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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 - March 2021
Next Meeting: April 17, 2021
"Hahn Frame Jig" – Bill Nyberg.

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March 2021

Notice: Until Covid-19 is eradicated or enough of us have had the vaccine and in person meetings are not a risk, (the library is still closed to meetings) this newsletter and our monthly Zoom meetings will continue to be your primary contact. With the vaccine program roll-out for the general public, we can see a light at the end of this tunnel. We are thankful for all those on the front lines, serving and protecting us during this pandemic.

Spring is here. Daffodils and crocus are blooming. Time to get outside and enjoy the gifts of Spring. Take care of yourself and your families. Schedule and get you COVID-19 vaccine and also 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.

March Meeting

We zoomed again and had 17 who participated, an excellent turnout for our meeting Saturday. Mike and Jane Benefield joined us from St. Louis and Julius Shinko from Avon Lake.

Welcome.

Business

Web Master

Have you visited our web site lately? John Boeck (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.

Between John and Alan Phelps (arphelps44@gmail.com), they are working at replacing all the "fuzzy" pictures of our models. If the photos of your models are out-of-focus or you would like to add photos of your models built, contact Alan for guidance on how to take the best photos and then send them to John with captions including the name of the ship to be included in the "Showcase" page.

Zoom

If you have had trouble setting up a zoom contact or signing in, I encourage you to contact Bob, *Please*. He can help you to connect. Bob can be reached at (rmains43@gmail.com)

Membership Dues.

Here comes your last local cranky notice for 2021. Regular membership (\$20) or Associate membership (\$10) for 2021 are due. Since we are not able to meet, make your checks out to "Shipwrights of Ohio" and send to:

Lee Kimmins

Shipwrights of Ohio
5298 Timberlake Circle
Orient, OH 43146-9249

This will be you last "Ropewalk", if the 2021 dues are not paid by the end of March. After that, you will be dropped from the members list and all future notifications.

Our club constitution provides two options: "The annual dues for Regular members (full membership and active in all events) shall be \$20.00. Annual dues for Associate members (Those who would find the travel distance too much to attend in-person meetings and will be taking an inactive part in our events.) shall be \$10.00."

Announcements

Cargo Hold

John Kinkel, a ship modeler for the past 60 odd years, still has ship modeling books, plans and wood listed in our "Cargo Hold" on the web site under the heading "More".

Contact John at johnkinkel@gmail.com.

Library

Check out the "Library" heading on our web site. John is in the process of provide easy guidance when you are doing research. The categories listed are:

- General Modeling
- Modeling Techniques
- Modeling Ship Types
- Ship Type Info & History
- Notable Naval Fiction
- About Museums and Organizations

Presentation:

Photographing Ship Models by Alan Phelps

His presentation was on "Photographing Ship Models". I won't even try to summarize presentation. It contained a wealth of information for either the novice or professional photographer. There is something for either to learn.

He covered, in sequence, his intent of the presentation, common definitions, the difference between a camera and your cell phone, image size and resolution, backgrounds that distract or enhance your models, why and how lighting is everything, and shooting techniques to get better photos. To summarize (My sequence) Alan's points were:

1. Remove background distractions

2. Get lighting right first
 - a. Soften light sources
 - b. Do not use fluorescent lights
 - c. Turn off in-camera flash
3. Select image size (px) for intent
 - a. Use DOF (Depth of Field) to your advantage
 - b. Use exposure triangle to manage exposure
4. Fill the frame to minimize crop
5. Use post processing to correct or enhance.

The presentation was recorded and is available on the web site under the "Media" heading.

Ships on Deck:

Here 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, what you are completing now, and/or what you plan to work on next. Send it to your editor in jpeg format with a short write up.

Vasa

Doug Buchanan

He is in the early stage of building the POB model of the Billings Boat kit: *Vasa*



Mary Powell

Lee Kimmins

Guard rails and stacks temporarily mounted.



Minnie E. Kelton

Bill Nyberg

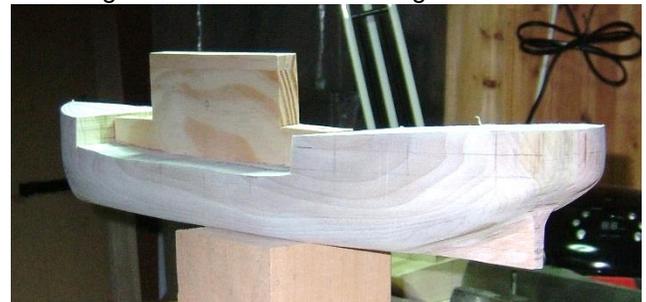


Hull rough carved and now sanding.

