

# Storms and Strandings, Collisions and Cold: Shipwreck Surveys of the 2018 Field Season



Included: *Thomas Friant, Selah Chamberlain, Montgomery, Grace Patterson, Advance, I.A. Johnson*

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W I S C O N S I N  
H I S T O R I C A L  
S O C I E T Y

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Assisted by grant funding from the University of Wisconsin Sea Grant Institute and Wisconsin Coastal Management Program, and a charitable donation from Elizabeth Uihlein of the Uline Corporation, this report was prepared by the Wisconsin Historical Society's Maritime Preservation and Archaeology Program. The statements, findings, conclusions, and recommendations are those of the authors and do not necessarily reflect the views of the University of Wisconsin Sea Grant Institute, the National Sea Grant College Program, the Wisconsin Coastal Management Program, or the National Oceanographic and Atmospheric Association.



Note:

At the time of publication, *Thomas Friant* and *Montgomery* sites are pending listing on the State and National Registers of Historic Places. Nomination packets for these shipwreck sites have been prepared and submitted to the Wisconsin State Historic Preservation Office. *I.A. Johnson* and *Advance* sites are listed on the State Register of Historic Places pending listing on the National Register of Historic Places, and *Selah Chamberlain* site is listed on the State and National Register of Historic Places. *Grace Patterson* site has been determined not eligible for listing on the National Register of Historic Places.

Cover photo: A diver surveying the scow schooner *I.A. Johnson*, Sheboygan County, Wisconsin.

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In 2004, shipwreck hunters Ken Merryman, Jerry Eliason, Kraig Smith, and Randy Beebe discovered the remains of the fish tug *Thomas Friant*. In April 2018, with assistance from Ken Merryman, David Phillips, and Tom Crossman of Crossmon Consulting LLC, Society maritime archaeologists collected ROV video footage and multi-beam sonar data. Along with camera footage from the time of discovery, the newly collected data from *Thomas Friant* site was analyzed and a National Register of Historic Places nomination was submitted for the wreck site. We would like to extend our gratitude to Zac Schultz of Wisconsin Public Television for joining the crew on the water, and Sara Blanck for her hospitality. This project was possible thanks to charitable donation from Elizabeth Uihlein of the Uline Corporation.

A large thank you goes to Filippo Ronca for access to his master's thesis on the steambarge *Selah Chamberlain*, which served as the base for the site's National Register of Historic Places (NRHP) nomination. The original site survey was conducted during the 1996 and 1997 field seasons, and was a partnership between the Wisconsin Historical Society (WHS), East Carolina University (ECU) Program in Maritime Studies, and the Wisconsin Underwater Archaeology Association (WUAA). The data was processed for a NRHP nomination in summer 2018.

Funding for the investigation of the barge *Advance* was provided through a grant from the Wisconsin Coastal Management Program. This enabled Wisconsin Historical Society to host a field school in the summer of 2018 for avocational archaeologists from Wisconsin Underwater Archaeology Association (WUAA), the Great Lakes Shipwreck Preservation Society (GLSPS), the Underwater Archaeological Society of Chicago (USAC), and the Maritime Archaeology Survey Team (MAST). Students participating in *Advance* field school included Ralf Jaeger, Ryan Smazal, Jeff LeMoine, Cory van Hees, Megan Walmsley, Cari Jean, Scott Reimer and Rich Laiacona. Additional support for *Advance* field school was provided by Russel Leitz, Kevin and Eva Cullen and their sons Lochlan and Kieran, and Jerry and Alice Boehm.

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## **CHAPTER ONE INTRODUCTION**

Underwater archaeological surveys conducted by the Wisconsin Historical Society are a joint effort of several organizations and many individuals. The surveys conducted in this report are the result of a cooperative effort between the Wisconsin Historical Society, the Wisconsin Coastal Management Program, and the University of Wisconsin Sea Grant Institute. Project funding was provided by grants from the University of Wisconsin Sea Grant Institute, the Wisconsin Coastal Management Program, and a charitable donation from Elizabeth Uihlein of the Uline Corporation. The surveys were organized and staffed by the Society's Maritime Preservation and Archaeology program archaeologists and volunteers, and were conducted over the 2018 field season.

The Wisconsin Historical Society is the State of Wisconsin's principle historic preservation agency and charged under state statutes (44.02 and 44.30-44.31) with the research, protection, restoration, and rehabilitation of historic properties within Wisconsin. Under Wisconsin statute 44.47, the Society is also charged with the identification, evaluation, and preservation of Wisconsin's underwater archaeological resources, including submerged prehistoric sites, historic shipwrecks, and aircraft on state-owned bottomlands. Recognizing the multiple-use value of underwater archaeological sites to scientists, historians, and recreationalists, these underwater remnants of our past are broadly termed "submerged cultural resources". Submerged cultural resource management goes beyond the scope of traditional historic preservation programs, encountering diverse multiple-use concerns such as recreation and commercial salvage.

The State of Wisconsin has additional management responsibilities for submerged cultural resources under federal law, including the National Historic Preservation Act of 1966 and the Abandoned Shipwreck Act of 1987 (Public Law 100-298). State legislation (1991 Wisconsin Act 269) and modifications to state law in adherence with federal guidelines issued under the Abandoned Shipwreck Act has provided Wisconsin with a more formalized and rational framework for underwater archaeological resource management. This legislation also authorizes the Society and the Wisconsin Department of Natural Resources to designate underwater preserves for the preservation and recreational development of underwater archaeological sites.

Created in 1988, the Society's Maritime Preservation and Archaeology Program works to survey, inventory, and evaluate Wisconsin's underwater archaeological resources, develop preservation strategies, administer field management practices, and enhance public appreciation and stewardship for Wisconsin's precious and fragile maritime heritage (Cooper 1992; 1993). The program is housed within the Society's State Historic Preservation Office.

Any initiative aimed at identifying, managing, and interpreting Wisconsin's coastal cultural resources must consider these resources at both a local and a regional level. The sheer length (approximately 860 miles) and geographical, social, and cultural diversity of Wisconsin's Great Lakes coastline makes this essential. Established in 2001, the Wisconsin's Maritime Trails Educational Initiative divides the state into five regions, the boundaries of each selected to encompass common resources within that area, and merges regional diversity into a statewide educational context.

Wisconsin's Maritime Trails Educational Initiative encourages the public to consider each of these unique properties within the broader context of Wisconsin's rich maritime history. Winding above and below the waves, the Wisconsin's Maritime Trails Education Initiative forms a trail linking historic shipwrecks, lighthouses, historic waterfronts, historic vessels, museums, and shore-side historical markers and attractions. Through the WisconsinShipwrecks.org website, interpretive materials, and public presentations the program integrates archaeological research and public education to encourage divers, snorkelers, boaters, and with this grant paddlers, to responsibly visit Wisconsin's impressive collection of maritime cultural resources. Some of the major elements of the Wisconsin's Maritime Trails include:

*Archaeological Research.* The documentation of Wisconsin's submerged cultural resources, primarily historic shipwrecks, is the foundation of the Maritime Trails Education Initiative. Beyond academic and resource management applications, the result of this research forms the basis of most interpretation and outreach projects.

*Shipwreck Moorings.* With volunteer assistance, the Society maintains permanent moorings on 30 historic shipwrecks statewide. These moorings facilitate recreational access, provide a means of interpreting the wreck sites for visitors, provide a safe point of ascent and descent for divers, and eliminate anchor damage from recreational boaters anchoring into the site.

*Waterproof Guides.* Designed with divers and paddlers in mind, these rugged, waterproof guides contain information that places each site in its historical context and describes the site highlighting unique features that might otherwise go unnoticed. In partnership with the University of Wisconsin Sea Grant Institute, the Society has produced guides to 47 Wisconsin shipwrecks or submerged cultural sites.

*Public Presentations.* Given at a variety of venues, public presentations provide a direct, personal connection between the Society and the general public. Society underwater archaeologists and volunteers have reached approximately 54,260 people via public presentations since the Wisconsin's Maritime Trails Education Initiative's inception in July 2001.

*Interpretive Signage.* As of January 2018, the Society has created shore-side informational markers for 43 historic shipwrecks and waterfronts. Utilizing an identical template that unifies the signs as attractions and information points within the statewide Maritime Trails program, the markers emphasize the broader connection between Wisconsin's many coastal historic resources.

*Interpretive kiosks.* Five interactive touch-screen kiosks highlighting Wisconsin's historic shipwrecks are installed at Wisconsin Historical Museum, Wisconsin Maritime Museum, both branches of the Door County Maritime Museum, and the Society's Madeline Island Museum. The kiosks reach an estimated 450,000 museum visitors annually and make archaeological research results available in a fun, interactive format while educating visitors on the importance of Wisconsin's coastal cultural resources.

*Maritime History Geocaches.* Taking participants on self-guided tours of local maritime heritage sites, or modern commercial use of the Great Lakes and their tributaries, 39 Maritime History Geocaches have been placed in the communities of Superior, Two Rivers, Manitowoc, Sheboygan, Port Washington, Milwaukee, and throughout Door County. A full listing of available geocaches under the name "WiscMaritime" can be found at [www.geocaching.com](http://www.geocaching.com).

*Website.* The [wisconsinshipwrecks.org](http://wisconsinshipwrecks.org) website, dedicated to Wisconsin's historic shipwrecks, underwater archaeology, and maritime history, ensures that the general public has access to timely and useful information. The site serves as a unified "maritime resource" information point for Wisconsin residents, state visitors, and the public at large. Unveiled in 1996 and updated in 2014, this website features a searchable database of maritime resources and Wisconsin shipwrecks. A collaborative effort between the Society and the University of Wisconsin Sea Grant Institute, the site makes underwater archaeological research results accessible to the public, and features detailed information on historically and recreationally significant shipwrecks in Wisconsin waters of Lakes Michigan and Superior.

*Partnerships.* The Society partners with federal, state, and local agencies, chambers of commerce, private businesses, non-profits, and individuals. With core partners, dozens of volunteers, and a growing list of project-specific partners, this aspect of the initiative ensures that all of those with a stake in Wisconsin's maritime cultural resources share in their management and interpretation.

## **Research Design and Methodology**

Nineteenth-century Great Lakes wooden ship construction and operation is poorly understood. Little is known about how vessels were built and operated during this time. As a result, much of what we know about Great Lakes merchant vessels has come from the archaeological record of

vessels that now lay on the Great Lakes bottomlands. The archaeological surveys within this report were designed to provide a better understanding of historic Great Lakes commercial vessel construction and use.

Field data collection methods included traditional baseline surveys aided by digital photo and video documentation. Data from deep wreck sites was collected by a remotely operated vehicle (ROV) equipped with video and multibeam sonar. Archaeological documentation was conducted along guidelines established by the Natural Park Service for submerged cultural resource survey and evaluation in determining site eligibility for the National Register of Historic Places. Research designs were directed toward formulating site descriptions and archaeological assessments with a package of management questions, some specific to the site itself (i.e. location, environmental parameters, integrity, extant features, and artifacts), as well as more general questions that place the site within its broader historical context (i.e. historical significance, archaeological potential, recreational potential, and management requirements).

Research objectives and methods included:

1. Determine the site location, environment, and parameters through visual survey of extant elements, features, artifacts and documentation and mapping of exposed remains using trilaterated survey points and an onsite (submerged) datum. Additionally, document the site using photographs, video, and measured sketches of those architectural and archaeological elements that are diagnostic of a) vessel type, b) vessel age, c) vessel construction style and method, d) vessel propulsion, e) vessel use, f) vessel identification, g) vessel cargo, and h) shipboard human activity broadly indicative of occupation, status, ethnicity, subsistence or other questions allied with the study of maritime anthropology and Great Lakes social and economic history.
2. Provide assessment of a site's environmental and cultural context for determining its historic significance and archaeological potential according to the National Register of Historic Places criteria, recreational potential, and management requirements.

Site evaluation and documentation was conducted using traditional and closed-circuit scuba technology as well as ROV. Documentation included digital photo mosaics, photogrammetry, measured sketches, construction schematics, digital still and video imagery, and scaled site plans for National Register-level documentation. Analysis was conducted using comparative evidence obtained from archaeological surveys of similar sites, and augmented by historical documentation relating to individual sites and general Great Lakes maritime history. Where artifacts were encountered, material culture was interpreted in the context of its relevance to shipboard activities, shipboard hierarchy, shipboard activity/use areas, and other aspects of maritime anthropology.

This submerged cultural resource survey report serves as a source document for site descriptions, analysis, interpretation, and management recommendations used in cultural resource management planning, recreational development, and public education. It also serves as the source document for eligibility determination and nomination for listing on the National Register of Historic Places. Inclusion of these sites on the National Register and state resources management plans is an important step in achieving long-term site preservation. Suggested plans for management include mooring buoys to facilitate recreational access (where appropriate) and alleviate damage caused by on-site boat anchoring. Other possibilities include site interpretation for visitors through self-guided site maps and web-based pages. Site preservation ensures availability both as a future recreational resource and as an important and nonrenewable source of scientific data relating to Great Lakes underwater archaeology, maritime history, marine architecture, and maritime anthropology.



## CHAPTER TWO

### FISH TUG *THOMAS FRIANT*

The wooden passenger steamer *Thomas Friant* was built over the winter of 1883 by Master Shipbuilder Duncan Robertson at Robertson & Co. Shipyard (also known as the Grand Haven Ship Building Company) in Grand Haven, Michigan. The well-respected shipyard was established in 1867 by Scotsmen Duncan Robertson, Paul McColl, Peter Sinclair, and Captain John Budge and occupied four acres on the south bank of the Grand River at the foot of Second Street in Grand Haven. During this time period, the yard typically employed between 35 and 70 men. *Thomas Friant* was the thirty-third vessel built by Robertson, and the second of three launched in 1884 (*Evening News* 1905; *Marine Record* 1884a; Page 1882; Wallace 1999).

*Thomas Friant* was built for Captain Rueben Vander Hoef for passenger and freight service on Michigan's inland waterways. Previously Vander Hoef served as Sheriff, but in 1865 he transitioned to a maritime career, and built and operated the first steam ferry on the Grand River, *Phoebe*, along with partner Charles Pfaff. *Phoebe* connected Grand Haven with Mill Point (Spring Lake) as a continuation of the "sawdust road", and also connected Grand Haven with the Detroit & Mackinac Railway depot on the opposite side of the river (*Alpena Evening News* 1905c; *Marine Record* 1884a; Page 1882; Wallace 1999).

*Thomas Friant* was named for Grand Rapids' millionaire lumber baron, Thomas Friant. At the time, Friant was the largest owner of timberlands in Michigan and his lumbering firm White & Friant was the city's leading manufacturer of pine lumber products. Interestingly, when pine waned in Michigan, Friant relocated and began extracting the redwoods of California, and the town Friant, California in Fresno County is his namesake (Durham 1998; *News-Palladium* 1928; *Santa Cruz Sentinel* 1892).

The initial enrollment for *Thomas Friant* was entered at the port of Grand Haven on 21 July 1884 and the U.S. Official Number 145380 was assigned to the ship. Rueben Vander Hoef was her sole owner and Master, and her homeport was listed as Grand Haven. The vessel was described as a steamer with one deck, no mast, a plain head and round stern. She measured 96 feet long, 18.3 feet in breadth, with a 7.8 foot depth of hold, and was calculated at 81.42 tons capacity, of which 60.53 were under the tonnage deck and 20.89 tons accounted for enclosures on the upper deck. A deduction of 35.22 tons was granted under the Act of Aug. 5, 1882, for a net tonnage of 46.20 tons (Bureau of Navigation 1884; Bureau of Statistics 1884a). Henry Bloecker & Co. built her 18x20 engine, capable of 135rpm and of 60Hp, at their Grand Haven engine works, and Johnson Brothers of Ferrysburg, Michigan, installed her 7x12 ft. steam firebox boiler. Her engine and boiler were inspected at the port of Grand Haven on 31 July 1884 (Bureau of Statistics 1884a, 1884b; *Marine Record* 1884b). Throughout the 1884-season, the

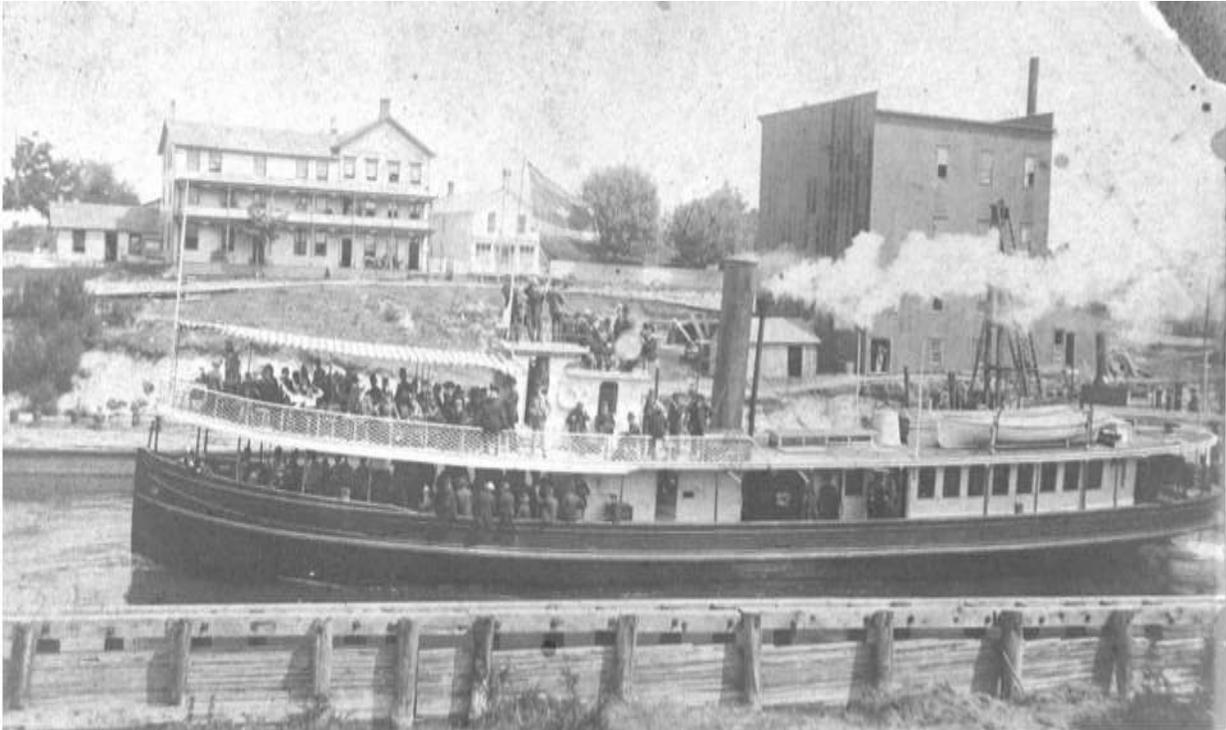


Figure 1. *Thomas Friant* as a passenger steamer for inland waterway use (C. Patrick Labadie Collection).

ship's arrivals and clearings were noted at Grand Haven, Manistee, Frankfort, and Petoskey, Michigan (*Marine Record* 1884b; *Chicago Tribune* 1884; *InterOcean* 1884).

The ship continued in passenger and freight service to Michigan's northern Lower Peninsula communities through 1888, but starting in mid-1886 kept to a route between Petoskey and Charlevoix-East Jordan. At some point during this period, to make the vessel more suitable for open water, the boat's superstructure was enclosed to offer passengers greater shelter from the elements (*Chicago Tribune* 1887a, 1887b; *Goshen Democrat* 1887; *InterOcean* 1887a, 1887b, 1888). Winter layup for the vessel was at Grand Haven in 1885 and 1886, but at Harbor Springs beginning in 1887 (*Chicago Tribune* 1886; *InterOcean* 1887c.).

Only minor events peppered her service in this time period. In May 1885, *Thomas Friant* departed Charlevoix only to become trapped in lake ice. She eventually floated back into the bay, opposite the portage at Harbor Springs. The vessel had no provisions on board, and the passengers caught and roasted fish to keep from going hungry. The crew safely extricated the ship from the ice and made it back into port on 17 May (*Goshen Democrat* 1885; *InterOcean* 1885). At the opening of the 1887 season, the ship carried the Manitou Island Life-Saving crew from Grand Haven to the island for the season (*Chicago Tribune* 1887c).

On 19 May 1888 *Thomas Friant's* enrollment document was surrendered at the port of Grand Haven for change of owners. Captain Rueben Vanderhoef (now spelled as one word) entered

into a partnership with his son, Ralph B. Vanderhoef. Shares of the vessel were divided 9/10 owned by father and 1/10 by son. The vessel's homeport remained Grand Haven, and Captain Rueben Vanderhoef remained her Master (Bureau of Navigation 1888). Following this change in ownership, no records for the ship's movements could be located. Then, on 21 June 1890 another new enrollment document was taken out at the port of Grand Haven changing the vessel's homeport to Harbor Springs, as both Rueben and Ralph had relocated to that place. All other information remained the same (Bureau of Navigation 1890).

Steamboat races were commonplace on the lakes, especially on the waters surrounding Grand Traverse Bay. On 15 October 1890, after both the excursion vessel *Lucille* and *Thomas Friant* took aboard a crowd of passengers bound from Charlevoix to Petoskey, half way up Pine Lake, the two boats began to race. *Lucille* was in the lead, but as *Thomas Friant* began to overtake the vessel, the two boats collided. *Thomas Friant* sheared off, but Captain William Cross of the *Lucille* whirled his boat around and rammed the port side of *Thomas Friant* sending a cloud of splintered wood into the lake as her side was crushed in. Although no one was injured, one woman attempted to jump overboard, several ladies fainted, and most passengers were "wildly indignant" at Captain Cross. The *Lucille* escaped without injury (*Muncie Daily Herald* 1890; *Hillsdale Standard* 1890).

During the 1892-season, *Thomas Friant* began calling on Chicago, and in 1893 she kept regular service between Grand Haven and that city. The ship picked up passengers at foot of Van Buren Street in Grand Haven and delivering them to Jackson Park, to take in the World's Fair: Columbian Exposition (*Chicago Tribune* 1892; *Evening Tribune* 1893). By 1894, the steamer returned to servicing Michigan's northern Lower Peninsula communities and added trips to Mackinac and Beaver Islands. On a trip to Beaver Island in August of 1895, Captain Rueben Vanderhoef reported upon his return to Petoskey on the swamp fires that were threatening St. James and other communities of Beaver Island (*Chicago Tribune* 1895; *Detroit Free Press* 1895; *Door County Democrat* 1895).

*Thomas Friant* was the first vessel to make her way through the ice from Petoskey to Harbor Springs at the opening of navigation in April 1896. She retrieved a cargo of merchandise that was left there in late fall by the steamer *Charlevoix* (*Detroit Free Press* 1896). She continued servicing passengers and freight on Grand Traverse Bay until November of 1897 when she was moved to Milwaukee (*Advocate* 1897, 1898; *Marine Review* 1898; *Morning Record* 1897; *Traverse City Record-Eagle* 1897).

Over the winter of 1897-98 *Thomas Friant* was reportedly enlarged forward to accommodate greater package freight for her new route plying between Milwaukee and Port Washington. If this improvement was made, the rebuild was not recorded in her enrollment document as would have been required. She remained on this route for only one season (1898). A fire destroyed the

chair factory at Port Washington and cut into the freight business of the steamer. The loss of business was so great that for the 1899 season the ship was moved to a route between Waukegan, Illinois and Chicago. This filled a void created when the Goodrich steamers discontinued service to that port. Harbor improvements at Waukegan increased the depth of the harbor to 20 feet and widened the channel to 60 feet with a turning basin 120 feet wide (*Advocate* 1899; *Buffalo Courier* 1898, 1899).

On 23 August 1899 Captain Reuben Vanderhoef stepped down as Master and was replaced by Captain John P. Richards at Chicago (Bureau of Navigation 1890). This change in Masters corresponds to negotiations for the purchase of the vessel by James McRae and William H. Rowe of Dollar Bay, Michigan. McRae and Rowe ran a boat line between Dollar Bay and various points on Portage Lake on Michigan's Keweenaw Peninsula, and with their business' success and increased traffic, they found it necessary to purchase a larger boat. *Thomas Friant* was brought from Chicago to L'Anse, Michigan on 29 August 1899 and on 4 September the ship's enrollment document was surrendered at the port of Marquette for change in owners and districts (*L'Anse Sentinel* 1899; Bureau of Navigation 1899). The new enrollment established McRae and Rowe as equal one-half owners, Dollar Bay as the vessel's new homeport and Captain Will J. Corgan her new Master (Bureau of Navigation 1899).

At the opening of the 1900-season, Captain S.S. Barnard took command (Bureau of Navigation 1899). Between 1900 and 1903, *Thomas Friant* made multiple trips from the various communities on Portage Lake, the Keweenaw's waterway, to L'Anse, a popular resort and picnicking spot at the southern end of the waterway. Additionally, the ship was frequently chartered for private excursions to L'Anse and also elsewhere (i.e. stamp mill sites). On most occasions, the vessel hosted local brass and cornet bands on board for the amusement of the passengers and refreshments were sold as well. Typical trips aboard the vessel were reportedly about three hours, oftentimes with stops to pick up other passengers or for site seeing along the route. Passengers represented excursionists from various mining companies (Calumet & Hecla, Tamarack Mill, Mass, Mill, Quincy), communities, ethnic groups and churches. Bands often were furnished from the communities of Baraga, Quincy, Houghton, Dollar Bay, and Mass Mill (*L'Anse Sentinel* 1900a, 1900b, 1900c, 1900d, 1901a, 1901b, 1901c).

On 7 October 1901, the crew of *Thomas Friant* was involved in a search for the steamer *Hudson* that was lost returning from Manitou Island (an island off the tip of the Keweenaw). *Thomas Friant*'s crew located the bodies of three men, and brought them to Houghton. These men were determined to be George Luck, a fireman from Centreville, Michigan, who was found on the island; William Gregory, another fireman from Buffalo found near Tobacco River; and a third man found on Manitou Island, who could not be identified (*British Whig* 1901).

In spring of 1902, *Thomas Friant* was rebuilt at Dollar Bay. Besides general repairs to the

vessel, her lower deck was enclosed. The ship was re-launched on 4 June and put in service between Marquette, the Huron Mountain Club House, and Munising. Capt. George Smith assisted with the fit out of the vessel and became the vessel's new Master. This change in Masters was entered into the ship's enrollment document at Marquette on 19 June (Bureau of Navigation 1899; *L'Anse Sentinel* 1902a, 1902b; *Port Huron Daily Times* 1902).



Figure 2. *Thomas Friant* with an enclosed bow (C. Patrick Labadie Collection).

On 22 May 1903, Captain Charles A. Ripley took command of the vessel from George Smith at Marquette. A few days later the ship's enrollment was surrendered for change of owners. Charles A. Ripley became sole owner of *Thomas Friant* and her homeport was changed to Sault Ste. Marie, Michigan. Chas Ripley, Charles A. Ripley's son, became the ship's new Master. As the similarity in names was particularly confusing, subsequent changes in Masters listed on the vessel's enrollment refer to the father and son as Sr. and Jr. (Bureau of Navigation 1903). Changes in command between father and son were recorded 3 June 1903, 28 May 1904 and 23 June 1904. The routes for the ship during the 1903 and 1904-seasons are unknown; however the ship was reported to have sheltered at Whitefish Point in fog during a particularly strong northwest blow (*InterOcean* 1903).

Picnicking excursions departing from Sault Ste. Marie were advertised during the 1905 season. Passengers paid 50 cents for adults and 25 cents for children under twelve for trips hyped as "the most beautiful and romantic scenery to be seen in any resort region of the world, and no

one visiting this region can afford to miss it". The tour departed Sault Ste. Marie by way of the old channel, passing through Devil's Gap, Thousand Islands and stopping in Desbarats, Ontario (*Evening News* 1905).

On 10 August 1905 Captain A.R. Groves took command of the vessel from Charles Ripley Sr. at St. Ignace, Michigan, but Ripley returned as Master on 13 September at Cheboygan (Bureau of Navigation 1903). Throughout the fall of 1905, the steamer was hired by Michigan Deputy Game and Fish Warden Theodore Trudell to cruise the waters in the vicinity of Cheboygan, Mackinac Island and St. Ignace, Michigan in search of fishermen engaged in illegal fishing practices. More than one hundred illegal submarine trap nets were seized in the operation (*Alpena Evening News* 1905a, 1905b; Bradley 1906; *Cheboygan Democrat* 1905).

For the season of 1906, *Thomas Friant* returned to her role as a sightseeing and excursion boat running between Sault Ste. Marie and Desbarats. Captain Charles A. Ripley, Jr. returned to her helm on 19 October. On 17 November as the crew was firing up the vessel's engine in their Johnson Street slip, the churning of the propeller brought the body of a visitor from England, Thomas Carr, to the surface and he was found floating around the vessel. The story leading up to the man's death was not investigated (Bureau of Navigation 1903; *Detroit Free Press* 1906; *Evening News* 1906).

On 27 April 1907 *Thomas Friant's* enrollment document was surrendered at the port of Marquette for change in owners. A consortium of owners consisting of Sault Ste. Marie businessmen James W. Clarke, Alexander Brown, John Clarke, Jr., John E. McMaster, Fred Clarke and her new Master, Benjamin Lewis, became equal 1/6 owners of the ship. Sault Ste. Marie remained her homeport. Throughout the 1907 and 1908-seasons, the vessel continued as a sightseeing and excursion vessel. She ran regular trips to Desbarats with a two hour stop at Akawquanning Park charging 50 cents for adults and 25 cents for children. The ship also ran excursions on the St. Mary's River that rounded Neebish Island, and trips to DeTour, Michigan (Bureau of Navigation 1907; *Evening News* 1907a, 1907b, 1908).

Then on the evening of 22 December 1908, while *Thomas Friant* was tied up at the Soo Brewery yards dock and was preparing for winter tie up, she caught fire and burned to the waterline. The origin of the fire remains a mystery (*Advocate* 1908; *Buffalo Courier* 1908; *Evening Record* 1908; *L'Anse Sentinel* 1908). Her enrollment document was surrendered at Marquette on 29 December 1908 indicating the vessel burned, and was a total loss (Bureau of Navigation 1907; M.V.U.S. 1909).

In 1910, the ship was raised and rebuilt by the ship-repairing arm of the Hickler Brothers' business operations in Sault Ste. Marie. In the rebuild the ship's deck plan was reorganized as a



Figure 3. *Thomas Friant* following its conversion to a fish tug (C. Patrick Labadie Collection).

single-decked gill net fishing tug. The company employed twenty-four men in the repair operation (Bureau of Navigation 1911; Cunningham 1916; Fletcher 1909).

A new enrollment was issued for *Thomas Friant* at the port of Marquette on 15 May 1911. The firm, Hickler Brothers' was listed as the ship's owner - individually, this included John Hickler, Henry Hickler and Thomas Hickler as equal co-partners in the firm. John Hickler became her new Master. The ship was remeasured and inspected upon enrollment. She remained described as a steamer with one deck, no mast, plain head and round stern. The ship was measured at 96 feet long, 18.5 feet in breath, with a 6.5 feet depth of hold and calculated with 70.60 tons under the tonnage deck. With a deduction of 32% (22.59 tons) under the Act of March 2, 1895, her Net tonnage was reported as 48 tons. Additionally, it was recorded that the ship would employ four crewmen for her new trade (Bureau of Navigation 1911).

Little is known of *Thomas Friant*'s operational history between the 1911-1917 seasons outside of information gathered regarding changes in Masters. Joseph Wallace took command from John Kerkler on 11 August 1911; David Tate on 16 August 1911; John Hickler on 1 April 1912; Hugh Mallory on 28 April 1913 and Albert W. Todd on 30 April 1913. These changes at her helm all occurred at Sault Ste. Marie. At Cheboygan, Joseph Wallace took command from Albert Todd on 12 May 1914, and on 28 May 1914, Ora Endress took over at Sault Ste. Marie (Bureau of Navigation 1911).

A new consolidated enrollment form was issued for the ship on 4 June 1914 at Marquette,

however all information reported remained the same (Bureau of Navigation 1914). J.C. Tew Eyeks, Jr. took command from Ora Endress on 30 April 1916; Endress returned to the helm on 14 May 1916, then Ora Endress (likely the former Captain's son by the same name) took command on 17 June 1917. All changes in Masters occurred at Sault Ste. Marie. The enrollment document was renewed annually on 4 June 1915 at Sault Ste. Marie, on 6 June 1916 at Marquette and on 17 June 1917 at Sault Ste. Marie (Bureau of Navigation 1914).

*Thomas Friant's* enrollment was surrendered at Marquette on 31 October 1917 for change in owners. A new document was issued listing fishermen, Ora O. and Obine Endress of Sault Ste. Marie as equal co-owners. Ora O. Endress remained her Master (Bureau of Navigation 1918). Changes in Masters occurred 9 May 1919 when Joseph Disgordine took command from Ora Endress. On 5 May 1920 Joseph Disgordine (likely a son with the same name) took command from Joseph Disgordine, and on 13 November 1922, Einar "Shine" Miller became Master. All changes in Masters occurred at Sault Ste. Marie. The enrollment document was renewed annually on 5 November 1919, 29 October 1920 and 21 October 1921 at Marquette.

In 1922, the route over land to the twin ports of Duluth and Superior consisted of a drive over questionable roads from Bayfield, Washburn, Ashland, and Iron River. With the growth of Superior's south shore communities of Cornucopia and Herbster, it became important to establish a shipping route to bring fruit and other freights to market. Additionally the shoreline in the area includes natural caves, islands, trout streams, and waterfalls that would develop the region as a resort area. In May 1922, negotiations began to relocate the vessel for use transporting passengers and freight between Chequamegon Bay and the Twin Ports. Captain Einar Miller was sent at the first of June to Grand Marais, Michigan, where the vessel wintered over, to bring the ship for the new route (*Duluth Herald* 1922; *Iron County News* 1922).

On 24 March 1923 a new enrollment was entered at the port of Duluth for a change in owners and districts. Einar Miller and Halvor A. Reiten of the Bayfield became equal one-half owners of *Thomas Friant*. Bayfield became her new homeport and Miller remained at her helm. This enrollment indicated that the ship burned coal and was enlisted in the freight hauling business (Bureau of Navigation 1923).

Reports indicated that her owners were keeping *Thomas Friant* fitted out for year-round service, and if successful she would be the first vessel to attempt this on Lake Superior. The passenger and freight gamble, however, did not prove overly profitable and *Thomas Friant* was returned to fishing. Taking advantage of balmy weather, on 2 January 1924 as a cooperative agreement between the boat's owners and area fishermen, *Thomas Friant* departed Bayfield for a winter fishing excursion. On board was Captain Miller, Halvor Reiten, and crewmembers Andrew Hanson and John Anderson all of Bayfield, engineer Sherman Bolles of Ashland, and the Jones brothers (Thomas, Charles, George and Emory), fishermen from Cornucopia. The ship

eventually became trapped in an ice floe off Bark Bay (near Cornucopia). Rather than abandoning ship, Captain Miller decided to wait aboard.

*Thomas Friant* was blown along with the ice floe, drifting northwest throughout the night. Eventually the pressure of the ice opened up a hole in the hull, letting water in under her coalbunkers. Repairs could not be made from inside the vessel so Emory Jones grabbed a blanket, jumped into the icy water, and attempted to swim under the hull to shove it into the hole to slow the leak. He was unsuccessful. Captain Miller finally gave the order to abandon ship and the men took to the small boat. After they had cast off, Captain Miller noticed that Andrew Hanson was missing, so the men rowed back to the sinking ship. They found Hanson in the bilges, killing rats with a poker. With the missing man aboard, the men rowed toward Two Harbors, Minnesota. Captain Miller fired flares as they pulled, but residents of Larsmont, Minnesota reportedly thought the flares were fireworks from the south shore, since shipping had closed. The men rowed following the light from a cabin near Knife River, Minnesota, where a pair of fishermen was up late playing cards. They landed just before 9AM and hitched a ride to Duluth where they boarded a train for Bayfield. The Jones' walked the last leg from Bayfield to Cornucopia (*Brainerd Daily Dispatch* 1924; *Duluth News-Tribune* 1953; *Evening News* 1924; *Manitowoc Herald News* 1924)

*Thomas Friant's* enrollment document was lost with the vessel. A copy of the enrollment was surrendered on 26 January 1924 at the port of Duluth indicating that the vessel foundered and sank in Lake Superior 12 miles southeast of Two Harbors, Minnesota on 6 January. The ship was valued at \$10,000. Neither the ship nor the fishing equipment was insured (Bureau of Navigation 1923).

### *Site Description*

The remains of the fish tug *Thomas Friant* lie on an even keel in 293 feet of water, 9.0 miles northwest of the Port Wing harbor entrance, Bayfield County, Wisconsin, in the waters of Lake Superior. The vessel sits parallel to shore, on a heading of 241 degrees, with its bow facing southwest. The vessel remains remarkably intact on the clay and silt covered lake bottom, with very little damage or deterioration. A large impact crater, extending 30.0 feet to 50.0 feet around the stern of the vessel indicates that the vessel sank by the stern, and hit bottom, stern first. A few of the vessel's side hatch doors now lie in the silt near the tug, but otherwise, all of the vessel's associated artifacts, remain within the wreck. This site location was unknown until 2004 when it was discovered by Ken Merryman, Jerry Eliason, Kraig Smith, and Randy Beebe and has only been visited by divers in 2004. The main wreckage rises 16.5 feet off the bottom of the lake with the vessel's smokestack rising another 15.4 feet.



Figure 4. Location of *Thomas Friant* site.

A Phase II archaeological survey of *Thomas Friant* was conducted in April of 2018 by maritime archaeologists and volunteers from the Wisconsin Historical Society. The survey was completed through a partnership with Crossmon Consulting, LLC. During the survey, archaeologists used a VideoRay ROV, outfitted with multi-beam sonar, piloted by Tom Crossmon. All measurements for the survey were taken from the collected multi-beam sonar data. The overall length of the vessel is 96.4 feet, and the width of the hull, measured at its widest point, is 18.2 feet. Given the wreck dimensions, location, and the nameboard still attached to the vessel's pilothouse, the remains were determined to be that of the converted fish tug *Thomas Friant*. As the site lies in the cold, deep waters of Lake Superior, no invasive zebra or quagga mussels have colonized the interior or exterior of the vessel allowing for detailed observations of its construction and artifacts contained inside.

*Thomas Friant* is equipped with a plumb bow, which was reinforced so the vessel could operate nearly year-round. Thin iron sheathing covers the bow to protect the hull from ice floes and to break ice when entering and exiting harbor. *Thomas Friant's* stempost extends 9.7 feet out of the silt, and measures 1.1 feet sided, tapering to 0.4 feet, and measuring 1.0 feet in its molded dimension. The vessel was equipped with a metal-lined cutwater, just forward of the stempost which measures 0.4 feet sided and 0.3 feet molded. The lower hull planks measure 0.4 feet in width and run longitudinally. Above this original hull structure, a wooden enclosure was added to the vessel between 1910 and 1924. This wooden enclosure gave the tug the look of a traditionally-built fishing tug, while merely enclosing the original cabin structures inside. This upper enclosure is made up of side planks that measure 0.3 feet wide and top planks that measure 0.2 feet wide. All of the planks of the upper enclosure run longitudinally save for around the vessel's rounded stern. Here, the upper enclosure's planks sit perpendicular to the

rest of the hull, and measure 0.3 feet in width. These planks are fastened to the enclosure's frames, which measure 0.4 feet sided and 0.2 feet molded, and are spaced 1.1 feet apart. The upper deck beams are of the same measurements.

The vessel's lower hull remains as it was originally built in 1883, maintaining the same keel, keelson, and ships lines, despite the 1908 fire burning all of the vessel's upper workings. The cabin structures, and bulwarks of the vessel were added in 1910 after the rebuild, and the vessel's outfit as a fishing tug. These elements remain, although they have been encapsulated by the upper enclosure. The vessel's bulwark, original to the 1910 rebuild, measures 0.9 feet wide, and has a slight rise toward the bow. Located 1.2 feet below the bulwark, a single rub rail can be seen, which extends around the exterior of the vessel. It measures 0.2 feet thick, 0.3 feet wide, and is lined with a thin metal strap. White paint can be seen covering the lower hull planks.

*Thomas Friant's* two hawsepipes are located 2.5 feet aft of the stem. A single anchor chain extends from the starboard side hawsepipe, and in between the vessel's bower bulwarks and the upper enclosure. Here, 3.0 feet aft of the stempost, there is a small door or hatch that could be removed to allow the anchor to be deployed. A single anchor davit is located at the prow of the vessel, measuring 0.35 feet in diameter at its base, and tapers to 0.2 feet in diameter near its end. The anchor davit is located 0.8 feet aft of the stempost. Its arm is turned aft over the forward deck, and extends 3.9 feet. No lines remain attached to the davit, and no anchor chain extends from the port side hawsepipe.

*Thomas Friant's* upper enclosure allowed the vessel's crew an added layer of protection from the elements while working in both the bow and the stern of the vessel. A series of eleven doors, or hatchways, are found around the sides of the vessel, allowing the men aboard to work their fishing nets, deploying and retrieving them. Five hatchways adorn each side of the vessel, while one large hatchway is located in the stern of the vessel. Looking from bow to stern, the forwardmost side hatches and the two aftmost side hatches on both the port and starboard side measures 4.4 feet wide, and are accompanied by a small window near its top, measuring 1.1 feet wide. The glass remains extant in many of these windows. The hatchways themselves were made up of two separate wooden doors, or hatch covers, that sat on top of one another. Each could be removed independently allowing the hatchway to remain partially, or completely open at various times. The associated windows had wooden shutters that could be placed over the glass when they were not needed or in inclement weather. The middle two openings on both sides are much smaller, and appear to more closely resemble doors. The forwardmost of the central openings measure 2.2 feet wide, while the second of the central openings measure 3.4 feet wide.

While some of these hatchways remain closed, many of them now sit open on the bottom of Lake Superior. It is clear that some of the hatches were open when the vessel sank, while others

opened as the ship was sinking, allowing the air to escape from inside the vessel. The forward, starboard side hatch remains completely open, as do the two central hatchways/doors, and the aftmost hatch. The fourth hatch on the starboard side (the first of the larger aft hatchways) remains closed. On the port side, the forward hatch remains open, while the central hatchways/doors both remain closed. Of the larger aft hatches on the port side, the first hatch remains open, while the second one remains half open, with the top cover still in place.

The opening at the stern of the vessel is much larger, measuring 6.7 feet wide. Unlike the side hatches, this opening had double doors that were hinged and would open to set the nets. Both doors no longer remain in place, with one sitting in the silt 2.1 feet aft of the rudder, and the other lying in the debris just inside the opening. These doors measure 6.6 feet tall and 3.3 feet wide. The doors had horizontal framing on their interior, measuring 0.4 feet thick, and spaced 1.1 feet apart. White paint can be seen on the outer planks of the upper enclosure, as well as on the hatch covers and window coverings, and faint lettering can be seen just below the stern opening, in a dark paint, although it is too deteriorated to make out the words.

*Thomas Friant's* rudder remains intact and attached to the vessel's sternpost. The rudder now sits slightly to port. The rudder itself measures 1.2 feet thick, and is made up of multiple large timbers, and is heavily lined with iron strapping that measures 0.05 feet thick. The rudder chains and preventers remain extant and in place, attached to the aft end of the rudder. The vessel was equipped with a four-bladed propeller, which can be seen sticking out of the silt just forward of the rudder. The propeller blades each measure 0.4 feet thick, tapering to 0.05 feet thick and measure 3.5 feet long from the boss to the tip.

Located 30.6 feet aft of the stempost, is the vessel's pilothouse, which measures 10.3 feet wide and 10.3 feet long, and is covered in narrow planks that run horizontally. The pilothouse does not sit on top of the upper deck, but instead, sits below the roof of the deck enclosure. This indicates that the upper enclosure on the vessel was added on top of the existing upper structure of the vessel. It rises a mere 6.8 feet above the deck. The remainder of the internal height of the pilothouse is located beneath the main deck. Two sets of stairs lead down to the lower, enclosed deck from the doors of the pilothouse. This opening around the doors and stairways are lined with a combing measuring 0.25 feet thick.

The port and starboard sides of the pilothouse sit 4.0 feet from the vessel's edge. Three rectangular sash windows measuring 1.1 feet wide line the front of the pilothouse, and are spaced 0.8 feet apart. The glass remains in all of the windows; however, the sash window on the port side is open, with a shutter covering half of the window. Four small brass tags are affixed above the central forward window. They are each engraved with "1529 Michigan" above a year. The years listed are 1916, 1917, 1918, and 1919. These are annual fishing licenses. Two additional, four-paned windows are located on the sides of the pilothouse, one on each of the

port and starboard sides. These windows measure 1.8 feet wide and are located 1.1 feet aft of the forward edge of the pilothouse. All four panes of glass in the port side window are extant. On the starboard side, the forward, upper pane of glass is missing while the other three panes remain extant. There are two doors into the pilothouse, each measuring 2.0 feet wide, and located 0.6 feet aft of the windows on each side of the space. Both doors have two metal handles that extend lengthwise along both sides of each door. They measure 0.2 feet in diameter. Both doors remain closed, and appear to be lined with a thin metal sheathing. The aft-facing wall of the pilothouse contains two small windows in the upper corners of the wall. They are both rectangular in shape.



Figure 5. *Thomas Friant's* annual fishing license tags (Ken Merryman, GLSPS).

The interior of the pilothouse is covered in a thick layer of silt, however, the vessel's large metal wheel can be seen in the center of the room, just forward of the doors. Behind this, a narrow wooden chart table is overturned and leaning against the wheel. On the aft wall of the pilothouse, a framed schematic of the vessel remains attached to the aft wall, directly between the two windows. The vessel's binnacle is extant and intact 4.0 feet forward of the pilothouse, on the port side of the ship. Unlike in many vessels, the binnacle is not located within the pilothouse. The binnacle measures 2.3 feet wide from weight to weight (quadrantal corrector to quadrantal corrector), with its binnacle hood, which covers and protects the compass, measuring 1.3 feet in diameter. The glass from the front of the binnacle is not extant, and one of the binnacle's weights now lies on the deck. The weight was attached during the 2004 dives on the site. This was likely a casualty of the extensive fishing conducted over the site.



Figure 6. The binnacle on the forward deck of *Thomas Friant*, just forward of the pilothouse (Ken Merryman, GLSPS).

The vessel's nameboards remain in place, mounted on the port and starboard sides of the pilothouse, just above the doors. The wording "*THOMAS FRIANT*" can still be seen painted in white letters on a black background. On the roof of the pilothouse, just aft of the nameboard, the vessel's starboard side running light box remains. The box measures 3.9 feet long and 0.8 feet wide. Green paint was observed on the box. The bulb from the light remains intact and in place although the green glass casing for the light (green indicating starboard) has shattered. Pieces of the green glass now lie at the bottom of the light box around the bulb. The port side running light and light box are no longer extant.

The vessel's bell also remains on the roof of the pilothouse. It sits 1.0 feet forward of the aft pilothouse wall, slightly to the starboard side of the vessel's centerline, 2.3 feet from the starboard running light box, and measures 0.8 feet in diameter. The bell hangs from a yoke measuring 1.2 feet across, which sits atop two stands. The bell's crank is on its starboard side and sticks up above the yoke. It is likely that a string or rope was attached to this crank and extended into the pilothouse, although it no longer remains extant. The bell is silver in color and shows no signs of deterioration. No embossing was located on the bell.



Figure 7. *Thomas Friant's* nameboard (Ken Merryman, GLSPS).



Figure 8. *Thomas Friant's* bell (Ken Merryman, GLSPS).

Aft of the pilothouse, a large rectangular bin sits along the vessel's centerline. The lid to the bin remains in place. It is not known what this box was for, but it is possible that it was a cooler used for storage. On either side of this bin sit four round pots, or urns, in holders which measure 0.7 feet in diameter. Two of these pots sit 1.5 feet apart on the starboard side of the vessel, and two sit 1.5 feet apart on the port side. All four pots are filled with silt. It is not known what these pots were used for during the vessel's career.

