not currently a member, join the Guild for as low as \$40 and enter the Competition. The fee is \$30 per model entered. Winners will be announced at the Annual Member's Meeting in the Fall. For more

information and the complete rules and to download the Entry Form, go to <https://thenrg.org/contests>.

Here is your chance to find out how good your modeling is and what you need to do to move to the next level. You have had plenty of time to build some great models. The deadline for entries is August 2<sup>nd</sup>, 2021.

### **Cargo Hold**

On our web site [www.shipwrightsofohio.com](http://www.shipwrightsofohio.com) under the heading "MORE" you will find the "Cargo Hold" where members can advertise items, they have a desire to part with.

#### Under **BOOKS** are listed:

- "The Book of Ships" by Henry B. Culver - \$25
- "Greyhounds of the Sea" by Carl Cutler - \$30
- "The History of the American Sailing Navy" by Howard I. Chapelle - \$15
- "The American Fishing Schooners" by Howard I. Chapelle - \$35
- "The History of the American Sailing Ships" by Howard I. Chapelle - \$15
- "The Baltimore Clipper" by Howard I. Chapelle - \$15

#### Under **KITS** are listed:

- LE SOLIEL ROYAL - Sergal (French 104-gun ship): \$520 or less??
- HMS VICTORY - Panart (Nelson's flagship): \$450 or less??

#### Under **WOOD & MATERIALS** are listed:

##### Wood stock:

- |              |        |
|--------------|--------|
| Boxwood      | Holly  |
| Sitka Spruce | Maple  |
| Cherry       | Walnut |

##### Metal:

- |           |              |
|-----------|--------------|
| Brass Rod | Copper       |
| Brass     | Brass Tubing |

##### Materials

- linen line, wood strips,  
boxwood blocks & various fittings

#### Under **TOOLS** are listed:

- drafting table
- old school drafting machine

If interested, go to our web site, click on: **MORE/Cargo Hold**, and then on the category. The seller information is listed. Most prices are negotiable.

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### **June 5th workshop**

Saturday, June 5<sup>th</sup>, 2021 - The NRG will host a virtual workshop entitled: "Photography for Ship Models". Kurt Van Dahm, a retired professional forensic photographer will present. This will be a Zoom presentation. NRG members only, cost is free. If interested in attending, go to our web site, under events and scroll down to June 5<sup>th</sup> and click on the heading. Details on how to register will be found there.

### **BlueJacket Shipcrafters workshop**

Bluejacket Shipcrafter will host a class for novice ship modelers on rigging at the Fireside Inn, Belfast, ME, September 20 – 24, 2021.

"The class will run from 9 to 3 for 5 days. We don't assume you know anything about rigging a ship model. All tools and materials are provided with the **class fee of \$440**. You get a hull to work on, all the sticks and dowels, glue, blocks, deadeyes, threads, wire, beeswax, sandpaper and the following tools: Excel hobby knife and blades; Pin Vise; Assortment of drill bits; Tweezers; needle nose pliers; flush cutters; clamps; cuticle scissors (best for clipping rigging); and probably some other things they forgot.

By the end of the class, you will have learned how to use the tools, tie a multitude of various knots, and will have completed what you see in the picture below, which include: shrouds, backstays, bobstays, gammoning, vang, topping lift, ratlines, hearts, throat halyard, peak halyard, sheet tackle on a traveler, lifts, braces, forestays, etc.



Classes will be held at the Fireside Inn in Belfast, 4 miles from BlueJacket on Route 1. Their phone # (207)-338-2090. Ask for the BlueJacket corporate rate if you choose to stay there. They are holding rooms at \$99 until mid-August. There is a pool, exercise room, a decent breakfast bar, and all rooms have an excellent view of Penobscot Bay. If you are the camping type, Searsport Shores is nearby.

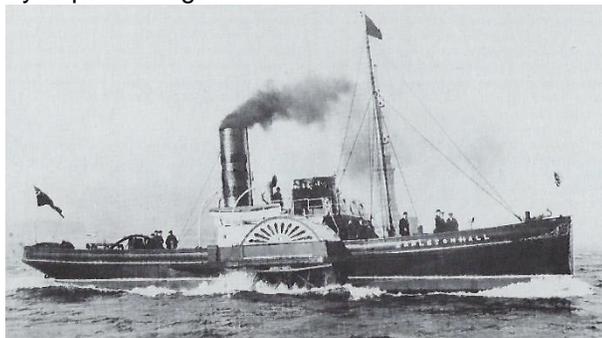
The class is limited to 12 people with payment in advance. Full refund up to 2 weeks

before, 50% refund up to 1 week before. Unfortunately, cancellation less than a week in advance cannot be refunded except by extreme circumstances, which we reserve the right to determine."

**IMPORTANT - YOU MUST BE FULLY VACCINATED TO ATTEND**

### ***Eppleton Hall***

In the April 2021 "Ropewalk" under "Tugs" we included an article and photo of this steam sidewheeler with a side-lever engine, the last of the Tyne paddle tugs.



Guy Lawrie, editor "San Diego Ship Modelers Guild" wrote that Tom Hairston ([tomwhairston@gmail.com](mailto:tomwhairston@gmail.com)) has plans for this vessel. The plans are from Dr. William F. Brown, an accomplished ship modeler from San Diego. Contact Tom if you are interested in building this tug and would like the plans.

### **Presentation:**

#### ***Making Sails from Cloth***

This month's presentation was by Jack Bowers and covered how he made the muslin sails for his model of the *Cutty Sark*. The presentation was recorded and can be found on our web site under MEDIA. A copy of Jack's PowerPoint presentation has been converted to Adobe pdf and can also be found on our web site at: library/club presentations.



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### **Ships on Deck:**

The following is what your fellow craftsman have been doing during their isolation. I encourage each of you to share photos of your works in process, 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.

#### ***Vasa***

Doug Buchanan



He is having some planking problems with the blunt bow. I will send him what I have on planking and spiling.



