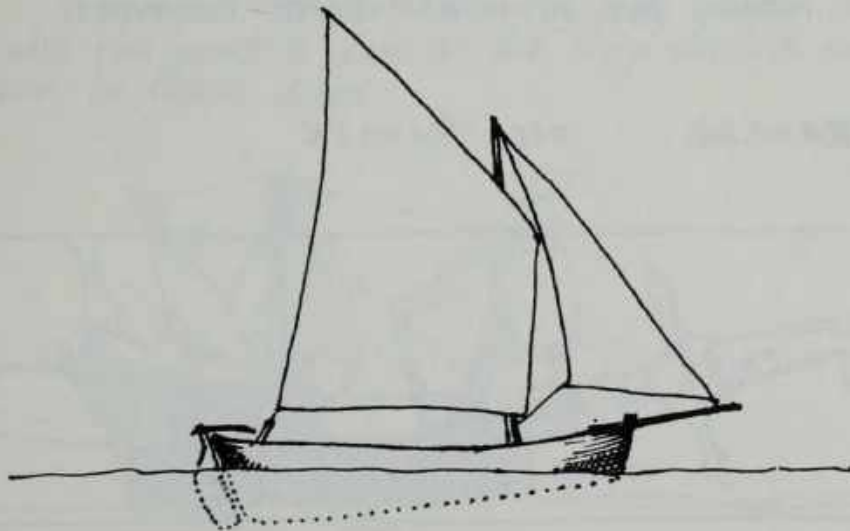


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**NABBY**      The Nabby, a sailing SKIFF from the west coast of Scotland, is a double-ended, lug-rigged fishing boat, related to the ZULU.

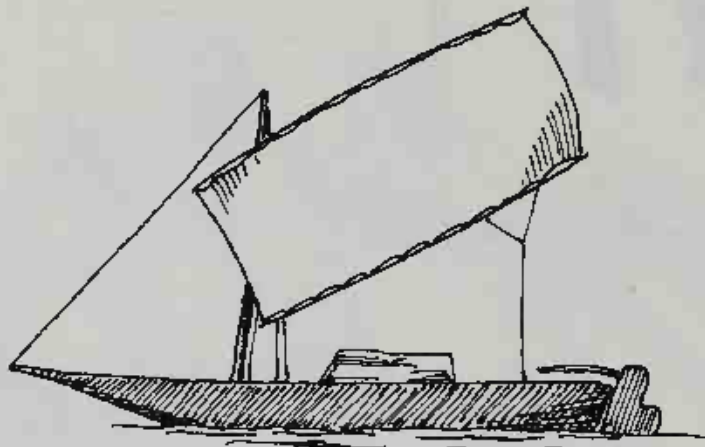


NAGASAKI SAMPAN

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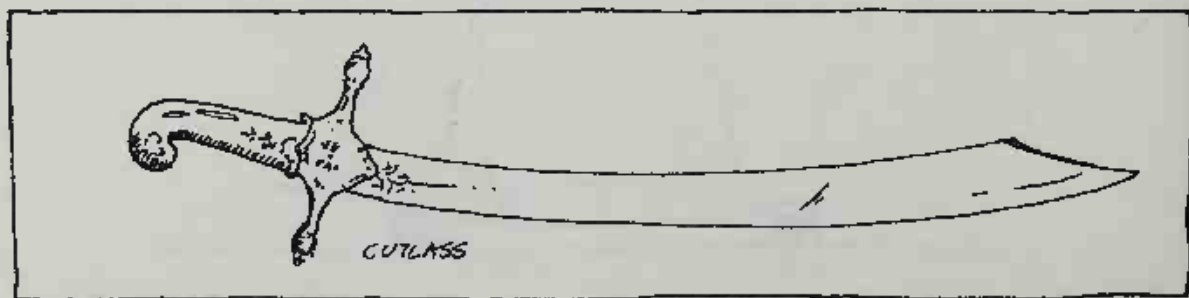
NAGASAKI SAMPAN.      see SAMPAN

NAGGAR      The Naggar is a cargo boat used on the River Nile.



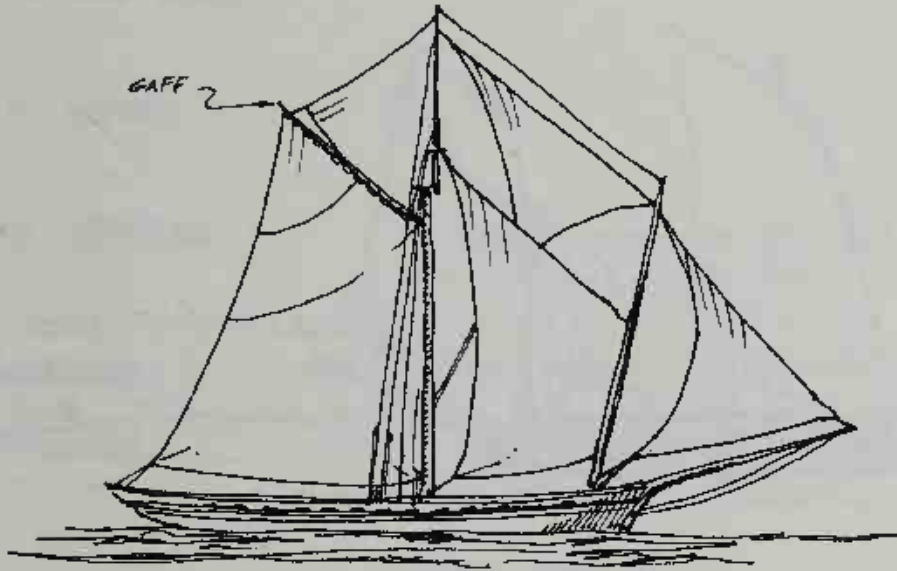
NAO      Nao was the Spanish word for SHIP during the 13th to 16th centuries, not, as some maintain, a term for a specific type of vessel. Contemporary authorities refer to Columbus's ships, in which he crossed the Atlantic in 1492, as NAOS, two of which were CARAVELS.

NAPLES TRAWLER.      see TRAWLER

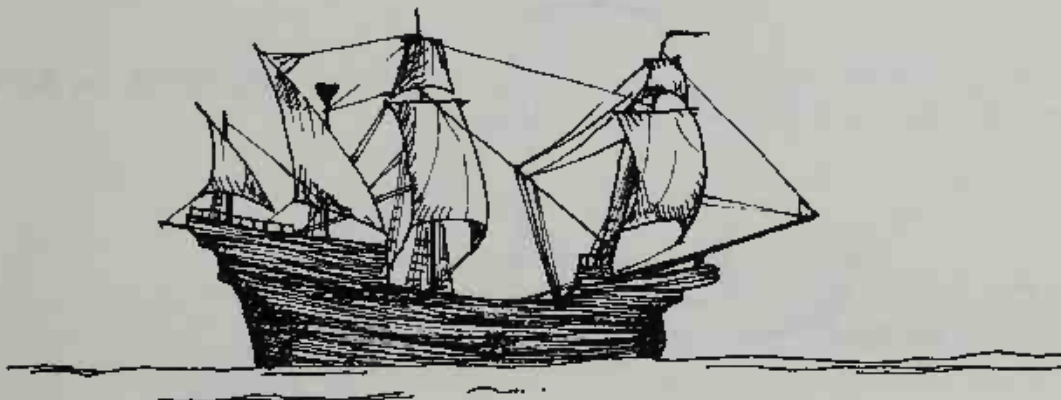


**NAVICELLO (BALANCELE, BILANCELLA)**A two-masted  
Italian coasting

vessel, the Navicello has an unusual gaff. Instead of being lowered with the mainsail, it is kept standing and the mainsail is hauled out along it on rings.

**NEF**

A Nef was a French ship of the 15th and 16th centuries developed from and larger than the cog. It was also the word to describe the ship-shaped salt containers made of silver in those days.



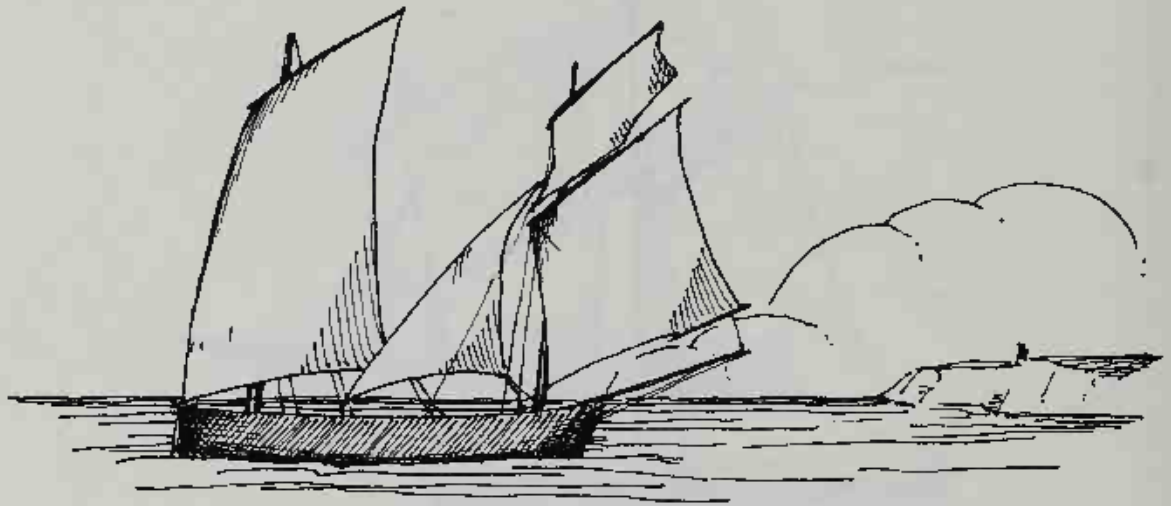
NEW ORLEANS LUGGER

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NEW ORLEANS LUGGER.      SEE LUGGER

NICKEY

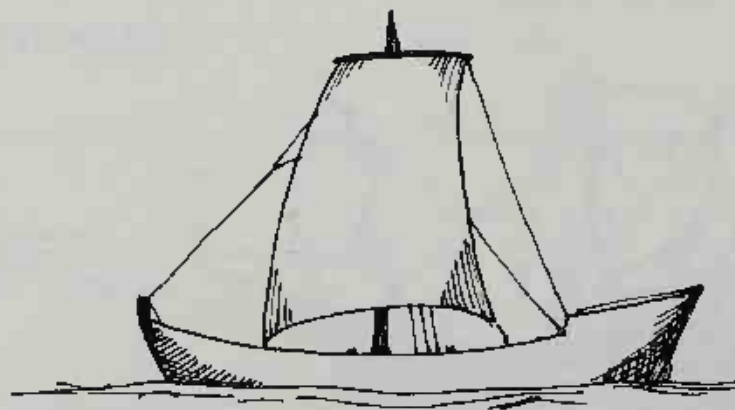
Nickeys came from the Isle of Man, and were two-masted double-enders used for fishing in the Irish Sea.



MANX NICKEY

NORRLANDS COD BOAT

A Norwegian cod fishing boat, the Nordlands Boat bears obvious affinities to the old VIKING SHIPS.



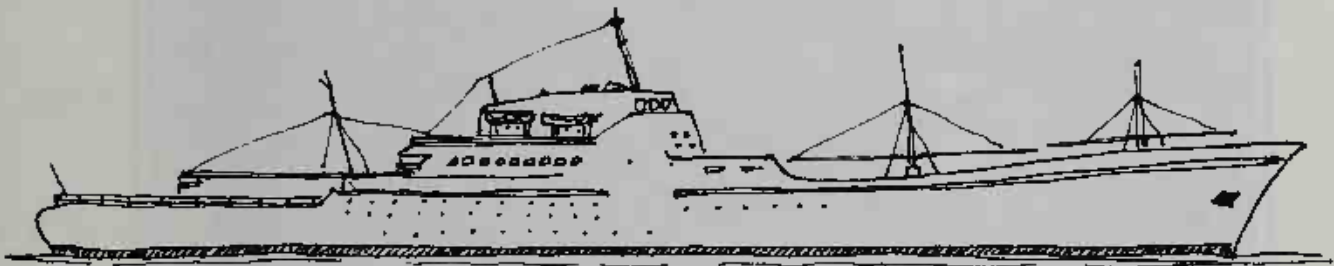
**NORFOLK WHERRY.**                      *SEE WHERRY*

**NORTH CHINA JUNK.**                      *SEE JUNK*

**NORTH RIVER SLOOP.**                      *SEE SLOOP*

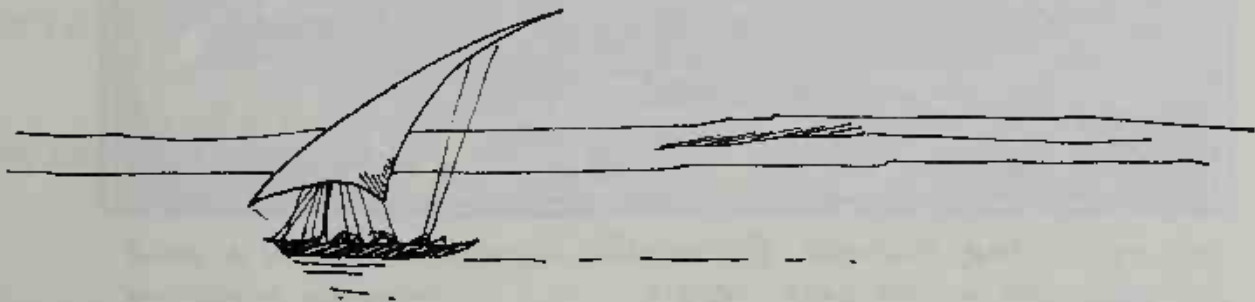
**NORWAY YAWL.**                      *SEE YAWL*

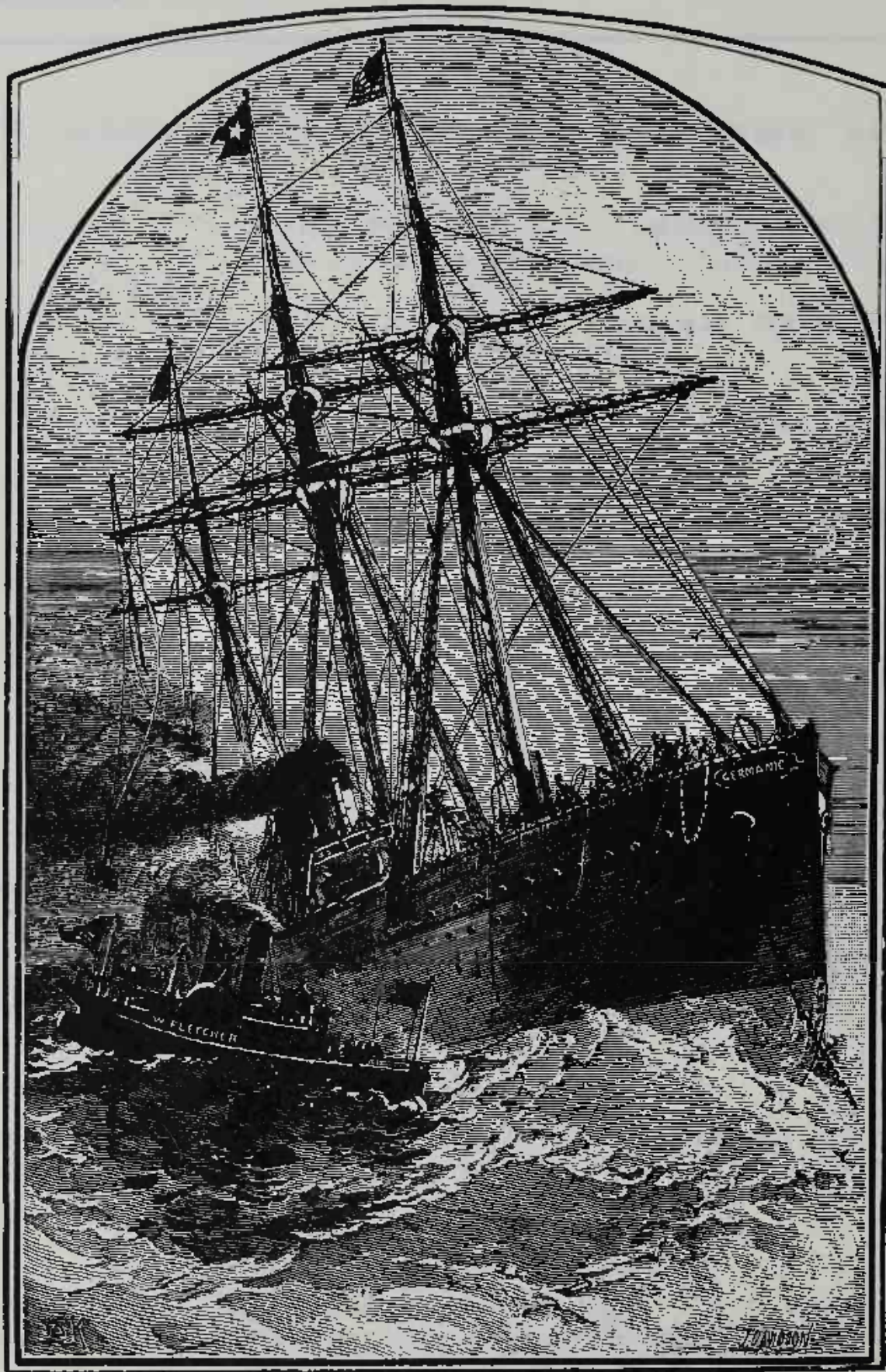
**NUCLEAR VESSEL**                      *Nuclear-powered vessels are still rare and far from perfection. The first nuclear-powered merchant vessel was the American ship Savannah, named after the first steamship to cross the Atlantic.*



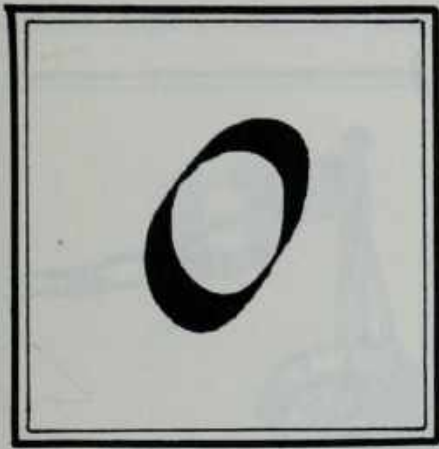
*Savannah*

**NUGGAR or NUGGER**                      *Nuggars are cargo boats from the lower Nile, similar to GAIASSAS.*





THE WHITE STAR STEAMER *GERMANIC* RECEIVING MAIL IN A GALE  
OFF NEW YORK IN THE LATE 1800'S American engraving



ONE-DESIGN .      SEE YACHT, RACING

OOMIAK .      SEE UMIAK

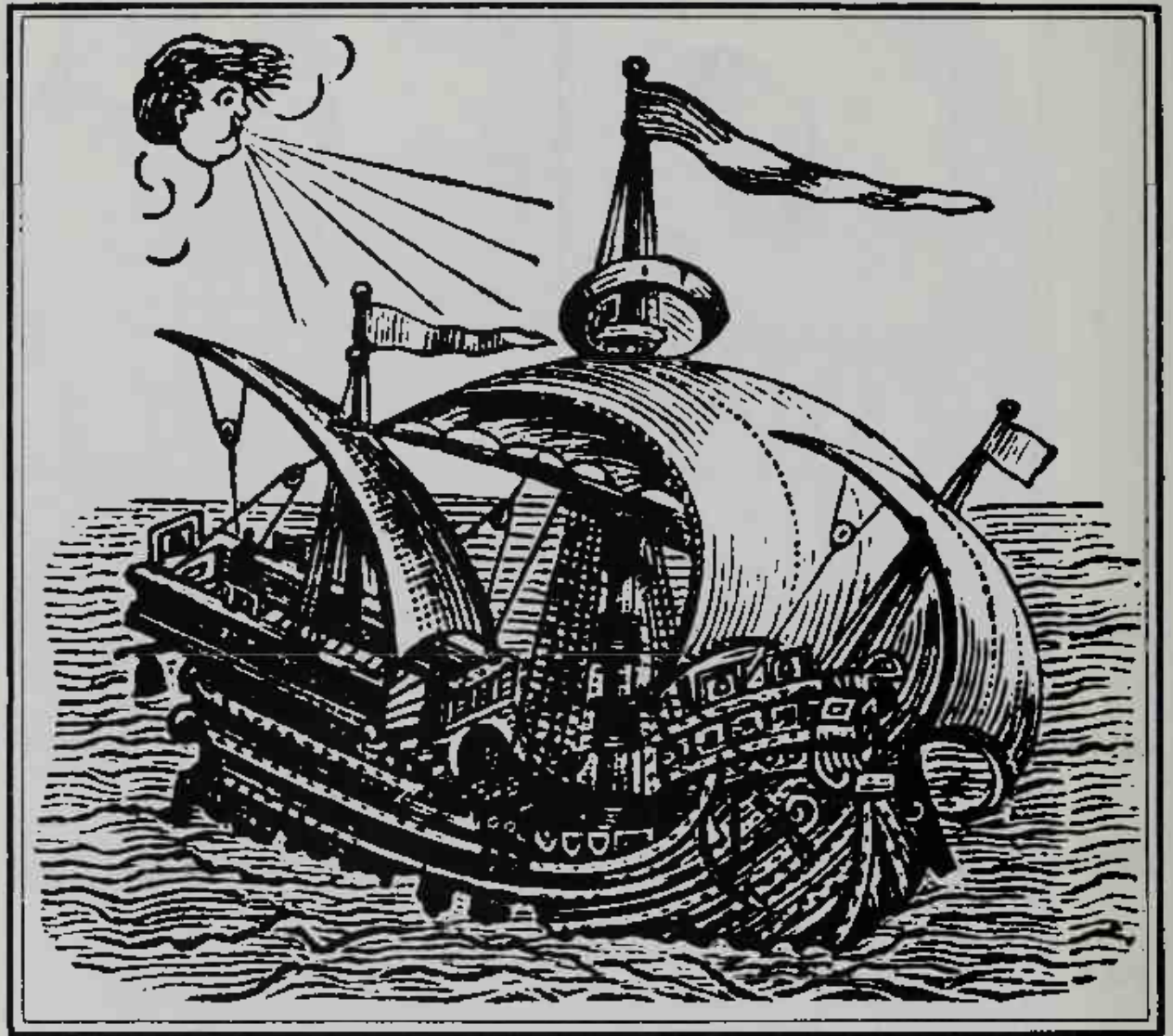
OPIUM CLIPPER .      SEE CLIPPER

ORA .      SEE CANOE

OROU .      SEE CANOE

OUTBOARD MOTORBOAT .      SEE MOTORBOAT

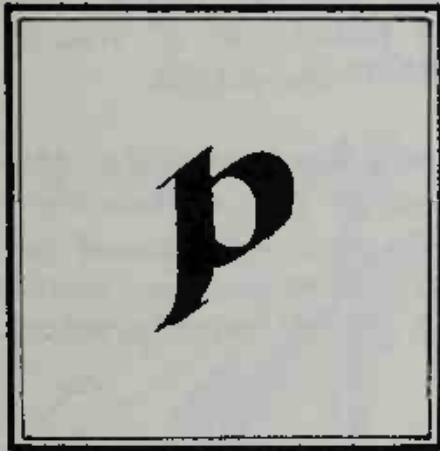
OUTBOARD RACER .      SEE MOTORBOAT



A 15TH CENTURY CARRACK

19th century British woodcut



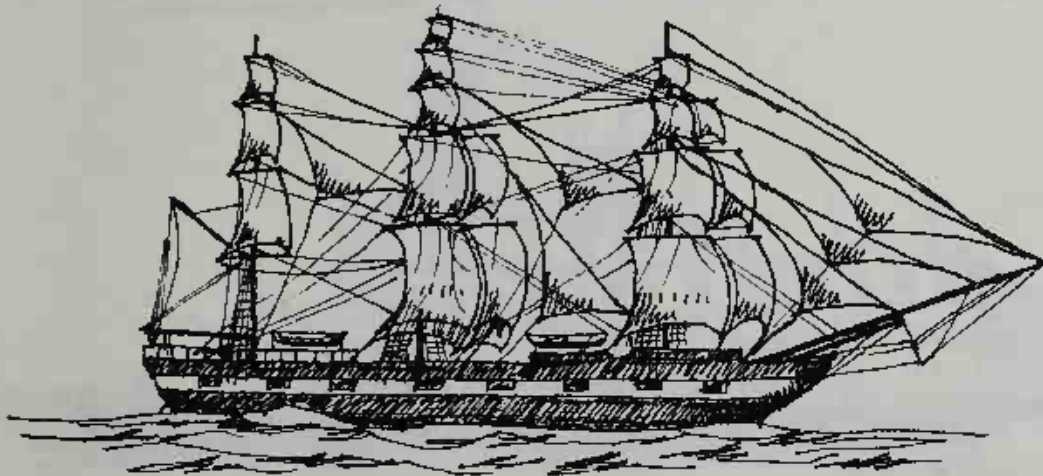


PACIFIC ISLANDS TRADING SCHOONER .