U.S.S. Constitution

Cliff Mitchell

Cliff was not able to join us, but sent photos of his build.



Odds and Ends

Nautical Terms

Garboard planks: The planks immediately on either side of the keel.

Gasket: A rope used to secure a sail (particularly the topsail) when stowed.

Gear: A vessel's sails and rigging.

Gennaker: A large, lightweight sail used for sailing a fore-and-aft rig down or across the wind, intermediate between a genoa and a spinnaker.

Genoa: A large jib, strongly overlapping the mainmast.

Gig: A boat on naval ships at the disposal of the ship's captain for his or her use in transportation to other ships or to the shore.

Gillnetter: A fishing vessel that employs gillnetting as its means of catching fish.

Gillnetting: A fishing method that uses gill nets: vertical panels of netting that hang from a line with regularly spaced floaters that hold the line on the surface of the water. A fish swims into a net and passes only part way through the mesh. When it struggles to free itself, the twine slips behind the gill cover and prevents escape.

Gin-pole: A pole that is attached perpendicular to a mast, to be used as a lever for raising the mast.

Girt: Said of a vessel moored by cables to two anchors in such a way that the force of a current or tide causes her to swing against one of the cables. Also, to capsize because of forces exerted on a cable by another vessel attached to it. *Tug girting* specifically refers to girting that causes a tugboat to capsize because of forces placed on a cable attached to her by another vessel attached to the same cable.

Give-way (vessel): Where two vessels are approaching one another so as to involve a risk of collision, this is the vessel directed to keep out of the way of the other.

Glossary of Nautical terms Wikipedia

NRG Workshop – March 13th, 2021

The NRG workshop, a zoom workshop and a first for the NRG, was on constructing a cargo hold in a solid wood hull. The presenter, Bob Filipowski, is building a model of the *Arrowsic*, 1847. The Topsail Schooner *Arrowsic* had a length of 81' 7", beam of 22' 8", depth of 7' 10", and tonnage of 140 tons. Both the *Arrowsic* and her sistership *Eagle* were built on Arrowsic Island in the Kennebec River (near the present shipbuilding city of Bath, ME) in 1847 for the lumber and ice trade by builder Samuel Pattee.



The model has a solid wood hull and Bob wanted to display cargo in the hold. The problem was how to carve out a cargo hold and maintain the integrity of the hull thickness. His solution was very informative and quite achievable.

The *Arrowsic* had two hold areas. One between the two masts and another aft of the main mast. He started with the deck plan and identified where both mast steps were located and also the ship mounting pedestals would be located. This defined the space under the main hatch he could use. He defined this space on the deck and then drew the line on the outside of the hull. He then determined the thickness of the hull (3/16") [the scale is 1:64]. Between the deck lines, he laid out rows for a series of holes, a row of five followed by a row of four around the outside surface of the hull. Using an 1/8" drill, he drilled at each mark a 5/16" deep hole. He filled the holes with a 1/8" dowel, 3/16" long. The additional 1/8" was for glue expansion when the dowels were glued in place. The dowels were a different type of wood so that the contrast would be seen when carving out the hold. He then carved out the hold until the pegs appeared. Sanded the interior surface and used a contour gauge to check depth and shape of the hold interior.

With the hold carved out, he added the keelson, ceiling and made wooden barrels and sacks made with Milliput. It was well worth the hour on a Saturday morning and would encourage the NRG to continue with this type of educational offerings.

Other Notes: "Stuff" - Tugs & Things

Nautical Research Journal

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

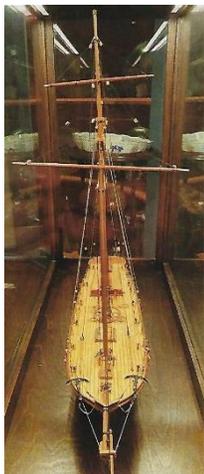
Print Journal - \$50

E-Journal - \$40

Combined - \$65

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

USRC Dallas



The above photo is off the United States Revenue Cutter *Dallas*. The article was in the Spring 2021 "Sea History". Look carefully at the picture. The *Dallas* was the only USRCS vessel with a unique bowsprit/jibboom construction, where the joint of the pair is sideways. No reason was given why she was rigged that way. She was built in 1815 in New York by William Doughty, who designed her based on the famed Baltimore Clippers. She was rigged as a tops'l schooner and was sold out-of-service in 1821.

Many years ago, I built a model of the British Revenue Cutter. She had a bowsprit that was rigged off-center. She had the ability to pull the bowsprit aft so that her crew could board a smuggler over the bow.