Just aft of the pilothouse, at 40.9 feet aft of the stempost, the vessel's smokestack remains standing upright. The stack measures 4.0 feet in diameter and rises 15.4 feet above the upper enclosure. The stack is red in color, with a thick black band around the top. The paint is still clearly visible; however, rusticles cling to the areas of the stack painted in red, while the black band remains free of rusticles. This is largely due to the oxidation of the iron in the paint. The four stays attached to the smokestack remain intact and in place, extending from eyebolts on the deck, to the top of the stack. The stays are made of small gauge chain. The vessel's steam whistle is attached to the forward side of the smokestack as well. A single pipe with a valve attached to its end runs up the smokestack, next to the pipe extending to the steam whistle. Just forward of the smokestack, a single pipe extends through the roof of the upper enclosure on the starboard side of the vessel. It has a flared end, shaped like an upside down bell or a funnel that extends straight up. It is believed that this is an air ventilation shaft, which was used to bring fresh air into the engine room.

The vessel's single mast remains extant on the wreck, now lying on the deck just aft of the pilothouse. The mast originally extended through the upper enclosure right along the aft wall of the pilothouse. During the sinking, the mast snapped at the pilothouse roof, and now lies to starboard. The broken section of the mast measures 8.0 feet long, and 0.6 feet in diameter near its break. Two light boxes remain attached to the mast near its top. These would have housed the white mast head lights. The sockets for the lights remain extant, but the light bulbs are no longer in place.

Aft of the smokestack, the roof of the deck enclosure remains fairly empty. The vessel was equipped with a single, small work boat which sat on top of the enclosure. The boat no longer remains extant, as it was used by the crew during the sinking, but the davits used to lower the boat remain in place, hanging over the port side of the vessel. These davits sit on the port side of the vessel, just aft of the smokestack. The two davits measure 0.4 feet in diameter, 4.4 feet in height, and are 13.1 feet apart, extending 2.6 feet off the side of the vessel. The ropes that would have been used to lower the boat are no longer extant, though short sections of iron-impregnated rope remain threaded through the davit pulleys.

Located 45.5 feet aft of the vessel's bow, 4.4 feet aft of the smokestack, is a large rectangular area with a combing measuring 0.4 feet wide. The area measures 8.4 feet long and 6.6 feet wide

from combing to combing, and is located 4.2 feet from both the port and starboard sides of the vessel. It is not known what this area was used for, but it is possibly a large hatchway to gain access to the engine and its components from above. This area corresponds to the engine room which sits directly aft of the boiler room.

Two other features adorn the top of the vessel's enclosure, including a manway with a ladder leading down to the main deck of the vessel. The manway is located 31.7 feet forward of the vessel's stern, 2.9 feet from the port side, and measures 3.1 feet long and 2.2 feet wide. The hatch opening is lined with a combing that measures 0.15 feet wide. The opening is equipped with a single door that opened upwards, with hinges on the starboard edge of the hatch. This door remains extant in the open position. This provided access to the open workroom area at the vessel's stern, just aft of the enclosed engine room. The ladder dislodged slightly during the sinking, and now sits at a 45-degree angle to its original position. Additionally, a single small pipe extends through the roof of the upper enclosure, standing 0.5 feet above the planks. This pipe is located along the centerline of the vessel, 12.2 feet forward of the stern, and measures 0.3 feet in diameter.

The interior of the vessel remains in remarkable condition and covered in a thick layer of silt. The aft end of the vessel consists of a large, open workspace, that measures 34.6 feet long, extending from the vessel's rounded stern, to the aft wall of the internal cabin structure. Debris covers the workroom floor, consisting primarily of disarticulated boards, broken barrels, buckets, and lines for the fish nets. A series of overturned stacks of fish net boxes, which are trapezoidal in shape, also litter the aft workroom. These boxes measure 0.7 feet in height, 1.8 feet long and 1.5 feet wide. The part of the vessel's stern door remains just inside the stern hatchway. Just forward of this sits a single sawhorse, and a pile of at least three marker buoys. These buoys have rectangular floats with a tapered end, attached to the end of a long narrow pole, which would have usually been equipped with a flag for easy locating.

A single wooden workbench lines the starboard side of the workroom, measuring 4.4 feet long and 1.5 feet wide. Pipes, narrow boards, and pieces of wiring litter the top of the workbench. One half of a metal strap and a large table vice are located at the workbench's forward end. Just forward of the workbench sits a single large cleat. This cleat corresponds to a covered hatchway. A thick line remains wrapped around the cleat.

On the deck near the workbench, an open toolbox sits still filled with various tools and covered in a thick layer of silt. On the port side of the workroom, a single intact barrel sits upright, with its lid no longer extant. It was not possible to discern the contents of the barrel due to the silt that has accumulated inside. Most of the debris in this area is piled on the port side of the vessel, indicating that the tug sank with a slight list to port, though the vessel now sits upright on an



Figure 9. *Thomas Friant*'s aft workbench with table vice (Ken Merryman, GLSPS).

even keel. A single lifering sits atop the debris pile, likely haven fallen from its hook on the wall above. A two-man crosscut saw is located within the debris pile as well.

The workroom extends to the aft wall of the internal cabin structure. Two small rectangular windows are located in the upper corners of the wall, with the glass still intact. A pipe with a single valve near its top extends down the center of the wall, and through the ceiling above. Below this, two empty hooks can be seen on the port side of the wall, attached at a 45-degree angle from one another. Just below this, an axe handle can be seen protruding from the debris pile. These hooks would have originally held this axe in place.

Just aft of this wall is an open hatchway to the bilge. The hatchway measures 4.7 feet long and 2.2 feet wide, and has a trap-door style door that remains swung open, with the door leaning against the cabin's aft wall. During the later stages of *Thomas Friant*'s career, the vessel was intended to carry goods and passengers across Lake Superior year-round, in addition to fishing. It is likely that this is the cargo storage area. Since the vessel's final voyage was merely to be a short fishing trip, it is unlikely that the area was filled with cargo, however, this area of the vessel was not investigated during the 2018-survey.

*Thomas Friant*'s original cabin structure remains as it did following the vessel's 1910 rebuild of its upper structure. A single structural beam was added to the roof of the aft cabins in order to

stabilize the deck enclosure. This can be seen protruding from the cabin roof at the aft and the forward ends of the structure. The cabins themselves are planked horizontally and have rounded corners that are capped with metal. Yellow and white paint remains on the planks, while green paint remains on the door combings. With the addition of the outer enclosure, hallways were created running the length of the cabin structure. These measure 3.3 feet in width on both the port and starboard sides. Electric wiring runs along the ceiling of the hallways attached to single bare light bulbs which still remain extant in their sockets. The doors into the sections of the cabin are pocket doors which are lined with a thin metal sheathing and measure 2.1 feet wide.

The cabin structure is composed of two main rooms: the boiler room and the engine room. The engine room is the aftmost room, and measures 14.8 feet in length and 9.4 feet wide. Within this room, the vessel's double-expansion engine can be seen extending from the bilge below. Three doors lead into the engine room, two on the port side and one on the starboard side. One of the port side doors is located near the forward wall while the other is located near the aft wall. The aft port side door no longer remains on its hinges, and now lies propped against the enclosure's wall. A single window sits between these two doors, looking into the engine room. The starboard side door is located near the forward wall of the room. A second engine room window sits just aft of the starboard side door. Both engine room windows consist of four panes, and in both, the glass remains. Inside the port side door, an overturned wooden chair sits next to the engine. Forward of the engine, a workbench or shelf leans against the engine, having overturned during the sinking. A pressure gauge remains attached to the starboard side aft wall of the room on the port side. It is in remarkable condition with the glass extant. The gauge is brass, with a black background, and white pressure markings. The aft, starboard section of the engine room is closed off, creating another small rectangular room. The metal sheathed door to this room remains closed, and the room's purpose was not able to be determined at the time of the 2018-survey. It is likely that this room was either used as a supply closet, or as a marine head.

Forward of the engine room is the boiler room. This room measures 13.6 feet in length and 9.4 feet wide. The vessel's boiler takes up most of the boiler room; however, two stairways lead down into the hold to the lower level of the boiler room and the coal bunker. These stairways are located at the aft end of the room, just inside the room's two open doorways. Two windows also look into the boiler room, both located forward of the boiler room doors. These windows resemble the engine room windows, and are both rectangular with four glass panes extant. They are sash windows, and remain open. Through the starboard side window, the side of the vessel's boiler can be seen. Just forward of the boiler room, located directly beneath the pilothouse, is a small room, lined with wood. A single large wooden crate sits just inside the opening on the starboard side, and the handle of a shovel can be seen sticking over the edge. While this area was not fully accessible during the 2018-survey, it is thought that this was an additional area for storage or cargo. This also may have allowed for additional access to the bilge or have been used for coal storage.



Figure 10. The aft wall of *Thomas Friant*'s engine room, featuring an intact gauge (Ken Merryman, GLSPS).

The forward wall of the pilothouse marks the forward extent of the cabin structure, located 33.0 feet aft of the stempost. This wall is empty except for an axe, which remains attached to the wall in its hooks on the port side of the vessel. Just forward of this wall is another open hatchway leading to *Thomas Friant*'s bilge. Similarly to the aft hatchway, the door remains open and propped against the forward wall of the cabin structure. This hatchway measures 4.7 feet long and 2.2 feet wide.

A second large work area is located in the forward section of *Thomas Friant*, extending 33.0 feet from the stempost to the forward wall of the cabin structure. This area is filled with debris and covered by a thick layer of silt. As in the stern of the vessel, most of the debris is piled on the port side of the vessel. Similarly to the stern debris, this forward work area is filled with trapezoidal wooden net boxes, however, these are filled with a combination of wooden and aluminum fish net floats. These boxes and floats are strewn across the forward deck.

Additionally, numerous larger rectangular wooden crates lay haphazardly in the vessel's bow. These crates measure 2.3 feet wide and 3.7 feet long and were likely used to store *Thomas Friant*'s nets or for storing fish after they were pulled from the nets. Various buckets and small

tins, approximately the size of a coffee can, are also scattered throughout the silt covered debris.

In the center of the forward workspace, a single deck stanchion adds support for the main deck to the longitudinal support beam running the length of the ship. Slightly to the port side of the workroom, sitting intact and upright is *Thomas Friant's* large brass scale. It is located 12.0 feet aft of the stempost and measures 1.5 feet in width. The scale's pound markings remain visible. This scale would have been used to weigh the fish that the vessel brought in. Forward of this stanchion sits a single cross bitt, located 6.2 feet aft of the stempost along the vessel's centerline. This bitt measures 2.2 feet in overall width, with a central circular column measuring 1.5 feet in diameter, and each side of the cross bar, or horn, measuring 0.35 feet in length. The cross bar, or horns, are aligned on the port and starboard side of the central column.



Figure 11. Net floats and the large scale located in the bow workspace of *Thomas Friant* (Ken Merryman, GLSPS).

*Thomas Friant* was equipped with a net lifter that was used to lessen the work of hauling in large nets full of fish. This net lifter remains in place in the forward workroom, 28.2 feet aft of the stempost, just inside the forward hatch on the port side. The net lifter is circular in shape and

measures 1.8 feet in diameter. Many modern, purpose-built fish tugs have the net lifter situated on the starboard side of the vessel and the nets are be pulled in across a table where the fish would be removed.

On the opposite side of the vessel, a single square, wooden bitt extends from the deck next to the bulwark, at the forward starboard hatch. This bitt measures 0.9 feet square and has wear marks from use. Just inside of this bitt, one of the vessel's wooden bumpers now sits partially buried in silt. This bumper measures 1.1 feet wide and 0.8 feet thick. Originally this would have hung along the outer hull of the vessel, protecting it from damage when docking.

The vessel's single admiralty anchor sits just behind the stempost, on the starboard side of the workroom. The anchor is made of iron and has a folding stock, however, the stock is deployed and the anchor is sitting upright. The anchor's stock measures 3.3 feet long, and its shank measures 4.5 feet long, from ring to crown. The anchor measures 4.5 feet wide from fluke to fluke. The anchor chain remains attached to the anchor's ring, and extends beneath a small hatch cover that remains closed. The chain extends beyond this, through the enclosure, over the bulwark, and into the starboard hawsepipe. Just above the anchor, a braided line remains coiled on two hooks attached to the enclosure wall.

The debris field around *Thomas Friant* is very small, as most of the artifacts remain inside the wreckage. A wooden crate measuring 2.3 feet wide and 2.6 feet long sits in the silt 50.1 feet aft of the vessel's stern. This is similar in dimensions to one of the large wooden crates found in the forward workroom. This likely fell out of the stern hatch of the vessel as it sank. Additionally, a second wooden crate sits in the silt just outside the second port side hatch. Measuring 2.3 feet wide and 2.5 feet long, this crate now sits empty. Another rectangular depression was picked up by the multi-beam sonar, located 10.4 feet off the port side bow. This depression measures 2.8 feet wide and 4.7 feet long. While this was not identified in the video data collected, it is likely that this is another section of one of the hatchway covers from the port side of the vessel.

It is not likely that many additional components of *Thomas Friant*'s hull structure remain on the site or nearby; however, additional artifacts and components of the vessel's construction remain obscured within the wreck. With the incredibly intact nature of the wreckage, most of the artifacts remain protected by a thick layer of silt within the hull. The 2018 multi-beam sonar investigations allowed archaeologists to look at a swath nearly 250 feet around the wreck and did not locate any other wreckage. Data already gathered on the site has increased our understanding of early small passenger steamer construction and subsequent conversion to a large fishing tug. This information allows archaeologists to study how old wooden steamers could be used and repurposed for additional use.

### CHAPTER THREE

#### BULK CARRIER *SELAH CHAMBERLAIN*

Large scale industrial transportation on the Great Lakes was fueled principally by the opening of the Lake Superior iron ore ranges at Marquette, Michigan, in the 1850s (Williams 1905). From an initial trickle, the volume of iron ore shipments grew to a swift flow, chiefly due to improvements in transportation technology wrought by industrial demand. Although several other bulk cargoes constituted a significant share of the Great Lakes cargo volume, including coal, grain, lumber, and stone, iron ore played the largest role in driving bulk freight vessel technology. Initial shipments of ore were made overland until the construction of the first Soo Locks (the Soo) allowed navigation past the Falls of the Saint Mary's River at Sault Saint Marie, Michigan, in 1855 (Williams 1905). This enabled direct vessel transport from the Marquette Ore Docks to the home ports on Lake Erie that refined the raw ore; however, it wouldn't be until the post-Civil War economic recovery that demands for iron ore would create a new kind of vessel. The Great Lakes bulk freighter prototypical vessel *R.J. Hackett* was launched in 1869. This unique style of vessel carried the majority of the iron ore that fueled the industrialization of the U.S. for over 100 years and became the model for over 1000 Great Lakes bulk freighters that followed (Devendorf 1995).

Early Great Lakes bulk freighters, like *Selah Chamberlain*, were wooden vessels, generally over 200 feet in length, designed to carry large cargoes economically. Their construction was characterized by a massive wooden keel along which a series of large floor keelsons ran horizontally down the length of the vessel to provide maximum strength. The vessels were double-decked with a main top deck and a second deck below supporting the interior hull. The pilothouse was placed far forward for maximum visibility, while the machinery was carried astern. Bulk freighters had a distinctive "straight deck" profile with unfettered access to multiple cargo hatches amidships, which were laid out for convenient loading and unloading. The size and carrying requirements of the wooden bulk freighters immediately pushed the bounds of wooden ship construction technology, requiring innovative and often unconventional engineering to reinforce ever larger hulls (Cooper and Jensen 1995). Among the technological improvements employed by the early bulk freighters was the use of the compound steam engine. A few early bulk freighters sported single cylinder low pressure steam engines, which were relatively inefficient. By the early 1870s, most bulk freighters were being built with more efficient high pressure compound engines, which sported two cylinders and were capable of producing nearly twice the power at the same fuel consumption as the older engines (Devendorf 1995).

The wooden bulk freighters of the early 1870s are of interest because they mark a transitional period in wooden shipbuilding technology between steambarges and bulk freighters. Great Lakes steambarges contained single, open freight decks where lumber would be stacked between a raised forecastle and aftercabin. Small storage capacity below deck along with

inadequate hatch sizes made steam barges an inferior vessel for bulk cargo transport (Cooper and Kriesa 1992). Larger, stronger, more powerful vessels needed to be built to compensate for developing mining technologies and lock sizes, along with the amount, weight, and shipping techniques of bulk freight. Vessels began being built to fit these criteria, but meeting these goals successfully took experimentation and transition.

Advances in bulk freighter technology that began with the first generation of prototypical vessels were curtailed by the Panic of 1873. Nearly fifty bulk carriers were built before 1875, followed by a five year period of inactivity, during which Great Lakes shipping stagnated and only a handful of new freighters were launched (Devendorf 1995). Beginning in 1880, a boom in ore shipment brought forth a second generation of wooden bulk freighters that employed significant new technologies. Advances in boiler and engine technology as well as the construction of the larger and deeper Weitzel Lock at the Soo, pushed the size of wooden bulk freighters beyond 220 feet (Devendorf 1995). The inception of more powerful compound steam engines permitted this generation of bulk freighters to tow one or more consort barges, thereby significantly increasing the payload per trip. It was during this period of innovation that the Republic Iron Company commissioned the building of their flagship bulk freighter, *Republic*.

The *Republic* was one of over fifty new wooden bulk freighters built during the boom which lasted from 1880 to 1883. The boom was followed by a lull in construction that lasted until 1887, when another boom in shipbuilding saw a third class of even larger wooden bulk freighters, routinely built to over 250 feet in length (Devendorf 1995). This final class of wooden bulk freighters was the first to employ diagonal iron strapping mortised into the frames and planked over as a means of strengthening the hull. These later vessels also generally sported two substantial wooden or iron arches in each side of the hull. Another notable improvement in technology necessary for the economical use of such large vessels was the inception of the triple-expansion steam engine, which appeared in the Lakes in 1887 (Devendorf 1995). The triple-expansion engine employed a third cylinder, which created further efficiency given the same fuel consumption and considerably more power.

In 1882, the first true iron bulk freighter, the *Onoko* was also launched (Devendorf 1995). In 1886, the first steel Great Lakes bulk freighter, the *Spokane* was launched (Devendorf 1995). It wouldn't be until the late 1890s that wooden bulk freighters were eclipsed by steel-hulled models. The 1890s were notable in that they saw the largest increase in vessel capacity and the greatest changes in technology (Devendorf 1995). At the beginning of the 1890s, the largest vessels were 300 feet in length, but by the end of the decade, steel bulk freighters were fast approaching 500 feet. This rapid change was fueled by improvements in steel shipbuilding technology brought about by the opening of the vast Mesabi Iron Range in Minnesota, which exponentially increased the volume of iron ore traversing the Lakes. The construction of the

much larger Canadian Lock and the Poe Lock at the Soo, in 1895 and 1896 respectively, also enabled this rapid increase in size and capacity (Mansfield 1899).

The twentieth century saw dramatic numbers of steel hulled bulk freighters on the Lakes. Several hundred steel bulk freighters were built on the Great Lakes in the twentieth century and the ships became a significant part of the culture of the upper Midwest. Nearly every major port city on the Great Lakes was home port to a significant fleet of bulk freighters and thousands of young men and women were employed on the ships each year. Bulk freighters played a substantial role in the development of the economy and the cities of the Great Lakes, and have become an important part of the region's cultural identity.

### *Operational History*

In 1872, the Bradley Transportation Company of Cleveland commissioned Quayle & Martin shipbuilding to construct a new bulk carrier for the company. For close to twenty years, the firm had been building sail and steam vessels for Alva Bradley, and this latest venture would be the second bulk carrier built for him. While Quayle & Martin may not have been the first shipyard to develop the wooden bulk carrier, their shipyard had already achieved success in building this new type of 'propeller' specifically for to the transportation of bulk commodities. Some of the vessels constructed included the *William T. Graves* (1867), *B.W. Blanchard* (1870), *W.L. Wetmore* (1871), *Raleigh* (1871), and the *J.S. Fay* (1871). It took less than two years to construct Alva Bradley's new vessel, which was completed in the spring of 1873. Upon completion, it was named *Selah Chamberlain*, after one of Cleveland's most influential businessmen, and one of the vessel's principal investors (Mansfield 1899:337). *Selah Chamberlain* was launched on 1 April 1873, and later towed down river to the dock of Upson & Walton to be outfitted (*Buffalo Evening Post* 1873; *Cleveland Daily Herald* 1873a, 1873b; *Sandusky Daily Register* 1873). For the next month the vessel took on anchors, chains, Union power capstans, windlasses, pumps, wire rigging, sails, hawsers, and "the thousand and one items that go to make a first class out-fit," all supplied by A.S. Herenden & Company of Cleveland (*Cleveland Daily Herald* 1873c; *Cleveland Plain Dealer* 1873a).

Enrolled on 1 May 1873, *Selah Chamberlain* (Official Number 115147) was listed as a steambarge with a single deck, three masts, a plain head and a round stern. Her dimensions were 212 feet in length and 34 feet in breadth, with a 14.8 foot depth of hold and a total tonnage capacity of 894 69/100 tons, of which 863 tons was her capacity under the tonnage deck and 31.69 tons was the capacity in the enclosures above (Bureau of Navigation 1873). *Selah Chamberlain* was built especially strong in the bow to protect it from damage because "the frames that go out first [sic]... are the ones located forward and aft, between the wind and water" (USDC 1888a). Globe Iron Works of Cleveland, made the steam machinery for *Selah Chamberlain*, which consisted of an engine and two boilers measuring 7 feet 3 inches diameter

and 18 feet in length" (*Cleveland Daily Herald* 1873c; *Cleveland Plain Dealer* 1873a). At the time of launch *Selah Chamberlain* had eleven different owners: Alva Bradley with 16/30 shares, *Selah Chamberlain* with 4/30 shares, S.L. Mather with 2/30 shares, and Thomas Quayle, Estate of John Martine, John Fitzpatrick, Fred A. Morse, George Judson, George Stone, Leonard Lommis and C. Revell, all owning 1/30 shares each (Bureau of Navigation 1873).

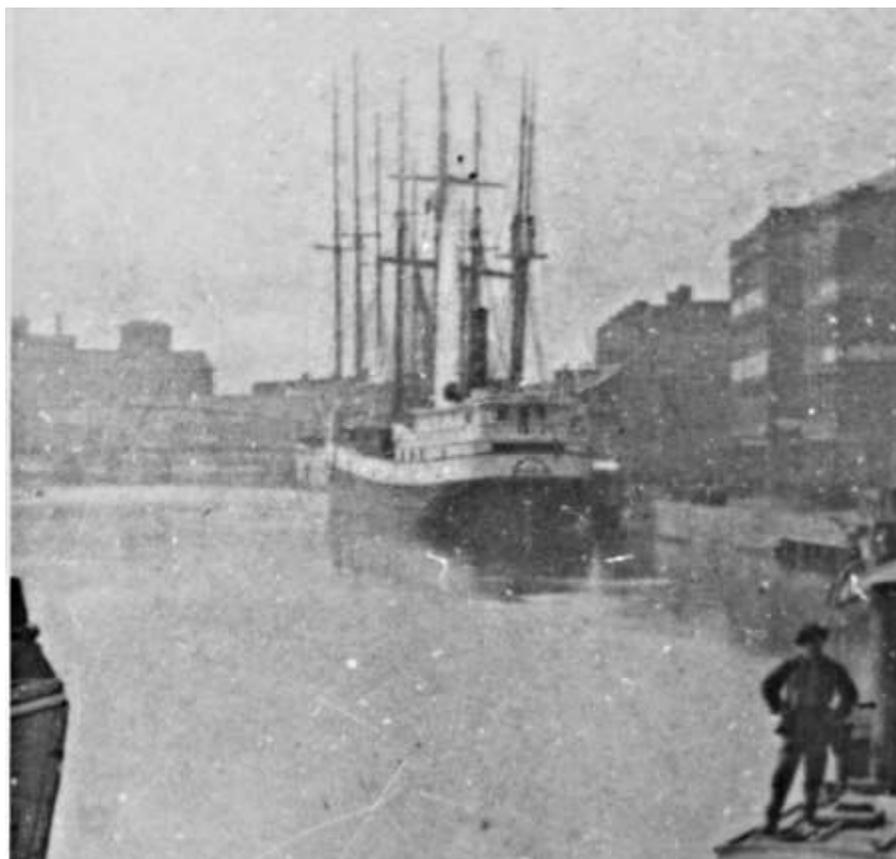


Figure 12. *Selah Chamberlain* in 1875 docked in Cleveland, Ohio two years after the vessel was launched (C. Patrick Labadie Collection).

*Selah Chamberlain*'s maiden voyage, under the command of Captain George Judson, transported crew members of other Bradley vessels to their ships in Lake Superior while traveling to Escanaba, Michigan to take on a load of ore (*Cleveland Daily Herald* 1873c; *Cleveland Plain Dealer* 1873e). On its voyage to Escanaba, *Selah Chamberlain* towed the schooners *Negunee*, *David Wagstaff*, and *S.J. Tilden* to Lake Huron, and the schooner *Exchange* to Detroit (*Cleveland Plain Dealer* 1873a). Not surprisingly, *Selah Chamberlain*'s first voyage was not without incident, as the dangers associated with travel on the lakes soon made themselves apparent. While attempting to negotiate the Straits of Mackinac, the steamer ran aground on Bois Blanc Island. Fortunately, she sustained only minor damage and was able to continue the journey the following day (*Cleveland Plain Dealer* 1873b, 1873c; *Detroit Free Press* 1873). Newspapers noted her return trip from Escanaba downbound carrying 1,236 tons of ore (*Chicago Tribune* 1873; *Cleveland Plain Dealer* 1873d). Late in the 1883-season, *Selah*

*Chamberlain* was traveling from Port Arthur (now Thunder Bay, Ontario) to Marquette towing the schooners *John Martin* and *James C. Harrison* when they encountered a severe northwest gale. The vessels tow line parted her consort. Fortunately, *Selah Chamberlain* only lost her mainmast among other minor damage and the schooners all arrived safely at Marquette by sail (*Chicago InterOcean* 1883a, 1883b). Although uneventful, *Selah Chamberlain*'s first sailing season was profitable, as the vessel and its consort, *John Martin*, tallied \$80,000 dollars in receipts (Beasley 1930:151).

Despite the initial success of *Selah Chamberlain*, the owners decided to make some improvements on the vessel. Over the course of the winter Bradley Transportation Company added another deck, which increased the carrying capacity of the vessel from 895 gross tons to a little more than 1,207 gross tons. The capacity under the tonnage deck remained unchanged at 863 tons, but the capacity between decks above the tonnage deck was a share above 344 tons (Bureau of Navigation 1874). The bulk carrier still maintained an insurance rating of A1 and was valued at \$85,000 (Board of Lake Underwriters 1874). The 1874 season also began with a small change of ownership. Alva Bradley purchased two more shares of the vessel giving him a total of 18/32 shares. The other owners maintained ownership as follows; *Selah Chamberlain* with 4/32 shares, S.L. Mather with 2/32 shares, and Thomas Quayle, Estate of John Martine, John Fitzpatrick, Fred A. Morse, George Judson, George Stone, Leonard Lommis, and C. Revell, with 1/32 shares each (Bureau of Navigation 1874). Through the changes, Captain George Judson continued as the vessel's Master. Judson would command the bulk carrier for another six years before retiring his post.

The relative anonymity of *Selah Chamberlain*'s first season was broken the next year, when Bradley pitted the wooden bulk carrier against another from his fleet in a friendly competition. Speed was of the utmost importance in the shipping industry as it translated to greater profits. The faster a vessel was able to travel, the faster it could deliver its goods to market. The more trips completed during a single season, the more profits that could be made. *Selah Chamberlain* raced against the *E.B. Hale*, a vessel of comparable size, but a year newer. Initially, the race was even, as both vessels, each towing two consorts, reached Sault St. Marie at the same time. In the end, the *E.B. Hale* defeated *Selah Chamberlain* by arriving at Lake Erie some three hours earlier (*Chicago Tribune* 1874; *Detroit Free Press* 1874). During the 1874-season *Selah Chamberlain* brought 1,400 tons of ore from Escanaba and 1,040 tons of ore from Marquette, along with unknown amounts of cargo from Chicago (*Ashtabula Telegraph* 1874).

Very little is known about *Selah Chamberlain*'s next few seasons. Inland Lloyds' Vessel Register (1860-1906) continued to rate the bulk carrier with an A1 insurance rating. In 1875, the only recorded movement of the bulk carrier was her passing Detroit, Michigan heading down bound with a consort sometime in June (*Buffalo Courier* 1875). In 1878, partial owner John Fitzpatrick sold his 1/32 to share to A. Bradley, giving Bradley 19/32 shares in the vessel

(Bureau of Navigation 1878). Between 1876 and 1880 the vessel continued transporting ore from Marquette, Michigan to ports on eastern Lake Erie until winter lay up in Cleveland (*Buffalo Express* 1879; *Chicago Tribune* 1876, 1877, 1878; *Detroit Free Press* 1879; *Oswego Daily Times* 1876; *Sandusky Daily Register* 1878, 1880). In 1880, *Selah Chamberlain* rescued the crew of the schooner *Tom Boy* after the vessel sank in Lake Michigan (*Boston Daily Globe* 1880).

At the beginning of *Selah Chamberlain*'s 1881-season, three women joined the list of partial owners. The Estate of John Martine sold its 1/32 share to Maria A. Wright, Mary E. Hutchinson, and Blanche L. Martin who now each owned 1/96 share of the vessel. Captain Judson continued as partial owner of *Selah Chamberlain*, but gave up his position as Master to Captain S. Lampoh (Bureau of Navigation 1881). The bulk carrier also began the year in dry dock in Cleveland, Ohio for repairs. The repairing cost was estimated at \$2,500, but no other information on the repairs could be found (*Cleveland Daily Herald* 1881a, 1881b). *Selah Chamberlain* and consorts continued to transport ore on the lakes for the Bradley Transportation Company (*Detroit Free Press* 1881a, 1881b; *Sandusky Daily Register* 1881).

The beginning of *Selah Chamberlain*'s 1882-season was steeped in superstition. The crew of the bulk carrier and her consorts delayed their journey from Cleveland Harbor one Friday in April. Following the superstition that it is bad luck to start a journey on a Friday, the vessel waited until after midnight to start her journey (*Sandusky Daily Register* 1882a). The bulk carrier and consorts maintained their usual route transporting ore from the upper lakes to eastern ports (*Buffalo Courier* 1882; *Detroit Free Press* 1882; *Sandusky Daily Register* 1882b).

In 1883, Alva Bradley maintained the 18/32 shares of *Selah Chamberlain*, but these shares were now listed under the newly consolidated Bradley Transportation Company. All other vessel owners remained the same (Bureau of Navigation 1883). On 5 August 1882, Congress passed an act in section 4153 in the Revised Statutes, affecting the tonnage measurement of vessels. According to the Act, the tonnage of the spaces appropriated for the use of the crew would be deducted from the gross tonnage of the vessel. Due to the statute, *Selah Chamberlain*'s gross tonnage decreased from 1,207 to 963.98 tons (Bureau of Navigation 1883; United States Congress 1882). In the beginning of November the bulk carrier went missing in Lake Superior. *Selah Chamberlain* and her consorts, schooners *Harrison* and *John Martin*, left Port Arthur loaded with ore heading downbound when a gale swept up. Just off Keweenaw Point the carrier lost her tow. The captain of the schooner *Harrison* explained that at the time of separation *Selah Chamberlain* lost her mainmast and was having trouble in the heavy seas. *Selah Chamberlain* returned to port safely and with no other damage (*Janesville Daily Gazette* 1883; *Sandusky Daily Register* 1883).

After eleven years of service, *Selah Chamberlain* was given an A2 insurance rating. The bulk carrier began its 1884-season with this new rating and a value of \$58,000 (Inland Lloyds Vessel Register 1860-1906; Polk 1884). While *Selah Chamberlain* spent much of her career shipping ore, she also transported grain. In fact, it was not uncommon for bulk carriers to carry a variety of cargoes, since a working vessel, whatever the freight, was still profitable. The bulk carrier and her consort were chartered to carry wheat from Duluth to Buffalo (*Duluth Tribune* 1884a). Indeed, *Selah Chamberlain* ventured wherever valuable cargoes were to be made, calling at major American and Canadian ports along the Great Lakes (*Buffalo Courier* 1884; *Buffalo Evening Republic* 1884a, 1884b, 1884c, 1884d).

*Selah Chamberlain* made considerable news again in October 1884. While approaching Port Arthur, *Selah Chamberlain* and her consort the *John Martin* encountered what was reportedly the most severe gale of the season on Lake Superior. The following article summarizes their ordeal (*Duluth Tribune* 1884b):

Early Sunday morning the (steam) barge *Chamberlain* towing the schooner *John Martin*, arrived light to take out wheat. The wind was strong from the northeast, and as usual under such circumstances, a powerful current was running out of the canal. The barge entered all right, but the current caught the schooner and through her upon the bulkhead of the South pier. To prevent serious damage to the vessel, the tow line was cast off, and she swung around the pier and down towards to the beach on the South side. Both anchors were dropped, but the distance was so short and her momentum so great that they dragged and she went high on the beach, after breaking down some of the trestle work leading to the lighthouse at the end of the pier. The tugs in the harbor were powerless to render any assistance until the sea went down. Yesterday the tugs *Mollie Spencer*, *Nellie Cotton*, and *Brower*, and the barges *Chamberlain* and *E.B. Hale* were busy in an effort to dredge and pull her off. It was not until the middle of the afternoon that they succeeded, and the *Martin* reached her dock. She is not damaged. In making for the Northern Pacific dock when she entered the harbor Sunday morning, the barge *Chamberlain* ran clear through the middle of the wagon bridge between that dock and the Northwest Coal docks. The bridge was impassible yesterday, but the barge was not injured.

The damage *Selah Chamberlain* caused to the Canadian Pacific Railway Dock at Port Arthur was estimated at \$1,500; however no further details were provided with respect to payment or reparations required for the dock (*Duluth Tribune* 1884c).

In 1885, Captain Jasper Lawless succeeded S. Lampoh as Master of *Selah Chamberlain* (Bureau of Navigation 1885). During the season the bulk carrier received new upper decks and

re-caulking (*Marine Record* 1885; *Norwalk Daily Reflector* 1885). Again the bulk carrier spent the season transporting grain and ore across the lakes with her consort *James Martin*, and others in tow (*Buffalo Express* 1885; *Norwalk Daily Reflector* 1885; *St. Paul Daily Globe* 1885).



Figure 13. *Selah Chamberlain*'s bow (C. Patrick Labadie Collection).

The year 1886 began with a change of owners and change of Master. *Selah Chamberlain* had fourteen different owners: Bradley Transportation Company with 18/32 shares, *Selah Chamberlain* with 4/32 shares, S.L. Mather with 2/32 shares, and Thomas Quayle, Fred A. Morse, George Judson, George Stone, Leonard Loomis and C. Revell, owning 1/32 shares each, M.A. Bradley and A. Greenly each own 1/64 and Maria A. Wright, Mary E. Hutchinson, and Blanche L. Martin all own 1/96. Captain A. Greenley took command of the bulk carrier (Bureau of Navigation 1886). During the season the vessel would either transport grain from Chicago, Illinois to Buffalo, New York or head up bound to load coal at Lake Superior ports (*Buffalo*

*Express* 1886a, 1886b, 1886c, 1886d; *Buffalo Evening News* 1886; *Marine Record* 1886a; *Oswego Daily Times* 1886a).

For the sixteen crew members of *Selah Chamberlain*, 13 October 1886, started out as a typical day. The ship's latest cargo was being unloaded in the crowded harbor of Milwaukee, Wisconsin, alongside numerous other sail and steam vessels. Once *Selah Chamberlain* was unloaded, the itinerary for the steamer and its consort, the *Fayette Brown*, was to pick up a load of iron ore at Escanaba, Michigan, and transport the cargoes to Cleveland. It was not until later on in the afternoon that Captain A. Greenly and crews of *Selah Chamberlain* and the *Fayette Brown* finally left Milwaukee. Given that the weather at the time of their departure started fresh and was favorable, both vessels had their sails up, which enabled them to travel between 9 and 9 ½ miles per hour (USDC 1889). Without cargo, *Selah Chamberlain* carried about one hundred and eighty tons of coal, which was enough fuel for an entire round trip from Milwaukee to Escanaba (*Daily Saratogian* 1886; *Oswego Daily Times* 1886b). Since *Selah Chamberlain* was traveling light, the hull drew approximately 4 1/2 ft. to 5 ft. forward and 10 feet or 10 ½ feet of water aft (USDC 1888d). After several hours underway, the vessel encountered some fog and undertook several precautionary measures in response to these conditions, including reducing its speed from 9 to 5 miles per hour. The Captain stationed two experienced lookouts well forward in the bow, to watch for any potential dangers and the steamer began to sound her whistle every minute. As *Selah Chamberlain* carefully continued on her way, the weather conditions worsened.

The same day that *Selah Chamberlain* left Milwaukee, another wooden steamer *John Pridgeon, Jr.*, headed west at 8-8 ½ miles per hour from Ogdensburg, New York, to Milwaukee, with a load of merchandise for the Ogdensburg & Lake Champlain Railroad (USDC 1887b). By 6PM., the crew of the *John Pridgeon, Jr.* changed watches somewhere between Twin River Point (now Rawley Point) and Sheboygan. The Captain's watch comprised of Captain Sherwood, Second Mate Jerry Caufield, Lookout James McCartin, Wheelsman John McNally, Engineer Joe Morgan, Deckhand John Zahn, and a fireman, now assumed command of the vessel from the Mate's watch. Captain Sherwood was a man with considerable sailing experience. For over thirty years he had sailed on the lakes, seven years as a Master of a steam vessel and twelve years as a Master on sailing vessels. That evening he took his usual position on the hurricane deck by the signal bell, which was used to relay commands to the Engineer stationed in the engine room. Second Mate Jerry Caufield was positioned to the Captain's right and it was his responsibility to signal the fog whistles during severe weather conditions (USDC 1887b). James McCartin was the only man on the watch with a limited amount of sailing experience. He had been the ship's Lookout for only two months as he began the watch at his usual post in the extreme bow of the vessel. As the captain's watch began, the weather was thick and blowing a stiff breeze from the south. Captain Sherwood signaled the engineer's bell once, to check the vessel's speed to 4 mph. The *John Pridgeon, Jr.* continued to steam its course of south by west,

altering it solely to clear other vessels. As the evening wore on, the weather conditions worsened. Even though the *John Pridgeon, Jr.* carried its proper white head light on the mast and its red and green running lights, the fog was so thick that Wheelsman McNally could not see the smokestack when looking aft (USDC 1887a). Regardless of these conditions, the *John Pridgeon, Jr.* continued towards Milwaukee.

At approximately 8:30PM, about seven miles from shore, the crew of *Selah Chamberlain* suddenly heard the single whistle blast of another vessel travelling just off their port bow. From the deck of *Selah Chamberlain*, Captain Greenly responded immediately with a single whistle blast, then ported the wheel and blew another three blasts to indicate he had a consort in tow. All at once, the lights of the *John Pridgeon, Jr.* appeared over *Selah Chamberlain's* port bow. Again *Selah Chamberlain* sounded the whistle, this time to indicate that it would pass the oncoming vessel on the port side. When *Selah Chamberlain's* bright white light suddenly came into view, Captain Sherwood of the *John Pridgeon, Jr.* ordered their wheel to starboard, followed by a signal blast of his own whistle. As the vessels came closer, *Selah Chamberlain's* red light appeared and Captain Sherwood reportedly commanded hard to starboard and issued a signal to stop and reverse (USDC 1888b). Unfortunately, *John Pridgeon, Jr.*'s engineer, unaware of the imminent danger, did not reverse the vessel in time, and the two steamers collided (*Lockport Daily Journal* 1886; US Life-Saving Station 1888).

The *John Pridgeon, Jr.*'s bow struck the bow of *Selah Chamberlain* at an angle between 45 and 90 degrees. The impact point was fifteen feet aft of *Selah Chamberlain's* stem, between the anchor shutters and the pilothouse. Since the *John Pridgeon, Jr.* was almost fully loaded, compounded by the fact that the vessel's bow was reinforced with four inch thick iron said to be able to "cut a vessel nearly in two under square contact," the vessel drove eight to ten feet into the side of *Selah Chamberlain* (*Chicago InterOcean* 1886a; USDC 1888d). In a valiant effort to minimize the damage, Captain Greenly cut lose his consort, the *Fayette Brown*. The consort's jibboom raked the side of the *John Pridgeon, Jr.*, but managed to steer clear of the wreckage. Without a tow, the vessel was at the mercy of the wind and was driven south down the lake.

For the next twenty to thirty minutes, the crew of the *John Pridgeon, Jr.* scrambled to assess the damage sustained by their now-motionless vessel. Initial inspection revealed the steamer had sustained only superficial damage, including a marked bridge, the loss of a small piece of the arch post, and a section of a door knocked out. Since they were not taking on water, the Captain had the engines restarted and the *John Pridgeon, Jr.* headed back towards where they had last seen *Selah Chamberlain* to provide assistance.

Unfortunately for the crew of *Selah Chamberlain*, their situation was much more serious. The collision had created such a large hole in the bow that the steamer was taking on water at an alarming rate. *Selah Chamberlain* desperately kept sounding its whistle for assistance; "four

short sharp whistle blasts were given as a signal of distress, but the other steamer passed by with no detection" (*Sheboygan Times* 1886). Captain Greeny decided that their best chance of saving the vessel was to head due west and run it aground. For fifteen minutes *Selah Chamberlain* ran towards shore as water steadily flowed into the vessel and began filling up the hold. Engineer Daniel Conway feared that the fires below the boilers would soon be extinguished, and left the engine room to report the grave situation to the Captain. Recognizing the gravity of the situation, Captain Greeny ordered the ship's two lifeboats to be readied. The smaller of *Selah Chamberlain's* two boats was worked on first and swung over the side. There it remained, hung on the davits and ready to be lowered into the water. As some of the crew worked on the larger boat, panic and confusion gripped seven of the crewmembers, and they scurried back to the small suspended lifeboat. Five crewmembers leapt in the little lifeboat's stern, while the cook and the steward crawled underneath its forward thwarts. As the terrified crewmembers lowered the boat, the davits became fouled. The excessive weight of the crew caused the davit to break, throwing five men into the frigid waters of Lake Michigan. The men who had scrambled into the stern of the small boat were never seen again, while the cook and the steward, who were under the forward thwarts remained in the boat when the davits broke (*Chicago InterOcean* 1886a). Captain George Judson, of the *Fayette Brown* (*Selah Chamberlain's* consort), heard the gut-wrenching cries of the drowning sailors, but he was unable to see the sailors anywhere in the dense fog and could not render assistance (*Sheboygan County News* 1886).

The overall situation for *Selah Chamberlain* worsened, as the steamer slowed and began to sink. With no alternative, Captain Greeny ordered the second lifeboat readied and, after salvaging the steamer's compass from the wheelhouse, they launched the larger boat. Once in the water, the nine remaining crewmembers rowed over to the small boat with the cook and the steward aboard still hanging from a davit. They cut it down and transferred several men into it. The eleven survivors were barely able to row themselves clear of the sinking steamer (*Sheboygan Times* 1886). As *Selah Chamberlain* sank, the top of the after cabin floated off, with the jack staff and the stem light still attached. The smaller boat then rowed back and recovered the stern light, which was sticking out of the water. The crew put the light into the larger boat and made for shore with the small boat in tow. After rowing for several hours through dense fog, the crew finally came ashore at 11:15PM. (*Sheboygan Herald* 1886). The crew landed about 1.5 miles north of North Point, above the city of Sheboygan, Wisconsin. Cold, wet, and exhausted, the men walked into the city (*Sheboygan Times* 1886). Unaware of *Selah Chamberlain's* troubles; the *John Pridgeon, Jr.* remained in the vicinity of the collision looking for any signs of the other vessel. After searching in the dense fog for over three hours and running back ten miles, Captain Sherwood concluded that the other vessel must have sustained only minor damage and resumed his original course for Milwaukee. Upon their arrival, the eleven surviving crewmembers of *Selah Chamberlain* notified the Sheboygan Life-Saving Station. The Sheboygan Life-Saving Station had not heard about the collision until Captain Greeny and crew arrived on shore. At that time, station Keeper Captain Thomas McBride briefly interviewed the survivors.

Unfortunately the weather did not permit the Life-Saving crew to head out to investigate the wreck site until the afternoon of the following day. None of the five missing crewmen were found during the search through the wreckage. Upon returning, McBride continued to interview the survivors. Winds and currents were moving north, so McBride contacted the Two River Life-Saving Station to inform them to keep a lookout for the bodies of the missing crew. After the *Fayette Brown* safely sailed into port, Captain George Judson joined the survivors of *Selah Chamberlain* disaster in Sheboygan and gave his testimony to McBride (*Echo Soundings* 1886:50-51; *Marine Record* 1886b; 1886c; *Port Huron Daily Times* 1886).

Following the collision with *Selah Chamberlain*, the *John Pridgeon, Jr.* reached the port of Milwaukee on 14 October. News of the disaster preceded their arrival and once they were docked, a reporter boarded the vessel and interviewed several crewmembers about the events. The vessel's crew maintained that the accident was unavoidable and that no blame should be attached to either commander. Close inspection of the *John Pridgeon Jr.* revealed that the bow sustained the most damage, with a large hole stove into her starboard bow above the waterline. The quick work in this area was crushed inwards and the stem was badly splintered. Newer and more heavily built than *Selah Chamberlain*, the *John Pridgeon, Jr.* was saved from more serious damage. Because the *John Pridgeon Jr.*'s cargo was not damaged, Captain Sherwood felt it unnecessary to file a report (*Chicago InterOcean* 1886a). The following day the *John Pridgeon, Jr.* departed Milwaukee headed for Chicago. When they arrived at the Central Vermont Docks early the next morning, reporters were waiting once again. An upset Captain Sherwood complained of the way his statements were twisted by the Milwaukee press. He claimed that the *John Pridgeon, Jr.* was beating against a strong wind that evening and could only travel four miles per hour at the most, while *Selah Chamberlain*, which steamed before the wind must have been traveling much faster. He also insisted that it would have been foolishness to launch any lifeboats, as they would have been lost in the fog as well (*Chicago InterOcean* 1886b).

Three days after the loss of *Selah Chamberlain*, the owners of the bulk carrier filed a lawsuit against the owners of the *John Pridgeon, Jr.* (*Marine Record* 1886b). The ensuing legal battle lasted more than two years. The initial libel and complaint was filed in the District Court of the United States, for the Northern District of Ohio: In Admiralty. During the two years of deliberation, the Honorable Henry W. Blodgett, Judge of the United States District Court of the Northern District Court of Illinois presided over the case. Since this was a maritime issue, the Admiralty courts deliberated over which party was responsible for the collision between *Selah Chamberlain* and the *John Pridgeon, Jr.* In the initial libel, the particulars of the fateful evening were described, as well as an estimated cost for the loss of *Selah Chamberlain* totaling \$65,000. The court appointed appraisers to value the *John Pridgeon, Jr.* and her freight at the time of the collision, which was set at \$37,483.24. After two years of numerous testimonies and evidence, Judge Blodgett ruled in favor of the owners of *Selah Chamberlain*. Judge Blodgett ruled that the

Master of the *John Pridgeon, Jr.* should have turned to port instead of starboard, as well as stopping and reversing at the first sign of the oncoming vessels light (*Marine Review* 1890). The Ogdensburg & Lake Champlain Railroad were, therefore, ordered to pay the Bradley Transportation Company for the cost of the vessel. Historical documents on the amount of the settlement varied between \$44,000 and \$60,000 (*Buffalo Courier* 1889a; *Marine Review* 1890, 1891; *Oswego Daily Times* 1886b; USDC 1889).