SEE SCHOONER.

PACKET BOAT (POST-BARK)

A Packet Boat was originally a boat carrying the mail regularly between two ports. By the 18th century they were fast ships, also carrying passengers and going as far as America and India. They were eventually supplanted by STEAMSHIPS.



AMERICAN PACKET 1830

## PADDLE STEAMER

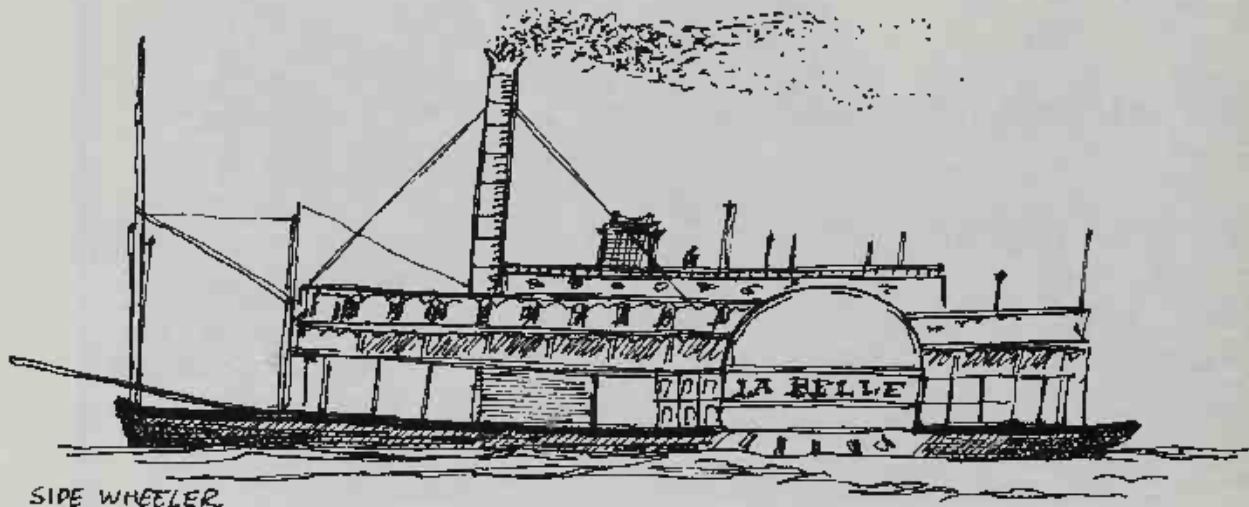
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### PADDLE STEAMER

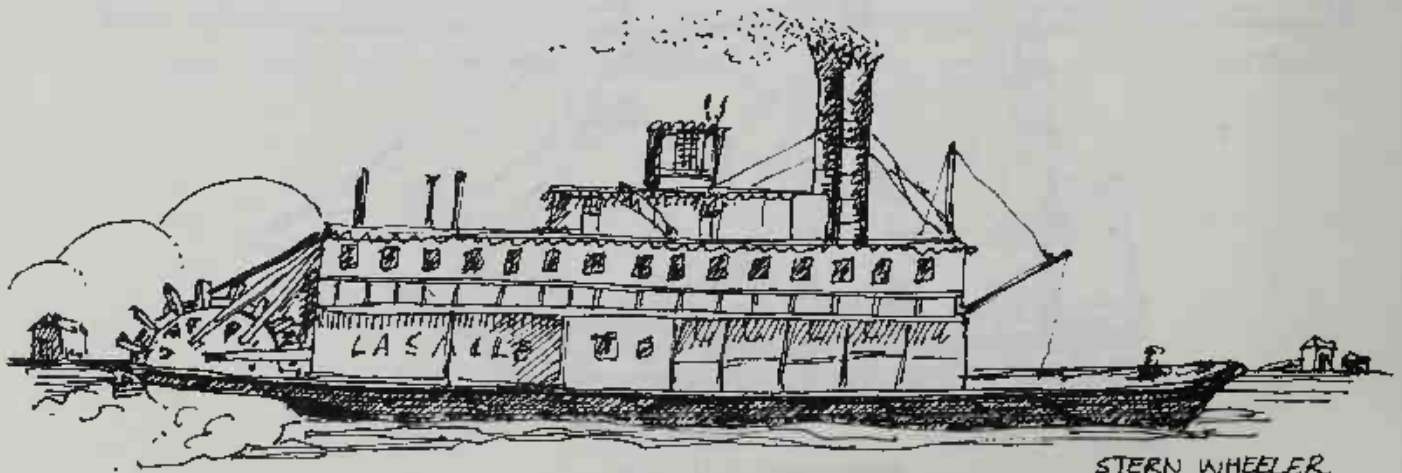
Wheels fitted with some kind of paddle for propelling small boats have been known for thousands of years, so it was to paddles that the first steam engines were connected.

Although a famous Admiralty trial in 1845 between H.M.S. *Rattler* and H.M.S. *Alecto* proved the superiority of the screw over the paddle, Paddle Steamers remained in use for many years more, especially on rivers and in harbors, where the paddle is actually better since it has more power in reverse than a screw.

Ocean-going Paddle steamers were thus gradually eclipsed by screw-propelled vessels, and so probably the best known Paddle Steamers were the Mississippi River steamers. These were of two types: stern wheelers and side wheelers.



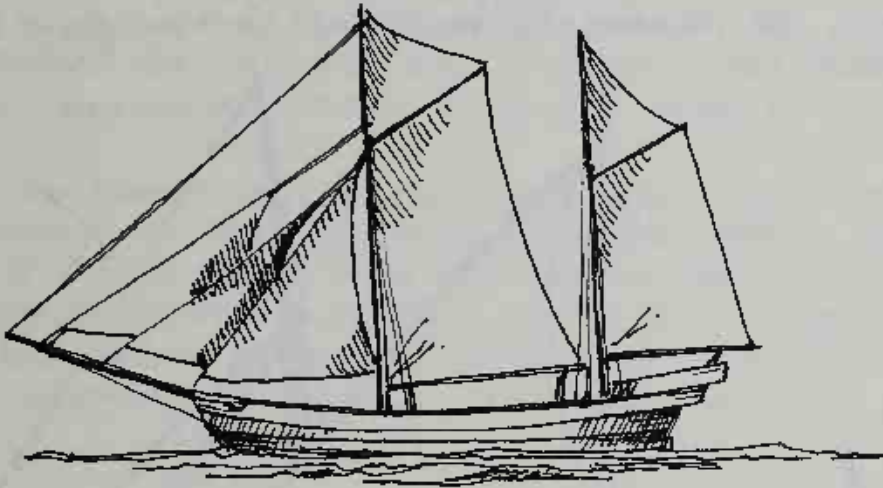
SIDE WHEELER.



STERN WHEELER.

## PADUAKAN

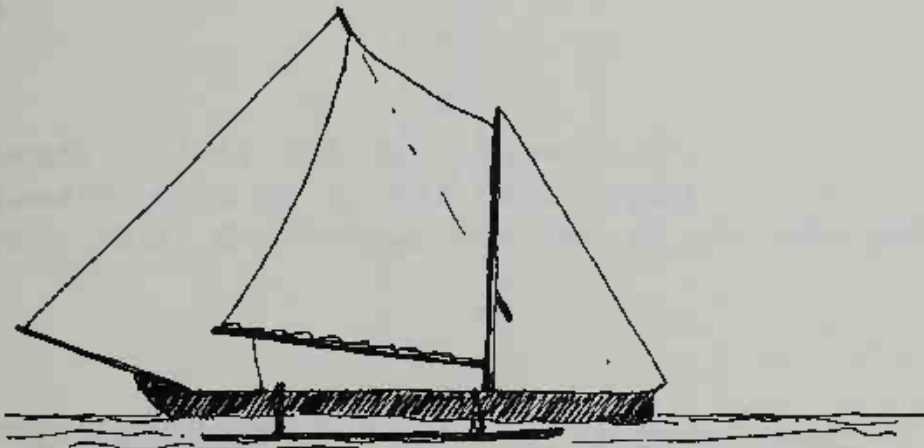
The Paduakan is a KETCH-rigged coasting craft from Celebes.



## PAHI

The Tahitians called their large seagoing vessels Pahi. They were usually double CANOES, the sail being supported on two masts, one mast being stepped in each hull.

The Pahi shown below is an outrigger DUGOUT sailing CANOE from the Society Islands in the Pacific.



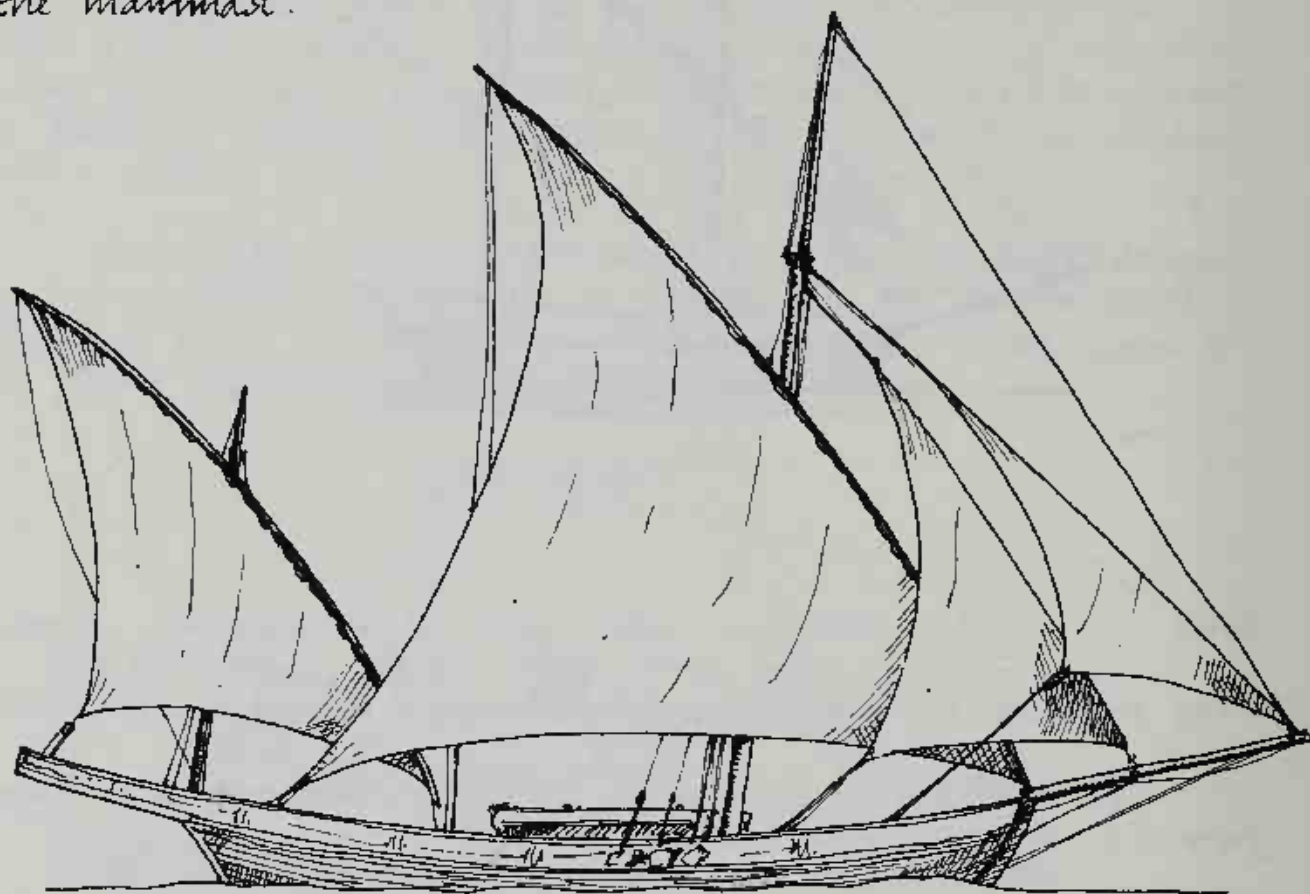
PANJANG

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PANJANG.      SEE SAMPAN

PARANZELLO

A Paranzello is an Italian TRAWLER. Usually a two-masted, both masts being lateen-rigged, the Paranzello sometimes set a square topsail on the mainmast.



PAREJA

The Pareja, like the Italian PARANZELLO above, was also a fishing TRAWLER; used in the Atlantic, the Pareja was common to both Spain and Portugal.

**PASSENGER SHIPS (LINER)**

In the days of the sailing navies, Liner sometimes meant a SHIP-OF-THE-LINE. Some fishing vessels which worked with lines, rather than nets, were also known as Liners. However, the most common use of the word Liner is to describe Passenger Ships which ply a regular route. Before the introduction of steam, PACKET BOATS were sometimes known as Liners. (see also CARGO LINERS.)

In the larger sense, a Passenger Ship is any vessel that carries passengers. This, of course, includes FERRIES, small river-versions of which must have been among the first boats of all. More specifically, Passenger Ship refers to a large, ocean-going vessel whose main purpose is neither naval nor mercantile, but the carrying of paying passengers from one port to another.

In this last sense the Passenger Ship has had the shortest history of many vessels. It is true that PACKET BOATS, which carried passengers as well as the mail, were in regular service by the 16th century, but the pure passenger carrying ship did not appear until well into the latter part of the 18th century.



THE EDDYSTONE LIGHTHOUSE IN THE ENGLISH CHANNEL

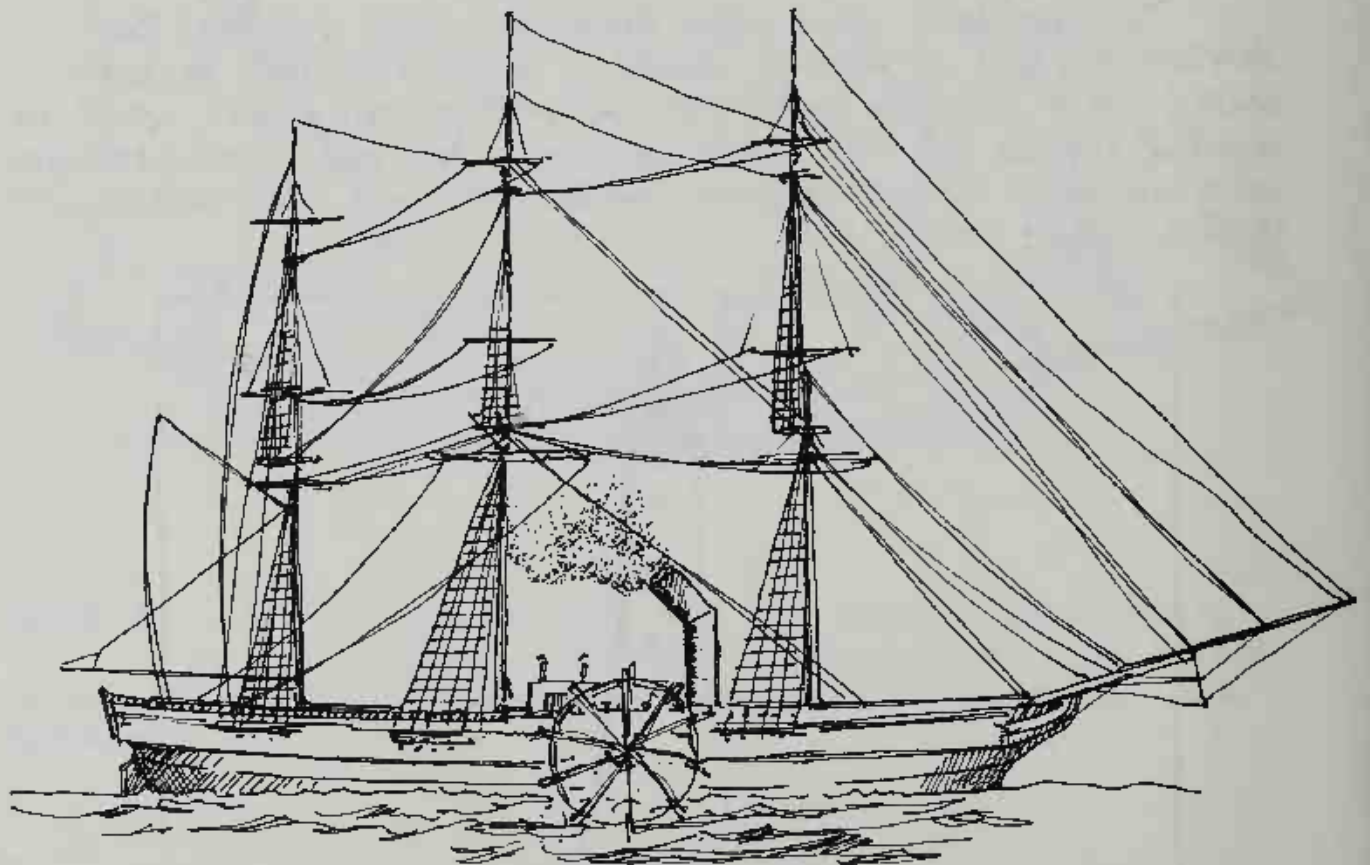
ca. 1759

## PASSENGER SHIPS

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The history and development of Passenger ships is largely tied up with that of STEAMSHIPS, for it was with the introduction of steam propulsion that large numbers of people began to travel by sea. Hitherto, sea voyages had been too lengthy and uncomfortable for most people to undertake them for pleasure.

By the beginning of the 19th century, STEAMSHIPS were making regular voyages across the Atlantic. These early Liners were also fully-rigged sailing vessels. The *Savannah* is usually regarded as the first STEAMSHIP to cross the Atlantic (in 1819), but she was also a full-rigged ship and in fact seldom used her machinery. It was the *Sirius* who, in 1838, was the first vessel to cross the Atlantic under steam alone, although she too had sails.

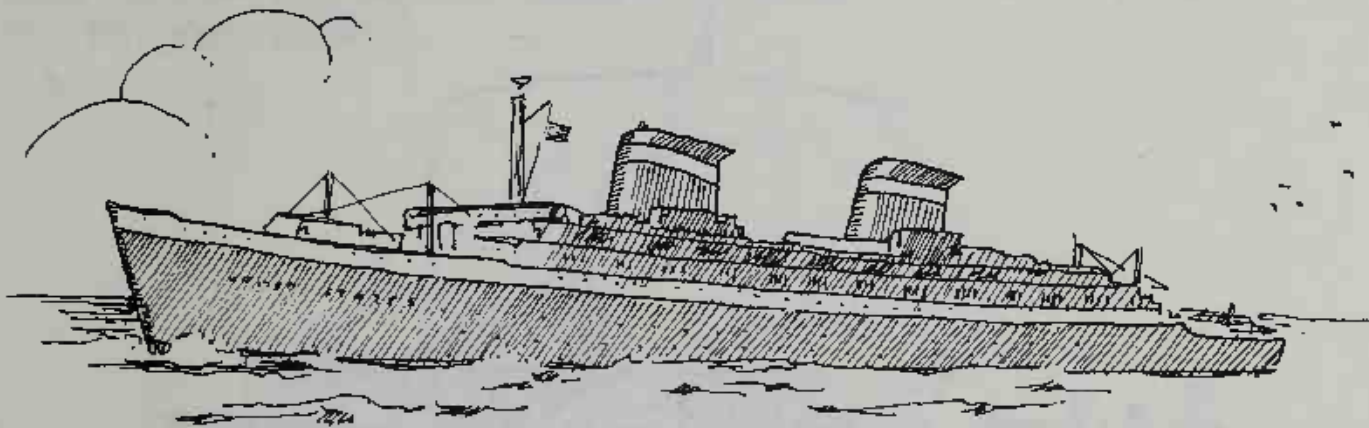


*Savannah* : 1819

The first large iron ship to be built as a transatlantic liner, screw-propelled, was the **Great Britain** (the first of the very famous Isambard Kingdom Brunel's three shipbuilding masterpieces), launched in 1843. (The other two were the **Great Western**, 1838, and the **Great Eastern**, 1858.)