A Mystery

The following photo was sent to me for assistance in identifying the model.



The model ship was given to the contacts late father as payment for his job of sharpening pencils for a writer while he was a youngster probably around the mid 1930's. Its voyage started in Maine, went Florida, then in storage while the owner was

overseas, then VA and now here in Ohio. It's in fairly good shape with the exception of its masts and rigging, given its land-based travels. Extensive research has been done on its name 'Uncle Sam' but nothing has turned up. It appears to be some sort of merchant ship that was powered by wind and steam, given the funnel and propeller. The owner is not a model ship enthusiast, but feels compelled to restore this as much as is reasonably possible.



The name plate on the stern says "Uncle Sam". She is a model of a steam & sail powered vessel, Three masted, square rigged, propeller driven. In the photo above, the stack has a lid that could be opened when under steam and closed when under sail.

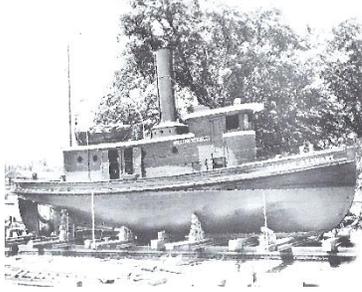
Since she is both steam propeller and sail, I would place her in the period after the "War of Rebellion" and before the turn of the 19th C. I have found two ships in that period, a tug and a sidewheel steamer, with the name "Uncle Sam".

In my opinion, she is "Folk Art", built out of scale, by someone with some knowledge of ships but without plans.

Anyone have any other ideas? Contact me at shipwright@wowway.com.

Tugs

William Stewart



When simple repair and maintenance are required, the alternative to putting a tug in a graving dock or floating drydock is to haul her out on a marine railway, a pair of tracks laid down an embankment into the water. A vessel is hauled by positioning her over the cradle that runs on wheels along the track; an engine-powered windlass provides the pulling muscle.

In the above photo, taken in 1940, of the *William Stewart*, a small yard tug owned by the Norfolk Ship & Drydock Co., had been hauled out on a modest railway for routine maintenance. The *William Stewart* was built at Chester, PA for the Hampton Towing Co. in 1896 and had measures of: 52.5' x 13.2' x 6.1' and was powered by a 125-horsepower steam engine. She was used as a utility tug, maneuvering ships in and out of her owners drydock and performing other shipyard chores. Final disposition is unknown.

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

M. Mitchell Davis



Tugs assisting the newly launched submarine V3 at Portsmouth Navy Yard, Kittery Maine, probably in the mid-1920's. The one in the foreground is the *M. Mitchell Davis*. Built in 1897 at Solomons Island, MD for Piscataquis River Towing Co., Portsmouth, NH. Her measures were: 81' x 19.2' x 8.9' and powered by a 350-horsepower steam engine.

In the photo, the V3 doesn't look as though she would require three tugs to maneuver her, but,

March 22, 2021

like an iceberg, most of her bulk is underwater. Because the submarine bulged out considerably below the waterline, the *M. Mitchell Davis* had to be very careful when pushing with her bow.

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 – Evolution of the Wooden Ship
Jul 17 – Hand Metal Working
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 Midwestern Model & Boat Show,

Wisconsin Maritime Museum, Manitowoc, WI
May 14-16, 2021

Lakeside Antique & Classic Wooden Boat

Lakeside Hotel, Lakeside, OH
July 18, 2021

Toledo Antique & Classic Boat Show

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

NRG Conference

Channel Islands Maritime Museum
Oxnard, CA
Oct. 21-23, 2021

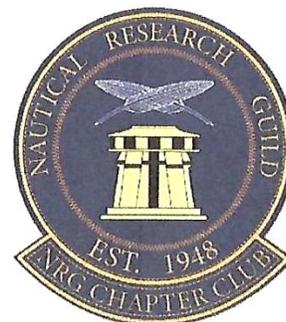
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Wooden Steamers

1853 – Part 3

Jefferson: Bancroft's Propeller Line, Detroit, MI purchased a wooden propeller from Bidwell and Banta ship yard, Buffalo, NY in 1853 with measures when enrolled at Buffalo on May 9, 1853: 137' x 25' 6" x 10' 7" and a tonnage (old style) of 344 65/95. Her engine is unknown. The propeller *Jefferson* was built for the passenger, package freight trade

September 1853, while on Lake Ontario, the *Jefferson*, laden with wheat, had her cargo damaged during foul weather incurring a loss to her cargos of \$800. Her master for the 1854 season was Captain Chapman. The *Jefferson* was chartered to the Watertown, Rome, Cape Vincent Line for the 1854 season.

