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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), 82. Used by permission of the estate of Edwin Tunis

Ropewalk

The Newsletter for
Shipwrights of Central Ohio
 June 2020

Next Meeting: July 18, 2020

"Fairing a Hull/Coppering" – Bob Mains

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June Newsletter

Due to the COVID-19 virus, our June & July 2020 scheduled meetings at the library have been canceled by the Westerville Public Library. The library is open but meetings where safe distancing cannot be enforced, such as the conference room and classrooms A & B, are not allowed to be scheduled. We check weekly for changes.

I urge all of you to take care of yourself and your families and those seniors who live close to you who may need errands run or someone to just call them.

Use this time to get back in the shop building. Taking time to do things that make you happy is essential to survival in the modern world. Spending time ship modeling, reading, listening to music, or just sitting quietly watching nature from your porch or patio, allows you to recharge and absorb new ideas, information and you might discover something that speaks to you. In the end, it's all worth it.

Sometimes a reminder comes from strange sources. Saturday's Wall Street Journal, Book Section, had a piece written by Michael O'Donnell about an author I had read and reread years ago. O'Donnell writes about stumbling across a novel that is pitched so finely to your particular sensibilities that encountering it is like discovering a twin sibling. And so, Patrick O'Brian's 20-volume Aubrey/Maturin sea saga, a superb genre fiction but also a paean to male friendship, has rejoined my reading list

Speaking of things worth it, leads directly to "The Great Harry" which follows.

Our world is changing and it is scary out there, so be careful.

Your editor.

The Great Harry

Only a ship modeler could find something good in a picture of a ship model that looked like this:



This is what John Boeck and I saw as we arrived in Avon Lake, OH, Friday, June 12th to pick up the model. Dirty, standing and running rigging shot. Sails detached and a tray with spare parts. Those are the sails in front of the model. We had accepted the task to restore her to her past glory. The question was: what did she look like before?

What we do know is: she is 40" high and 44" long and the hull is solid wood and "weights a ton". The lady who wants the vessel restored, remembers the model sitting in her grandfather's foyer in New Jersey when she was a child (about 60 years ago). It is believed that the model came with her great grand father when he emigrated to America from Germany around the turn of the century, which makes the model at or over 100 years old. The family is verifying the story and dates.

But this is where the story gets interesting. In our research, we had discovered that the model looked like the *Henri Grace a Dieu* or *Great Harry-1514* built during the reign of Henry VIII. A model of the vessel was built in the 'bread and butter' fashion in the 19th C for the Great Exhibition of 1851 using a source of an earlier model, then in private hands. The Great Exhibition, held in Hyde Park, London, was an international industrial exhibition that hosted multiple country displays from the Commonwealth, Asia, Europe and Africa. The model displayed at the Exhibition looked like this:



Similar gun placements, towers, masting and rigging. The previous model looks like this:



This model at the Royal Museum, Greenwich is labeled "*Great Harry 1514*". The model above it is the "*Great Harry 1560*" used for the Great Exhibition in 1851. We also found that the Powerhouse Museum, Sidney, Australia has a model of the *Great Harry* (H 3476) that looks very much like our model (see below):



We opened a topic on Model Ship World to include the ship modeling international audience. Based upon the response, we think our model has historical significance. We have also initiated inquiries to the museum in Sidney and Greenwich, both of which are closed due to Covid-19.

We still want to understand if the model has historical significance? What is the history of the model in Sidney? Does either museum have plans of this model? What is the circumstance that produced at least three very similar models of the same vessel that ended up in Australia, England and Germany in the later part of the 19th or early 20th C.

Meanwhile, John is inventorying what we have with this model and I am in the process of drawing out the standing and running rigging from what we see on the prints of the models shown above.

June Meeting

Saturday morning, looked like it would be a beautiful day for a drive. Instead, down to my study in the basement to join another Zoom meeting. I was early, but Bob (our zoom Master), had already opened the meeting and was ready to greet as we signed in. We ended with 7 signed on. All healthy, and in their places (shops and studies) Where were the rest of you? Mark July 18th on your calendars for our next meeting. Our Zoom meetings open by 9 AM and starts at 9:30 AM. This may be our way of holding club meetings for the near future until the library opens their meeting rooms or if the COVID-19 pandemic increases and we return to restrictions.

Business

Zoom

If you tried to sign in and could not, contact Bob Mains (rmains1@columbus.rr.com) and he can help you to connect.

The following is a repeat of some rules on chats, sharing and the pauses that happen when we talk or not talk.

For you who will be sharing Power Point (PPT) presentations in the future, here are some guidelines:

- First, download the Zoom App to your device. When you click on the App, the screen will ask if you want to join a meeting., click on that and enter the meeting ID, hit enter. It will ask you for the password, enter it and hit enter.
- Open your PPT presentation, video, photo and click the *Share* button.
- In the sharing window that opens click on Microsoft PowerPoint to select it.
 - If your presentation includes narration, sound, or video: Check the *Share computer sound box*. If your computer prompts you to install the Zoom audio device, do it. Click on the *Share* button.
- In PowerPoint: Switch to Slide Show mode. Give your presentation/sharing. When done, click Zoom's *Stop Share* button

For Android phones and Tablets:

- Sign in to Zoom.
- Open a new window and open Power Point.
 - Open the PPT presentation and start the slide show.
- Toggle back to Zoom (use tabs)
- Click Share, Screen

- All participants should now see your PPT presentation.
- When finished, click Stop Share.

We also need to remember, that when we are sharing our ship models, etc. if we click on the share button, the image everyone else will see on their screens will be their screen size.

Road Trip

Our scheduled fall road trip to the National Museum of the Great Lakes, Toledo, Ohio looks like it will be the third Saturday of September (OSU vs Buffalo). Alan has contacted the museum to verify dates, cost and any restrictions we need to know about.