From this point on, Liners increased in number, size, speed, and luxury, for a little more than a hundred years. The roster of famous Passenger Ships is long and includes many very well-known ships such as the **Oceanic**, 1871; the **City of Paris**, 1888; and her sister ship, the **City of New York**; the **Mauvetania**, 1906; and her sister ship, the **Lusitania**; the ill-fated **Titanic**; the **Queen Mary**, 1934; and her sister ship, the **Queen Elizabeth**, 1938.

The **United States**, 1951, was the fastest of the transatlantic liners, with an average speed of over 34 knots. Nowadays, however, most trans-oceanic passengers travel by air, and the days of the great Passenger Ships are over, except for a small number of luxury cruise ships, which are really floating hotels for the rich. Of these ships, perhaps the most well-known is the **Queen Elizabeth II**, or **QE2** as she is more commonly known.



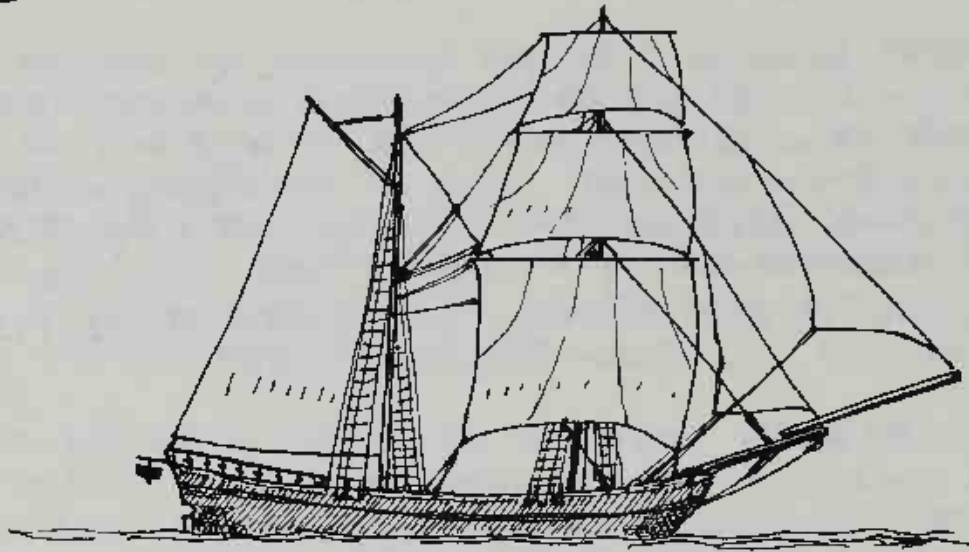
S.S. United States  
990' (301 m) 51,821 TONS

## PATACHE

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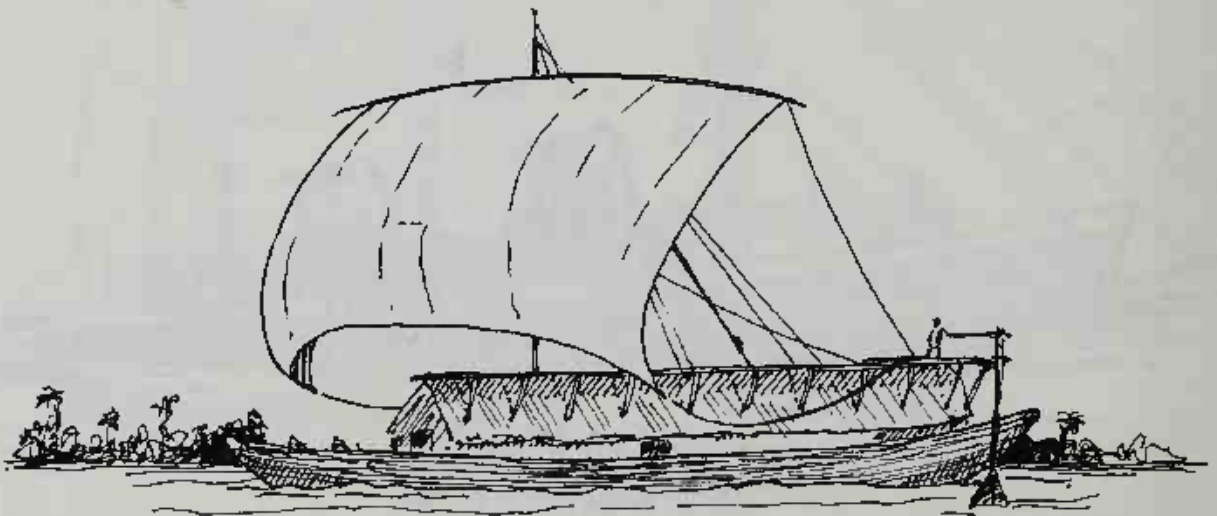
### PATACHE

The Patache was a coasting vessel from southern Europe, common before the 19th century. Similar to a BRIGANTINE, the mainmast was a single pole, the foremast was in three sections, each carrying a square sail.



### PATILE

The Patile is a BARGE-like transport vessel used on the Ganges River in India.





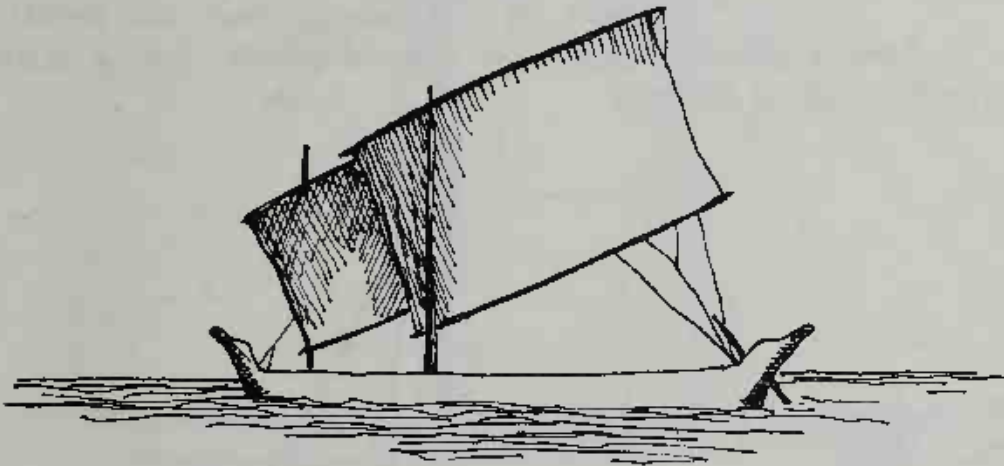
PATTAMAR .

see DHOW

PAYANG

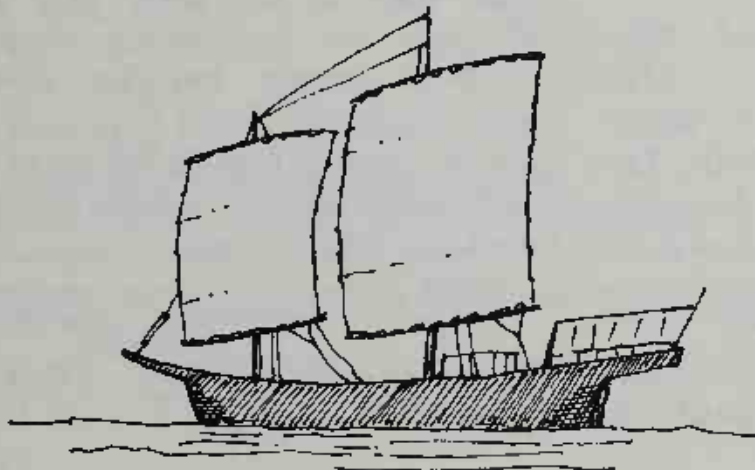
lugsails.

The Payang is a native fishing boat from the east coast of Malaysia carrying two black.



PENJAJAP

The Penjajap is a Malay trading vessel. The two sails are a cross between square sails and dipping lugsails. Bundles of bamboo are carried beneath the bow for stability.



PENTECONTER

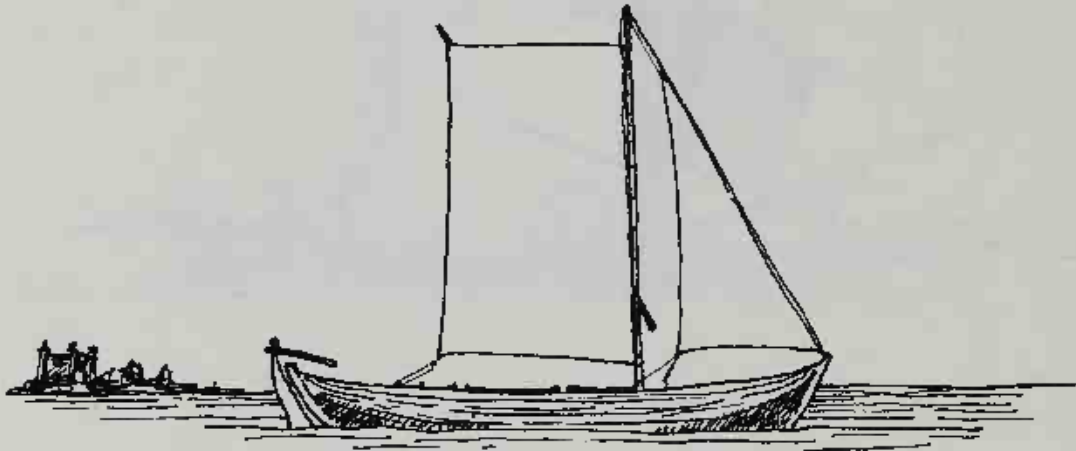
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PENTECONTER .      SEE GALLEY

PERIAGVA .          SEE PIROGUE

**PETER BOAT**

The Peter Boat was used on the lower Thames in England for centuries. The hull is a direct descendant of VIKING SHIPS, being double-ended, shallow, and beamy.



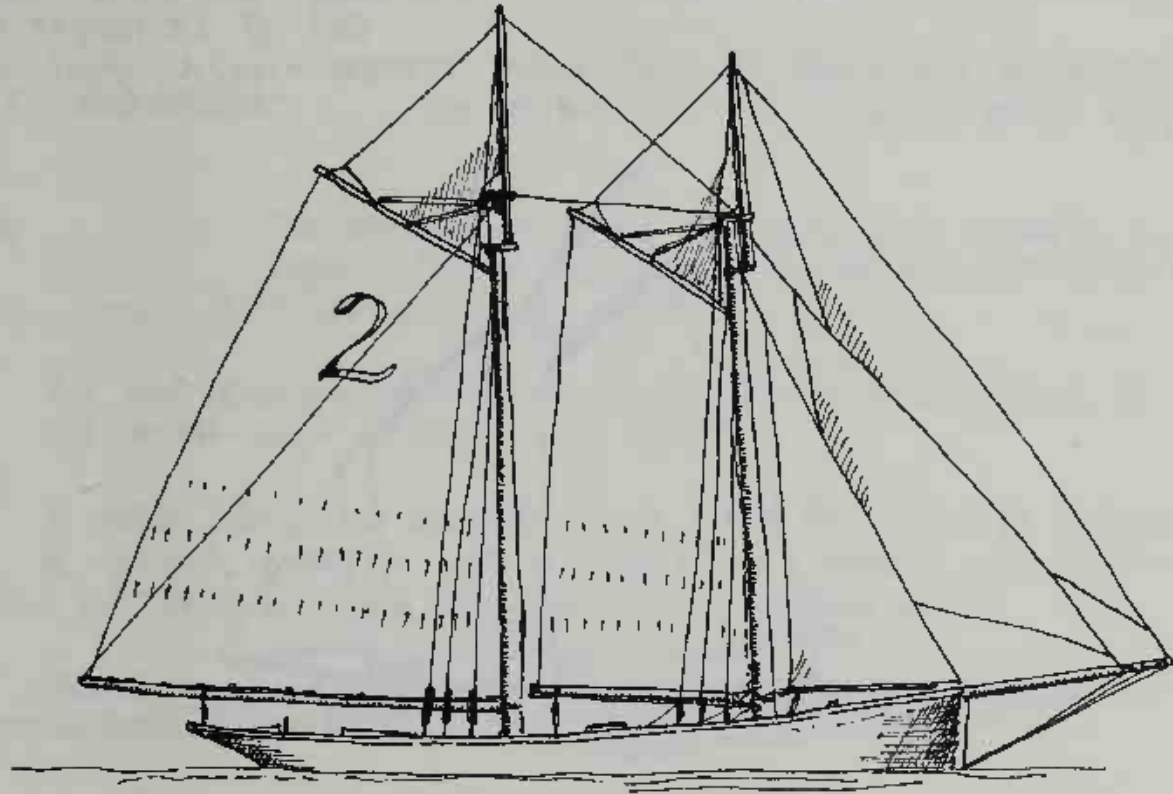
**PILOT BOAT :**

Before the advent of steam, a Pilot Boat had to be both fast and seaworthy in order to put the pilot onto an incoming ship first, in any weather. Consequently, early YACHTS owe much of their design to these fast sailing boats, which for similar reasons bore much resemblance to the BALTIMORE CLIPPER. An American Pilot Schooner is shown opposite; it should be remembered, however, that other rigs were used, see, for example PILOT CUTTER :

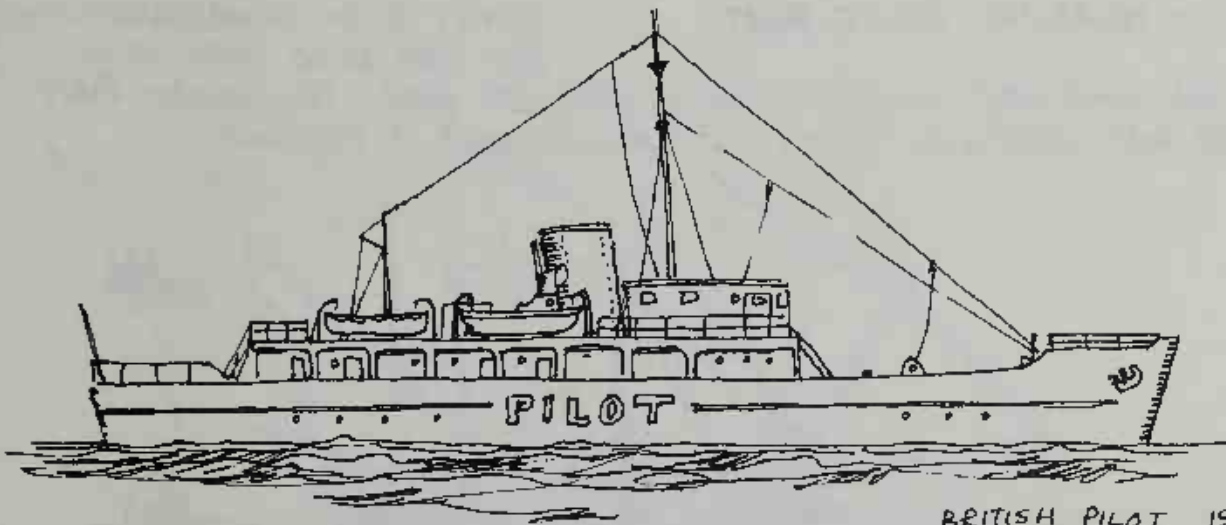
Nowadays Pilot Boats vary considerably from country to country, but tend to be small and fast.

PILOT BOAT

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AMERICAN PILOT 1885

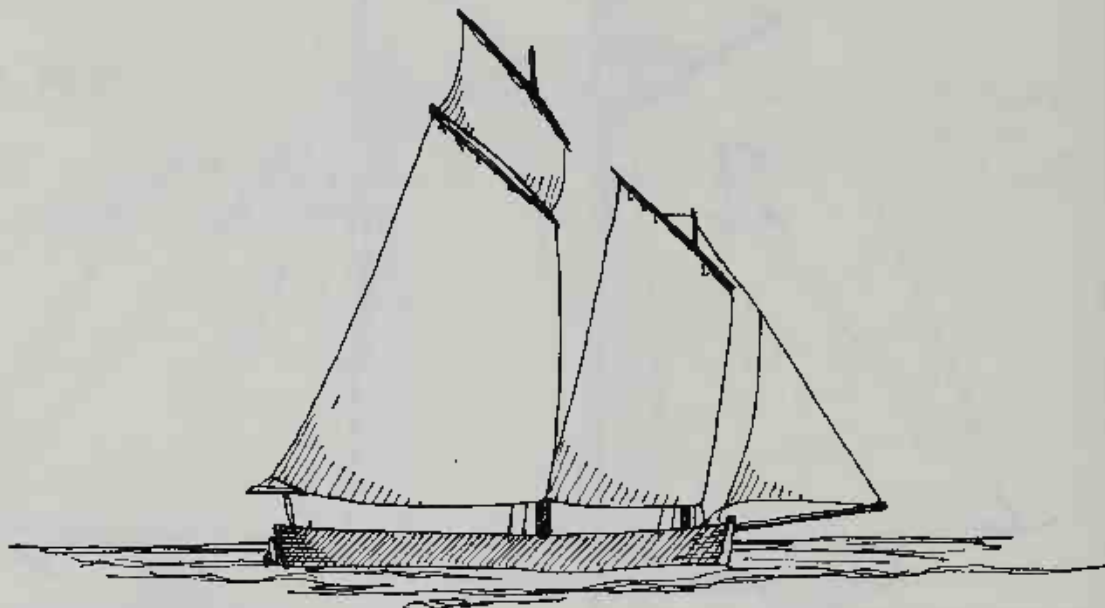


BRITISH PILOT 1950

~ HAVRE PILOT BOAT

France in the days of sail were CUTTER-rigged, fast and very seaworthy.

The Pilot Boats used out of Le Havre in

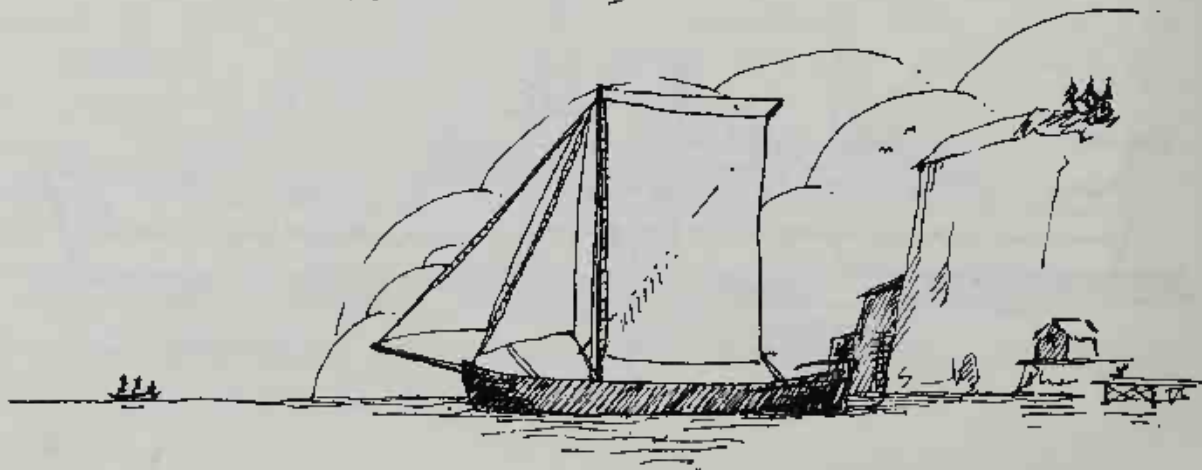


~ HVALOR PILOT BOAT

broad and deep, consequently, a good sea boat. The Hvalor Pilot Boat was spritsail-rigged with a jib and a staysail.

Hvalor is in southern Norway;

its Pilot Boat was very

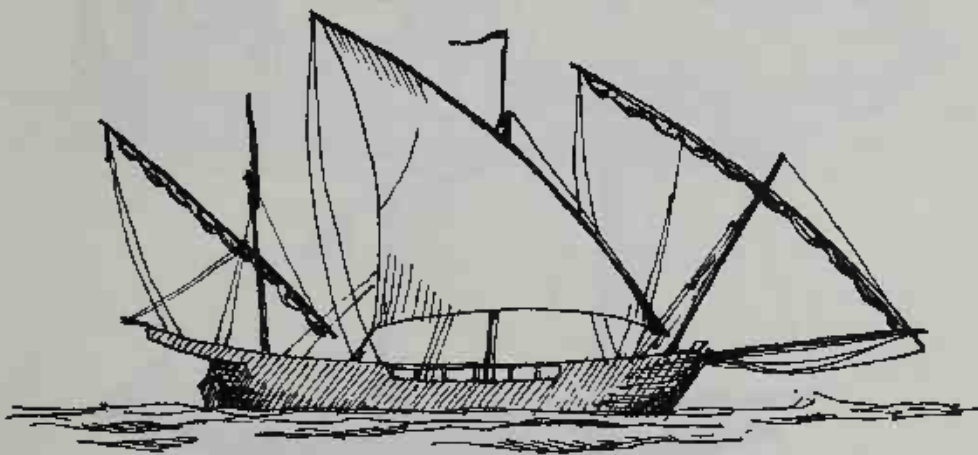


PILOT CUTTER.      SEE CUTTER.

PILOT SCHOONER.      SEE SCHOONER.

**PINK**      The term Pink applies basically to a small, square-rigged ship with a narrow, overhanging stern, much used for carrying masts.