#### ***Great Harry***

John Boeck



John had to make much of the blocks, replicating what was on to original model. He is rigging the mizzen and bonaventure masts.

### Red Jacket

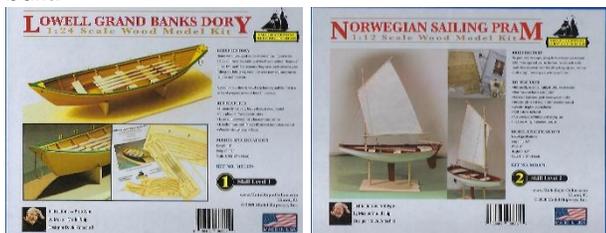
Stan Ross



### Lowell Grand Banks Dory

Bill Nyberg

My oldest grandson moved to Reno in the spring, taking over a marketing/service territory with Ecolab. New to the area and with time on his hands, I asked if he would be interested in taking up ship modeling again. (We built one about 10 years ago, before HS, college and starting a new career.) He was open to the idea and I had seen that Model Shipways had a three kits for the novice to develop skills. I ordered him the Dory and the tools and volunteered that I would mentor him from Ohio as he built.



So, to mentor, I needed to read through the instructions and build the model so I could help him when he got started. With that, the "lumber hooker" joined the "Armed Virginia Sloop" on the shelf. This looks like a good series to help someone into this hobby. Will keep you posted.

## Odds and Ends

### Nautical Terms

**Leach:** The after edge of a sail.

**Lead:** 1. A plummet or mass of lead attached to a line, used in *sounding* depth at sea. 2. In former usage, to estimate velocity in knots.

**Leadline:** An instrument used in navigation to *measure water depth*; the line attached to a lead.

**Leadsman:** A sailor who takes *soundings* with a lead, measuring the depth of the water.

**league:** A unit of length, normally equal to three nautical miles.

**lee helm:** The tendency of a sailboat to turn to leeward in a strong wind when there is no change in the rudder's position. This is the opposite of weather helm and is the result of a dynamically unbalanced condition. See also *center of lateral resistance*.

**lee side** or **Leeward:** The side of a ship sheltered from the wind. Compare *weather side*.

**lee shore:** A shore downwind of a ship. A ship that cannot sail well to windward risks being blown onto a lee shore and grounded.

**leeboard:** A large fan-shaped wooden board or fin mounted in pairs on the side of a boat. They can be lowered on the lee side of the ship to reduce leeway (similarly to a centerboard on a dinghy).

**Leech:** The aft or trailing edge of a fore-and-aft sail; the leeward edge of a *spinnaker*; a vertical edge of a square sail. The leech is susceptible to twist, which is controlled by the boom vang, mainsheet, and, if rigged with one, the gaff vang.<sup>[2]</sup>

**leeward:** (pronounced /'lju:ərd/ in nautical use) In the direction that the wind is blowing towards.

Contrast *windward*.

**leeway:** The amount that a ship is blown leeward by the wind. Also, the amount of open free sailing space available to leeward before encountering hazards. See also *weatherly*.

**leg:** In navigation, a segment of a voyage between two waypoints.

**length between perpendiculars:**  
(*p/p*, *p.p.*, *pp*, *LPP*, *LBP*, or *Length BPP*)

The length of a vessel along the waterline from the forward surface of the *stem* or main bow perpendicular member, to the after surface of the *sternpost* or main *stern* perpendicular member. The measure is believed to give a reasonable estimate of the vessel's carrying capacity, as it excludes the small, often unusable volume contained in her overhanging ends.

**length overall (LOA):** The maximum length of a vessel's hull measured parallel to the waterline, usually measured on the hull alone, and including overhanging ends that extend beyond the main bow and main *stern* perpendicular members. For sailing vessels, this may exclude the bowsprit and other fittings added to the hull, but sometimes bowsprits are included.

**let go and haul:** An order indicating that the ship is now on the desired course relative to the wind and that the sails should be trimmed (hauled) to suit.

**letter of marque:** An official warrant granted to a privateer condoning specific acts of piracy against a specific target as a redress for grievances.

Glossary of Nautical terms Wikipedia

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

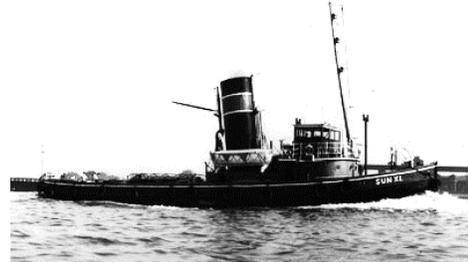
### **Nautical Research Journal**

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 she had measures of; 117.4 x 24.2' x 10.5'  
E-Journal - \$40  
Combined - \$65

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

### **Tugs Sun XI**



Sun XI was built in 1919 by Cochrane and Sons, Selby, UK. A YN732, with measures: 100.3 x 25.6; x 11.8' and powered by a 750 hp, 3 cylinders (15" x 24' x 27") 180 psi steam engine from Earle's Ltd, Hull UK. Delivered to W.H.J. Alexander Ltd, London in 1920. Nov. 1939, she was requisitioned by the Royal Navy. December 1940, she struck a mine and sank in the Thames Estuary with a loss of three lives. She was raised and laid-up by the Ministry of War Transport and subsequently demolished by T W Ward Ltd., Grays.

Original Source: "On the Hawser" by Steven Lang and Peter H. Spectre, 1980; & Thames ship handling tugs website [www.thamestugs.co.uk](http://www.thamestugs.co.uk).

### **Wicomico**



Built in 1926 at Chester PA, for the New York, Philadelphia & Norfolk R.R. Co. she measured: 117.4' x 24.2' x 10.5'. In the photo above, she is running speed trials to determine if she meets designer specifications. The *Wicomico* is using a temporary bracket over her bow which held an impeller lowered into the water and transmitted the speed directly to a dial in the wheelhouse.

