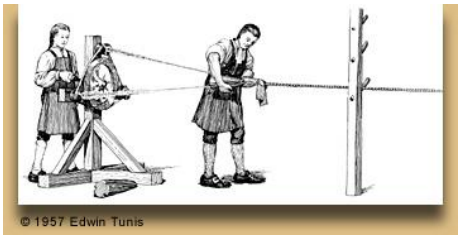


While one man cranks the spinner, the one holding the "top" walks backwards as the rope is twisted. From Edwin Tunis, *The Young United States, 1783 to 1830* (New York: World Publishing Co., 1969), 82. Used by permission of the estate of Edwin Tunis

Ropewalk

The Newsletter for
Shipwrights of Central Ohio
January 2021
Next Meeting: February 20, 2021
"Carving Ship Decorations" – M. Dowler

Table of Contents

January 2021

Happy New Year. Until Covid-19 is eradicated and in person meetings are not a risk, this newsletter and our monthly Zoom meetings will continue to be our primary contact. With the vaccine program starting to roll-out for the general public, we can see a light and the end of this tunnel. We are thankful for all those on the front lines, serving and protecting us during this pandemic.

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

Your editor.

January Meeting

WOW! Change, new members and guests. We had 18 sign in for our monthly Zoom meeting.

I want to welcome new members and guests: Mike Benefield, St. Charles, MO; Steven Keller, Chagrin Falls; Robert Rafferty, Mt. Vernon; William Schwartz, Avon Lake; Douglas Hoyt, Chagrin Falls; Cliff Mitchell, Westerville, and Steven Putka, Worthington. And special guest Jane Benefield, Commodore of the St. Louis R/C Model Boat Club. Welcome all.

John Boeck has taken on the responsibility for our web site and I thank Bob Mains (our Zoom Master) for scheduling, notification and hosting our meetings.

Business

Zoom Note

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 local cranky notice. Membership dues ($20) for 2021 are due. Since we are not able to meet, make your checks out to "**Shipwrights of Central Ohio**" and send to:

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

We will continue to send out the newsletter through March 2021. If the 2021 dues are not paid by then you will be dropped from the members list.

2021 Presentations

Our final 2021 presentation schedule is:
Jan: History of Ship Modeling - Nyberg
Feb: Carving ship decorations - Dowler
Mar: Sails-making & mounting – Boeck
Apr: Setting Up a Hahn Frame Jig - Nyberg
May: Photographing models – Phelps
Jun: Evolution of the Wooden Ship – Nyberg
Jul: Hand Metal Working - Open
Aug: Steam Engines - Nyberg
Sep: Super detailing - Boeck
Oct: Illuminating models – Amato/Phelps
Nov: NRG Conference Report - Dowler
Dec: CAD drawings to component parts- Kimmins

We still need someone to lead us through the subject of hand metal working.

Web Master

John Boeck (boxlink@aol.com) has assumed the responsibility for our web site (www.shipwrightsofohio.com). He has taken a look at our site and is in the process of a developing a plan to upgrade it, including: storing multiple past "Ropewalks", updating the "Members Showcase" and building a page with past/future presentations. If you have suggestions, contact him with your ideas.

Restoration?

I was asked if there was someone in the club who could repair a ship model of the *U.S.S. Rattlesnake.* It had been damaged in shipping.

It turned out to be an example on how not to ship a model. The shipper had placed the model (which was mounted on a heavy Mahogany base) in a cardboard box and wrapped it in bubble wrap without labeling the box "fragile" or that it should not be turned over. In its trip out and back, it was converted from a beautiful model to "trash". Before:

After:

Kits for Sale

We have been contacted by a widow about her husband's ship model kits that she wants to sell. The model kits with their original price are:

- *Pen Duick* – Art. Latina (1888 Regatta Cutter) -$120
- *Le Soleil Royal* – Sergal (French 104-gun ship) - $1,039
- *Friendship* sloop – Bluejacket (1900) - $149
- *HMS Victory* – Panart (Nelson's flagship) - $899

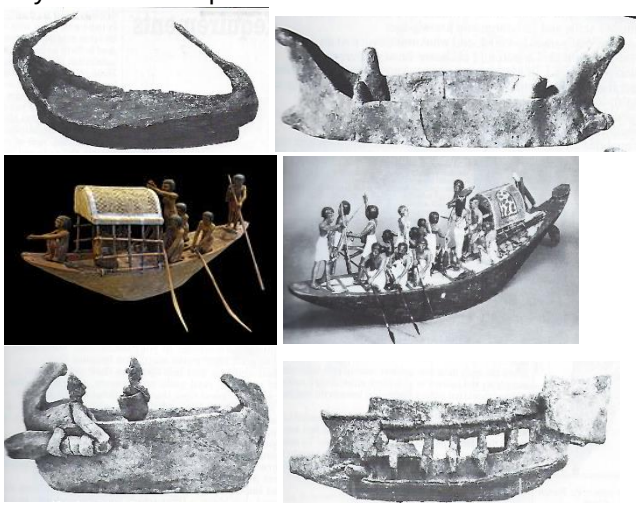
Their picture is posted below, clockwise from the top left.

Make an offer via shipwright@wowway.com and I will pass it by the widow. Shipping cost are your responsibility.

Presentation:

History of Ship Modeling

Ship modeling has been a craft for thousands of years. In example:



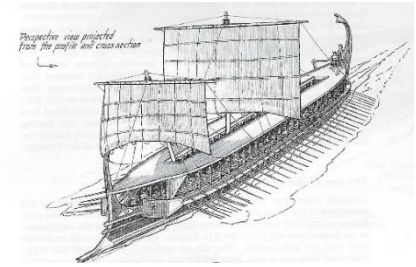
The six models above are all ship or boat models and the oldest dates from 3400 BC. They are: The photo top left is a boat from Ur in Chaldea (present day Iraq) and dates from around 3400 B.C. the boat is made from bitumen (an asphalt of Asia Minor used in ancient times as a cement and mortar.) Second photo (top right) is of a Cretan boat from Mochlos around 2600 B.C. Third photo (middle left) is a model from a tomb, Ancient Egypt, c. 2000 BCE. Fourth photo (middle right) Egyptian Nile boats with crew dating from 1500 B.C. Fifth photo (bottom left) a merchant ship from Cyprus – 800 B.C. Sixth photo (bottom right) Greek warship from Sparta – 600 B.C.