- a. In the 15th and 16th centuries, Pink was applied to all small ships with narrow sterns.
- b. A little later, the Danish Navy used the word to designate a small WARSHIP with a Pink stern, which was, however, broader at deck level in order to accommodate guns.
- c. The term Pink also meant a Dutch herring boat from Scheveningen.
- d. By the 17th and 18th centuries there was a large variety of hulls and rigs which were called Pink, but all sharing the Pink stern. The Mediterranean Pink, shown below, was a lateen-rigged merchant craft, similar to the XEBEC.

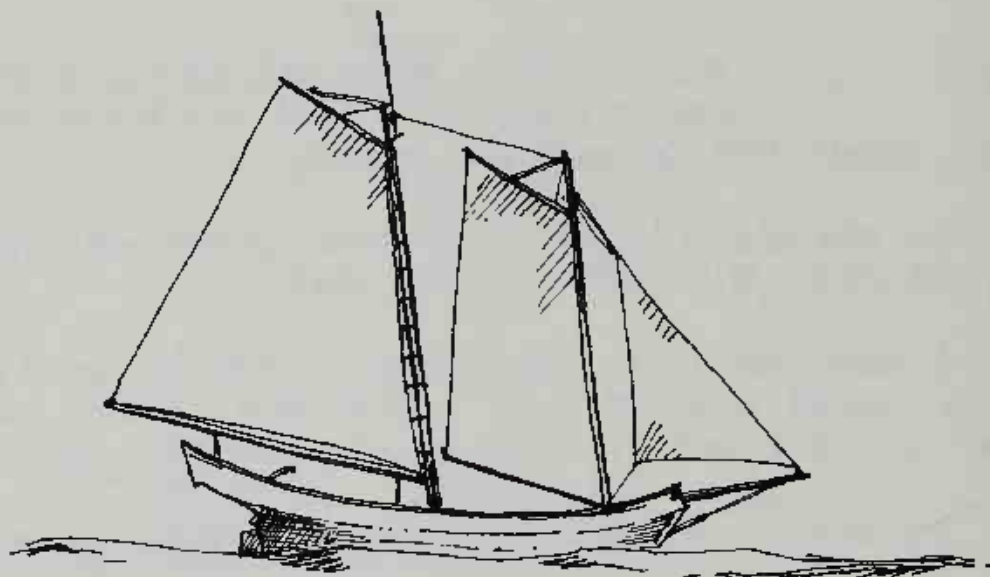


18<sup>TH</sup> CENTURY PINK.

PINKY

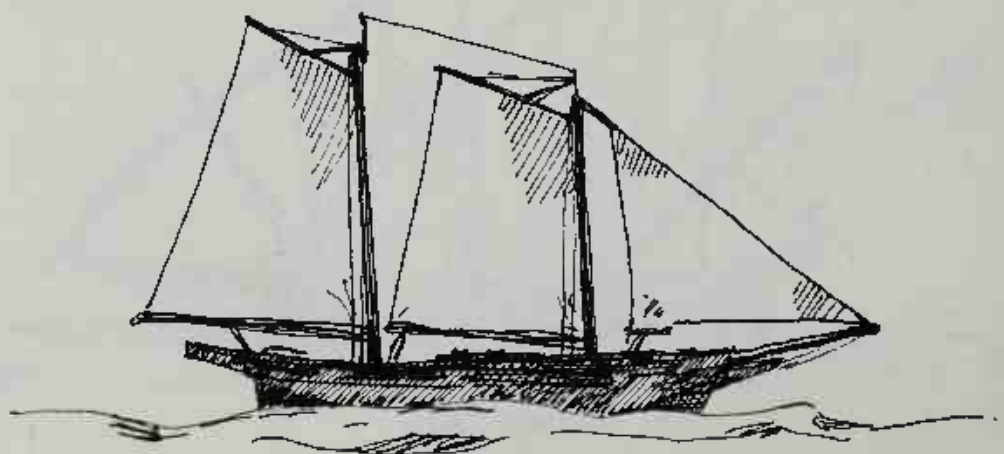
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**PINKY :** The Pinky, named after the Danish PINK, was one of the oldest New England fishing boats. **SCHOONER**-rigged, the Pinky had a hull like Baltic boats.



NEW ENGLAND PINKY

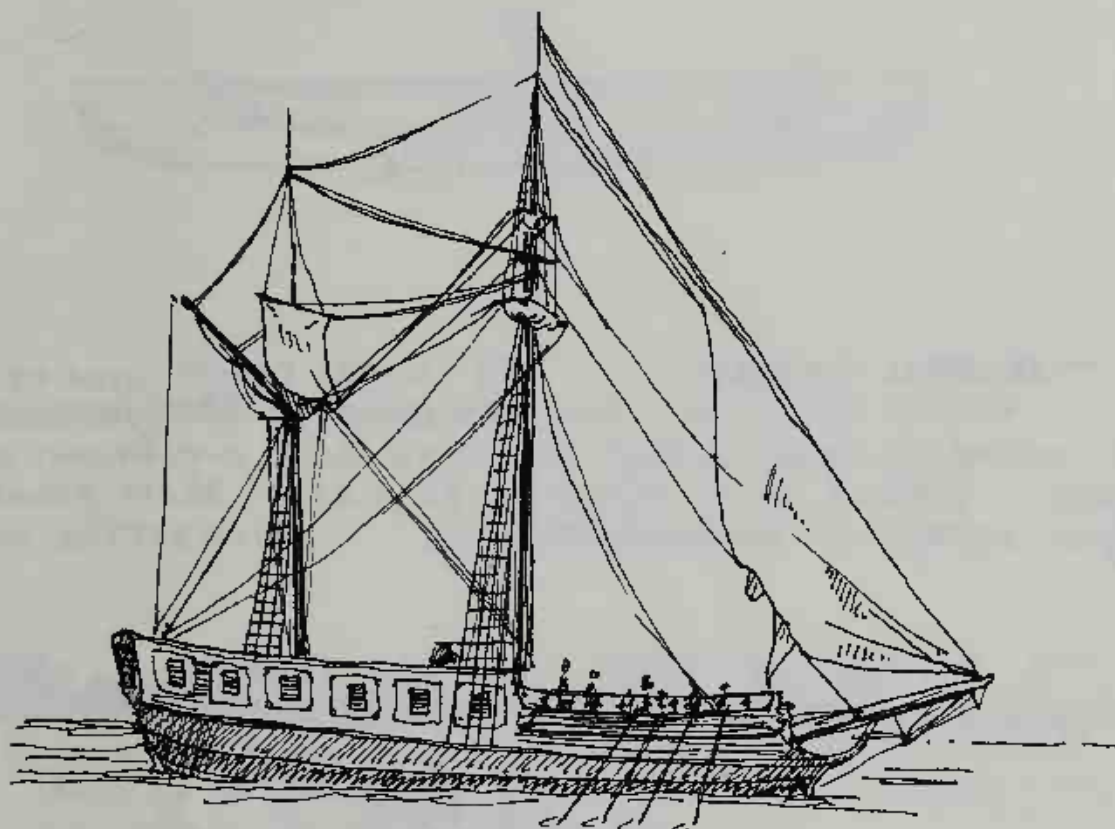
~ **YARMOUTH PINKY** The Yarmouth Pinky, an English east coast fishing boat is a less extreme example of the Pinky.



## PINNACE

a. Pinnace was a class of ship's boat, rowed by eight, and later sixteen, oars, eventually supplanted by the petrol- and diesel-powered small MOTORBOAT.

b. Originating in the 16th century, the Pinnace was a small ship of about 20 tons, square-rigged on fore- and mainmasts, and eventually SCHOONER-rigged. Pinnaces carried oars and were frequently used as ADVICE BOATS.



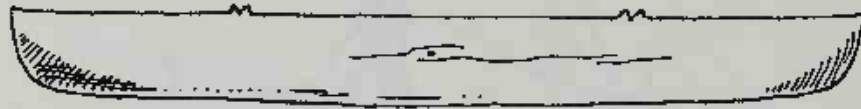
18TH CENTURY PINNACE BEING ROWED

## PIROGUE

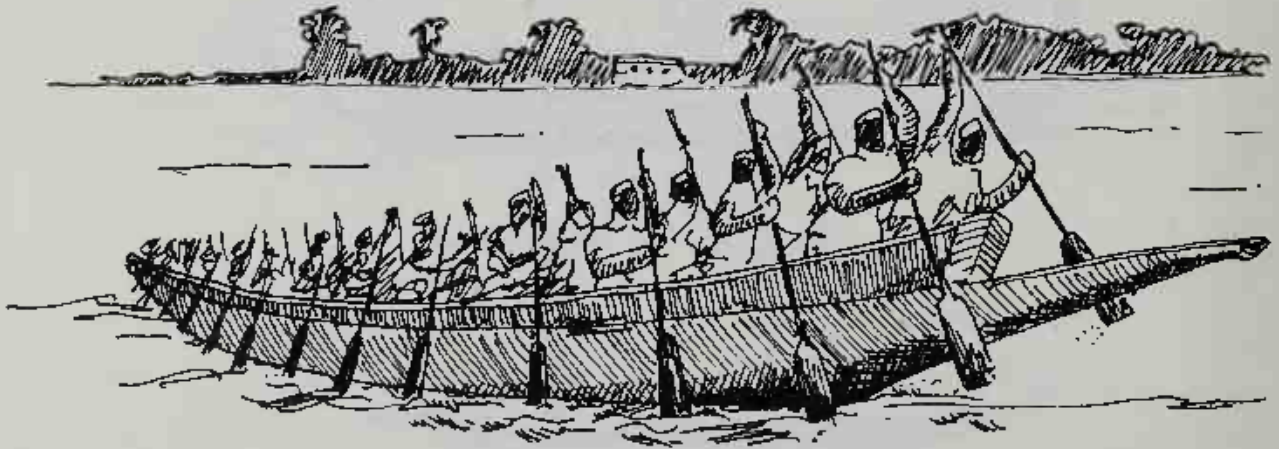
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**PIROGUE or PIRAGUA (PERIAGUA) :** Pirogue is the old West Indian name for the DUGOUT CANOE used by the Indians on and around the Gulf of Mexico.

~ **LOUISIANA PIROGUE** A direct descendant of the old West Indian Pirogue, the Louisiana Pirogue, made from hollowed-out cypress logs, is used in the swamps and bayous around New Orleans.

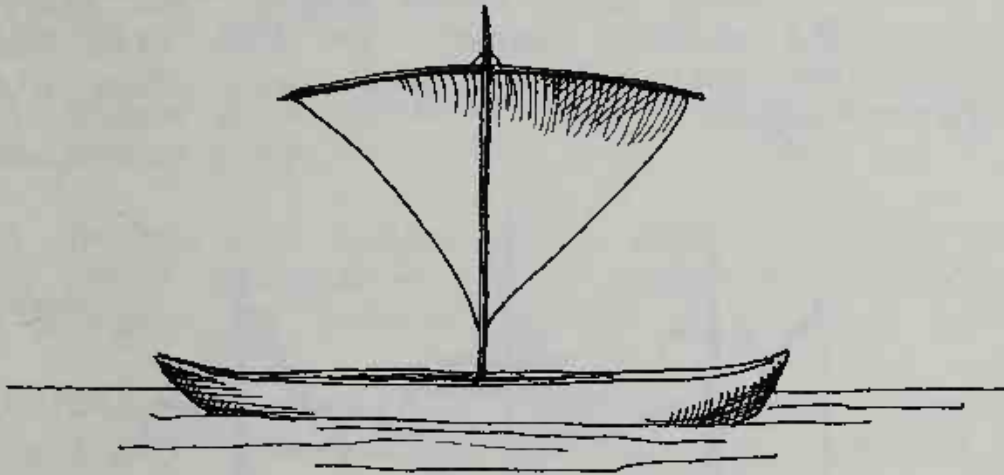


~ **SENEGAL PIROGUE** The large CANOES used by the natives of Senegal for loading and unloading ships through the heavy surf are known as Pirogues. Manned by as many as 32 paddlers, these giant Pirogues engage in annual races.





~ TAHITIAN PIRAGUA      The Tahitian Piragua,  
is sometimes fitted with an inverted triangular sail,      unlike the other PIROGUES,



PLUMB STEMMER.      see SCHOONER, GLOUCESTER FISHING

POCKET BATTLESHIP.      see BATTLESHIP

POJAMA      The Pojama was a Swedish WARSHIP from  
the 19th century. Similar to a GALLEY,  
the Pojama could be rowed, but also had two masts,  
and carried two heavy guns in the bow and the stern.  
She was similar to the UDEMA.

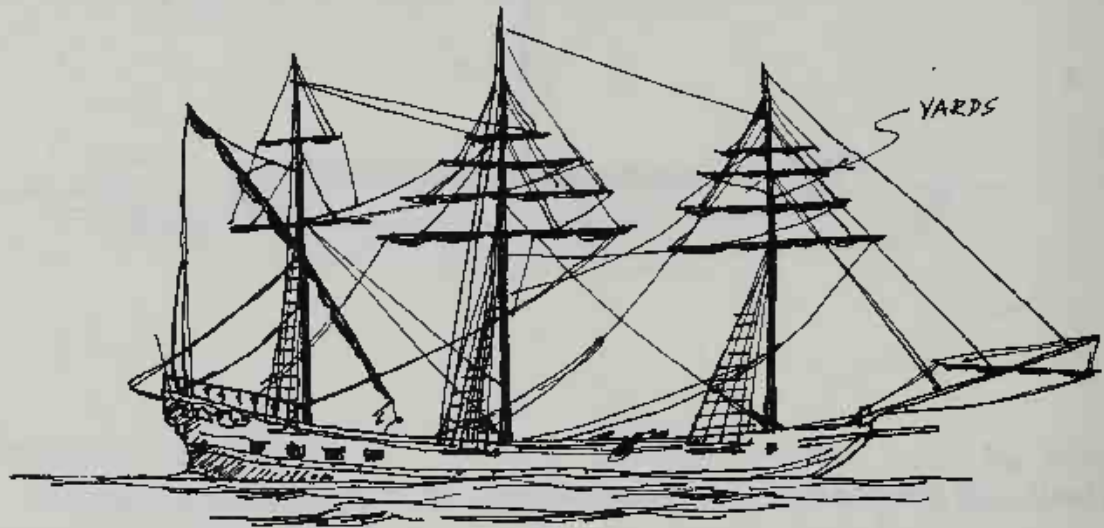
## POLACRE

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### POLACRE or POLACCA

whose masts were made of single poles, thereby enabling the yards to be raised or lowered to the yards immediately above or below. Most were three-masted, but there were also two-masted versions (BRIGS). In both cases the aftermost mast was lateen-rigged, the other masts being square-rigged.

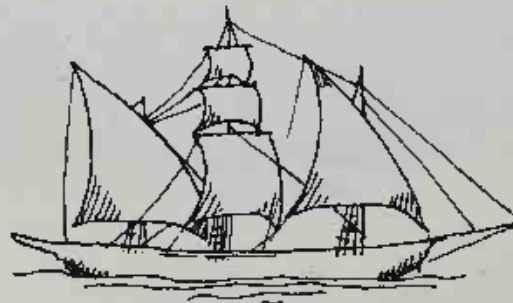
The Polacre was a ship common to the Mediterranean



POLACRE WITH ALL SAILS FURLED SHOWING YARDS CLOSE TOGETHER

### POLACRE-SETTEE

A Polacre-Settee was a three-masted Polacre, square-rigged only on the mainmast.

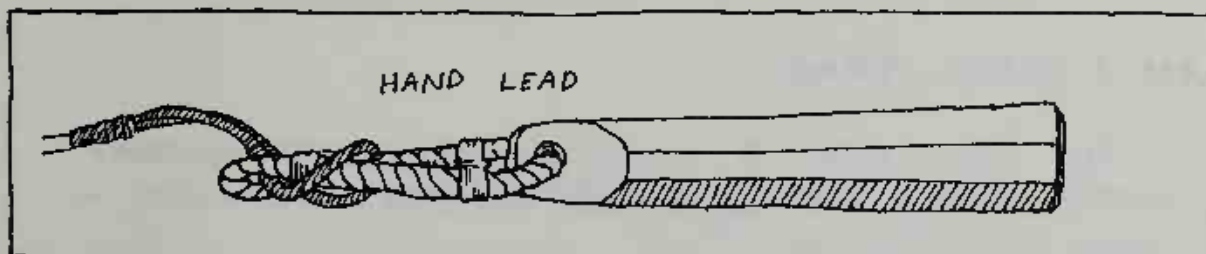


**PONTOON**

Pontoon, which comes from the Latin, meaning floating bridge, has acquired a number of specialized nautical meanings:

- a. Pontoon may refer to a flat-bottomed boat used as a LIGHTER or FERRY.
- b. A Pontoon is a specially designed boat to support a temporary bridge.
- c. A Pontoon is a hollow vessel used in raising salvage, by being pumped empty of water and thereby helping to float the salvage.
- d. A Pontoon is a floating structure fixed to the end of piers and jetties to accommodate the rise and fall of the tide.
- e. In the days of sail, a Pontoon was a low, flat vessel fitted with cranes and capstans, and used in the cleaning or repair of hulls.

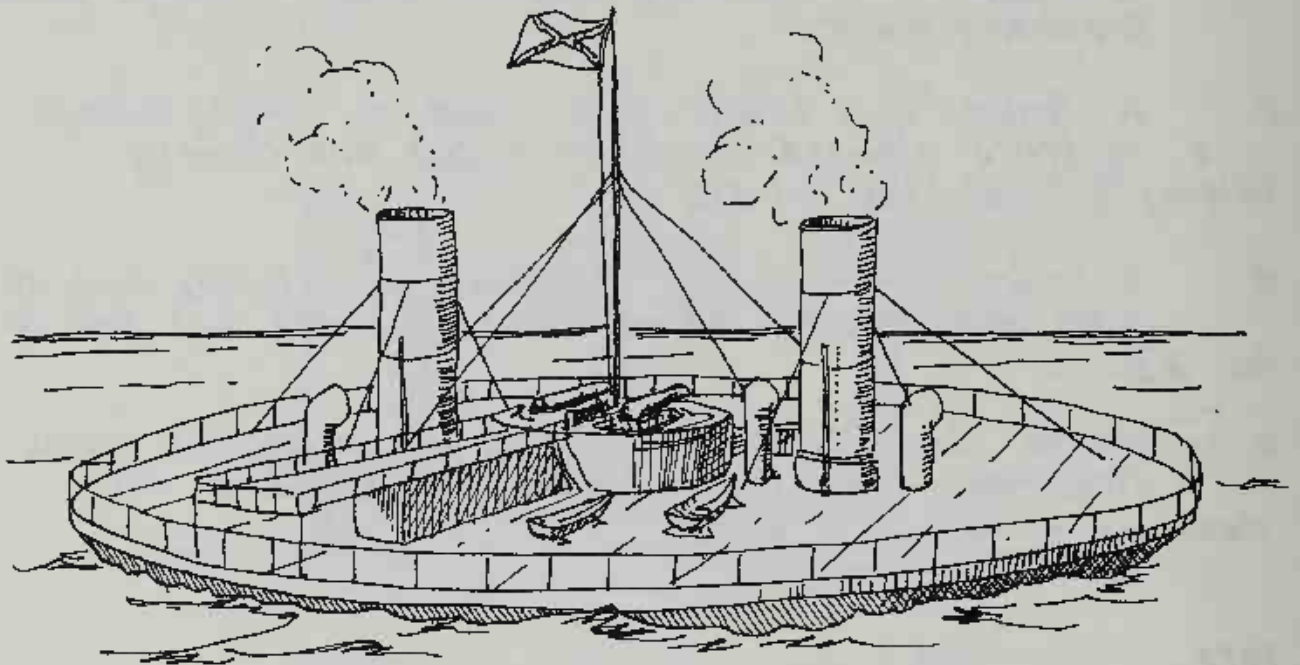
POPO. see PROA



## POPOFFKA

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**POPOFFKA** The Popoffka, designed by and named for the Russian Vice Admiral Popov, was a circular WARSHIP built in 1875. The idea was to provide a steady platform for her guns no matter what the state of the sea, but the vessel suffered from a low freeboard and the inability to travel in a straight line when descending rivers, revolving continuously instead.



**POST-BARK .**      see PACKET BOAT

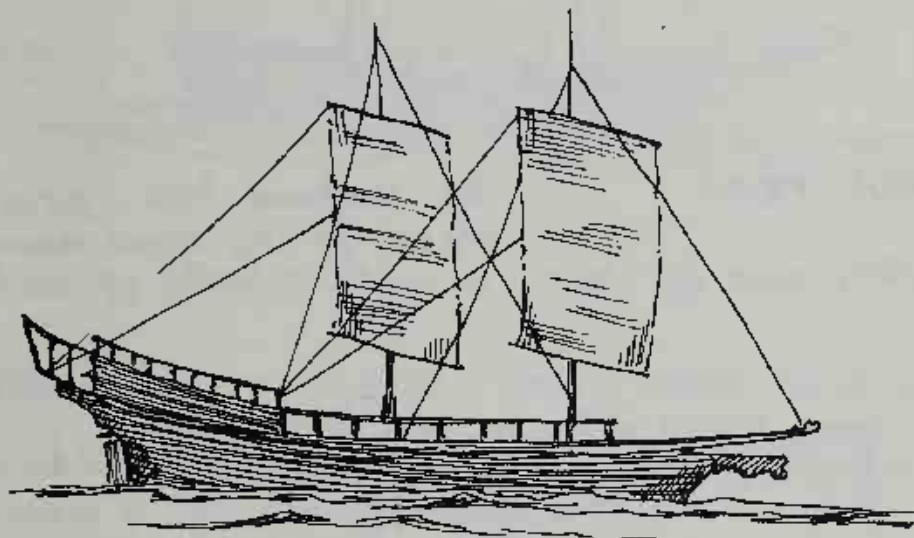
## **PRAAM ( PRAM or PRAME )**

- a. The Pram was a small French coastal GUNBOAT used during the Napoleonic wars.
- b. Pram is also the word for a very old form of Dutch and Baltic LIGHTER.