Original Source: "On the Hawser" by Steven Lang and Peter H. Spectre, 1980;

## Presentation Schedule:

### 2021

Jan 16 — History of Ship Modeling  
Feb 20 — Carving Ship Decorations  
Mar 20 — Photographing Models  
Apr 17 — Setting up a Hahn Frame Jig  
May 15 — Sail Making  
Jun 19 —  
Jul 17 — Evolution of the Wooden Ship  
Aug 21 — Steam Engines  
Sep 18 — Super Detailing  
Oct 16 — Illuminating Models – Fixture/Circuitry  
Nov 20 — NRG Conference Report  
Dec 18 — From CAD to Component Parts

## Events & Dates to Note:

### 2021 Tentative Schedule

~~IPMS-Columbus~~ **Canceled**

**47th Anniversary BLIZZCON**

Arts Impact Middle School  
680 Jack Gibbs Blvd. Columbus 43215  
**Saturday, February 20, 2021**

~~Miami Valley Woodcarving Show~~

**Canceled**

Christ United Methodist Church  
700 Marshall Rd., Middletown, Ohio 45044  
**March 6 & 7, 2021**

~~66th "Weak Signals" R/C Model Show~~

**Canceled**

~~31st North American Model Engineering Expo.~~

**Canceled**

Wyandotte, MI  
**April 23-24, 2021**

**44th Midwest Model & Boat Show,**

**Virtual competition will take place.**

Wisconsin Maritime Museum, Manitowoc, WI  
**May 15-16, 2021**

**Photography for Ship Models**

NRG Virtual Seminar  
**June 05, 2021**

**Lakeside Antique & Classic Wooden Boat**

Lakeside Hotel, Lakeside, OH  
**July 18, 2021**

**NRG Photograph Competition**

**Submission Deadline**  
**Aug 02, 2021**

**Toledo Antique & Classic Boat Show**

Promenade Dock, Maumee River, Toledo, OH  
**Aug 21-22, 2021**

May 17, 2021

**BlueJacket Rigging Class for novice**

Belfast, ME  
**Sept 20 – 24, 2021**

**NRG Conference**

**Canceled**  
**Oct. 21-23, 2021**

**Editor:** Bill Nyberg

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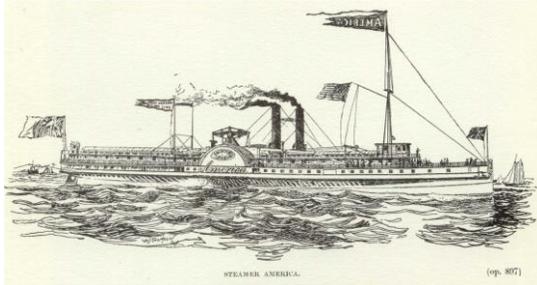
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## Wooden Steamers

### 1854 A



**America:** Louis Shickluna of Niagara, Ont. built for the Great Western Railroad Co, of Hamilton, Ont. a wooden sidewheel steamer for the Lake Ontario passenger service, which would run between Toronto, Kingston and Ogdensburg. She was first enrolled at Hamilton, Ont. in 1854 and her measures noted as: 279' x 36.3' x 14.0' with a tonnage at 453 grt. She was powered by two walking-beam, low-pressure engines, 70" bore x 144" stroke, built by West Point Foundry, New York, NY. Her master for the 1854 – 56 seasons was Captain Masson. In June, 1855, the *America* was chartered by Zimmerman to run between Toronto, Ont and Ogdensburgh, NY with stops at Darlington, Cobourg and Cape Vincent. July of that year, the steamer *America* collided with the schooner *Emblem* (C-1852), on Lake Ontario off Genesee, NY. The schooner was badly damaged and five lives were lost. The schooner was towed to Cape Vincent, NY for repairs. Due the disastrous economic conditions the *America* was laid up at Montreal, Que. after the 1856 season.

The steamer *America* ownership was changed to the Detroit and Milwaukee Railroad Co. Detroit, MI in 1857. April 1858 the *America* sank at her dock at Hamilton, Ont. She was raised and repaired. In June of that year, the steamer *America* ran the St. Lawrence rapids, but was again laid up at Montreal, Que.

The summer of 1858, her ownership was changed to Peter A. Hargous, New York, NY. The sidewheel steamer *America* departed Montreal, Que. September 04, 1858 and steamed to New York City via the Lachine Rapids and the St. Lawrence River. Her Canadian certificate of ownership was cancelled by letter from the Collector of Customs, Quebec in September 1858. Her owner prepared the *America* by having her rebuilt at Sneedens Shipyard, New York, N.Y. and had her guards narrowed three feet, main deck built up and additional framing added to her hull. She was admitted into US Registry at New York City, January 1859, by a special Act of

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Congress and renamed *Coatzacoalcos*. Her measures were: 285' 6" x 38' 4" x 14'; Tonnage: 1683 tons.

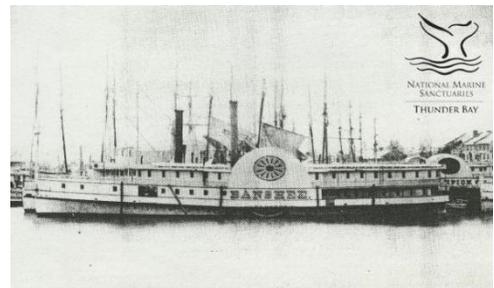
Her ownership was changed to Marshall O. Roberts in 1860. During the U.S. Civil War, - the sidewheel steamer *Coatzacoalcos* was chartered by the U.S. War Department for use along Atlantic Coast & Gulf of Mexico, March 16, 1861. She reported to Texas, leaving there with troops March 30, 1861. She appears to have been chartered to the U.S. Government multiple times between her first charter and September 1862. She participated as an Army charter in the Port Royal Sound expedition. May 1862, she was reported at Hampton Roads on her way south to the Gulf of Mexico with dispatches and loaded with ammunition. Later that month she was reported in lower Mississippi with naval ordnance aboard. September 1862, the sidewheel steamer *Coatzacoalcos* carried 900 prisoners to Fort Monroe for internment. In all her charters, the average rate per day for this vessel was \$1200.