Throughout *Selah Chamberlain's* entire career, she retained her original frames, deck beams, and outside planks (USDC 1888c). Historical sources attribute the good condition of *Selah Chamberlain* throughout its career to the fact that Alva Bradley took such tremendous care of his vessels. At the end of the each season and during the winter, Bradley's vessels were brined and salted. Salting was a common procedure on the lakes and involved placing a large quantity of salt between the frames, the beams, and the keelson of a vessel (Hall 1884). The salt acted as a preservative for the wood and prevented excessive rot. In addition to salting, the Bradley Transportation Company had its vessels 'overhauled' on a regular basis. The abandonment of *Selah Chamberlain* meant a loss of the \$65,000 that she cost. Believing that the bulk carrier could be saved, the Bradley Transportation Company attempted to salvage *Selah Chamberlain* in May of 1887. The wreck lay in a little over 80 feet of water, which made the vessels salvage the first deep water wreck operation on Lake Michigan (*Duluth Daily News* 1887). The plan was to raise *Selah Chamberlain* in its entirety in the course of four weeks (*Sheboygan Times* 1887). Using chains, the wrecking crew managed to lift *Selah Chamberlain* off of the lakebed multiple times only to have the chains part and the vessel settle back on the bottom of the lake (*Iron Port* 1887). The extensive damage to the vessels hull, onset of poor weather, and multiple failed attempts suspended the operation for two years. In 1889 another salvage attempt was being considered, but upon investigation, divers concluded that the vessels had completely broken into pieces and was deemed a total loss (*Buffalo Courier* 1889b, 1889c; *Buffalo Evening News* 1887; *Chicago InterOcean* 1889; *Door County Advocate* 1889; *Marine Record* 1887; *Marquette Daily Mining Journal* 1887; *Port Huron Daily Times* 1889).

### *Site Description*

*Selah Chamberlain* was originally built with a single deck able to carry 863 tons of bulk cargo. In 1874, after one year of service, a second deck was added to *Selah Chamberlain* adding another 344 tons of cargo capacity to the vessel. A pilothouse was placed forward on the ship while the machinery and crew cabin were placed in the aft portion of the hull leaving a large central space between the structures where cargo could be handled through hatches on the deck. *Selah Chamberlain's* wooden hull and ship lines remain as in her original 1873 appearance. Everything from the waterline down is extant on the wreck site. The components of the vessels additions of a second deck in 1874, original weather deck, and upper deck structures do not remain extant and intact on the site.

*Selah Chamberlain*'s wreck site lies in Lake Michigan, two miles northeast of Sheboygan Point, Sheboygan, Wisconsin. The wreck of *Selah Chamberlain* is splayed open on the bottom in a v-like shape with a heading of 250°. The port and starboard sides of *Selah Chamberlain* are close together towards the stern, but part moving forward toward the bow. The superstructure of the vessel is missing, including the majority of the decking, the cabins, and the pilothouse. What remains today are hull components including the central bilge floor section, both the port and starboard sides of the vessel, and the steam power plant assembly. A significant amount of the remaining bilge structure is covered in sand.

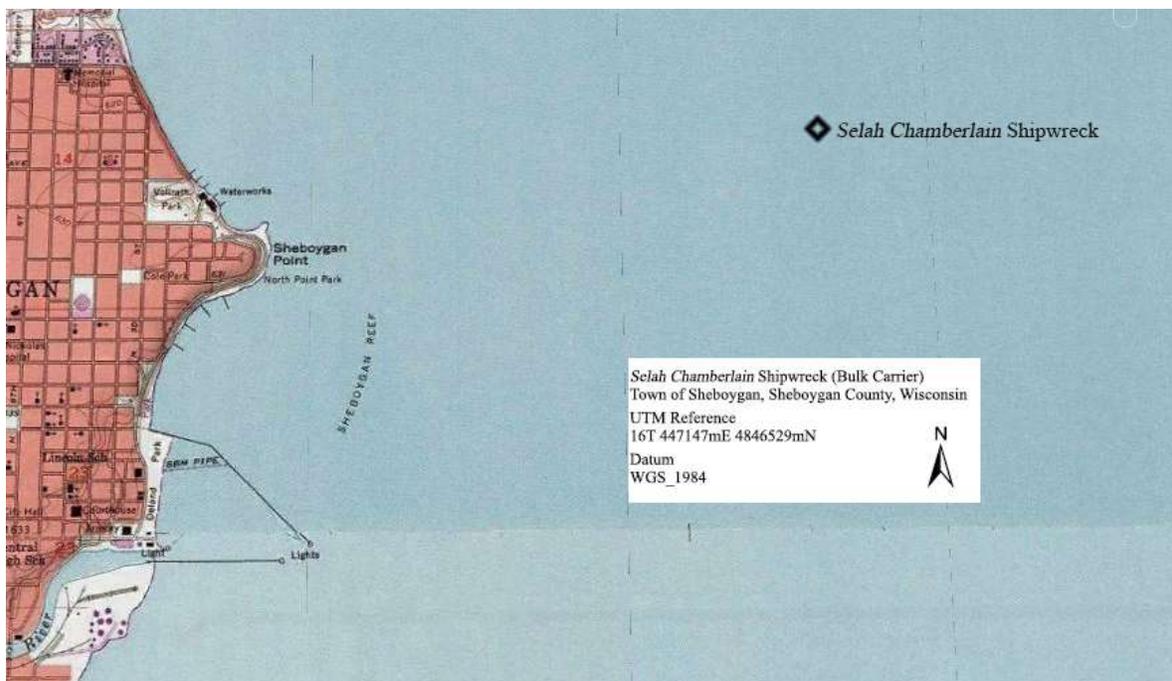


Figure 14. Location of *Selah Chamberlain* site.

During the 1996-archaeological survey, documentation of the collapsed starboard section of the hull, the central bilge section, and the steam power plant assembly was completed. Due to the size of the site, multiple baselines were used during the survey and later tied together using trilateration. The main baseline began at the forward edge of the ash pans and ran toward the bow, ending at the disappearance of the keelson at 155.67 feet. A second baseline was laid along the approximate center of the starboard side hull structure beginning just inside the starboard bow and extended 211.5 feet aft to the corner of the rudder. In 1997, archaeological survey of the site continued with the documentation of the aft portion of the starboard hull, the entire port hull, and any other features of interest not documented the prior year. A temporary baseline was laid along the main deck shelf of the port side hull structure, beginning at the stern of the hull section and extending 212.0 feet forward to the port bow. Documentation of the starboard side stern required that an additional small baseline be placed in this section. All measurements were taken in reference to these baselines and all baselines were tied together using trilateration.



Figure 15. Archaeologists investigate *Selah Chamberlain*'s bilge near the engine (Wisconsin Historical Society).

The starboard side hull section is broken off at the turn of the bilge, lying relatively flat on the bottom, with the interior hull planking facing upward. The starboard section of the wreck site is less silted compared to the port side, exposed frame ends are visible at the turn of the bilge, along with numerous deck beams, hanging knees, and lodging knees.

Exposed double frames at the starboard turn of the bilge measure 0.88 feet molded and 0.42 foot sided with a room and space of 1.0 feet and 0.83 feet respectively. Between 60.0 feet and 140.0 feet along the starboard hull section triple and quadruple frames interrupt the pairing and regular spacing of the double frames at the turn of the bilge.

The most prominent feature of the starboard side is the strongly reinforced main deck, supported by numerous hanging knees. The knees are regularly spaced on 2.0 feet to 3.33 feet centers, and are affixed to a large shelf, which is visible for most of the length of the starboard side. The main deck's beams are set into the shelf and measure 0.75 feet sided and 0.75 feet molded. Several lodging knees are visible along the starboard hull, approximately 8.0 feet from the turn of the bilge. Besides the main deck beams, several other beams of various dimensions are visible on the site, ranging in size from 0.33 feet by 0.5 feet to 0.67 feet by 1.0 feet depending on their location.

Archaeological inspection of the starboard side stern bulwarks revealed two layers of planking on the interior of the ship. Seven planks make up the bulwarks. The most inboard layer of planks measures 0.5 feet by 0.2 feet. Another layer of planks, measuring 0.5 feet sided and 0.08 feet molded, lies between the inboard planking and attached frames. On top of the bulwarks is the caprail. The caprail is notched along its inboard edge, to allow the insertion of either deck stanchions or knees, and has a recorded dimension of 1.17 feet sided by 0.38 feet molded. While most of the stanchions near the stern are missing, there are some present in the bow.

The port side hull section is broken off at the turn of the bilge and rests on the bottom with its exterior side down. The aft end of the port side hull curves gently off the bottom. Moving towards the bow, the port side extends over 210.0 feet flaring out from the central bilge section and lies relatively flat on the bottom. The forward-most section of the port bow has broken away from the rest of the port hull and this disarticulated piece rests approximately 10.0 feet to the northeast of the starboard bow. This section begins at the stempost and extends to the collision damage caused by the *John Pridgeon Jr.* This section, measures 10.0 feet by 25.0 feet, is comprised of the stempost, closely-spaced frames, ceiling planking, and hawsepipes.

Because of the heavy silt deposition on the port side, less information could be gathered archaeologically, as compared to the starboard side. Among the main architectural features exposed and recorded were the large shelf for the main deck, which is visible for the majority of the length of this section, and numerous deck beams. Most of the deck beams protrude vertically from the sand; some protrude to a maximum of 6.0 feet. Several exposed frames are visible along the turn of the bilge as are the tops of hanging knees and lodging knees. Rough estimates suggest that up to 3.0 feet of sand has been deposited onto the port side. Seven ceiling planks are exposed at the stern of the vessel. The longitudinally running ceiling planking has a sided dimension of 0.67 feet and a molded dimension of 0.2 feet.

A heavily built centerline keelson assembly, along with its three mast steps, dominates the vessel's bilge section. The hull assembly towards the stern is covered and obscured by the boiler assembly and the engine. On closer inspection the keelson assembly is comprised of several components including a keelson, a rider keelson, sister keelsons, and sister rider keelsons. The keelson has a sided dimension of 1.17 feet and a molded dimension of 1.08 feet. Set on top of the keelson is a rider keelson, 1.0 feet sided and 1.0 feet molded. The rider keelson runs almost the entire length of the keelson except towards the bow where it has shifted towards the starboard side by approximately 3.0 feet. The rider keelson is fastened to the keelson with iron bolts measuring, 0.09 feet and 0.15 feet in diameter. Visible along the rider keelson are numerous mortises for deck stanchions that would have provided structural support for the main deck. Sister keelsons and sister rider keelsons are located beside the keelson. They would have provided additional longitudinal reinforcement to the centerline of *Selah Chamberlain*. Their presence is sporadic, and they do not follow the entire length of the keelson. Where they are

extant, the sister keelsons measure 0.16 feet sided and 1.08 feet molded. Sister rider keelsons are located on top of the sister keelsons and measure 0.25 feet sided and 1.0 feet molded.

*Selah Chamberlain* has three mast steps that are positioned on top of the keelson assembly. The foremast step is located closest to the bow. The foremast saddle measures 6.83 feet long with a width of 1.75 feet. The foremast step measures 1.7 feet by 0.42 feet. Several other notches are cut into the saddle including a stanchion mortise cut into the aft portion of the foremast saddle. Forward of the foremast step a 0.29 foot diameter bilge pump pipe is set into the foremast saddle. The mainmast saddle measures 6.08 feet in length, 1.83 feet sided and 1.17 feet molded. The mainmast step measures 0.71 feet long by 0.75 feet wide. Stanchion mortises are also cut into the fore and aft portion of the mainmast saddle. The forward stanchion mortise has a dimension of 1.21 feet by 0.25 feet and the aft stanchion mortise has a dimension of 0.71 feet by 0.29 feet. The mizzenmast saddle lies just forward of the boiler ash pans and measures 5.0 feet long and 1.58 feet sided. The mizzenmast step measures 1.25 feet long and 1.08 feet wide. Sand coverage prevented archaeologists from measuring the depth of each mast step.

Several other elements were recorded in the central bilge section of the site. To the starboard side of the mainmast step is a large section of timber measuring 18.75 feet long 8.0 feet wide and 0.25 feet thick. The dimensions and location suggest that the timbers are likely the remains of some of the upper decking. The limberboard, planking located near the sister keelson, measures 1.21 feet sided and 0.29 feet molded. Portions of ceiling planking are extant in the lower bilge section. These planks are 0.29 feet molded with sided dimensions of 0.58, 0.71, 0.75, and 1.0 feet. The planking runs longitudinally and is edge jointed and regularly fastened with 0.03 foot square spikes. Investigations confirmed the presence of bilge keelsons (bilge strakes) measuring 0.67 feet sided and 0.58 feet molded, although the exact number of bilge keelsons could not be determined due to sand cover.

Multiple salvage attempts along with various site processes caused the ship to split apart exposing the boilers, engine, driveshaft, and propeller. These features are the most dominant features on the site, as they are intact and remain upright on the bottom.

Two intact firebox boilers are located forward of the engine, both are standing upright and facing towards the bow of the vessel. The forward portion of the firebox boiler is square in shape measuring 6.42 feet in length and 8.33 feet wide. Aft of this, the boiler becomes cylindrical in shape and extends another 10.58 feet, making the overall length of each boiler 17.0 feet. Both have a height of 11.5 feet. The two boilers are spaced 1.92 feet apart at the square base of the fireboxes. The fireboxes are double-riveted in a staggered pattern. The forward face of each firebox contains firetubes, furnace doors, and smokebox doors. The smoke box has collapsed, revealing the exposed ends of the firetubes. Ninety-eight firetubes are positioned 2.33 feet below the top of the boiler and are laid in rows of fifteen and seventeen.

The firetubes measure 0.25 feet in diameter and are spaced 0.08 feet apart. There are two furnace doors, or firedoors, one of which is open. The firebox doors all measure 1.5 feet wide 1.75 feet tall. Below them is one long ash door measuring 6.0 feet by 0.75 feet. Inside the firebox, the firegrates are still covered with pieces of burned coal called clinkers. Each boiler has a large cylindrical steam drum attached vertically on top of the cylindrical aft section of the boiler. The steam drum is located 8.08 feet aft of the boiler face and measures 5.0 feet tall and 3.92 feet in diameter.

The remains of the starboard boiler's smokebox now lie in pieces in front of the boiler. Among the remains is a large smokebox door, as well as the base of the ship's smokestack. The trycocks and water gauges used to monitor the water level in the boilers were removed at some point after the vessel sank. None of these, or any other brass items (e.g. oiling cups, engine room gauges, etc.) were found on site, as they were most likely removed during salvage attempts or by looters.



Figure 16. *Selah Chamberlain's* two firebox boilers (Wisconsin Historical Society).

A boiler saddle supports the cylindrical aft end of each boiler. The saddle measures 3.33 feet wide and varies in height between 2.0 feet on the outside and 1.58 feet high under the center of the cylindrical end of the boiler. The saddle also has a timber base measuring 7.5 feet long, 0.92 feet sided, and 1.0 feet molded. Each boiler was set inside two metal ash pans that were placed in a fore and aft orientation. Originally, these ash pans would have been supported above the keelson, but the structures have long since collapsed. The boiler assembly now sits off center of the keelson, approximately 3.5 feet to the starboard side.

The pan under the aft end of each boiler measures 10.0 feet in length and 9.0 feet in width, with a height of 1.0 foot. The forward pan measures 14.0 feet in length with a width of 9.0 feet and height of 1.0 foot. The forward pan abuts the aft pan and extends forward 6.67 feet beyond the front of the firebox. Bricks line the forward pan of each boiler and extend to the open area in front of the firebox once providing a fireproof floor for the coal handlers. To support the total weight of the boilers, the ash pans rested on a series of iron and wooden beams running athwartship. The iron I-beams and wooden beams are of an irregular pattern of single, double, and triple framing. Because the boilers and ash pans cover these supports, it is impossible to tell if beams were used throughout the bed, or if they were limited to the sides. The ends of the port ash pan support beams are well exposed, with seventeen iron I-beams and seven wooden beams visible. The port side wooden beams vary from 0.33 feet to 0.75 feet in width and are consistently molded at 0.67 feet. The wooden beams measure uniformly out from the ash pan, 6.75 feet.



Figure 17. A diver swims between *Selah Chamberlain's* boilers and engine (Wisconsin Historical Society).

All of the I-beams on the port side measure 0.38 feet sided and 0.67 feet molded. The majority of the I-beams protrude 2.75 feet from underneath the port side of the boilers, except for the forward most I-beam, which extends 6.75 feet. To stabilize the boilers and prevent movement, two iron straps, located forward and aft of the steam domes tie the boilers to one another, reinforced by a 0.25 feet wide iron bar located on the forward face of the fireboxes. Further

stability is provided by 0.25 feet iron straps located aft of the steam domes, which secure the boilers firmly to the ash pans.

Aft of the boilers is an inverted, two-cylinder direct-acting tandem compound engine, also known in Great Lakes parlance as a Steeple-compound engine, set on top of four simple cylinder columns. This engine had two low-pressure cylinders mounted vertically, with a high-pressure cylinder above them. Both cylinders share a single piston rod. The engine assembly measures 24.75 feet tall and was located 5.5 feet aft of the aft ash pans. The engine is supported on four cylindrical case iron columns with footings. The columns, embellished with simple decorative elements, measure 13.17 feet tall and 0.75 feet in diameter at the top. Measuring fore to aft, the columns are 4.17 feet apart at the base. Measuring athwartships, the columns are 6.67 feet apart at the base. The engine assembly, comprised of the two cylinders and valve chests, are 11.58 feet tall. The top-heavy engine is fastened to the lower hull with several turnbuckles and iron rods, which also provide stability. The condenser, hot well, air pump and auxiliary pumps are located on the port side of the engine. The tall, narrow jet condenser is 6.17 feet high with a diameter of 2.58 feet and sits approximately 4.0 feet to the port side of the engine. Due to time restrictions, specific dimensional information on the other features was not recorded.

A total of six pumps were identified during the archaeological investigation. The two pumps aft of the engine may have operated as bilge pumps, while the four pumps forward of the engine appear to be boiler feed water pumps. Because of the amount of debris around them, the pumps were not accessible and measurements were not taken.

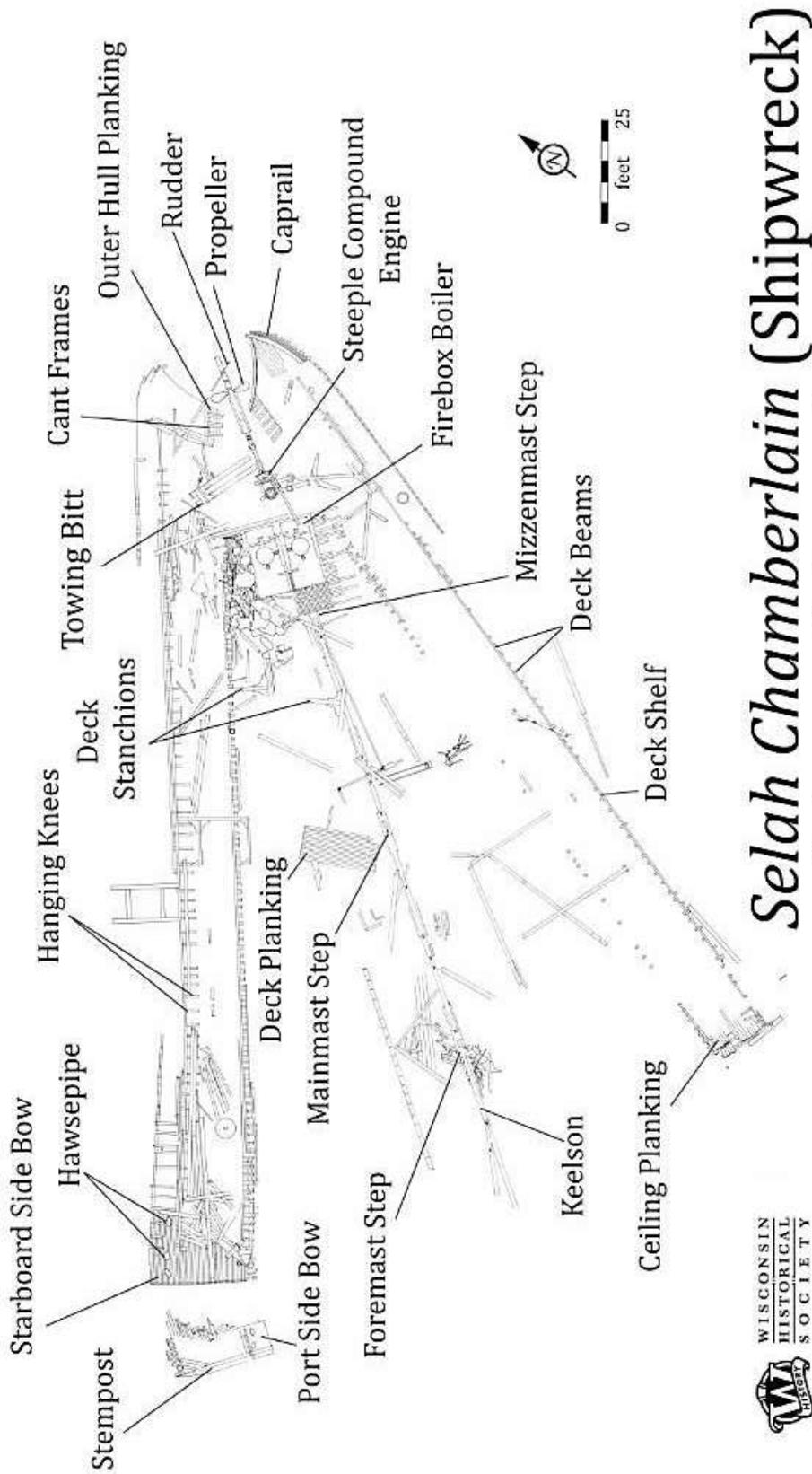
The propeller shaft assembly is intact and exposed for its entire length. Visible on the bottom are the flywheel, the shaft coupling and the thrust bearing. Measuring from the forward edge of the flywheel up to the shaft log, the length of the driveshaft assembly is 11.5 feet long. The propeller shaft itself is 1.0 feet in diameter and secured to the lower hull by many bearings placed fore and aft of the crank. The measurements of the bearings vary from 0.58 feet to 0.92 feet in thickness. The shaft goes through the shaft log, which rests on the keelson and then through the sternpost, and connects to the propeller. The shaft log is located on top of the keelson between the engine and sternpost and measures 3.33 feet long and 1.0 feet sided. Deadwood fills the space between the shaft log and stempost. A large counter timber rests on top of the shaft log, deadwood, and sternpost. The counter timber measures 1.0 feet sided and 1.0 feet molded with 0.42 feet deep rabbets on each side. The cant frames, which heel onto the counter timber, are visible on both the port and starboard sides of the stern.



Figure 18. *Selah Chamberlain's* upright rudder and propeller (Wisconsin Historical Society).

The four-bladed loper-style propeller is connected to the propeller shaft and is partially buried in the sand. It has a total diameter of 9.83 feet. Each blade is 4.17 feet long and 4.33 feet wide at its maximum width. The individual blades are affixed to a 1.5 foot diameter propeller boss and the propeller has a pitch of 2.17 feet.

The rudder of *Selah Chamberlain* remains attached in its proper position aft of the propeller. It is turned hard to starboard and is partially buried in the sand. The rudder was made of wood and a portion of it was sheathed in iron to protect it against ice damage. The rudder is 6.0 feet wide at its base and 0.25 feet thick at the trailing end. At the top of the rudder is the rudder head measuring 0.42 feet in diameter with a 1.42 feet coupling on the horn timber. There is also a 0.42 feet diameter heavy pipe protruding down from the counter timber, between the propeller and the rudder shaft.



# *Selah Chamberlain (Shipwreck)*

Sheboygan, Sheboygan County, Wisconsin



Figure 19. Site plan of the shipwreck *Selah Chamberlain*.

## CHAPTER FOUR

### DOUBLE CENTERBOARD SCHOONER *MONTGOMERY*

Two barkentine-rigged three-masted sailing canallers named *Northern Light* were constructed in 1853 on the lower Great Lakes -- a vessel of 295 tons was built by Kendrick at Fort Erie, Ontario and a vessel of 366 tons was built by John Oades at Clayton, New York. Throughout their service careers, both of these ships received frequent mention in contemporary newsprint. Both followed similar trade routes and called upon similar ports on the upper lakes, and both transited the Welland Canal bringing grain to market at ports on Lake Ontario. On occasion the Canadian-built ship was referred to as *Northern Light* of Fort Erie or *Northern Light* (C), but otherwise it made for a difficult task of differentiating which vessel was described in historic accounts.

The *Northern Light* of Fort Erie sank in Lake Erie off Port Burwell, Ontario in 1862, clearing up confusion in these records between 1862 and 1866. In 1866, the American *Northern Light* was rebuilt, re-rigged as a schooner, and renamed *Montgomery*. Over the next two and a half decades leading up the sinking of the schooner *Montgomery*, only one other ship on the Great Lakes carried the name *Montgomery*, which was a propeller (launched in 1856 and lost in 1901). By comparing the trail of port arrivals and clearings, with ownership and Master changes recorded in enrollment documents, every effort has been made to achieve accuracy in this account. Only records believed to belong to the barkentine *Northern Light* of Clayton or the schooner *Montgomery*, were included, however where ambiguities in the historical narrative remain, these uncertainties are noted.

#### *Operational History*

*Montgomery* was originally named *Northern Light* and built for merchants John N. Fowler and Henry Esselstyn of the firm Fowler & Esselstyn of Clayton, New York. She was launched from the shipyard of John Oades in Clayton in June of 1853. Reports indicate that although Fowler & Esselstyn owned *Northern Light*, she was also associated with E.G. Merrick's "Reindeer Line" which operated from the mid-1840s and included *Northern Light*, *Reindeer*, *Nile*, *M.F. Merrick* and others. The noteworthy shipwright and Master Builder John Oades came from a shipbuilding family; his father worked as shipbuilder for the British government, and was rewarded for his service with a land grant in Canada. When Oades was seven years old, his family moved to Oswego, New York, but soon afterward his father drowned.

While quite young, Oades learned the shipbuilding trade at the Collins' shipyard in Sackets Harbor, New York -- Captain Thomas Collins was his brother-in-law by marriage to his sister, Mary Oades. By 1841 Oades established his own shipyard at Clayton, and built a large number of sailing vessels and steamboats for the firms Fowler & Esselstyn, and E.G. Merrick &

Company (Bureau of Navigation 1854; Everts 1878; Haddock 1894; Hough 1854; Mansfield 1899a, 1899b; *New York Times* 1893).

*Northern Light*'s launch went unmentioned in newspapers. The ship was initially enrolled at the Port of French Creek, New York on 30 June 1853 and was described as barque-rigged with three masts, one deck, square stern, no gallery, and a billet figurehead. She measured 135 feet long with 25 feet 8 inch beam, and 11 feet 4 inch depth of hold and of 366 15/95 tons capacity of which 278.74 tons was under tonnage deck and 20.17 tons enclosures on the upper deck, for a gross tonnage of 298.91 tons. It should be noted that her initial enrollment document has been lost to time and information garnered was from her second enrollment in 1854 (Bureau of Navigation 1854).

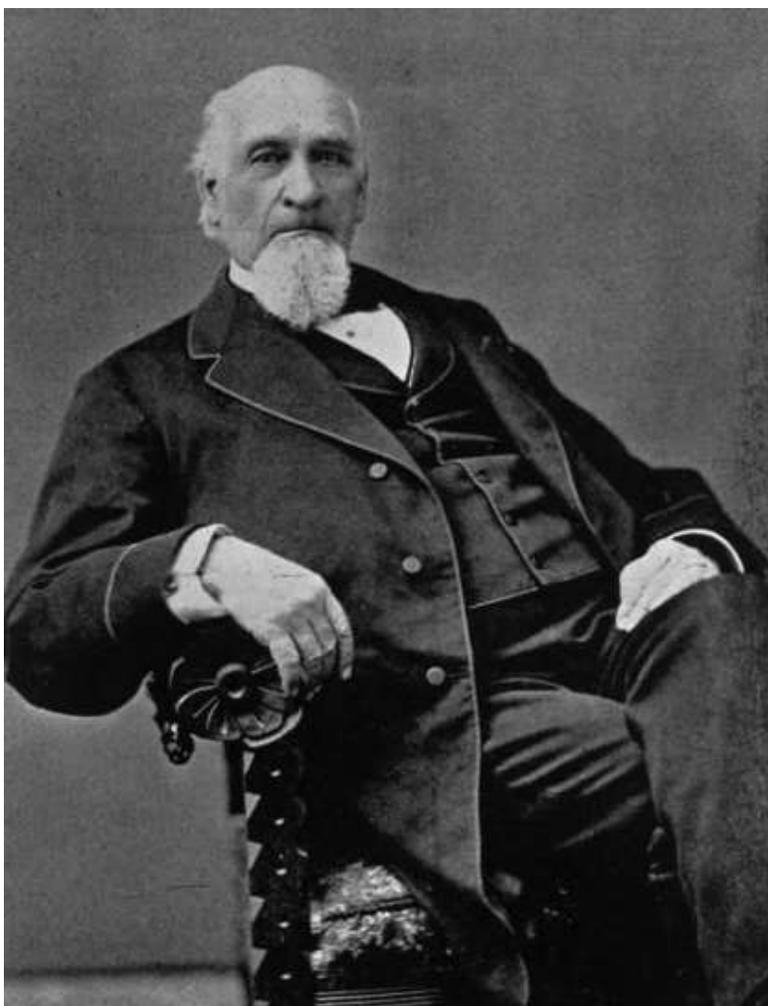


Figure 20. E.G. Merrick, owner of the “Reindeer Line” (Haddock 1896).

Sparse notations are all that is known of the vessel's first several seasons. The ship was listed during first week of December 1853 among vessels laid up in Milwaukee for the winter (*Daily Free Democrat* 1853). In May of 1854, the *Northern Light* ran aground on Long Point in Lake Erie sustaining \$800 in repairs. Few other details are available about this incident that was

published in a synopsis of marine casualties for the season; however, the ship was not indicated as a Canadian vessel so it can only be presumed to be the correct vessel (*Buffalo Democracy* 1855). On 4 November 1854 the *Northern Light's* annual enrollment was entered at the Customs Office at French Creek, New York (Bureau of Navigation 1854). On 20 July 1855 *Northern Light* arrived at Buffalo with 17,844 bushels of corn for her owner (*Buffalo Daily Republic* 1855).

On 6 September and 30 October 1856, the *Northern Light* cleared Chicago with 16,000 and 17,000 bushels of wheat, respectively, bound for Oswego. By the second week in December, both the *Northern Light* of Clayton and the *Northern Light* of Fort Erie became ice bound in the Chicago River and were forced to winter over at Chicago (*Chicago Tribune* 1856; *Detroit Free Press* 1856; *Oswego Daily Palladium* 1856).

For the 1857-season, Captain George Vickery is noted as Master in many news articles however the change in Masters is not acknowledged in the enrollment documents. In Milwaukee on 29 April 1857 the *Northern Light* took on 1,000 barrels of flour at Phoenix Mills, and 12,000 bushels wheat for Oswego for her owners. A passage for the ship in the Welland Canal west-bound was noted on 4 June; the ship was bound for Detroit where she arrived on 8 June and cleared two days later for French Creek. Her cargos are not known (*Buffalo Commercial Advertiser* 1857a; *Buffalo Morning Express* 1857; *Detroit Free Press* 1857a, 1857b; *Illustrated Buffalo Express* 1857).

On 18 July 1857 the *Northern Light* capsized at Bear Creek (now Sydenham River), a tributary to Lake St. Clair. Initially the ship was reported as the bark *Norman* of the Reindeer Line, one of E.G. Merrick's ships also home-ported in Clayton, but this report was later corrected to the *Northern Light*. The *Northern Light* was loading lumber and as the last of the timber was loaded through the stern lumber port, the blankets used to keep the water out became disengaged, which caused the vessel to fill with water, settle and rolled over. The tug *Whitney* brought a pump and the schooner *Flying Cloud* to her assistance, and the ship was raised without difficulty. *Northern Light* sustained \$1000 in repairs. In a yearly synopsis of lake casualties, the *Buffalo Commercial Advertiser* notes the *Northern Light* described in this incident as a Canadian vessel, but all other reports attribute the ship to the *Northern Light* of Clayton (*Buffalo Daily Republic* 1857a, 1857b; *Buffalo Commercial Advertiser* 1857b, 1858a; *Chicago Tribune* 1857a). *Northern Light* was recorded passing Detroit up bound on 2 October and on 26 October she cleared Chicago with 18,000 bushels of wheat bound for Oswego for freight forwarder, A.E. Hovey (*Chicago Tribune* 1857b; *Oswego Daily Palladium* 1857a, 1857b).

The *Northern Light* largely stayed out of the press during the spring of 1858. Only two passages were recorded for the vessel - 30 April passing Detroit down bound en route to Clayton, and 26 May, passing Port Colbourne east bound in the Welland Canal. Otherwise, her routes and cargos are not known (*Chicago Tribune* 1858; *Detroit Free Press* 1858a). The vessel was

chartered to carry corn from Chicago to Buffalo at the beginning of September and two trips were made during the month. Additionally, she hauled 17,000 bushels of corn from Chicago to Ogdensburg, New York in late October. Captain Phineas Pomeroy was noted as her Master for this trip; again, this change in Masters is not acknowledged in the vessel's enrollment documents (*Buffalo Commercial Advertiser* 1858b; *Buffalo Daily Courier* 1858; *Detroit Free Press* 1858b, 1858c).

Early season travel in 1859 past Detroit and through the Welland Canal was reported on 10 May up bound at Detroit, 19 May west bound in the Welland Canal, 12 July east bound in the Welland Canal, 30 July up bound at Detroit, 16 August west bound in the Welland Canal, and 18 August up bound at Detroit. Although this inventory of travel is incomplete, and the information available to us is lacking cargos and destinations, we see a fairly active season (*Buffalo Commercial Advertiser* 1859a; *Buffalo Courier* 1859a, 1859b; *Cleveland Daily Leader* 1859; *Chicago Tribune* 1859a; *Daily Milwaukee News* 1859a). On the morning of 15 August 1859, the barque *Arabian* ran into the *Northern Light* above Fort Gratiot on Lake Huron. Some of the *Northern Light*'s cornice work was carried away and the ship's anchors were pushed through her bulwarks amidships. No information on the cost or location of repairs was located.

On 30 August the *Northern Light* was reported passing through the Port Colborne Lock of the Welland Canal east bound and returned through the lock west bound on 22 September. Information on ports of call and cargos was not available (*Buffalo Commercial Advertiser* 1859b, 1859c; *Buffalo Daily Republic* 1859). On 11 October the *Northern Light* cleared Milwaukee for Oswego with 15,400 bushels wheat for Carrington & Preston. The ship arrived at Oswego on 25 October. Captain Penney was recorded as Master; again, this change in Masters is not acknowledged in the vessel's enrollment documents (*Daily Milwaukee News* 1859b; *Oswego Daily Palladium* 1859). On the night of 23 November while running light, *Northern Light* came ashore north of the entrance to Racine harbor. She was removed the following week and sustained \$1,000 in damages (*Buffalo Morning Express* 1860a; *Chicago Tribune* 1859b; *Daily British Whig* 1859; *Illustrated Buffalo Express* 1860a; *Wisconsin State Journal* 1859).

Captain Penney remained at *Northern Light*'s helm at the beginning of the 1860-shipping season. The season was marked with passages by Detroit reported in newsprint. On 12 April the ship passed Detroit up bound and passed down bound on 20 April. She returned up bound on 22 May; however her return trip past Detroit down bound went unrecorded. The ship arrived at Buffalo on 1 June. The vessel passed up bound on June 19 and while down bound the next day and in tow of the tug *Oswego* through the St. Clair Flats, the *Northern Light* was struck by the schooner *Industry*. The damage caused to either vessel is not known. On 7 July the *Northern Light* was reported passing up bound at Detroit (*Buffalo Commercial Advertiser* 1860a, 1860b; *Buffalo Daily Courier* 1860; *Buffalo Morning Express* 1860b, 1860c; *Cleveland Daily Leader* 1860; *Detroit Free Press* 1860a, 1860b, 1860c, 1860d; *Illustrated Buffalo Express* 1860b,

1860c). No trip information was located for August or September. On 20 October 1860, the *Northern Light* cleared Chicago with 16,000 bushels of wheat bound for Buffalo (*Buffalo Commercial Advertiser* 1860c). *Northern Light* cleared the port of Detroit on 23 November with Captain George Sheeley at her helm. This change in Masters was not acknowledged in the vessel's enrollment documents (*Detroit Free Press* 1860e).

Captain Sheeley remained in command of *Northern Light* for the 1861-season. The schooner *L.J. Farwell* and the *Northern Light* collided in the Detroit River on the evening on 18 April 1861. Both vessels lost their jibbooms, and *L.J. Farwell* sustained damage to her mainsail (*Buffalo Commercial Advertiser* 1861a). The listing of marine casualties for 1861 describes an incident in May 1861 where the *Northern Light*, in leaking condition with a cargo of lumber, was forced into Port Dalhousie for repairs totaling \$200. No other information could be found regarding this incident, so it is difficult to determine if this is related to the American or Canadian vessel (*Buffalo Commercial Advertiser* 1862b).

On 17 June 1861 the *Northern Light* was marked passing through the Welland Canal west bound and passed Detroit the following day. The *Northern Light* remained out of newsprint until 5 August when she passed through the Welland Canal west bound reportedly heading from Clayton to Detroit. On 10 August, the ship continued up bound past Detroit. It is not known where the vessel was headed, but on 17 August the ship passed Detroit down bound. On 7 September the *Northern Light* passed through the Welland Canal west bound from Clayton to Detroit. In early October on her easterly trip, the vessel ran aground outside of Oswego with a cargo of wheat. Little is known of this incident, damages to the ship or her cargo.

On 10 October she passed through the Welland Canal west bound from Oswego to Chicago, passing Detroit on 16 October. The ship arrived at Chicago on 24 October with 1,000 barrels of salt and 100,000 board feet of lumber. The vessel loaded 15,600 bushels of wheat and cleared Chicago on 28 October. Returning to Oswego for winter quarters, the *Northern Light* passed through the Welland Canal east bound on 4 November (*Buffalo Commercial Advertiser* 1861c, 1861d, 1861e, 1861f, 1861g, 1861h; *Chicago Tribune* 1861a, 1861b, 1861c, 1861d, 1861e).

At the beginning of May 1862, the *Northern Light* was chartered to carry 16,000 bushels of wheat from Detroit to Oswego at 7c per bushel (*Buffalo Commercial Advertiser* 1862a; *Chicago Tribune* 1862a; *Commercial Times* 1862; *Detroit Free Press* 1862). Scattered reports of the vessel's travels were found for the remainder of the season. The ship was logged passing Detroit down bound on both 19 June and 29 July, and passed through the Welland Canal up bound from Clayton to Chicago on 10 September and down bound from Port Burwell, Ontario to Oswego on 20 September (*Buffalo Commercial Advertiser* 1862b; 1862c; *Buffalo Daily Courier* 1862; *Buffalo Morning Express* 1862; *Illustrated Buffalo Express* 1862). On 30 October *Northern Light*'s arrival was recorded at Chicago hauling 215,000 board feet of lumber from Bay City,

Michigan. The ship passed through the Welland Canal on 21 November east bound from Chicago to Oswego (*Buffalo Commercial Advertiser* 1862d, 1862e; *Chicago Tribune* 1862b).

Early season travel in 1863 for the ship went unreported. *Northern Light* was logged passing Detroit down bound on 2 July 1863. Her next passage of Detroit was on 19 August, up bound. On 6 November the ship cleared the port of Chicago with 16,009 bushels of wheat bound for Ogdensburg. The ship made one final trip to Chicago during the 1863-season. She was marked passing through the Welland Canal east bound to Ogdensburg. The ship wintered over at Clayton (*Buffalo Commercial Advertiser* 1863a, 1863b, 1863c; *Buffalo Daily Courier* 1863; *Chicago Tribune* 1863; *Commercial Times* 1863, 1864).

The *Northern Light* passed through the Welland Canal on 18 April 1864 bound from Clayton to Detroit. On 4 May the ship was east bound through the canal from Baptiste Creek (sp.), Ontario (on Lake St. Clair) to Clayton and on 13 May *Northern Light* returned west bound from Clayton to Toledo. The ship disappeared from the historical record until 23 September when she is noted passing Detroit up bound. Her final record for the season is a passage through the Welland Canal on 23 November west bound from Detroit to Ogdensburg where she presumably took up winter quarters (*Buffalo Commercial Advertiser* 1864a, 1864b, 1864c, 1864d; *Detroit Free Press* 1864).

The *Northern Light* evaded the press for the entirety of 1865 as she was undergoing a major rebuild at the yard of shipbuilder Simon G. Johnston in Clayton. It is likely the ship was adapted at this time with the second centerboard. In additions to improvements and lengthening made to *Northern Light*, Fowler & Esseltyne were updating their bark *Sovereign of the Lakes* and building a brand new vessel, *Montpellier*, at the same shipyard (*Buffalo Daily Courier* 1866a; *Detroit Free Press* 1866b).

After re-launch and inspection, a new enrollment was entered for the *Northern Light* on 27 April 1866 at the port of French Creek. The ship now measured 136.3 feet long, 26.1 feet beam with 11.5 feet depth of hold. Her gross tonnage was also increased to 298.91 tons, with capacity under tonnage deck of 278.74 tons and capacity of enclosures on the upper deck of 20.17 tons. The ship remained rigged as a barque with square stern, and no gallery but her figurehead was removed. Although her homeport remained Clayton and Captain George Sheeley remained her Master, her name was changed to *Montgomery* (Bureau of Navigation 1866).

In May of 1866 *Montgomery* went ashore on East Sister Reef in Lake Erie. The ship sustained \$700 in damages (*Buffalo Commercial Advertiser* 1867a). On 2 June the ship cleared the port of Chicago with 21,000 bushels of corn for Nims, Gibson & Lyons, and she arrived at Buffalo on 14 June. The ship cleared Buffalo two days later for a return to Chicago (*Buffalo Commercial Advertiser* 1866a; *Buffalo Daily Courier* 1866b; *Buffalo Morning Express* 1866a, 1866b; *Illustrated Buffalo Express* 1866a, 1866b). *Montgomery* cleared Buffalo on 21 July light for

another trip to Chicago and returned to Buffalo on 23 July with 20,712 bushels of corn for M.R. Eames (*Buffalo Commercial Advertiser* 1866b; *Buffalo Daily Courier* 1866c). In mid-August *Montgomery* was commissioned to bring corn from Chicago to Buffalo at 7 ½ cents per bushel.

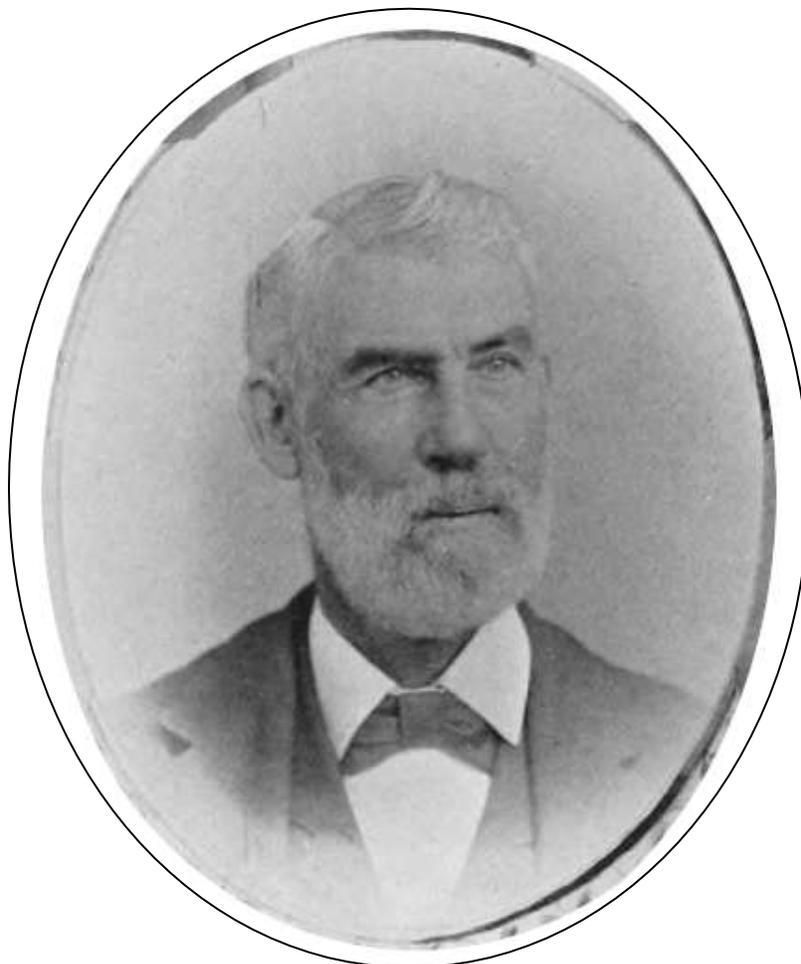


Figure 21. Shipbuilder Simon G. Johnston (Haddock 1896).

En route to Chicago, the ship came into Campbell & Owen's dry dock in Detroit for minor repairs. The ship arrived in Chicago on 21 September (*Buffalo Daily Courier* 1866d, 1866e; *Chicago Tribune* 1866a; *Detroit Free Press* 1866a). *Montgomery* arrived at Buffalo on October 8 with 20,000 bushels of corn for Barclay Bruce & Co. and cleared the same day with 70 tons of coal bound for Chicago (*Buffalo Commercial Advertiser* 1866c; *Buffalo Daily Courier* 1866f, 1866g; *Chicago Tribune* 1866b).

On 25 April 1867, *Montgomery* passed through the Welland Canal west bound from Clayton to Erie. The ship continued on to Chicago, arriving on 14 May. On 7 June, the tug *Dragon* took *Montgomery* in tow and brought the ship from Tonawanda to Buffalo. The ship passed down bound past Detroit on 8 August, and clearings for the vessel from the port of Chicago were logged on 9 September to Port Colborne with 19,741 bushels of corn, on 16 September to Kingston with 19,374 bushels of wheat, on 31 October to Cape Vincent with 17,172 bushels of

corn, and on 6 November to Oswego with 16,742 bushels of corn (*Buffalo Commercial Advertiser* 1867b, 1867c, 1867d, 1867e, 1867f, 1867g, 1867h, 1867i).

*Montgomery* arrived at Cape Vincent from Toledo on 24 April 1868. On 11 May, the ship's enrollment document was surrendered at the port of Detroit and a new document was issued for a change of homeport and district. Both owners, Henry Esselstyn and John N. Fowler, relocated their business operations to Detroit and so *Montgomery's* homeport was changed to that city. At this time Official Number 16348 was assigned to the vessel and handwritten onto margin of the document. Captain George Sheeley remained Master (*Commercial Times* 1868; Bureau of Navigation 1868). In July, pine timber was hauled under contract from Tawas, Michigan to Ogdensburg at \$10 per thousand board feet. The ship was reported passing down bound at Detroit on 13 July and through the Welland Canal on 16 July on the way to Ogdensburg. Another trip was made in August (*Buffalo Commercial Advertiser* 1868a, 1868b; *Buffalo Morning Express* 1868a, 1868b; *Illustrated Buffalo Express* 1868a, 1868b; *Daily Milwaukee News* 1868a; *Detroit Free Press* 1868a; *Semi-Weekly Wisconsin* 1868).