Ships “were among the most technologically complex mechanisms of the ancient world.” Ships made far-flung travel and trade more comfortable and economical, and they added a whole new facet to warfare. Thus, ships carried a great deal of significance to the people of the ancient world, and this is expressed partly through the creation of boat and ship models.

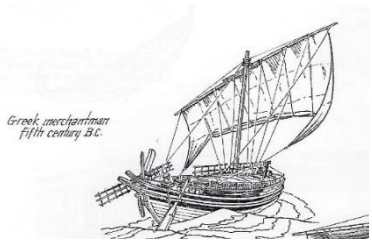
Ancient boat and ship models are made of a variety of materials and are intended for different purposes. The most common purposes for boat and ship models include burial votives, house hold articles, art, and toys. While archaeologists have found ship and boat models from societies all around the Mediterranean, three of the most prolific ship model building cultures were the Greeks, Phoenicians, and Egyptians. Egyptian ship and boat models are perhaps some of the most enchanting and well-preserved types of ship models available to archaeologists. Some small models, made from ivory, wood or clay exist, and archaeologists believe these models were actually children's toys. Ancient Egyptian ship and boat models more often were placed in tombs of prominent people as “magical substitutes for the actual objects which the deceased had used in life and which he expected to use again in the next world.”

Boats placed in tombs of Egyptian royalty can be separated into two types: boat models that represent actual vessels used on the Nile, and boat models that represent boats that are considered necessary for religious purposes. The majority of boats found in tombs are carved from wood. The presence of boat and ship models in the tombs attests to the paramount importance of boats and ships to the Nile-going people of Egypt.

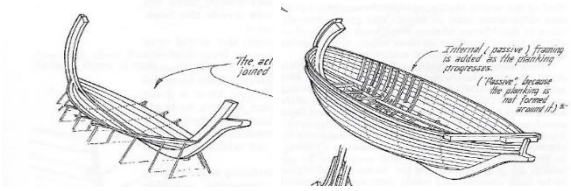
Archaeologists have determined that Ancient Greek ship models were used as burial or votive offerings and as household articles such as lamps or drinking vessels. The kinds of ships depicted in Ancient Greek models can be classified broadly as small craft, merchant vessels, and warships. The models were cast in different materials, including wood, bronze, lead, and clay.



Greek warships were popular subjects to be made in miniature. (the sketch above is an example) One particular model, acquired by the Land Museum in Kassel, Germany, proves to be helpful to archaeologists and historians in understanding what a hemiola warship was like. Archaeologists have tentatively dated the Kassel model to be from the 6th or 5th centuries BC through iconographic and literary sources.

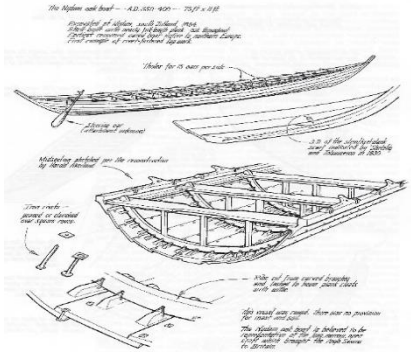


Not all ancient Greek ship models are of warships. The Greeks established a trading area reaching from the Black Sea to the eastern coasts of Spain. Their wooden round ships, were about 50 feet long and able to carry 100 to 150 metric tons of cargo. The Romans imported grain from Egypt, which led to larger round ships that could carry up to 450 tons of cargo.



Ship models are helpful to archaeologists in that they allow archaeologists to make estimates regarding the size the vessel would be in real life. The ships were constructed by building a shell of planks joined together at the edges, usually with wooden dowels, or with mortice and tenon fastening. Into this shell, at an advanced stage of construction, were inserted strengthening frames shaped to fit the hull. Making estimates from this technique makes the assumption that artists scaled the models appropriately.

We have covered a period dating from clay models through Roman merchantman in the first Century A.D. From the first C, through the 15th Century A.D., not much is known about ship modeling in Europe. Much of our knowledge depends upon excavations in northern Europe.



The Nydam Oak boat (above) 350-400 AD, excavated at Nydam, South Jutland in 1864. The shell is built with nearly full-length planks. It is the first example of a rivet-fastened lap work and is the earliest recovered oared boat native to Northern Europe. She was a forerunner of Viking ships that crossed the Atlantic.

Some of the oldest surviving European ship models have been those of early craft such as: galleys, galleons, possibly carracks, dating from the 12th through the 15th centuries. They were found occasionally mounted or hung in churches.

The *Matario* (above) is a sailor-made votive ship model that hung in a church near Barcelona for many centuries. It is now on display in Rotterdam. It is thought to represent a one or two-masted Catalan Nao or Mediterranean carrack from the 15th C.

The 15th C, was pivotal in the development of the wooden ship. Prior, the hull was shell built, like the Egyptian, Roman, and Viking ships. The new development shifted from oar and sail to larger framed, decked sailing ships. The photo of the *Santa Marie* above is an example. There is no surviving information on what the *Santa Marie* looks like. The model shown is based on the shipwreck of the *Mary Rose*.

The photo above is of (what is believed) the French built *Le Griffon.* She was built by La Salle’s trapper crews at Cayuga Creek (a channel of the upper Niagara River) in 1679 and is believed to be a 45-ton barque, at 30 – 40 feet length with a 10-15-foot beam and two-masted. It sailed from Cayuga Creek to the shores of what is now Wisconsin. Loaded furs and left, never to be seen or heard from again. She is believed to have sank in a storm in

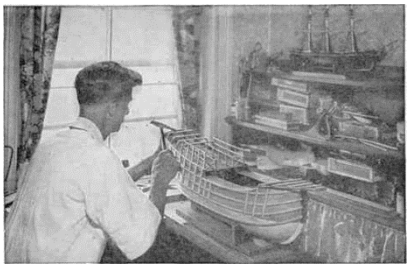
northern Lake Huron or Georgian Bay. The question is – where did the shipwrights come from?

Until the early 18th century, virtually all European small craft and many larger vessels were built without formal plans being drawn. Shipwrights would construct models to show prospective customers how the full-size ship would appear and to illustrate advanced building techniques.