In the later part of 1862, her ownership was changed to the People's Line, San Francisco, CA, who renamed her *America* and sent her to Nicaragua. In 1863, the sidewheel steamer *America* ran the San Francisco to Panama route on the Pacific Ocean.

Her ownership was changed to Central American Transit Co., San Francisco, CA. in 1864 and she continued to run in the San Francisco to Panama route.

In 1866, her ownership was changed to North American Steamship Co., San Francisco, CA.

Two years later, her ownership was changed to Pacific Mail Steamship Co., San Francisco, CA. and she ran San Francisco-San Diego- Mexican ports. April 1869, bound from Panama for San Francisco in ballast, the steamer *America* put into San Juan, Nicaragua for coaling. A fire broke out at 4:30 AM and spread so fast that within fifteen minutes the entire hull was in flame, she burned until sinking in six fathoms of water. There were no lives lost.



**Banshee:** July 02, 1854, the wooden sidewheel steamer was enrolled at Kingston, Ont. Built by George Nelson Ault of Portsmouth, Ont. for William Bowen of Kingston, Ont., her measures were recorded as: 173.5' x 24.6' x 9.3' with her tonnage listed as 294-unit tons. She was powered by a vertical beam (walking beam) low pressure engine with a 44" bore x 120" stroke. The engine was built by Kingston Foundry, Kingston, Ont. (date unknown) During her 29-year career, her engine was replaced with one with a 40" bore x 132" stroke that had been built by Ward Eagle Foundry, Montreal, Que. (date unknown). The *Banshee* was built for passenger, package freight trade and ran in the "Royal Mail Line" between Toronto, Hamilton, Oswego, NY, and Montreal. The vessel had a 140-foot "upper saloon" and carried 40 cabin passengers. Master of the steamer for the 1854 season was Captain Perry with Captain Thomas Howard as master for the 1855-59 seasons.

Bound up from Cape Vincent, NY for Toronto, the steamer *Banshee* fell in with the wreck of the ill-fated schooner *Emblem* (C-1852), which had lately collided with steamer *America*. Taking the schooner in tow, brought her up to Toronto, leaving her lying at Reese's wharf. July 31, 1855, the steamer *Banshee* while running the Lachine rapids, St. Lawrence River, struck rocks and had to be run ashore on Nun Island. Her repairs were valued at \$500.

The steamer *Banshee* had been built light for speed, but the hull was weak and hogged due to the weight of her machinery being placed in the center of the vessel. She was placed on the "Railway" where she was "Stiffened" by the Kingston Marine Railway during the winter 1855-56 and had arches added in 1858.

Ownership of the steamer *Banshee* was changed to Bowen & Gildersleeve, Kingston, Ont in 1860 and her master for the 1860 season was Captain D. Sinclair.

Her ownership was changed to the Inland Navigation Co., O.S. Gildersleeve, Esq. principal stockholder, Montreal, Que. the following year. Her master for the 1861-64 seasons was Captain H. C. Swales. In September of '61', the steamer broke her shaft during a gale on Lake Ontario. She made Kingston for repairs but was out of service for the rest of the season. Two years later, in September 1863, she again broke her shaft, but this time on the St. Lawrence River and required a tow up the river to Kingston, Ont. for repairs. Her repairs cost \$1,250. In August of the following year, bound down for

Kingston, Ont. in heavy fog on Lake Ontario, she collided with the steamer *Empress* abaft the sidewheel housing, ten miles west of Ducks Island, Prince Edwards Bay. Both steamers proceeded to Kingston, Ont. for repairs.

March 1865, her ownership was changed to American buyers and she was scheduled to sail for New York City when the ice recedes. May, while moored at the railroad crossing, the steamer *Banshee* was struck by the schooner *Hastings* (C-1861), damaging her paddle-box, bulwarks of her upper deck and the hurricane deck. She was repaired and her master for the 1865 season, Captain Harbottle took her out for a trial run.

She was chartered in July 1865 to the Canadian Inland Steam Navigation Company, and was immediately placed on the Royal Mail Line, to run until the steamer *Kingston* was ready to resume her trips, and the *Banshee* will then be laid by as a spare boat. The purchase of the *Banshee* will allow backup to for the daily steamer, and stop a gap at present existing in the line. In 1867, ownership of the steamer *Banshee* was changed to the Canadian Navigation Co. (Royal Mail Line). Her masters were: 1868-69 Captain Farrell, 1870-71 Captain Bailey, 1872 Captain Barney McCoy and for 1873 - Captain Sherwood.

1874, her ownership was changed to the St. Lawrence Towboat Co. The steamer *Banshee* was converted to a towboat and moved to the St. Lawrence River, where for the next nine years she towed vessels thru hazardous waters on Lake Coteau, St. Lawrence River. In 1875, the St. Lawrence Towboat Co. was reorganized to St. Lawrence Navigation Co., Ltd., Quebec, Que. In 1876, the *Banshee* was dismantled. Her final enrollment for the towboat *Banshee* was surrendered at Montreal, January 24, 1883 and endorsed "Broken Up".

**Bruce Mines:** Built by David Tate at Montreal, Que for the Montreal Mining Co., she was enrolled at Montreal. Her only known measurement is her length of 126 feet. She was built for the passenger, package freight trade and carried supplies from Montreal to Bruce Mines, Ont. (located on the south shore in the North Channel, Georgian Bay) with copper ore for a return cargo. (The *Bruce Mines* was listed in many sources as a sidewheel steamer, but Mills Record lists her as a screw propeller.) Her master for the 1854 season was Captain Frederick M. Fraser.

The *Bruce Mines* started her first trip to Bruce Mines, Ont. from Montreal on June 19, 1854. September of that year, while bound down, on her

return trip, the *Bruce Mines* came alongside the Canadian scow schooner *N.G. (C-1842)*, out of Port Dover, Ont. The schooner was laden with lumber and had been caught in a storm, off Port Burwell, Ont, Lake Erie. The schooner's sails and rigging were gone and her masts were overboard putting her at the mercy of the wind and waves. The *Bruce Mines* took her in tow and brought her safely into port at Buffalo, NY. All six crew were saved.