- c. A Pram was a ship's boat of the 16th to 18th centuries.
- d. DINGHIES with sawn-off bows, used as TENDERS to YACHTS, are known as Prams.

**PRAHU or PRAU (PRAO):** Pram or Prau is a Malayan word meaning boat or vessel, but refers here to those boats found specifically in Malayan waters.

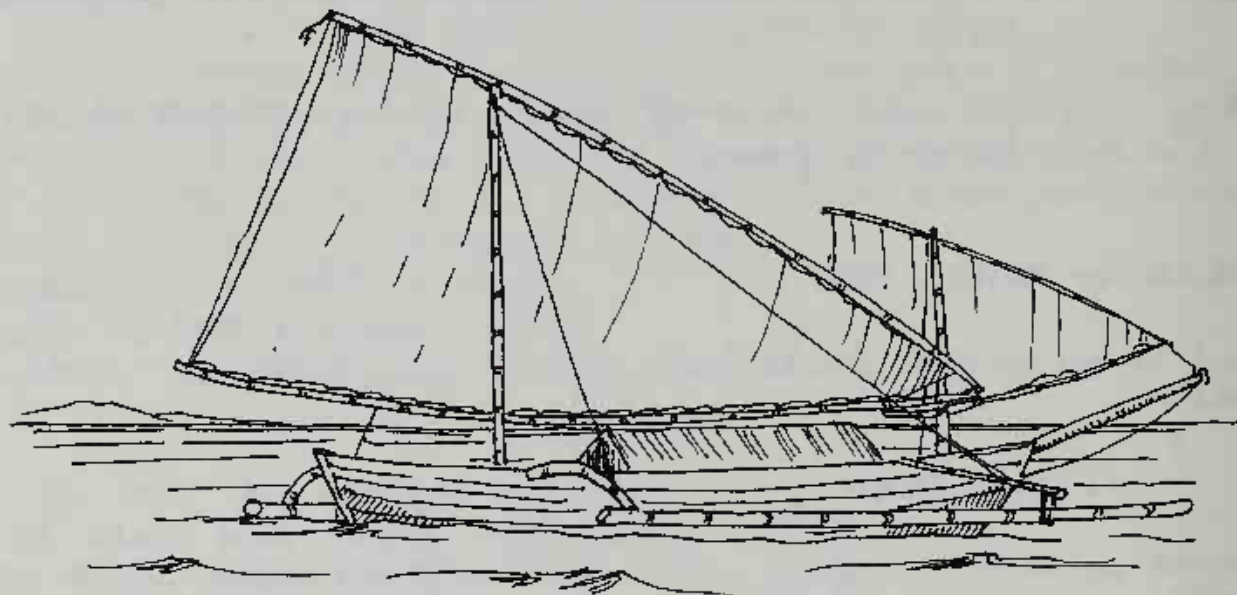
~ **FLYING PRAU** The Flying Pram was used by Malayan pirates, and could be rowed as well as sailed. The sails were generally made of rattan on bamboo masts.



~ **JAVANESE PRAU (PRAO)** The Javanese Pram shown on the next page is thought by some to be the possible progenitor of the lateen sail. This vessel is also fitted with outriggers on both sides of the hull.

PRAHU / Madura Pram

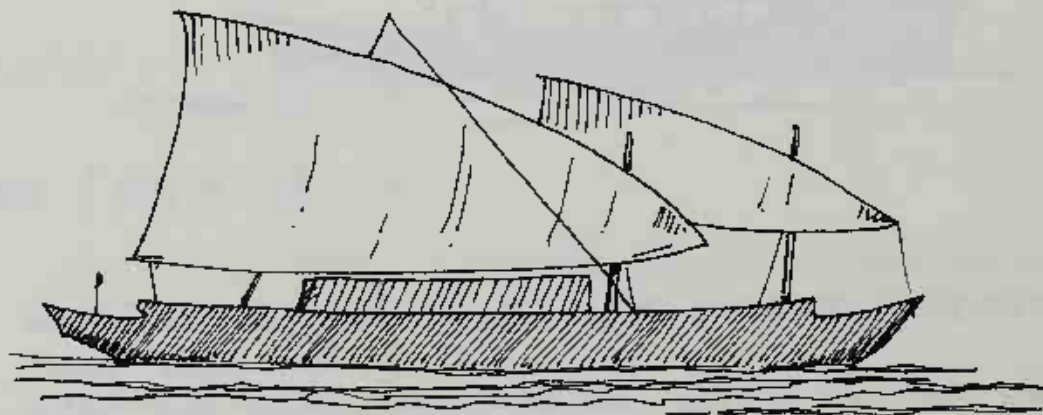
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JAVANESE PRAM

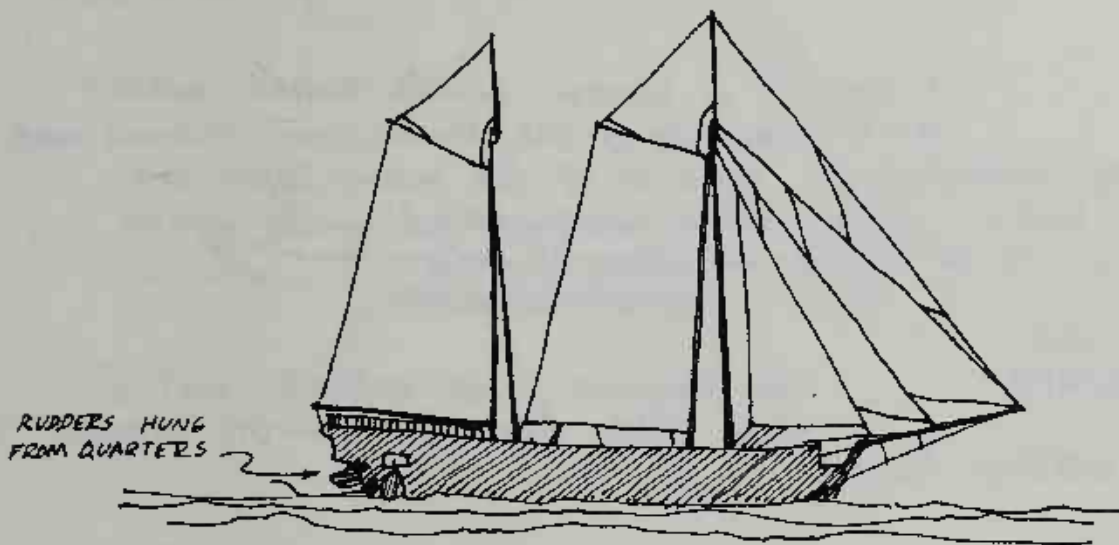
~ MADURA PRAM

The Madura Pram, from the island of the same name, near the eastern end of Java, is made entirely of teak.



## PRAM or PRAME

**PRAU BUGIS** The Prau Bugis, from the East Indies, although KETCH-rigged, is a very old type of vessel. The hull is like that of a JUNK, and the lower masts are actually tripods.



**PRIVATEER** A Privateer was a vessel (and later its crew), which was privately owned and armed, and which, if in possession of a Letter of Marque from the government of its country, was licensed to capture enemy shipping and share in the prize.

The first Letter of Marque was issued in England in 1293, and because of the effectiveness of privateering on the enemy's merchant shipping, the system continued, until its abolition at the Treaty of Paris in 1856.

Francis Drake and Paul Jones were only two of many famous seamen who were also Privateers at one time or another.

PRIVATE SHIP

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**PRIVATE SHIP**  
not a FLAGSHIP.

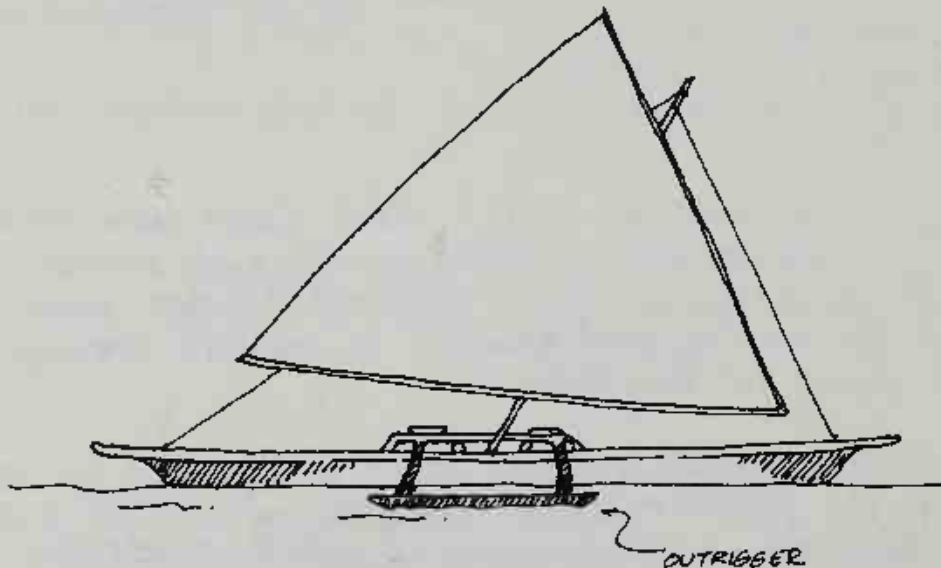
A private ship is a commissioned WARSHIP which, having no flag officer on board, is

**PRIZE SHIP**  
PRIVATEER.

A prize ship is an enemy vessel captured at sea by a WARSHIP or by a

**PROA :** A Proa is a narrow, double-ended DUGOUT CANOE common to the Micronesian Islands and the Malay Archipelago. Several of the many types are described below. Many proas have pivoted masts which allow them to be sailed in either direction.

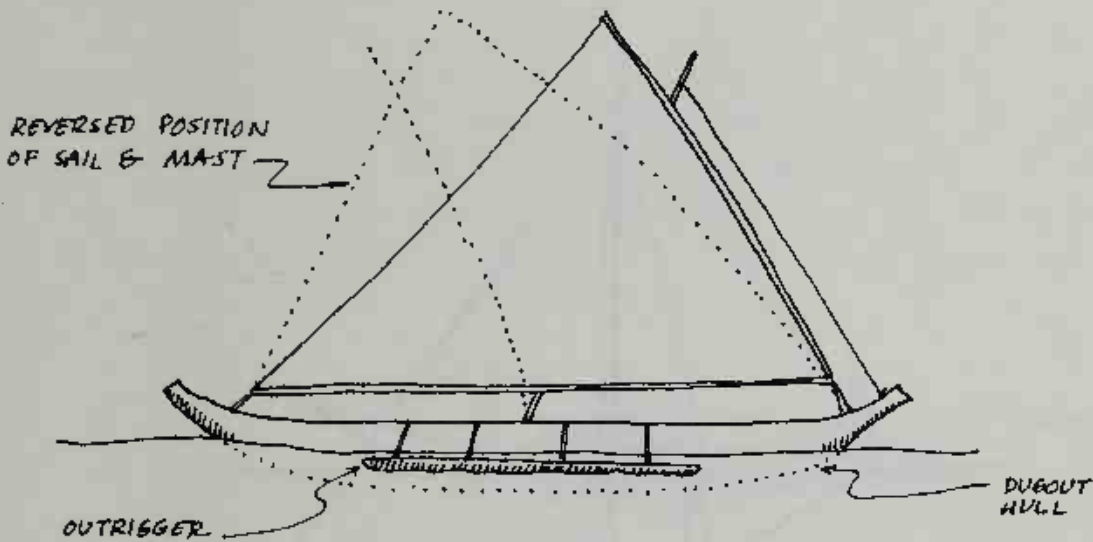
- **BAURUA** The Baurua, now extinct, was a fast Proa from the Gilbert Islands in the western Pacific.





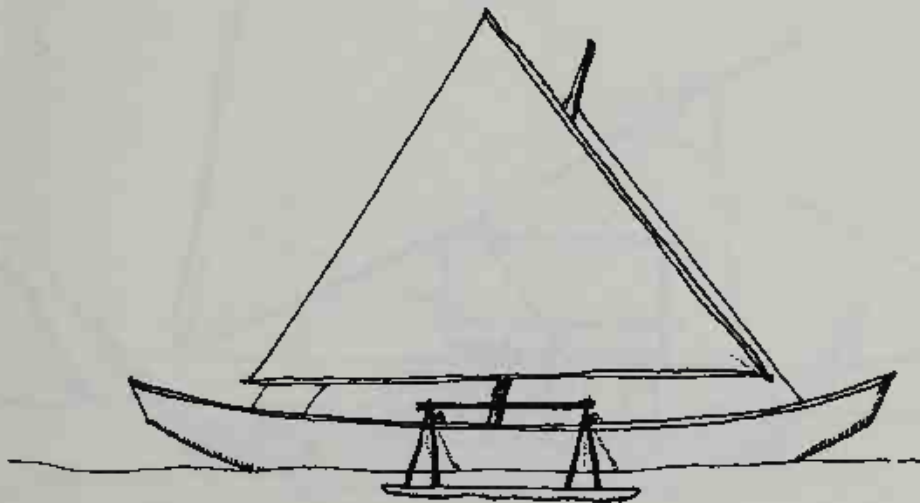
~ FLYING PROA

The Flying Proa came from the Marianas Islands, and was an extremely fast Proa of the reversible mast type.



~ KAEP

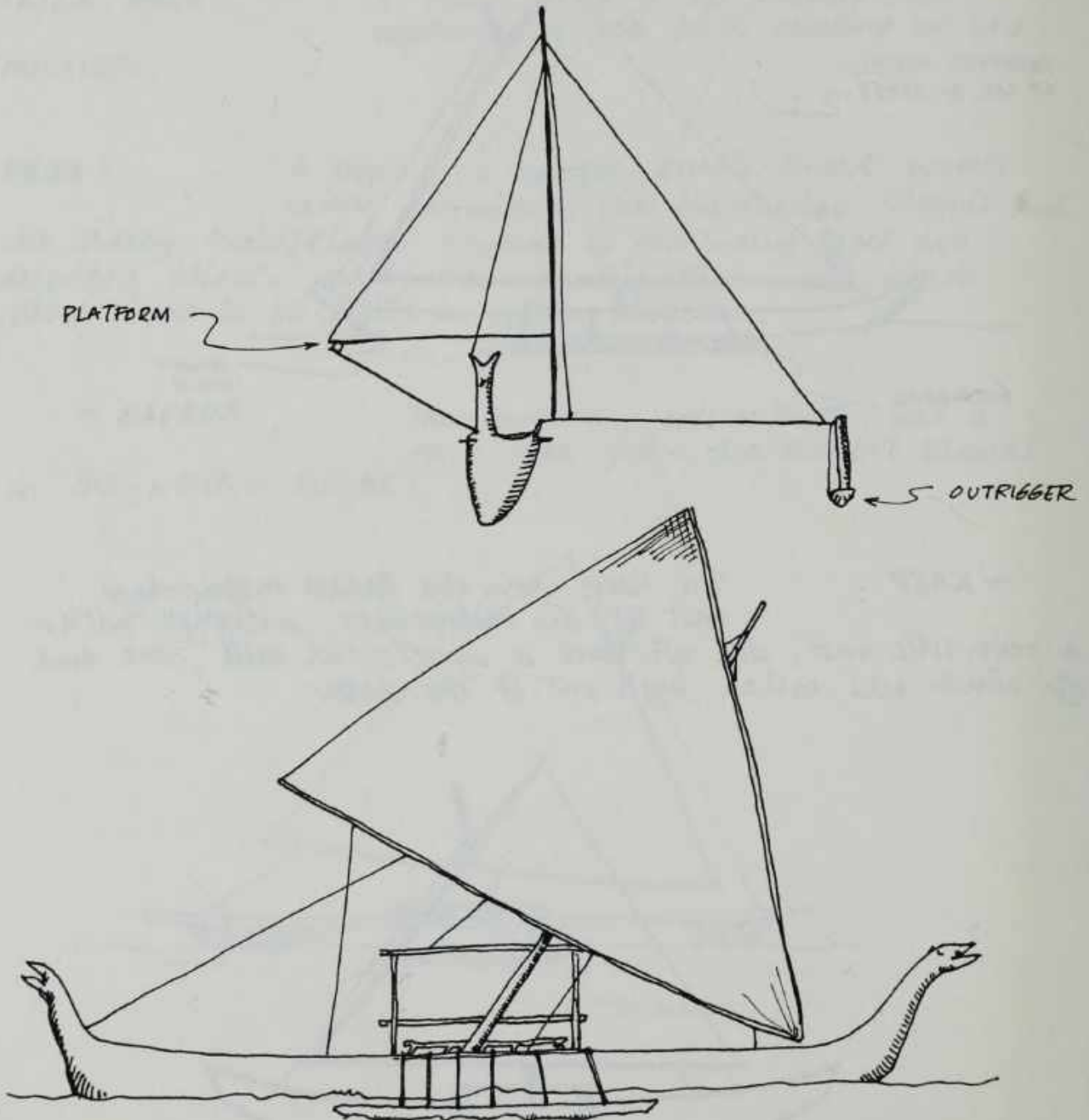
The Kaep, from the Palau Archipelago, east of the Philippines, although with a reversible mast, did not have a symmetrical hull, one end of which was sailed high out of the water.



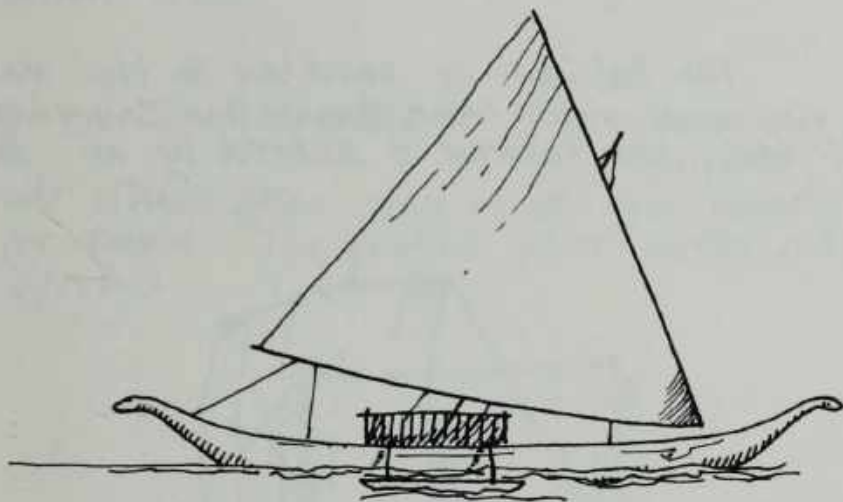
PROA / Popo

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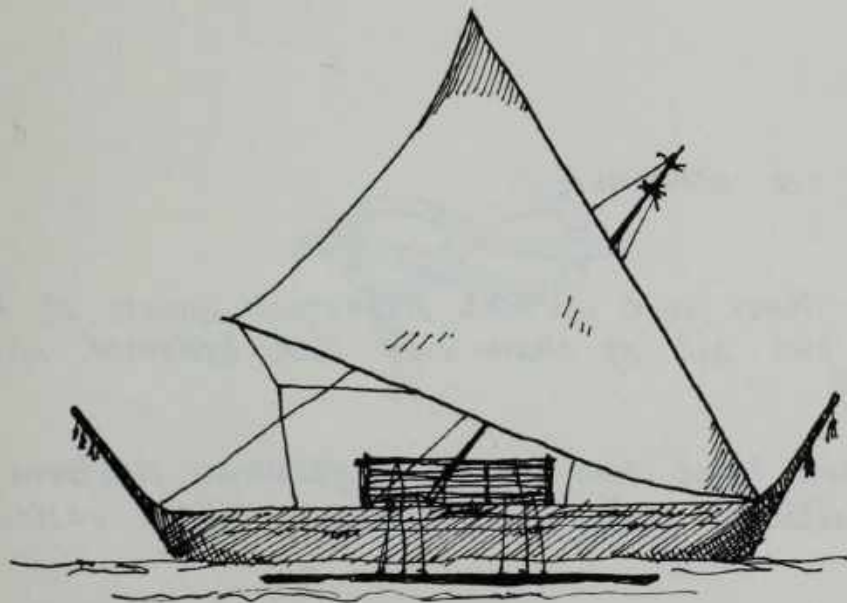
~ POPO      The Popo is one of the larger and more complicated of the Proas. The hull is flattened on one side and the ends are carved bird heads. Passengers and goods ride on a high, cantilevered platform.



~ TSUKPIN      Similar to the Kaep in hull form,  
the Tsukpin has a platform like the  
Popo. It comes from Yap Island in the Caroline Islands.



~ WA LAP      The Wa Lap, from the Marshall  
Islands, is also similar to the  
Popo, and very large, being able to carry as many as fifty  
people.

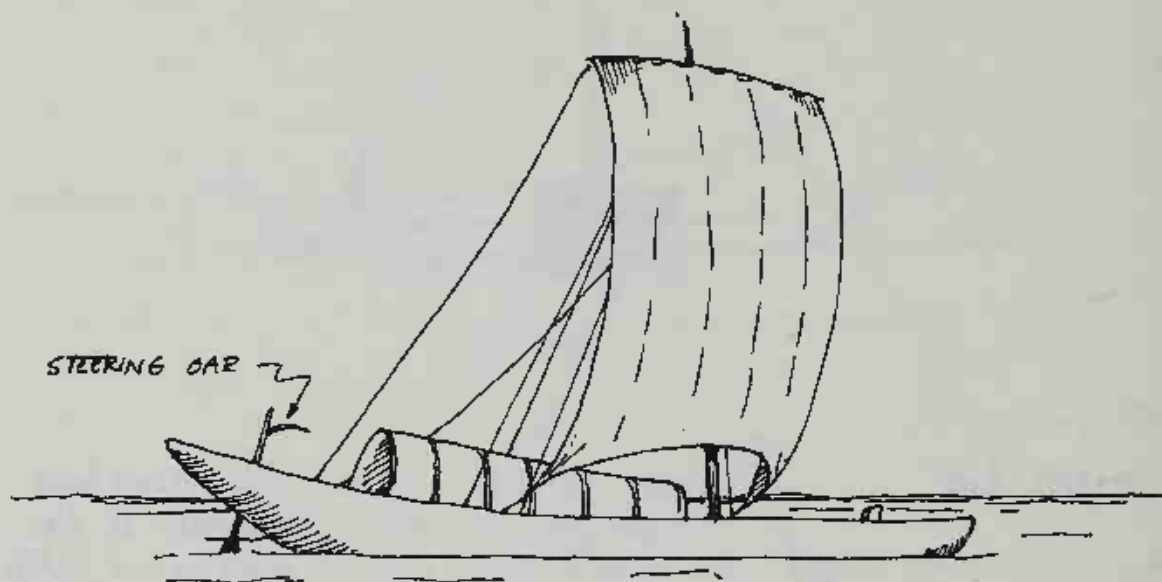


## PUFFER

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**PUFFER** A Puffer was a small steam vessel with a very large hold, built on the Clyde in Scotland, and used as a TENDER to the British fleet at Scapa Flow during both World Wars.