Ship models constructed for the Royal Navy were referred to as *Admiralty models* and were principally constructed during the 18th and 19th centuries to depict proposed warship design. Although many of these models did not illustrate the actual timbering or framing, they did show the form of the hull and usually had great detail of the deck furnishings, masts, spars, and general configuration. Some of these grand models were decorated with carvings of great beauty and were evidently constructed by teams of artisans. *Admiralty models* served to educate civilians who were involved in the financing or some other aspect of the ship and to avoid construction errors that might have evolved as the ship itself took form.

A consequence of Britain's naval supremacy in the eighteenth and nineteenth centuries was wide public interest in ships and ship models. Numerous fairly crude models were built as children's toys leading to the creation of functional, as opposed to decorative, ship models. Britain also led the world in model ship sailing clubs – in 1838 the *Serpentine Sailing Society* was started in Hyde Park, followed by the first *London Model Yacht Club* in 1845.

Early 20th Century amateur ship model kits became available from companies such “Bassett-Lowke” in Great Britain and “Boucher’s” in United States.



Ship modelling in the United States experienced a boom in the late 1920s when *Popular Science* magazine published an extended series of articles and plans for famous ships by modeler and former Navy officer E. Armitage McCann. McCann, who, according to *Popular Science,* was the ″recognized leader of the ship model building hobby for his time″ founded the *Ship Model Makers' Club* in 1929, with him as secretary and treasurer and marine artist and fellow ship model builder *Gordon Grant* as president.

Ship modeling has grown in its diversity. Today you can build wooden ship models from kits or scratch, and also build them from plastic or resin.

Paper ship models are growing in favor in the United States and there is a large following, primarily in Europe, Russia and Japan. Paper model kits don't typically come in a box, but rather in a booklet or a file to be downloaded directly from the internet, and printed on your own printer, cut out and then assembled.

There are ship modelers who prefer to build and operate scale model ships utilizing radio control equipment. Some prefer to build and operate sailing models.

There are live steam ship models, wargaming ship models and large-scale ship models. There are engineering ship models used in model basins to understand hull design. One of the more interesting, is manned model ships that are built and operated by one or more crew from within the hull.

For ship modelers there has always been a need for older modelers to pass their knowledge to a younger generation of ship modelers. Ship model clubs/guilds/societies tend to concentrate their efforts on highly accurate static models of all types of watercraft and are social groupings intended to allow more experienced ship modelers the opportunity to pass on their knowledge to new members and to allow members of all levels of expertise to exchange new ideas, as well as serving as social function.

Some model shipwright guilds are incorporated into government and Naval facilities, achieving a semi-official status as a clearinghouse for information on naval history, ship design and, at

times, teaching the craft of ship modeling, through model building, restoration, repair of the facility's models, as well as, museum docent services. The *USS Constitution* Museum operates a model shipwright guild from the Charlestown Navy Yard adjacent to the berth for the vessel itself, as does the San Francisco Maritime National Historical Park by sponsoring the Hyde Street Pier Model shipwrights.

The Nautical Research Guild, sponsors of the Internet forum "Model Ship World", provide much of what can be found in local clubs as a teaching tool for this craft. For those who reside where there is no organized club/guild this helps and encourages the modeler in his/her work. With todays technology, the ability of a club/guild to reach out to ship modelers anywhere to provide the modeler with his most valuable tool, a mentor and friend in another ship modeler.

Ships on Deck:

Here is what your fellow craftsman have been doing during our isolation and the Christmas holiday. Very nice work.

Lady Sarah

John Boeck

A Victorian steam launch kit bashed from Constructo's "Louise" with working steam engine.

U.S.S. Constitution

Cliff Mitchell

1:96 scale – an active and on-going project. This is one of four on-going builds of the *Constitution* in the club.

Vanguard Models "18 ft. Cutter

Alan Phelps

A 6 oar, 2 harpoon fishing vessel from a larger boat

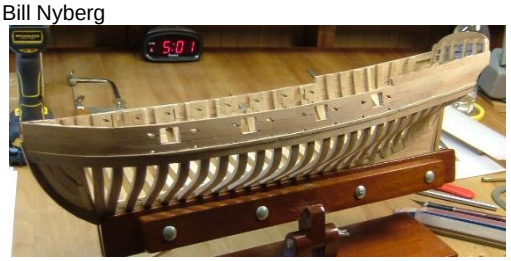
U.S.S. Perry

Stan Ross

Bluejacket kit. Working on standing rigging and Stan has started on some of the running rigging.

Armed Virginia Sloop 1768

Bill Nyberg



LSS, scratch, POF. Cutting gun ports.

Odds and Ends

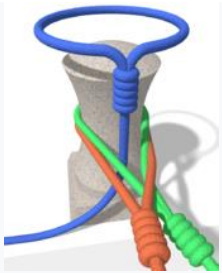
Nautical Terms

Dhow: The generic name of a number of traditional sailing vessels with one or more masts rigged with lateen sails and used in the Red Sea and Indian Ocean region, typically weighing 300 to 500 tons, with a long, thin hull. They are trading vessels primarily used to carry heavy items, like fruit, fresh water, or merchandise. Crews vary from about twelve to around thirty, depending on the size of the vessel.

Diamonds: Glass prisms that were laid between the wooden deck planks to allow natural light below were referred to as diamonds due to the sparkle they gave off in the sunlight.

Dinghy: A type of small boat, often carried or towed as a ship's boat by a larger vessel. A small racing yacht or recreational open sailing boat, often used for beginner training.

Dipping the eye: A method of attaching more than one hawser to a single bollard, so that each can be lifted off without disturbing the other(s). The second hawser is passed under the first, then up through the eye of the first (hence the name), before being secured over the bollard.



Displacement: The weight of water displaced by the immersed volume of a ship's hull, exactly equivalent to the weight of the whole ship.

Displacement Hull: A hull designed to travel through the water, rather than planing over it.

Disposable Ship: (also known as: drogher, raft ship, timber drogher, or timber ship.) A barely seaworthy ship of the 19th century assembled from large timbers lashed or pegged together and designed to make a single voyage (i.e.: from North America to the United Kingdom) and then to be disassembled so that her timbers could be sold, thus avoiding high British taxes on lumber imported as cargo. When British taxes on imported lumber fell, the construction of disposable ships ceased.