He also has sent out an email to verify that you are planning to participate in the road trip; if you will be arranging your own transportation or traveling with the club members and if you have a vehicle that could hold more than 4. Contact Alan at (arpelps44@gmail.com).

"Great Harry" Update

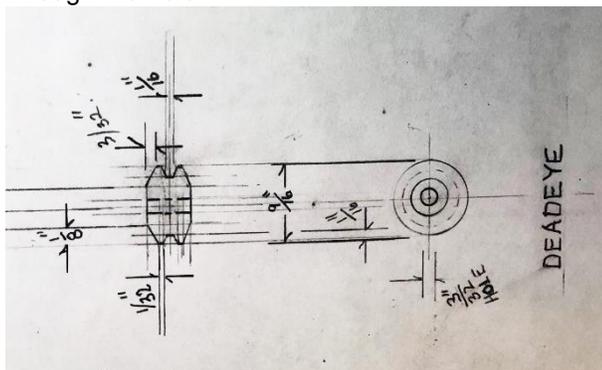
John Boeck reported on what he has found so far as he removes the rigging and loose parts. His inventory is:

Item	Expected	Found	Delta
Lg Cannon	20	18	2
Med Cannon	14	14	
Sm Cannon	4	2	2
Gun ports	32	25	7
Posts	12	7	5
Shades	12	8	4
Deadeyes	75	69	6
Blocks	100	46	54
Anchors	2	2	
Masts	5	5	
Bow Mast yard	1	1	
Tops	7	7	
Fore Yards	3	1	2
Main Yards	3	2	1
Missen Yards	3	2	1
Bow Mast Sail	1	0	1
Fore Sails	3	3	
Main sails	3	3	
Missen Sails – furled	1	1	
Missen sails-unfurled	2	1	1
Bonaventure Sails furled	1	1	
Bonaventure Sails unfurled	1	1	
Flags	5	4	1

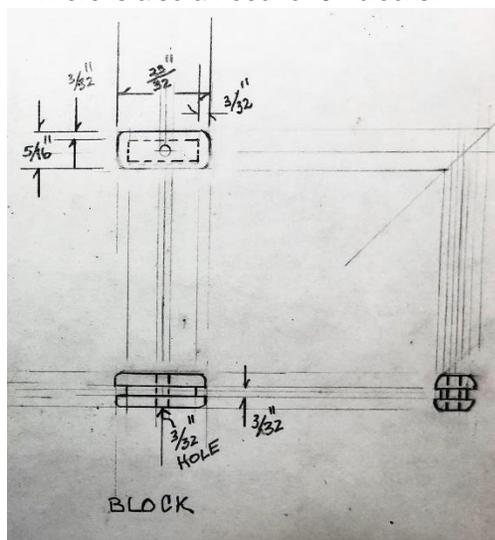
There is also:

- woodwork repair,
- cleaning of hull, masts, yards,
- Cleaning sails,
- Paint sealing,
- Repairing the stand
- Building a case to protect it.

There is a need to make 6 deadeyes. They are round with a single hole in the center. A drawing, with measures has been developed. The deadeye is rigged so that the shrouds/stays wrap around the outside of the deadeye and the lanyard is rigged through the hole.



There is also a need for 54 blocks.



As you can see, they are rectangular in shape. Here again the block is rigged so that the line/stay wraps around the outside of the block and the lanyard/moving rope is rigged through the hole. This is not normal, but it is how the ship was originally rigged. With a careful inspection of the Australian model the rigging of the deadeyes and blocks can be seen.

The owner is willing to contribute \$'s to the club for the restoration so we are looking for help. So far, we have four volunteers who have taken on drawing the standing/running rigging, touch up painting, repair and cleaning of masts, plus John who is doing everything else. All the parts are made of wood with the exception of the sails.

Based upon a quick sizing of the remaining rigging, it appears that we should be able to source our rigging needs from Syren Ship Model Co. I have asked John to supply the length and size of the yards that need replaced and to provide drawings and size of the deadeyes, blocks (see above), cannons and gun port lids.

Now what we need is **YOU**. Let me know at shipwright@wowway.com how you can help.

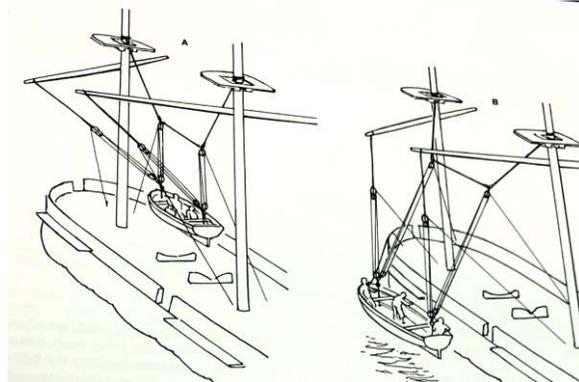
Presentation:

Boats and Small Craft

Our main presentation was on building small boats by Dr. Mike Dowler. His presentation started by covering how small boats were used in the 18th & 19th C. for towing, kedging and warping sailing ships, assisting in anchoring and mooring a vessel, transporting of personnel and supplies, communications, and for cutting out, intelligence, etc.

The types of boats were longboats, launches, pinnace, barge & skiffs, cutters and jolly boats, wherry's, gig's and yawls. He continued by describing each and the advantages then moved on to covering fittings within a small boat, such as: rudder, sails, windlass, davits, ground tackle and armament.

We continued the discussion on how boats were stowed on or towed behind the major vessel. We spent some time discussing how a small boat was launch from aboard a ship. The illustration included in the talk helped us understand the tackle and process of launching a small boat from the waist of a sailing ship.



From there we got into small boat construction, and the pros & cons of carvel vs clinker-built boats.

We then went on to discuss the multiple ways to model small boats. The different ways are: plug or molds; frame style; stacking; carving and solid hulls. We ended the talk with a discussion of finishing the small boats to include their floors, risers, thwarts, seats and lockers as well as decorative panels.

