

Ship Parts

Thanks to **Kevin Magee** for submitting the following articles on ship parts, which will be especially useful in identifying parts for surveys!

19th-Century Ship Parts

Diving in the Great Lakes typically involves wrecks of 1800's sailing vessels. They are a beauty to behold, but they can also be confusing. They frequently contain parts and equipment that are no longer seen on modern ships, and many divers are not sure what they are looking at. Presented here are some descriptions of the major parts likely to be seen on a 19th-century sailing vessel. To make things easier, these descriptions are separated into the bow, amidships, stern, and rigging. Placement on the ship can often aid identification, and things are more easily found and recognized when you know where to look.

BOW

Bowsprit - The large, thick pole pointing outward from the front of the ship. It was used to support the jib boom. Very rarely, a **figurehead** of some design may be featured underneath the bowsprit. Bracing chains are also sometimes seen attached to the bowsprit and running to the hull.

Jib Boom - A long thin pole that is a continuation of the bowsprit. It is usually missing from most wrecks but occasionally seen. It was used to support the jib sails.

Stem - The curved vertical beam that forms the bow of the ship.

Forecastle - The front deck of the ship that was raised slightly above the main deck. Not all vessels had this.

Tow Bit - The large square vertical post on the bow of many vessels. It was usually placed immediately behind the bowsprit and ahead of the windlass. It was used to tow the vessel behind a steam-powered vessel, sometimes with two or three other sailing vessels. This was a common practice for schooners in later years. They usually had minimum rigging and sails if being towed as a consort.

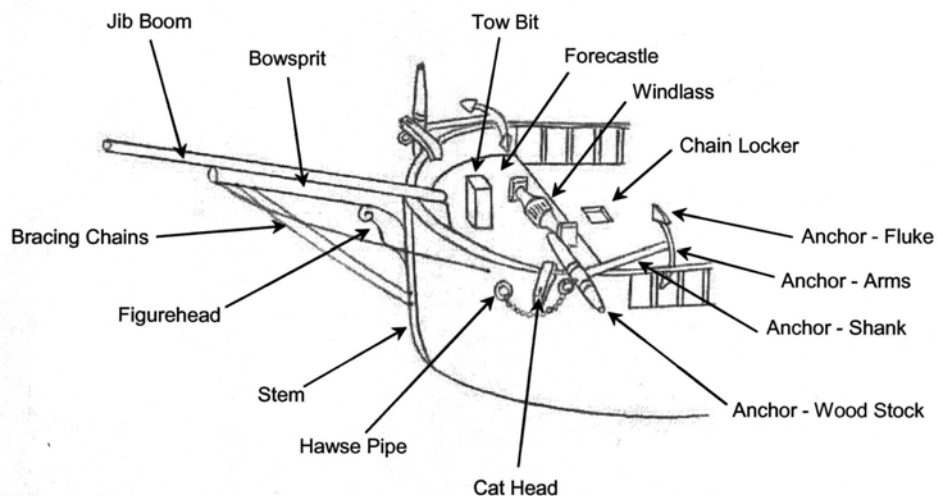
Windlass - The large horizontal winch on the bow used to raise and lower the anchors.

Chain Locker - The compartment below deck where the anchor chain was stored. A small square hole in the middle of the bow's deck was used to run the chain into this compartment.

Cat Head - A horizontal post extending outward from the side of the bow near the anchor. A pulley, deadeye, or other tackle item would be attached at the end. They were used to help raise and lower the anchor and to help support the stowed anchor on the railing.

Hawse Pipe or **Hole** - The hole in the side of the ship for the anchor chain to pass from the deck to outside the ship. If metal was used, it's a **hawse pipe**. Otherwise, it is simply a **hawse hole**.

Wood Stock Anchor - An older style of anchor common on early vessels. It had a large wooden cross bar, or **stock**, connected to a single metal **shank**, two metal **arms**, and sharp **flukes** at the end of each arm. This is the classic pirate ship anchor, and it was always tied to the railing for stowage. Later anchor designs had metal stocks, and sometimes the stocks and/or arms could be folded to make the anchor more compact for deck stowage rather than hanging off the railing.