November 1854, late in the season, bound up to Bruce Mine, Ont from Goderich, Ont in a gale, the propeller *Bruce Mines*, laden with passengers and winter supplies, leaking, she lost her rudder and became helpless in the waves and wind. The crew and passengers of the vessel, numbering 26, abandoned ship in the lifeboats and rowed to shore some 15 miles away. The vessel sank off Cape Hurd, Bruce Peninsula. One life lost. Her register was closed and listed as foundered.

**Canada:** Louis Shickluna, Niagara, Ont. built for the Great Western Railroad a wooden sidewheel steamer, with measures: 279' x 36' x 13.5' and a tonnage (old style) of 453. She was first enrolled at Hamilton, Ont. and she was built for the passenger trade on Lake Ontario. She was equipped with a vertical beam, low pressure condensing engine, 70" bore x 144" stroke, 1000 horsepower, built by R. P. Parrott & Co. of the West Point Foundry, New York, NY. Her wheel was 36'-diameter. Her master for the 1855-56 season was Captain George E. Willoughby with George Trueman as engineer. She was chartered to a Mr. Zinnerman to run from Toronto, Ont. to Ogdensburg, NY, calling at Darlington, Cobourg and Cape Vincent.

In 1857, ownership of the steamer *Canada* was changed to the Detroit & Milwaukee Railroad and during the depression of 1857, the steamer was laid up.

In July 1858, ownership of the steamer *Canada* was changed to N. P. Stewart & Co., Buffalo, NY and her enrollment changed to the United States. In October of that year the steamer *Canada* left Lake Ontario via the St. Lawrence River for New York, NY.

January 1859, her ownership was changed to Peter A. Hargous, New York, NY, renamed *Mississippi* and registered at New York City. She was chartered for use as a transport of munitions and supplies. The steamer was used to transport Major General Benjamin Butler on the expedition to Ship Island – New Orleans, February to April 1862. While en-route, the steamer went aground off Cape Fear, NC, but got off.

Ownership of the steamer *Mississippi* was changed in 1862 to N. P. Stewart & Co. & George Savary, New York for use in the South America, Rio Plata trade. The steamer *Mississippi* left Montevideo, Uruguay for China with sixty-three persons aboard. In August 1862, she foundered in the South Atlantic, 425 miles northwest of Cape Town, Africa. All persons aboard were rescued.

**Colonist:** Robert Stead, Sarnia, Ont. built a wooden propeller for James Porter et al, of Sarnia with her first enrollment issued at Montreal, October 24, 1854. Her measures at enrollment were 134.2' x 23.7' x 11.3' and her tonnage was listed as 341 grt, 207 net. She was issued the official number 33481. Her engine was listed as a 27" bore x 36" stroke, rated at 200 horsepower and built by Dry Dock Iron Works. She had been built for the passenger, package freight trade between Montreal, Que. and the Upper Lakes. Her master for the 1854 season was Captain William Simpson with Daniel McAlpine as engineer.

Ownership of the propeller *Colonist* was changed to Henderson & Holcomb, Montreal, Que. in 1855. During a strong gale in December 1856, the propeller *Colonist* broke her moorings and was driven ashore at Point Frederick, Kingston, Ont. Her master for the 1857 season was Captain McGrath. Bound down in December 1857, the *Colonist* had her cargo of wheat damaged by rough seas off Glen Haven, MI, Lake Michigan. The property loss was set at \$2,000. In May 1861 the *Colonist* collided with the schooner *Oliva* near the Duck Islands, Ont., Lake Ontario.

In 1863, ownership of the *Colonist* was changed to Jacques, Tracy & Co., Montreal, Que. Bound down from Chicago, IL to Kingston, Ont. in September 1863, she arrived at Milwaukee in a leaking condition. Repaired, she continued her journey down bound, when the *Colonist* and the up bound schooner *Malvina*, collided near Point Au Pelee, Ont., Lake Erie.

April 1865, the propeller *Colonist* was purchased by Montreal parties and she ran between Chicago and ports on Lake Superior. Her master for the 1865 season was Captain Moat.

In 1866, her ownership was changed to Pridham, Montreal, Que. In May of that year, she ran aground in the St. Clair River incurring a loss of \$500. Later that month, she went aground west of Montreal, Que. on the St. Lawrence River with a loss of \$1,000. Her master for the 1869 season was Captain John M. Scott. May of that year the *Colonist* was damaged in a collision with the schooner *Wanderer*, near Port Hope, Ont., Lake Ontario. In October of that year, the *Colonist*, with a cargo of merchandise, went aground

in the St. Lawrence River. She required to be lightered to be released. In mid-November of 69, the *Colonist*, was pounded by a gale on Lake Michigan and sought shelter at Manitowoc, WI. A few days later, November 21<sup>st</sup>, while down bound from Milwaukee, WI for Montreal, Que., the propeller *Colonist*, laden with flour and wheat, sprang a leak and foundered 25 miles south of the Straits of Mackinac, Lake Huron. No lives lost.

Enrollment for the propeller *Colonist* was surrendered April 30, 1870 and endorsed "foundered".

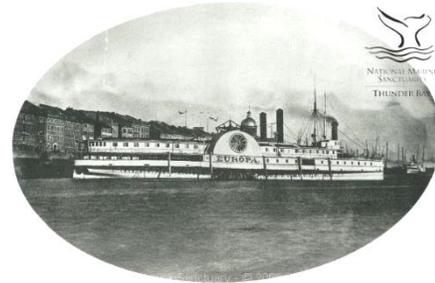
**R.R. Elliott:** Zadock Panghorn, master carpenter, of Newport (Marine City), MI built for Michael B. Kean, Newport, MI a wooden sidewheel tug to be used in the towing trade on the St. Clair Flats. Her purpose would be to pick up sailing vessels entering from the St. Clair River into the Flats and tow them either to their port destination or to Lake Erie and reverse. Her dimensions were: length of keel 162.9'; breadth of beam 27.6'; depth of hold 7.1'. She is of 321 29/95 tons (old style) burden. She is equipped with two low pressure, vertical beam engines, 40" bore x 87" stroke, built by S. Battell & Co., Buffalo, NY, and was originally installed in sidewheel steamer *Michigan* (1833). Her boiler was built by J. & J. Brennan Works, Detroit, MI.