Her ownership was changed to Northern Transportation Co., Ogdensburg, NY. in 1858.

Ownership of the *Jefferson* was changed to A. H. Brunel, Cleveland, OH in April 9, 1862. In that same month, the *Jefferson* ran ashore in dense fog, seven miles west of Port Colborne, Ont., Lake Erie. Released. July 1863, she went ashore at Four Mile Point, off Kingston, Ont., St. Lawrence River. Later that month, she was dismantled and converted to a schooner barge at Cleveland, OH.

Her ownership was changed to E. G. Merrick & Sons, May 1864. At registration she was assigned official # 12762.

In April 1866, her ownership was changed to Fowler, Esselstyne & Clayton. Three years later, in April 1869, the schooner *Jefferson* and the sidewheel steamer *Manitowoc* (U90456) collided four miles from Chicago on Lake Michigan. The schooner lost her jib-boom and bowsprit. In late October 1870, bound up for Grand Traverse, MI to pick up a cargo of lumber, the schooner *Jefferson* went ashore at Pentwater, MI, Lake Michigan. Declared a total loss.

Kentucky: At her first enrollment, July 20, 1853, at Oswego, NY, the wooden, propeller *Kentucky*, built by George S. Weeks at Buffalo was listed as 137' 5" x 25' 6" x 11' 2", with a tonnage (old style) of 366 2/95. Her owner was H. Fitzhugh & Co., Oswego, NY and she was to be used for the package freight trade between Oswego and Toronto, Ont. Her chief engineer for the 1855-57 season was John N. Phillips. May 1857, the propeller *Kentucky* collided with and sank the schooner *Cataract* (US-1856) off

Long Point, Lake Erie near Conneaut, OH. The schooner sank in deep water.

Ownership of the *Kentucky* was changed to Dewitt C. Littlejohn, Old Oswego Line, Oswego, NY in September 1857.

September 1859, her ownership was changed to Ashley H. Ball, Buffalo, NY. 26 days later, it was recorded that her ownership was changed to Charles H. Foster et al, Buffalo, NY. September 1860, bound from Port Stanley, Ont. to Toledo, OH, the *Kentucky* lost her rudder some 14 miles off Port Stanley and was towed into that port for repairs.

In April 1861 her ownership was changed to James C. Hanison, et al, Buffalo, NY. Ten days later, the propeller went ashore near Oak Orchard, NY, Lake Ontario.

Her ownership was changed to C. C. Blodgett, Detroit, NY, January 1863. Her chief engineer for the 1863 season was Luke Mullany. In 1864, shares of her ownership were transferred to C. C. Blodgett, et al, Detroit, NY. September 1867, it was recorded that the propeller *Kentucky* was cut down and converted to a barge. Her engine went into the propeller barge *Guiding Star* (US85079). She was readmeasured in April 1869, 255 grt. Bound from Bay City, MI in November 1872, for Buffalo, NY, under tow of the propeller *Burlington*, the barge *Kentucky*, laden with lumber, was caught in a storm near Gravelly Bay, Long Point, Ont. Lake Erie, and sought shelter in the bay after her tow line parted. The barge was towed in to Buffalo waterlogged. In October 1876, bound down for Buffalo, NY, the barge *Kentucky* broke her tow with the propeller *Tioga* (US24167), and went ashore 8 miles above Grand River, Ont., Lake Erie.

In the spring 1880, ownership of the barge *Kentucky* was changed to Messrs. Campbell & Radcliff, grain and forwarding merchants, for \$1,600. She was converted to a floating grain elevator. April 1881, she was towed to the Erie Basin after coming out of drydock. During the tow, she capsized during the night, tearing the whole elevating structure off her deck.

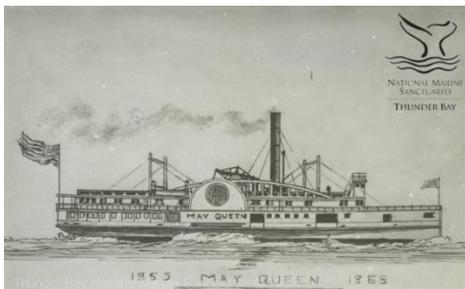
Final disposition, unknown.

Louisville: James Carrick, Buffalo, built a wooden propeller to be used in the passenger, package freight trade. Her owner was the Crawford & co., Ogdensburg, NY and her first enrollment was issued at Oswego, August 20, 1853. It was recorded that her measures were: 137' 5" x 25' 6" x 11' 2" and the tonnage (old style) of 366 2/95. She was powered by a high-pressure engine built by Shepard Iron Works, Buffalo, NY. Her master for the 1853 season was Captain Charles Chadwick.