The ship passed through the Welland Canal on 31 August from Clayton to Chicago, she passed Detroit on 4 September. En route, the ship loaded with salt at Saginaw. *Montgomery* made a second trip that month with salt from Saginaw. On 13 September, while being towed on the Saginaw River by the tug *Annie Molles*, two long tows were passing out at the same time. The *Annie Molles* was forced to slow, and the strong breeze blew *Montgomery* over toward the channel bank where she struck a rock and sprung a leak. Her cargo of salt was removed with little damage, and the ship was taken to dry dock in Bay City for repairs. *Montgomery* arrived in Chicago on 24 September (*Buffalo Commercial Advertiser* 1868c, 1868d, 1868e; *Buffalo Morning Express* 1868c, 1868d, 1868e; *Daily Milwaukee News* 1868b; *Detroit Free Press* 1868b, 1868d; *Illustrated Buffalo Express* 1868c, 1868d, 1868e).

At Chicago the ship loaded 17,467 bushels of wheat and cleared the port early on 28 September for Ogdensburg. She passed through the Welland Canal on 30 September. The ship passed through the Welland Canal west bound on 3 November from Oswego. At Chicago, 21,000 bushels of oats were loaded and the ship cleared the port on 11 November bound for Kingston. She passed Detroit on 17 November and back through the Welland Canal the next day (*Buffalo Commercial Advertiser* 1868f, 1868g, 1868h; *Buffalo Daily Courier* 1868; *Chicago Tribune* 1868; *Detroit Free Press* 1868c; *Pittsburgh Weekly Gazette* 1868).

No records for early 1869 trips were located. On 23 July, *Montgomery* was recorded passing Detroit down bound, however no information about destinations or cargos is known. On 24 September the ship cleared Chicago with 19,780 bushels of corn bound for Oswego, and en route, she passed through the Welland Canal on 5 October. On 28 October *Montgomery* arrived at Detroit from Oswego with 600 barrels of salt and another cargo of salt was taken to Milwaukee on 14 November (*Buffalo Commercial Advertiser* 1869; *Buffalo Morning Express*

1869; *Chicago Tribune* 1869; *Detroit Free Press* 1869a, 1869b; *Illustrated Buffalo Express* 1869).

No records for early season 1870 trips were located. On 30 June 1870 *Montgomery* was recorded passing down bound through the Welland Canal. On 27 July she cleared Chicago with 18,347 bushels of wheat bound for Kingston and passed down bound in the Welland Canal on 4 August. *Montgomery* was then contracted to haul lumber from Bay City to Chicago at \$1.50 per thousand board feet. The ship sailed to Milwaukee to load a cargo of wheat for delivery at Oswego, passing through the Welland Canal east bound on 17 August. *Montgomery* locked through again on 23 August west bound for Bay City. At Bay City she loaded 130,000 board feet of lumber as well as stone and cleared on 2 September for Chicago.

*Montgomery* arrived at Chicago on 10 September and cleared a week later with 29,085 bushels of corn for Ogdensburg. The charter for the corn earned 9 ½ cents per bushel. She passed through the Welland Canal down bound on 30 September, delivered her cargo and returned up bound on 11 October for Bay City to pick up a load of lumber for Milwaukee. On November 19, *Montgomery* cleared the port of Milwaukee with 18,000 bushels of wheat for Thorold, Ontario and was reported down bound in the canal on 26 November (*Buffalo Commercial Advertiser* 1870a, 1870b, 1870c, 1870d, 1870e; *Buffalo Daily Courier* 1870; *Buffalo Morning Express* 1870a, 1870b, 1870c; *Chicago Tribune* 1870a, 1870b, 1870c, 1870d, 1870e, 1870f, 1870g; *Daily Milwaukee News* 1870; *Detroit Free Press* 1870; *Illustrated Buffalo Express* 1870a, 1870b, 1870c).

It is not known at which port *Montgomery* wintered over. On 6 May 1871 the ship was reported passing down bound in the Welland Canal with corn from Chicago to Kingston. The ship locked through on 18 May again up bound en route to Bay City. On 9 June she cleared Chicago with 21,100 bushels of wheat for Ogdensburg. On 14 July the ship arrived at Chicago with timber products from Cheboygan, Michigan and cleared the same day with 21,000 bushels of corn for Oswego (*Buffalo Commercial Advertiser* 1871a, 1871b, 1871c, 1871d; *Buffalo Morning Express* 1871a, 1871b, 1871c; *Chicago Tribune* 1871a; *Illustrated Buffalo Express* 1871a, 1871b, 1871c).

On 2 September 1871 *Montgomery* cleared Chicago with corn bound for Kingston. Several newspapers reported the ship ashore six miles above Point Edward, Ontario on Lake Huron on 8 September, but this was later corrected – the bark *Montmorency*, a sister ship of the Reindeer Line was actually ashore with a cargo of wheat. *Montgomery* passed east bound through the Welland Canal on 12 September and west bound en route to Bay City on 4 October. The ship cleared Bay City on 17 October and on 6 November *Montgomery* cleared Milwaukee for Ogdensburg with 16,036 bushels of wheat. The bark *Montgomery* and schooner *Clayton Belle* were reported as “disabled slightly” at Detroit on 19 November. The details of this minor casualty went unreported and resulted in little delay, as the ship was recorded passing through

the Welland Canal on 21 November (*Buffalo Commercial Advertiser* 1871e, 1871f; *Buffalo Daily Courier* 1871; *Buffalo Morning Express* 1871d, 1871e, 1871f, 1871g; *Chicago Tribune* 1871a; *Detroit Free Press* 1871a, 1871b; *Illustrated Buffalo Express* 1871d, 1871e, 1871f, 1871g).

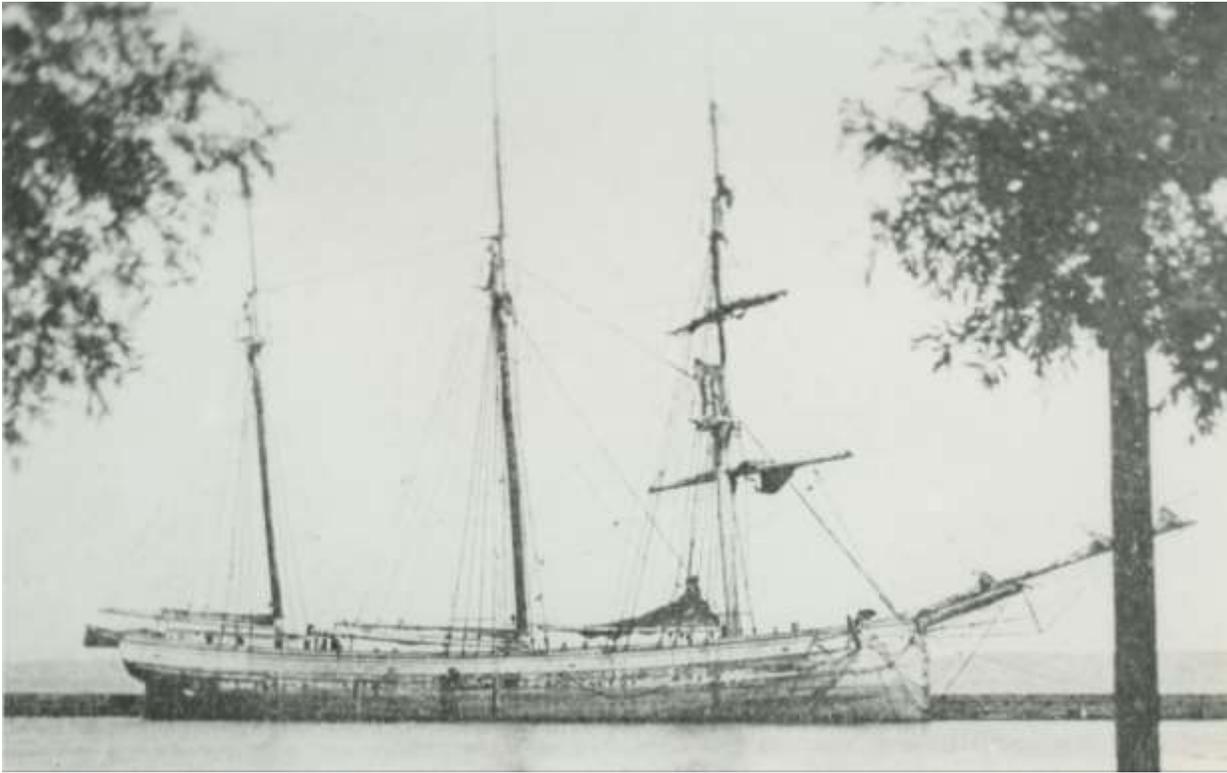


Figure 22. *Montgomery's* sister ship *Montmorency* at Clayton, NY (C. Patrick Labadie).

On 7 May 1872, *Montgomery* passed up bound through the Welland Canal; no other information about destinations or cargos was shared. The ship arrived at Chicago on 5 June with 210,000 board feet of lumber. A cargo of 19,132 bushels of corn was loaded for J.M. Bentley & Co., and the ship arrived at Buffalo on 20 June. At Buffalo, the ship's enrollment was surrendered and temporary registration was issued as her license had expired while out of her home district. On 23 June the vessel came into the Campbell, Owen & Co.'s dry dock in Detroit to receive a new mainmast and three days later a permanent enrollment was issued for the ship (*Buffalo Commercial Advertiser* 1872a; Bureau of Navigation 1872a, 1872b; *Chicago Tribune* 1872a, 1872b; *Detroit Free Press* 1872a).

On 16 July *Montgomery* cleared Chicago with 19,000 bushels of wheat bound for Buffalo. She arrived at Buffalo on 27 July and departed the same day for a return to Chicago. The ship's arrival at Chicago was recorded on 12 August, clearing two days later with 21,000 bushels of corn for Buffalo. The vessel cleared Chicago again 17 August with 21,000 bushels of corn for Preston & Wright and arrived at Buffalo on 22 August. She departed Buffalo the next day for Chicago with 550 tons of coal. *Montgomery* arrived at Chicago on 9 September (*Buffalo*

*Commercial Advertiser* 1872b, 1872c, 1872d, 1872e, 1872f, 1872g; *Buffalo Evening Post* 1872a; *Buffalo Morning Express* 1872a; *Detroit Free Press* 1872b; *Illustrated Buffalo Express* 1872a).

On 23 September, *Montgomery* cleared Buffalo, light, for a trip to Chicago. Her next notation was passing through the Welland Canal on 9 October en route from Oswego to Chicago with railroad iron. While in tow of a tug on the St. Clair Flats along with the bark *Cecelia* on 5 November, the two sailing ships were dragged into and collided with the grounded propeller *Atlantic*. The *Atlantic*'s pilothouse and forward cabin were damaged at a cost of \$300. *Cecelia* lost her bowsprit and all of her headgear, and *Montgomery* lost her jibboom and headgear. *Montgomery* was repaired at the Detroit Dry Dock Company and departed for Buffalo on 6 November. Under heavy wind, while entering the harbor at Buffalo on 7 November the schooner *Monterey*, she collided with *Montgomery*. *Montgomery* was not damaged; however the *Monterey* lost part of her jibboom. *Montgomery* departed Buffalo on 9 November with coal for Detroit and continued up bound on 26 November (*Buffalo Commercial Advertiser* 1872h; 1872i, 1872j; *Buffalo Evening Post* 1872b; *Buffalo Morning Express* 1872b, 1872c; *Chicago Tribune* 1872c, 1872d, 1872e; *Detroit Free Press* 1872c, 1872d, 1872e, 1872f; *Illustrated Buffalo Express* 1872b, 1872c).

The first grain charter reported at Toledo for 1873 was the bark *Montgomery* with wheat to Ogdensburg at 16 cents per bushel. The ship was reported passing east through the Welland Canal on 26 April. *Montgomery* experienced strong winds and high seas on Lake Huron on 29 May that carried away her jibboom and a portion of her headgear. As she passed Detroit down bound, the ship was marked as disabled and it is not known where the ship was repaired (*Buffalo Morning Express* 1873a, 1873b; *Chicago Tribune* 1873a; *Illustrated Buffalo Express* 1873a, 1873b; *InterOcean* 1873).

*Montgomery* was marked passing Detroit down bound on 19 June, and again passing down bound on 20 July, and through the Welland Canal on 21 July en route from Bay City to Clayton. The ship loaded timber in Bay City on 14 August and departed for Kingston (*Buffalo Commercial Advertiser* 1873; *Buffalo Morning Express* 1873c; *Chicago Tribune* 1873b; *Detroit Free Press* 1873a, 1873b, 1873c; *Illustrated Buffalo Express* 1873c; *Sandusky Register* 1873). *Montgomery* went into dry dock at Detroit on 9 September. It is not known what repairs necessitated the stop. The ship arrived at Chicago on 28 September from Fair Haven, Ohio with a cargo of coal. The vessel was recorded passing down bound at Detroit on 9 October. On 9 November *Montgomery* departed Chicago for Cleveland in the night with 22,000 bushels of oats for her last trip of the season (*Chicago Tribune* 1873c, 1873d; *Detroit Free Press* 1873d, 1873e).

Despite a heavy sea and a strong gale on the lake, *Montgomery* was the first ship to arrive for the season at Toledo on 2 April 1874. On 1 May the ship passed west through the Welland

Canal running light from Clayton to Bay City and returned on 16 May. Another trip to Bay City was recorded in early June. On 6 August *Montgomery* cleared Chicago for Oswego with 19,900 bushels of corn, however when passing through the Welland Canal on 6 August it was reported that the ship was hauling timber from Bay City to Clayton (likely a carryover of her two previous trips through) (*Buffalo Daily Courier* 1874a, 1874b; *Buffalo Morning Express* 1874a, 1874b; *Detroit Free Press* 1874a, 1874b, 1874c; *Illustrated Buffalo Express* 1874a, 1874b; *InterOcean* 1874a, 1874b).

Inconsistencies in reporting *Montgomery*'s (and other vessel's) routes, cargos, and harbor arrival clearings was commented on in the *InterOcean* 8 September 1874, which likely explains difficulties in providing full records of the vessel's travel in this report as well:

If your neighbors are content with the humbug reports they receive of vessels passing Detroit, no one else ought to complain they are incorrect in almost every instance, and it is a fact patent to everyone here, located on the docks and paying any attention to such matters, that tows pass here frequently in broad daylight, between the hours of 7 a. m. and 6 p. m., which do not appear in their lists. Take, for instance the passing of the schrs *Denmark*, *Bruce*, *Oriental*, and *Laura Belle*, all unnoticed, which were in one tow; also the schooners *Fame* and *William Raynor* in another tow, not reported; and the schooners *Arabia*, *J.G. Jenkins*, *Sara Flint*, and *W.H. Vanderbilt*, also unnoticed. Thus you see no less than ten vessels in one day. I will also add the bark *Montgomery*, which also passed up. Now as there are two other offices where the records of vessels passing are strictly kept the above statement is easily proven. J. W. H.

On 16 October *Montgomery* arrived at Alpena, Michigan to load lumber for Chicago and entered Chicago harbor on 30 October. She took on 20,000 bushels of corn for Oswego and departed on 3 November, arriving at Oswego on 23 November (*Alpena Weekly Argus* 1874; *Buffalo Commercial Advertiser* 1874; *Detroit Free Press* 1874d; *InterOcean* 1874c, 1874d). On 11 May 1875, *Montgomery* passed through the Welland Canal en route from Clayton to Chicago, light. On her return east, the ship arrived at Bay City on 18 May and passed back through the canal on 24 May.

Another canal passage was recorded on 3 June, and the ship arrived at Buffalo the following evening. The vessel was next recorded passing down bound at Port Huron on 26 July in tow of the tug *Burnside* along with the schooner *Willie Keller*. Arrivals of the ship were recorded on 4 August at Bay City and on 24 August at Detroit with coal. The ship again cleared Bay City on 1 September bound for Clayton. The first week in October, both *Montgomery* and *Montmorency* came into dry dock at Detroit for repairs. It is not known what work was conducted, but *Montgomery*'s repairs were completed on 23 October and the ship cleared the port that same

day (*Buffalo Daily Courier* 1875; *Buffalo Morning Express* 1875a, 1875b; *Detroit Free Press* 1875a, 1875b, 1875c, 1875d, 1875e, 1875g; *Illustrated Buffalo Express* 1875a, 1875b; *InterOcean* 1875).

*Montgomery* eluded the press for the first part of the 1876-shipping season. At midnight on 3 June 1876, she was reported passing Port Huron down bound. About twenty hours later the ship stranded on Port Huron Point while sailing out of the Clinton River. The tug *Winslow* went to her aid. The ship arrived at the Michigan Central Dock in Detroit from Clayton on 26 June where she loaded timber. She departed for Clayton on 28 June. In mid-August *Montgomery* had her topsides calked at Chicago. The ship cleared the port on 26 August with 20,000 bushels of corn for Buffalo. She arrived at Buffalo on 6 September, unloaded and cleared the same day. Captain Dennis was at her helm. The change in Masters was not expressed in her enrollment document.

*Montgomery* experienced gale conditions on northern Lake Michigan in early November. She lost her jibboom while coming through the Straits of Mackinac and her jib sail near the Manitou Islands. Upon arrival at Chicago, on 13 November, the ship entered dry dock for repairs. On 22 November, *Montgomery* was chartered to haul wheat from Sheboygan, Wisconsin to Buffalo at 5 ½ cent per bushel. This would be her last trip of the season (*Buffalo Morning Express* 1876a, 1876b, 1876c, 1876d; *Detroit Free Press* 1876a, 1876b, 1876c, 1876d; *Illustrated Buffalo Express* 1876a, 1876b, 1876c, 1876d; *InterOcean* 1876a, 1876b, 1876c, 1876d).

*Montgomery* again eluded the press for the first part of the 1877-shipping season. She arrived at Chicago on 21 August 1877 in tow of the propeller *InterOcean*. The ship was laden with coal from Charlotte, New York (near Rochester). She cleared Chicago a week later with 19,762 bushels of rye for Buffalo. While lying in Mason's slip on 24 September (near Morgan Street in Chicago) a burning kettle of tar boiled over and set off the fire alarm on Box 364 at 3:30PM. Only minor damage to the ship resulted. She cleared the port with 19,540 bushels of corn for Buffalo the next day. The ship cleared Chicago again on 5 October 19,500 with bushels of corn for William Meadows of Buffalo. *Montgomery* was then chartered to carry corn from Chicago to Collingwood, Ontario and on through to Ogdensburg. While working her way back east, the ship was force to wait out a gale off Port Huron on 7 November, and lost her anchor while maneuvering outside the harbor. She passed through the Welland Canal on 9 November bound for Ogdensburg (*Buffalo Commercial Advertiser* 1877a, 1877b; *Buffalo Morning Express* 1877a, 1877b, 1877c, 1877d, 1877e; *Chicago Tribune* 1877a, 1877b; *Detroit Free Press* 1877; *Illustrated Buffalo Express* 1877a, 1877b, 1877c, 1877d, 1877e; *InterOcean* 1877a, 1877b, 1877c, 1877d, 1877e).

At the opening of the 1878-shipping season, *Montgomery* was placed in dry dock at Detroit for what was explained as minor repairs and by 25 April the ship received her outfit and began sailing for the season. The ship passed through the Welland Canal on 8 June en route from

Clayton to Detroit. On 28 June the ship cleared Chicago with 20,780 bushels of corn for Kingston. *Montgomery* was recorded passing Detroit up bound on 26 July, however her destination and cargo when unreported. On 11 October the ship came into Detroit Dry Dock to have her bottom and sides recalked, five days later, she returned to service again. Her fall sailing schedule remains unknown. On 12 December the ship departed Buffalo. She was the last ship to lock through the Welland Canal for the season before she took up winter quarters in Port Colburne (*Buffalo Morning Express* 1878a, 1878b; *Chicago Tribune* 1878; *Detroit Free Press* 1878, 1878b, 1878c, 1878d, 1878e, 1878f; *Illustrated Buffalo Express* 1878a, 1878b; *InterOcean* 1878a, 1878b).

During the last week of May 1879, the vessels of Captain Merrick's Reindeer Line composed of the sailing vessels *Montgomery*, *Montcalm*, *Mont Blanc*, *Montmorency* and *M.F. Merrick*, and the propellers *Japan*, *City of Winnipeg* and *N. K. Fairbanks*, all loaded at Duluth. Cumulatively they took aboard 83,308 bushels of corn and 77,016 bushels of wheat. *Montgomery* arrived at Port Huron with her load on the night of 11 June. On 29 June the ship cleared the port of Tonawanda, New York bound for Bay City and she was again recorded passing down bound at Detroit on 12 August in tow of the tug *Jesse*.

On her next trip west past Detroit on night of 31 August she struck an obstruction with her centerboard. She was moved under the tow of the tug *Clark* to the Detroit Dry Dock on 3 September where they worked to dislodge it. A new centerboard was installed and the ship was finally returned to service on 9 October. On 19 October she arrived at Duluth to take on a cargo of wheat. At the end of October *Montgomery* was chartered to haul ore from Marquette to Cleveland. On 7 November the ship took on a cargo of miscellaneous freight in Detroit for Sault St. Marie. She cleared that evening for the Soo, continuing on to Marquette. She was again recorded passing down bound at Detroit on 25 November. She arrived at Buffalo and took on 500 tons of coal for Detroit (*Buffalo Commercial Advertiser* 1879; *Buffalo Morning Express* 1879a, 1879b; *Daily Milwaukee News* 1879; *Detroit Free Press* 1879a, 1879b, 1879c, 1879d, 1879e, 1879f, 1879g, 1879h, 1879i; *Illustrated Buffalo Express* 1879, 1879b).

*Montgomery's* first grain laden arrival at Buffalo for the 1880-shipping season was recorded on 23 April. She unloaded and departed the same day for Duluth. An arrival was recorded at Detroit on 28 April and at Cleveland on 4 June. She cleared Cleveland the same day with coal for Duluth. After unloading at Duluth she continued on to Marquette arriving on 27 June. Cleveland-Duluth-Marquette-Detroit trips were recorded in July, August and early September. No late season trip information was located (*Buffalo Morning Express* 1880; *Chicago Tribune* 1880a, 1880b, 1880c, 1880d, 1880e, 1880f; *Detroit Free Press* 1880a, 1880b, 1880c, 1880d; *Illustrated Buffalo Express* 1880).

At the beginning of March 1881, the Reindeer Line announced assignments for the 1881-season

and Captain William Brooks was listed as *Montgomery's* Master. As well as *Montgomery*, Merrick's Reindeer fleet consisted of the tug *Niagara* and the schooners *Reindeer*, *Clayton Belle*, *M.F. Merrick*, *Monticello*, *Mont Blanc*, *Monterey*, *Montcalm*, *Montmorency*, *Montana*, and *Republic*. On 23 April *Montgomery's* enrollment document was surrendered at Detroit for change in ownership. E.G. Merrick purchased John Fowler's half of the vessel and acquired an additional share from Henry Esselstyn. The new ownership arrangement was 5/8 shares held by Merrick and 3/8 shares owned by Esselstyn. This enrollment also indicated a rig change from barque to schooner. Detroit remained the vessel's homeport (Bureau of Navigation 1881; *Detroit Free Press* 1881a).

At the beginning of June 1881, the schooner collided with the propeller *Henry Chisholm* while docked at Cleveland. Few other details of the incident or damage are known. Only a handful of arrivals and clearings were recorded during the season. On 27 June the ship arrived at the port of Buffalo with grain from Duluth, and on 21 September the ship cleared Marquette harbor. In early November *Montgomery* was chartered to haul coal from Buffalo to Detroit at 75 cents per ton and towed by the tug *Niagara*, however only one trip with coal was recorded that month. On 29 November while in tow of the *Niagara*, *Montgomery* and schooner *Clayton Belle* broke loose from the tug. *Clayton Belle* sailed to Cheboygan, Michigan and laid up for the winter; *Montgomery* sailed to St. James in the Beaver Islands (*Buffalo Morning Express* 1881; *Chicago Tribune* 1881a, 1882b, 1881c; *Detroit Free Press* 1882b; *Illustrated Buffalo Express* 1881).

For the 1882-season, *Montgomery* was employed in the Great Lakes ore trade, hauling coal from Buffalo or Erie, Pennsylvania to Duluth, and returning east with iron ore from Marquette to Cleveland. She was towed by tug *Niagara* within a consort of as many as five other Merrick-owned schooners. Her first trip for the season, scheduled to depart Marquette in early April, was delayed, as the iron ore remained frozen, making for very slow work in loading. On 10 August the ship came into the harbor at Sand Beach, Michigan (now Harbor Beach) for an overnight stay to await favorable weather. Regular monthly trips were recorded to Lake Superior in August, September, October and November (*Buffalo Commercial Advertiser* 1882; *Chicago Tribune* 1882a, 1882b, 1882c, 1882d, 1882e, 1882f, 1882g; *Detroit Free Press* 1882a, 1882b, 1882c).

It is likely the vessel wintered over at Toledo. On 14 April 1883, *Montgomery*, as well as the schooners *Montmorency*, *Montcalm*, *Mont Blanc* and *Republic*, was chartered at Toledo to carry wheat to Buffalo at 2 ½ cents per bushel. For the remainder of the season the ship returned to the ore trade in tow of the *Niagara*, oftentimes taken in consort with as many as six other schooners of the Reindeer Line. Regular monthly trips between Lake Erie and Lake Superior were recorded May through October and marked in the passage of the consort past Detroit (*Buffalo Commercial Advertiser* 1883; *Chicago Tribune* 1883a, 1883b, 1883c, 1883d; *Detroit Free Press* 1883a, 1883b, 1883c, 1883d, 1883e, 1883f, 1883g).

Little is known about *Montgomery*'s travel routes for 1884. The ship arrived at Detroit on 19 August with iron ore from Marquette. In September the tug *Niagara* with the schooners *Montgomery*, *Montmorency*, *Montcalm*, *Mont Blanc* and *Republic* fetched ore from Two Harbors, Minnesota. Of note, 1884 was the first season iron ore shipped from Two Harbors, and this consort was, if not the first, one of the earliest to participate in trade at the port. The *Detroit Free Press* hypothesized of the future of Two Harbors that: "the prospects are that it will soon be an extensive ore shipping point...and a number of craft that go up to Duluth and are unable to obtain wheat cargoes fall back on the ore trade...". The last clearing located for *Montgomery* was from Buffalo on 29 September when she cleared light; however her destination went unreported (*Detroit Free Press* 1884a, 1884b, 1884c).

*Montgomery* remained listed on the rolls of the Reindeer Line for the 1885-season along with the tug *Niagara* and schooners *Reindeer*, *M.F. Merrick*, *Monticello*, *Mont Blanc*, *Monterey*, *Montcalm*, *Montmorency*, *Montana*, *Republic*, and *Reuben Doud*. *Montgomery*'s Master assignment for the season was Captain William O'Tule, however, this change in Masters is not reflected on her enrollment document. The ship's movements during the season were largely unreported and it is not certain if these records are simply elusive or if the ship remained in port for the majority of the season. Only one contract was discovered, effectuated on 7 July, for *Montgomery* and *Montmorency* to sail from the port of Ashtabula, Ohio to Buffalo to take a cargo of coal to Marquette (*Detroit Free Press* 1885; *InterOcean* 1885). No records were located for 1886.

On 4 June 1887 *Montgomery* arrived at Chicago with 1,250 tons of coal. The ship was reported passing up bound again at Detroit and Mackinaw City in mid-June and on 27 July the ship cleared Chicago with grain bound for Tonawanda. Over the first week in August the ship visited ports on Lake Superior and passed Sault Ste. Marie down bound in tow of the tug *Niagara*, with schooners *Montmorency*, *Montcalm*, *Mont Blanc*, *Republic* joining the consort (*Buffalo Morning Express* 1887a; *Buffalo Times* 1887a; *Detroit Free Press* 1887a, 1887b, 1887c; *Illustrated Buffalo Express* 1887a).

*Montgomery*'s enrollment document was surrendered at the port of Toledo on 8 August 1887. Captain Martin Christy of Toledo became her sole owner and Master, and Toledo became her new homeport. With the new registration, the vessel was given tonnage deduction allowances under the Act of August 5, 1882 that credited her owner 14.94 tons, resulting in a new net tonnage of 283.97 tons (Bureau of Navigation 1887).

The new owner opened up trade with ports in Wisconsin. On 25 August the ship arrived for the first time at Manitowoc, Wisconsin with coal for the city coal dock. *Montgomery* was chartered in September to carry coal from Cleveland to Racine at \$1.10 per ton. She departed Cleveland on 6 September and arrived at the Racine Gas Co. Dock on the night of 15 September. She cleared Racine during the night of 20 September for a return to the lower lakes. On 3 October

*Montgomery* arrived at Buffalo (*Buffalo Times* 1887b; *Detroit Free Press* 1887d; *Journal Times* 1887a, 1887b; *Manitowoc Pilot* 1887).

The rest of the 1887-season was peppered with accidents. On a down bound trip on 29 October while on Lake Huron and nearing Port Huron, *Montgomery* encountered a storm that shredded her mainsail and carried away her foremast (*InterOcean* 1887a). The ship was repaired and returned to service. On 25 November while loaded with 300 tons of pig iron bound for Erie, Pennsylvania, the ship grounded on Bois Blanc Island in the midst of a blinding snowstorm and filled with water. In the same storm, the propeller *Albany* wrecked nearby. The tugs *Mocking Bird* and *Avery* were initially sent to release the ships with lighters and steam-pumps. In the process of removing *Montgomery*'s cargo of iron ore, one of the large lighter barges sank along with 1,400 bars of *Montgomery*'s recovered iron. It took the efforts of the wrecking tug *Champion* to release *Montgomery* and although leaking badly, the schooner was towed into Cheboygan, Michigan on 30 November. A diver was sent under her hull to patch her bottom and stop the leak. The remainder of her ore was removed, two pumps were installed aboard, and the schooner was towed to Detroit for repairs. On 8 December the wrecking tug *Saugatuck* raised the lighter and recovered the remaining lost iron pigs (*Buffalo Commercial Advertiser* 1887a, 1887b, 1887c; *Buffalo Evening News* 1887a, 1887b, 1887c, 1887d; *Buffalo Morning Express* 1887b; *Buffalo Times* 1887c, 1887d, 1887e; *Chicago Tribune* 1887; *Detroit Free Press* 1887e, 1887f, 1887g, 1887h, 1887i; *Illustrated Buffalo Express* 1887b; *InterOcean* 1887b, 1887c, 1887d, 1887e, 1887f, 1887g; *Journal Times* 1887c).

*Montgomery* brought coal from Buffalo to Toledo at 40 cents per ton in early May, after which she returned to the ore trade working between Escanaba, Michigan and Erie, returning west with coal for Menominee, Michigan. Trips in this service were conducted in May, June and July (*Buffalo Commercial Advertiser* 1888a, 1888b; *Buffalo Morning Express* 1888a, 1888b, 1888c, 1888d; *Detroit Free Press* 1888a, 1888b, 1888c; *Illustrated Buffalo Express* 1888a, 1888b, 1888c, 1888d). The ship made three trips from Toledo to Buffalo with wheat in August and September. Then she was chartered to haul coal from Buffalo to Michigan City, Indiana (*Buffalo Commercial Advertiser* 1888c; *Buffalo Morning Express* 1888e; *Detroit Free Press* 1888d, 1888e; *Illustrated Buffalo Express* 1888e).

When the vessel came into Hancock, Michigan on 23 September according to news reports from the *Buffalo Daily Courier*, “the entire crew went on a drunk and deserted the boat.” Captain Vader (whose role is not updated in the ship's enrollment document) was required to obtain a court order to force the men to return to the ship and complete their contract, as there are no other sailors in town to replace them. This delayed the vessel for several days (*Buffalo Daily Courier* 1888a).

Passages through the Welland Canal were recorded during the month of October, down bound with corn from Chicago to Ogdensburg and up bound with coal from Oswego to Toledo and

Detroit (*Gazette* 1888a, 1888b, 1888c). *Montgomery* made two trips with coal from Buffalo to Toledo in late October and early November, and on 10 November she loaded corn at Toledo for Oswego receiving 4 ½ cents per bushels for the service (*Buffalo Daily Courier* 1888b; *Buffalo Morning Express* 1888f; *Detroit Free Press* 1888f, 1888g, 1888h; *Gazette* 1888d; *Illustrated Buffalo Express* 1888f). Around the end of the year, an Admiralty case was filed against the owners of the schooner *Montgomery* in the United States District Court for the Eastern District of Michigan by Henry Ryan (and intervening libels). The case, No. 3136, was heard on 15 February 1890 before Judge Henry Brown, however the specifics and outcome are unknown (*Detroit Free Press* 1888i, 1890a).

For the first trip of 1889, *Montgomery* was chartered to haul corn from Cleveland to Buffalo at 1 ¾ cents per bushel. The ship arrived at Buffalo with her cargo on 20 April. The next day she was chartered to carry coal from Ashtabula to Port Huron at 40 cents per ton, however as she attempted to depart Buffalo she was forced back into port by a stiff headwind (*Buffalo Commercial Advertiser* 1889a; *Buffalo Daily Courier* 1889a; *Buffalo Morning Express* 1889a, 1889b, 1889c; *Buffalo Times* 1889; *Detroit Free Press* 1889a; *Illustrated Buffalo Express* 1889a, 1889b, 1889c).

In early May 1889 the ship called on Alpena, Michigan where she loaded 325,000 board feet of lumber for parties in Detroit. By June *Montgomery* was chartered to take corn from Toledo to Kingston at 3 cents per bushel. En route on 10 June, the ship grounded in a fog just below Port Colborne, Ontario. A tug was sent to release the vessel and she sustained no damage. On June 25, *Montgomery* again stranded, but this time near Sault Ste. Marie. A large gang of men was sent from the city to remove the cargo from the ship to lighten her and facilitate her release. The ship arrived at Chicago on 1 July and cleared the next day for Cleveland. Her next trip was chartered to bring ore from Escanaba to Cleveland at 40 cents per ton. At the end of July, the ship collided with the steambarge *Leuty* near Detroit and lost her jibboom in the collision (*Alpena Argus* 1889; *Buffalo Commercial Advertiser* 1889b, 1889c, 1889d; *Buffalo Daily Courier* 1889b; *Buffalo Morning Express* 1889d, 1889e, 1889f, 1889g; *Detroit Free Press* 1889b; *Illustrated Buffalo Express* 1889d, 1889e, 1889f, 1889g).

*Montgomery* next loaded 22,000 bushels of wheat at Milwaukee on 10 August and cleared for Buffalo. The ship arrived at Buffalo on 13 August and the same day was chartered to carry coal from Buffalo to Detroit at 30 cents per ton, however it doesn't appear that the ship took the job. She cleared Buffalo on 15 August for Tonawanda and arrived back at Buffalo on 23 August with grain. On 25 August she was chartered to carry coal from Buffalo to Chicago at 60 cents per ton and departed the same day with 625 tons of coal onboard. The ship arrived at Chicago on 10 September and cleared the next day for Kingston.

She was recorded traveling west through the Welland Canal on 25 September bound from Oswego to Toledo with a cargo of coal (*Buffalo Commercial Advertiser* 1889e, 1889f, 1899g,

1889h; *Buffalo Daily Courier* 1889c; *Buffalo Morning Express* 1889h, 1889i, 1889j, 1889k, 1889l; *Gazette* 1889; *Illustrated Buffalo Express* 1889h, 1889i, 1889j, 1889k, 1889l). In late September the Port Huron *Times Herald* reported that *Montgomery* was being cut down to a barge at Bay City to be used as a lighter. This must have been reported in error as the ship continued sailing the following season (*Times Herald* 1889).

At the onset of the 1890-season, a new Master was announced; Captain Robert Moore took *Montgomery*'s helm. This change in Masters was not reflected in the vessel enrollment document (*Detroit Free Press* 1890a, 1890b). Early season movements of the ship went unreported. On 5 July the ship was chartered to haul coal from Escanaba to Cleveland at 40 cents per ton. On 26 July the ship was chartered to haul coal from Cleveland to Gladstone, Michigan for the same rate. *Montgomery* cleared Gladstone docks on 5 August and carried on to Escanaba to take on iron ore. This series was repeated and the ship cleared Gladstone docks again on 28 August (*Buffalo Morning Express* 1890a; *Illustrated Buffalo Express* 1890a; *InterOcean* 1890a; *Star Tribune* 1890a, 1890b). On 19 October while waiting outside the harbor at Port Huron, *Montgomery* lost her anchor and yawl boat. The tug *Sprite* was able to recover the small boat (*Buffalo Morning Express* 1890b; *Chicago Tribune* 1890a; *Illustrated Buffalo Express* 1890b; *InterOcean* 1890b).

On the morning of 5 November, while en route to Sheboygan with a cargo of coal consigned to the C. Reiss Coal Company, *Montgomery* came ashore during a gale, grounding in eleven feet of water eight miles north of the city near Stoney Creek. The vessel immediately began to fill with water. Despite the vessel flying colors all day, Life-Saving Service patrolmen walking the beach did not see the stranded ship. Fortunately, no lives were lost. The tug *Sheboygan* went to her assistance the following day but failed to get the schooner off as the vessel had worked over the rocks near shore. Four days following the accident Captain J.V. Tuttle representing the interests of the insurance companies went to *Montgomery* and determined the ship a total loss. She was insured for \$5,333, of which \$2,500 was in London Assurance, \$1,833 in Commercial Union, and \$1,000 in Michigan Fire & Marine (*Ahnapee Record* 1890; *Buffalo Daily Courier* 1890; *Buffalo Evening News* 1890; *Buffalo Morning Express* 1890c; *Chicago Tribune* 1890b, 1890c; *Illustrated Buffalo Express* 1890c; *InterOcean* 1890c, 1890d; *Manitowoc Pilot* 1890; *Milwaukee Sentinel* 1890a, 1890b; *Sheboygan Evening Telegram* 1890a, 1890b).

On 9 September, the tug *Sheboygan* towed the schooner *Elva* and a crew of fourteen men to *Montgomery*'s wreck site. They went to work stripped her of her canvas and running gear and the following week they removed her spars. Her cargo of coal proved difficult to salvage. The steam coal aboard could not be pumped out with a centrifugal pump. The smaller portion of her coal cargo was blacksmith's coal but the quantity was so small that wouldn't pay for the effort to save it. The rights for any further remains of the ship were sold to Captain Oley Groh of the Sheboygan Life-Saving Station. The ship's enrollment document was surrendered at the port of

Toledo on 12 November 1890 (Bureau of Navigation 1887; *Chicago Tribune* 1890d, 1890e; *Detroit Free Press* 1890c; *InterOcean* 1890e; *Sheboygan Evening Telegram* 1890c).

*Montgomery*'s location remained largely forgotten until the summer of 1958 when off duty Army personnel based at Camp Haven discovered the wreck about 1,000 yards off shore and began exploring it with skin diving equipment (Sheboygan Press 1958).



Figure 23. Newspaper clipping noting the discovery of *Montgomery*'s remains (*Sheboygan Press* 1958).

### *Site Description*

The remains of the schooner *Montgomery* lie on an even keel in 12 feet of water, 0.45 miles east of Whistling Straits Golf Course, in Town of Mosel, Sheboygan County, Wisconsin, in the waters of Lake Michigan. The vessel sits parallel to shore, on a heading of 265 degrees, with its bow facing inward, directly east of the mouth of Sevenmile Creek. The extent of the vessel's bow and stern are missing but the lower hull frames, planking, and keelson structure remain intact on the bottom. The wreckage rises 3.0 feet to 5.0 feet off the rocky bottom.

The location of the wreckage has been known to divers of the area since 1958, but was brought to the attention of Wisconsin Historical Society maritime archaeologists in June of 2015. The wreck's shallow location near the surf zone has contributed to the lack of mussel colonization on the remaining timbers. It is not known the extent to which the vessel was salvaged shortly after its sinking, but the upper deck works, rigging, hull components, and machinery are no longer extant. Years of wave and ice action along the shore also likely contributed to the loss of the vessel's upper deck works. Despite this, major structural components of the vessel remain extant, including its keel, keelson, centerboard trunks and mast steps.



Figure 24. Map of *Montgomery*'s location.

A Phase II archaeological survey of *Montgomery* was conducted in June of 2018 by maritime archaeologists and volunteers from the Wisconsin Historical Society. During the survey, archaeologists installed a temporary baseline along the centerline of the ship, stretching 126.1 feet from the broken forward edge of the keelson to the furthest extent of the stern. All measurements for the survey were taken from this baseline. The overall length of the vessel is 126.1 feet, and the width of the hull, measured at its widest point, is 24.0 feet. At 50.0 feet on the baseline the turn of the bilge was measured 11.3 on both port and starboard sides of the wreckage. Given the wreck dimensions, location, and a comparison of vessel losses in the vicinity based on historic newspaper accounts, the remains were determined to belong to the schooner *Montgomery*. As the site lies in a dynamic area, few invasive quagga mussels have colonized the interior of the bilge allowing for detailed observations.

*Montgomery*'s stempost and sternpost are no longer extant. What may be remnants of the vessel's apron and deadwood remain attached alongside the keelson in the first 18.5 feet along the baseline. Although of the vessel's upper hull is no longer extant, some remnants of *Montgomery*'s first and second futtocks remain, as well as all of the floors. The vessel is double framed, with individual futtocks measuring 0.9 feet sided and 0.45 feet molded, with an overall molded dimension of 0.9 feet with 0.9 foot spacing between each frame set. The floors measure 0.45 feet molded, and 0.6 feet sided.

Only a few sections of outer hull planking remain attached to the frames near the keel. These planks measure 0.9 feet wide and 0.3 feet thick. The vessel's ceiling planking remains extant in the bilge. The planking varies in width and thickness, with the planks close to the keelson

measuring 1.2 feet, 1.1 feet, and 0.7 feet wide, and narrowing to 0.5 feet wide at the turn of the bilge. The thickness of the ceiling planking varies as well, with the planks near the vessel's keelson measuring 0.2 feet thick, and measuring 0.3 feet thick at the turn of the bilge.



Figure 25. Archaeologists investigate *Montgomery*'s bilge section (Wisconsin Historical Society).

There is a 0.2 feet gap between ceiling planking and keelson. On the port side of the keelson, from 19.0 feet to 31.1 feet along the baseline, a thin curved, wooden timber creates a channel along the keelson. Further aft on the port side and along the entire starboard side, this timber is not extant; however, its measurements match the 0.2-foot gap between the ceiling planking and the keelson. It is unknown what this channel was for, as it has not been seen on any other wreckage in Wisconsin waters, but it is believed to be a type of limber hole, allowing water to pass through the bilge so it could be pumped out by the bilge pump. The ceiling planking, futtocks, and outer hull planking are fastened together with iron drift pins, roved atop the ceiling planking and peened on the outside of the vessel. The hull structure measures 1.5 feet in overall width, including ceiling planking, molded dimensions of the frame sets, and outer hull planking.

The vessel's keelson extends 126.1 feet, comprising most of the vessel's original length, and measures 1.25 feet thick and 1.4 feet wide. *Montgomery* does not have a single rider keelson, but rather three smaller rider keelsons that sit atop the keelson. Each rider keelson measures 0.8 feet thick and 0.5 feet wide. Two sister keelson's are located on each side of the keelson, and measure 0.6 feet wide and 0.7 feet thick. Additionally, because of the lake bottom's relatively hard surface in this area, the vessel's keel remains partially visible beneath the remains of the

outer hull on the starboard side of the wreckage. Although a width could not be determined, the keel measures 0.6 feet thick. Located at the bow of the vessel, a repair to the keelson can be observed, measuring 0.2 feet wide and 2.0 feet long. Near the stern, an additional timber is located near the keelson. This is a single timber, measuring 0.3 feet thick, 5.0 feet long, and stands 2.1 feet above the keelson. Although it is not known what this timber is, it is possible that it was associated with the vessel's deadwood and stempost, which are no longer on the site.



Figure 26. *Montgomery's* mizzenmast step (Wisconsin Historical Society).

Along with the upper extent of the vessel's hull, the vessel's deck, machinery, masts, and rigging no longer remain extant; however, evidence of *Montgomery's* three masts remains. The vessel's three mast steps remain intact, cut into the rider keelson. The foremast step is located 18.5 feet along the baseline, and measures 1.7 feet long, 0.7 feet wide, and 0.52 feet deep. The mast step combing is intact around the foremast step, measuring 7.7 feet long and 1.7 feet wide. The combing raises 0.58 feet above the rider keelson.

The mainmast step is located at 65.4 feet along the baseline, and measures 1.7 feet long, 0.7 feet wide, and 0.52 feet deep. As with the foremast step, the mainmast step has a combing measuring 9.7 feet long and 1.7 feet wide. This step rises 0.9 feet above the keelson structure. The mizzenmast step is located at 110.5 feet on the baseline, and measures 1.9 feet long, 0.8 feet wide, and 0.52 feet deep. The mizzenmast combing is missing, but its fasteners remain attached to the keelson surrounding the mast step and extend 0.6 feet above the keelson structure.

*Montgomery* is one of only a few examples of a double centerboard schooner found in Wisconsin waters. The centerboard trunks no longer remain extant except for a narrow remnant of the bottommost board of the trunk, which extends 0.4 feet above the rider keelsons, and measure 0.3 feet thick. Only the aft centerboard remains extant on the site, however, both of the pocket pieces, the part of the keelson structure through which the centerboard passed through, remains in place along the centerline of the ship. The slots for the centerboards within the trunks both measure 0.7 feet wide. Both centerboard trunks sat along the centerline and were not offset from the keelson.



Figure 27. *Montgomery*'s keelson assembly and remains of the forward centerboard trunk (Wisconsin Historical Society).

The forward centerboard trunk begins 41 feet along the baseline and measures 18.7 feet long. The aft centerboard trunk begins at 72.5 feet along the baseline and also extends 18.7 feet. An additional timber sits atop the rider keelsons, and extends 12.6 feet between the centerboards. This measures 0.9 feet thick and houses the mainmast step. The hole for the aft centerboard's pivot pin remains extant on the port side of the lowest timber of the centerboard trunk at 75.9 feet along the baseline. A corresponding pivot pin hole can be seen extending through what remains of the aft centerboard. Although the pin is no longer extant, the hole allowed positive identification of the bow and stern of the wreckage. The forward centerboard's pivot pin is not extant on the site.

Additionally, there remain a few unidentified components on *Montgomery* site. Four holes are located in the vessel's keelson assembly on the centerline of the ship, which extend through the hull. The forwardmost hole is located 22.2 feet along the baseline, at the aft side of the foremast

step, and measures 0.4 feet in diameter. The next hole is located at 31.2 along the baseline, forward of the forward centerboard trunk. This hole also measures 0.4 feet in diameter. The third and fourth holes are located at 101.2 feet and 102.8 feet along the baseline and also measure 0.4 feet in diameter. These are centered between the aft end of the aft centerboard trunk and the mizzenmast step. It is likely that these holes were associated with the vessel's bilge pumps, and used to expel water out of the hull. A covering board is also fastened atop the keelson at 94.2 feet on the baseline, which measures 5.0 feet long and 1.9 feet wide. It is fastened with nine drift pins on each side of the board, measuring 0.1 feet in diameter. It is likely this board is a base to supply support for a piece of deck machinery such as a centerboard winch or bilge pump.

An unidentified rectangular object rests 14.3 feet off the port side of the wreckage at 13.0 feet along the baseline. This object measures 3.9 feet long, 2.2 feet wide and stands 1.1 feet tall. It is comprised of five timbers stacked and fastened together, with each timber measuring 0.4 feet thick. A fastener, which measures 0.1 feet in diameter, extends from the aft most side of the object, 1.1 feet from its edge. A round, iron plate, measuring 0.2 feet in diameter, is located on the edge of the forward most timber. It is unknown what this object was or where on the ship it was originally located. The site was heavily salvaged following its sinking and has been a known wreck site, and popular dive site, since the 1950s, so understanding site formation is difficult. It is probable that this was moved here by ice or wave action or by the original salvage attempts on the vessel.

It is not likely many other components of *Montgomery's* hull structure remain on the site or nearby within the bay. Most of the remains were likely broken up and swept ashore by wave and ice action over the 128 years since her sinking. The 2018-investigations preliminarily indicated that other than the occasional scattered plank, no other pieces of the ship lie in the immediate vicinity. Data already gathered on the site has increased our understanding of double centerboard schooner construction and can be used in conjunction with investigations of other known double centerboard schooners to gain a more complete understanding of this construction technique, and when and why it was used.