The tug boat *R.R. Elliott* was purchased April 29, 1856 by C.H. Carey, Esq., from M.B. Kean, for \$18,000. Her master for the 1856 season was Captain C. F. Moore. September 1857, the towboat *R. R. Elliott* broke her cylinder while on the Detroit River and was repaired at a cost of \$1,200. July 1860, she broke her machinery while on the St. Clair River. June 1861, while picking up tows, the towboats *R. R. Elliott* and sidewheel steamer *Arrow*, built in 1848, collided off Bar Point, Lake Erie. July 1861, the *R. R. Elliott* broke her machinery on the St. Clair River. In August of the following year, she again broke her machinery but on the Detroit River.

In November of 1865, ownership of the towboat *R. R. Elliott* was changed to Phil Parsons. He had her rebuilt during the Winter layup of 1866 to a schooner barge for the lumber trade. November 1866, while down bound from Saginaw, MI, under tow of the tug *Hercules*, the schooner barge *R. R. Elliott*, along with the barges *Ontario*, *Ark* and *Detroit* all laden with lumber, broke away from their tow during a storm on Lake Huron. The *Ark* drifted at the mercy of wind and waves wrecking 100 miles north of Goodrich, Ont. Six lives lost. The other three schooner barges were recovered. Under tow by the steambarge *Dunkirk* (U6101) in September 1872, the schooner barge *R. R. Elliott*, laden with lumber, broke May 17, 2021

loose during a gale and was lost 9 miles ENE of Port Burwell, Ont., Lake Erie. No lives lost.

Her enrollment was surrendered at Port Huron, MI, November 7, 1877 and endorsed "wrecked September 18, 1872".



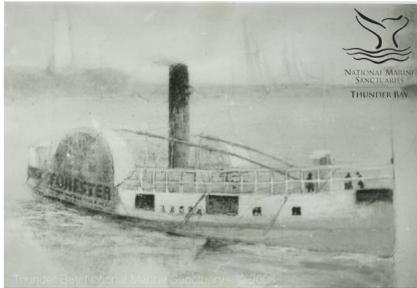
**Europa:** Built for passenger service on Lake Ontario and the St. Lawrence River by E. Harrison & Co. at Hamilton, Ont, the *Europa* was a wooden sidewheel steamer with measures of; 223.6' x 27.5' x 13' and a tonnage of 341- unit tons. She was equipped with a vertical beam, low pressure engine with a 60" bore x 132" stroke that had been built by J. Gartshore, Dundas, Ont. and originally installed in *Queen of the West* (1851) and then *Canada* before the *Europa*. Her original owners were: Captain E. Harrison, R. Benner, M. W. Browne & T. N. Best all from Hamilton, Ont. She would run between Hamilton, Ont. and Ogdensburg, NY. Her master for the 1855 season was Captain Edward Harrison. In June of 1855, the steamer *Europa*, in heavy fog, went ashore on Snake Island, Lake Ontario. Later that year, in October, the *Europa*, while leaving the wharf at Gananoque, Ont. on the St. Lawrence River, broke a fender that struck a man in the small of the back who had been standing on the wharf. The injured man died. Due to 'hogging' the steamer *Europa* was fitted with arches during the winter layup of 1855-56.

Her master for the 1856 season was Captain Murdock. Under his command, in October of that year the steamer *Europa* and the schooner *T. Y. Avery* (US24141) collided in Oswego, NY harbor. For the 1857 season, the Upper Canada Royal Mail Line placed the *Europa* on a route between Montreal and Quebec.

Master of the steamer *Europa* for the 1858 season was Captain H. N. Throop. In April of 58, the steamer *Europa*, who wintered at the Yonge Street Wharf, Toronto, Ont, sank at her moorings. A leak was believed to have been caused from rat holes in her bottom. The steamer *Europa*, Capt. H.N. Throop, to Ogdensburg, commanding, was scheduled to run between Sackett's Harbor, Oswego, Rochester and

Toronto. The steamer *Europa* was laid up for almost all the 1858 and 59 seasons.

In 1861, the ownership of the sidewheel steamer *Europa* was changed to the Richelieu Company, Montreal, Que. She was brought down the St. Lawrence River to run passenger service on the St. Lawrence River between Montreal and Quebec, Que. In 1867, the steamer *Europa* was scrapped.



**Forester:** John Bushnell at Newport (Marine City), MI built a wooden sidewheel steamer that was enrolled at Detroit, MI, July 6, 1854. Her measures as recorded were: 196.58' x 28.0' x 9.5' and a tonnage (old style) of 503 70/95. She was equipped with a vertical beam, low pressure engine, 46" bore x 120" stroke, that was originally installed in 1845 in the Canadian steamer *London* and built by Machlem Iron Works. The engine was rebuilt by Detroit Locomotive Works in 1854. Her owner was Eber B. Ward, Detroit, and she will be used for the passenger, package freight trade and is a sister ship to steamer *Forest Queen* (U37061). Her master for the 1854 season was Captain J. B. Goodsell. In July 1855, the steamer *Forester* ran aground on a reef near Goderich, Ont. Lake Huron and stove her bottom. She was released and repaired with a property loss of \$1,000. Her master for the 1856 season was Captain John Robertson.