Glossary of Nautical terms Wikipedia

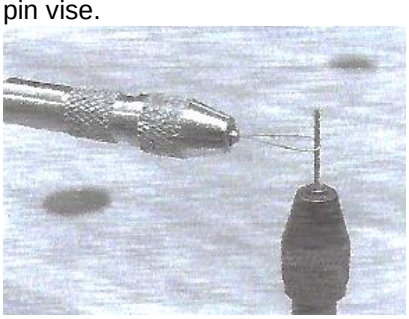
Tips & Techniques

Eyebolts with Round Eyes

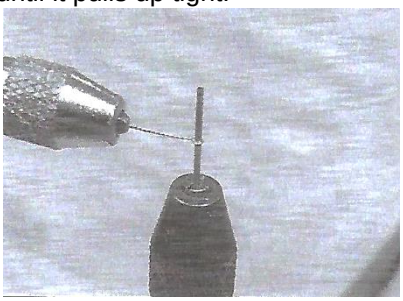
The following tip by Steve Wheeler appeared in the NRJ, Vol. 64, No.4.

The process is simple, starting with a supply of brass wire in the size, or sizes needed, two pin vises, and a mandrel the size of the eye that you need. Drill bits make handy mandrels.

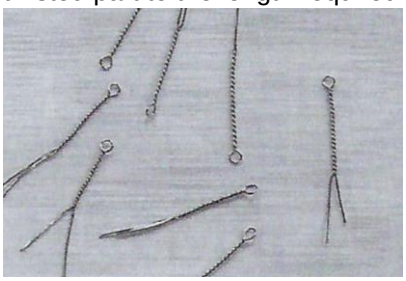
Clamp a loop of wire in one pin vise, then place the loop over the mandrel clamped in the other pin vise.



Begin twisting the vise with the wire loop until an eye forms on the mandrel and continue twisting until it pulls up tight.



Slip the finished eye off the mandrel and clip off the twisted part to the length required.



You can make eyes in any size you need and they will be uniform. The twisted shanks provide resistance to pulling out when they are glued into holes.

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.

Tugs

Marion Moran

Built in 1943, by Levington Shipyard of Orange, Texas (hull #285) as ATR-49 for the United States Navy. She was steel hulled, 143' x 33' x 14.6', with a gross tonnage: 498. She was powered by a single, General Motors 12-278A diesel electric engine, a Fairbanks Morse reduction gear, and had a single screw. Her engine was rated at 1,800 horsepower.

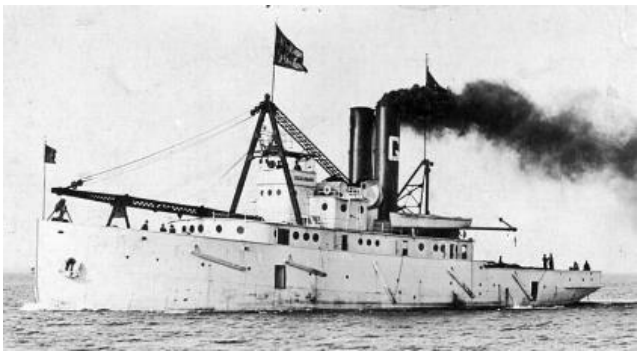
During WW II, she was transferred to Britain under the Lend Lease Act, where she was redesignated as the W-136 (*HMS Vagrant*). In 1946, she was returned to the U.S. Navy and renamed ATA-129.

Acquired by the Moran Towing Company of New York, she was renamed the *Marion Moran* and was used as an ocean salvage and rescue tugboat.

In 1964, she was acquired by John Mecum, Houston and renamed *Mary Elizabeth.* In 1971, by Asia Maritime, Singapore and renamed *Ann Lee.* In 1972, by Inter-Ocean Towing, Singapore and renamed *Wilbie.* In 1981, she was transferred to Panama and renamed *Columbia I.* She was scrapped in 1983.

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

Favorite



The 195-foot *Favorite* was built in 1907 by Buffalo Drydock Company (Hull #209) for the Great lakes Towing Company of Cleveland, Ohio. She was steel hulled, 196' x 43' x 9' with a gross tonnage of 1223. For years she was the only salvage tug on the Great Lakes.

Powered by a 1200-horsepower steam engine serviced by two side-by-side boilers. Note the side-by-side stacks and the A-frame used to support her cargo and wrecking boom. She had a crew of 90 and was the first salvage tug with two-way radio communications.

She was acquired by the U.S. Navy in 1918 and designated *SP-1385 (USS Favorite).* 1920, she was transferred to the Department of Interior. 1940, she returned to the U.S. Navy and designated *IX-45.* She was struck from the Navy Register in 1948 and was acquired by the Peruvian Navy and renamed *Rios.* She was struck from the Peruvian naval register in 1958. Her current and/or final disposition is unknown.

Original Source: "On the Hawser" by Steven Lang and Peter H. Spectre, 1980; Fitz Henry Lane Historical Archive

Presentation Schedule:

2021

~~Jan 16 –~~ History of Ship Modeling
Feb 20 – Carving Ship Decorations
Mar 20 – Sail Making
Apr 17 – Setting up a Hahn Frame Jig
May 15 – Photographing Models
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/Circuity
Nov 20 – NRG Conference Report
Dec 18 – From CAD to Component Parts

Events & Dates to Note:

2021 Tentative Schedule

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 6 & 7, 2021

66th "Weak Signals" R/C Model Show
Seagate Convention Ctr.
401 Jefferson Ave. Toledo, OH
April 03-04, 2021

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 21 – 23, 2021

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

1853-54 was a period of recession. Interest rates rose, contributing to a decrease in railroad investment. Change continued to happening in the United States that made travel easier for the immigrant and his family to reach the open spaces to the west. The population growth of the Midwest states grew between 1850 and 1860:

- Ohio: 1,980K – 2,339K
- Indiana: 988K – 1,350K
- Illinois: 851K – 1,711K
- Michigan: 397K – 749K
- Wisconsin: 305K – 776K
- Minnesota: 6K – 172K

By 1851, the Erie Railroad connected with Lake Erie at Dunkirk, NY. Between 1854-57, Fresnel lens were installed in lighthouses on the Great Lakes and the State of Michigan completed a canal at Sault Ste. Marie, opening vessel traffic between Lake Huron and Superior; 1855- railroad extensions were completed westward to the Mississippi River, increasing the eastward shipment of grain and westward shipment of manufactured goods. Travel by stage or on foot was still rugged in the 1850's, so the demand for ships continued. Carrying the emigrant and the goods and tools they needed westward, with the ships returning with the grain, timber and ore to feed and grow the eastern cities. In 1853, 44 ships were built in Great Lakes ports to handle the increase in passenger and goods shipped.