I want to thank Mike for a very comprehensive presentation on this subject.

Ships on Deck:

Here is what your fellow craftsman have been doing.

Queen Anne Barge

Mike Dowler



Mike is working on the bow and stern decorations. The rudder/tiller, flags, and sweeps will be next. Looking good.

Swift

Bob Mains



Bob has cased his model of the *Swift*. Interesting base design.

Typhoon

Alan Phelps



She is ready for mounting her deck fixtures.

U.S.S. Michigan

Stan Ross



Stan reports that she is finished and only needs a case. This is a Great Lakes ship, so the staging, in the photo above, makes it appear to be sailing through the alga in the western basin of Lake Erie

Odds and Ends

Steamship Historical Society of America

An educational nonprofit in New Jersey is looking to find a new home for its floating classroom as the challenges of operating the vessel's steam engines threatens the group's small budget.

The non-profit organization SPLASH (Student Participation in Learning Aquatic Science and History) has been delighting school age and adult groups for 15 years with fun, educational trips

on the scenic Delaware River from May to October.

When the organization's chief engineer retired in 2018, it found that hiring a qualified steam engineer was difficult. The newest chief engineer, hired in 2019, lives out of state and requires compensation for travel. Because of this additional cost, the nonprofit's board voted in February of this year to discontinue operations on board the steamboat and try to seek a buyer. Those involved with the SPLASH program say the educational component will live on, either on land or aboard another vessel.

The ship was built as the *River Prince* in 1970 by Lee Gaeke and Tucker Marine and took passengers for trips on the Huron River in Ohio. In 1977, the *River Prince* was sold to the Grand Rapids Steamboat Excursion Line, Inc. and was renamed the *Shawnee Princess*. She plied the Maumee River in northwestern Ohio for many years. In 1998 the *Shawnee Princess* was purchased by Dr. Bart Hoebel, transported to New Jersey, and extensively reconditioned. The vessel then became the centerpiece of the 501(c)(3) educational nonprofit, Delaware River Steamboat Floating Classroom Inc.

The vessel is 58 feet long with a paddle wheel and a beam of 13 feet. It has three decks and can hold up to 40 passengers, including crew.



Photo: The former *River Prince* and *Shawnee Princess* is up for sale after spending the last 15 years as a floating classroom (SPLASH photo).

Because of her past history of steaming on the Maumee River, I contacted the Executive Director of the Maritime Museum of the Great Lakes, to see if he would be interested in the vessel. He wrote back that, because of her Ohio/Lake Erie history, he would be contacting them.

Nautical Terms

Waist: The central deck of a ship between the forecastle and the quarterdeck.

Waist clothes: Colored cloths or sheets hung around the outside of a ship's upper works, used as an adornment and as a visual screen during times of action

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Wake: Turbulence behind a vessel. Not to be confused with *wash*.

Wale: Any of the strong and thick planks running lengthwise along a vessel, forming the lower part of the vessel's sides.

Wardroom: 1. The living quarters of a naval ship designated for the use of commissioned officers other than the captain. 2. A collective term for the commissioned officers of a naval ship excluding her captain; e.g., *The captain rarely referred to his wardroom for advice, and this led to their discontent.*

Warp: 1. To move a vessel by hauling on a line or cable that is fastened to an anchor or pier; specially to move a sailing ship through a restricted place such as a harbour. 2. A line or cable used in warping a ship. 3. The length of the shrouds from the bolster to the deadeye

Wash: The waves created by a vessel. Not to be confused with *wake*.

Watch: A period of time during which a part of the crew is on duty. Changes of watch are marked by strokes on the ship's bell.

Watch standing: The allocation of crew or staff to a watch.

Water bus: A watercraft used, usually in an urban environment, to provide transportation on a scheduled service with multiple stops, analogous to the way a bus operates on land. A water bus also differs from a *ferry (q.v.)*, a term which usually refers to a watercraft that shuttles between two points.

Water taxi: A watercraft used, usually in an urban environment, to provide transportation on demand to various locations, analogous to the way a taxicab operates on land. A water taxi also differs from a *ferry (q.v.)*, a term which usually refers to a watercraft that shuttles between two points.

Watercraft: Water transport vessels.

Waterline: The line where the hull of a ship meets the water's surface.

Watersail: A sail hung below the boom on gaff rig boats for extra downwind performance when racing.

Waterway: 1. **Waterway**, a navigable body of water. 2. A strake of timber laid against the frames or bulwark stanchions at the margin of a laid wooden deck, usually about twice the thickness of the deck planking.

Way: Speed, progress, or momentum, or more technically, the point at which there is sufficient water flow past a vessel's rudder for it to be able to steer the vessel (i.e., the rudder begins to "bite," sometimes also called "steerage way.") To *make way* is to move; to "have way on" or "to have

steerage way" is to have enough speed to control the vessel with its rudder; to *lose way* is to slow down or to not have enough speed to control with the rudder. "Way enough" is a coxswain's command that the oarsmen stop rowing, and allow the boat to proceed with its existing way.

Way-lay: The verb's origin, from *wegelage*, means "lying in wait, with evil or hostile intent." so to be waylaid referred to a ship taken off its course, route, or way, by surprise, typically by unfortunate or nefarious means. In H. Melville's novel, 'Moby Dick', the great white whale *waylaid* the ship and sank it with only a few souls surviving in lifeboats.

Waypoint: A location defined by navigational coordinates, especially as part of a planned route.

Ways: The timbers of shipyard stocks that slope into the water and along which a ship or large boat is launched. A ship undergoing construction in a shipyard is said to be *on the ways*, while a ship scrapped there is said to be *broken up in the ways*.