Ship Parts– Part II

AMIDSHIPS

Keel – The backbone of the ship that runs along the bottom center of the hull. It supports the ribs of the ship, which form the shape of the hull.

Gunwale – The topmost part of the hull that runs around the perimeter of the ship. It is the structural foundation for the railing and rigging.

Cargo Hatch – A large rectangular opening at the center of the deck. It was used to access the cargo below deck. It is usually seen only as a raised frame, but rarely, a hatch cover may still be in place over the opening. The hatch covers prevented large waves from flooding the hold and sinking the ship.

Centerboard Box – The large standing box between the keel and deck. It was usually about one-third the length of the ship. Inside the box was the centerboard, which kept the ship laterally stable in the wind while underway but could be retracted upwards into the box when entering shallow ports. Almost all Great Lakes sailing vessels had centerboards. Sometimes the box can be seen offset to one side away from the keel. The box had to be completely watertight and rise to the level of the deck to prevent water from flooding into the hold.

Centerboard Winch – The small horizontal winch mounted on the deck directly over the end of the centerboard box. It was used to raise and lower the centerboard. Centerboard winches always contained chain, which was dropped through a small hole in the deck and into a hole on top of the centerboard box. Sometimes other winches are also present on the deck for general cargo or sail handling, but they did not use chain.

Capstan – The vertical mushroom-shaped winch used to handle cargo, raise and lower sails, or provide leverage for other heavy jobs. It was manually turned using wooden spokes for leverage that were normally stored elsewhere and inserted into the cap only when in use.

Bilge Pump – Hand-driven pump used to pump water from the ship's bilge. Some ships only had one pump, and others had two. Well preserved pumps still have the railroad handcar-like "T" handles while others may only display the connecting rods, double barrels, and/or pistons coming out of the deck. Very old ones were made entirely of wood while later ones were made of metal.

Mast Hole and Collar – This was the hole in which a mast would pass through the deck of the ship. A split circular wooden collar often helped support the mast at the deck level. Wrecks missing their masts will still have these distinctive holes in their deck.

Fife Rail – The wooden railing surrounding the mast and used to store belaying pins. Some are freestanding on the deck and can be U-shaped, circular, or square. Some are circular shelves attached directly to the mast.

Pin Board – Wooden shelf on the railing used to hold belaying pins. They were usually located near masts.

Belaying Pins – Wooden dowels around which rigging ropes were wrapped to quickly secure them. The pins were removable from their stowage holes so they could be used elsewhere or moved out of the way.

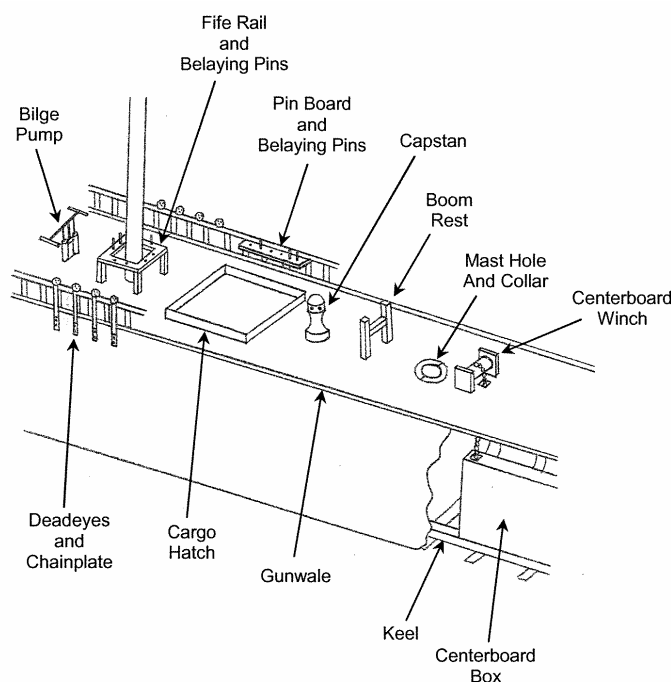
Deadeyes – Three-holed circular wooden blocks that look like a skull. They were used to tension the standing rigging holding the masts up and were attached to the railings directly adjacent to the mast. Later ships used turnbuckles instead of deadeyes. Deadeyes are made of special hard wood.