1853 – Part 1

Ariel: Eli Bates, in 1853, launched a wooden sidewheel steamer at Plaster Bed (near Sandusky), OH with measures: 124.6' x 20.0' x 6.7' and a tonnage (old style) of 165 70/95. Owned by Lockwood & Smith, she was first enrolled at Sandusky in 1854, to be used in the passenger, package freight trade in Maumee Bay, Lake Erie. From 1857-60, the steamer *Ariel* ran between Detroit, MI and New Baltimore, MI (located on the north shore of Lake St. Clair). During that time, she broke her shaft while on the Detroit River, incurring a loss of $300.

In 1860, her ownership was changed to Haskins & Atwood, New Baltimore. and enrolled at Detroit, MI with her tonnage measure changed to 114 grt.

November 1860, C. Jerome, Saginaw, MI purchased the steamer *Ariel* for $7,000. She would be used on the Saginaw River. Her master was Captain Wylde. In 1861 the *Ariel* was remeasured and her tonnage changed to 166 grt.

In 1863, ownership of the steamer *Ariel* was transferred to Jerome & Ogden, Saginaw, MI.

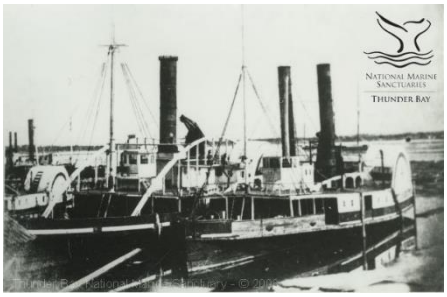
June 1866, ownership of the *Ariel* was changed to Abram Smith & Henry Poole, Algonac, MI. They planned to use her as a tug. She was reconstructed at Algonac, MI the following year.

In July 1867, full ownership of the *Ariel* was transferred to Abram Smith, Algonac, MI. July 1868, while moored on the Canadian side of the Detroit River, opposite Belle Isle, the *Ariel* caught fire and burned to a total loss. Loss was set at $8,000.

Atlas: Augustin Cantin built a wooden sidewheel steamer at Montreal, Que. to be used as a towboat on the Ottawa River. Her owner was G. Simpson, D. Finlayson & I. J. Galt all from Montreal. She was powered by a walking beam engine, 32" bore x 96" stroke, built by G. Brush, Montreal.

In 1854, her ownership was changed to Montmarquet & Co., Montreal.

In 1860, ownership of the *Atlas* was changed to the Ottawa Steamboat & Co., Lachine, Que. Her first enrollment was made at Montreal, April 20, 1865 and her measures recorded as 127.0' x 22.1' x 7.5', with her tonnage recorded as 176.53 grt, 38.53 net. Her final enrollment for the steamer *Atlas* was surrendered at Montreal in 1872 and endorsed "broken up".



Bay of Quinte: George Thurston started a build in 1852, of a wooden sidewheel steamer for O. S. Gildersleeve's "Royal Mail Line" at the Kingston Marine Railway, Kingston, Ont. Her measurements at launch in 1853 were: 151.5' x 24.3' x 8.6', with a unit tonnage of 283. She was equipped with a vertical beam engine, 37.5" bore x 144" stroke and rated at 75 horsepower. She also had two low pressure boilers built by Kingston Foundry Co., Kingston, Ont. She was built for the Kingston - Bay of Quinte passenger trade and sometimes filled in as a Lake

Ontario mail steamer. Her master for the 1853 season was Captain Chambers.

Her master for the 1854 to 1866 seasons was Captain Frank A. Carroll. During the 1854 season, the steamer *Bay of Quinte,* Royal Mail Line, ran daily between Bellville, Ont, Picton and Kingston with intermediate stops. In 1858, the *Bay of Quinte* made the first transit of the Wolfe Island Canal but was too large for regular traffic service.

Ownership of the steamer *Bay of Quinte* was transferred to the Bay of Quinte Steamboat Co. and in July, 1862 who enrolled her for the first time at Kingston, Ont. with a unit ton of 250. June 1865, bound up from Kingston to Picton, the *Bay of Quinte* broke her shaft and put into German's wharf, seven miles above Bath, Ont. for repairs.

Her master for the 1867 season was Captain R. C. Carter with Alexander Milne as first engineer for 1867 & 68. Her master for the 1868-69 season was Captain Frank Comer. May 1868, the *Bay of Quinte* went ashore at Trenton, Ont., Bay of Quinte. August 1868, bound down on the Bay of Quinte, the steamer *Bay of Quinte,* bound from Bellville, Ont. struck the 48-ton, American canal boat *John Greenway* on the port bow at Picton, Ont, sinking her in four feet of water. The steamer passed down without injury. In 1869, the steamer *Bay of Quinte's* enrollment was updated to: 158' x 22.6' x 7.6'; 331 tons. Her master for the 1870 season was Captain D. W. Johnson.

In 1871, ownership of the steamer *Bay of Quinte* was changed to Calvin & Breck, Garden Island, Ont. April 1872, they had her upper cabin and saloon removed at Garden Island and she was converted to a towboat for service on Lake St. Francis, St. Lawrence River. May 1872, under contract by the government, the *Bay of Quinte* left for her station between Cornwall and Valleyfield on Lake St. Francis.

Master of the towboat *Bay of Quinte* was Captain Ozec Lantier for the 1874 season. May 1874, the tow of the Bay *of Quinte,* the Canadian barge *Quebec,* which was laden with 13,000 bushels of wheat, sank on Ferrin's Point near Dickinson's Landing (Ingleside, Ont), St. Lawrence River. The towboats tonnage was changed in September 1874 under Act 40 to: 283.71 grt, 158.30 net.