In September 1854, her ownership was changed to Philo Chamberlin and John H. Crawford, both from Cleveland, OH. She ran between Ogdensburg, NY and the Lake Michigan ports of Chicago, Milwaukee, Green Bay & others. Her master for the 1854 season was Captain Degross McNett with George F. Hendry as engineer for the 1854-55 season.

May 1856, her ownership was changed to Northern Transportation Co, George A. Eddy part owner and director. Her master for the 1856 season was Captain John Caldwell. October 1856, laden with provisions and flour, the propeller *Louisville* caught fire and burned opposite the marine railway, near Prescott, NY, Saint Lawrence River. The vessel burned almost to the water's edge and was scuttled in eight feet of water. She was raised and rebuilt during the winter of 1856-57. During the rebuild, her engine was replaced with a Corliss Patent Engine*. In September 1857, bound from Chicago, IL for St. Joseph, MI, laden with flour, grass seed and hops, about ten miles off Calumet, IL on Lake Michigan, fire was discovered in the amidships cargo hold of the propeller *Louisville*. Her crew and fifteen passengers abandoned ship into her lifeboats. The vessel burned to a total loss. One life was lost (a fireman) when a lifeboat capsized.

***Note:** The Corliss steam engine was fitted with rotary valves and with variable valve timing. The engine was invented by George Henry Corliss. The engine has four valves for each cylinder, with steam and exhaust valves located at each end and incorporates a system of linkages that operate the valves. The use of separate valves for admission and exhaust meant that neither the valves nor the steam passages between cylinders and valves need to change temperature during the power and exhaust cycle, and the timing of the admission and exhaust valves can be independently controlled.



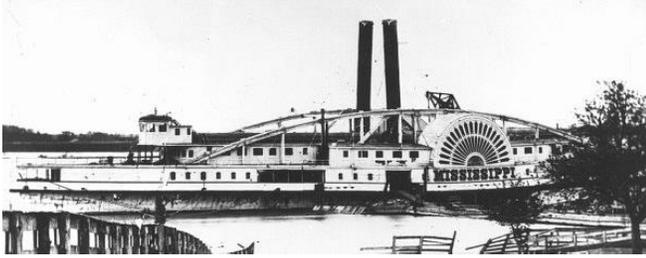
May Queen: She was built at the Eli Bates yard in Trenton, MI, with Alvah C. Bovee as Master Carpenter. The *May Queen* was a wooden sidewheel steamer with measures at enrollment in Detroit, June March 22, 2021

25, 1853 of: 217/8' x 29.9' x 11.0' and her tonnage (old style) was 688 29/95. She was powered by a vertical beam, low pressure engine with a 45" bore x 11' stroke rated at 450 horsepower and built by Cuyahoga Boiler Works, Cleveland, OH. Her steam was generated from a Firebox boiler, 9' x 18', 35 pounds steam, built by Cuyahoga Iron Works, Cleveland, OH. Her original owner was John Owen et al, Detroit, MI and she had been built for the bulk freight trade. Her master for the 1853-55 season was Captain Richard G. Evans with Joseph Cook as engineer in 1853. September 1853. She broke both her shafts and machinery on Lake Erie. October 1854, while bound up from Cleveland, OH for Detroit, MI, the sidewheel steamer broke her shaft and machinery on Lake Erie and took refuge behind Cunningham's Island. She was towed to Sandusky, OH for repairs. For the 1857-58 season, her master was Captain Edward R. Viger. November 1858, the *May Queen* broke her crank off Point Pelee, Ont., Lake Erie and was towed into port for repairs. August 1860, up bound from Cleveland the steamer *May Queen* collided with the schooner *Preble* (US-1842) near Bar Point, Ont., Lake Erie in heavy fog. Her master for the 1862-63 season was Captain William McKay. August 1862, the steamer *May Queen* collided with the schooner *Altair* (US-1855) near Little Point, Ont., Lake Erie. (08/1862)

Early in 1864, ownership of the *May Queen* was changed to Eber Ward. In May of that year her ownership was changed to John W. Strong et al, Detroit, MI. She was readmeasured in 1865 and her enrollment update to: 220' x 28.3' x 11.5'; 694 grt.

June 1865, her ownership was changed to Albert E. Goodrich, Chicago, IL. September 1865, the steamer *May Queen*, laden with general merchandise, stranded near Sheboygan, WI in a storm and sank. She was released that winter and towed to Milwaukee where she caught fire and burned to her waterline in January 1866.