**PULWAR** The Pulwar is similar to the MALAR PANSHI, and comes from Bengal. Carrying a single large square sail, the Pulwar is steered by an oar.



**PUNGY.** see SCHOONER

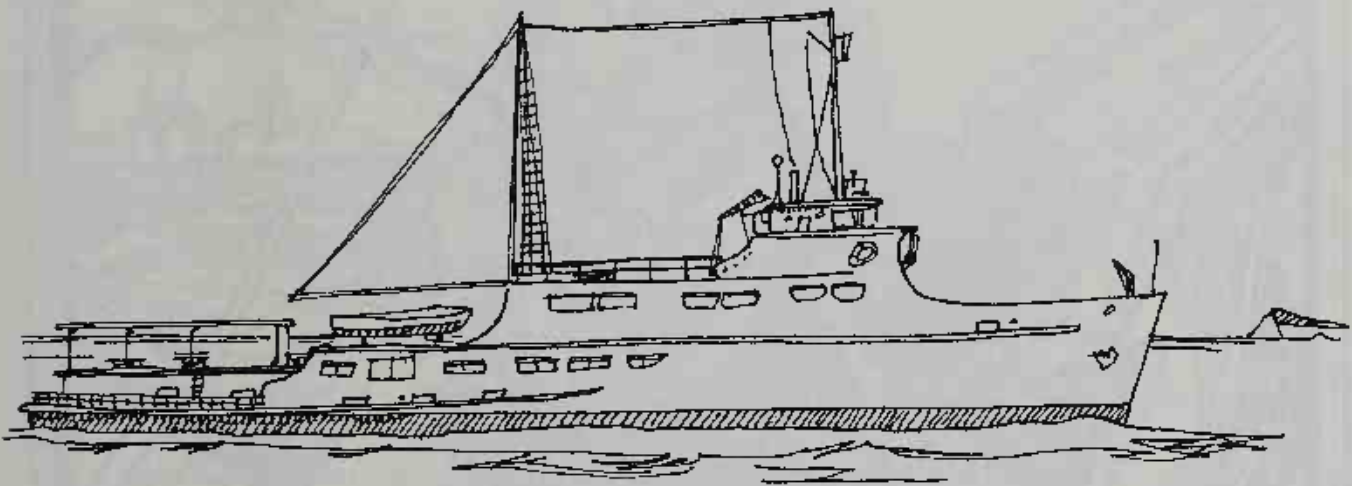
**PUNT** There are several different kinds of Punt, but all of them are flat-bottomed with very low freeboard.

- a. The navy Punt was merely a floating platform used for caulking waterline seams of larger vessels.

- b. Punts, with very sharp, pointed bows, are used by wild fowlers in estuaries.
- c. Square-ended punts are poled along and used as pleasure boats.

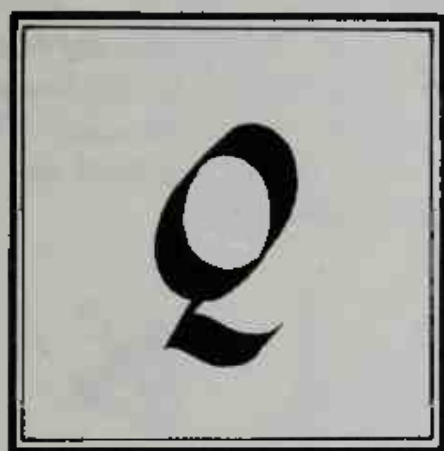
## PURSEINER (TUNA CLIPPER)

Purseiners are well-equipped, often luxurious, fishing boats which often stay at sea for months at a time fishing for tuna. The largest fleet works out of San Diego, California.





AN ILLUSTRATION FOR SEBASTIAN BRANT'S 'THE SHIP OF FOOLS' 1494  
woodcut designed by Albrecht Dürer



**Q-BOAT**      The Q-Boat was a largely unsuccessful experiment of the First World War which was tried again at the outset of the Second World War when it was a total failure. The idea was to fit a small merchant ship with concealed armament and lure to the surface U-BOATS (German SUBMARINES), which would rather attempt to sink the supposed merchant ship by gunfire than by the more difficult process of firing torpedoes while still underwater. The U-BOAT having been lured to the surface, the Q-Boat would then open fire and hopefully sink the attacker.

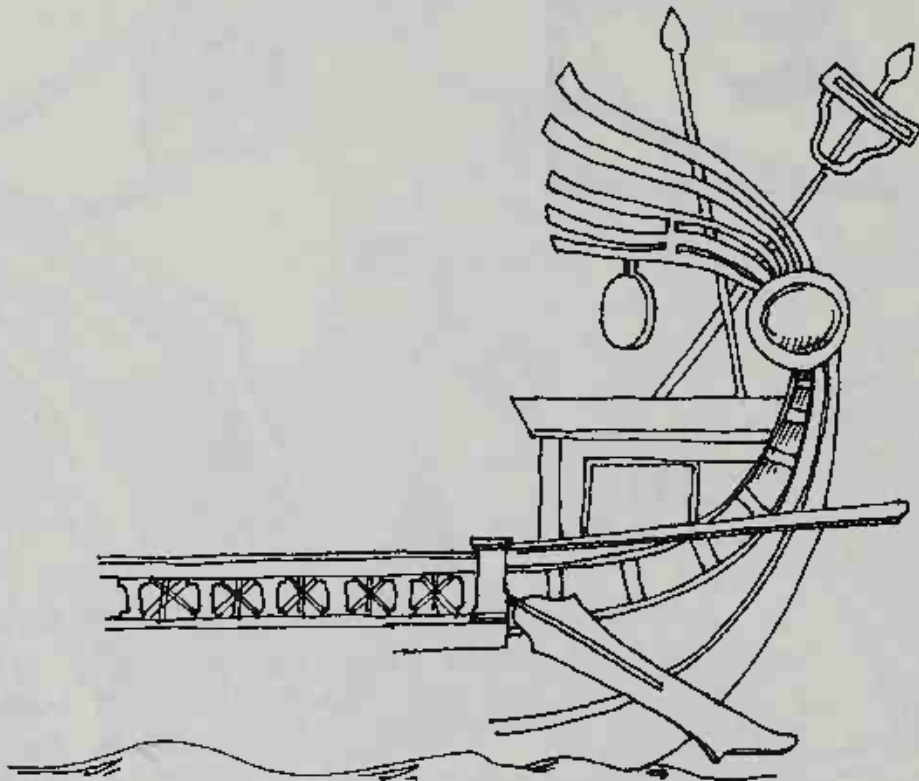
Captain Gordon Campbell won the Victoria Cross during the First World War for commanding a Q-Boat, but in the Second World War, out of six Q-Boats commissioned, two were sunk, and not a single U-BOAT was even sighted.

## QUADRIREME

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### QUADRIREME

A Quadrireme was a GALLEY from Greek and Roman times. Although BIREME meant two banks of oars, and TRIREME meant three banks of oars, it is considered unlikely, though not impossible, that quadrireme meant four banks of oars. Rather, it is more likely that the term meant a GALLEY having two men to an oar on two banks.



STERN OF A  
GREEK GALLEY

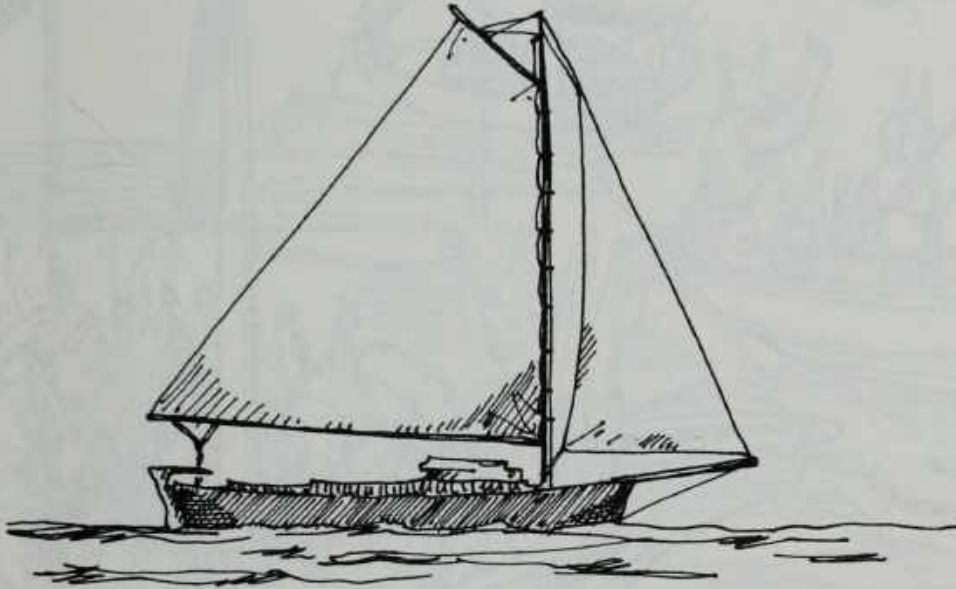
### QUINQUEREME

Although no one knows for sure, it is thought most likely that a quinquereme was a classical GALLEY having three banks of oars (i.e. a TRIREME) with two men on the top oar, one on the middle, and two on the bottom, making five - hence the term quinquereme. See also PENTECONTER.



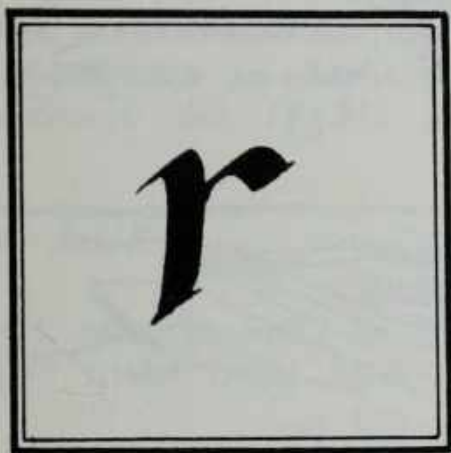
## QUODDY

The quoddy was an open keel-boat used for fishing off the Maine coast. The word is an abbreviation of Passamaquoddy Bay, an inlet between New Brunswick and Maine.



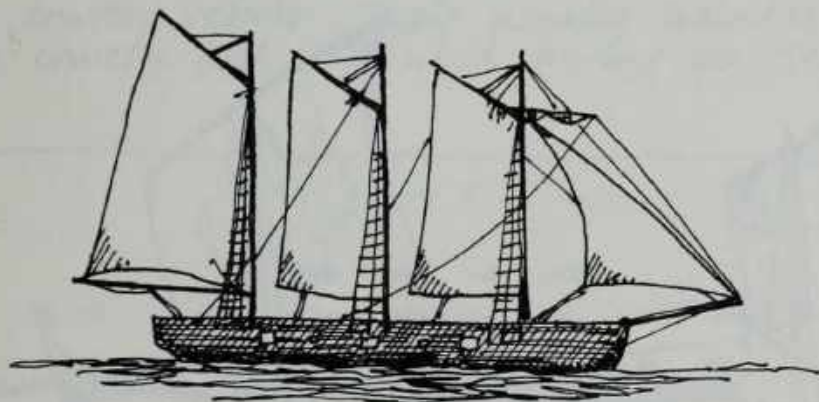


AN ILLUSTRATION FOR SEBASTIAN BRANT'S 'THE SHIP OF FOOLS'  
1494 woodcut designed by Albrecht Dürer



**RACING YACHT.**     *see* YACHT

**RADEAU**     The Radeau was essentially a square-ended scow which could be rigged as a schooner, brig, ketch, or ship. Fitted with sweeps and guns, Radeaus were used during the American Revolutionary War as harbor defense vessels.



RADEAU 1776

## RAFT

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**RAFT** By Raft is usually meant a flat, floating framework or platform. Rafts are used by primitive peoples for transportation; sometimes for loading and unloading ships lying off-shore; and in emergency situations such as shipwrecks.

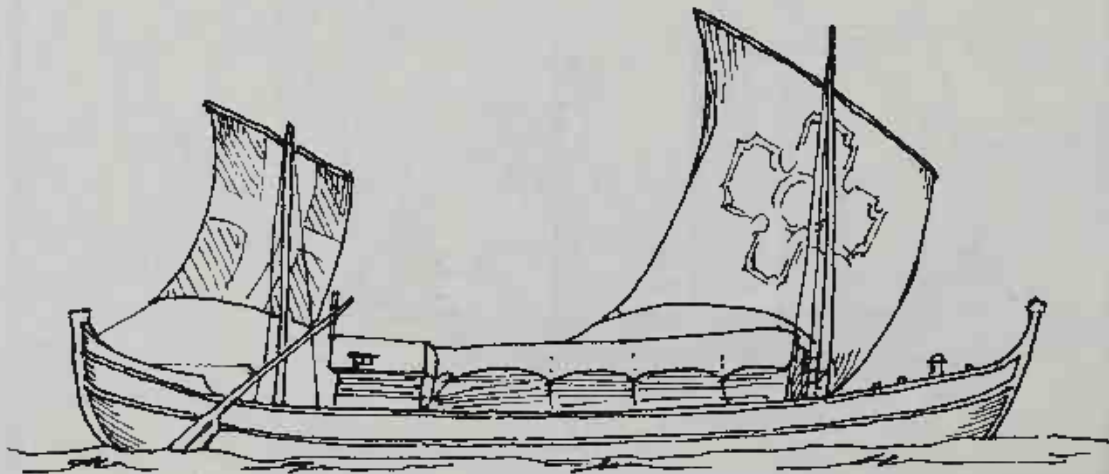


ABANDONED RAFT

**RAM SCHOONER.** SEE SCHOONER

**RANGOON LIGHTER.** SEE LIGHTER

**RASCONA** The Rascona was a two-masted, lug-rigged Venetian cargo boat steered by a steering oar.



**RAZEE or RASEE**

Razee was the word used to describe a sailing SHIP-OF-THE-LINE WARSHIP which had had her upper works reduced by one deck so that she became a very heavy FRIGATE. This practice was common around the 1830's and 1840's.

**RECEIVING SHIP**

Receiving ships, which later became known as HULKS, were usually old ships, moored permanently in naval ports, used as barracks for new recruits until they were drafted to seagoing vessels.

**REFRIGERATOR SHIP.**

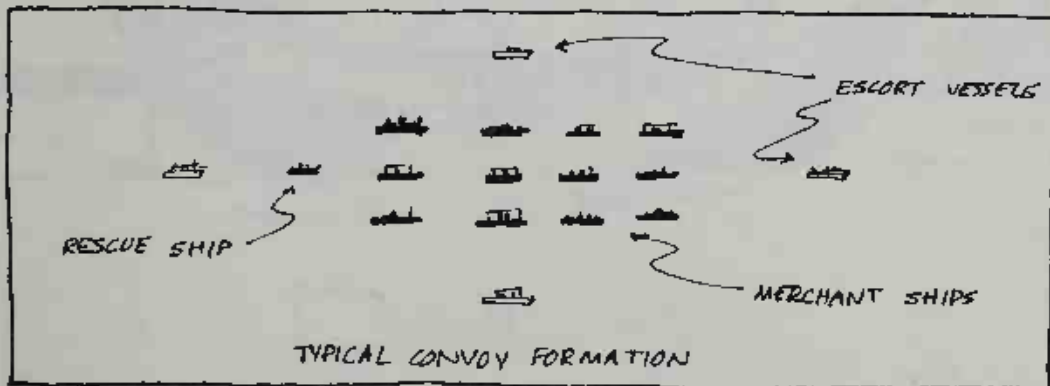
SEE CARGO SHIP

**REGISTER SHIP**

Spanish ships which traded with the Spanish colonies in America required a licence to do so; the owner's name being entered in a register. Since such ships often carried gold, they were much sought after in time of war by English ships, and were referred to as Register Ships to distinguish them from other Spanish ships.

**RESCUE SHIP**

Rescue Ships were merchant vessels whose duty was to rescue survivors of torpedoed convoy vessels. They usually traveled in the rear of a convoy and were used during the Second World War.



RESEARCH VESSEL

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RESEARCH VESSEL.

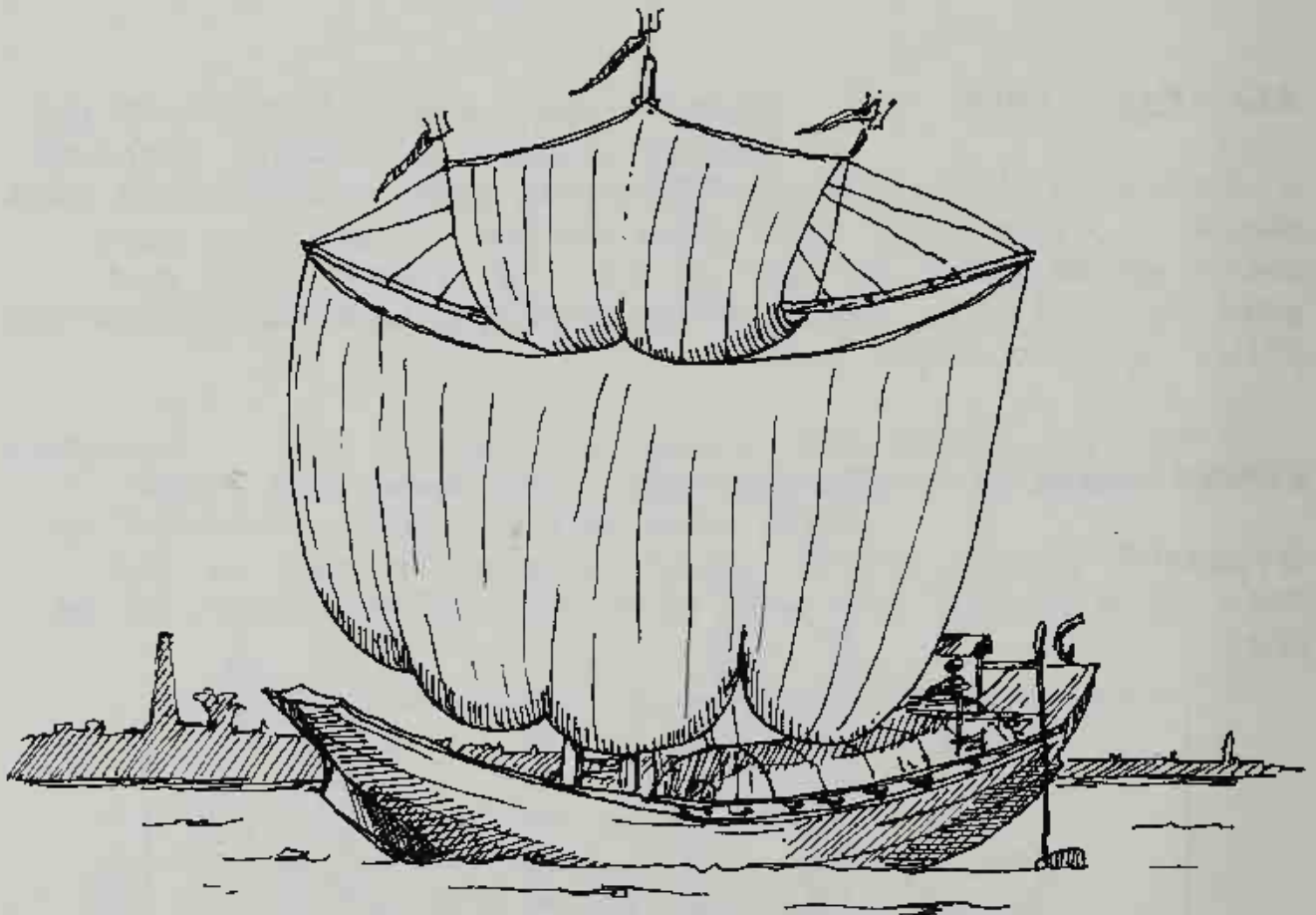
SEE FLOATING INSTRUMENT PLATFORM

REVENUE CUTTER.

SEE CUTTER

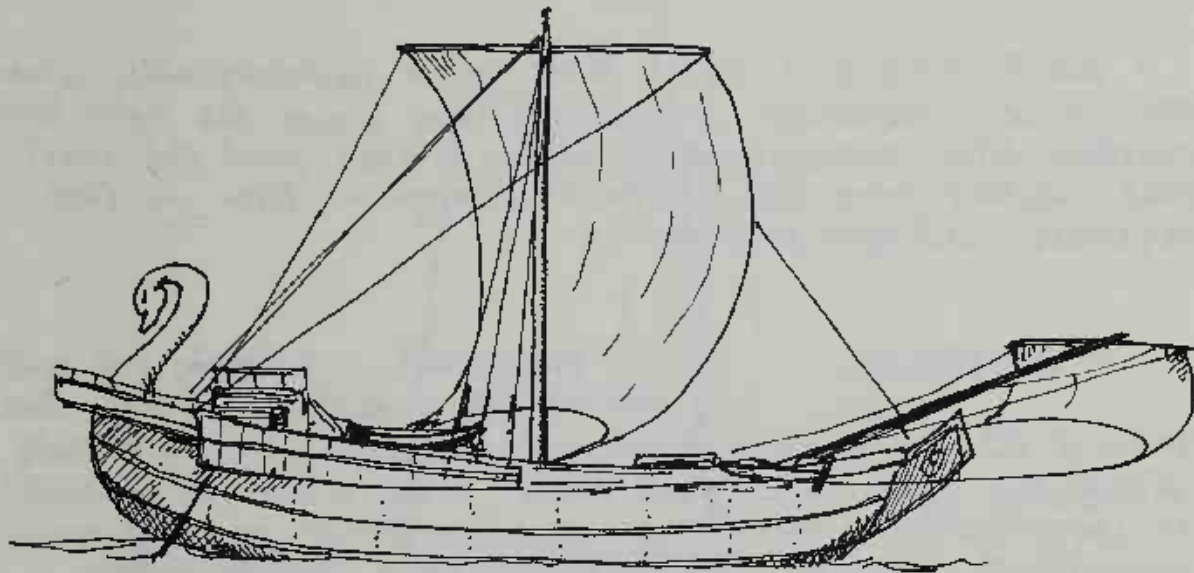
RICE BOAT

The Rice Boat of the Irawadi River in Burma is quite unusual. Since the prevailing wind is a southerly, the boats sail up-river and are pushed downstream, the sails being always set for running. The mast is tripod, the square yard curves upwards and is raised by many topping lifts, and the sail is brailled in to the mast!