Glossary of Nautical terms Wikipedia

Other Notes: "Stuff" - Tugs & Things

Nautical Research Journal

In the NRJ, Vol.65, NO. 2 Summer 2020 are two helpful tips on "Blackening Metals" by Kurt Van Dahm; and "Keeping Things Straight: by the late Steve Wheeler.

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.

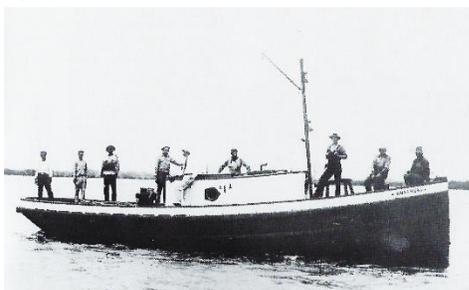
Print Journal - \$50

E-Journal - \$40

Combined - \$65

Tugs

Huki Huki



The *Huki Huki* is a tug-launch. Tug-launches were developed for harbor utility work, handling
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barges, schooners and other yard tasks. They usually towed with a single line, so the main towing bitt was placed well forward to facilitate handling and maneuverability. Built in Honolulu, Hawaii in 1908, she was 36 feet long and powered by a 50-horsepower gasoline engine. Gas engines allowed the engine controls to be placed alongside the steering station. The tug required a crew of two. The other seven aboard, most likely a barge crew hitching a ride.

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

Active



The *Active* was a classic West Coast tug. Built at San Francisco in 1888 and equipped with a 150-horsepower steam engine. In 1935, she was converted to diesel power and equipped with a 640-horsepower engine. Owned by Puget Sound Tug and Barge Company, she was used to tow huge log rafts, barges and ships. The shape of the *Active's* wheelhouse is a clue to her origin. Wheelhouses were traditionally boxier, less rounded in front and had longer foredecks, than those on the East Coast.

The *Active* was 115 feet overall, and her large superstructure provided ample accommodations for her crew. At the same time her superstructure worked against her by providing poor visibility for her master aft due to the small windows in the aft wheelhouse bulkhead and the large wide funnel. .

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

Presentation Schedule:

2020

- Jan 18 — Research
- Feb 15 — Scratch Building
- Mar 21 — Canceled
- Apr 18 — Zoom Training
- May 16 — Bending Wood — Zoom
- Jun 20 — Small Boat Making — Zoom
- Jul 18 — Fairing a Hull/Cooper Plating - Zoom
- Aug 15 — Rope Walk
- Sep 19 — Road trip
- Oct 17 — Soldering
- Nov 21 — Open
- Dec 19 — Open

Events & Dates to Note:

2020

Lakeside Antique & Classic Wooden Boat
Lakeside Hotel, Lakeside, OH
July 23-25, 2020

Toledo Antique & Classic Boat Show
Promenade Dock, Maumee River, Toledo, OH
Aug 22-23, 2020

2021

IPMS Columbus
47th Anniversary BLIZZCON
Arts Impact Middle School
680 Jack Gibbs Blvd. Columbus 43215
Saturday, February 20, 2021

Miami Valley Woodcarving Show
Christ United Methodist Church
700 Marshall Rd., Middletown, Ohio 45044
March 7 & 8, 2020

66th "Weak Signals" R/C Model Show
Seagate Convention Ctr.
401 Jefferson Ave. Toledo, OH
April 02-04, 2020

31st North American Model Engineering Expo.
Yack Arena
Wyandotte, MI
April 23-24, 2021

44th Midwestern Model & Boat Show,
Wisconsin Maritime Museum, Manitowoc, WI
May 14 – 16, 2021

Constant Scale R/C Run – Carmel, Ind.
Indianapolis Admirals reflecting pond
Carmel, IN
May 15 & 16, 2021

NRG Conference
June 23, 2020

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

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Annual membership includes our world-renowned quarterly magazine, Nautical Research Journal, which features photographs and articles on ship model building, naval architecture, merchant and naval ship construction, maritime trade, nautical and maritime history, nautical archaeology and maritime art.

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Wooden Steamers

1848 – Part III

Because of the number of vessels built in 1848, the description of the ships had been broken into three reports. This wraps up the 1848 wooden steamers build.

Ottawa: At Merritt's Ship Yard, Montreal, Que., Augustin Cantin, master carpenter, built a wooden sidewheel steamer for Macpherson & Crane, Montreal in 1848. She had measures of: 135.2' x 24.1' x 10' with a unit ton rating of 125.99. She was powered by a vertical beam, low pressure engine with a 120" stroke and rated at 75 horsepower. The engine was built by Brush & Co, Montreal, P.Q. She was built as a passenger, package freight steamer, to run on the Rideau Canal & Ottawa River between Kingston to Montreal. She had recessed wheels in hollowed spaces in her hull which gave her an appearance of a "pollywog". Her masters for the 1848 season was Captain Shepherd and Captain Hilliard who served 1849-50. In May 1850, the steamer *Ottawa* was the first steamer that year to ascend the St. Lawrence River, passing through all the canals.

Ownership of the steamer *Ottawa* was changed to Torrance & Co. in 1851 and her master for the 1851-53 seasons was Captain Wells. September 1851, bound down from Kingston, Ont. to Montreal, P.Q., the steamer *Ottawa*, having left her wharf at Kingston with 74 passengers, rammed the in-bound sidewheel steamer *Reindeer*, sinking herself in 15 feet of water in Kingston harbor.

In 1854, her ownership was changed to Hooker & Pridham. Her masters were Captain McGarth for the 1854 – 56 seasons and Captain Hannah for the 1857 season. July 1855, bound down, Toronto to Montreal, the *Ottawa*, laden with flour, was struck by the sidewheel steamer *B.F. Tibbitts* (C33052) sinking in 20 feet of water near Brockville, Ont., St. Lawrence River. She was raised and repaired. Her master for the 1859-60 seasons was Captain Ryan.