Ownership of the hulk *May Queen* was changed to Galen Eastman, Grand River, MI in September 1867. Her machinery was removed and she was converted into a lumber barge in October 1867. She was towed by the steam barge *New Era* (US18467) in the Chicago & Grand River lumber trade. In October 1868, the *New Era* lost her tow *May Queen*, who became waterlogged and sank Kalamazoo, MI, Lake Michigan.



Mississippi: The shipyard of Fredrick N. & Benjamin B. Jones, Buffalo, built for the Morris Hazard & Associates a wooden, sidewheel steamer for the passenger/package freight trade, connecting the Michigan Southern Railroad terminals between Buffalo, NY and Sandusky, OH. Her measure, when enrolled at Buffalo, NY, June 27, 1853, were: 326.8' x 40.1' x 14' with a tonnage (old style) of 1829.16. She was equipped a vertical beam engine, 81" bore x 144" stroke, built by Allaine Works, NY. Her beam was 24' x 12' and her boiler, 11' x 30', was built by Sidney Shepherd & John Newman, Buffalo, NY. Her wheel was 38' across. Her master for the 1853 & 54 seasons was Captain Morris Hazard with John Gary as engineer. August 1853, up bound on Lake Erie, for Sandusky, OH, and 25 miles off Buffalo, NY, the steamer had one of her boiler tubes collapse, killing a coal heaver and scalding two firemen. The vessel returned to Buffalo for repairs. In October of that year, the steamer *Mississippi* went aground on the sand bar, near Erie, PA.

March 1854, her ownership was changed to Samuel Henshaw as managing owner, and Harrison Fay, both of Brookline, MA, in equal shares. July of 1854, the steamer *Mississippi* broke her machinery on Lake Erie and was laid up for repairs. September of that year, coming out of Sandusky Bay, the steamer *Mississippi* went aground on a sand bar. She was lightered to be released.

January 1856, her ownership was changed to the Michigan Central Railroad, Reuben N. Rice, Superintendent, and she was placed on the North Shore route. Her master for the 1856 & 57 seasons was Captain S.G. Langley with Nelson Rockfellow as engineer. She received a complete renovation of her passenger accommodations prior to the 1856 season. May of that year, a man went overboard and was lost in Lake Erie. Due to the Panic of 1857, the steamer *Mississippi* was laid up at Detroit, MI. In 1862, she was towed to Buffalo, NY where her engine was removed and then returned to the Jones shipyard, Detroit, MI.

June 1863, ownership of the laid-up steamer *Mississippi* was been changed to Captain J. M. Jones and she was converted into a lumber barge. After serving as a lumber barge for nine year, her hull was converted to a floating dry dock for Cleveland, OH in 1872. After eight years as a floating dry-dock, the hull was towed into Lake Erie and sunk off Cleveland, OH in September 1880.

George Moffatt: In 1853, John Waddell, with James Baxter as master carpenter, built a Chatham, Ont., on the Thames River, a wooden "polliwog" steamer for use in the passenger, package freight trade running between Chatham, Ont., on the Thames & Detroit Rivers and Montreal, Que. on the St. Lawrence River. Her measures when enrolled at Montreal, her narrow paddles of great circumference were located well aft. She could navigate narrow rivers and canals as well as the lakes.

Her ownership changed to Holcomb & Henderson, Kingston, Ont. in August 1854 and her master for the 1854-57 seasons was Captain Twitchell. In October of 1854, caught in a gale on Lake Erie, the steamer *George Moffatt* was badly strained and was compelled to put into Cleveland, OH for repairs. She incurred a property loss of \$500. December 1856, laden with flour, while bound from Toronto for Montreal in a gale on Lake Ontario, the steamer *George Moffatt*, had to jettison 800 barrels of flour off Long Point in order to save herself. October 1857, while steaming through the Long Sault Rapids on the St. Lawrence River, the *George Moffatt* damaged her cargo incurring a property loss of \$300.

Ownership of the steamer *George Moffatt* was transferred to Holcomb, Cowan & Co. in 1860. Early in the 1861 season, laden with flour, the steamer *George Moffatt* sank while running the Long Sault Rapids, St. Lawrence River. She was raised in April of that year. In September 1861, the steamer *George Moffatt*, laden with peas and flour, went ashore east of Long Point, Ont., Lake Ontario. In October 1861, the steamer *George Moffatt* broke her shaft during a violent gale on Lake Ontario and was driven ashore near South Bay Point, Cobourg, Ont. The whole crew made it ashore safely. The vessel was declared a total loss by the insurance agent. She was released and towed to the Kingston Marine Railway and repaired. In July 1863, *George Moffatt* collided with the schooner *L. B. Crocker*, in the St. Lawrence River. Her master for the 1864 season was Captain Collins. July of that year, the *George Moffatt* was following the propeller *Akron* (US-354) through the Welland Canal when the *Akron* busted out the lock gates. The steamer *George Moffatt*, below her, descended 15 feet, striking the bottom of the canal

and sprung her keel. December 1864, the *George Moffatt* encountered a storm on Lake Ontario during the early morning hours that blew off her smoke stack, whistle pipe and stopped her engines leaving her at mercy of the waves. She went ashore, stern first near Raby Head, 2 miles west of Bowmanville, Ont. Her passengers and crew made it ashore, but her cargo was a total loss. The vessel was left to the mercy of the elements until spring.