Local divers report that an additional piece of wooden wreckage was located south of the main bilge wreckage of *Montgomery*, near the southern edge of Whistling Straits Golf Course. When the site was popular with divers in the 1970s, it was thought to be the upper deck works of *Montgomery*. Society archaeologists have not been able to locate this other wreckage to confirm if it is indeed another section of *Montgomery* or if it another wreck entirely. The bilge site has been visited by many local divers over the years, however has fallen out of favor as a popular diving spot. The site will likely experience more frequent visitation by kayakers and beginning divers as the region's tourism popularity increase.

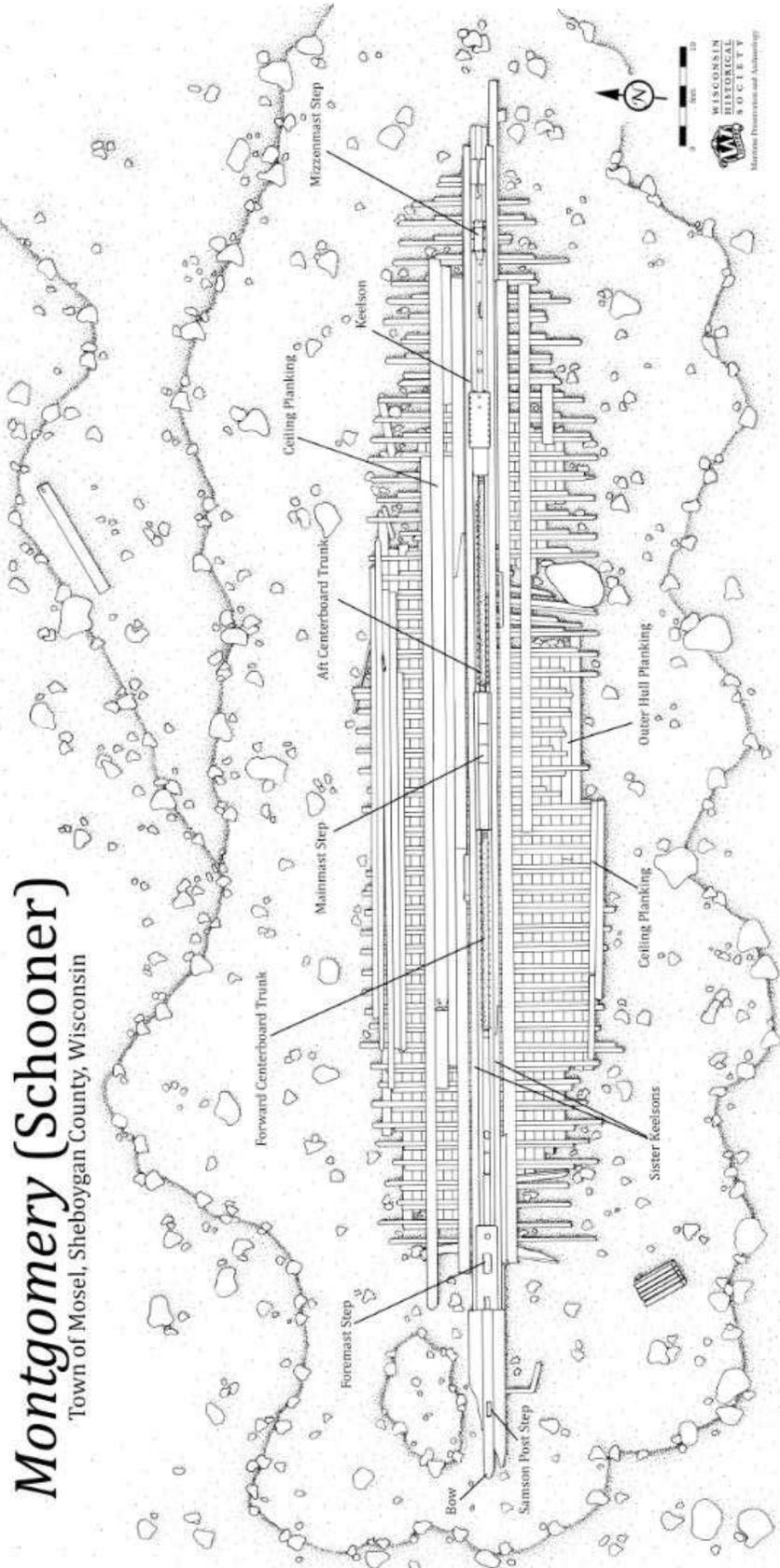


Figure 28. Site plan of the shipwreck *Montgomery*

## CHAPTER FIVE STEAMBARGE *GRACE PATTERSON*

The steambarge *Grace Patterson* was built at the Callister Shipyard in Grand Haven, Michigan in 1880. John W. Callister began in the shipbuilding industry in 1847 and labored as a ship's carpenter for the U.S. Government during the Civil War. He moved from Detroit to Grand Haven in 1866 and became part owner and foreman of the Kirby Shipyard, leaving to open his own yard in the early 1870s. The yard's Master Shipbuilder, John Neal, constructed *Grace Patterson* for William R. Patterson of Manistee, Michigan. The vessel was the first of three launched from the yard in 1880, including the *H.C. Akeley* and the *Webster Batcheller* (Bureau of Navigation 1880; Ewing 1999).

*Grace Patterson* was described as having a plain head and round stern with one deck and one mast. She measured 86 feet long, and 17.4 feet in beam with a 7.7 feet depth of hold. She had a net tonnage of 110.93 tons, of which 47.15 tons capacity was under tonnage deck, and 33.78 tons capacity was of the enclosures on the upper deck (cabin 22.81 tons and forecastle 10.97 tons). The engine and boiler rooms above deck and pilothouse were omitted from the calculations. Her engine was of 75 nominal horsepower. The vessel's official number was assigned as 85634. Her registration was filed at the port of Grand Haven on 7 August 1880 listing William R. Patterson as her sole owner, Captain John Crawford her Master, and Manistee her homeport (Bureau of Navigation 1880; US Merchant Vessel List 1884).

William R. Patterson was born in Scotland in 1840 and immigrated to the United States in 1863. Throughout his life, he worked as a sailor, captain, and marine engineer. By 1880 he resided in Manistee, Michigan with his wife, Grace, and mother-in-law, Margeret Drznen. The couple had no children. The steambarge was likely the first and only vessel William Patterson owned and he named ship for his wife (US Federal Census 1880, 1900).

The steambarge *Grace Patterson*'s arrival was recorded at the port of Chicago on 1 September 1880, with sundries from Saugatuck, Michigan. It's unknown if this was the first trip for the new vessel. In mid-October the ship called on Kenosha, Wisconsin, but by the end of the month the steambarge was in dry dock at Chicago for repairs to her "stern-pipe and stern-bearings". On 11 November 1880 *Grace Patterson* arrived at Chicago with railroad ties from Grand Haven and departed two days later with 3,000 bushels of oats and 100 barrels of salt bound for Montague, Michigan. By 9 December the ship was reported laid up for the winter within Milwaukee's inner harbor (*Chicago Tribune* 1880a, 1880b, 1880c, 1880d; *Daily Milwaukee News* 1880; *InterOcean* 1880a, 1880b, 1880c).

For reasons unknown, on 12 January 1881, *Grace Patterson* departed Milwaukee bound for Lake Michigan's eastern shore with a crew of three men and William Patterson at her helm. Underway the vessel sheathed over with ice and stranded in a heavy ice floe. After five days,

the ship was three miles out in the lake off Frankfort, Michigan when the men ran out of fuel and provisions. Patterson remained with his ship, but compelled the three crewmen to launch the lifeboat and attempt to drag it over the ice to seek help, however continually they broke through. As night set in, the men and their small boat were spotted from shore. A volunteer rescue team with a boat came out from Frankfort and saved the men. For five more days William Patterson, alone aboard *Grace Patterson* drifted in the ice, floating as far north as the Manitou Islands. *Grace Patterson* was finally rescued on 21 January and brought into Frankfort. Three other steam ships remained stuck fast in the ice field (*Detroit Free Press* 1881a, 1881b, 1881c; *InterOcean* 1881a, 1881b).

The steamer came out of winter quarters near the beginning of March 1881 and began a daily route carrying passengers and freight between Manistee and Ludington, Michigan with occasional trips north to Frankfort (*Chicago Tribune* 1881a; *Detroit Free Press* 1881d, 1881e; *InterOcean* 1881c, 1881d, 1881e, 1881f, 1881g). While departing Manistee harbor on the evening of 25 May, *Grace Patterson* struck an obstruction and broke her propeller. She was towed to Milwaukee for repairs by the tug *Caroline Williams* (*Chicago Tribune* 1881b, 1881c; *Detroit Free Press* 1881f; *InterOcean* 1881h). The ship was repaired, and returned to service by the end of the month and began hauling stone from Sturgeon Bay. On 28 June the vessel ran up on the beach ten miles north of Ludington in a heavy fog. Captain Casswell of the tug *B.W. Aldrich* came to her aid that afternoon and pulled her free with no damage (*Cleveland Herald* 1881; *Detroit Free Press* 1881g; *InterOcean* 1881i, 1881j).

*Grace Patterson* joined the Racine lumber fleet for July, August, and September 1881, hauling lumber from Michigan ports to that city. On 18 July, while lumber laden, *Grace Patterson* experienced engine problems fifty miles northeast of Milwaukee and was picked up by the propeller *Europe*. She was towed abreast of Milwaukee and the tug *J.B. Merrill* came out and took her into port for repairs (*Buffalo Commercial Advertiser* 1881; *Detroit Free Press* 1881h; *Journal Times* 1881a, 1881b, 1881c; *Racine Journal* 1881). The vessel was reported wind-bound at Manitowoc, Wisconsin on 18 September (*Chicago Tribune* 1881d; *InterOcean* 1881k).

On 26 October, *Grace Patterson* and her cargo were seized in Manitowoc to satisfy two claims. Charles Bock and Robert Heiden both of Manitowoc brought charges against the ship's owner, claiming that a quantity of brick and hay was sold to the steambarge. They alleged the vessel was attempting to get away without paying the \$254 due. The Captain secured bonds to cover the charges (*Chicago Tribune* 1881e; *InterOcean* 1881l).

On 2 November, *Grace Patterson* hauled a load of stone from the Laurie Quarry in Sturgeon Bay to Manistee. After dropping off the stone cargo, the ship continued to Chicago to collect general merchandise for Manistee. On 10 November, while returning to Manistee, her engine cylinder head blew and the ship put into Sheboygan for repairs (*Detroit Free Press* 1881i; *Door County Advocate* 1881; *Green Bay Press-Gazette* 1881a; 1881b). It is not known where the

steambarge overwintered. By 1 March 1882, ice was off Frankfort harbor and the tug *Hall* and *Grace Patterson* made the port's first arrivals of the season. *Grace Patterson* departed the same day for Wisconsin (*InterOcean* 1882a; *Detroit Free Press* 1882a).

*Grace Patterson* departed Manistee in the early afternoon of 14 March 1882 with a cargo of lath bound for Schroeder of Milwaukee. The steambarge crossed Lake Michigan to proceed down the western shore. As she was abreast of Twin River Point (Rawley Point) a fierce snow squall struck, blowing "a perfect hurricane and the air filled with fiercely driving snow and sleet". With visibility to near zero, the steambarge continued on her way tossed about in the terrific waves. At 1AM the vessel was discovered to be leaking and the pumps were set in action. The water continued to gain in the hold and the fire under the boiler eventually went out. The Captain ordered a sail to be hoisted and steered for shore, beaching his vessel around 4AM, four miles north of Two Rivers and just south of the point.

The storm continued to batter the ship and the spray of crashing waves encased her in ice. The crew of five men: Frank Mayo, Captain; William Patterson, owner of the steambarge; William Oakley, Engineer; M.P. Simpson, Assistant Engineer; and Robert Thorp, passenger, were unable to lower their lifeboat and reach shore in the heavy surf, masses of floating icebergs, and huge banks of ice. Over the next six hours the ship continued to sink beneath them until she was three feet underwater and the men were forced to take to the rigging awaiting abatement of the storm or rescue. No Life-Saving patrols were out on the beach because the station was closed, as the season of navigation had not begun.

Around noon Anthony Gauthier, the lighthouse keeper at Two Rivers spotted the steambarge in the distance through the snowstorm. Gauthier trudged through four feet high snowdrifts to relay news of the wreck to the Life-Saving Station. They mustered a volunteer crew and started for the shipwrecked vessel with a surfboat at 1:15PM. Although rowing the boat into the heavy sea was arduous; the crew arrived alongside *Grace Patterson* shortly after 3PM. *Grace Patterson's* crew was helped down from aloft and taken in the surfboat to the Life-Saving Station around 4PM. The rescued sailors were shown to the telegraph office and to a hotel in town (*Ahnapee Record* 1882a; *Buffalo Commercial Advertiser* 1882; *Buffalo Evening News* 1910; *Chicago Tribune* 1882a, 1882b; *Door County Advocate* 1882a, 1882b; *Green Bay Press-Gazette* 1882a; *Journal Times* 1882a; *Manitowoc Pilot* 1882a, 1882b; *Saint Paul Globe* 1882; U.S. Life-Saving Service 1882).

The following day, the Life-Saving crew returned to the wrecked vessel in an attempt to recover articles of value on board, but a southeast wind hampered operations. The tug *Gagnon* was taken to the site on 18 and 19 March and the Life-Saving crew along with the sailors recovered some of the ship's furniture and seventy-five bundles of lath. Some of the lath, however, was lost overboard in the storm. The tug *Williams* and a scow, out of Manistee, arrived on the scene

to render assistance to the *Gagnon*, but on 22 March foul weather again halted the recovery operations.

A steam pump was brought to the wreck on 24 March, but the operations were again suspended by weather on 30 March. Concerns regarding the quicksand bottom where the wreck laid, were soon realized as *Grace Patterson* visibly settled, sinking lower each day and with each storm. Doubts of her recovery were widely expressed. The steambarge had an insurance rating of A2 and was valued at \$7,700 with her cargo estimated at \$800; the realization that the chance of refloating the ship was limited offered a heavy blow to her owner, William Patterson who carried no insurance. As such, recovery operations persisted (*Ahnapee Record* 1882a; *Buffalo Morning Express* 1882a; *Chicago Tribune* 1882a; *Daily Union-Leader* 1882; *Door County Advocate* 1882b; *Journal Times* 1882b; *Manitowoc Pilot* 1882a, 1882b; *New York Times* 1882; *Philadelphia Inquirer* 1882; U.S. Life-Saving Service 1882).

On 3 April the surf conditions made the work on the ship ineffectual and activity at the wreck was finally resumed on 7 April when the tug *Kitty Smoke* of Manitowoc arrived at the scene with another steam pump. The *Kitty Smoke* accomplished nothing, however; the wrecking tug found it impossible to work on the steambarge with her aft deck under water. Additionally, the wind again sprang up and the crew was forced to abandon the project and the pump. On 15 April another larger wrecking tug, the *Leviathan*, arrived fresh from overhaul at Milwaukee, with a larger pump. The Life-Saving crew rendered assistance in running out lines from the wreck to the *Leviathan* to pull her free, and on a second attempt, they passed chains around *Grace Patterson*'s hull. *Leviathan*'s efforts to pull off the steambarge failed, however. On 28 April the Life-Saving crew attempted a recovery of the previously abandoned steam pump, but the pump remained held fast in the quicksand (*Buffalo Morning Express* 1882b; *Chicago Tribune* 1882c, 1882d, 1882e, 1882f, 1882g, 1882h; *Detroit Free Press* 1882b, 1882c; *InterOcean* 1882b; *Manitowoc Pilot* 1882c, 1882d, 1882e; *Weekly Wisconsin* 1882; US Life-Saving Service 1882).

Contemporary newspapers all recalled that no ship that had gone ashore along Twin Rivers Point (Rawley Point) had ever been released, and many suggested that William Patterson should give up his hopes of recovery of his steambarge. Then on 12 May 1882, the scow *Lottie Mason* bound for Milwaukee, dragged her anchors and came ashore immediately next to *Grace Patterson*'s wreckage. The tug *Cyclone* came to her aid on 14 May and successfully removed the scow (*Detroit Free Press* 1882d; *Manitowoc Pilot* 1882f).

On 12 July the *Leviathan* returned for a third attempt on *Grace Patterson*. Kirby Shipyard of Grand Haven, reported to hold an interest in the steambarge, dispatched the *Leviathan* to the wreck site. The tug's crew spent four days building a coffer dam around the wreck and pumping out water. When sufficient water was removed so that Captain Kirtland could see into her hatches, it became apparent that the lath remaining within her hull was preventing the removal

of the sand deposited there. Work was again suspended, the boxing removed and the hull abandoned. Hope of recovery again diminished (*Chicago Tribune* 1882i; *Detroit Free Press* 1882e, 1882f; *Door County Advocate* 1882c, 1882d; *Green Bay Press-Gazette* 1882b, 1882c; Hall 1882).

The tug *Cyclone* was next engaged to remove *Grace Patterson* from the beach. The plan was to lift the vessel completely out of the sand and then to pump her out. During the week of 22 August the wreckers, Truman & Cooper, drove more than 20 pilings around the shipwreck and sub-contracted Captain Williams, his wrecking schooner, and divers to thread seven chains under her hull, racking up costs of more than \$1,500. In total, they managed to raise the ship eighteen inches out of the sand. Ultimately upon inspection of the hull, it was determined that attempting to raise her further would likely break the ship in two. Operations were again halted. By the end of August arrangements were being made with the owners of the tug *Leviathan* to purchase *Grace Patterson*'s machinery for salvage (*Ahnapee Record* 1882b; *Chicago Tribune* 1882j, 1882k, 1882l; *Detroit Free Press* 1882g, 1882h; *Door County Advocate* 1882e; *Green Bay Advocate* 1882; *Green Bay Press-Gazette* 1882d, 1882e; *InterOcean* 1882c; *Manitowoc Pilot* 1882f, 1882g, 1882h, 1882i).

But, at the onset of September 1882, Captain Samuel Neff of Oshkosh came forward claiming to “know how to get *Grace Patterson* off the beach”. He arrived at the site during the second week of September with the steambarge *S. Neff* for the fourth expedition to the wreck, working on her for about two days before giving up. On 15 March 1883, more than a year after the stranding of *Grace Patterson*, William Patterson was interviewed by the *Two Rivers Chronicle* where he admitted, “He has not yet given up hopes of ultimately getting his vessel afloat again” (*Chicago Tribune* 1882m; *Door County Advocate* 1882f, 1882g, 1883a; *Green Bay Press-Gazette* 1882f; *InterOcean* 1882d; *Manitowoc Pilot* 1882j).

On 1 July 1883 United States Marshal Fink libeled the steambarge *Grace Patterson* for past due seamen's wages. The ship was put up for auction at Milwaukee on 13 July, fetching only \$90 (*Buffalo Morning Express* 1883; *Detroit Free Press* 1883a, 1883b; *Door County Advocate* 1883b; *Green Bay Advocate* 1883; *Manitowoc Pilot* 1883; *Marine Record* 1883). The ship's enrollment document was finally surrendered at the port of Grand Haven on 25 February 1885 listing the vessel as wrecked and abandoned on Twin River Point (Bureau of Navigation 1880).

More than two years later, Captain Patterson arrived at Two Rivers aboard the tug *Lou Wallace* on 1 September 1887. Onboard with him was an unnamed wrecking expert brought to assess the condition of *Grace Patterson*. They also brought with them a new type of wrecking apparatus. After a thorough examination, it was determined that the wreck's condition would not warrant the use of the apparatus. Patterson's persistence had apparently becoming somewhat of a laughing matter in that the newspaper suggested, “Halver Johnson will probably “tackle” her with his stump puller before long”. The final unsuccessful attempt to raise *Grace Patterson* was

reported in early November 1887, however little details are known of the persons involved (*Ahnapee Record* 1887; *Door County Advocate* 1887).

### *Site Description*

The remains of the schooner *Grace Patterson* lie on a slight starboard list in 5 feet of water, 95 feet off the beach at Point Beach State Forest in Town of Two Rivers, Manitowoc County, Wisconsin, in the waters of Lake Michigan. The vessel sits parallel to shore, on a heading of 149 degrees, 0.19 miles north of the mouth of Molash Creek.



Figure 29. Location of *Grace Patterson* site.

The wreckage was located from the air by powered-parachute pilot, Suzze Johnson on 12 June 2018 and brought to the attention of the Wisconsin Historical Society. On 14 June 2018, maritime archaeologists and volunteers from the Wisconsin Historical Society conducted a Phase II archaeological survey of *Grace Patterson*. The ship reburied in sand only a week later.

At the time of survey, the only portion of the shipwreck exposed above the notorious quicksand of Rawley Point was the ship's bow, and a small portion of the starboard hull near the stern. Abandoned equipment from the multiple salvage attempts was located amongst the wreckage. It is presumed from probing and bubbles coming from the sands that more of the wreck remains buried and the site should be watched as sand may uncover more structure in years to come.

The visible wreckage rises 3.0 feet off the soft, sandy bottom. The extent to which the vessel was salvaged over the years after its sinking is not known, but the deck and much of the machinery are no longer extant. Years of wave and ice action also likely contributed to the loss of the vessel's deck. The wreck's shallow location in the surf zone has also contributed to the lack of mussel colonization on the exposed timbers.

During the survey, archaeologists installed a temporary baseline along the centerline of the ship. A measuring tape was stretched 75 feet from the forward edge of the stempost, ending atop a hard packed sand berm aft of one of the abandoned lifting posts. This sand berm has likely built up over the stern of the ship. All measurements for the survey were taken from this baseline. From historical documents, the overall length of *Grace Patterson* measured 86 feet with a 17.4 foot beam. Given the estimated wreckage dimensions, location, and a comparison of vessel losses in the vicinity based on historic newspaper accounts, the remains were determined to belong to the steambarge *Grace Patterson*.



Figure 30. *Grace Patterson*'s bow and metal sheathing (Wisconsin Historical Society).

With only 11.2 feet of the bow and 4.2 feet of the stern quarter of the starboard hull exposed at the time of survey, measurements and observations could only be made in exposed areas. *Grace Patterson*'s stempost measures 1.3 feet long and tapers from 0.3 feet at the bow to 1.0 feet wide aft of the rabbet, with 3.8 feet exposed above the sand. A metal cutwater is fastened to the front of the stempost measuring 0.25 feet wide and 0.05 feet thick. Plates of iron sheathing are

fastened to the outer hull planking at the bow and are visible just above the sand. The vessel is single-framed at the bow and double-framed after the second frame set. Individual futtocks measure 0.55 feet sided and 0.25 feet molded, with an overall molded dimension of 0.5 feet with 1.4 feet spacing at the bow and 2.6 feet spacing aft of the fourth frame set. The outer hull planking measures 0.7 feet wide and 0.3 feet thick with four boards exposed above the sand on the port side and one on the starboard side. The vessel's ceiling planking measures 0.55 feet wide and 0.2 feet thick with three boards exposed on the port side and two on the starboard side. The hull sides disappear into the sand after the fifth frame set on the port side and after the third frame set on the starboard side. The outer hull planking, frames and ceiling planking are through bolted, peened on the outside, and roved on inside of the hull. Within the confines of hull at the bow are remnants of *Grace Patterson's* steam machinery.

A single steam valve with two handwheels, pipes and fittings were found, as well as a barrel hoop measuring 0.4 feet wide and 0.05 feet thick. Five feet aft of the stempost, the vessel's studded anchor chain is piled, filling the interior of the ship from side to side and aft to the samson post. The ship's samson post is located 7.0 feet aft of the bow and measures 0.7 feet wide and 0.7 feet thick. It rises 2.2 feet above the sand and lists 0.7 feet to starboard.



Figure 31. Remaining artifacts within *Grace Patterson's* bow (Wisconsin Historical Society).

A small portion of the vessel's starboard hull emerges from the sand 56.4 feet aft of the stempost. In the 4.2 feet exposed, two frame sets are visible. The first set is double-framed

where individual futtocks measure 0.55 feet sided and 0.25 feet molded. The next frame set is triple-framed with individual futtocks measuring 0.55 feet sided and 0.3, 0.2 and 0.2 feet molded. It is difficult to determine if this triple set is the result of a repair or if the ship was constructed in this manner originally. These sets are spaced 1.4 feet.

Two elements of salvage operations remain on the site. Located 72.0 feet aft of the stempost and outbound of the starboard side hull is what is presumed to be one of the pilings driven in by the wrecking crew of the tug *Cyclone* in August of 1882. Their plan was to lift the vessel by driving twenty pilings alongside *Grace Patterson's* hull and slipping chains between the pilings and under her hull to lift the ship out of the quicksand. The exposed piling measures 0.8 feet in diameter and had only 1.0 feet exposed above the sand. It is likely that as sand moves over the site others pilings will be found in the future.



Figure 32. A small section of *Grace Patterson's* starboard hull extends above the sand (Wisconsin Historical Society).

Additionally, the top of a donkey boiler is exposed. The boiler measures 3.5 feet in diameter and is located 62.3 feet aft of the stempost and along the ship's port side. Historic reports indicated two occasions where donkey boilers were lost on the site and it is not known if either or both were recovered.

# Grace Patterson (Steambarge)

Town of Two Rivers, Manitowoc County, Wisconsin

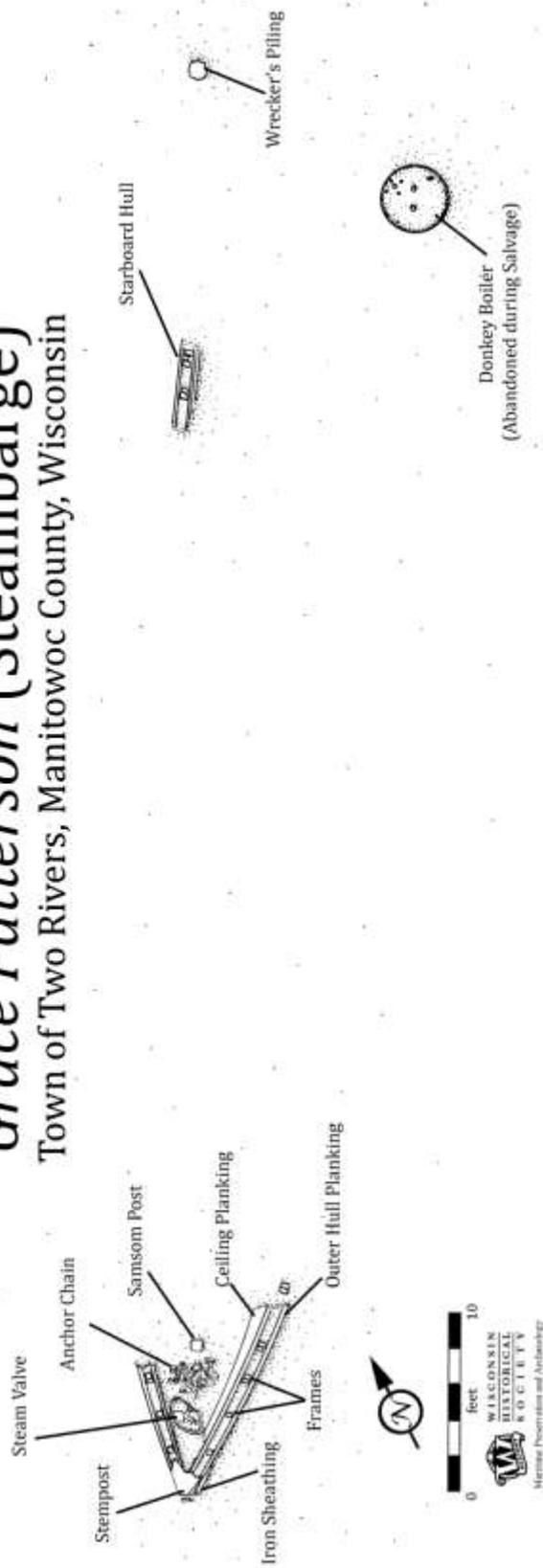


Figure 33. Site plan of the shipwreck *Grace Patterson*.

## CHAPTER SIX BARGE ADVANCE

The schooner-barge *Advance* was built in 1871 by Master Shipbuilder, Captain Alvin A. Turner in his shipyard in Trenton, Michigan. Little is known about Turner himself, but his shipyard was established in 1866 and produced around thirty vessels before closing during the Panic of 1873. The construction of the schooner-barge *Advance* was commissioned by Thomas A. Bufe, to transport lumber for the Peshtigo Company of Peshtigo, Wisconsin. The Turner yard built the steambarge *Peshtigo* for the Company in 1869 and four other schooner-barges including *Alert* (1871), *Active* (1871), *Noque Bay* (1872), and *Mautenee* (1873) (Blume 2012; Bureau of Navigation 1871; *Door County Advocate* 1881).

The first sawmill was built at Peshtigo by J.H. Levenworth in 1838 and subsequently developed into a prosperous town with established lumber, shipping and railroad interests. Over time, the Levenworth Mill thrived under a variety of owners and iterations. William B. Ogden purchased the mill in 1856 and established the Peshtigo Company. Eleven years later in 1867, Isaac Stephenson invested and reorganizing the company under the name Peshtigo Lumber Company and became Vice President and General Manager with Thomas A. Bufe as President. By the beginning of 1871, the Peshtigo Lumber Company owned extensive property in Peshtigo including sawmills, boarding houses, eighteen logging camps, a dry-goods store, a steam mill, a woodenware factory, three old barges, and three new schooner-barges built by Turner.



Figure 34. Portrait of Isaac Stephenson (*American Lumberman* 1905).

Everything changed drastically on 8 October 1871 when the Great Peshtigo Fire destroyed the company's property, the town, and the surrounding area, killing over 1,000 people. After the fire, the Peshtigo Lumber Company demonstrated its wealth and prosperity when the company was able to rebuild its infrastructure and construct two vessels within three years (*American Lumberman* 1905; Beers 1896; Gess and Lutz 2003).

*Advance* was first enrolled at the port of Chicago on 13 May 1871 and was recorded as 139 feet in length, 28.7 feet in beam, and 11.5 feet in depth with a carrying capacity of 366.93 tons. She was described as a schooner with a plain head and square stern, one deck, and two masts (Bureau of Navigation 1871). Although constructed with masts, *Advance* was purposely built to be towed in consort. No historic information could be found on the launching efforts or fitting out of *Advance*. The schooner-barge's beginning was representative of the rest of her career, lacking in pomp and circumstance.

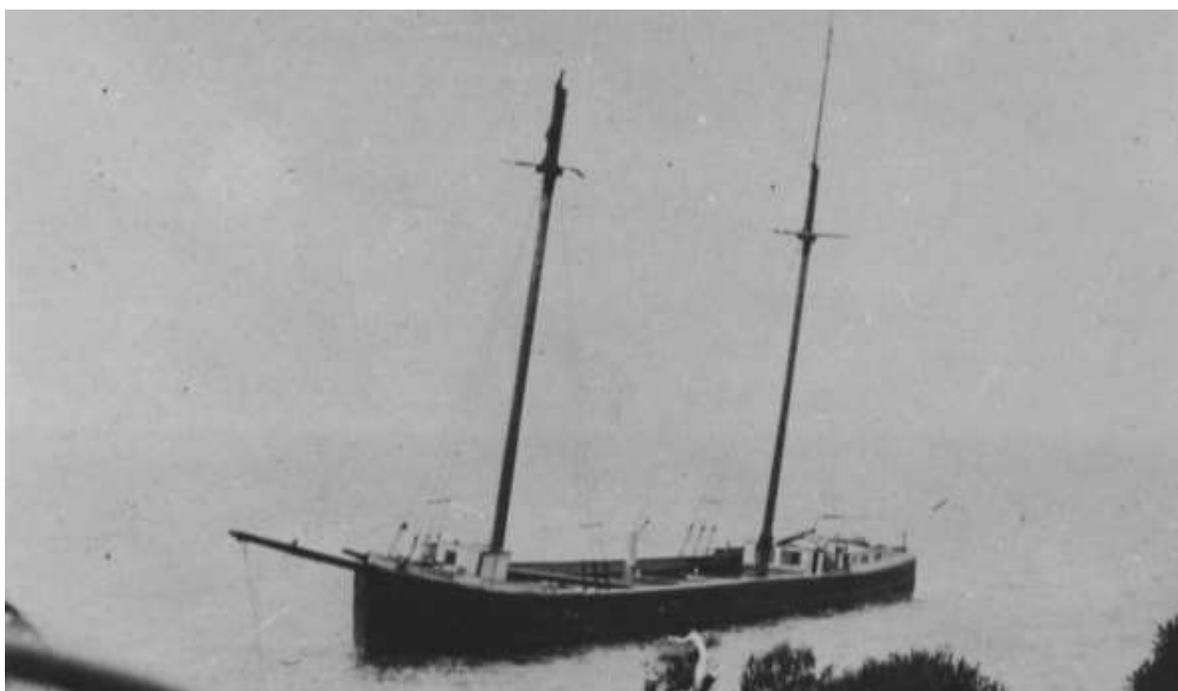


Figure 35. *Alert* (possibly *Active*), one of *Advance*'s sister ships, built in the same year. No historic images of the schooner-rigged *Advance* remain (C. Patrick Labadie Collection).

*Advance*'s first trip brought lumber from Peshtigo to Chicago. During the 1871-season, the schooner-barge averaged two trips per month to the port of Chicago carrying between 300,000 and 360,000 board feet of lumber. The vessel's arrivals at Chicago were documented on 14 June, 28 June, 28 July, 28 August, 29 September, and 5 October (*Chicago Tribune* 1871a, 1871b, 1871c, 1871d, 1871e, 1871f).

The schooner-barge continued to transport lumber from Peshtigo to Chicago during the 1872-season with arrivals recorded on 21 May, 4 June, 18 June, 15 July, 13 August, 29 August, 14 September, 2 October, 7 October, and 5 November. With the exception of 7 October, when the

ship arrived with 100 barrels of pork, on all other occasions the ship arrived with approximately 360,000 board feet of lumber (*Chicago Tribune* 1872a, 1872b, 1872c, 1872d, 1872e, 1872f, 1872g, 1872h, 1872i; *InterOcean* 1872a, 1872b).

The 1873-season continued like the previous year with the transport of lumber between Peshtigo and Chicago. The schooner-barge recorded arrivals on 13 May, 27 May, 9 June, 3 July, 17 July, 12 August, and 26 August, each time arriving with 360,000 board feet of lumber (*Chicago Tribune* 1873a, 1873b, 1873c, 1873f, 1873g, 1873h, 1873i). On 19 June, *Advance* arrived in Chicago with lumber and cleared for Peshtigo with groceries two days later (*Chicago Tribune* 1873d, 1873e). After arriving with lumber on 20 October, the schooner-barge took a week to clear with 200 packages of groceries for Peshtigo (*Chicago Tribune* 1873l, 1873m). On 15 September, and 9 October, *Advance* was recorded clearing with 300 packages of groceries (*Chicago Tribune* 1873j, 1873k). It became a trend for the schooner-barge to return to Peshtigo with a cargo of goods for the Peshtigo Lumber Company's grocery store.

On 17 April 1874, *Advance*'s enrollment document was surrendered in Chicago for a change of ownership (Bureau of Navigation 1874). The Peshtigo Lumber Company incorporated under the laws of the State of Wisconsin, with a new president, William E. Strong. The incorporation allowed the company to maintain ownership of the vessel instead of listing the vessel under the name of the company's president. She began her 1874-season in May, arriving at Chicago with lumber on the 2nd. The schooner-barge cleared on the evening of 9 May, with five barrels of lard, two barrels of pork, and sundries for Peshtigo (*Chicago Tribune* 1874a, 1874b; *InterOcean* 1874a). *Advance* cleared Chicago one other time in May, carrying 32 casks of lard and sundries for Peshtigo (*Chicago Tribune* 1874c). The schooner-barge arrived in Chicago three times in June, each time with lumber from Peshtigo and returned with sundries within the week (*Chicago Tribune* 1874d, 1874e, 1874f; *InterOcean* 1874b).

On 13 July, *Advance* arrived at Chicago with lumber, and cleared with twelve barrels of pork and three tierces (approximately 126 gallons) of lard five days later (*Chicago Tribune* 1874g, 1874h; *InterOcean* 1874c). With *Advance*'s arrival at Chicago on 27 July, the schooner-barge only spent two days in port (*InterOcean* 1874d, 1874e, 1874f). Four arrivals were documented in the port of Chicago in August, where the ship arrived with lumber and cleared with pork, lard, oil, beef, and sundries for Peshtigo within the week (*Chicago Tribune* 1874i, 1874j, 1874k, 1874m; *InterOcean* 1874g). On 23 August, *Advance*'s foremast was struck by lightning while en route to Chicago (*Chicago Tribune* 1874l). No other information regarding the incident or repairs to the vessel could be found. The schooner-barge continued her route between Peshtigo and Chicago until November when the ship put into the Miller Brothers' & Company Dry Dock along the Chicago River (*Chicago Tribune* 1874n, 1874o, 1874p; *InterOcean* 1874g, 1874h, 1874i, 1874j).

*Advance*'s 1875-season began with a change of district. Her enrollment was surrendered and her port of hail was changed from Chicago to Milwaukee, Wisconsin (Bureau of Navigation 1875). The schooner-barge continued to sail her route between Peshtigo and Chicago during the 1875-season with arrivals recorded on 18 May, 28 June, 23 July, 2 September, 17 September, 18 October, and 5 November. On each occasion, the vessel would arrive with lumber and clear with various cargoes such as sundries, beef, pork, oil, and lard (*Chicago Tribune* 1875a, 1875b, 1875c, 1875d, 1875e, 1875f, 1875g; *InterOcean* 1875a, 1875b, 1875c, 1875d, 1875e, 1875f, 1875g, 1875h).

Little is known of details of *Advance*'s sailing schedule or cargoes between 1876 and 1880. On 14 May 1878 the schooner-barge lost her main boom, gaff, and tow-post in an accident in Chicago harbor. No further details of the accident were found. Repairs to *Advance* were made on 12 August 1878; however it is unclear whether these repairs pertain to the previously mentioned accident or from another incident (*InterOcean* 1878a, 1878b).

Scattered reports of the schooner-barge *Advance* were recorded in the 1880s. The vessel began the 1880-season in the Miller Brothers' & Company Dry Dock in April (*Chicago Tribune* 1880). In October the tug *William Livingstone, Jr.* was towing the schooner-barges *Mautenee* and *Advance* when its propeller shaft broke near Cana Island, Wisconsin. The shaft punctured the hull of the tug causing her to sink. The tug *Favorite* passed the scene and took aboard the *Livingstone*'s crew, and picked up her consorts taking them to Sturgeon Bay, Wisconsin. The tug *N.H. Martin* then towed the schooner-barges to Peshtigo (*Door County Advocate* 1880; *Green Bay Press-Gazette* 1880). *Advance* ended her 1882-season on 25 November when she went into Miller Brothers' & Company Dry Dock for re-caulking (*Chicago Tribune* 1882). The schooner-barge's 1883-season began in March, where she was towed for the season by the Peshtigo tug *Boscobel*, along with the barges *Peshtigo*, *Active*, *Mautenee*, *Noque Bay*, and *Alert* (*Door County Advocate* 1883). She continued on her regular route towed between Peshtigo and Chicago until December when she arrived in Chicago for the winter lay up (*Chicago Tribune* 1883; *InterOcean* 1883). On 5 June 1885 *Advance* was laid up for a re-caulking and installation of a new centerboard trunk (*Weekly Expositor Independent* 1885). Although no information could be found for the schooner-barge's activities during the 1889-season, she arrived to take up winter quarters in December at Miller Brothers' & Company Dry Dock (*Chicago Tribune* 1889).

At the start of the 1893-season, Isaac Stephenson, Vice President of the Peshtigo Lumber Company, and William A. Ellis, Superintendent and General Manager of the company, decided to purchase the Peshtigo Lumber Company's fleet of vessels in its entirety to establish the Stephenson Transportation Company. The fleet consisted of the tug *Boscobel* and seven lumber barges, at the cost of approximately \$50,000. *Advance* was individually valued at \$5,000 and the vessel's enrollment document was surrendered due to the change of ownership on 17 March 1893 (*Advocate* 1893; *Buffalo Courier* 1893; Bureau of Navigation 1893; Campbell 1902; Beers

1896). After the change in ownership *Advance* continued to be towed as consort barge for the lumber industry. Along with the tug *Boscobel*, *Advance* was towed by the tug *Agnus Arnold* and steambarge *Fayette*. The schooner-barge also began loading lumber at Menominee, Michigan (*Door County Advocate* 1894a, 1894b). On 1 October, a large southeasterly storm swept over Lake Michigan causing many vessel losses. *Advance* became waterlogged in the storm, but safely sheltered in Sturgeon Bay (*Chicago Tribune* 1893).

*Advance* began her 1895-season with another change in ownership and district. On 15 March, her enrollment document was surrendered naming Peter C. Smith of Bay City, Michigan as sole owner and Master of the schooner-barge. The vessel's port of hail was also changed to Port Huron. Captain Peter C. Smith was part owner of the Saginaw Bay Towing Company, established in 1884. The schooner-barge left Lake Michigan and was towed to various ports on Lakes Huron and Erie (Gansser 1905; Bureau of Navigation 1895a). The ship did not venture on the eastern lakes for long, however. *Advance's* enrollment was surrendered on 26 April 1895 and she was returned to the service of the Stephenson Transportation Company. Her port of hail was changed to the port of Milwaukee (Bureau of Navigation 1895b). On 11 May 1895, *Advance* was recorded passing through Sturgeon Bay towed by the steambarge *City of New York*. Both vessels were loaded with lumber from Peshtigo bound for Chicago (*Door County Advocate* 1895a).

On 7 June 1895 Captain John Nicholson was appointed as Captain of the schooner-barge (Bureau of Navigation 1895c). The schooner-barge became a frequent consort of the Stephenson Transportation Company steambarge *I. Watson Stephenson*. In August *Advance* ran aground in Sturgeon Bay and was released after some dredging by the tug (*Door County Advocate* 1895b).

The *I. Watson Stephenson* and *Advance* passed through the Sturgeon Bay Ship Canal on 9 May 1896 to take on lumber at Marinette consigned to Chicago. She was recorded passing back through the canal seven days later (*Door County Advocate* 1896a, 1896b). *I. Watson Stephenson* continued to tow *Advance* between Marinette and Chicago, with passage through the canal recorded on 29 August, 26 September, 14 November, and 26 November (*Chicago Tribune* 1896; *Door County Advocate* 1896c, 1896e, 1896g, 1896h). *Advance* reportedly ran aground in Sturgeon Bay on 5 September 1896. The vessel was towed by the *I. Watson Stephenson* when they were required to maneuver around the scow *Felicitous* that was anchored in the channel. To avoid a collision, the towline was parted and the *I. Watson Stephenson* passed on one side of the scow to safety, while *Advance* passed on the other and grounded. The tug *Leathem* released the schooner-barge with little difficulty (*Door County Advocate* 1896d). In October the *I. Watson Stephenson* and *Advance* cleared Chicago bound north when they were caught in a gale off Kenosha. The steambarge lost her smokestack and cut *Advance* free in order to proceed to Milwaukee for repairs. The schooner-barge weathered out the storm anchored off Kenosha then

proceeded north under canvas (*Door County Advocate* 1896f; *Journal Times* 1896). *Advance* laid up in Menominee by end of November for the winter (*Chicago Tribune* 1896).

*Advance*'s 1897-season began late, with her first trip down bound loaded with lumber on 11 September. Previously, she was in dry dock in Chicago receiving bottom planking and a re-caulking of her butts (*Advocate* 1897a, 1897b). *I. Watson Stephenson* and *Advance* were recorded passing through the Sturgeon Bay Ship Canal on 2 October and 20 November. Each time, both vessels were fully loaded with lumber bound for Chicago (*Advocate* 1897c, 1897d). On 28 May 1898 *Advance* was towed upbound through the Sturgeon Bay Ship Canal by *I. Watson Stephenson* with lumber. No other information was found for the schooner-barge's 1898-season. (*Advocate* 1898).

Negotiations for the sale of the Stephenson Transportation Company vessels were underway at the end of March 1898. The schooner-barges *Advance* and *Alert* were sold to the Leathem & Smith Towing and Wrecking Company of Sturgeon Bay, but their enrollments were not surrendered until 25 April (*Advocate* 1899a, 1899b; Bureau of Navigation 1899). The partnership between John Leathem, lumberman and salver, and Thomas Smith, machinist and businessman, began in 1870 when they purchased property along the Sturgeon Bay coast and opened a sawmill. By 1893 their enterprises were incorporated as the Leathem & Smith Towing and Wrecking Company which consisted of stone quarrying, shipping, shipbuilding, wrecking and salvage, as well as dock facilities (Hodges and Steeb 2018; Lafferty 1998; Stone 1921).

Captain Andrew Olson was appointed Master of *Advance* at the beginning of May. His first trip as Master was delayed while the schooner-barge received a new coat of paint in Sturgeon Bay (*Advocate* 1899d). Under the new ownership *Advance* and *Alert* became the consorts for the Leathem & Smith tug *I.N. Foster* beginning with their first trip from Menominee to Chicago with lumber on 6 May 1899 (*Advocate* 1899c; 1899g).

Some accidents occurred during the 1899-season. On 20 May the *I.N. Foster* broke her crank pin 8 miles north of Sheboygan and cut her consorts loose. *Advance* and *Alert* continued north under sail (*Advocate* 1899e). In Chicago in early July, the towline between *Advance* and the tug *Rita McDonald* became tangled in the tug's propeller, crippling the vessel. The tug *Quinn* towed both ships into harbor (*InterOcean* 1899). The schooner-barge was sent to dry dock in August to have a leak repaired in her stern. The repair was minimal and *Advance* was placed back in service that afternoon (*Advocate* 1899f). *Advance* ended her season in December when she was laid up in Sturgeon Bay for the winter (*Advocate* 1899h). Once the schooner-barge had been put away for the winter, reports claimed that Captain Andrew Olson and Captain Sam McCumby would occupy their winter by opening a school for "the dissemination of fish stories and fairy tales," proposing to admit members who "have a fund of ghost stories in stock in order to afford a greater variety of entertainment to their friends" (*Advocate* 1899i).



Figure 36. Image of *Advance*'s sister ship *Alert*, with a cargo of lumber (C. Patrick Labadie Collection).

In March 1900, Leathem & Smith published the job assignments for their fleet. Captain Olson continued on *Advance* (*Advocate* 1900a; *Times Herald* 1900). On March 27, the schooner-barge's enrollment was surrendered for change of ownership. Captain C.B. Packard, Master of *I.N. Foster*, purchased a 1/8<sup>th</sup> interest in both schooner-barges *Advance* and *Alert* (*Advocate* 1899i; Bureau of Navigation 1900). In April the vessel began her season towed by the *I.N. Foster* (*Advocate* 1900b, 1900c, 1900d). She remained in this service until placed in winter lay up at the beginning of December (*Advocate* 1900e).

During the 1901-season, *Advance* continued as consort of *I.N. Foster*. The schooner-barge was recorded loading lumber at Menominee and Nahma, Michigan for the ports of Chicago and Milwaukee (*Advocate* 1901a, 1901b, 1901c).

*Advance* began her 1902-season with a change in ownership. Captain C.B. Packard sold his 1/8<sup>th</sup> share of *Advance* to Captain O.L. Anderson, along with his shares in the steamer *I.N. Foster* and barge *Alert* (*Advocate* 1902a; Bureau of Navigation 1902). Little is known of the schooner-barge's 1902-season. *Advance* was scheduled to carry stone in November, but was too

tall and could not fit in the loading slip under the tramway from which the stone would be unloaded (*Advocate* 1902b).