Her ownership was changed in 1862 to Jacques & Tracey's. While undergoing repairs in March 1862, at Anglin's wharf, Kingston, the steamer *Ottawa* sank due to a feed pipe bursting. She was raised and repaired.

In 1864 her ownership was changed to Glassford, Jones & Company. Her master for the 1864-65 season was Captain Johnson.

Owned by the Bay of Quinte Company in 1869, the steamer *Ottawa* was inspected at Kingston and her tonnage changed to 227 gross tons. The

enrollment for the sidewheel steamer *Ottawa* was surrenders in 1870 and endorsed as "broken up".

Ottawa Chief: Shea & Merritt, Montreal built a wooden sidewheel steamer for the passenger, package freight trade on the Ottawa River. She had measures of: 150.9' x 23.6' x 8.3' and unit tons of 215.7. She was powered by two vertical beam, low pressure engines, with 34" bore cylinders and 120" stroke, built by Ward & Brush, Montreal. She was chartered by J. Hamilton in 1849, but because she drew too much water, she never made a trip in 49.

Her master for the 1850 season was Captain Lawless. March 1850, she was renamed the *Ottawa* and placed on the River Line with the sidewheel steamers *Canada* and *Lord Elgin*. Captain Lawless died in January 1851 and his replacement was Captain Putnam for the 1851-54 seasons. October of 1851, the steamer *Ottawa* had one of her shafts broken above Gallop's Rapids, St. Lawrence River. Up bound, July 1852, the *Ottawa* had one of her shafts break about nine miles out of Kingston Harbor. She was towed into the harbor for repairs. August 1853, the steamer *Ottawa* went ashore while on the St. Lawrence River. She incurred a property loss of \$1,600 when released and repaired. Her master for the 1855-56 season was Captain Kelly. April 1856, while the canals on the St. Lawrence River were closed, the steamer *Ottawa* made three trips a week between Kingston and Prescott, Ont. on the St. Lawrence River.

1857, ownership of the steamer *Ottawa* was changed to De Salaberry Navigation Co., Montreal, P.Q. In 1862 ownership of the steamer *Ottawa* was changed to Glassford, Jones & Co., Kingston, Ont. Her master for the 1863 season was Captain C. B. Crysler. May 1867, the steamer *Ottawa* was damaged by fire while at Prescott, Ont.

Enrollment for the sidewheel steamer *Ottawa* was surrendered in 1869 and endorsed "retired".

Pacific: Eber B. Ward & Samuel Ward, Newport, MI, had a wooden sidewheel steamer built by J. L. Wolverton, Newport (Marine City), MI with measures of: 176' 10" x 27' 6" x 10' 1" and a tonnage (old style) of 462 39/95. She was powered by a vertical beam (walking beam), low pressure engine with a 44" bore x 120" stroke, built by Cuyahoga Iron Works, Cleveland, OH. She was built for the passenger, package freight trade and her masters for the 1848 through 1852 were Captain Salisbury in 1848, Captain Brown for 1849, Captain Cooper for 1850 and Captain Howe in 1852.

July 1848, the steamer *Pacific*, up bound, broke her piston head off Black River (Lorain), OH on Lake Erie, and was towed back to Cleveland, OH for repairs. March 1849, the steamer *Pacific* was caught in a spring freshet and ice jam on the Chicago River and sustained damages to \$300. December 1852, *Pacific* was damaged in a gale on Lake Erie, losing her anchor and some cargo, before taking refuge in Buffalo Harbor. Her property loss was set at \$500. In May 1853, *Pacific* collided with the brig *Fashion* (US9189) in the Detroit River. Property loss for both was set at \$1,500. November 1853, the steamer *Pacific* broke down on Lake Michigan. Property loss set at \$5,500. In September 1854, the *Pacific* collided with the propeller *Illinois* (US – 1849) off Chicago, IL, Lake Michigan. The *Illinois*, with her larboard gangway stove in, put about and returned to her dock where she sank in nine feet of water. August 1855, the steamer *Pacific* sank at the mouth of Chippewa Creek, OH.

Ownership of the *Pacific* was changed to Captain Jones in September 1855. The vessel was raised and rebuilt as a barque with the capacity for 18,000 bushels of grain or about 400,000 feet of lumber. She was enrolled at Detroit as the barque *Pacific*, 462.39 tons (old style), October 03, 1855.

Ownership of the barque *Pacific* was changed to William Clement & Thomas Butlin, Detroit, MI. and William Cooper, Forestville, MI in October 1855. The barque *Pacific* went ashore on the east coast of Lake Michigan December 1855 and in October 1856, laden with salt, she went ashore at Thunder Bay Island, Lake Michigan.

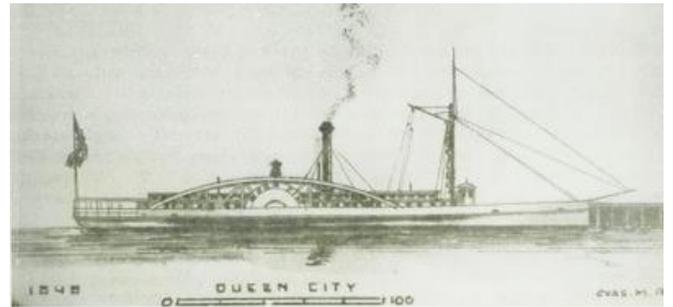
April 1860, ownership of the barque *Pacific* was changed to A. H. Holden & Russel Green, Chicago, IL and her enrollment was transferred to Chicago, IL. Master of the barque *Pacific* for the 1860 season was Captain Dyer. November 1861, the *Pacific* was damaged in a collision with the schooner *Albatross* (US360) on the Chicago River and in November 1863 she went ashore at Erie Peninsula, Lake Erie.

May 1865, her ownership was changed to Galen Eastman; reduced to a barge with a capacity for 250,000 feet of lumber. She was enrolled at Chicago with a tonnage (Old Style) 294.13 and was assigned an official number 19662.