Calvin & Breck and the Collinsby Rafting Co. agreed to convey lumber rafts from Kingston, Ont. to Quebec. During the passage of one of the rafts, while on Lake St. Francis, a gale arose, the raft was broken and the timber lost. The plaintiffs (Calvin) sued the defendants (Collinsby) for the towage, who in turn stated the loss was due to the negligence of the captain of the tug *Bay of Quinte.* In March 1884, the judge ruled for the plaintiffs.

In 1880, ownership of the towboat steamer *Bay of Quinte* was changed to D.D. Calvin, Garden Island, Ont.

In 1883, ownership of the towboat steamer *Bay of Quinte* was changed to Sheffield Wickware, Cornwallis, N.S. Final enrollment for the sidewheel steamer *Bay of Quinte* was surrendered in 1885 and endorsed "broken up".

Brunswick: George S. Weeks, Buffalo, NY, built a wooden propeller for Perkins, Holly & Johnson, Buffalo, NY, who will use her in the package freight trade, running between Buffalo, NY and Toledo, OH on Lake Erie. Her measures, when enrolled, were: 164.0' x 28.2' x 11.8', with her tonnage (old style) listed at 512.2.

Ownership of the propeller *Brunswick* was transferred to Samuel Holly & John Johnson, Buffalo, NY and Elias Johnson & Mathew Johnson, Toledo, OH in April 1853. Bound up for Toledo, OH in August 1853, the *Brunswick* collided with the down bound steamer *Wisconsin* (US-1838) near West Sisters Island, OH, Lake Erie. The steamer *Wisconsin* sank east of the island, with no lives lost. The property loss for the *Wisconsin* was set at $8,000.

October of that year, ownership of the *Brunswick* was changed to James Patten & Joshua Maxwell, Buffalo, NY. December of that same year, the *Brunswick*, laden with several hundred bushels oats, put into a Lake Michigan port to take on wood for her boiler and was driven against the pier due to the high seas. She sustained considerable damage to her hull and leaked all the way down to Buffalo damaging her cargo. Property loss set at $2,000. September of 1854, bound from Toledo to Buffalo, the propeller *Brunswick* and the brig *N. M. Standart* (US18090) collided off Kelly's Island. Lake Erie. Both vessels were damaged.

Ownership of the *Brunswick* was changed to Western Transportation Line, Buffalo, NY in April 1855. May 1856, the *Brunswick* damaged her cargo of corn in a gale on Lake Michigan, sustaining a property loss of $800. Later that month, the *Brunswick,* bound up on the Detroit River, ran into the stern of the steamer *Pearl,* (US19685) that was lying at a dock at Malden (Amherstburg, Ont.), Detroit River. The *Brunswick* was not damaged. August 1856, down bound from Chicago for Buffalo, the propeller *Brunswick,* laden with corn, scrap iron and lard, sprang a leak in a storm on Lake Michigan. She was abandoned south of South Manitou Island and sank in fifty fathoms of water. One passenger was lost.

Canadian: H. & J. Jenkins, Chatham, Ont., built, in 1853, a wooden sidewheel steamer with measures: 162' x 47' x 15.1' and a tonnage of 330-unit tons. She was powered by a vertical beam engine, with a 42" bore x 120" stroke. The engine was originally installed in the sidewheel steamer *Fashion* (US-1847). Her owner, W. & W. Ebert's, planned to use her in the passenger, package freight trade between Chatham, Ont. and Detroit, MI. on the Thames River and Lake St. Clair. Her master for the 1853 season was Captain W. Ebert's.

In 1854, Captain A. G. Peer took charge and was her master through 1855. May 1854, the steamer *Canadian* and the Canadian steamer *Novelty* (C 1851) collided on the Bay of Quinte, Lake Ontario. The *Canadian* was run ashore to prevent her from sinking. Property loss was set at $2,000. In October of 1855, the *Canadian* was damaged in a gale on Lake Huron. Her master for the 1856 season was Captain W. H. Smith. November 1860, the *Canadian,* with the brig *Mariner* (US16460) and schooner *Summit* (US22376) in tow went aground at the Flats, Lake St. Clair. Released.

Early in 1861, ownership of the steamer *Canadian* was changed to John Pridgeon, Detroit, MI. for $12,000. The vessel was rebuilt and her enrollment tonnage changed to 339 grt. In June of that year, the *Canadian* struck on a sunken scow in the Thames River and stove her planks. She was repaired at Detroit. The following month, she damaged her paddle box on the Thames River. While steaming down on Saginaw Bay, MI in August 1862, the *Canadian* broke her machinery. October of that year, she collided with the steamer *Forester* (US37060) on the Detroit River. Repaired.

July 1863, the ownership of the *Canadian* was changed to B&L.H.R.R. Co. (Buffalo & Lake Huron Railroad Co.) for $16,000. Her master for the 1863 season was Captain Hardison.

Ownership of the steamer *Canadian* was changed during the winter 1864, to Van Every & Rumball, Goderich, Ont. The *Canadian* also underwent a major rebuilt. She would run in connection with the B&L.H.R.R. at Goderich, Ont. and Saginaw, MI. Her master for the 1864 season was Captain D. Rowan. In May of that year, the Canadian schooner *W.H. Merritt* on entering Goderich, Ont. collided with the steamer *Canadian.*

She was withdrawn from service in 1865 and was dismantled in 1868 or 1869.

Challenge: April 16, 1853, the wooden propeller *Challenge* was enrolled at Detroit. Built by William Dixon at Newport (Marine City), MI for H. M. Strong & Hart, et al., Detroit, MI. Her measures were recorded as 197.4' x 28.0' x 12.0' and she had a tonnage (old style) of 665. Her engine was built by DeGraff & Kendrick, Detroit, MI and she was intended for the package freight trade with accommodations for some passengers. Master of the vessel was Captain E. Darley with J. D. Henderson as first engineer for the 1853 season. The *Challenge* made her maiden trip between Detroit, MI and Buffalo, NY in May 1853. The following month, bound down, the propeller *Challenge,* laden with 2,300 bushels of oats and 557 barrels of pork, burst her boilers, blowing out her stern. She sank in five minutes in about sixty feet of water, off Cheboygan, MI, Lake Huron. There were five lives lost, three severely injured and one slightly injured.