Hearteye – A pulley variation of the deadeye. The three holes of the deadeye were blended together to form a single heart-shaped hole. It was used to change the direction of up to three ropes.

Bullseye – Another pulley variation of the deadeye. Only one hole occupies the center, and it was used to change the direction of one rope.

Chainplate – Used to support deadeyes and transfer their structural loads to the ship's hull. They were originally made of chain, but almost all ships on the Great Lakes used thin strips of metal instead.

Boom Rest – The "H"-shaped wooden bracket used to support the sail boom's end when stowed. Not all ships had this.



Ship Parts III

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MASTS AND RIGGING

Foremast – The first mast from the bow.

Mainmast – The second mast from the bow.

Mizzenmast – The third mast from the bow. Only relevant for three-masted vessels.

Topmast – Additional mast attached to the top of a regular mast. This attachment was done with a step. This allowed a topsail to be used. The topmast could be lowered or removed depending on required clearances under bridges or seasonal wind conditions.

Step – A wooden or metal structure used to support the base of a mast. When attaching a mast to the keel, it looks like a box structure. When attaching a topmast to a regular mast, it appears as a figure-8 piece.

Crosstrees – A bracing platform near the top of a mast used to attach the standing rigging to the mast. Frequently appear like telephone pole “T” crossbars, but they can also have more elaborate shapes that look like a crow’s nest.

Standing Rigging – Rigging used to tension and support the masts, bowsprit, and jib boom. For masts, standing rigging was attached between the deadeyes and crosstrees. Early vessels used rope, but later vessels used wire. The remains of wire rigging can sometimes still be found on shipwrecks.

Running Rigging – Rigging used for raise, lower, and position the sails, booms, gaffs, and spars. It was always rope and is never found on shipwrecks beyond the blocks and pulleys that remain.

Fore-And-Aft Gaff Rigged – Also called schooner-rigged. This is where the sail had a boom below and a gaff above with the sail spread in between. It was the main distinctive feature of schooners. These sails were easy to manipulate and handle with a small crew and allowed flexibility in sailing direction, including tacking upwind.

Square Rigged – This was where the sail was suspended from a horizontal spar across the top. They were used in barks and brigs. These sails allowed faster sailing than schooner rigging but required more manpower to set correctly and had trouble sailing in upwind directions. Popular mostly in early vessels and/or military vessels.

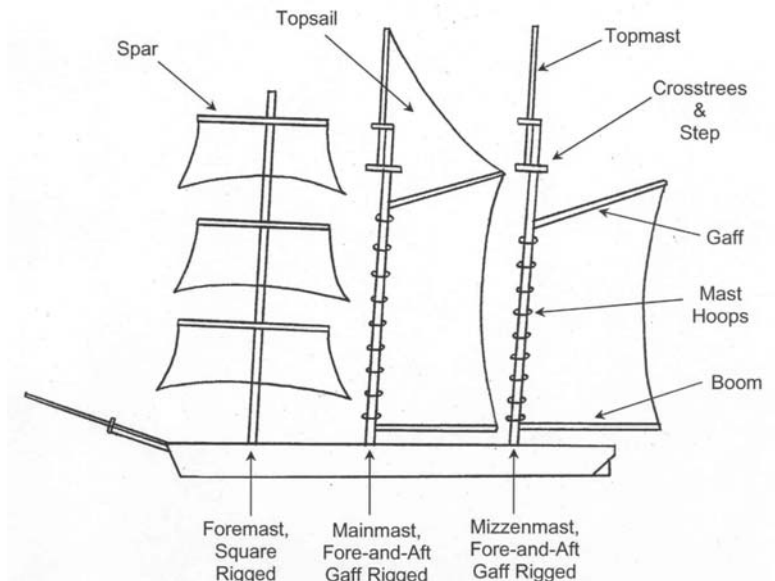
Topsail – Triangular sail attached between the topmast and gaff. It was used for additional sail area on low-wind days.

Spar – The upper wooden portion of a square-rigged sail. It was usually moderate in its size and dimensions.