1867, the barge *Pacific*, laden with lumber, went ashore at Grand Haven, MI, Lake Michigan. Five lives were lost (Henry Wright, James Cullen, George Brew, James Mahoney and one unknown.

Petrel: A steambarge: a barge is a flat bottom vessel used to carry bulk freight; a steambarge to a barge with a steam powered engine that allows her to move under her own control.

Early in 1848, Joseph Arnold, Port Huron, MI built the first recorded steambarge to haul bulk freight. The *Petrel* had the capacity to haul 2,300 barrels of flour and had no upper works save a cabin for the crew located aft. She measured: 118.1' x 23.7' x 8.9' and rated tonnage (old style) of 227 55/95. She was owned by the Kelsey's; Joseph of St. Clair, MI; Joshua of Port Huron, MI and Joel of Toledo, OH. Her engine was built by Harelay & Kinney, Detroit, MI. She was enrolled at Detroit, MI, July 07, 1848 and had been built to carry lumber. Her master was Captain J.W. Kelsey. At the start of the 1849 season, the steambarge *Petrel* and the schooner *Outward Bound* (US-1846) collided about six miles off Chicago, IL, Lake Michigan. No damage was sustained by either vessel. She had a short life and in October 1849, the steambarge *Petrel*, laden with flour, sprang a leak and drifted ashore, stranding at Ashtabula, OH, Lake Erie. No lives lost. Her enrollment was endorsed "wrecked".



Queen City: During the winter of 1847/48, Bidwell & Banta laid the keel and built a wooden sidewheel steamer that would be used by the Reed Line; Charles H. Reed et al., in the passenger, package freight trade between Buffalo and Chicago. When enrolled at Buffalo, NY, March 11, 1848, her recorded measures were: 242' x 30' 7" x 12' 7" and a tonnage (old style) of 906. She was powered by a crosshead, low pressure engine with a 56" bore x 108" stroke. Her master for the 1849 season was Captain T.J. Titus with Hinton as chief engineer. October 1849, while attempting to make the harbor at Ashtabula, OH, the *Queen City* ran on to the pier and stove in her bow and broke some machinery.

Master of the steamer *Queen City* for the 1850 season was Captain Carter. November 1850, the steamer collided with the schooner *General Houston* (US-1836) at Toledo, OH. The schooner

was badly damaged. For the 1851 season, the steamer *Queen City* was operated by the New York & Erie Railroad Line, providing her passengers a trip from New York to Chicago in 54 hours. May 1851, while attempting to make the harbor at Cleveland, OH, the *Queen City* ran on to the pier and damaged her side.

Master of the steamer *Queen City* for the 1853 season was Captain Wilkins. April 1853, the steamer *Queen City*, with 300 passengers and a cargo of flour and cattle aboard, struck rocks going into the harbor at Dunkirk, NY in fog and sank. She was raised and repaired at Buffalo, NY with a property loss set at \$1,500. July of that same year the *Queen City* and the steamer *St. Lawrence* (US - 1853) collided on Lake Erie and were damaged at a property loss of \$3,000. October of 1853, chartered by the Detroit & Dunkirk Line and laden with flour, the steamer ran on a sunken anchor, knocking a hole in her bottom then sinking at Erie, PA. She was raised and repaired with a property loss set at \$3,973. For the 1854 season, the steamer *Queen City*, ran on the Chicago to Sault route. In June of 1854, arriving at Twin Rivers, WI, her arches broke during a gale requiring repair with a property loss set at \$3,000. After repairs were completed, she ran Buffalo to Sandusky. November 1854 shortly after leaving Detroit, bound down, the *Queen City* broke her pillar block, requiring repairs.

Chartered by Simcoe & Lake Huron Railway Co. to run freight between Collingwood, ONT and Chicago, IL for the 1855 season. The steamer *Queen City* was damaged during a gale while at anchor of Sheboygan, WI, in September and incurred a property loss of \$800. In November, the *Queen City* broke her machinery on Lake Erie and was towed into Buffalo for repairs, incurring a property loss of \$1,500. In November of 1856, while in the Straits of Mackinac, the steamer *Queen City* broke her machinery, requiring a tow to Detroit for repairs. Her property loss was set at \$3,000.

Her ownership was changed to several parties at Green Bay, WI and Michilimackinac, MI and her master for the 1857 season was Captain Chamberlain. Due to the panic of 1857 the steamer *Queen City* was laid up at Erie, PA for the 1858 season.

April 1858, the *Queen City* was sold at a Marshals sale to her original owner, Charles H. Reed, for \$2,500. She did not operate for four years and in July 1862 the steamer was dismantled and converted to a lumber barge. August 1863, during a gale while bound for Saginaw, MI, in tow of the propeller *James E. Eagle* (US-1860), the barge *Queen City* broke adrift from her tow off Point Aux Barque, Lake Huron

and went aground and wrecked. The remains of the *Queen City* were discovered in October 1991.

Republic: S. & A. Turner, Cleveland, OH built a wooden propeller for N.C. Winslow et al. Cleveland with measures: 172.7' x 24.2' x 11.2' and a tonnage (old style) of 466 88/95. Enrolled at Cleveland, OH, July 04, 1848, it was noted that she would run in the passenger, package freight trade between Buffalo and Chicago. Her engine was built by the Cuyahoga Iron Works. Her master for the 1848 season was Captain Ben G. Sweet. April 1851, the *Republic* unloaded her cargo at Mackinac, MI, after running onto a reef and springing a leak. Repaired. April 1852, she ran between Dunkirk, NY, Cleveland, Sandusky and Toledo, OH in connection with the New York & Erie Railroad. It was called the "Dunkirk, Cleveland, Sandusky & Toledo Line and was composed of the following propellers beside the *Republic*; *Oregon*, *Paugasset*, *Genesee Chief*, *Forest Queen*, *California* and the steamer *Southerner*. June of that year, in an effort to stay afloat during a gale, the *Republic* jettied her deck load of flour. The cargo loss was set at \$200.