In June 1903, *Advance* filled with water and sank at the north end of the Leathem & Smith dock in Sturgeon Bay. She sat on the bottom for nearly two months. On 20 August, the tug *Leathem* pumped her out, readying her for possible sale (*Advocate* 1903a, 1903b; *Door County Democrat* 1903). Newspapers mentioned negotiations of a possible sale to an outside source, but no other information regarding the sale or the movements of the vessel were recorded until October. On 21 October, *Advance* was put into the lighter service. When the wooden bulk freighter *New Orleans* went ashore off of Whitefish Point, Wisconsin, two large pumps were placed on *Advance* to take to *New Orleans* to remove water and coal out of the stranded steamer's hold. By the end of the day, approximately 80 tons of coal had been removed, but around 3:00AM a heavy sea was running from the south and the tug *Leathem* with *Advance* in tow ran to Sturgeon Bay for shelter. The next morning the tug and schooner-barge went out again and another 100 tons of coal was taken off. The salvage effort continued until the morning of 24 October when the *New Orleans* was lightened enough to float freely off the reef. Under her own power, the freighter made her way to Manitowoc for repairs (*Advocate* 1903c; 1903d).

*Advance* was rarely used between 1903 and 1908, but by August of 1908 the barge was once again ready for the stone trade. New government contracts were issued for work in Algoma, Wisconsin. In July, *Advance* was pumped out and placed in dry dock for re-caulking and minor repairs, and by August the barge was ready to be loaded with stone and towed to Algoma to assist in harbor improvements (*Advocate* 1908a, 1908b, 1908c; *Door County Democrat* 1908a, 1908b). The barge's movements between Sturgeon Bay and Algoma were recorded 3 September, 24 September, 8 October, 24 October, and 5 November (*Advocate* 1908d, 1908e, 1908f, 1908h; *Door County Democrat* 1908d). In September, *Advance*'s railings and bulwarks were removed to aid in the loading and unloading of stone (*Advocate* 1908e; *Door County Democrat* 1908c). During the first week of October the schooner-barge was docked and partially unloaded in Algoma when a gale pounded the vessel against the bottom of the lake. As a result, she received hundreds of dollars in damage to her rudder and rudder post (*Advocate* 1908g).

*Advance* began her 1909-season in May transporting the outfit of a sawmill from Gladstone, Michigan to Cheboygan, Michigan for the E.M. Stafford Manufacturing Company. The schooner-barge, towed by the tug *Bennett*, left Sturgeon Bay on 23 May, and returned on 30 May (*Advocate* 1909a; *Door County Democrat* 1909a, 1909b). *Advance* was to continue carrying stone for Leathem & Smith for the remainder of the season; however the only shipment recorded was in July (*Advocate* 1909b). No other records of *Advance*'s movements were located for the 1909-season, although it's likely she remained in service as she received new planking above the waterline in October (*Advocate* 1909c). Instead of going into winter lay-up, the schooner-barge stayed in service as part of the Leathem & Smith winter fleet (*Advocate* 1909d).

The 1910-season began with a change in ownership. The schooner-barge's enrollment was surrendered on 18 March, when Captain O.L. Anderson sold his 1/8<sup>th</sup> share to the Leathem & Smith Towing and Wrecking Company (Bureau of Navigation 1910). The company also saw ownership changes. John Leathem retired from the company in 1910, leaving the business to his partner, who continued under the same name. *Advance* was re-caulked above the waterline and she continued transporting stone for Leathem & Smith for the season. The ship was recorded clearing the Sturgeon Bay Ship Canal on 25 August and 20 October (*Advocate* 1910a, 1910b, 1910c; *Door County Democrat* 1910a). In November *Advance* was placed in dry dock for a thorough overhaul. Outer hull planking was removed from the bottom of her hull and replaced with heavy timbers. Between November 1910 and March 1911, new frames were fastened to her existing frames, bustling the hull widening her 9.7 feet and extending her beam to 38.4 feet (*Advocate* 1910d, 1910e, 1911a; *Door County Democrat* 1910b, 1911a, 1911b).

On 20 April 1911, after a winter in dry dock, *Advance*'s enrollment was surrendered, officially describing the vessel as a barge and noting her change in rig, tonnage, and dimensions. She was lengthened from 139 feet to 141.2 feet and widened to 38.4 feet. Both of the vessel's masts were removed allowing for more storage on her deck and her carrying capacity was increased from 348 tons to 438 tons. The Leathem & Smith company anticipated a strong demand for stone, so they also equipped *Advance* with a large hoisting derrick capable of lifting 20 tons (*Advocate* 1911b, 1911c). The enrollment document listed Captain Leathem D. Smith as Master of the newly rebuilt vessel (Bureau of Navigation 1911a). Captain Leathem D. Smith, son of Thomas Smith, joined his father at the Leathem & Smith company in the early 1900s. One of his first projects was the design and construction of the tug *John Hunsader* and the management of the wrecking and salvage of vessels (Lafferty 1998). As Leathem Smith was listed as *Advance*'s first Master of the 1911-season, it is believed that Smith was involved with the rebuild of the barge and in her use in salvage. This is supported by her use in the salvage efforts of the *Panther* and her multi-year partnership with *John Hunsader*. On June 10 1911, Captain Ed Baker replaced Captain Smith as Master, who was then succeeded by Captain Pearl Purdy on 25 August (Bureau of Navigation 1911b).

Captain Purdy spent 20 years in Sturgeon Bay working as a commercial diver for various towing and wrecking companies as well as advertising for private contractual projects. Purdy was an exceptional diver, conducting a variety of work ranging from ship inspections and repair, to salvage and wrecking, underwater construction, and submerged object retrieval. Between 1911 and 1921 he spent the majority of his time working for the Leathem & Smith Towing and Wrecking Company as a salvage diver and Master of the barge *Advance*. Purdy was not only a diver; he was a competent sailor and machinist employed to manage derricks and other salvage equipment throughout his career. Before working on *Advance*, Purdy was employed as Master of the lighter *Felicitous* in 1907. For his final job, Purdy was employed as a cranesman on the whaleback steamer *Clifton* until September 1924 when the steamer went

down with all hands (*Advocate* 1907; Boyd 2005; Bureau of Navigation 1911a; *Door County Advocate* 1924; *Sturgeon Bay Advocate* 1915c; 1915e; 1916d).

At the beginning of June 1911, *Advance* was put into commission in the stone trade with records of her loading and clearing Sturgeon Bay on 8 June, 6 July, 13 July, and 10 August (*Advocate* 1911d, 1911e, 1911f, 1911h). Now equipped with a derrick, the barge was used to lighten cargo from stranded vessels. Historic documents referred to her as a barge, lighter, and derrick scow interchangeably. On 23 June 1911, *Advance*, in tow of the tug *Smith*, was used to remove cargo of coal from the steamer *Panther*. The steamer went ashore near Beaver Island, Michigan the preceding November and was later purchased and released by the Leathem & Smith company (*Door County Democrat* 1911c). On 27 July, the tug *Smith* and barges *Advance* and *Hurd* left Sturgeon Bay for Grand Haven but turned back when the wind shifted and a gale blew up. The trio safely returned to the bay, although *Hurd* was leaking badly (*Advocate* 1911g). In mid-December, *Advance* was put into winter quarter; she was the last of the stone fleet to be laid up for the winter in Sturgeon Bay (*Advocate* 1911i, 1911j).

*Advance* began her 1912-season with a new iron strap for her derrick. The previous strap broke during the last season and was replaced with a 12 foot long iron strap 12 inches wide and 2 inches thick (*Advocate* 1912a). Once the derrick was replaced, the barge continued to transport stone from Sturgeon Bay. Leathem & Smith obtained a large government contract for harbor improvements in Green Bay. The tug *Smith* and *Advance* were recorded entering Green Bay on 26 April, 2 May, 21 May, 29 May, 31 May, 26 June, 7 August, 8 August, 10 August, and 11 October. For each trip, the vessels brought crushed stone for the F. Hulbut Company and the DePere Cooperative Company (*Advocate* 1912b, 1912d; *Door County Democrat* 1912a, 1912d, 1912f; *Green Bay Press-Gazette* 1912a, 1912b, 1912c, 1912d; *Green Bay Semi-Weekly Gazette* 1912). On 9 July, Pearl Purdy stepped down as *Advance*'s Master and was replaced by Captain James Antonson (Bureau of Navigation 1911b).

After completing the government contract in Green Bay the *Smith* and *Advance* transported crushed stone across Lake Michigan to Marinette, returning with stone crushing machinery recently purchased by the company (*Door County Democrat* 1912f, 1912g; *Sturgeon Bay Advocate* 1912b). The season was not without incident. In the beginning of September, while in towed of the tug *Smith* from Green Bay, *Advance* was caught in a heavy current and ran into the center pier of the St. Paul Railway Bridge. The collision damaged the barge's stem puncturing the hull below the waterline. The hole was temporarily patched and the vessel pumped out allowing her to be towed back to Sturgeon Bay for repairs (*Advocate* 1912e). While unloading stone at Green Bay, deckhand John Van Swaag's arm was broken by falling stone (*Door County Democrat* 1912h; *Sturgeon Bay Advocate* 1912c).

*Advance* also was used for many lightening and unloading projects throughout the season. In May, the large steel bulk freighter *Roman* ran aground on Whaleback Shoal in northern Green

Bay. The *Smith* and *Advance* were summoned to lighten the vessel. Approximately 500 tons of coal was transferred from the steamer allowing for her release without injury. As *Roman* began her journey to the mouth of the bay, the *Smith* and *Advance* came alongside the steamer and transferred the coal back into her hold (*Advocate* 1912c; *Door County Democrat* 1912b; 1912c).

In September, *Advance* was used to hoist machinery out of the hull of the steamer *Rose*, a vessel abandoned in Sturgeon Bay's boneyard (*Door County Democrat* 1912e). Towards the end of the 1912-season, *Advance* was kept in Sturgeon Bay to be used for small projects. In late October the barge's derrick and clamshell proved very helpful in the unloading of coal from the barge *Tilden* at the Leathem & Smith dock. Usually the job of unloading a cargo of coal was done by a large group of men with hand carts. As it was so late in the year, securing men to do such labor was difficult. *Advance's* machinery allowed for the unloading of *Tilden* in a much faster and cost effective manner (*Sturgeon Bay Advocate* 1912a). In December 1912, the Leathem & Smith company began using *Advance* to rebuild the pier at their dock to allow for larger vessels (*Door County Democrat* 1912i). During this period Indorsements of Change of Master record Captain Peter Batchelder replacing Captain James Antonson as Master on 16 April 1913. Batchelder only kept that post until the 30<sup>th</sup> of the month, when Captain Antonson returned to the vessel (Bureau of Navigation 1911b).

By the beginning of May 1913, the Leathem & Smith company pier was completed. It measured 425 feet in length and extended four feet above the waterline. Much of the work was completed with the use of *Advance* and her derrick. The barge's machinery was used to drive the pier pilings and her clamshell was used to deepen the channel next to the pier using the dredge spoil to fill in the dock (*Sturgeon Bay Advocate* 1913a, 1913b, 1913c). At the end of May, *Advance* was put back into commission transporting stone. The vessel was recorded shipping stone to Marinette, Michigan on 30 May and 26 June, to Green Bay on 21 June, 9 July, and 17 July, and to Two Rivers on 7 August, each trip under the tow of the tug *John Hunsader* (*Door County Democrat* 1913; *Green Bay Press-Gazette* 1913a, 1913b, 1913c; *Sturgeon Bay Advocate* 1913d, 1913f). During this period, the barge again changed Masters; Captain Antonson was replaced by Captain Purdy on 16 July (Bureau of Navigation 1911b).

In early October, *Advance* was docked at the shipyard for a general overhauling (*Sturgeon Bay Advocate* 1913g). This routine maintenance proved advantageous because the speed and efficiency of the lighter's unloading machinery made the vessel in high demand throughout the 1913-season. During the first week in October, the wooden bulk freighter *C.C. Hand* ran ashore on Summer Island, Michigan and was destroyed by fire shortly afterward. The vessel was considered a loss, but Leathem & Smith thought the freighter's 2,400 tons of coal was worth salvaging. The company purchased the load of coal and sent *John Hunsader* and *Advance* to retrieve the cargo. The coal was transported from the wrecked freighter using *Advance's* clamshell derrick. Weather and storage capacity limited the salvage attempts and the tug and her

consort made multiple trips to remove the cargo (*Detroit Free Press* 1913; *Green Bay Press-Gazette* 1913d; *Sturgeon Bay Advocate* 1913h).

The lighter was used again in October to unload coal at the Leathem & Smith docks. The steamship *Arizona* arrived in Sturgeon Bay with 500 tons of hard coal for the company on October 17, and spent three days at dock being unloaded by *Advance* (*Sturgeon Bay Advocate* 1913i). The lighter's clamshell and machinery continuously proved its economic benefit, but it was not favored among the men who sought work as stevedores. In July, a group of coal heavers refused to do a job for the Leathem & Smith Company after being denied the asked price of 50 cents per hour for work. The company did not seem phased by the strike and commissioned *Advance* to unload the coal. Newspapers made a point to praise *Advance*, exclaiming that the lighter's machinery will "bet the boat out much sooner than it could be done with buckets and wheelbarrows" (*Sturgeon Bay Advocate* 1913e). *Advance* ended her 1913-season unloading rip rap stone at Ludington, Michigan in mid-December. Records indicate that the barge may have laid up in Ludington during the project due to weather, but it is unclear if she overwintered there or returned to Sturgeon Bay (*Sturgeon Bay Advocate* 1913j, 1913k).

*Advance* began her 1914-season transporting crushed stone to Menominee in April under tow of the tug *John Hunsader* with Leathem D. Smith as Master (Bureau of Navigation 1911b, 1914; *Sturgeon Bay Advocate* 1914a). On 2 May, the steel bulk freighter *Jesse Spalding* stranded on Fisherman Shoal, west of Washington Island, Wisconsin. The freighter could not be moved as its 14 foot depth of hold was stranded in only 8 feet of water. *John Hunsader* and *Advance* were commissioned to lighten the coal from the vessel to aid in her release. The barge lightened 2,000 tons of coal from the freighter in less than 60 hours. Newspapers claimed that *Advance* alone was responsible for saving *Jesse Spalding* from becoming a total loss. Five days later, *Jesse Spalding* was released and continued to Sheboygan under her own steam. *Advance* returned the majority of the cargo of coal back onto the freighter; only about 1,000 tons of coal was jettisoned off the vessel during its salvage. Interestingly, many small steam vessels were drawn to the salvage of *Jesse Spalding* and benefitted from her lightening. Since the coal was being discarded anyway, many of these vessels happened to find themselves loaded with the jettisoned cargo (*Door County Democrat* 1914a, 1914b; *Sturgeon Bay Advocate* 1914b).

Throughout May, June, and July *Advance* carried several loads of crushed stone from Leathem & Smith's quarry operation to Milwaukee, Marinette, and Green Bay. The barge was usually towed under the power of *John Hunsader*. The tug *Torrent* was recorded taking *Advance* to Green Bay in late June (*Door County Democrat* 1914c; *Green Bay Press-Gazette* 1914a, 1914b, 1914c; *Sturgeon Bay Advocate* 1914c). On 11 June, *Advance* was employed unloading coal at the company's dock when part of the Leathem & Smith company structures caught fire. The company's coal sheds were completely destroyed, and their warehouse and its contents were partially damaged. Fortunately, the lighter was not damaged by the flames. The total loss of property was estimated at \$1,000 (*Door County Democrat* 1914d). The barge not only moved

stone for the Leathem & Smith company, but was recorded loading rip rap stone at the Termansen Quarry in August. During this time, the *John Hunsader* left her usual consort to tow a barge for the Sturgeon Bay Stone Company (*Door County Democrat* 1914e). At the beginning of October, *Advance* was moved to Michigan City, Indiana, where she spent the rest of the season freighting rip rap stone from that port to Grand Haven, Michigan. Because of this deployment, when the freighter *Jupiter* ran ashore with 6,000 tons of coal, the tug *Favorite* had to be called from the Soo Locks instead of *Advance* (*Door County Democrat* 1914f, 1914g).

The barge spent winter lay up in Grand Haven and was retrieved by the *John Hunsader* during the first week of April 1915 (*Sturgeon Bay Advocate* 1915a). Once towed back to Sturgeon Bay, *Advance* was placed in dry dock for an overhaul and re-caulking. At this time she also received sister keelsons to add additional longitudinal support (*Door County News* 1915a; *Sturgeon Bay Advocate* 1915d). Over the majority of the 1915-season, *Advance* delivered rip rap stone to the Greiling Company in Manistee, Michigan. The Greiling Company contracted work for harbor improvements that included the delivery of between 12,000 to 15,000 tons of stone. For this work the Leathem & Smith company used the *John Hunsader* and *Advance* and chartered the barge *Oak Leaf* from the Sturgeon Bay Stone Company (*Door County Democrat* 1915a; *Door County News* 1915b; *Sturgeon Bay Advocate* 1915b). In October, considerable road work was planned for Washington Island. The crushing and building equipment used for the project was transported to the island by *Advance* (*Door County Democrat* 1915b; *Sturgeon Bay Advocate* 1915f). No other records were found to indicate whether the barge stayed on Washington Island to assist in road construction or if she was taken back to Sturgeon Bay for winter lay-up.

In 1916 *Advance* transported junk iron on 26 April. The Leathem & Smith company sold the iron and the barge transported it to the railroad bridge to be loaded onto railcars (*Door County News* 1916a). On 19 May, *Advance* was used as a diving platform to salvage the submerged automobile of Dr. J. Donovan who drove his car through the railing of the Sturgeon Bay Bridge. Luckily, the car's top was down at the time of the accident, so the doctor was able to escape with minimum injury. The vessel acted as support barge for diver Pearl Purdy who was able to locate the car and tie a line around it. *Advance* used its derrick to lift the car to the surface, and then used its clamshell to hoist the vehicle back onto the bridge (*Door County Democrat* 1916a; *Door County News* 1916b). In between odd jobs, the barge continued to transport stone, reportedly loading at the Leathem & Smith quarry as well as the Green Stone quarry for delivery in Manistee (*Door County Democrat* 1916b; *Sturgeon Bay Advocate* 1916a; 1916b).

On 26 October, the wooden steambarge *Philetus Sawyer* was beached in Baileys Harbor, Wisconsin after discovering a leak in her hold. *John Hunsader* was commissioned to pump out the vessel while *Advance* lightened the load of lumber and provided a working platform for salvage divers. The following day, while attempting to free the steambarge, *Advance* became in danger of capsizing and her line was released. A hard southeast wind and heavy sea began

pushing the lighter toward shore, so divers Pearl Purdy and Frank Behringer opened her sea cocks and bored eleven holes in her hull to scuttle her before she was driven too far ashore.



Figure 37. Newspaper clipping showing *Advance* on the beach in Baileys Harbor (*Door County Democrat*, 1916c).

On 30 October, the *John Hunsader* successfully released *Advance*, but *Philetus Sawyer* remained stranded for four more days. In efforts to continue the salvage of *Philetus Sawyer*, the remaining lumber was jettisoned overboard into lumber rafts that were collected on shore. Large holes were located in the stern of the steambarge and patched allowing the vessel to be pumped out, pulled from shore, and taken to the Sturgeon Bay shipyard eight days after being beached (*Door County Democrat* 1916c, *Door County News* 1916c; *Sturgeon Bay Advocate* 1916c).

On 3 December, the steel passenger steamer *Carolina* of the Goodrich Line ran up on a reef at Stoney Creek, in Clay Banks, Wisconsin. Many vessels were involved in the salvage of the steamer, including the wrecking tug *Favorite*, tug *Arctic*, Coast Guard surf boats, and lighter *Advance*. Along with the barge's derrick machinery, two large pumps, diving outfit, and other salvage equipment were added to the vessel's deck. On 5 December, while towed closer to *Carolina*, the lighter also became stranded on the reef. It took approximately an hour to be released. Nothing else is recorded about the details of *Advance's* participation in the salvage of the vessel. Through a collaboration of vessels and equipment *Carolina* was released from the shoal on 21 December, eighteen days after her grounding (*Door County Democrat* 1916d; *Door County News* 1916d, 1916e; *Escanaba Morning Press* 1916; *Sheboygan Press* 1916a, 1916b).

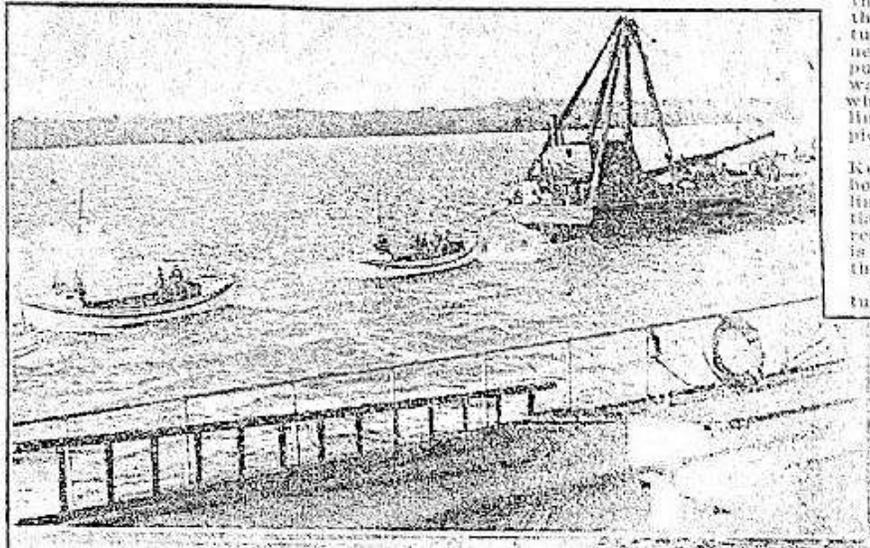


Figure 38. Newspaper clipping showing *Advance* from the deck of *Carolina*, as it was being towed to the aid of the stranded vessel (*Door County Democrat*, 1916d).

*Advance* began her 1917-season dredging at the Leathem & Smith's stone quarry dock (*Sturgeon Bay Advocate* 1917a). On 30 April, the barge received a new clamshell dipper that was shipped on a Goodrich vessel to the Leathem & Smith dock (*Sturgeon Bay Advocate* 1917b). Little is recorded for *Advance* until October of 1917. The vessel's derrick and machinery were used at the Sawyer Dock in Sturgeon Bay to load railroad cars full of scrap cast iron. Thousands of tons of scrap iron had been shipped out of Sturgeon Bay over the season, much of which was moved by the barge (*Door County Democrat* 1917). The end of *Advance*'s 1917-season was filled with inactivity and misfortune. At the beginning of November, *John Hunsader* and *Advance* were assigned to salvage anchors and chain from the deck of the steamer *C.C. Hand* at Summer Island. The steamer had gone ashore and was abandoned at the island many years prior. Unfortunately, the consort returned to Sturgeon Bay empty-handed. The salvage was unsuccessful because the boat had been stripped over the years of everything of value that could be easily removed (*Sturgeon Bay Advocate* 1917c).

Later that month *John Hunsader* and *Advance* were tasked with the rescue of the steambarge *City of Glasgow* after she ran ashore at Lily Bay, north of Sturgeon Bay. The tug and lighter attempted to use kedging to pull the vessel to freedom, but all attempts failed. The vessels returned to port and *City of Glasgow* was abandoned (*Door County News* 1917). Finally, the consort was hired in December to come to the aid of the stranded steamer *Presque Isle*. Once underway, the vessels were stopped with the news that the steamer had already been released. *John Hunsader* and *Advance* returned again to the Leathem & Smith Dock empty-handed (*Sturgeon Bay Advocate* 1917d).

Due to lost papers, a new enrollment document was drawn up for the lighter *Advance* on 2 May 1918, listing Leathem D. Smith as Master. A Change of Master Endorsement was issued two months later transferring the title and responsibility to Pearl Purdy (Bureau of Navigation

1918a, 1918b). *Advance*'s 1918-season began with the delivery of coal to the Van Camp Packing Company. Throughout the month of June, the barge made multiple deliveries to the company carrying approximately 600 tons of coal. The coal was used to power the packing company's refrigerator condenser (*Door County Democrat* 1918a, 1918b; *Sturgeon Bay Advocate* 1918a). In July of 1918 the Leathem & Smith company expanded their industry by adding a planing mill. The barge was used extensively in the transportation of machinery and equipment for the mill, including a 60 foot crane (*Sturgeon Bay Advocate* 1918b). In August, the lighter made multiple trips to Manistee, Michigan under the tow of the steambarge *Sydney O. Neff* (*Door County News* 1918a; *Sturgeon Bay Advocate* 1918c). In September, *Advance* came to the assistance of the stone barge *Oak Leaf* of the Sturgeon Bay Stone company. While partially loaded, the barge filled with water at the company's dock overnight. *Advance* transferred the cargo of stone from the sunken barge while Purdy worked on patching the vessel (*Door County Advocate* 1918; *Door County News* 1918b).

Much of *Advance*'s 1919 and 1920-seasons were spent salvaging boilers from lost ships to be reused in new vessels. In preparation for the salvage, the lighter received a new 'sheer legs' derrick (*Door County Advocate* 1919b; *Sheboygan Press* 1919b). This is a steam-powered derrick with a frame in a tripod configuration. This type of derrick was heavily used in the hoisting of ships masts and of boilers (Horner 1903:211). The first boiler was retrieved from Manitowoc in September 1919 (*Door County Advocate* 1919a; *Sheboygan Press* 1919a). It is unclear from which vessel this boiler originated. In December the final boiler was salvaged that year from the steambarge *Three Brothers*. The steambarge ran ashore off South Manitou Island, Michigan and was declared a total loss. This boiler was used to replace the boiler of the steambarge *Hoyne*. While *Advance* was working across Lake Michigan, the winter weather set in and the lighter was forced to overwinter at Frankfort, Michigan (*Door County Advocate* 1919b, 1919c; *Sheboygan Press* 1919b). *Advance* was able to return to Sturgeon Bay with the *Three Brothers* boiler at the end of March the following year (*Door County Advocate* 1920a, 1920b; *Door County News* 1920a; *Green Bay Press-Gazette* 1920a).

During the first week of May 1920, *Advance* returned to the bulk freighter *C.C. Hand* on Summer Island to salvage two boilers from the hold of the vessel. On the return trip, the consort stopped at Washington Island to remove the boiler from the bulk freighter *Louisiana* (*Door County News* 1920b; *Green Bay Press-Gazette* 1920b). Once *Advance* returned to Sturgeon Bay, the barge assisted in raising the bulk freighter *Vermillion* at Leathem & Smith, preparing the freighter to be converted into a floating dry dock for the company's new dry dock facilities (*Door County Advocate* 1920c, 1920d). *Advance* took a break from boiler salvage in the month of July when she was towed by the tug *Smith* to Gull Island, Michigan to release the freighter *Munising*. The lighter used her clamshell derrick to offload 400 tons of ore allowing the vessel to be freed. The ore was replaced back onto the freighter the following day (*Door County Advocate* 1920e). *Advance* began the month of August transporting stone. Records show the

barge made multiple trips each week, although it was unclear to which destination the stone cargo was shipped (*Door County Advocate* 1920f).

The tug *Smith* and *Advance* traveled to Leland, Michigan to retrieve the boiler from the steambarge *J.S. Crouse*, which burned the year before. On the return trip, the vessels revisited the wreck *Three Brothers* to browse for more salvageable materials. Unfortunately, they were unsuccessful (*Door County News* 1920c). Throughout August *Smith* and *Advance* were in Amsterdam, Wisconsin salvaging machinery from the Goodrich steamer *Atlanta*, which has burned to the waterline in 1906. Diver Pearl Purdy and Engineer Ed Weber were successful in retrieving the engine and boiler from the wreck site during the first week of October (*Door County News* 1920d; *Green Bay Press-Gazette* 1920c; *Sheboygan Press* 1920a, 1920b, 1920c). On the return trip to Sturgeon Bay, two other boilers were gathered from Manitowoc to be placed in the steambarge *Wisconsin* (*Door County Advocate* 1920g; *Green Bay Press-Gazette* 1920d). *Advance* spent November dredging a trench across the Sturgeon Bay Ship Canal for the installation of submerged electrical lines that would carry power across the bay. During the project the boom that carried the clamshell bucket broke. A new boom was installed within the week and the barge continued working until project's completion on 4 December (*Door County Advocate* 1920h, 1920i; *Door County News* 1920e, 1920f). The lighter *Advance* finished her 1920 season-retrieving boilers from Manitowoc (*Door County News* 1920g).

On 2 August 1921 *Smith* towed *Advance* to Muskegon, Michigan where she participated in dredging and harbor work. For the rest of the month the barge was chartered by the Cleveland Engineering Company to remove twelve wrecks in Milwaukee's harbor in preparation for construction of a new breakwater (*Door County Advocate* 1921a). While docking at the Milwaukee pier, the steamer *Hazel* filled with water and sank. Captain Murphey, owner of the vessel, was taking the steamer to Sturgeon Bay to salvage the machinery for another. *Advance* was brought over to raise the steamer. Efforts to raise *Hazel* were unsuccessful so the machinery was salvaged and the vessel abandoned (*Door County News* 1921a).

On Monday morning, 17 October 1921 the steel bulk freighter *Frank Billings* went ashore in Sand Bay, Wisconsin, south of Sturgeon Bay. The freighter was bound for Green Bay from Toledo, Ohio with a cargo of soft coal. Immediately after running aground, the steamer sent word to the Leathem & Smith company for assistance. The tug *Smith* and lighter *Advance* were sent to the site and began lightening the freighter of her coal. By the afternoon 600 tons of coal were removed from *Frank Billings* to *Advance*. The tug attempted to pull the vessel free, but was unsuccessful. Over the following days, work continued to free *Frank Billings* but *Smith* only managed to move the vessel a couple hundred feet by Wednesday, 19 October. That afternoon, a westerly wind picked up hindering further salvage. *Advance*, which had been moored alongside *Frank Billings*, began to take on water in the high winds and heavy seas so she was cut loose from her moorings and set adrift. The heavy seas pushed *Advance* high on shore in Sand Bay around 6:30PM. The five member crew of the lighter was safely rescued by

the U.S. Coast Guard, but the lighter was pounded to pieces (*Door County Advocate* 1921b; *Door County News* 1921b; *Duluth Herald* 1921; *Green Bay Press-Gazette* 1921; *Sheboygan Press* 1921a). An attempt was made to salvage *Advance*. Two large pumps were used to pump water out of the hold, but a survey of the hull declared her too broken to be saved. The lighter's two derricks, wrecking pumps, and other wrecking machinery were salvaged from the vessel in the following days (*Door County Advocate* 1921c; *Door County News* 1921c; *Sheboygan Press* 1921b). Little else was documented of the salvage of *Advance's* machinery or the actions after her loss, but the lighter remained in the ownership of the Leathem & Smith company until the following year. Her enrollment document was surrendered at the port of Milwaukee on 21 April 1922 and the barge was declared abandoned (Bureau of Navigation 1922).

### Site Description

The remains of the barge *Advance* lay 520 feet east of the shores of Sand Bay Peninsula, on the Green Bay side of Door County, Wisconsin. The remains of the vessel rest in 8 feet of water on a heading of 50 degrees, with her bow facing outward and perpendicular to the shore. The extent of her bow and stern are missing, yet the structure just above the turn of the bilge down to the keelson assembly remains relatively intact rising 4.0 feet off the rocky bottom. The wreck's location, in a protected harbor, has provided a sufficient habitat for wildlife and contributed to frequent visitation from fisherman and other curious visitors. The wreck has been known to the Wisconsin Historical Society since the program's inception. Although all of its upper deck works, hull components, and machinery were salvaged after sinking, or were broken by years of wave and ice action along the shore, major structural components of the vessel remain extant, including its keel, keelson, centerboard trunk and evidence of the bustle.

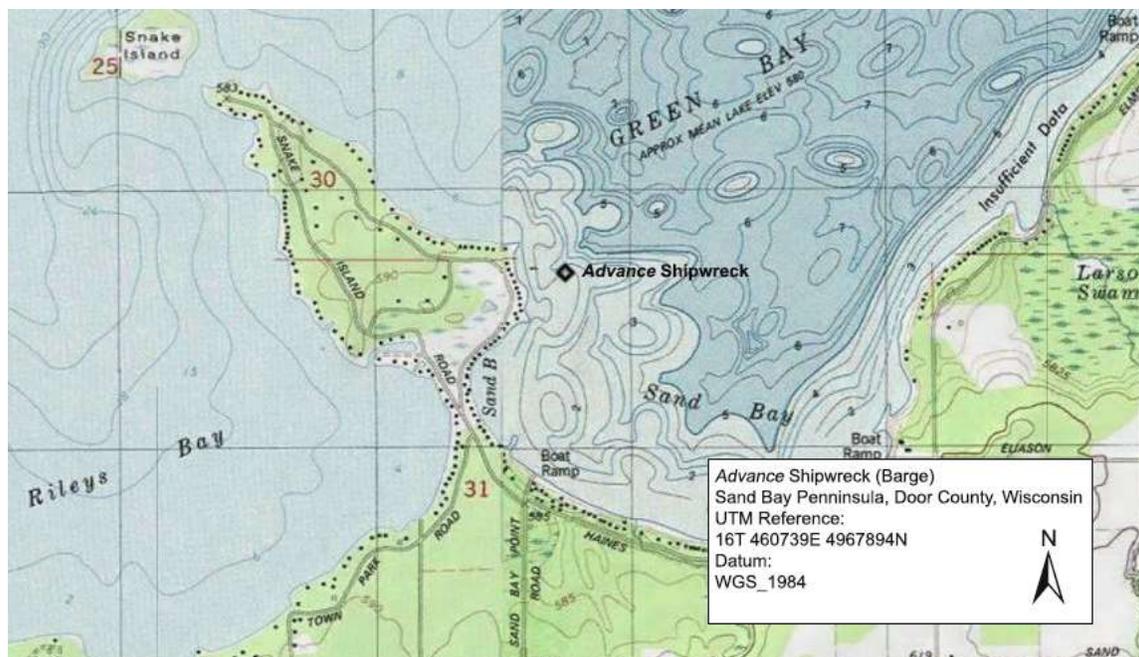


Figure 39. Location of the *Advance* site

In July of 2018, a survey of *Advance* was conducted as a ten-day field school hosted by Society maritime archaeologists and volunteers from Wisconsin Underwater Archaeology Association (WUAA). The field school consisted of eight students representing various avocational archaeology groups throughout Wisconsin, Illinois, Ohio, and Minnesota including WUAA, the Great Lakes Shipwreck Preservation Society (GLSPS), Maritime Archaeology Survey Team (MAST) and Underwater Archaeological Society of Chicago (UASC). A baseline was strung between fence posts driven at either end of the broken keelson structure, and set off a distance from the shipwreck to include all components of the site. As no stempost or sternpost is extant on site, it was not initially evident which end of the wreckage was the bow, so the baseline was stretched 136 feet along the centerline of the vessel. It was later determined by the position of the centerboard trunk that the baseline orientation was from the stern to the furthest extent forward on the bow. All measurements for the survey were taken from this baseline.

The overall length of the remains of *Advance* is 116.3 feet. The port side of the site extends outward 9.0 feet with scattered debris as far as 19.0 feet. The starboard side of the site extends 21.0 feet with debris scattered as far as 37.0 feet. This gives an overall width of the site of 30.0 feet with debris scattered as far out as 46.0 feet. At 70 feet on the baseline, the turn of the bilge was measured 12.1 feet outward on the starboard side of the wreckage.

As *Advance*'s stempost and sternpost are no longer extant, the remaining keelson structure begins at 8.7 feet and ends at 125 feet along the baseline and consists of the keel, keelson, rider keelson, and sister keelsons. The first 30 feet of the structure along the baseline lists 10° to starboard. Aft of this, the structure lists 6° to starboard indicating a break in the keelson assembly toward the stern of the vessel. Additionally, because of the 10° list in the stern and the relatively hard bottom substrate in this area, a small portion of the keel was located on the port side approximately 8.7 feet along the baseline. Although the sided dimension of the keel could not be determined, the keel's molded dimension measures 1.5 feet.

The keelson is located between 8.0 feet and 124.8 feet on the baseline measuring 1.2 feet sided and 1.2 feet molded. A rider keelson is fastened on top of the keelson starting at 16.5 feet on the baseline and ending at 121.5 feet, measuring 1.1 feet sided and 1.1 feet molded. The rider keelson is broken at 16.5 feet along baseline with the other section located 4.0 feet aft and fallen to starboard. These two sections of rider keelson were connected by a nib scarph. Scarphs were used to lengthen timbers without losing longitudinal support. Each nib scarf joint is indented 0.2 feet then cut at an oblique measuring 0.8 feet thick to 0.5 feet thick. The length of the oblique measures 3.8 feet long and when joined, both ends fit together to create a straight timber that would then be through-bolted.

The sister keelsons added in 1915, lie on either side of the keelson. Both measure 0.9 feet sided and 0.7 feet molded. The starboard side sister keelson begins at 30.0 feet on the baseline and extends to 124.2 feet. The port side sister keelson begins at 26.0 feet on the baseline and extends

to 123.0 feet on the baseline. The keelson structure was fastened together using through bolts measuring 0.1 feet in diameter.

*Advance* was outfitted with one centerboard. The only remaining evidence of the vessel's centerboard location is the bottommost timbers that comprised the centerboard trunk. The centerboard trunk begins at 76.4 feet along the baseline and measures 26.2 feet long with an overall width of 1.1 feet. The housing slot for the centerboard within the trunk measures 0.5 feet wide with 0.3 foot timbers on either side. Remnants of the centerboard and pivot pin were not extant on the site, removed over years of site formation processes. Frame sets along the centerboard truck have been dislodged from their original position showing the location of pocket pieces. To ensure a watertight centerboard trunk, floors and first futtocks did not penetrate through the keelson structure. Instead, centerboard timbers were placed between the keel and keelson with carved insets, called pocket pieces, for the frame sets. *Advance*'s pocket pieces measure 0.8 feet by 1.0 feet, and are 0.5 feet deep. Only three sets of frames remain intact in the pocket pieces along the port side of the centerboard trunk.



Figure 40. *Advance*'s keelson structure, with the floors and first futtocks in the foreground (Wisconsin Historical Society).

Although much of her upper hull is no longer extant, *Advance*'s floors and futtocks remain. The vessel is double-framed with 1.18 feet spacing between each frame set. The lengths of the starboard frames vary from 4.3 feet to 18.6 feet, while the lengths of the port frames vary from 2.4 feet to 15.0 feet. Individual futtocks measure 0.4 feet and 0.3 feet sided, with an overall

sided dimension of 0.7 feet. The molded dimension measures 0.85 feet at the sister keelson and 0.65 feet at the turn of the bilge.

Outer hull planking remains extant on both the port and starboard sides of the site. These planks measure 0.2 feet thick and vary from 1.4 feet to 0.7 feet wide decreasing further away from the keelson structure. Port side outer hull planking is located between at 20.0 feet and 122.0 feet along the baseline and extends outward as far as 9.5 feet. Starboard side outer hull planking begins at 5.8 feet and ends at 118.0 feet along the baseline extending outward as far as 19.0 feet. The vessel's ceiling planking remains extant on the starboard side of the site measuring 0.8 feet and 1.3 feet wide near the keel and 0.9 feet wide at the turn of the bilge. Thickness of ceiling planking varies between 0.5 feet next to the keelson and 0.3 feet at the turn of the bilge. Ceiling planking and outer hull planking are fastened to each frame set with four iron fasteners measuring 0.05 feet in diameter. The fasteners are roved atop the ceiling planking and peened on the outside of the vessel.

The main hull frame sets end at the turn of the bilge, 15.0 feet outbound, on the starboard side of the keelson structure. Between 30.0 feet and 80.0 feet along the baseline these frame sets remain fastened to outer and ceiling planking using sets of four roved and peened bolts. At this location another set of frame sets are attached to the outside of the lower hull component. Each frame of the upper hull set measures 0.4 feet sided with a total sided measurement of 0.8 feet per frame set. The frames measure 0.65 feet molded and range between 4.0 feet and 6.0 feet in length. These upper frames sit on a shelf of two large outer hull planks that measure 0.5 feet thick and 0.7 feet wide.

Five outer hull planks measuring 0.7 feet wide and 0.15 feet thick continue from this shelf up the frames. The two sets of frames, ceiling planking, and two sets of outer planking measure a total of 1.95 feet in thickness and are fastened together using a four set of iron fasteners similar to the rest of the hull. However, the lower right bolt of each set is structurally more heavily fastened than the rest. This bolt has a diameter of 0.15 feet and is fastened with two washers and two nuts. Each washer is square in shape and measures 0.35 feet by 0.35 feet with a thickness of 0.05 feet. These were placed on top of the ceiling planking and then topped with a round nut measuring 0.35 feet in diameter with a thickness of 0.1 feet. The topmost nut is square in shape and measures 0.2 feet by 0.2 feet with a thickness of 0.1 feet. The entire fastening mechanism measures 0.3 feet thick and is located at the same location atop the one ceiling planking, along the turn of the bilge. It is believed that this particular hull component is the remaining part of a bustle.

During *Advance's* reconstruction into a lighter in 1911 she was widened 10 feet with the use of a bustle. To accomplish this, another set of frames was attached to the outside of the original hull frames at the waterline essentially producing a wider deck and higher cargo capacity without replacing the entirety of the hull.

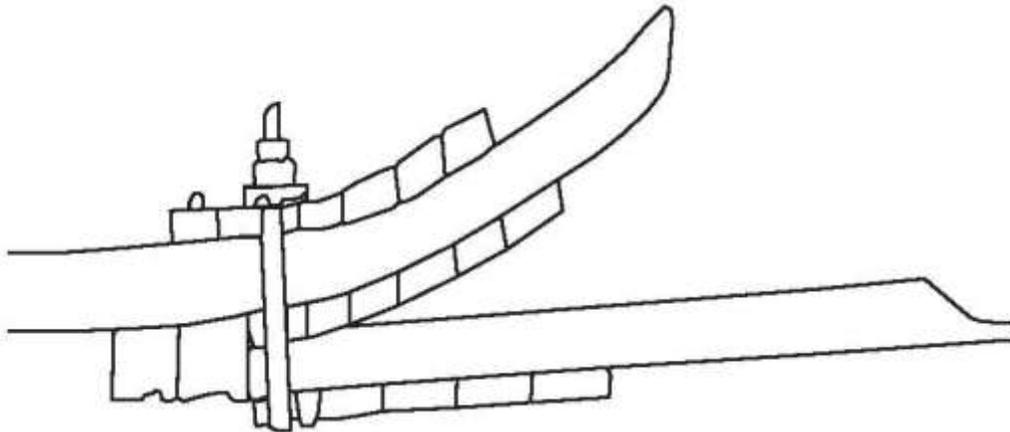


Figure 41. A profile drawing of the remains of *Advance*'s bustle. Not to scale. (Wisconsin Historical Society).



Figure 42. Image of *Advance*'s bustle (Wisconsin Historical Society).

On the starboard side between 30 feet and 70 feet on the baseline a large section of the hull was located approximately 80 feet from the main wreckage. The section measures 36.2 feet in length and 16.4 feet wide and contains frame sets, outer hull planking, and ceiling planking. Seven frames sets are present and spaced 1.2 feet apart. The single frames measure between 3.2 feet and 11.5 feet long with widths of 0.4 feet and 0.3 feet per set. Eleven outer hull planks are attached to the frames. The outer hull planks measure between 1.1 feet and 1.3 feet wide with

lengths ranging from 5.2 feet to 27.4 feet. Three ceiling planks are extant on the hull section measuring 0.8 wide. The lengths of the ceiling planking measures 22.4 feet, 24.7 feet, and 36.6 feet in length, two of which end at nib scarf joints.

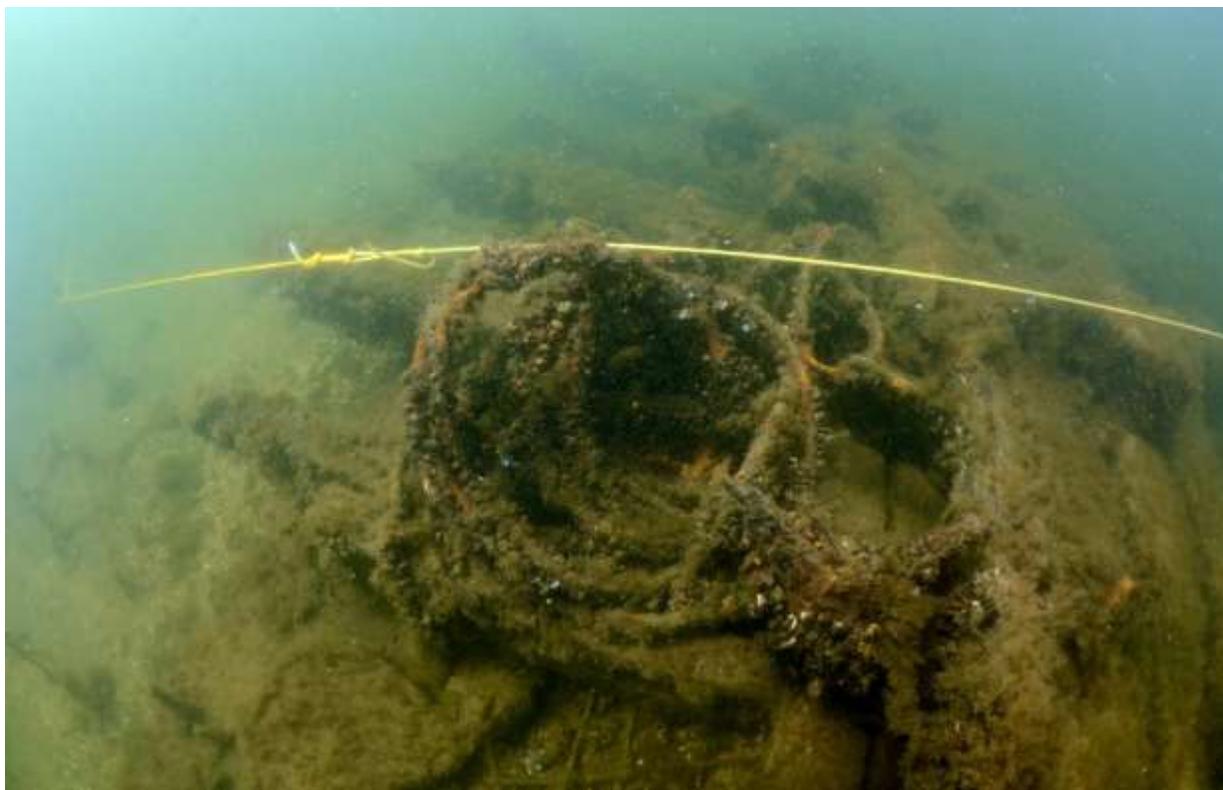


Figure 43. Coiled iron rigging located on *Advance*'s starboard side (Wisconsin Historical Society).

A large metal plate lies next to the sister keelson on the port side of the vessel between 56.8 feet and 69.8 feet on the baseline. The plate measures 13 feet long, 1.0 foot wide, and 0.1 feet thick. Eight feet down the plate a smaller iron strap is attached, protruding out at a 55 degree angle. This smaller strap measures 0.8 feet wide and 0.7 feet long with a thickness of 0.1 feet. The ends of the iron plate and iron strap curl upward as if bent and crudely cut. It is unclear what purpose this piece had, but it may have been a structural component added to support and secure salvage equipment during its final stage as a lighter.

A large pile of coiled iron rigging is located on the starboard side of the vessel at 30 feet along the baseline. The iron rigging measures 0.15 feet in diameter and the coiled pile measures 6.0 feet by 2.2 feet. The rigging was likely part of the derrick and clamshell bucket machinery that was left during the vessel's salvage. Small iron rods also lie scattered throughout the site, remnants of various salvage equipment that was removed during salvage.