Cincinnati: George S. Weeks at Buffalo, NY, built a wooden propeller for the Oswego, Sandusky & Cincinnati Line; Fitzhugh, Littlejohn, et al, Oswego, NY, owners. Built for the passenger, package freight trade, her measures were: 139.5' x 23.5' x 11.0'. She was equipped with an upright high-pressure engine, 24.5" bore x 36" stroke, 65 horse power, built by J. Bell, Buffalo, NY in 1853.

September 1854, while clearing the harbor at Sandusky, OH, the *Cincinnati* broke her shaft and went ashore. December of that year, plying between Chicago, IL and Oswego, NY, the *Cincinnati* laden with wheat and clover seed, became unmanageable during a gale on Lake Huron when the engine got on top-dead-center and she lost power. The ship drifted and beached about 100 miles above Detroit at Point Au Barques, MI. In May 1855, the propeller *Cincinnati,* was pumped out and towed to Detroit, MI for repairs.

August 1855, her ownership was changed to W. Brown, Hamilton, Ont for $20,000 and renamed *City of Hamilton*. Later in 1855, her ownership was again changed to J. Macpherson, Montreal, Que., but she continued to be registered in the United States as *City of Hamilton.* In 1857, the *City of Hamilton* was renamed *Alps.* August of that year, the *Alps* struck a pile in the Chicago harbor and started to leak. She was repaired and her property loss set at $500. April 22, 1858, the propeller *Alps* was enrolled at Montreal, Que., renamed *Indian* and assigned official number C33495. Measures at registration were: 148.8' x 25.5' x 10.6'; 452.06 grt, 307.42 net.

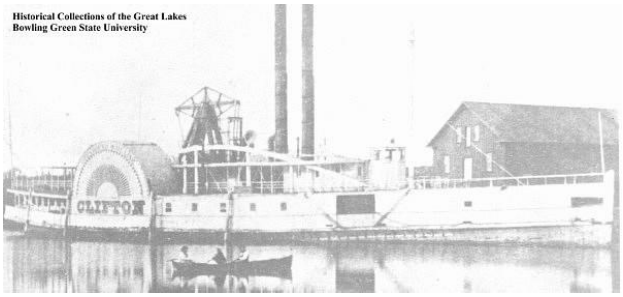
She was sold to R. G. Cassels, Montreal, Que. in 1859 and again in 1860 to Jaques Tracey & Co. Bound up from Montreal to Toronto, September 1864, the propeller *Indian* went ashore at Presque Isle, Lake Ontario. She was lightered to be released and her damage loss was set at: hull $250; cargo $250. Early in the 1871 season while bound from Hamilton, Ont to Montreal, Que. with miscellaneous

cargo, the propeller *Indian* ran ashore near Brockville, Ont. on the St. Lawrence River, due to very high water. She was released and her damage loss was set at: hull $100, cargo $1,100.

Her ownership was changed to W. Zealand, Hamilton, Ont. and W. Power & Co. in 1874. The propeller *Indian* was laid up from 1875 to 1879 due to the Business Panic of 1873.

Ownership of the propeller *Indian* was changed to F. J. George, Kingston, Ont. in 1877, and again in 1880 to to Gilmour & Co., Ottawa, Ont. who had her rebuilt as a steambarge at Kingston, Ont. September 1880, laden with lumber, the steambarge *Indian* ran ashore on a bar at Trenton, Ont, Bay of Quinte, Lake Ontario. While the lumber was being removed the steambarge *Indian* caught fire and holes had to be cut through her deck and sides to extinguish the flames. She was rebuilt and her enrollment transferred to Kingston, Ont, September 26, 1882, with measures recorded as: 137.2' x 25.0' x 10.9'; 320.20 grt, 199.98 net.

Ownership of the steambarge *Indian* was changed to J. Rawdon, Kingston, Ont. in 1883. October 1885, while at her winter layup dock at Kingston, Ont. the steambarge *Indian* was destroyed by fire. She was declared a total loss. Her value was set at $5,000. No lives lost.



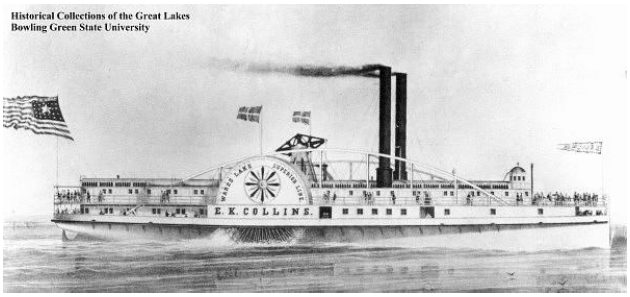
Clifton: Modeled by George Collyer, with her build started in 1853, by Samuel Collyer, New York, at Chippewa, Ont. with T. Gilbert as master carpenter. The wooden sidewheel steamer had measures of: 187' x 29'6" x 9'6" and a unit ton of 506. Her owner was J. & O. T. Macklem, Chippewa, Ont. She was equipped with a vertical beam, low pressure engine, 44" bore x 144" stroke, built by Macklem Iron Works, Chippewa, Ont. The *Clifton* was built for the passenger trade between Buffalo, NY and Chippewa, Ont., a 22-mile trip on the Niagara River. Her master for the 1854 and 55 seasons was Captain Charles Young, with Captain Van Allen as master for the 1856 season. June 1856, the steamer *Clifton* suffered slight damage when her boilers water jacket burst while on the Niagara River. The *Clifton* ran between Detroit, MI and Port Huron, MI on Lake St. Clair and the St. Clair River for the remainder of the season 1856 season.

With Mr. Wilson as engineer for 1857, the steamer *Clifton* ran between the Buffalo, the Lake Erie depot at Fort Erie, Ont. and Erie Street, Buffalo, NY. November of that year, the *Clifton,* coming up the rapids on the Niagara River, broke a steam connecting pipe and drifted down the river before going aground. The steamer *Clifton* was laid up when she was replaced on the Fort Erie to Buffalo run by the car-ferry *International* (U12070).