Final enrollment for the steamer *George Moffatt* was surrendered March 8, 1866 and endorsed "wrecked and abandoned".

New England: Luther Moses, Ohio City (Cleveland), OH, built a wooden propeller for Niles, Wheeler & Steele of Buffalo, NY that had at her first enrollment at Buffalo, October 18, 1853 measures: 134.4' x 20.5' x 11' and a tonnage (old style) of 351 67/95. The propeller *New England* was built for the package freight trade. October 1853, bound from Buffalo, NY for Chicago, IL, the *New England* went ashore near Long Point, Ont., Lake Erie. November of that year, she lost part of her deck load of flour and cheese during a gale on Lake Erie. July of the following year *New England* and the Canadian schooner *Water Witch* (C – 1852) collided in the Detroit River, off Hogs Island. The schooner sank.

Ownership of the propeller *New England* was changed in May 1855 to American Transportation Co. Buffalo, NY; Rufus C. Palmer, President. She ran on the Lake Erie Line, between Buffalo and Detroit with stops at Toledo & Sandusky.

February 1860, ownership of the *New England* was changed to William Williams, Harry Martin & Andrew J. Rich all from Buffalo, NY.

The following month her ownership was changed Canadian to John Malcomson, Hamilton, Ont. She was enrolled Canadian as the *Magnet* (C33517), 136 x 26 x 10; 337 grt. Her masters were Captain Malcomson for the 1864-65 season, Captain Fairgrieve for the 1866 season and Captain Patterson for the 1867 season. In August 1867 the *Magnet*, down bound on Lake Ontario, laden with grain, and the sidewheel steamer *Bay State* (US – 1848) collided near Kingston, Ont. The *Magnet* sank. She was raised after removal of much of the upper deck.

Magnet's ownership was changed to F. Patterson, Hamilton, Ont. in 1867, In 1869, ownership was changed to J. Proctor, Hamilton, Ont. July 1871, bound up for Toronto, laden with peas and flour, the propeller *Magnet* went aground at Cote St. Paul Lock, Lachine Canal. She was condemned when her grain cargo swelled and burst her hull. She was raised and had

her machinery removed and converted into a lumber barge.

In 1873, her ownership was Seymour & Gardiner, Ogdensburg, NY. Final disposition is unknown.

Northern Michigan: In May 1853, the first enrolment was issued for the wooden propeller *Northern Michigan*. Built by Bidwell & Banta at Buffalo, NY for Charles Bancroft, Detroit, MI. Her measures recorded were: 137' x 25' x 11' with a tonnage (old style) of 359.26. She was equipped with a low-pressure engine with a 24: bore and 36" stroke. She had been built for the package freight trade.

October 1853, the *Northern Michigan* was caught in a gale on Lake Erie which damaged her deck load of groceries and furniture. In September 1854. The *Northern Michigan* and the Canadian propeller *Oliver Cromwell*, out of Montreal, Que., collided off Point au Pelee on Lake Erie. The *Cromwell* sank in 20 feet of water, 20 miles east of Bar Point.

In February 1855, ownership of the *Northern Michigan* was transferred to the Northern Transportation Co., Ogdensburg, NY. September 1856, the *Northern Michigan* and the Canadian brig *Northumberland* (C – 1853) collided on Lake Michigan midway between the Beavers and the light ship. Late in the 1856 season, the *Northern Michigan*, laden with provisions, broke her shaft box and sprang a leak on Lake Ontario, sinking on the bar at the mouth of the Rochester, NY harbor. February 1857 the enrollment record of the *Northern Michigan* was updated and the vessel renamed *Ontario* to avoid confusion with the propeller *Michigan* of the same company. May 1857, the propeller *Ontario* collided with the schooner *Marquette* in the Welland Canal. Late in the 1857 season the *Ontario* had her starboard bow stove in by ice and was run ashore near Bar Point, Lake Erie where her crew patched the hole so that the vessel could make port for repairs.