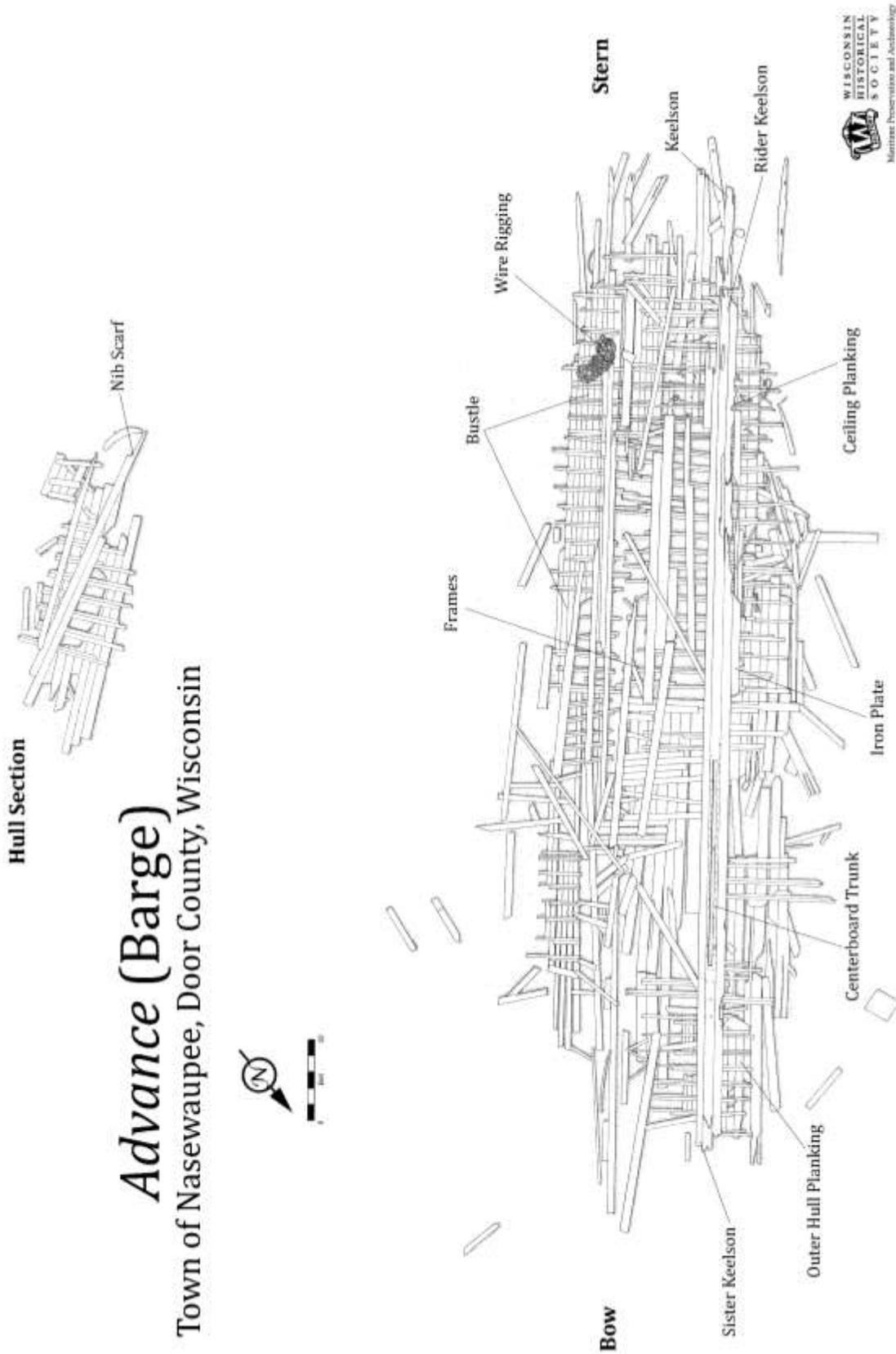


Figure 44. Site plan of the shipwreck *Advance*

## CHAPTER SEVEN

### SCOW SCHOONER *I.A. JOHNSON*

The scow schooner *I.A. Johnson* was constructed in early 1867 under the supervision of Master Carpenter J.A. Johnson at a shipyard in Dover Bay, Ohio for Thomas Russell, Jr. of Euclid, Ohio. Very little is known about J.A. Johnson or his shipyard in Dover Bay although it is known that *I.A. Johnson* was not the only ship that he built. Johnson also constructed the 96-foot two-masted scow schooner *Magdalena* (1865) and the 108-foot two-masted scow schooner *R.H. Becker* (1867) (Bureau of Navigation 1867; Great Lakes Register 1900; Polk 1884a; *Sheboygan Telegram* 1908). *I.A. Johnson* was first enrolled at the Port of Cleveland, Ohio on 29 June 1867, without indication of an official number. The ship measured 83.8 feet in length and 22.6 feet in beam with a 6.4 feet depth of hold and a capacity of 95.83 tons, of which 87.27 tons was under the tonnage deck and an 8.54 ton capacity of enclosures on the upper deck. The vessel was described as a scow with a square stern and plain head, one deck and two masts (Bureau of Navigation 1867).

Little information could be found about *I.A. Johnson*'s movements during her first year. The only record found reported that the scow had run ashore near Buffalo, New York in the fall of that year and was finally released and taken to Mason & Bidwell's dry dock on 18 June 1868 at the expense of \$2,000 (*Milwaukee Daily Sentinel* 1868). It is not known what occurred during and after the incident. While in dry dock, arrangements were made for the sale of *I.A. Johnson* to Captain Lewis Ryerse. On 8 February 1868 the vessel's enrollment document was surrendered at the port of Buffalo noting Captain Ryerse as sole owner and Master (Bureau of Navigation 1868a). Captain Ryerse was a prominent lake captain who began a career at sea in 1852 as a cook on the schooner *Industry*. The Captain excelled throughout his career participating in a variety of industries including the grain trade, shipbuilding, vessel towing and salvage, and lumber trade; while quickly becoming a skilled Master of such vessels as the schooner *Kate Kelly*, tug *Saugatuck*, steamer *Wisconsin*, and many others (Mansfield 1899).

A few months after Ryerse took ownership, *I.A. Johnson*'s enrollment document was once again surrendered for change of ownership. On 27 June 1868 James M. Smith, prominent judge and one of Buffalo's most trusted financiers, purchased the scow making Louis Bogaert her Master. The first documentation of the official number for *I.A. Johnson*, U.S. 12090, was hand written along the margins of this enrollment document (Bureau of Navigation 1898b; Weed 1899).

Only one trip was recorded for *I.A. Johnson* for the year of 1869. The scow traveled from Buffalo to Chicago, Illinois where she was involved in a collision on 26 November. The vessel sustained \$600 worth of damage. It is unclear what cargo the scow was carrying, what other vessel was involved, or what actions took place after the accident (*Milwaukee Daily Sentinel* 1869a, 1869b).

On 5 July 1870 the scow's enrollment document was once again surrendered. Captain Lewis Ryerse became sole owner and Master of *I.A. Johnson* for the second time. The following year Ryerse moved to Kenosha, Wisconsin and changed the scow's port of hail to from Buffalo to Milwaukee, Wisconsin on 19 July 1871 (Bureau of Navigation 1870; 1871). Very little is known about the 1870 and 1871-seasons. No records indicate the cargo or routes of the scow. James Traynor was appointed Master on 24 September 1871, implying that the vessel was being used (Bureau of Navigation 1871).

In April 1872 Charles Coates replaced Traynor as Master of the vessel as it prepared for another year of service (Bureau of Navigation 1871). *I.A. Johnson* spent the 1872-season transporting lumber from Saugatuck, Michigan to Chicago. The scow was recorded arriving in Chicago with 75,000 – 90,000 board feet of lumber on 6 May, 23 May, 3 August, 17 August, 26 August, 11 October, 18 October, and 9 September. It is unknown how long the vessel stayed in port and whether she returned to Saugatuck with cargo. Only one report of her clearance was found -- on 17 April *I.A. Johnson* cleared Chicago light for Saugatuck. On 26 August the scow arrived in Chicago with a load of lumber from Grand Haven, Michigan (*Chicago Tribune* 1872a, 1872b, 1872c, 1872d; *InterOcean* 1872a, 1872b, 1872c, 1872d, 1872e, 1872f, 1872g). Lewis Ryerse became Master of the scow on 24 September to finish out the remainder of her season (Bureau of Navigation 1871).

*I.A. Johnson* began her 1873-season on 21 April with Edward Olsen as Master. The scow continued in the lumber trade between Chicago and eastern Lake Michigan ports. The vessel was recorded arriving in Chicago with lumber from Saugatuck on 12 June, 20 August, and 9 September, while arriving from Ludington, Michigan on 12 September and 25 September (Bureau of Navigation 1871; *Chicago Tribune* 1873a, 1873b, 1873c, 1873d, 1873e). On 3 October, while enroute to Chicago with lumber *I.A. Johnson* ran ashore at Kenosha. The tug *Wetzel* was dispatched from Racine, Wisconsin to tender assistance. Within the week the *Wetzel* successfully pulled the scow from the beach and towed her to Chicago for repairs (*Milwaukee Daily Sentinel* 1873a, 1873b). On 1 December Lewis Ryerse returned to *I.A. Johnson* as Master to finish out the season. Her last recorded trip was to Racine with a load of wood on 15 December (Bureau of Navigation 1871; *Racine County Argus* 1873).

The 1874-season began with a change of owners and district. *I.A. Johnson's* enrollment document was surrendered on 2 March 1874 listing Otis R. Johnson and Francis B. Stockbridge, both of Saugatuck, as new owners of the scow. She was enrolled at the district of Michigan, port of Saugatuck. Edward Olsen also returned to the vessel as her Master (Bureau of Navigation 1871, 1874). Otis R. Johnson established a lumber industry in Saugatuck in 1855 and was joined by Stockbridge in 1857. The duo formed O.R. Johnson & Co. and built a sawmill on the mouth of the Kalamazoo River. Over sixteen years, the company gained investors and established business connections leading to the organization of the Menominee Lumber Company, the Mackinaw Lumber Company, and the Black River Lumber Company. Johnson

continued operations in Saugatuck until 1883 while Stockbridge went on to become a Michigan State Senator in 1893 (Hotchkiss 1898; Miller 1893).

*I.A. Johnson* continued in the lumber trade for the 1874-season. The vessel was recorded arriving at Chicago from Saugatuck on 6 April, 12 April, 17 April, 23 April, 11 May, 15 May, 4 July, 16 July, 28 July, 3 August, and 8 December. The scow also entered the Chicago harbor with lumber from Pere Marquette, Michigan and South Haven, Michigan on 20 May and 31 May, respectively (*Chicago Tribune* 1874a, 1874b, 1874c, 1874d; *InterOcean* 1874a, 1874b, 1874c, 1874d, 1874e, 1874f, 1874g, 1874h, 1874i, 1874j, 1874k). Lewis Ryerse reclaimed the position of Master on 14 November to finish *I.A. Johnson*'s sailing season. The scow's last trip from Saugatuck was on 8 December bringing 75 cords of wood (9,600 cubic feet) and 15 boxes of fish to Chicago (Bureau of Navigation 1874; *InterOcean* 1874l).

On 3 April 1875 *I.A. Johnson*'s enrollment document was surrendered for change of owner and district. R.M. Ryerson purchased a one-quarter share of the vessel while T.B. Falstead purchased three-quarters shares. Ryerson became Master of the scow and the new port of hail was changed to Chicago (Bureau of Navigation 1875).

*I.A. Johnson* began her 1875-season in early spring, leaving Saugatuck on 20 April with 80 thousand board feet of lumber. She arrived at Chicago on 21 April and cleared light on the same day (*Detroit Free Press* 1875a; *InterOcean* 1875a, 1875b). On 17 May *I.A. Johnson* brought 50,000 board feet of "dry piece stuff" and 35,000 board feet of "green piece stuff" to Chicago commissioned for Eggleston, Hazelton, & Co. (owned by G.O. Eggleston, B.B. Hazelton, F.B. Stockbridge, and O.R. Johnson) (Chicago Directory 1876; *InterOcean* 1875d). The scow continued in the lumber trade bringing a variety of lumber goods to Chicago from the Michigan ports of Saugatuck, Grand Haven, Evanston, and White Lake. Records show arrivals on 1 May, 31 May, 28 June, 3 July, 2 August, 10 August, 30 August, and 29 October (*Chicago Tribune* 1875; *Detroit Free Press* 1875b; *InterOcean* 1875c, 1875e, 1875f, 1875g, 1875h, 1875i, 1875j).

Little is known about *I.A. Johnson* during her 1876-season. The scow was recorded arriving in the Chicago harbor with wood from Muskegon and White Lake on 22 September and 30 October, respectively (*Chicago Tribune* 1876a, 1876b).

On 3 April 1877, a Chicago newspaper reported that *I.A. Johnson* received her outfit and began fitting out at the Chicago port (*InterOcean* 1877a). Though no previous historical documentation has been found on the overwintering actions of the vessel, this report indicates that *I.A. Johnson* spent her winters in the port of Chicago. By 10 April the scow, captained by R.M. Ryerson, was bound light for Saugatuck (*InterOcean* 1877b). Little else is known about the vessel's movements in the spring. In July *I.A. Johnson* made multiple trips from Milwaukee to Muskegon transporting 50,000-90,000 board feet of scantling and joists for the lumber broker E.B. Simpson (*Milwaukee Daily Sentinel* 1877a, 1877b, 1877c, 1877d). On 15 November the

scow was sold at auction by United States Marshal Fink at Milwaukee. The reasons for the vessels seizure by the U.S. Marshal are unknown. Multiple records reported that John Saveland purchased the scow for \$248, although enrollment documents do not support this (*Chicago Tribune* 1877; *InterOcean* 1877c, 1877d; *Milwaukee Daily Sentinel* 1877e).

On 16 May 1878 *I.A. Johnson's* enrollment document was surrendered at the port of Milwaukee for a change of owners and district. Racine residents Elias Anderson and Harrison Fellows became equal owners of the vessel, changing her port of hale to Milwaukee (Bureau of Navigation 1875, 1878). *I.A. Johnson* was placed in dry dock in Milwaukee for hull repairs and jibboom and topmast replacement before she took her place in the Racine fleet (*Chicago Tribune* 1878; *InterOcean* 1878a; *Milwaukee Daily Sentinel* 1878a, 1878b). Little is known about the scow's activity during the 1878-season. The vessel arrived in Chicago with lumber on 6 September (*InterOcean* 1878b). During the first week of November the scow was feared to have been lost in a Lake Michigan storm. Although newspaper reports vary in information, the vessel left Racine the first of November for an unknown location. Captain Copp of the schooner *J. Holly* arrived in Racine on 4 November claiming that *I.A. Johnson* and scow *Forest* were anchored off the Manitou Islands in northern Lake Michigan during the storm. The scow safely arrived in Milwaukee a few days later (*Cincinnati Daily Star* 1878a, 1878b; *InterOcean* 1878c, 1878d; *Milwaukee Daily Sentinel* 1878c; *St. Paul Globe* 1878). The scow also made safe passage into Milwaukee in December, although reports claim she had a hard time of it (*Milwaukee Daily Sentinel* 1878d).

In January and February of 1879 *I.A. Johnson* went into dry dock for rebuild (*Milwaukee Daily Sentinel* 1879a, 1879b). The first record of the scow was on 21 April. She, along with the schooner *Belle* and scows *Mt. Vernon* and *Evergreen*, cleared Chicago for various northern ports (*InterOcean* 1879). The scow was re-caulked on 1 May (*Milwaukee Daily Sentinel* 1879c). While away from her home district *I.A. Johnson's* license expired. Her enrollment document was surrendered at the port of Chicago and the vessel was issued a temporary enrollment on 16 May. Upon returning to Milwaukee on 31 May a new permanent enrollment was issued relisting E. Anderson and H. Fellows as equal owners and Anderson as Master (Bureau of Navigation 1878, 1879a, 1879b). *I.A. Johnson* spent the second half of the season making stops at Milwaukee and Ahnapee (Algoma), Wisconsin carrying various cargos. On 16 August the scow transported 93 cords of bark from Milwaukee for W.V. Caswell. On 16 October the vessel loaded 68 cords of wood at Ahnapee for ports unknown and on 11 December she brought corn, hay, and pork to Ahnapee along with 70 tons of feed for F. Swaty & Son (*Ahnapee Record* 1879a, 1879b; *Milwaukee Daily Sentinel* 1879d). *I.A. Johnson* received a new mainsail on 12 September (*Milwaukee Daily Sentinel* 1879e). The scow's final record was of her entrance into Milwaukee harbor thoroughly iced up on 17 December (*Milwaukee Daily Sentinel* 1879f).

*I.A. Johnson* was fitted out for her 1880-season in Racine on 12 March and by 23 March the

scow was transporting cedar posts to Milwaukee (*Chicago Tribune* 1880; *Milwaukee Daily Sentinel* 1880a). On the first week of May newspapers reported that *I.A. Johnson* was purchased by the C.B. Freyberg & Brothers Company for \$2,500. The scow's enrollment document was surrendered on 22 May for a change in owners. C.B. Freyberg, Albert Freyberg, Herman Freyberg, and Martin Coyne became equal owners of *I.A. Johnson*. The vessel was purchased for the use in the lumber trade with Martin Coyne as Master (Bureau of Navigation 1879b, 1880; *Chicago Tribune* 1880; *Door County Advocate* 1880; *InterOcean* 1880; *Milwaukee Daily Sentinel* 1880a, 1880b, 1880c). No other information could be found about *I.A. Johnson* for the rest of the season.

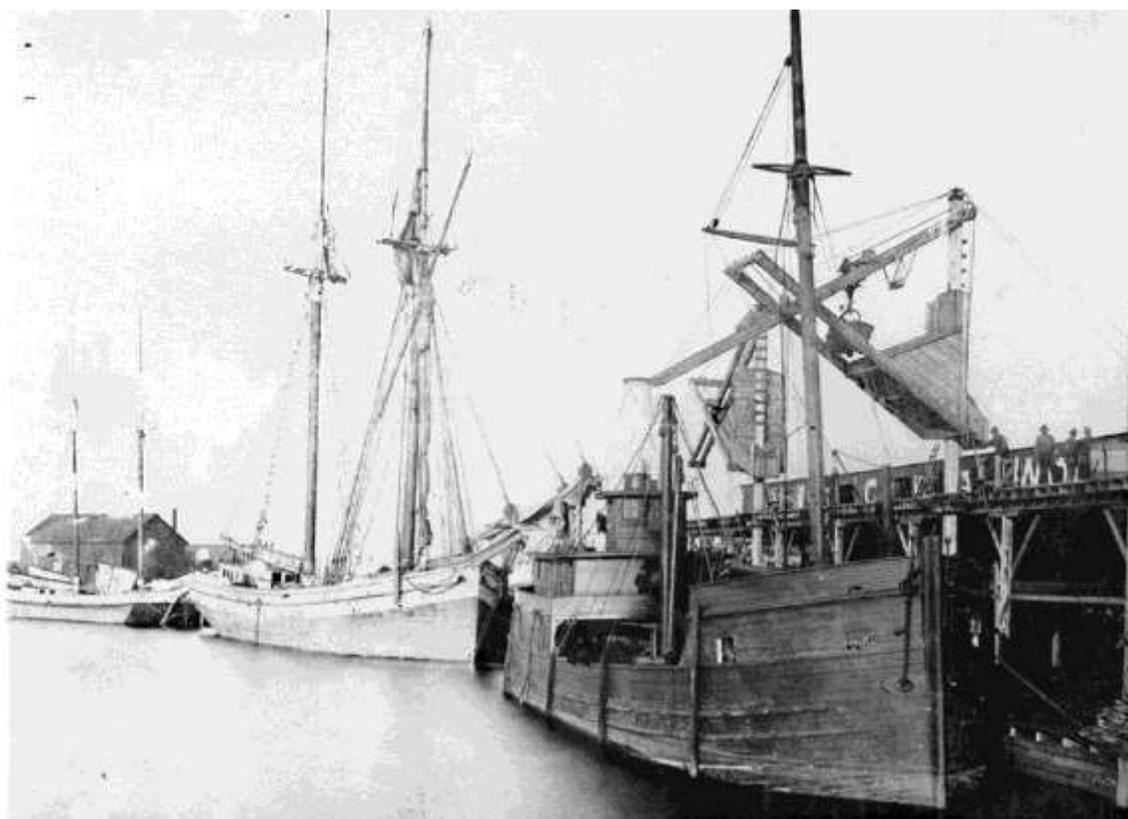


Figure 45. The scow *I.A. Johnson*, schooner *A. Boody* and steamer *Mary Pringle* at dock in Sheboygan, Wisconsin in 1880 (Wisconsin Maritime Museum, Carus Collection).

The Freyberg brothers were influential in Wisconsin's lumber industry along the Lake Michigan coast. Brothers Charles Bernard (C.B.), Albert, and Herman Freyberg were born in Germany and immigrated to the United States with their family in 1852. Their father Louis was a blacksmith by trade in Germany and continued in his profession by opening a blacksmith shop in Sheboygan, Wisconsin. Louis also opened a sawmill in Meeme, Wisconsin, and a flourmill and shingle mill in Sheboygan. C.B. Freyberg was born in 1844 and was the oldest of the three boys. C.B. helped his father in his mills as a boy and entered the working force as soon as he was able. Albert Freyberg was born in 1848, followed by Herman in 1850.

Around 1865, the Freyberg brothers began their own business under the name C.B. Freyberg & Bros. They first purchased their father's sawmill in Meeme then his flouring mill in Sheboygan (Portrait and Biographical Record 1894; Zillier 1912). The Meeme sawmill was operational until it was destroyed in a fire in 1879 (*Door County Advocate* 1879d). The brothers were not too affected by this loss for they had their sights set on the forests of Washington Island in Door County. Reports indicate that in the beginning of 1879 the Freyberg brothers had purchased the majority of the pine on the island and were in the process of felling and transporting the wood. By the end of the year C.B. Freyberg & Bros. had purchased land in West Harbor on the island and built a sawmill (*Door County Advocate* 1879a, 1879b, 1879c, 1879e).

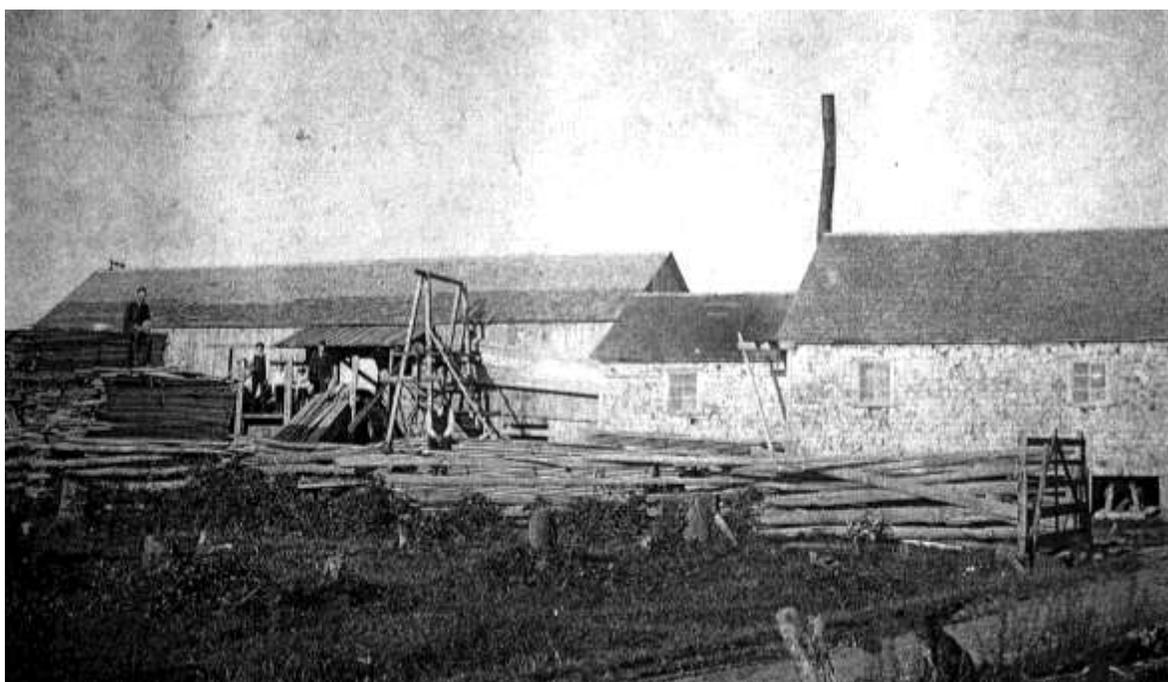


Figure 46. The Freyberg sawmill (Steve Radovan Collection).

By 1883 the company added a boarding house, harbor pier, grocery store, and lumber camps to their assets on the island (*Advocate* 1904; *Door County Advocate* 1881a, 1881b, 1883a; Zillier 1912). In the beginning, the Washington Island mill employed between 35-40 men and averaged a daily cut of 40,000 board feet of lumber and 38,000 board feet of shingles (*Weekly Expositor Independent* 1882a). The Freyberg company owned many vessels for their exploits including the iron steamer *Julia* and scow schooners *I.A. Johnson* and *R.H. Becker* while chartering many others (*Door County Advocate* 1882b, 1886a, 1887b; *Weekly Expositor Independent* 1885). C.B. and Albert lived in Sheboygan and managed affairs from there. Albert managed the retail side of the business while C.B.'s responsibilities were more administrative. Herman Freyberg lived on Washington Island and oversaw the activities of the Freyberg lumber crew, sawmill, boarding house, and grocery store (Portrait and Biographical Record 1894). C.B. Freyberg & Bros. also attained lumber from other locations including areas of northern Door County and the distant location of Pointe Aux Barques, Michigan.

The Washington Island industry started with the collection and milling of pine that was then transported to Sheboygan for sale and manufacturing. Once all the pine was felled, the Freyberg Brothers turned to other wood types such as oak, basswood, birch, cedar, maple, and beech (*Door County Advocate* 1883b, 1885a, 1885b, 1885d). As wood became more and more scarce on the island the Freyberg brothers began to rely more heavily on the forests of the northern Door County Peninsula. The sawmill on Washington Island officially closed by the end of 1887. It was rumored that the Freyberg operation would be moved to Jacksonport although no supporting documents could be found. Although the company ceased their mill operations on the island, C.B. Freyberg & Brothers still continued collecting whatever lumber was left on Washington Island and transported the rough cuts to Sheboygan to be processed. The company also continued running the grocery store on the island until the West Harbor property was sold in 1900. The company's focus transitioned to collecting lumber from areas around the Door County Peninsula including Jacksonport, Voseville, Sister Bay, Egg Harbor, Horseshoe Bay, Baileys Harbor, Rowleys Bay, and Valmy. The company purchased any type of lumber available, much of which was already cut and processed. The lumber felled by the Freyberg's was taken to their mill in Sheboygan for processing (*Advocate* 1900, 1903; *Door County Advocate* 1887a, 1888a, 1889; *Door County Democrat* 1909; *Independent* 1887b, 1888; *Sturgeon Bay Independent* 1888).



Figure 47. The Freyberg mill during the 1890s. The vessels seen are likely *I.A. Johnson* and *R.H. Becker* (Steve Radovan Collection).

On 10 November 1897 C.B. Freyberg & Bros. put finishing touches on a new shingle mill that was constructed in Sheboygan. Two months later C.B. Freyberg & Bros. was incorporated into the C.B. Freyberg Lumber Company with capital stock of \$60,000 and an additional \$15,000

cash reserve. The officers included: C.B. Freyberg President, Herman Freyberg Vice President, Albert Freyberg Manager and Alma Freyberg, Daughter of C.B., Secretary and Treasurer (*Sheboygan Times* 1897, 1898). In 1890 C.B. and Albert Freyberg invested in establishing the Sheboygan Novelty Company with Adolph Preussler and Obid Malton. The company's factory was located across the street and to the west of Freyberg's Sheboygan lumber yard and relied heavily on them for material. The Sheboygan Novelty Company employed 100 men and specialized in building buffets, bookcases, music cabinets, and china closets (Defebaugh and Fuller 1921; *Door County Advocate* 1891; *Sheboygan Press* 1913). The company continued manufacturing under that name until 1935 when it was incorporated as Fashioned Furniture Incorporated (*Sheboygan Press* 1935).

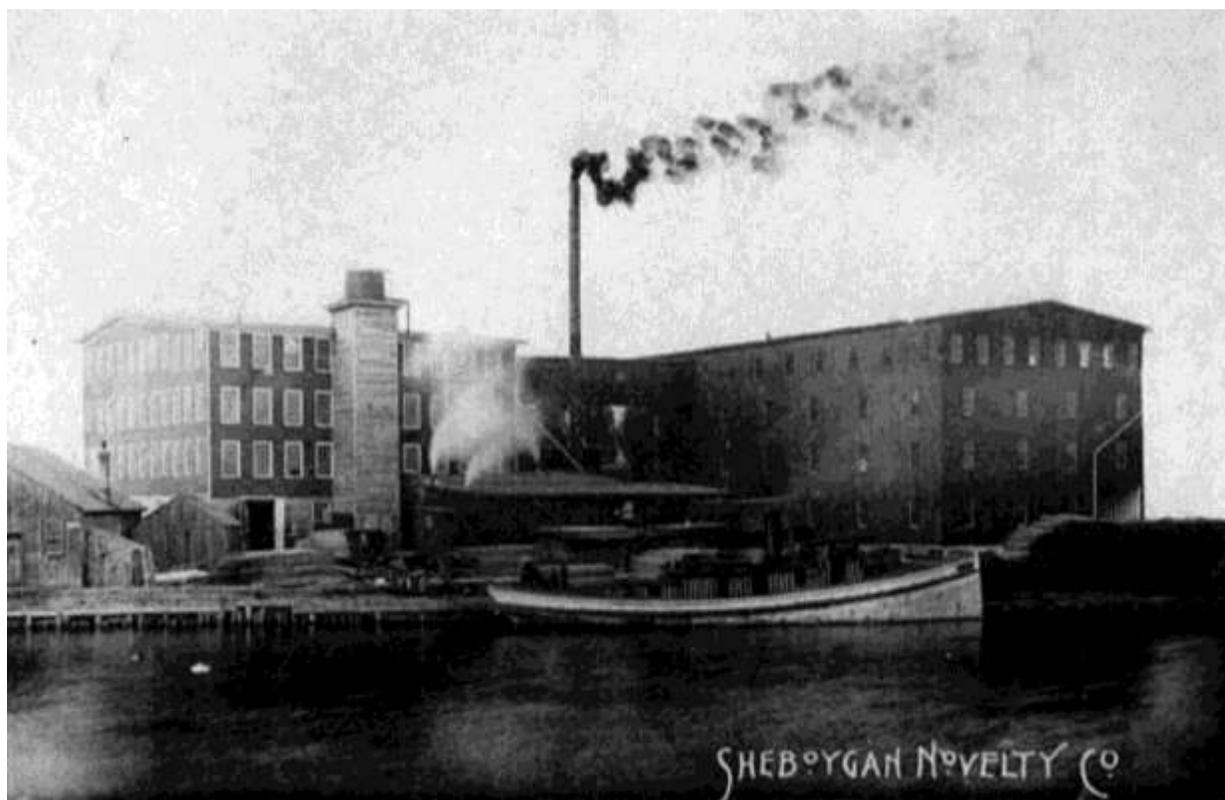


Figure 48. The Sheboygan Novelty Company (Steve Radovan Collection).

*I.A. Johnson* began her 1881-season on 15 April under charter transporting railroad ties from Sturgeon Bay, Wisconsin. The scow then transported 75 cords of wood for F. Swaty & Son from Ahnapee to Milwaukee where she unloaded her cargo and cleared light on the same day (*Ahnapee Record* 1881a; *Chicago Tribune* 1881; *Milwaukee Daily Sentinel* 1881a). Throughout the spring *I.A. Johnson* continued to move cargo for Caswell, transporting 60 cords of wood from Ahnapee and 58 cords of wood from Detroit Harbor (*Milwaukee Daily Sentinel* 1881b). During the month of September the vessel made multiple stops at Ahnapee loading lumber for Sheboygan (*Ahnapee Record* 1881b, 1881c). On 27 December the scow brought C.B. Freyberg and a cargo of dry goods and provisions to Washington Island. Prior to this Freyberg spent time up north purchasing pine for his mills. He and a crew of twenty men left the island for Pointe

Aux Barques, Michigan to begin felling and collecting newly purchased lumber. Freyberg purchased a tract of pine in Fayette, Michigan and upon returning gathered more men to start work there (*Door County Advocate* 1881c).

On 31 January 1882 a lawsuit was brought against the scow *I.A. Johnson* by N.R. Allen claiming damages at the cost of \$506. Allen and others chartered *I.A. Johnson* to deliver a load of wood and bark (valued at \$506) from Charlevoix, Michigan to Kenosha. The charter was entered in the spring of 1881 but the cargo of wood was not delivered until November of that year at which time Allen et al. claimed that the cargo was now useless to them (*Milwaukee Daily Sentinel* 1882). No other historical references could be found on this Admiralty case and the resulting verdict remains unknown. Interestingly, a few months later, historic newspapers celebrated *I.A. Johnson* and her accelerated journey between Washington Island and Sheboygan. Reports indicate that in May of 1882 the scow sailed from Washington Island to Sheboygan with lumber and returned with sundries in a span of two and half days. This was acknowledged to be the fastest time ever made between the two ports under sail at that time (*Chicago Tribune* 1882; *Door County Advocate* 1882a). On 28 March Martin Coyne sold his quarter share of the scow to H.C. Kane, relinquishing his post as Master to Kane. *I.A. Johnson's* enrollment document was surrendered noting the change in ownership (Bureau of Navigation 1882, 1888). On 1 December the scow left Detroit Harbor on Washington Island loaded with wood for the Freyberg brothers sawmill in Sheboygan (*Weekly Expositor Independent* 1882b).

Little is known about the 1883-season. On 29 May *I.A. Johnson* arrived in Sheboygan with lumber clearing light on the same day (*InterOcean* 1883a). On the morning of 3 September 1883, the scow was eight miles off of the Sturgeon Bay Ship Canal heading to Sheboygan when they saw the remains of a wrecked catamaran floating nearby. One of the catamaran's hulls was taken aboard and left at Sheboygan while the other was carried to Whitefish Point by the current. This catamaran did not belong to anyone in Sturgeon Bay and no one was found near the wreckage. The mystery of the lost catamaran continued for ten days until reports published that as the vessel was towed to Escanaba, Michigan from Pentwater, Michigan by the schooner *Jane Anderson*, a storm blew up and the craft was abandoned with no one on board (*Boston Daily Globe* 1883; *Detroit Free Press* 1883; *Door County Advocate* 1883c; *InterOcean* 1883b; *Oshkosh Daily Northwestern* 1883).

*I.A. Johnson* continued hauling lumber for the Freyberg company for her 1884-season. The scow loaded lumber at Washington Island and Jacksonport and sailed for Sheboygan where she unloaded usually clearing light for the Door Peninsula. Records indicate her loading and departure from the northern ports on 29 April, 2 May, 23 May and her arrival and clearing at Sheboygan on 18 April, 26 June, 16 August, 13 October, and 21 November (*Chicago Tribune* 1884a; 1884b, 1884c, 1884d; *InterOcean* 1884; *Milwaukee Sentinel* 1884; Polk 1884a, 1884b; *Weekly Expositor Independent* 1884a; 1884b). *I.A. Johnson* was placed in dry dock for repairs on 2 October (*Manitowoc Pilot* 1884).

*I.A. Johnson* began her 1885-season with a change in ownership. Martin Coyne purchased a quarter share of the vessel back from H.C. Kane. The ship's enrollment document was surrendered on 15 April 1885 indicating Albert Freyberg, C.B. Freyberg, Herman Freyberg, and Martin Coyne's equal ownership of the vessel and Coyne as her Master (Bureau of Navigation 1882, 1885). The scow continued in the lumber trade for the Freyberg brothers transporting cut lumber from the Freyberg's land on Washington Island to their mills in Sheboygan. Reports of her arrival at Sheboygan were recorded on 12 May, 19 June, and 19 September (*Chicago Tribune* 1885a, 1885b, 1885d). On many occasions the efficiency of the scow's commute was dependent on the weather. On 18 June, *I.A. Johnson* was laid up in Sturgeon Bay for three days and again on the 27 June waiting for the wind to shift (*Chicago Daily Tribune* 1885c; *Door County Advocate* 1885c). On 9 September the *Oshkosh Daily Northwest* (1885) reported that Herman Freyberg was arrested on Washington Island by the Deputy U.S. Marshal. Freyberg was charged with cutting 800,000 feet of timber from government land in the northern part of the state. The case went through U.S. District Court until February of 1887 when Herman Freyberg was found not guilty. The verdict indicated that he lawfully purchased the timber from someone who had recently purchased the land as a homestead (*Independent* 1886, 1887a).

Very little is recorded about *I.A. Johnson* during her 1886-season. On 20 October the scow arrived in Chicago with an unknown cargo from Ludington. On 2 December she was recorded transporting supplies to Washington Island. Little else is known about the ship's movements for the season, but it can be assumed she continued in the lumber trade (*Chicago Tribune* 1886, *Door County Advocate* 1886b).

On 19 April *I.A. Johnson* began preparing for her 1887-season at the Wolf & Davison shipyard in Milwaukee where she was docked for re-caulking (*InterOcean* 1887a). The scow was recorded on 5 May arriving in Sheboygan and continued to transport lumber for the Freyberg brothers lumber company. *I.A. Johnson* traveled between Sheboygan and Washington Island with arrivals and departures recorded on 25 May, 22 June, 4 July, and 15 July (*Chicago Tribune* 1887a, 1887b, 1887c, 1887d, 1887e). The scow regularly passed through the Sturgeon Bay Ship Canal to her destination with recorded passes on 26 July, 20 October, and 22 November (*Chicago Tribune* 1887f; *InterOcean* 1887b, 1887c). On her way to Sheboygan loaded with lumber *I.A. Johnson* became windbound at Ahnapee (*Ahnapee Record* 1887).

On 16 February 1888 *I.A. Johnson's* enrollment document was surrendered at Milwaukee for a change in ownership. Martin Coyne sold his quarter share of the scow to Henry Muchlenberg, relinquishing his post as Master to the new owner (Bureau of Navigation 1885, 1888). The scow continued to transport lumber from Washington Island through the Sturgeon Bay Ship Canal to Sheboygan, unloading, and clearing light the following day (*Chicago Tribune* 1888a 1888b, 1888c, 1888d; *Door County Advocate* 1888b). *I.A. Johnson* also brought supplies to Washington Island to stock the Freyberg brothers' store (*Sturgeon Bay Independent* 1888). The

scow departed Washington Island loaded with lumber for her last run to Sheboygan on 8 December (*Door County Advocate* 1888c).

*I.A. Johnson* was first recorded sailing for Door County on 19 June 1889, and began her usual route loading lumber, sailing for Sheboygan, and returning light the following day with records of her movement on 12 August, 19 August, and 29 November (*InterOcean* 1889a, 1889b, 1889c, 1889d). On 18 October the scow sailed from Sturgeon Bay with bolts for Tim Coffey (*Sturgeon Bay Independent* 1889a). The ship's final sail of the season was recorded on 9 December; on the previous trip to Washington Island the scow brought winter provisions for the company store. After loading a cargo of lumber *I.A. Johnson* sailed for Sheboygan going into winter quarters there (*Sturgeon Bay Independent* 1889b).

The scow continued in the lumber trade for the 1890-season. *I.A. Johnson* was recorded arriving in Sheboygan on 4 July and 18 July and clearing for Menominee and Washington Island on 25 August and 18 September (*Chicago Tribune* 1890a, 1890b; *InterOcean* 1890a; *Sturgeon Bay Republican* 1890).

*I.A. Johnson* left Sheboygan late in the evening on 22 September carrying \$600 worth of provisions and goods aimed for the Freyberg store at Washington Island. The scow was ten miles north of Sheboygan when it collided with the three-masted schooner *Lincoln Dall* around 2AM. The *Lincoln Dall* was heavily laden with lumber for the port of Chicago. Thoroughly damaged by the collision, the scow began to take on water at the bow. *I.A. Johnson's* crew (Herman Freyberg, Henry Freyberg, Larens Freyberg, Halver Halverson, and Nils Starke) were rescued and taken onboard the *Lincoln Dall*. The *Lincoln Dall* suffered damage to her head rigging. Around 3:30AM the Sheboygan Life-Saving Station spotted the struggling schooner northeast of Sheboygan and commissioned the tug *Sheboygan* to take her in tow. The crew of *I.A. Johnson* reported the sinking of the scow around 10:30AM.

After the initial report the *Lincoln Dall* was towed to Milwaukee for repairs. Captain Ed McCall of the schooner claimed that he saw the scow before the collision but had the right-of-way and assumed that *I.A. Johnson* would change her course. Neither vessel altered their course leading to the collision. The Life-Saving crew launched the surfboat and was towed to the location of the wreck by the tug *Sheboygan*. After reaching the scow around 2:00PM only her stern remained above the water. A towline was secured between the *Sheboygan* and *I.A. Johnson*, and the tug began towing the scow to Sheboygan. The attempt did not last long. After four miles the vessel's stern broke and *I.A. Johnson* sank to the bottom, resting in about 100 feet of water four miles northwest of the Sheboygan Life-Saving Station. The vessel and its cargo, valued at \$2,700, were considered a total loss and carried no insurance. During the attempted salvage, the Life-Saving crew recovered two bags of flour. Other reports indicated the some of the ship's cargo washed ashore near Pigeon River three miles north of Sheboygan (*Door County Advocate* 1890; *Evening Telegram* 1890; *InterOcean* 1890b; *Marine Review* 1890; *Milwaukee Journal*

1890; *Oshkosh Daily Northwestern* 1890; *Republican* 1890; *Sheboygan Herald* 1890a, 1890b, 1890c; U.S. Life-Saving Service 1890). The final enrollment document for *I.A. Johnson* was officially surrendered at the Port of Milwaukee on 10 August 1894. The vessel was declared abandoned sunk four miles west of Sheboygan (Bureau of Navigation 1888).

### *Site Description*

The scow schooner *I.A. Johnson* lies in 93 feet of water on a heading of 20-degrees, 4.4 miles northeast of the Sheboygan, Wisconsin harbor entrance. Located by Steve Radovan in 2015, *I.A. Johnson* was documented by Wisconsin Historical Society archaeologists and volunteers in August 2018. The remains of the vessel rest upright on the lakebed with a large portion of the bilge still covered by sand. The cover of sand moves around the site from year to year, covering and uncovering different hull structures, and construction features. Overall, the site exhibits excellent preservation with major hull sections intact, including the centerboard and centerboard trunk, with its cap intact, windlass, bow section, and complete port and starboard sides. Few pieces of deck structure remain extant, and the majority of the vessel's floor remains covered by sand. A thick layer of quagga mussels coat the exposed surfaces of the vessel. The vessel's integrity, along with the presence of the entire vessel and operational deck implements, offers a wealth of information for archaeologists and researchers.

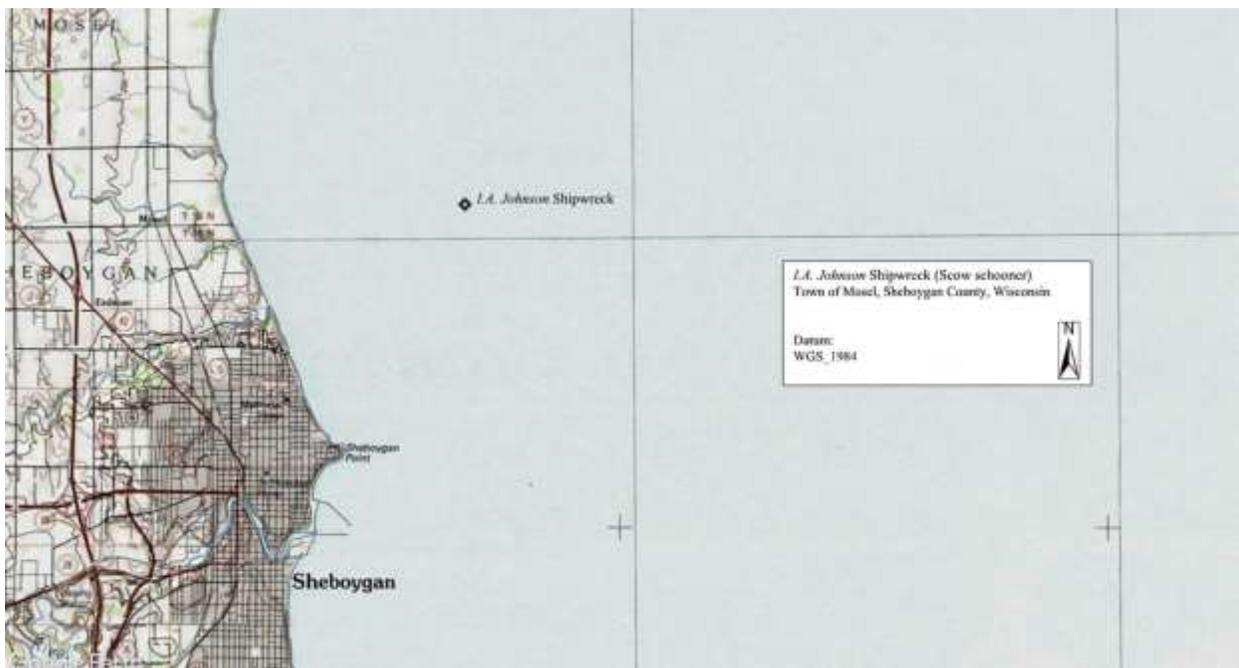


Figure 49. Location of *I.A. Johnson* site.

*I.A. Johnson* wreck site measures 98.0 feet in overall length, and 26.0 wide, measured from starboard side hull section, to port side hull section. A temporary baseline was established along the centerline of the ship, to which all hull measurements were referenced. The baseline started

at the forward extent of the stempost, passed over the top of the centerboard trunk, and extended aft where it ended at the sternpost.

The entirety of the vessel remains on the bottom of Lake Michigan, although broken. The vessel's single deck has collapsed and the vessel's sides have fallen outward. The keelson and keel also appear to be broken in two places. This is evident by the list of the bow and stern of the vessel. The bow of the vessel lists 16-degrees to starboard, while the stern lists 16-degrees to port. The centerboard, located near the center of the vessel, remains upright. This indicates that the keelson is broken just forward of the centerboard, near 26.0 feet along the baseline, and just forward of the start of the stern deadwood, near 78.5 feet along the baseline.



Figure 50. An archeologist investigates *I.A. Johnson's* bow and collapsed deck (Wisconsin Historical Society).

*I.A. Johnson's* stempost measures 0.8 feet molded and 0.9 feet sided, and extends 11.0 feet off the sand, with a 30-degree list forward. This is likely close to the incline of the bow ramp. A false bow is attached to the stempost, measuring 0.8 feet wide near the stempost, and tapering to 0.3 feet in width at its extent. The vessel's breast hook is only visible on the starboard side, and measures 0.7 feet wide and 0.5 feet thick. With the single deck's collapse, the breast hook sits just above the sand. The lower portion of the vessel's bow remains intact and features cross-planked (athwartship) planking on its bow ramp that extends out from the stempost, with each plank measuring 1.0 feet wide. This was common on scow schooners of the Great Lakes. The vessel's deck planking remains near the bow, extending from 3.9 feet along the baseline, to 26.6 feet along the baseline at its furthest extent. When the deck collapsed, it fell slightly to the

port side, and now about 3.0 feet to port of where it would have originally sat. Each deck plank measures 0.45 feet wide and 0.2 feet thick. Two deck planks are much wider and thicker than the rest, and are located where the carrick bits extend through the deck on both the port and starboard sides. These planks measure 0.9 feet wide and 0.25 feet thick. Aft of the forward deck planking, the vessel's deck beams remain extant and visible, measuring 0.5 feet wide and 0.6 feet thick. On the starboard side of the deck planking, the vessel's hanging knees are still attached to the deck beams. These knees measure 0.5 feet wide, with the upper arm, measuring 3.6 feet in length. Additionally, a section of the vessel's deck shelf remains attached to the deck structure, extending from 7.2 feet to 14.2 feet along the baseline. This deck shelf measures 0.4 feet wide and 0.5 feet thick. The deck shelf continued the length of the vessel, and remains extant attached to the fallen starboard hull section. Additional disarticulated sections of the collapsed deck are extant on the site extending on the port side, from 26.8 feet to 56.2 feet on the baseline and on the starboard side, from 49.1 to 65.2 feet along the baseline.