Ownership of the steamer *Clifton* was changed to Captain Isaac Smith, Sombra, Ont. in 1858. That year, the sidewheel steamer was transferred to Sarnia, Ont. and ran Sarnia to Port Huron, on Lake Huron as a passenger and freight ferry. Master of the steamer *Clifton* for the 1860 season was Captain Klingman.

In 1861, ownership and master of the steamer *Clifton* was changed to Captain William H. Smith, Owen Sound, Ont. He maintained the position of master through 1865. The steamer *Clifton* was rebuilt and placed on a run between Owen Sound, Ont. and other ports on Georgian Bay and Lake Huron. In June 1863, the steamer *Clifton* broke her machinery on Georgian Bay and was towed in for repairs. In August of that year while on an excursion trip to Penetanguishene, Ont., the steamer *Clifton* ran upon a rocky shoal in Georgian Bay. She released herself and with pumps running sailed slowly back to Collingwood for repairs. In 1866 her master was Captain Edmund Butterworth who suffered a heart attack and died in September 1866 on board the *Clifton*. During winter 1866 layup, the steamer *Clifton* was de-commissioned, dismantled and converted to a lumber barge (236 grt) at Collingwood, Ont. Her engine was installed in the *Frances Smith* (C92310).

Ownership of the barge *Clifton* was changed to L. Hotchkiss, Darby, CT. at the end of 1866. Master of the barge *Clifton* was Captain W. H. Larrabee for the 1873-74 season. In October 1874, the barge *Clifton,* laden with lumber for Cleveland, OH was reported to have gone to pieces off Pt. au Pelee, Ont., Lake Erie. It was not until 1900 that the lumber barge *Clifton* was abandoned at Tobermory, Ont.



E. K. Collins: John Bushnell, Newport (Marine City), MI, built for Eber & Samuel Ward, both of Detroit, MI., a wooden sidewheel steamer that was enrolled in May 1854 with measures: 249.0' x 30.3' x 12.0' and a tonnage (old style) 942.1. She was powered by a vertical beam, low-pressure engine, 60" bore x 144" stroke, builder unknown. The engine was originally installed in the sidewheel steamer *Canada.* Her boilers were built by DeGraff & Kendricks. The *E. K. Collins* was intended for the passenger, package freight trade between Cleveland, OH, Detroit, MI and Lake Superior ports. Her master for the 1853-54 season was Captain H.J. Jones. In October 1853, she broke her shaft at Kenosha, WI, Lake Michigan. In November, she again broke her shaft off Grosse Point, Lake Michigan. The vessel was towed to Chicago, IL for repairs. Her chief engineer for the 1854 season was Ezra Rust. Down bound from Sault Ste. Marie, MI for Cleveland, OH in October 1854, the steamer *E.K. Collins* caught fire and burned to the water's edge off Malden, Ont. (near Amherstburg) on the Detroit River. She was declared a total loss. Ten passengers and thirteen crew members were lost. 43 passengers and crew were saved. The estimated loss was set at $100,000 for the hull and cargo was $1,500.

May 1857, the hull of steamer *E.K. Collins* was recovered and rebuilt by D. McCullen, Detroit, MI at Wards Shipyard as a steam barge with measures: 150' x 32' x 7'; 308.84 grt. She would be used to transport railroad iron between Wyandotte and Detroit, MI. Eber B. Ward was listed as owner when her name was changed to *Ark* at Port Huron, MI. Her master for the remainder of the 1857 season was Captain M.L. Montgomery.

Ownership of the steambarge *Ark* was changed to S. Gardiner, Detroit, MI for a price of $17,000 in July 1858. Her master for that season was Captain Gilbert Demont. In May 1861, the *Ark* lost a man overboard in the Detroit River. She was readmeasured at Detroit, MI in December 1865 and her enrollment updated to: 151.42' x 32' x 7.66'; 267.84 grt. Her rig was converted to a barge at Detroit, MI in July 1866. Her master for that year was Captain John Buzzard. October 1866, the barge *Ark,* down bound from Saginaw under tow of the tug H*ercules* with the barges *R.R. Elliott, Ontario,* and *Detroit,* all loaded with lumber, broke away from tug during a storm. The *Ark* foundered, with all hands, on northern Lake Huron. The hull was found about 100 miles north of Goodrich. Five lives were lost.

John Counter: Built at the Kingston Marine Railway for John Counter & Co. of Kingston, Ont., the *John Counter,* was a wooden sidewheel steamer (car ferry) built as the Kingston, Ont. to Cape Vincent, NY train ferry running via the Wolfe Island Canal to meet with the Watertown and Rome Railroad for New York and Boston. She was launched July 20, 1853 and her first enrollment was issued at Quebec in 1855. Her measures were recorded as:206.3' x 34.4' x 5.8', with tonnage of 296-unit tons. She was powered by a vertical beam, low pressure engine, with 46" bore x 132" stroke, built by Kingston Foundry, Kingston, Ont. Her master for the 1853 & 54 season was Captain Creighton. She made her first crossing from Kingston to Cape Vincent in April 1854. One month later the *John Counter* was replaced by the smaller steamer *Star* which is better adapted for the Wolfe Island Canal.

The sidewheel steamer *John Counter* was either owned or chartered to the newly formed "Provincial Steam Tug Line Co., Kingston, Ont. in May 1854, to be used for towing in the Kingston Harbor and Bay of Quinte. Her master for 1854 was Captain Thomas Maxwell. September of 1854, the steamer *John Counter* descended the rapids of the St. Lawrence River between Kingston, Ont. and Montreal, Que. At that time, she was the largest steamer to have made that trip. She would be used as a freight and tug steamer between Montreal and Quebec. November 1855, the steamer *John Counter* was wrecked by ice at Ste. Croix, Que., St. Lawrence River, while being towed from Quebec to Sorel. She was declared a "Total loss". The enrollment for the sidewheel steamer *John Counter* was surrendered at Quebec, Que. in 1857 and endorsed "broken up at Quebec".

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 x 3/5)) x Beam x Beam/2)/94

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

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

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

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

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

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

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

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

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

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

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

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

The current system of measurement for ships includes:

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

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

P.Q.: Province of Quebec

Packet Freight: almost every imaginable item of merchandise – bags of onions, grain, etc., processed foods, bags of coal, stoves, furniture, 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.)