Ownership of the steamer *Forester* was transferred to John P. Ward, Detroit, MI on July 27, 1857. Her master for the 1857 season was Captain John Ward. The vessel was readmeasured at Detroit, MI to correct an error in her former measurement. Her enrollment was updated to: 187' x 26.66' x 8'; 384 grt. While towing a vessel on Lake Huron, the steamer *Forester* broke one of her shafts on the 22<sup>nd</sup> of November 1857. She was towed to Newport, MI for repairs and incurred a property loss of \$1,800. May of 1858, the *Forester* was assigned to Lake Michigan on the run from Grand Haven, MI to Milwaukee, WI. In November 1858, she had her machinery damaged on Lake Huron. Repairs set a property loss at \$500. In October 1859, the steamer *Forester*, with barges in tow, went aground at  
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Fighting Island on the Detroit River. The vessel and her barges were released without injury. August 1860, she damaged her machinery in the St. Clair River. Repairs set a property loss at \$700. In April 1861, the steamer *Forester* was struck and part of the pilot house carried away by the scow schooner *Falcon* (US-1851). In August of that same year, the *Forester* was damaged in a collision with the schooner *W. B. Hibbard* (US-1856) on the Detroit River near Malden. Property loss set at \$600. Her chief engineer for the 1864 season was John Westaway.

Ownership of the steamer *Forester* was changed to Solomon Gardner & David Gallagher, Detroit, MI, May 1866. In June 1866, the schooner *W. B. Hibbard* (US-1856) collided with the steamer *Forester*, in fog, on the Detroit River. The *Hibbard*, engaged in the lumber trade between Detroit and Saginaw, was badly damaged and required a tow into Port Huron for repairs. Property loss to *Forester* set at \$200. July of that year the *Forester* was damaged in a collision on the St. Clair River. Her property loss was set at \$600.

Due to the increased demand for more bulk "lumber" freight capacity, the hull of the sidewheel steamer *Forester* was rebuilt as a barge at Detroit. Her engine and boilers were placed in one of three new vessels that were built for the Saginaw Line at Newport, MI. Her new measures were: 195' x 28' x 9'; 284.96 grt, recorded in April 1867. She was issued the official number 37060, early in 1868. November 1868, under tow from the tug *Eagle*, the barge *Forester*, laden with lumber, broke her tow line and went adrift. Recovered.

Ownership of the lumber barge *Forester* was changed to Roxana Peter, Bay City, MI in April 1869. In September 1869, the barge *Forester* broke her tow line on Lake Huron and went adrift. Recovered.

Master of the lumber barge *Forester* for the 1870 season was Captain D.W. Matteson. In May 1871, while under tow of the propeller *D. E. Rose* on Lake Erie, the barge *Forester* was damaged. The lumber barge *Forester*, in a storm off Rondeau, Ont., Lake Erie, August 29, 1871, when the sea made a breach over her, carrying away about 100,000 feet of the deck cargo of lumber, and filling the hold with water. She was towed to Malden, Ont. for repairs.

Ownership of the lumber barge *Forester* was changed to Paul Marlatt, Bay City, MI in November 1871.

May 1872, ownership of the lumber barge *Forester* was changed to John McLaughlin, John Kelderhouse & George W. Talcott, Buffalo, NY. September 1872, while under tow by the propeller *Dunkirk*, with a cargo of lumber from Saginaw, MI for Buffalo, NY, the lumber barge *Forester* stranded and

went to pieces off Houghton Sand Hills, near Port Burwell, Ont., Lake Erie. The steam barge *Dunkirk* had left her tow, consisting of the barges *Bay City*; *Forester*, and *Elliott*, at anchor about eight miles south-west of there, in a gale. The *Elliott* and *Forester* went to pieces shortly afterwards, and four men from the *Forester* came ashore on the pilot-house. The Captain of the *Forester*, with his wife, child and mate, were in a boat and drifted ashore with the lumber. No lives lost.

**Robert H. Foss:** Quayle & Martin, Ohio City (Cleveland) OH, built for a group of investors consisting of Alexander Marsh, Eber Chaplin, and Robert H. Foss, all from Chicago, IL, a wooden propeller with measures of 125.3' x 20.2' x 8.6' and a tonnage (old style) of 259.5. The *Robert H. Foss* was built for the bulk "lumber" trade. Master of the propeller *Robert H. Foss* for the 1854 season was Captain James Kehoe. April 1856, the propeller *Robert H. Foss* and the schooner *Mount Vernon* (U16405) collided on Lake Michigan. Both made harbor safely and were repaired. The following month the propeller *Robert H. Foss* sprang a leak and sank at her dock in Chicago. She was pumped out and a small hole was found in her bow. Repaired. In September of 1856, a gale on Lake Michigan drove the propeller *Robert H. Foss* ashore at Kalamazoo. She was released and repaired with a property loss set at \$600. May 1858, the *Robert H. Foss* and the schooner *Falcon* (U9190) collided off Racine, WI, Lake Michigan. In June 1860, bound from Muskegon, MI to Chicago, the propeller *Robert H. Foss* when off Chicago, and running under seventy-five pounds of steam, collapsed the water-jacket of her boiler, scalding the fireman badly.

Ownership of the propeller *Robert H. Foss* was changed to Thomas Simms, Chicago, IL in 1861. In October of that year the *Robert H. Foss* collided with the schooner *Telegraph* on Lake Michigan and sank on Chicago "Bar".

Her ownership of the *Robert H. Foss* was changed to: J. Nottingham, Chicago, IL early in 1862. He had the *Robert H. Foss* rebuilt at Chicago and fitted out as an elevator with arrangements for the reception and disposition of grain from vessels to canal boats & as a tug for use on St. Clair Flats.

The ownership of the converted elevator ship *Robert H. Foss* was changed in 1862 to: David W. Irvin and Albert G. Morey, both of Chicago, IL.

In 1863, her ownership was transferred to: David W. Irvin, Buffalo, NY. The elevator *Robert H. Foss* was transferred to Buffalo to provide the same  
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services of grain transfer and tug. Her enrollment was transferred and tonnage recorded as 250 grt. She was assigned official number 21448, May 06. 1863.