*I.A. Johnson's* samson post is extant on the site, although it has fallen forward from its original location. It lies forward, on the port side of the vessel, and extends into the sand filling the forward hold of the ship. The samson post measures 1.0 feet molded and 0.6 feet sided. Although the vessel's bowsprit no longer remains attached, the mortise for the bowsprit measures 1.2 feet tall, 0.4 feet wide, is cut 0.4 feet into the samson post. The aft facing side of the samson post is grooved for the windlass, which remains attached to the post.



Figure 51. *I.A. Johnson's* fallen samson post and windlass. Note the upright bilge pump in the background (Wisconsin Historical Society).

With the collapse of *I.A. Johnson's* weather deck, the vessel's windlass assembly has fallen to the port side of the wreckage, although it remains largely intact. The windlass itself remains attached to the aft facing side of the samson post, and its windlass ends (gypsies), remain attached to the carrick bits and cheek of the carrick bits. The windlass itself is made of wood, and measures 7.2 feet in overall length, and 1.5 feet in diameter at its midpoint. The windlass ends measure 1.1 feet in diameter and they extend 1.2 feet past the carrick bits on either side. The body of the windlass is smooth, while the whelps (each side of the windlass) are grooved. Two iron purchase rims are attached to the windlass, and extend to either side of the samson post. They measure 0.2 feet wide and 0.1 feet thick. A length of the starboard side anchor chain is wrapped twice around the starboard side of the windlass.

The vessel's carrick bits extend down, through the collapsed deck, and into the forecastle. These acted as the major support structure for the windlass. They measure 1.2 feet wide, 0.4 feet thick, and are 8.3 feet long, extending above the collapsed deck. The starboard carrick bitt remains intact, although fallen over, while the port side carrick bitt has broken just above the deck. On the aft facing side of each carrick bitt is a cheek, or a cheek of the carrick bitt. Both the port and starboard side cheeks remain extant and measure 2.7 feet in height, 0.5 feet wide, and 0.4 feet thick. No reinforcing iron strap is extant on either carrick bitt. This would have extended around the base of the cheek of the carrick bitt and held it in place, fastened to the carrick bitt. No strong-back or purchase rods were located during the survey.

Just aft of the windlass' original location, 12.4 feet aft of the stempost, is the vessel's forecastle scuttle. It measures 1.5 feet long by 2.2 feet wide, and has a combing on four sides, which rises 0.6 feet above the deck, and measures 0.2 feet in thickness. The combing features a cap which is 0.3 feet in thickness, and covers the entirety of the combing. Inside the hatch, the combing extends 1.4 feet into the hold. Additional planks would have likely risen above this combing, creating an aft facing companionway covering the entrance to the chain locker. Although it was not visible at the time of the survey, a ladder would have led down into the scuttle, allowing access to the chain locker and forecastle.

Due to sand accumulated inside the forecastle, identification of artifacts inside the forecastle was difficult, however, barrels of merchandise and crockery were identified piled up in the bow. Without a forward bulkhead separating the chain locker from the rest of the hold, it seems as though some of the vessel's light cargo of merchandise was thrown forward during the collision and subsequent sinking, and now remain piled and buried in the sand. It is likely that more barrels and crockery are located beneath the layers of sand and quagga mussels. No excavation of the sand was conducted during the survey.

Although no anchor chain currently extends through it, a single chain pipe hole is located through the deck on the port side of the forecastle scuttle, and is located 0.2 feet from the edge of the combing, measured to its closest edge. This chain pipe hole is 0.4 feet in diameter, rise

0.4 feet off the deck, and is lined with metal. It is fastened to the weather deck with a circular metal plate and four square bolts each. The metal plate measures 0.6 feet in diameter and 0.05 feet thick, while the bolt heads measure 0.05 feet by 0.05 feet square.



Figure 52. The interior of *I.A. Johnson*'s forecastle; barrels of merchandise can be seen sticking out of the sand (Wisconsin Historical Society).

The chain for each anchor would have been stored in the chain locker in the deck below, and would have passed through these holes as each corresponding anchor was being raised or lowered. Instead, the chain now lies in three loops, extending out of the forecastle scuttle. The chain links measure 0.3 feet long, 0.2 feet wide, and are 0.1 feet thick. The chain continues to wind its way underneath the broken deck, and extends to the windlass, where one wrap of chain extends around the windlass drum. The haphazard state of the chain likely occurred during the initial collision. Due to the extensive damage seen on the port side bow, it is believed that the *Lincoln Dall* collided with this location on *I.A. Johnson*.

When *I.A. Johnson* struck the sand and clay bottom of Lake Michigan, both the port and starboard sides of its vessel broke just above the square turn of the bilge and now lie outbound of the vessel. Instead of being constructed with individual futtocks arranged in frame sets, scow schooners are equipped with king posts that make up the vessel's hull structure and support. The side hulls are framed with single timber king posts that are planked over with ceiling and outer hull planks. These king posts measure 0.4 feet wide and 0.4 feet thick, with a 2.0-foot spacing.

The starboard side hull is more complete, and evidence of the vessel's longitudinal hull planking can be seen near the bow section of the vessel. This hull planking measures 0.3 feet thick, and varies in width, ranging from 0.9 feet wide near the bulwarks to 1.4 feet wide near bottom of the vessel. The vessel's ceiling planking measures 0.7 feet wide and 0.2 feet thick. The remainder of the vessel's starboard deck shelf remains attached to this piece of hull, extending from 18.8 feet to 70.1 feet along the baseline, and measuring 0.4 feet wide and 0.5 feet thick. Although buried in the sand, it appears that the hulls sides and bottom are joined with a chine log which is mortised to accept the king posts.

The vessel's bulwarks remain attached along the port and starboard hull sections. Bulwark stanchions are attached to the king posts, just below the deck shelf. These stanchions measure 0.4 feet wide and 0.5 feet thick with spacing of 2.0 feet. The bulwark has a rail cap attached to its top. This measures 1.3 feet wide and 0.3 feet thick, and runs the entire length of the vessel. Several keel cleats are attached to the bulwark stanchions along the length of the port and starboard sides. Keel cleats are sturdy bits or bollards, on which the heavier lines (hawsers) of a ship may be secured. These measure 0.4 feet wide and 0.2 feet thick, and vary in length. Some are attached to one bulwark stanchion and measure 1.5 feet long, while others extend from one stanchion to the next, extending 4.2 feet in length. An additional section of outer hull planking is extant, visible above the sand aft of the complete starboard hull section. It extends 12.1 feet until it disappears beneath the sand.

The vessel's chainplates remain extant on the starboard side hull of the vessel, at 34.0 feet along the baseline. These likely corresponded to the vessel's mainmast. The chainplates measure 0.3 feet wide and 0.2 feet thick, and are spaced 2.1 feet apart. Unlike with traditional schooners, *I.A. Johnson* did not have any lower deadeyes. Instead, a large iron eyelet was attached to the ends of the chainplate. These measure 0.4 feet in diameter and are 0.1 feet thick. A second iron ring is attached to the eyelet, measuring 0.3 feet in diameter and 0.1 feet thick. While many vessels were equipped with iron strops around deadeyes, no deadeyes were located on the site. It is possible that these were damaged or removed during the salvage of the masts and other rigging. A few scattered sections of iron rigging remain on the site, near the forward end of the port and starboard hull sections.

The only remaining piece of the vessel's standing rigging is the bowsprit and jibboom assembly. The bowsprit and jibboom now lie on the starboard side of the wreckage, underneath the forward end of the starboard side hull section. Both the bowsprit and jibboom now lay flipped back from their original location on the vessel, with their forward ends facing aft. The bowsprit is mostly buried beneath the hull, but is intact at what would have been its forward end. The bowsprit measures 1.0 feet in diameter, and has a bowsprit cap still attached to its end.

Two small iron eyelets are attached to the bottom of the bowsprit, measuring 0.3 feet in overall diameter, and 0.1 feet thick. These would have been attached to the vessel's head rigging,

specifically the inner and outer bobstays. The jibboom appears to be largely intact, measuring 35.0 feet in length. As with the bowsprit, it extends beneath the starboard side hull section. The overall diameter of the jibboom is 0.8 feet. An additional spar sits just forward of the jibboom, measuring 0.4 feet in diameter. Long sections of iron rigging remain tangled near the base of the jibboom and near the bowsprit. It appears that, while the fore and main masts were removed during salvage, much of the head rigging remains extant on the site.



Figure 53. I.A. *Johnson*'s starboard side and bowsprit and jibboom assembly; the mainmast chainplates are also evident (Wisconsin Historical Society).

The vessel's centerboard trunk measures 1.0 feet wide and extends 22.1 feet in length, beginning 26.7 feet aft of the stempost and extending to 48.8 feet along the baseline. The centerboard trunk remains completely intact, including its cap, which measures 0.25 feet thick. Six planks make up the side of the centerboard trunk, extending from the top of the rider keelson; these measure 0.8 feet wide and 0.3 feet thick. The boards are attached with through bolts 0.1 feet in diameter.

It could not be confirmed, but it is probable that the centerboard remains in place, inside the centerboard trunk. It is not known if the centerboard was deployed at the time of the sinking. The centerboard pivot pin is located on the starboard side, 4.7 feet aft of the forward edge of the centerboard trunk, and it measures 0.3 in overall diameter, and extending 0.3 feet out from each side. This would have allowed the deployment of the centerboard while in use.



Figure 54. *I.A. Johnson's* upright centerboard and deck planking (Wisconsin Historical Society).

Atop the centerboard trunk, two timbers sit at the forward and aft ends of the trunk. The forward timber is shaped like a cleat, and measures 0.9 feet in thickness and 3.1 feet long. In its center, is a small oval cut, measuring 0.7 feet long, opening into the centerboard trunk. The aft addition is made up of three rectangular timbers which measure 0.3 feet in thickness. The bottom two timbers are identical and measure 1.0 feet wide and 3.0 feet long. On top of this, an additional rectangular timber sits at an angle which measures 0.6 feet wide and 1.6 feet long. This is likely a cap that sits atop the lifting point of the centerboard, which has been knocked askew during the sinking or salvage attempts. This is where the chain would have passed through the centerboard trunk in order to lift and lower the centerboard.

As is typical in scow schooners, the vessel's keel and keelson structure lies within the bilge, allowing the vessel to draw a much shallower draft, and facilitated *I.A. Johnson's* work in shallow waters close to shore. Although much of the keel is obscured by sand, the keelson measures 1.1 feet wide and protrudes 0.8 feet out of the sand forward of the centerboard trunk. Due to sand accumulated in the vessel's hull, it was not possible to determine if *I.A. Johnson* was equipped with any sister keelsons. Aft of the centerboard trunk, the keelson appears to have two rider keelson's sitting atop the keelson, each measuring 0.6 feet wide. The vessel's mast steps were not identified during the survey, however, a rounded 2.2 foot diameter hole was identified in the forward deck planking which would correspond with the location of the vessel's foremast.

Aft of the centerboard trunk, sand covers most of the bilge section of the vessel, with only the rider keelsons visible above the sand. At 72.1 feet along the baseline, the stern of the remains upright with a slight, 16-degree list to port, and a 2-degree tilt aft. The vessel's keelson structure appears to be broken at 78.4 feet along the baseline, just forward of the deadwood's rise. Atop the deadwood a single transom timber (wing transom) sits at 85.7 feet along the baseline, and measures 5.9 feet long and 0.4 feet wide. Multiple fasteners remain attached in pairs at 1.0-foot intervals along its length. The fasteners measure 0.1 feet in diameter.

The bottom hull planking of *I.A. Johnson* remains extant and visible at the stern, on both the port and starboard sides. The planks run athwartship, from the keelson and deadwood, to the sides of the hull, measuring 0.2 feet thick, and are of two different widths. The planks of the stern ramp, measure 0.8 feet wide, while the planks of the vessel's flat bottom measure 1.0 feet wide. As in most other Great Lakes scow schooners, the vessel did not have athwartship floors and frame sets, but instead was equipped with longitudinal floor keelsons running parallel to the keelson. These were made up of three timbers, each measuring 0.3 feet wide.

There were two sets of supports visible on the starboard side, measuring 0.9 feet in overall width, and have a spacing of 2.2 feet. These functioned as floors and futtocks function in a traditional schooner, however, the ceiling planking did not sit atop these frames directly. Single and double cross keelsons sit on top of these longitudinal timbers, extending from the keelson to the hull sides. As with floors and futtocks in traditional schooners, these cross-keelsons support the ceiling planking. On the stern ramp, these are single timbers which measure 0.4 feet wide with 1.8-foot spacing. Forward of this, these cross-keelsons appear to be doubled, with each timber measuring 0.4 feet wide, and 0.8 feet over all. Only one double set is visible before the bilge extends into the sand, so it was not possible to determine the spacing of these double timbers.

The only evidence of the ceiling planking above the sand is on the aft port quarter of the wreckage. From 71.5 feet to 88.6 feet on the baseline, five ceiling planks are visible. These measure 0.9 feet wide and 0.3 feet thick, and run longitudinally. A through-hull fitting consisting of a copper drainpipe is located on the starboard side of the stern, below what would have been the stern cabin at 83.4 feet along the baseline. It measures 0.3 feet in diameter and was likely a drain for the ship's water-closet.

*I.A. Johnson's* sternpost remains upright and measures 0.6 feet wide and 1.0 feet thick. The sternpost is concave along its aft facing side, for the rudder post to fit next to and rotate. The rudder itself remains extant on the site, although it now lies at the stern of the vessel. The rudder's blade now sits upright underneath the stern rise, with the rudderpost lying in the sand, its upper extent facing aft. The rudder seems to have fallen aft when the upper deck collapsed. Overall the rudder measures 13.8 feet in length, with the timbers of the blade measuring 0.9 feet

thick, and 0.6 feet wide. The top of the rudder post is squared off and has multiple iron bands attached to it, which measure 0.2 feet wide and 0.05 feet thick.



Figure 55. *I.A. Johnson's* stern and broken transom (Wisconsin Historical Society).

The vessel's transom remains on the site, although broken and largely covered by sand. The largest section of the transom lies off the starboard aft quarter, and measures 8.6 feet before it extends into the sand. It is comprised of three hull timbers measuring 0.7 feet wide, and three stanchions, measuring 0.4 feet square. The second section of the transom lies off the port side aft quarter, and extends 3.5 feet before it disappears into the sand. This section is comprised of two hull timbers and one stanchion.

Other artifacts are scattered across the *I.A. Johnson* site. The vessel was equipped with two bilge pumps. The forward bilge pump remains upright and intact, attached to the pump shaft, sitting 10.0 feet above the remains of the bow at 14.4 feet along the baseline, just aft of the forecastle hatch. The pump is a wooden-barreled, single-acting bilge pump. The pump barrel is 1.5 feet in diameter and 0.9 long. The pump shaft is bent over to port, and measures 0.6 feet in diameter. The end of a wooden pump handle is fastened to the upper end of the pump barrel.

The vessel's second bilge pump is a siphon bilge pump and is located at 84.5 feet along the baseline, 4.3 feet to the port side from the baseline. The pump now lies on its side and measures 2.0 feet tall, 1.5 feet across at its middle, 1.9 feet at its top and bottom, and 0.8 feet wide. An opening is located 0.2 feet from the top of the pump. It measures 0.3 feet tall, 0.4 feet wide, and

has a combing that measures 0.1 feet thick. The pump would have originally sat on the main deck of *I.A. Johnson*, near the stern cabin, which does not remain extant on the site. No writing or embossing was identified on the upward facing side of the pump during the survey.

The vessel's two anchors and anchor chain remain on the site. The vessels' starboard side anchor is almost completely buried in the sand, just forward of the vessel's bow on the starboard side of the ship. All that remains visible above the sand is one of the anchor's flukes and part of its arm. The fluke is triangular in shape and measures 1.3 feet long from arm to bill and 1.2 feet across. The arm measures 0.35 feet thick. A single timber measuring 0.2 feet wide sits in the sand near the anchor. This may have been part of the starboard hawse timber.

The port side anchor sits 37.3 feet forward of *I.A. Johnson's* bow, on the port side. The anchor is barely visible above the sand, but the bent arm of its stock and the anchor ring remain visible. The anchor chain still remains attached to the anchor, and extends through the hawsepipe, which sits on top of the sand. The hawsepipe is lined with metal and still extends through the hawse timber. The hawsepipe is oval in shape, and measures 0.55 feet tall, and 0.9 feet wide, and has a combing which measures 0.1 feet wide. Although no single anchor is completely visible, from the parts of each that remain visible above the sand, it is possible to determine that *I.A. Johnson* was outfit with two stream or admiralty anchors. These were made of iron, and had an iron stock with one bent arm. When stowed, the stock could be folded in to sit flush against the anchor's shank (shaft).

While much of the anchor chain remains in the bow of the vessel, there is a strand of the chain which is visible above the sand 39.8 feet forward of the bow. The chain extends 44.2 feet in length before disappearing beneath the sand. While it is not known how much chain *I.A. Johnson* had aboard, it is clear that the chain remains attached to the vessel on the port side. The chain extends beneath the sand, reappears for 44.2 feet and then doubles back on itself beneath the sand, where it is attached to the port side anchor. It is thought, that *I.A. Johnson* was hit by the *Lincoln Dall* on the port side bow, damaging the hawse timber and causing it to break loose.

*I.A. Johnson* was then taken under tow by the stern, and towed four miles before sinking. It is postulated, that this port side hawse timber, with the anchor still attached, finally broke loose, and plummeted 90 feet to the bottom of Lake Michigan, where it held fast. This unexpected force pulled the damaged vessel in an opposite direction than it was towed, causing the towline to rip the vessel's transom off, and ultimately sink the ship.





## CHAPTER EIGHT CONCLUSIONS AND RECOMMENDATIONS

This field report is a component of the ongoing research and contributes to the ever-increasing body of knowledge to document and interpret Wisconsin's collections of historic shipwrecks and submerged cultural sites. Archaeological surveys conducted by the Wisconsin Historical Society are designed to document sites according to the standards and guidelines established by the National Park Service for submerged cultural resources. One of the primary goals of the surveys is to evaluate a site to determine its eligibility for listing on the National Register of Historic Places, and to positively identify the vessel through unique marks or artifacts. At the time of publication, a National Register of Historic Places nomination had been submitted at the state level for five shipwreck sites described within this report. Two of the sites were listed on the State Register of Historic Places and one listed on the National Register of Historic Places.

### ***Thomas Friant***

As a converted gill net fish tug, *Thomas Friant* survey was designed to provide positive vessel identification through identifying marks or artifacts and to document features of transportation infrastructure, freight trade, and small-scale fishing operations on Lake Superior in the early twentieth century.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was achieved. The ship's nameboards remain on the vessel and are easily readable. A complete archaeological documentation of *Thomas Friant* site will be a continuing process for years to come and the information gathered during the 2018 survey should serve as a baseline for monitoring *Thomas Friant* site for changes caused by environmental effects as well as additional effects from nearby fishing operations.

*Thomas Friant* site is one of the only known intact gill net fish tug sites in Wisconsin waters. Many other fish tugs of this type are not found on the bottom of the lake. In most cases it is easier to document the structural components integral to vessel construction when a shipwreck is broken in pieces. As more fish tugs are documented by the Society, a greater understanding of the features of the vessel type can be achieved and the greater the necessity to return to sites for comparative analysis.

The second objective was also achieved, as *Thomas Friant* is under review for listing on the State Register of Historic Places. Its nomination will then be forwarded to the National Park Service for consideration for listing on the National Register of Historic Places.

*Thomas Friant* site retains excellent archaeological integrity. Sites such as *Thomas Friant* present a rare opportunity to study and learn about Great Lakes converted fish tug construction and use. As such, *Thomas Friant* is a rare example of a converted gill net fish tug, marking it as particularly unique. *Thomas Friant* remains a vessel type that was vital to Wisconsin's

economy, the economy of the Midwest, and transportation infrastructure prior to the development of road and rail networks. Additionally, it offers a rare look at small-scale fishing operations and freight trade on Lake Superior in the early twentieth century. As the first vessel to attempt year round service to the growing villages on the south shore of Lake Superior, *Thomas Friant* allows a deeper understanding of the economics of the region, and the development of this remote section of Wisconsin's shoreline.

Many opportunities remain for future archaeological research on *Thomas Friant*. Although the vessel sits on a clay bottom, there is a potential for other artifacts to be lying nearby. Many smaller artifacts associated with the fishing trade, and some of the fishermen's personal effects, are also preserved beneath a thick layer of silt that has gathered within the wreck. Additional information from the site may significantly add to our understanding of the construction of Great Lakes converted fish tug constructed. Nineteenth-century wooden vessels were rarely built to drawn plans. Today, little documentation exists that illustrates how these unique vessels were constructed, and how they were converted to other uses later in life. Great Lakes fish tugs were incredibly unique and varied widely in their construction and design. *Thomas Friant* allows researchers to add to the knowledge and understanding of this distinctive vessel type.

Due to its remote location and the site's depth, the wreck site has not been visited by more than a few divers since its discovery 2004; however, fishing is common in the area, and does pose a potential threat of additional accidental damage to the site.

*Thomas Friant* site is deep, and is well beyond recreational diving depths at nearly 300 feet of water. As technical diving and use of Remotely Operated Vehicles (ROVs) increases in popularity, the site will only become more accessible to an increasing number of visitors. The site lies 9.0 miles offshore in Lake Superior. Although easily reached by boat, diving the wreck should only be attempted in the best of conditions without risk of being caught out in weather that can blow up on the lake during the summer months. Because of the depth and the distance from shore, it is not recommended for a State-sponsored mooring buoy. Information gathered during the survey has been used for website updates, public outreach, and educational materials for Bayfield County and the surrounding communities.

### ***Selah Chamberlain***

*Selah Chamberlain* site represents a unique site, as it is one of only a few documented wooden bulk carriers in Wisconsin waters. *Selah Chamberlain* survey was conducted as a collaboration between the Wisconsin Historical Society, East Carolina University, and the Wisconsin Underwater Archaeology Association in 1996 and 1997. The survey was designed to provide positive vessel identification through identifying marks or artifacts, to record Great Lakes wooden bulk carrier construction, and to evaluate its eligibility for listing on the National Register of Historic Places.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was not achieved; however, the vessel's size, location and construction details, all support the identification as *Selah Chamberlain*. A complete archaeological documentation of *Selah Chamberlain* site will be an ongoing process.

The second objective was achieved. *Selah Chamberlain* site was evaluated and, as of the publication of this report, was listed on the State and National Register of Historic Places.

Historical and archaeological evidence show that *Selah Chamberlain* contains strong deck shelving, multiple knees, large double-floor framing, and double-ceiling planking. This, along with her length, her usual cargo, and an addition of a second deck, are evident of bulk carrier construction. The vessel's large keelson structure and lack of cross-bracing and hogging trusses resembles that of a steambarge. This data suggests that *Selah Chamberlain* was a first generation bulk carrier and one example of the transition between steambarques and bulk carriers. A major indicator of bulk carrier construction is the use of multiple floor keelsons, large timbers placed along the lower hull parallel to the keel. Unfortunately, the lower hull of *Selah Chamberlain* is buried beneath the sand and was not documented by archaeologists.

As water levels change and sand moves, more of the wreck site could be uncovered and *Selah Chamberlain* site may yield new information as to the transition from the hull design of the steambarques of old to the historic bulk carrier design that is so iconic today.

*Selah Chamberlain* was a first generation bulk carrier and a transitional vessel type that was vital (and remains essential) to maritime transportation in the Great Lakes. The site retains excellent archaeological integrity and many opportunities remain for future archaeological research on *Selah Chamberlain* as sands shift, and the site becomes more exposed with changing lake levels. For this reason the site should be monitored and any newly exposed structure or artifacts should be documented and added to the site plan. Additional information from the site may add to our understanding of the evolution of Great Lakes bulk carriers.

*Selah Chamberlain* site is easily accessible by boat, and is within recreational diving limits, located two miles northeast of Sheboygan's North Point, in Lake Michigan. Due to its depth and location, visibility at the site is oftentimes very good, though weather patterns and currents on occasion reduce visibility. The site continues to be visited by recreational divers yearly. The State-sponsored mooring buoy on site greatly facilitates diving activities, and protects the wreck from anchor damage, continuing to be an asset on the site. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Sheboygan County and the surrounding communities.

## *Montgomery*

As a double centerboard schooner, the *Montgomery* survey was designed to provide positive vessel identification through identifying marks or artifacts, to document features of early ships of the Great Lakes grain trade, and to evaluate its eligibility for listing on the National Register of Historic Places.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was not achieved. The vessel's size, location and construction details, all support the identification as *Montgomery*. A complete archaeological documentation of *Montgomery* site will be a continuing process for years to come.

The second objective, however, was achieved and *Montgomery* is awaiting review for listing on the State Register of Historic Places. Following evaluation, its nomination will be forwarded to the National Park Service for consideration for listing on the National Register of Historic Places.

*Montgomery* site retains excellent archaeological integrity. Sites such as *Montgomery* present a rare opportunity to study and learn about Great Lakes canal schooners, and double centerboard schooner construction and use. As such, *Montgomery* is the only example of a double centerboard canal schooner in Wisconsin waters, marking it as particularly unique. *Montgomery* is also one of the few double centerboard schooners found in Wisconsin waters and, along with the schooners *Rouse Simmons*, *Lumberman*, *Boaz*, Anclam Pier Wreck, and the scow schooner *Silver Lake*, offers the opportunity for further study.

*Montgomery* is a rare example of a vessel type that was vital to Wisconsin's economy, the economy of the Midwest, and transportation infrastructure prior to the development of road and rail networks. Before rail lines were constructed, canal schooners like *Montgomery* were an important link in the development of the Midwest, connecting the region economically and culturally with the eastern markets. On its final voyage, *Montgomery* was carrying a cargo of coal bound for Sheboygan. This trade fueled the expansion of the major industrial centers of the Midwest.

Many opportunities remain for future archaeological research on *Montgomery*. Although the vessel sits on a rocky bottom, there is the potential for other sections of the vessel to be lying nearby. Additional information from the site may significantly add to our understanding of the construction of Great Lakes double centerboard schooners and when and why they were constructed. For this reason the site should be monitored and any newly exposed structure or artifacts should be documented and added to the site plan. Nineteenth-century wooden vessels were rarely built to drawn plans. Today, little documentation exists that illustrates how these

unique vessels were constructed, why two centerboards were used, and when this construction technique was used.

*Montgomery* site is easily accessible by snorkelers, divers and kayakers or by boat. The site is shallow, located 0.45 miles east of the Whistling Straights Golf Course in Lake Michigan. Due to its shallow depth and its location in the surf zone, visibility at the site is oftentimes very good, though weather patterns and currents, on occasion, reduce visibility. The site has been known on and off since the 1950's, but continues to be difficult to locate due to many large rocks located in the area. A mooring buoy on site would greatly facilitate diving and kayaking activities, and would protect the wreck from anchor damage. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Sheboygan County and the surrounding communities. Additionally, information about this site, and its location, has been added to Wisconsin's Lake Michigan State Water Trail, for easier accessibility for paddlers, boaters, and divers.

### ***Grace Patterson***

*Grace Patterson* survey was designed to provide positive vessel identification through identifying marks or artifacts and to document early Great Lakes steambarge construction and bulk cargo trades, and to evaluate its eligibility for listing on the National Register of Historic Places.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was not achieved. From the current breadth of archaeological material on the site, positive identification of the wreck was not possible. As with other shipwrecks in the same area, much of *Grace Patterson*'s hull remains buried beneath the shifting sands of Rawley Point. At this time, only a small portion of the vessel's bow remains above the silt. Additionally, a piling that is believed to have been used during the repeated attempts to remove the vessel after its grounding was located near where the stern of the vessel would be. This piling, in combination with the size of the vessel, construction details, and its location in comparison to other known losses in the area, all support the identification as *Grace Patterson*. Complete archaeological documentation of *Grace Patterson* site will be an ongoing process.

The second objective was also achieved. *Grace Patterson* site was evaluated under the standards of the National Park Service for listing on State and National Register of Historic Places. Due to the lack of hull structure above the sand, it was found ineligible for listing at this time.

Many sections of the ship including but not limited to the vessel's deck, keelson and sternpost were not exposed during the survey. The site was heavily salvaged following its sinking. It is probable that other items that may be available on site but were moved by ice or wave action or

by the original salvage attempts on the vessel. As the sediment continues to move, there is potential for previously undocumented hull structure and artifacts to be uncovered and exposed. For this reason the site should be monitored and any newly exposed structure or artifacts should be documented and added to the site plan. Once exposed again, the site will likely experience more frequent visitation by kayakers and beginning divers as the region's tourism popularity increases.

*Grace Patterson* site is easily accessible by snorkelers, kayakers, or canoers, from shore or by boat, as it is only 95 feet off the beach at Point Beach State Forest and 0.91 miles north of Molash Creek. Due to the wreck's shallow nature and erosion from the point, visibility at the site is variable. On clear days, however, the wreck can be spotted from the surface. Boating in the area is popular and many boats frequenting the area and do not always understand or obey dive flag laws, so diving remains hazardous.

Because the site is still largely covered by sand, and due to its shallow depth and the amount of boat traffic in the vicinity, it is not recommended for a State-sponsored mooring buoy. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Point Beach State Forest, the Wisconsin Maritime Museum, Manitowoc County, and the surrounding community. Additionally, information about this site, and its location, has been added to Wisconsin's Lake Michigan State Water Trail, for easier accessibility for paddlers, boaters, and divers.

### ***Advance***

As a converted wooden barge, *Advance* survey was designed to document early Great Lakes schooner construction and barge conversion, to provide positive vessel identification through identifying marks or artifacts, and to evaluate its eligibility for listing on the National Register of Historic Places.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was not achieved. The vessel's size, location and construction details, all support the identification as *Advance*. A complete archaeological documentation of *Advance* site will be a continuing process for years to come.

The second objective was achieved, and *Advance* was listed on the State Register of Historic Places. Its nomination has been forwarded to the National Park Service for consideration for listing on the National Register of Historic Places.

*Advance's* use as a lighter allows for the opportunity to study techniques used in the salvage and wrecking industry. Little documentation exists that illustrates the methods, machinery types and layout that were used in lighters and no other barges used as lighters have been located in

Wisconsin waters. Working for the Leathem & Smith Towing and Wrecking Company, *Advance* was captained by a commercial salvage diver and equipped with a clamshell and derrick, steam pumps, and salvage diver equipment. Though the majority of the machinery and equipment was salvaged at the time of her loss, remnants of these tools such as coiled iron rigging and metal plates provide the primary basis of information and further study of the vessel and its surrounding bottomland have the potential to increase our understanding of lighters and the men that worked on them.

Much of *Advance*'s remaining hull structure is believed to be scattered and buried in the rocky sediment near the site, or was washed ashore on Snake Island after the wrecking event. Much of the upper sections of the vessel and onboard equipment were salvaged shortly after the wrecking. Due to the shallow nature of the wreck, and various disarticulated pieces of hull structure strewn across the bay, it is evident that pieces of the vessel move about the lake bottom. As pieces continue to move, there is potential for previously undocumented hull structure and artifacts to be uncovered and exposed. For this reason the site should be monitored and any newly exposed structure or artifacts should be documented and added to the site plan.

Only five barges have been surveyed in Wisconsin waters. Evidence of these specialized modifications has been observed on these sites, but no indication of a bustle has been found on these vessels or any other wooden shipwreck within Wisconsin waters. Historic documents give vague references to bustling, but *Advance* shipwreck site is the first evidence of how this construction technique was accomplished. Future archaeological research on *Advance* can significantly add to our understanding of the construction of Great Lakes barges.

*Advance* site is shallow and is easily accessible by boat, canoe, kayak, paddleboard, and shore, located only 520 feet east of the shores of the Sand Bay Peninsula on the Green Bay side of Door County. Despite its shallow nature, visibility usually remains good, although wave action in the bay can cloud visibility with sediment. Due to its location in shallow water shielded within Sand Bay, the vessel remains lightly visited by divers, but was visited heavily by local residents in years past. Because of the site's location near shore and its accessibility, it is recommended for a State-sponsored mooring buoy. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Door County and the surrounding communities. Additionally, information about this site, and its location, has been added to Wisconsin's Lake Michigan State Water Trail, for easier accessibility for paddlers, boaters, and divers.

### ***I.A. Johnson***

*I.A. Johnson* site represents a unique site, as it is one of only a few documented scow schooners in Wisconsin waters. The site's survey was designed to document Great Lakes scow schooners

and their construction, to provide positive vessel identification through identifying marks or artifacts, and to evaluate its eligibility for listing on the National Register of Historic Places.

The first objective, to provide positive vessel identification through identifying marks or artifacts, was not achieved. The vessel's size, location and construction details, all support the identification as *I.A. Johnson*. A complete archaeological documentation of *I.A. Johnson* site will be a continuing process for years to come.

The second objective, however, was achieved and *I.A. Johnson* has been listed on the State Register of Historic Places. Its nomination has been forwarded to the National Park Service for consideration for listing on the National Register of Historic Places.

*I.A. Johnson* is representative of a subclass of sailing vessels which transported bulk cargo and general merchandise within its hull. As an integral part of the railroad transportation system, many features of this vessel type were common to all scow schooners on the Great Lakes. Scow schooners were schooner-rigged, with a flat bottom, boxy hull, and flat or only slightly curved bow. Scows were usually outfitted with two to three masts, and were generally crudely built. Great Lakes scow schooners were single-decked and had only a small cabin structure above the deck.

Although broken, all of *I.A. Johnson*'s hull components are represented within the wreck site. The site retains excellent archaeological integrity, and sites such as *I.A. Johnson* present a rare opportunity to study and learn about historic wooden vessels, specifically scow schooner construction and the history of Wisconsin's small, lakeshore communities. Many of the ships used in the intra-lake trades were owned and sailed by immigrants. Given that a large portion of this wreck is covered by sand there is the potential that more artifacts may be uncovered; these artifacts may shed light on day-to-day shipboard life. Additionally, *I.A. Johnson* site is unique due to the merchandise cargo found in its bow; numerous barrels of merchandise destined for the Freyberg brothers' store on Washington Island. *I.A. Johnson* represents a unique vessel type found in Wisconsin waters and offers the opportunity for further study. Although the wreck was partially salvaged following its sinking, its location was later forgotten. Only recently located by Steve Radovan in 2015, the vessel remains undisturbed and lightly visited.

Sites such as *I.A. Johnson* present a rare opportunity to study and learn about historic wooden vessels, specifically scow schooner construction and the history of Wisconsin's small, lakeshore communities. Many of the ships used in the intra-lake trades were owned and sailed by immigrants. Given that a large portion of this wreck is covered by sand there is the potential that more artifacts to be uncovered; these artifacts may shed light on day-to-day shipboard life.

As one of only seven documented scow schooners in Wisconsin waters, data gathered on *I.A. Johnson* has significantly increased our understanding of the variations in scow schooner

construction and use. Much of *I. A. Johnson*'s remaining hull structure is buried in sand near the site. Large quantities of sand move through the area despite its depth, and various sections of wreckage are exposed at different times. For this reason the site should be monitored and any newly exposed structure or artifacts should be documented and added to the site plan.

*I.A. Johnson* site is accessible by boat, and is within recreational diving limits, located approximately four miles northeast of the Sheboygan harbor entrance, in Lake Michigan. Due to its depth and location, visibility at the site is oftentimes very good, though weather patterns and currents, on occasion, reduce visibility. Only recently located by Steve Radovan in 2015 and documented in August 2018, the vessel remains undisturbed and lightly visited. Due to its intact nature, recentness of its discovery, and continued work that needs to be done on the site, the site is not recommended for a State-sponsored mooring buoy. Information gathered during the survey will be used for website updates, public outreach, and educational materials for Sheboygan County and the surrounding communities.



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1864a *Buffalo Commercial Advertiser*. 18 April.  
1864b *Buffalo Commercial Advertiser*. 5 May.  
1864c *Buffalo Commercial Advertiser*. 16 May.  
1864d *Buffalo Commercial Advertiser*. 25 November.  
1866a *Buffalo Commercial Advertiser*. 15 June.  
1866b *Buffalo Commercial Advertiser*. 23 July.  
1866c *Buffalo Commercial Advertiser*. 9 October.  
1867a *Buffalo Commercial Advertiser*. 26 February.  
1867b *Buffalo Commercial Advertiser*. 27 April.  
1867c *Buffalo Commercial Advertiser*. 6 May.  
1867d *Buffalo Commercial Advertiser*. 8 June.  
1867e *Buffalo Commercial Advertiser*. 10 August.  
1867f *Buffalo Commercial Advertiser*. 11 September.  
1867g *Buffalo Commercial Advertiser*. 8 September.  
1867h *Buffalo Commercial Advertiser*. 2 November.  
1867i *Buffalo Commercial Advertiser*. 8 November.  
1868a *Buffalo Commercial Advertiser*. 16 June.  
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1868c *Buffalo Commercial Advertiser*. 2 September.  
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1868g *Buffalo Commercial Advertiser*. 13 November.  
1868h *Buffalo Commercial Advertiser*. 19 November.  
1869 *Buffalo Commercial Advertiser*. 6 October.  
1870a *Buffalo Commercial Advertiser*. 16 August.  
1870b *Buffalo Commercial Advertiser*. 24 August.  
1870c *Buffalo Commercial Advertiser*. 20 September.  
1870d *Buffalo Commercial Advertiser*. 13 October.  
1870e *Buffalo Commercial Advertiser*. 23 November.  
1871a *Buffalo Commercial Advertiser*. 19 May.  
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1872h *Buffalo Commercial Advertiser*. 24 September.  
1872i *Buffalo Commercial Advertiser*. 15 October.  
1872j *Buffalo Commercial Advertiser*. 9 November.  
1873 *Buffalo Commercial Advertiser*. 22 July.  
1874 *Buffalo Commercial Advertiser*. 5 November.  
1877a *Buffalo Commercial Advertiser*. 29 September.  
1877b *Buffalo Commercial Advertiser*. 5 October.  
1879 *Buffalo Commercial Advertiser*. 1 July.  
1882 *Buffalo Commercial Advertiser*. 29 April.  
1883 *Buffalo Commercial Advertiser*. 14 April.  
1887a *Buffalo Commercial Advertiser*. 26 November.  
1887b *Buffalo Commercial Advertiser*. 2 December.  
1887c *Buffalo Commercial Advertiser*. 8 December.  
1888b *Buffalo Commercial Advertiser*. 13 June.  
1888c *Buffalo Commercial Advertiser*. 10 September.  
1889a *Buffalo Commercial Advertiser*. 11 April.  
1889b *Buffalo Commercial Advertiser*. 11 June.  
1889c *Buffalo Commercial Advertiser*. 1 July.  
1889d *Buffalo Commercial Advertiser*. 2 July.  
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1889f *Buffalo Commercial Advertiser*. 15 August.  
1889g *Buffalo Commercial Advertiser*. 11 September.  
1889h *Buffalo Commercial Advertiser*. 27 September.

**Buffalo Daily Courier (Buffalo, NY)**

1858 *Buffalo Daily Courier*. 25 October.  
1859a *Buffalo Daily Courier*. 16 May.  
1859b *Buffalo Daily Courier*. 1 August.  
1860 *Buffalo Daily Courier*. 22 June.  
1862 *Buffalo Daily Courier*. 21 June.  
1863 *Buffalo Daily Courier*. 20 August.  
1866a *Buffalo Daily Courier*. 22 March.  
1866b *Buffalo Daily Courier*. 6 June.  
1866c *Buffalo Daily Courier*. 24 July.  
1866d *Buffalo Daily Courier*. 6 September.  
1866e *Buffalo Daily Courier*. 24 September.  
1866f *Buffalo Daily Courier*. 9 October.

1866g *Buffalo Daily Courier*. 10 October.  
1868 *Buffalo Daily Courier*. 18 November.  
1870 *Buffalo Daily Courier*. 1 July.  
1871 *Buffalo Daily Courier*. 22 November.  
1874a *Buffalo Daily Courier*. 3 June.  
1874b *Buffalo Daily Courier*. 7 August.  
1875 *Buffalo Daily Courier*. 4 June.  
1888a *Buffalo Daily Courier*. 25 September.  
1888b *Buffalo Daily Courier*. 25 October.  
1889a *Buffalo Daily Courier*. 22 April.  
1889b *Buffalo Daily Courier*. 28 July.  
1889c *Buffalo Daily Courier*. 14 August.  
1890 *Buffalo Daily Courier*. 6 November.

Buffalo Daily Republic (Buffalo, NY)

1855 *Buffalo Daily Republic*. 20 July.  
1857a *Buffalo Daily Republic*. 22 July.  
1857b *Buffalo Daily Republic*. 1 August.  
1859 *Buffalo Daily Republic*. 20 August.

Buffalo Democracy (Buffalo, NY)

1855 *Buffalo Democracy*. 28 February.

Buffalo Evening News (Buffalo, NY)

1887a *Buffalo Evening News*. 30 November.  
1887b *Buffalo Evening News*. 1 December.  
1887c *Buffalo Evening News*. 5 December.  
1887d *Buffalo Evening News*. 8 December.  
1890 *Buffalo Evening News*. 8 November.

Buffalo Evening Post (Buffalo, NY)

1872a *Buffalo Evening Post*. 29 July.  
1872b *Buffalo Evening Post*. 8 November.

Buffalo Morning Express (Buffalo, NY)

1857 *Buffalo Morning Express*. 4 May.  
1860a *Buffalo Morning Express*. 16 February.  
1860b *Buffalo Morning Express*. 21 June.  
1860c *Buffalo Morning Express*. 21 July.  
1862 *Buffalo Morning Express*. 31 July.  
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1868a *Buffalo Morning Express*. 22 May.  
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1887a *Buffalo Morning Express*. 28 July.  
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1889l *Buffalo Morning Express*. 27 September.  
1890a *Buffalo Morning Express*. 6 July.  
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1890c *Buffalo Morning Express*. 8 November.

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1887b *Buffalo Times*. 3 October.  
1887c *Buffalo Times*. 26 November.  
1887d *Buffalo Times*. 29 November.  
1887e *Buffalo Times*. 5 December.  
1889 *Buffalo Times*. 11 April.

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1854 Certificate No. ?, French Creek, District Cape Vincent. 4 November.  
1866 Certificate No. 33, French Creek, District Cape Vincent. 27 April.  
1868 Certificate No 70, Detroit, District of Detroit. 11 May.  
1872 Bureau of Navigation Temporary Enrollment No ?? Buffalo. 20 June.  
1872 Bureau of Navigation Certificate No 130 Detroit, District of Detroit. 26 June.  
1881 Bureau of Navigation Certificate No 80 Detroit, District of Detroit. 23 April.  
1887 Bureau of Navigation Certificate No 1 Toledo, District of Miami. 8 August.

Chicago Tribune (Chicago, IL)  
1856 *Chicago Tribune*. 8 September.  
1857a *Chicago Tribune*. 4 August.  
1857b *Chicago Tribune*. 5 October.  
1858 *Chicago Tribune*. 1 May.  
1859a *Chicago Tribune*. 20 August.  
1859b *Chicago Tribune*. 29 November.  
1861a *Chicago Tribune*. 13 August.  
1861b *Chicago Tribune*. 20 August.  
1861c *Chicago Tribune*. 12 September.  
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1861e *Chicago Tribune*. 29 October.  
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1866a *Chicago Tribune*. 16 August.  
1866b *Chicago Tribune*. 12 October.  
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1871a *Chicago Tribune*. 15 July.  
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1874b *Chicago Tribune*. 4 November.  
1877a *Chicago Tribune*. 25 September.  
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1878 *Chicago Tribune*. 8 June.  
1880a *Chicago Tribune*. 24 April.  
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1882g *Chicago Tribune*. 4 November.  
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1883b *Chicago Tribune*. 11 July.  
1883c *Chicago Tribune*. 22 August.  
1883d *Chicago Tribune*. 11 September.  
1887 *Chicago Tribune*. 26 November.  
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1890b *Chicago Tribune*. 6 November.  
1890c *Chicago Tribune*. 8 November.  
1890d *Chicago Tribune*. 14 November.  
1890e *Chicago Tribune*. 6 December.

Cleveland Daily Leader (Cleveland, OH)

1859 *Cleveland Daily Leader*. 20 May.  
1860 *Cleveland Daily Leader*. 21 April.

Commercial Times (Oswego, NY)

1862 *Commercial Times*. 7 May.  
1863 *Commercial Times*. 12 November.  
1864 *Commercial Times*. 8 January.  
1868 *Commercial Times*. 27 April.

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1859 *Daily British Whig*. 12 December.

Daily Free Democrat (Milwaukee, WI)  
1853 *Daily Free Democrat*. 9 December.

Daily Milwaukee News (Milwaukee, WI)  
1868a *Daily Milwaukee News*. 14 July.  
1868b *Daily Milwaukee News*. 20 September.  
1870 *Daily Milwaukee News*. 17 August.  
1879 *Daily Milwaukee News*. 27 November.

Detroit Free Press (Detroit, MI)  
1856 *Detroit Free Press*. 12 December.  
1857a *Detroit Free Press*. 9 June.  
1857b *Detroit Free Press*. 11 June.  
1858a *Detroit Free Press*. 30 May.  
1858b *Detroit Free Press*. 12 September.  
1858c *Detroit Free Press*. 25 September.  
1860a *Detroit Free Press*. 21 April.  
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1866a *Detroit Free Press*. 23 September.  
1866b *Detroit Free Press*. 24 December.  
1868a *Detroit Free Press*. 3 July.  
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1869a *Detroit Free Press*. 29 October.  
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1870 *Detroit Free Press*. 4 September.  
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1876a *Detroit Free Press*. 7 June  
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1876c *Detroit Free Press*. 28 June.  
1876d *Detroit Free Press*. 15 November.  
1877 *Detroit Free Press*. 7 November.  
1878a *Detroit Free Press*. 16 April.  
1878b *Detroit Free Press*. 25 April.  
1878c *Detroit Free Press*. 28 September.  
1878d *Detroit Free Press*. 13 October.  
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1890a *Detroit Free Press*. 11 February.  
1890b *Detroit Free Press*. 3 April.  
1890c *Detroit Free Press*. 14 November.

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1888b *Gazette, The*. 12 October.

1888c *Gazette, The*. 13 October.

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1860a *Illustrated Buffalo Express*. 16 February.

1860b *Illustrated Buffalo Express*. 21 June.

1860c *Illustrated Buffalo Express*. 21 July.

1862 *Illustrated Buffalo Express*. 31 July.

1866a *Illustrated Buffalo Express*. 15 June.

1866b *Illustrated Buffalo Express*. 18 June.

1868a *Illustrated Buffalo Express*. 22 May.

1868b *Illustrated Buffalo Express*. 10 July.

1868c *Illustrated Buffalo Express*. 7 September.

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1870a *Illustrated Buffalo Express*. 5 August.

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1870c *Illustrated Buffalo Express*. 28 November.

1871a *Illustrated Buffalo Express*. 8 May.

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1890a *Illustrated Buffalo Express*. 6 July.  
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InterOcean (Chicago, IL)

1873 *InterOcean*. 31 May.  
1874a *InterOcean*. 3 August.  
1874b *InterOcean*. 8 September.  
1874c *InterOcean*. 31 October.  
1874d *InterOcean*. 4 November.  
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1857a *Oswego Daily Palladium*. 4 November.

1857b *Oswego Daily Palladium*. 11 November.

1859 *Oswego Daily Palladium*. 25 October.

1873 Oswego Daily Palladium. 6 November.

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