Boom – The lower wooden part of a gaff rigged sail. It was fairly stout and had a fluted moon-shaped notch at one end that butted up against the mast.

Gaff – The upper wooden part of a gaff rigged sail. It was somewhat smaller than a boom and usually had a taper. It also had a fluted moon-shaped notch at one end that butted up against the mast.

Mast Hoops – Wooden hoops used to attach a gaff rigged sail to the mast. They allowed the sail to easily slide up and down the mast as the sail was raised and lowered.



Ship Parts IV

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The stern will be covered this month. Next month will feature more parts.

STERN

Sterncastle – A raised stern platform much like the forecastle. The raised section could be the immediate stern deck behind the cabin, or the raised area could extend around the cabin sides as well. Not all ships had one.

Cabin – The main living space containing berthing, stove, and/or offices. It was always at the stern of Great Lakes schooners. Most had sunken floors to lower the cabin's overall height above the deck. Very early schooners had no raised cabin, just a living space below the stern deck. The cabin is frequently missing from wrecks because escaping air blew it off, especially if the ship sank rapidly.

Companionway – A door opening into the cabin or below deck.

Rudder and Rudder Post – Flat vertical structure at the extreme stern used to steer the ship. The rudder post - a large vertical shaft attached to the rudder's base - was used to control the rudder's position through rotation.

Wheel – Used to steer the ship by turning the rudder. It was always at the extreme stern directly over the rudder post. It was connected to the rudder post through the steering gear. Older schooners did not have a wheel but instead used a large tiller to turn the rudder. The long length of the tiller offered the mechanical leverage.

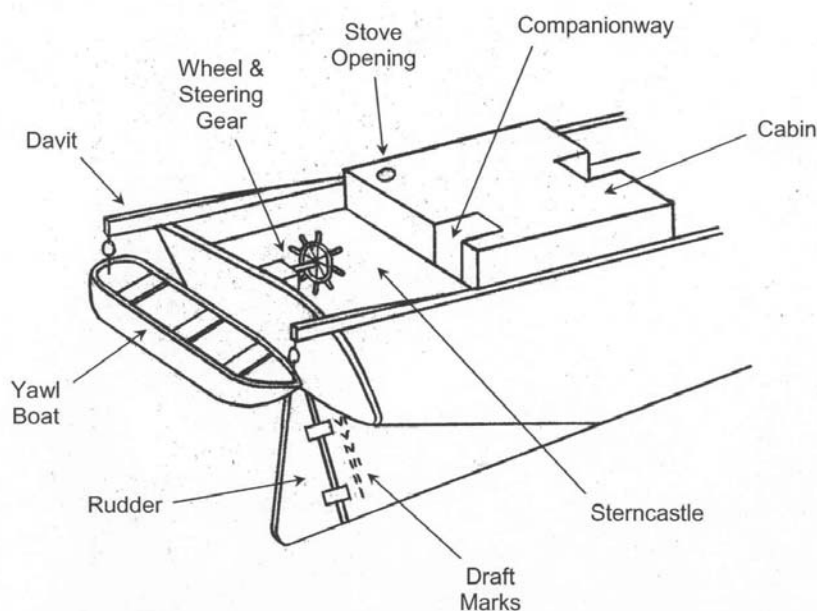
Steering Gear – A system of gears for mechanical advantage that connected the wheel and rudder post. The steering gear was frequently contained in a box-like structure near the wheel.

Stove – Coal or wood fueled appliance used for warmth and to cook the ship's food. Almost always found in the cabin. Usually rectangular in shape and made of cast iron. This is often the only cabin item found on wrecks, even if the cabin is missing.

Yawl Boat – The ship's small boat used as a lifeboat and for going ashore after anchoring. It could be rowed for short trips or sailed for longer journeys using a collapsible mast, sail, and tiller.

Davits – Used to hang the yawl boat off the stern of the ship. Early schooners had straight wooden davits pointed directly outwards from the stern's corners. Later schooners used arched metal davits similar to ocean liner lifeboats.

Draft Marks – Numerical marks found on the bow and/or stern that indicated the depth of water to the keel. Used to deduce the amount of cargo being carried. They were always Roman numerals on schooners.



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