Her ownership was changed to David S. Bennet & the firm of Woodruff/Robinson (Franklin Woodruff/Jeremiah Robinson) all from Buffalo, NY. The enrollment for the elevator *Robert H. Foss* was transferred to New York City District, on July 20, 1863.

August 1864, ownership of the elevator *Robert H. Foss* was changed to Jeremiah P. Robinson et al, Brooklyn, 'NY. The final enrollment for the elevator *Robert H. Foss* was surrendered September 30, 1870 and endorsed "vessel not requiring papers". She was rebuilt at Brooklyn, NY with her measures changed to: 1 deck, no masts; 126.4' x 25' x 8.5'; 173 grt. She was redocumented as *Somerset* (U116882) and owned by International Elevating Co., Montclair, NY in 1898.

Ownership of the elevator *Somerset* was changed to Standard Quarrying Construction Co., New York. October 28, 1899.

Ownership of the elevator *Somerset* was changed to North American Trust Co. in May 1900.

In May 1902, ownership of the elevator *Somerset* was changed to Nelson B. Vars, Uncasville, CT.

June 1903, ownership of the elevator *Somerset* was changed to Rouse T. Potter, Fall River, MA. Final enrollment for the elevator *Somerset* was surrendered at Wilmington, DE, April 17, 1907, and endorsed "vessel sold for junk". Final disposition "Unknown".

**Hamilton Morton:** George Collyer, Buffalo, NY with Samuel L. Collyer as master carpenter built a wooden, steam propelled tugboat that was enrolled at Detroit, MI, September 14, 1854 with measures: 91' 9" x 19' x 9' and a tonnage (old style) of 144 55/95. Her engine was built by Franklin Works, Albany, NY and her boiler built by Starks & Pruyn, Albany, NY both in 1854. Her original owners was William J. Farrell, Buffalo, NY and she was intended for the wrecking and towing trade on the Great Lakes. Her master for the 1854 season was Captain Hayford.

In September 1854, ownership of the tug *Hamilton Morton* was changed to David Nichols, James Armstrong and William Whitcomb, Detroit, MI. She would be used for towing on the St. Clair Flats.

November 1854, her ownership was changed to John Owen, Detroit, MI and Edward Darley, Cleveland, OH.

In October 1857, ownership of the tug was changed to John M. Issacs, Cleveland, OH.

In December of that year, her ownership was changed to Norton M. Strong, Detroit, MI. April 1858, while docked at Wolverton's dry dock, the tug *Hamilton Morton* sank during a theft of brass pipes from her.

August 1858, her ownership was changed to John Pridgeon, Detroit, MI for a price of \$10,000. The new owner placed her in dry dock for repairs and a complete overhaul. November of that year, the *Hamilton Morton* caught fire on the Detroit River and was scuttled to put out the fire. She was declared a total loss. In April 1860, the hull of the tug *Hamilton Morton* was raised and rebuilt. November 1861, while operating on the St. Clair River, a seaman went overboard and was lost. February 1862, the tug *Hamilton Morton* received a new boiler, 7.67' x 16', built by J. & T. McGregor. In 1863 she was lengthened and rebuilt by J. L. Wolverton's yard. Her owners, J. Pridgeon & W. Muir, renamed her the *W. K. Muir* and she was issued the official number US26249.

March 1864, her ownership of the tug *W. K. Muir* was changed Canadian to Thomas Harbottle, Hamilton, Ont and she was enrolled as *W. K. Muir*, (C46226).

In 1865, her ownership was changed to William Hendrie, Hamilton, Ont. Master of the tug *W. K. Muir* for the 1867 season was Captain Robert Pridgeon with John Kirchean as chief engineer. September 1867, while steaming on the St. Clair river near Port Huron, the boiler in the *W. K. Muir* exploded. Eight lives were lost including the captain & mate, brothers of the owner John Pridgeon, and the chief engineer.

March 1868, the hulk, *W. K. Muir*, was raised and rebuilt. Her ownership was changed to Captain Jas. & William Porter et al. In 1869, the tug *W. K. Muir* was abandoned and her final enrollment was surrendered March 14, 1871.

Ownership of the abandoned tug reverted back to William Hendrie. In 1875 efforts were made to raise the hull. Canadian records show that the tug *W. K. Muir* was owned and registered to William Hendrie, Hamilton; C46226; 110.3 X 19.5 X 8.5; 123 gross / 83 net tons in 1877 & 78.

Final disposition "Unknown".

***Mount Vernon***: F. O. Ketchum & Joseph Keating of Huron, OH built a wooden propeller for the Western Transportation Co., Buffalo, NY. Her first enrollment was issued at Buffalo, NY on July 8, 1854 with her measures recorded: 178' x 29' 4" x 11' 8" and tonnage (old style) of 577 77/95. Her engine and boiler were supplied by S. Shepard, Buffalo, NY. She

was built for the passenger, package freight trade between Toledo, Sandusky and Buffalo.

The propeller *Mount Vernon* received damage to her hull from the stress and twisting during a gale on Lake Huron. October 1854, new arches were installed by Bidwell & Banta to strengthen her hull. The damage loss from the stress was placed at \$6,000. In 1855, the *Mount Vernon* was operated in the People's Line. In October of that year, the *Mount Vernon* collided with the brig *Greyhound* (US-1853) off Fox Island, Lake Michigan. Property loss was set at \$3,600. December 1856, during a gale on Lake Erie, the *Mount Vernon* broke her machinery and required repairs at Buffalo, NY. In 1857 she was chartered to the Western Transportation Co. In 1860 she ran in the Buffalo - Cleveland - Chicago Line and North Shore Line with her master as Captain U. G. Newman. October 9, 1860, bound down from Detroit, MI to Buffalo, NY, the propeller *Mount Vernon*, laden with corn, flour and wheat, had her boiler explode off Point Pelee, Ont. on Lake Erie. Her stern was blown off and she sank, a total loss. Two lives were lost.

## Some Notes:

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

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

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

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

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

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

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

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