Ownership of the propeller *Republic* was changed in January 1853 to Messrs. Nottingham, Squires & Ludlow, Cleveland, OH for \$20,000. Her master for the 1853-55 season was Captain Ludlow. August 1855, the *Republic* broke her shaft off Erie, PA and required a tow into Cleveland, OH for repairs. Master for the 1856-57 seasons was Captain Weaver. May 1856, the propeller *Republic* and the schooner *Melrose* collided on the Detroit River. Property loss for the schooner was set at \$120, and for the propeller at \$800. July 1857, while attempting to pick up wood for her boilers, the propeller *Republic* ran ashore at Malden, Ont. on the Detroit River. October 1857, the *Republic*, while lying at the dock of the Sandusky, Mansfield, and Newark Railroad at Sandusky, OH, caught fire and burned to a total loss. The large freight warehouse adjacent to the vessel also caught fire and was destroyed. The property loss for the propeller was set at \$12,000 and for the warehouse at \$10,000. No lives lost.

Sandusky: George C. Weeks, Buffalo, built a wooden propeller for James C. Evans and Samuel F. Gelston, Buffalo, NY with measures of 139' 6" x 25' 4" x 11' 2" and a tonnage (old style) of 370 75/95. She was powered by a high-pressure engine with an 18" bore and 34" stroke. Enrolled at Buffalo, May 15, 1848, she was to be used in the passenger, package freight trade. Master of the *Sandusky* for the 1848-53 seasons was Captain R. Daniels. May 1848, the

Sandusky, bound up from Buffalo, NY for Sandusky, OH, laden with 200 tons of merchandise, broke her machinery and became disabled off Conneaut, OH. She was towed to Cleveland for repairs. The propeller *Sandusky* had her cargo damaged during a gale on Lake Erie in October 1853. Bound down from Toledo for Buffalo, NY in October 1855, the propeller *Sandusky*, laden with flour, while entering the harbor at Black River during a gale, broke her rudder and struck the East Pier. She was towed to Cleveland, OH for repairs.

Master of the *Sandusky* for the 1856 season was Captain Thomas Smith. In the fall of that year, the *Sandusky* went ashore on Point Au Pelee Island, later that fall, during a gale on Lake Erie, while laden with flour, she went ashore at Conneaut, OH. In November of 1856, her owners abandoned all hopes of getting her off, and stripped her of all value. In the fall of 1857, the *Sandusky*, still ashore at Conneaut, OH, caught fire and burned to a total loss.

Sciota: E. Bates, master carpenter at Huron, Ohio built a wooden propeller with measures of 154.5' x 24.0' x 11.0' and a tonnage (old style) of 389 32/95. Her owners at enrollment were William Wright et al, Huron, OH. She was powered by a Corliss engine, 23" cylinder bore x 42" stroke. Steam was generated by a 7' x 15' boiler built in 1848. The propeller *Sciota* ran between Chicago, IL and Buffalo, NY with stops at Huron, OH in the package freight trade.

April 1851, ownership of the propeller *Sciota* was changed to George Holt et al, Buffalo, NY. In May 1854 ownership was changed to James C. Evans et al, Buffalo, NY. The *Sciota* joined the Evan's Line of propellers that ran between Buffalo, NY and Toledo, OH. In June of that year, her cargo was damaged during a gale on Lake Erie with the loss set at \$1,000. In October, during a gale, the propeller *Sciota* damaged and unshipped her rudder and had to be towed to Detroit, MI for repairs. In December, pushing the season, the propeller *Sciota*, laden with wheat for Buffalo, NY, went aground on a bar seven miles below Toledo and was frozen in tight waiting for the ice to break.

May 1855, ownership of the propeller *Sciota* was changed to American Transportation Co., Buffalo, NY; Rufus C. Palmer, president. In September of that year she had her cargo damaged during a gale on Lake Michigan. September 1857, the *Sciota* damaged and unshipped her rudder off Port Washington, WI, Lake Michigan. She was towed to Milwaukee, WI for repairs. October 1859, bound down from Cleveland for Buffalo the *Sciota* was caught out in a gale on Lake Erie and had to jettison

part of her cargo. She reached Erie, PA to ride out the storm.

Ownership of the propeller *Sciota* was changed to William Williams et al, Buffalo, NY in May 1860. Her master for the 1860 season was Captain Travers. In October of that year the down bound *Sciota* and the upbound bark *David Morris* (U6140) collided near the mouth of the Detroit River. Loss was set at \$500. September 1861, the *Sciota* and the schooner *William Case* collided off Port Colbourne, Ont., Lake Erie. Both vessels were damaged.

April 1862, ownership of the propeller *Sciota* was changed to J. N. Gardiner et al, Buffalo, NY. In June it was recorded that the propeller *Sciota* was transferred to John N. Gardiner, Buffalo, NY. In November of that year, the *Sciota*, running light, ran into Port Maitland, Ont. at a high stage of water and stranded.

For the 1864 season, her master was Captain Charles D. Ruscoe. The *Sciota*, bound down from Toledo, OH for Buffalo, NY in September 1864, laden with 12,000 bushels wheat, was cut by the propeller *Arctic* (U299) off Dunkirk, NY and sank quickly. Nine lives lost.

St. Helene: Augustin Cantin built a wooden sidewheel steamer at Montreal, Que. with measures: 152' x 25' x 8' and a tonnage (old style) listed as 100. She was powered by a vertical beam, low pressure engine with a bore 38" and stroke of 96". She was enrolled at Montreal, June 30, 1848. Her owner was P. Jodion and she was built for passengers and ran as a Montreal ferry.