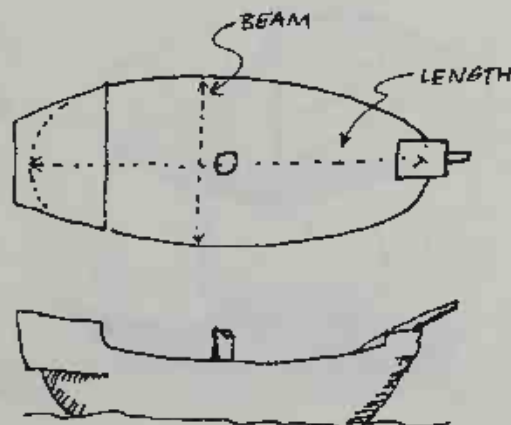
**ROMAN TRADER**

Most Roman Traders or merchantmen were of the same basic type: broad, round, with high stems often carved into swans, and a very forward-leaning foremast from which the artemon sail was set, mainly to assist in steering.



**ROUND SHIP**

With the exceptions of the fighting ships and the GALLEYS, all medieval ships were known as Round ships; the average beam being half the length. Round ship was a generic term and included many types such as the COG and the DROMON.



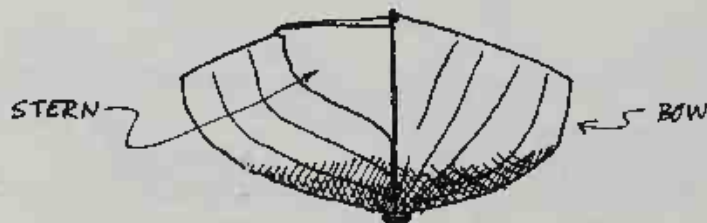
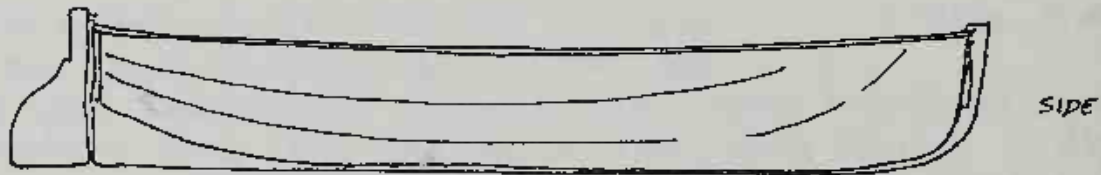
## ROWING BOAT

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**ROWING BOAT :** There were a large number of different Rowing Boats used by fishermen and other watermen in the days of sail. They were usually quite different from the small Rowing Boat of today, which is used mainly as a TENDER for YACHTS, and is quite short and light.

Such short and light boats were impracticable when rowing long distances on the open sea since the light boat quickly loses momentum between strokes and the short boat suffers from the constant change in trim as the oarsman changes position.

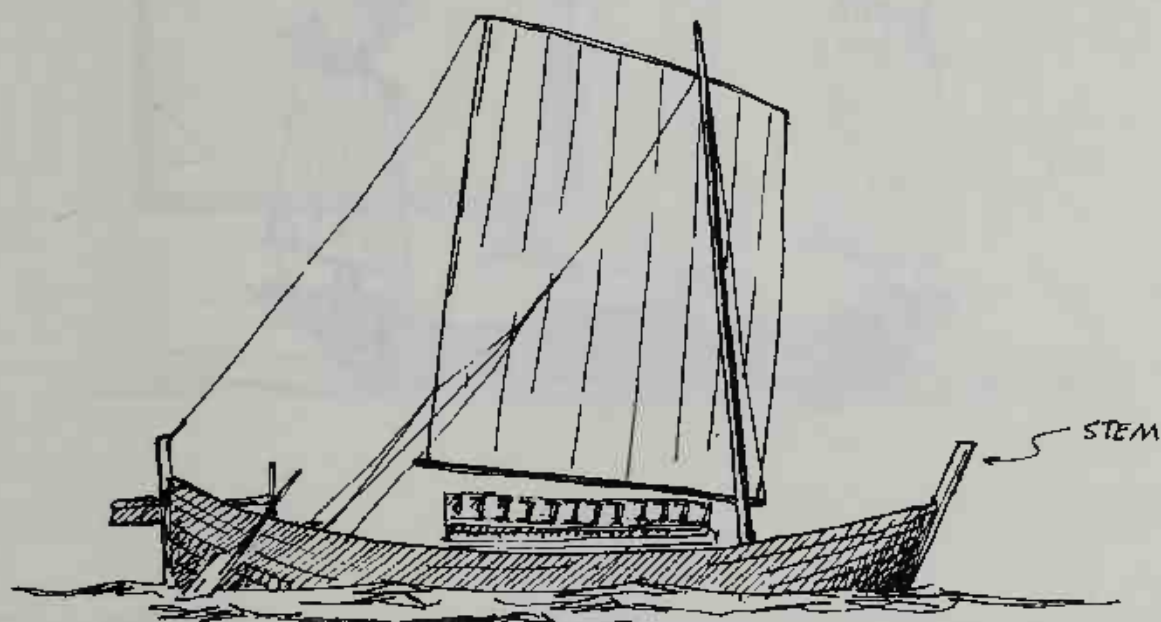
~ **WHITEHALL** The Whitehall is probably the most famous of American Rowing Boats. Taking its name from Whitehall Street in New York City where the boats were first built, they were for general use in large harbors and bays by all sorts of people, from chandlers and pilots to reporters and agents.





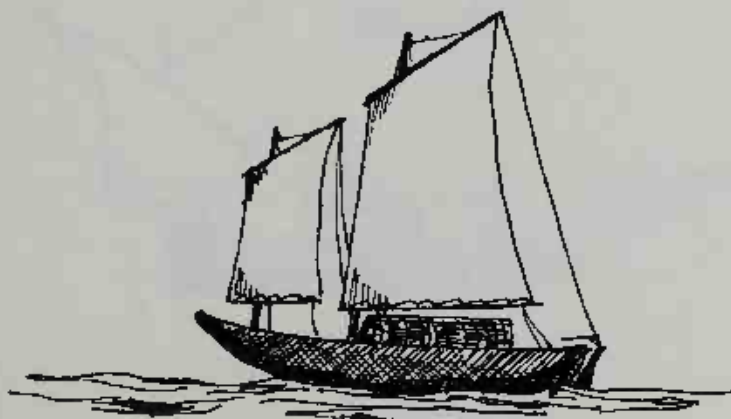
ROYAL YACHT.      see YACHT

RUA CHALOM      'Rua' is the Siamese word for boat, a  
coastal vessel, steered with two oars.      Rua Chalom being a small high-stemmed



RUA PET

The Rua Pet, also common to the Gulf of Siam, has a high overhanging bow, and two lugsails.

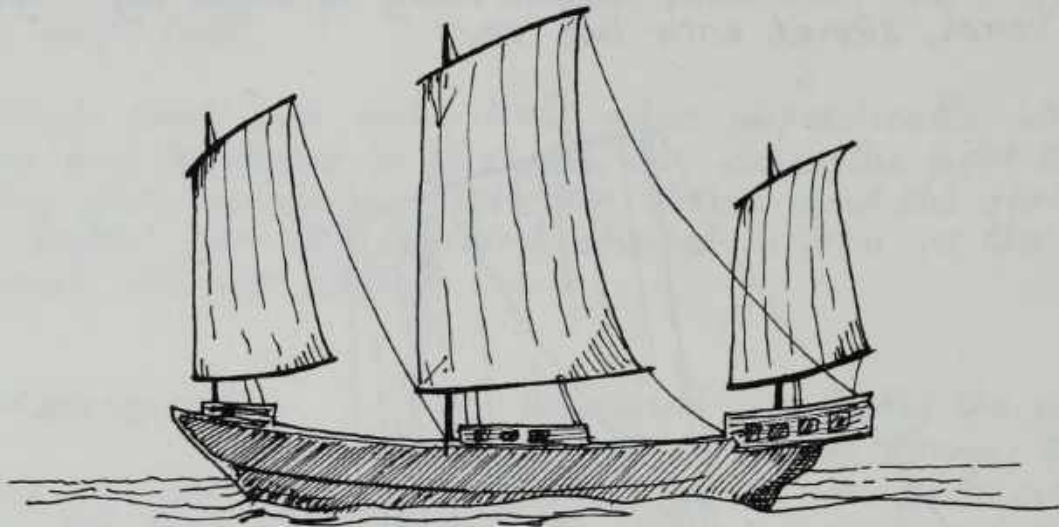


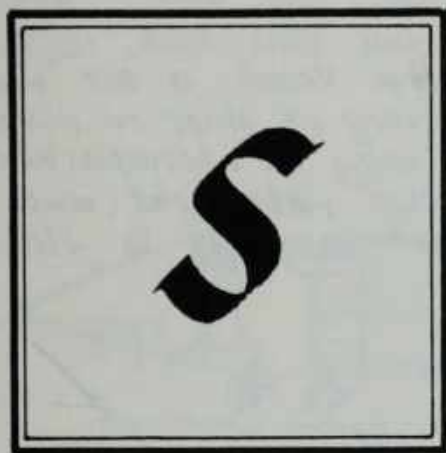
RUA TA

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RUA TA

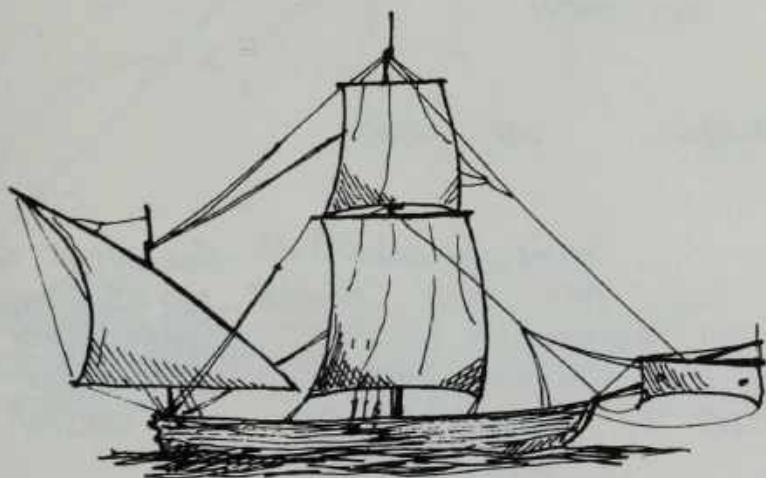
The Rua Ta, like the RUA CHALOM and the RUA PET, comes from the Gulf of Siam, but is more similar to a JUNK than the other two.





**SAIC or SAIQUE**

The Saic was a small trading KETCH of the 18<sup>th</sup> to 19<sup>th</sup> centuries. The mainmast was square-rigged, the mizzen was lateen-rigged.



17<sup>th</sup> CENTURY SAIC

## SAILING DINGHY

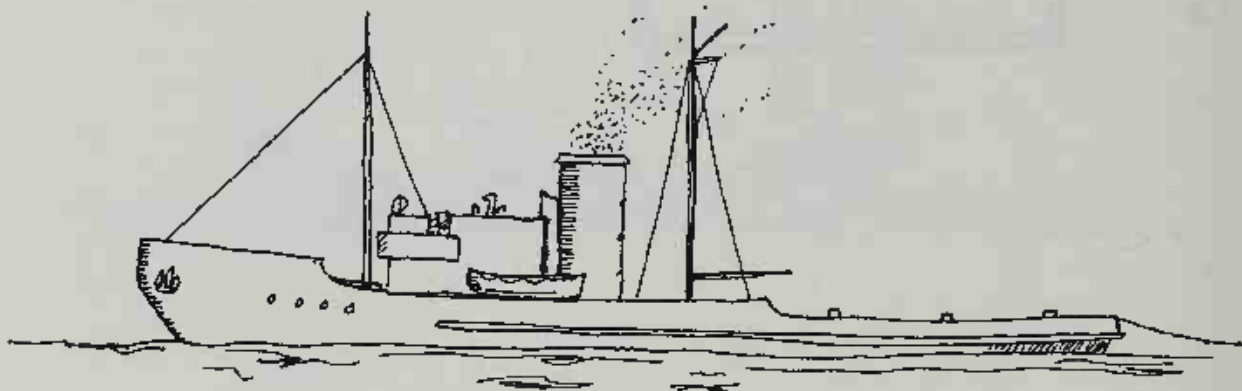
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**SAILING DINGHY.**

SEE DINGHY

### **SALVAGE VESSEL**

A Salvage Vessel is one engaged in the recovery of ships or cargo that have been lost at sea. Salvage may be accomplished various ways: by making the sunken vessel watertight, and pumping it out until it attains sufficient buoyancy to float itself, or by simply hoisting.



**SAMBUK.**

SEE DHOW

**SAMOAN CANOES.**

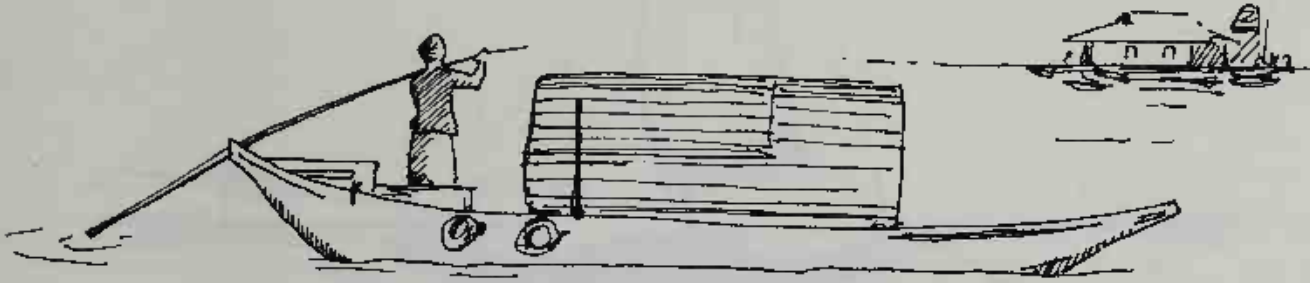
SEE CANOE

**SAMPAN :**

Some think that the word Sampan comes from two Chinese words, 'san,' meaning thin, and 'pan,' meaning board. Others think it may be of Malay origin. In any event, the sampan is the typical small, light boat of oriental rivers and coastal areas.

Although some of the regional varieties are shown on the following pages, all sampans may be divided into

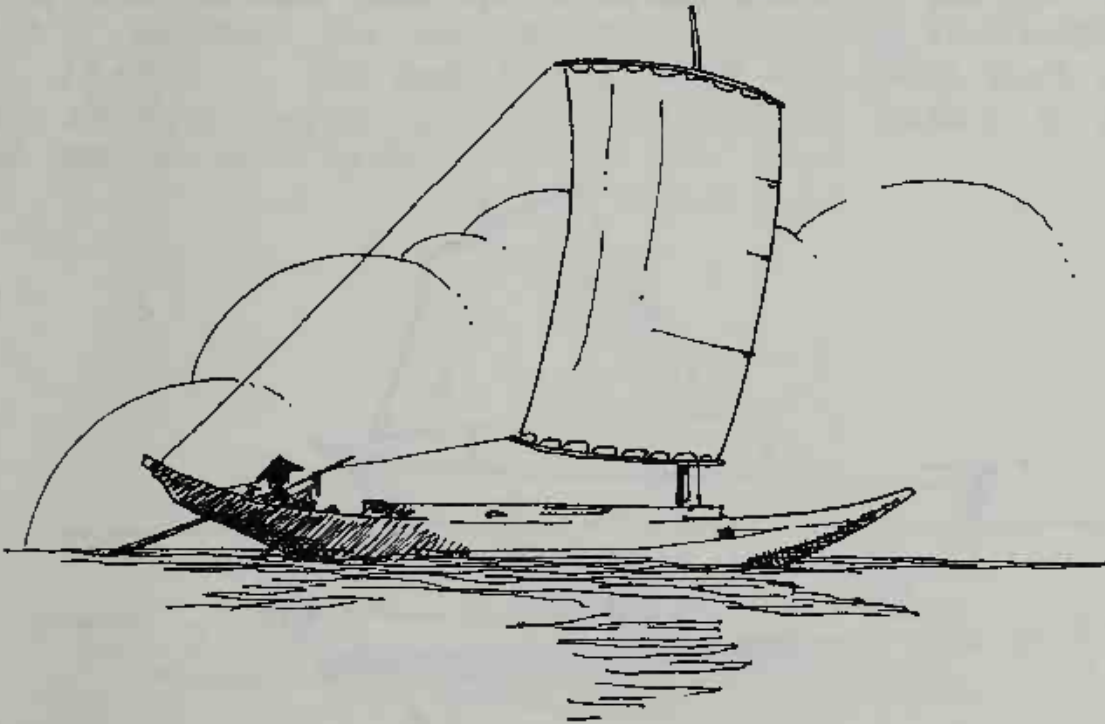
two types: the Harbor Sampan, fitted with a light awning and sculled; and the Coastal Sampan, which has a mast and an often JUNK-like sail. (See BANGKOK SAMPAN, below.)



HARBOR SAMPAN

~ BANGKOK SAMPAN

The Bangkok Sampan is a variety of Coastal Sampan.



DENVER  
PUBLIC LIBRARY

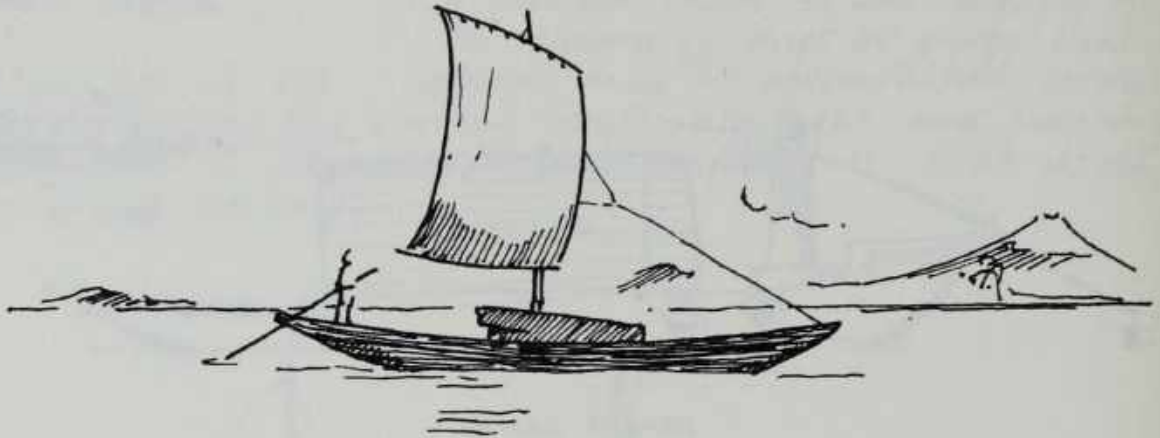
JUL 9 1979

CITY & COUNTY OF DENVER

SAMPAN / Nagasaki Sampan

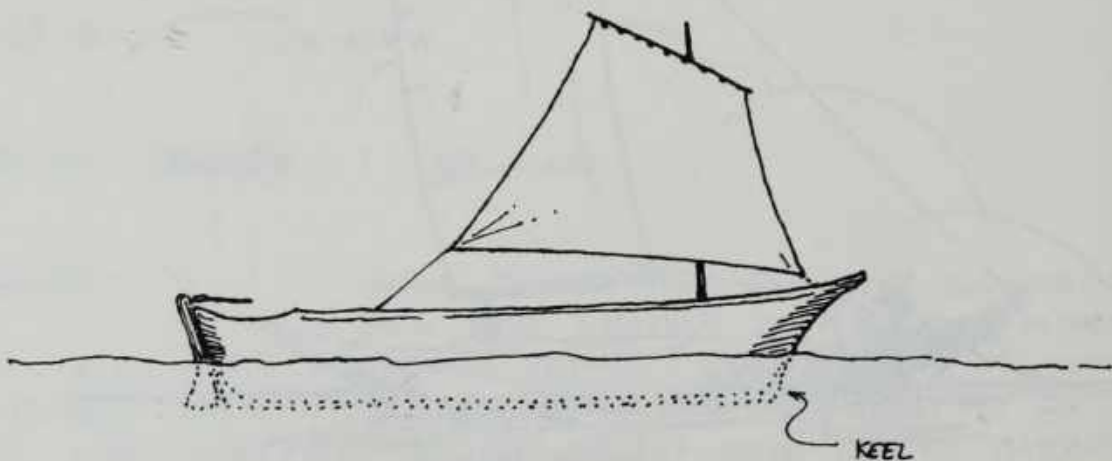
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~ NAGASAKI SAMPAN

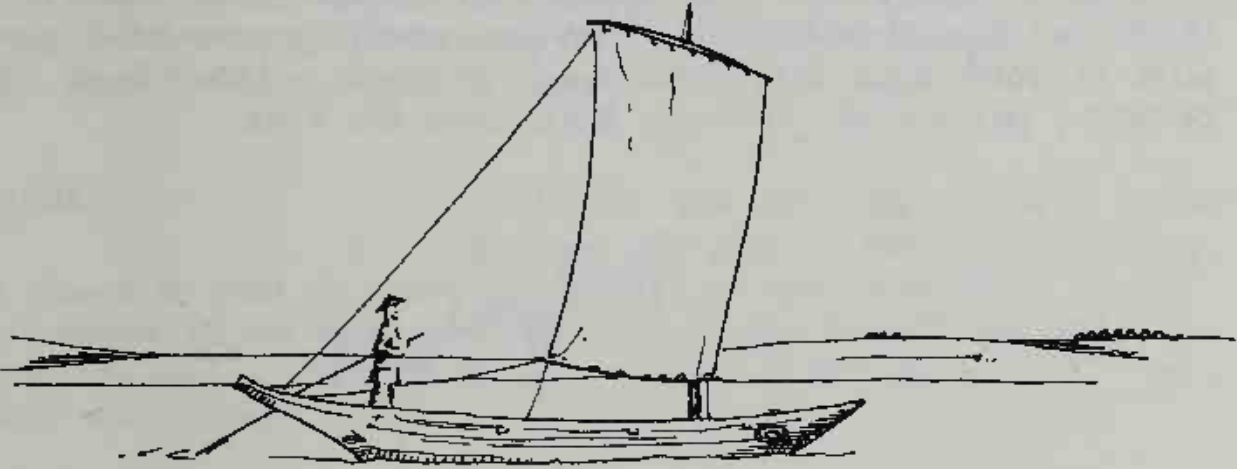


~ SAMPAN PANJIANG

Unlike most other sampans, this boat has a keel, and a rudder hung from the stern. It originates from Johore, in Malaysia.