Her master for the 1858 season was Captain Parker. June of 1858, bound up from Ogdensburg, NY for Chicago, IL, the propeller *Ontario* caught fire under her boilers near Bios Blanc Island, Lake Huron. The captain and crew were able to extinguish the flames. September 1861, the *Ontario* broke her machinery near Malden, Ont. Detroit River.

Ownership of the *Ontario* was changed to Robert J. Hackett, Detroit, MI in 1863. He had her machinery removed and the vessel was converted to a barge. December 1872, laden with coal, the barge *Ontario* was surrounded by ice off Middle Bass Island

on Lake Erie and drifted with the ice out into the lake and was lost.

The final enrollment for the barge *Ontario* was surrendered December 31, 1872 and endorsed "vessel a total loss".

Ottawa: Built at Detroit, MI by Joseph A. Jenkins for George B. Russell and Henry N. Wallace, both from Detroit, for use as a ferry on the Detroit River in connection with the Great Western & Michigan Central Railroads. She was launched September 6, 1853 and enrolled at Detroit, December 13, 1853. Her measures were: 121' x 30'4"x 9'8" with a tonnage (old style) of 316 58/95. She was enrolled as a sidewheel steamer, but Lloyds lists her as a propeller, formerly sidewheel, but the 1867 Merchant vessels still listed her as a steamer. There is no record of a conversion. Her master for the 1854 season was Captain William Clinton.

Ownership of the steamer *Ottawa* was changed to William M. Karson, Buffalo, NY and her enrollment changed to Buffalo, NY, July 26, 1856. Her master was Captain William M. Karson.

Ownership of the steamer *Ottawa* was changed to Cleveland & Toledo Railroad Co., and her enrollment changed to Cleveland, OH on September 1856. Her master was Captain John B. Waring.

Ownership of the steamer *Ottawa* was changed to George B. Russell, Detroit, MI and her enrollment updated at Detroit, MI on September 1856. Her master was Captain William Clinton.

Ownership of the steamer *Ottawa* was changed to Alex H. Adams, Detroit, MI in September 1862. She was readmeasured in June 1866, issued an official number of US-18922 and her enrollment updated at Detroit to: 122' x 30.16' x 9.25'; 220.11 grt. Final enrollment for the steamer *Ottawa* was surrendered at Detroit, MI, December 31, 1870 and endorsed "gone out of commission".



Owego: Roderick Calkins & John Searles built a wooden propeller at Cleveland, OH for Alanson R. Robinson, Buffalo, NY; to be operated by the New

York & Erie Railroad Co. Her first enrollment was issued at Buffalo, NY and her measures were: 168' 7.5" x 28' 2" x 10'9" and her tonnage (old style) was 483 56/95. She was powered by two direct acting engines built by Cuyahoga Steam Furnace Works, Cleveland, OH. She had wooden arches to prevent "hogging" and a square stern. She was built for the passenger, package freight trade and ran between Dunkirk, NY and Toledo, OH with stops in Buffalo, NY and Cleveland, OH for the New York & Erie R.R. Co. her master for the 1854 season was Captain A. G. Vorce.

Ownership of the *Owego* was changed to Addison Hills, Dunkirk, NY, April 1854. Her master for the remainder of the 1854 season and 1855 was Captain S.A. Vorce.

Ownership of the *Owego* was changed to Stephen D. Caldwell, Dunkirk, NY in May 1856 and her master for the 1856 season was Captain John Kirby. May 1858 the propeller *Owego* went aground on VanBuren Reef, off Dunkirk, NY, Lake Erie. She was lightered to be released.

Ownership of the *Owego* was changed to Nathaniel Marsh, receiver of the New York & Erie Rail Road Company, NY in April 1860. Her master for the 1860 season was Captain Thomas H. Howland. She received extensive repairs and overhauling in 1861.

Her ownership was changed to the Erie Rail Road Co., NY in March 1863. In 1865, her enrollment tonnage was changed at Dunkirk, NY to: 624.06 grt and she was issued official number US-18926. Her master for the 1866 season was Captain A.D. Hewitt and for the 1867 season it was Captain Drake. October 1867 the schooner *Grace Murray* (US-10222) collided with the *Owego* on the Cuyahoga River, Cleveland, OH. November of that same year, while bound down from Toledo, OH for Buffalo, NY with a cargo of flour, oats, corn, tallow and sundries, the propeller *Owego* became stranded during a blizzard near Van Buren Point, five miles west of Dunkirk, NY, Lake Erie and was driven ashore and wrecked in the storm. Five lives were lost. Her deckload was salvaged in 1869 and then the wreck was burned.

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.)