In 1853, ownership of the *St. Helene* was changed to J. A. Glassford & Walker, Montreal, she would run between Montreal and Belleville, Ont. on the Bay of Quinte. In 1854, the steamer *St. Helene* was issued an official number C33487; her measures were updated to 152.0' x 24.9' x 8.1', 119.50 Unit Tons. For the 1854 season she ran as a towboat. Her masters of the steamer *St. Helene* were Captain Charles B. Chrysler for the 1854-55 season, Captain Mowatt for the 1856-57 season and Captain Charles B. Chrysler for the 1857 - 59 seasons. In 1858, her upper saloon was removed during conversion to a full-time towboat.

In 1860, her ownership was changed to the Bay of Quinte & St. Lawrence Steamboat Co. Her master for the 1860-63 season was Captain E. B. Smith. She was rebuilt in 1862 at Kingston, Ont. In 1864 her upper saloon was restored. Her master for the 1866 season was Captain E. D. Smith. July 1868, bound from Trenton for Kingston, Ont., the steamer *St. Helene* became disabled when her shaft pin broke. She was towed into Kingston for repairs.

Ownership of the steamer *St. Helene* was changed to A. McCuaig, Picton, Ont in 1871. May of 1872, the *St. Helene*, laden with 500 barrels of flour, potash and 7 horses, broke her rudder chain and ran onto a shoal while running the Cedar Rapids on the St. Lawrence River. No lives were lost. In 1875 her engine was sold to a new steamer being built at Mill Point.

St. Lawrence: M.W. Browne, Hamilton, Ont. contracted with George S. Weeks of Oswego, NY to have a wooden propeller built for the package freight trade with a capacity for 11,000 bushels. She would run between Oswego, NY and Chicago, IL in the grain trade. Her initial enrollment was issued June 30, 1848 and the vessel had measures of 125' 2.5" x 25' 3" x 10' 5" with tonnage (old style) of 336 11/95.

August 1850, ownership of the propeller *St. Lawrence* was changed to Moses & E. G. Merrick, Oswego, NY. May 1850, the propeller was struck by lightning while at Oswego, NY, losing her mast. September of that year, she was in a collision with the brig *Pilgrim* (U19664) in the Detroit River. Her master for the 1851-52 seasons was Captain Thomas Howard.

The *St. Lawrence* was sold Canadian in December 1852 and enrolled: C33474; 147' x 24' x 8'; 290 tons. Master of the *St. Lawrence* for the 1854 season was Captain James F. Trowell. In September 1855, the propeller *St. Lawrence*, laden with wheat, while attempting to enter the harbor at Niagara-on-the-Lake, Ont., Lake Ontario, went ashore at the mouth of the Niagara River and sank. Property loss for the hull: \$700; and her cargo \$20,000.

The ownership of the propeller *St. Lawrence* was changed to Hooker, Jacques & Company, Montreal, P.Q. in 1857. Her master in 1857 was Captain Savage. August 1857, the *St. Lawrence* collided with a vessel on the Detroit River. In 1858 the *St. Lawrence* was in collision with the brig *Waurecan* (U62107) near Point au Pelee, Ont. Lake Erie. The propeller was cut down to the water's edge, her stack torn away and her engine badly injured. She incurred a property loss of \$1,000. In May, she was damaged running the rapids on the St. Lawrence River. Her property loss was \$3,150.

In 1863, her ownership was transferred to Jacques, Tracy & Company, Montreal, P.Q. Her masters were Captain Rea for the 1864-65 season, and Captain George McLeod for the 1866-67 season. The *St. Lawrence* ran from Montreal, P.Q. to Chicago, IL. July 1867, the propeller *St. Lawrence*, laden with pig iron, struck a rock near Farren's Point, St. Lawrence River, about 15 miles above Cornwall, NY, and having sprung a leak, was at once safely
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beached. A portion of her cargo had to be unloaded so she could be towed to Montreal to have her damage repaired. In 1872, she broke her piston near the Main Duck Island, Lake Ontario. October 1873, bound down from Chicago, IL for Hamilton, Ont., the propeller *St. Lawrence* caught fire near her boiler, one mile west of lock #26, Edwardsburg Canal, north of Ogdensburg, NY on the St. Lawrence River. She was declared a total loss with the loss of the ship set at \$40,000; her cargo at \$7,500. Navigation was blocked in the Edwardsburg Canal due to the burnt hull.

St. Lawrence: There were at least two vessels named *St. Lawrence* on the Great lakes in 1848. E. D. Merritt, Chateauguy, Que. built a wooden sidewheel steamer for William Darkyon, Kingston, Ont. her measures were: 147.0' x 24.5' x 8.0' and her registered tonnage was 53.648 tons when enrolled at Kingston in 1850. She was powered by a vertical beam, low pressure engine with a 36" bore cylinder and 108" stroke. This steamer *St. Lawrence* was built for the passenger, package freight trade and also did towing.

In April 1850 her ownership was changed to Captain Chrysler. In November of that year her ownership was changed to Captain William Bowen, Kingston, Ont., and registered at Kingston; 53.648 tons. Her master for the 1850-54 seasons was Captain Thomas Howard. Bound down the St. Lawrence River, the steamer *St. Lawrence*, laden with flour and ashes, and the freight steamer *Britannia* collided in Lake St. Francis, sinking the former in 20 feet of water. The *St. Lawrence* was raised and towed to Montreal for repairs. In 1855, she ran as a mail steamer between Kingston and Montreal. For the 1858 season, her master was Captain Farrell and she ran as a mail steamer between Cape Vincent and Belleville, stopping at Kingston each trip up and down.

In 1864, her ownership of the steamer *St. Lawrence* was changed to Marion & Co., Three Rivers and she was used as a river boat. Her enrollment for the sidewheel steamer *St. Lawrence* was surrendered in 1866 and endorsed "broken up".

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.)