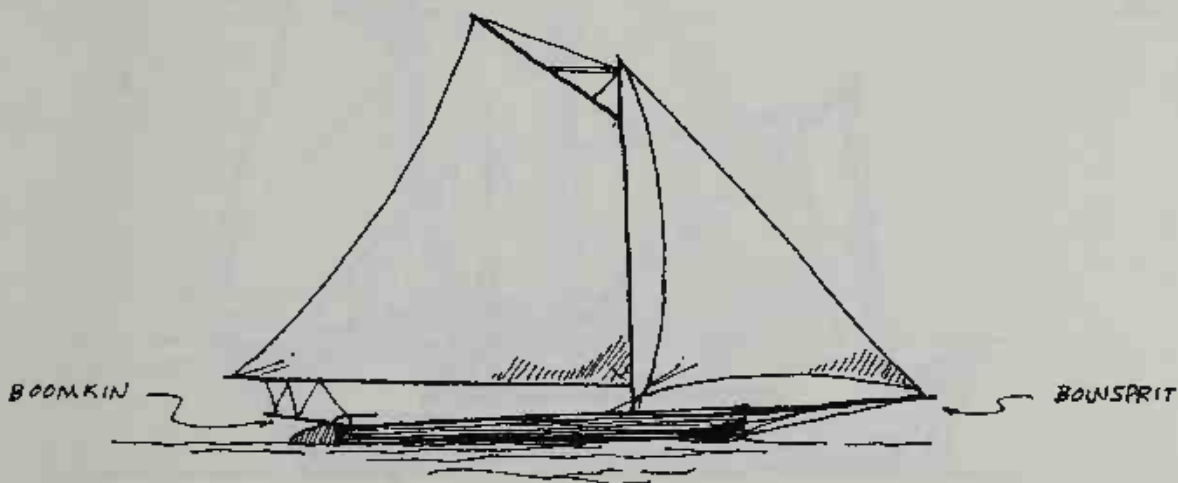


## - YANGTZE RIVER SAMPAN



## SANDBAGGER

The Sandbagger was a class of RACING YACHT which originated in America around 1850 and became popular in New England waters until the 1880's, although the class persisted in Sydney, Australia until the 1960's. The boat had a large sail plan, and being very shallow, used sandbags as movable ballast to trim the boat on each tack.



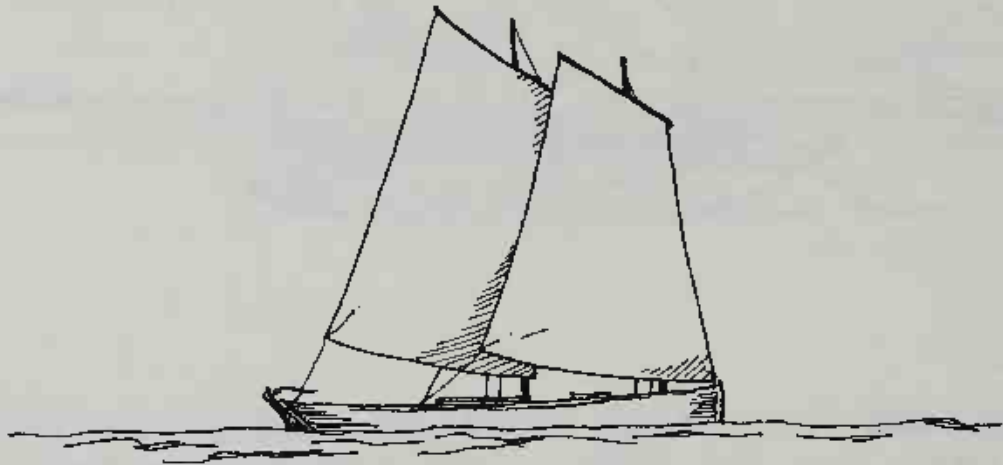
CAT-RIGGED SANDBAGGER

## SARDINE BOAT

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### SARDINE BOAT

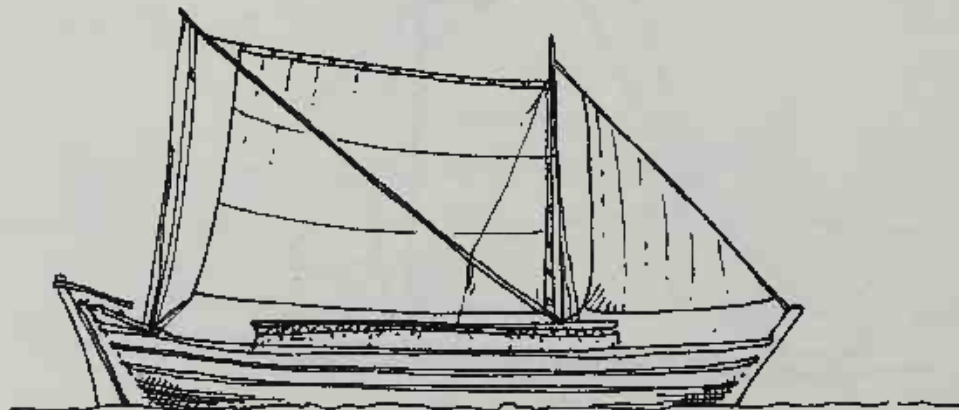
Several countries had their own typical Sardinian Boats in the days of sail. The Breton lug-rigged boat shown here may be taken as typical although the type varied considerably from place to place and also from time to time. Nowadays, of course, motorized fishing boats are the rule.



### SCAPHO

mull.

The Scapho was a Greek spritsail-rigged cargo boat with a high, forward-and-aft raking





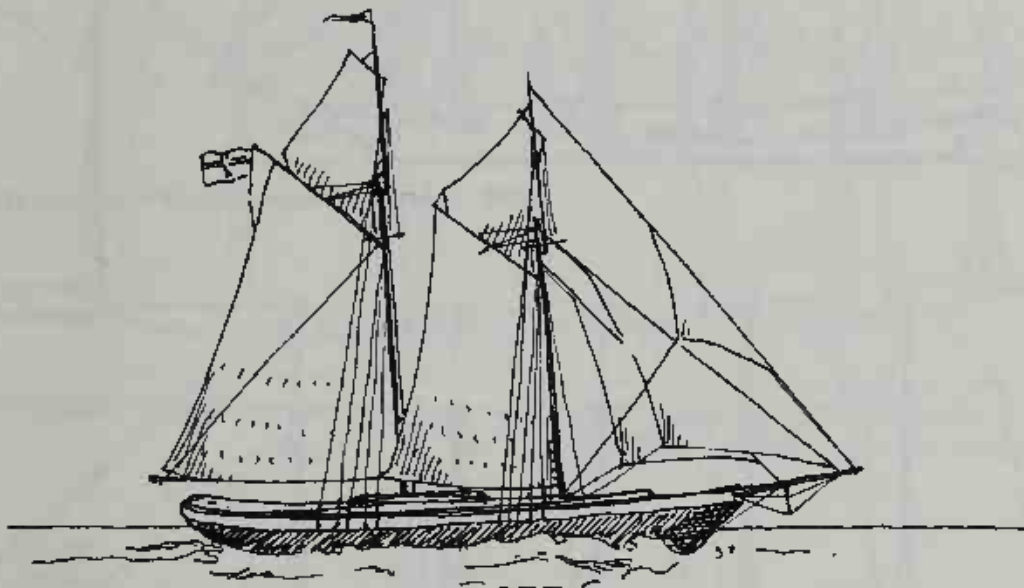
**SCHOKKER**

The Schokker began as a Dutch fishing vessel in the early 18th century, and was somewhat similar to the BOTTER. It later became popular as a pleasure YACHT, and many were built with steel hulls instead of the traditional oak hulls.

**SCHOONER :**

Although the schooner began to appear towards the end of the 17th century, the name is said to have originated at the launching of the first vessel of the type at Gloucester, Massachusetts in 1713, when someone is reported to have said: "How she scoons!" or "There she scoons!"

A schooner is a vessel with fore-and-aft sails on properly two masts only, the foremast being shorter than the mainmast, in distinction to vessels like KETCHES and YAWLS whose foremast is taller (and is actually the mainmast, the after mast being called the mizzenmast).

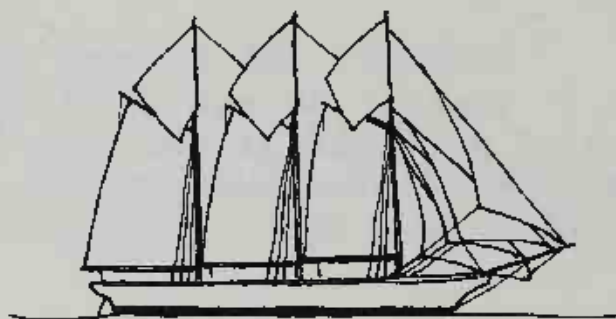


MODERN TWO-MASTED SCHOONER

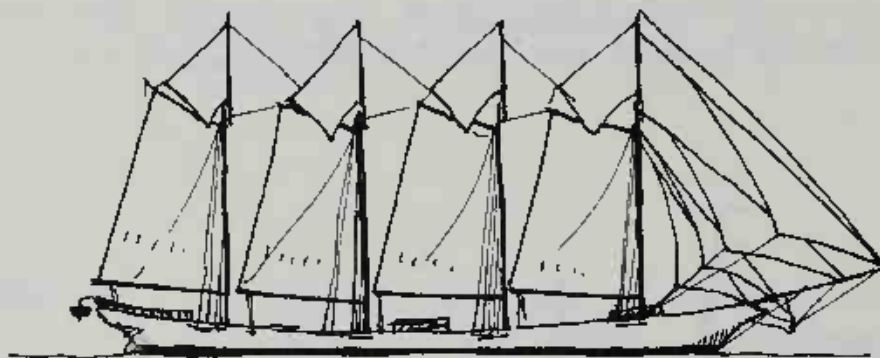
SCHOONER / Fore-and-aft Schooner

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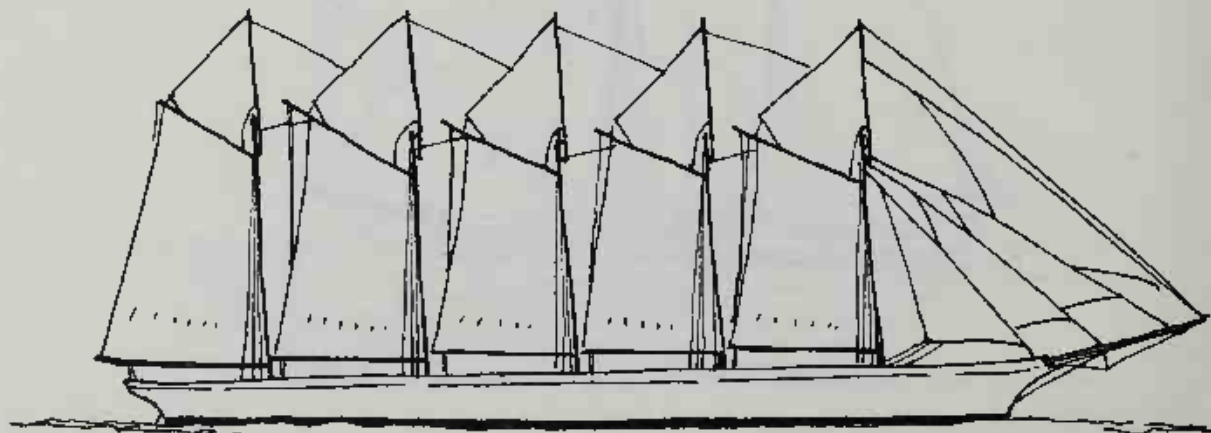
a. Schooners with jib-headed or jack-yard topsails are known simply as Fore-and-aft Schooners. Though a Schooner properly has only two masts, all of the varieties shown below have been made at one time or another.



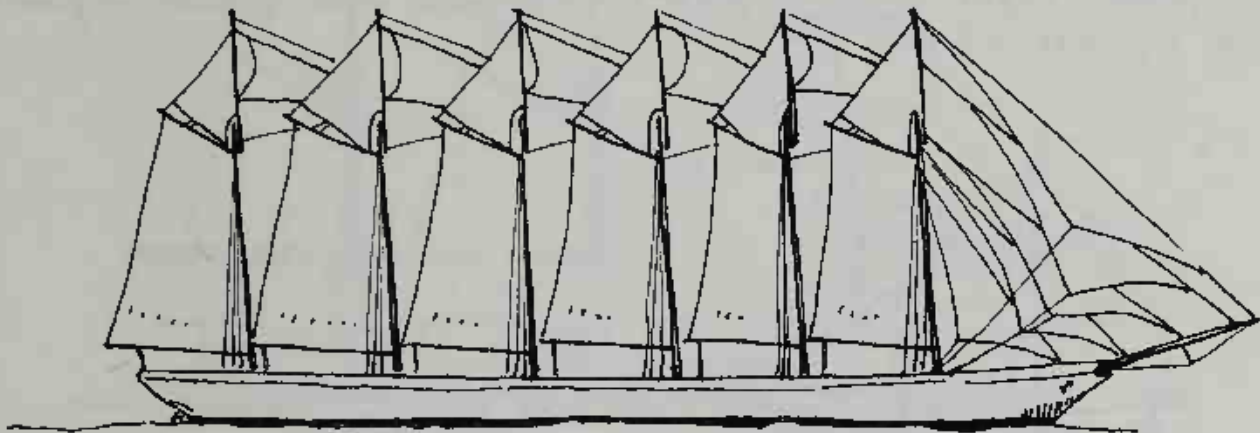
THREE-MASTED FORE-AND-AFT SCHOONER



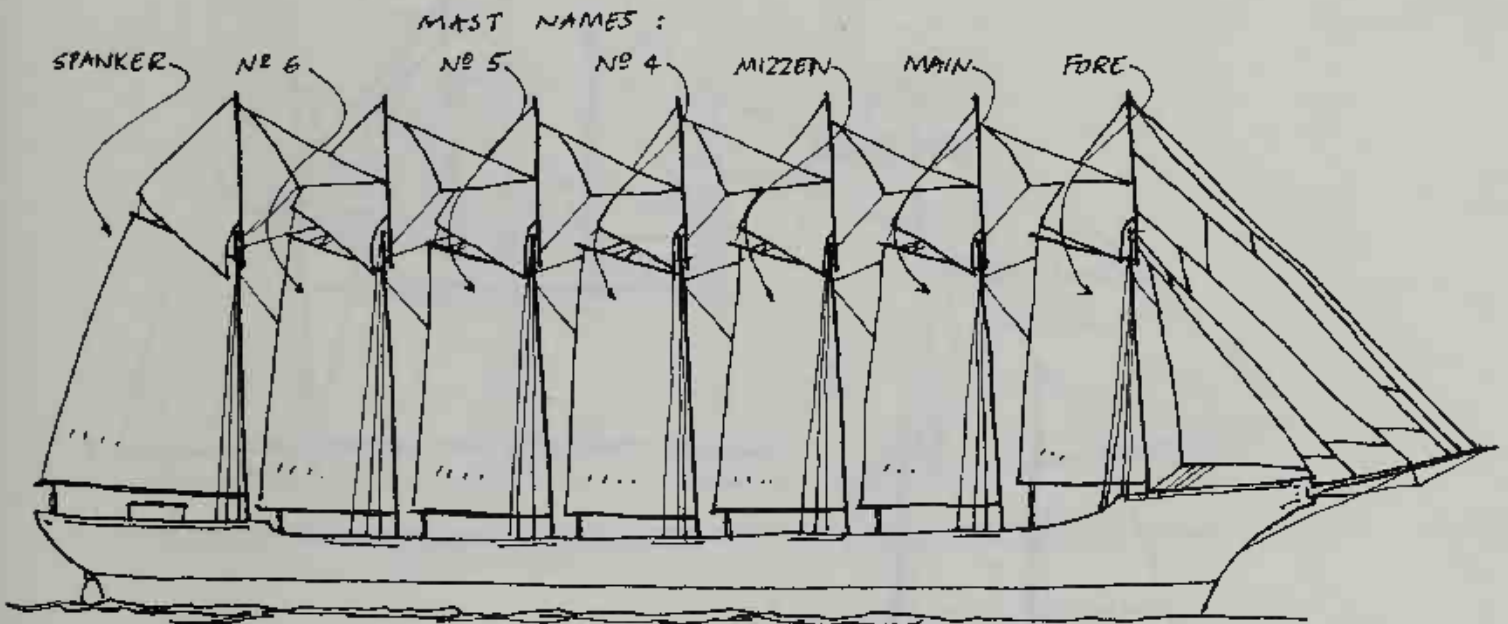
FOUR-MASTED FORE-AND-AFT SCHOONER



FIVE-MASTED FORE-AND-AFT SCHOONER



SIX-MASTED FORE-AND-AFT SCHOONER



SEVEN-MASTED FORE-AND-AFT SCHOONER

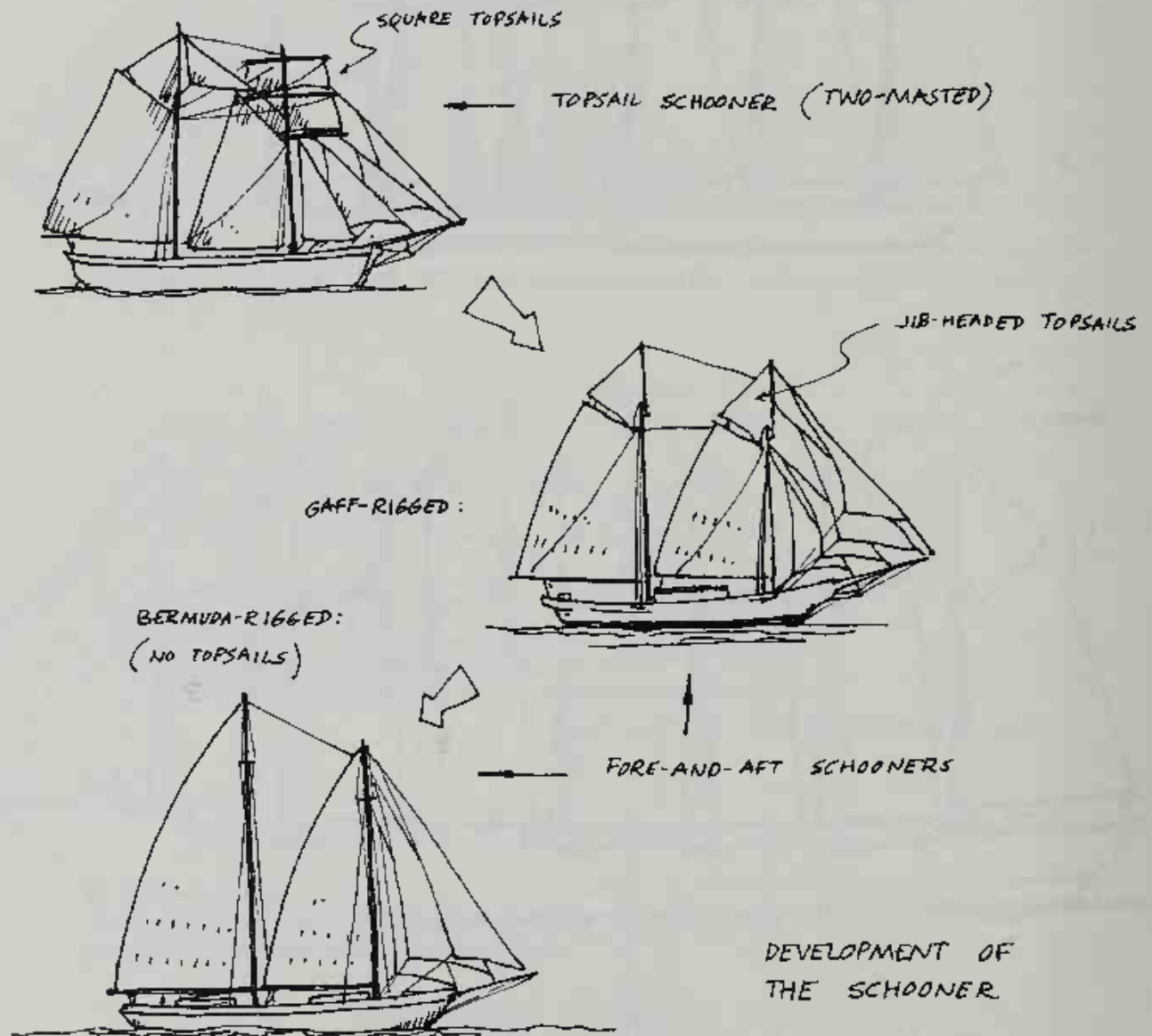
THOMAS W. LAWSON  
BUILT 1902, LOST 1907

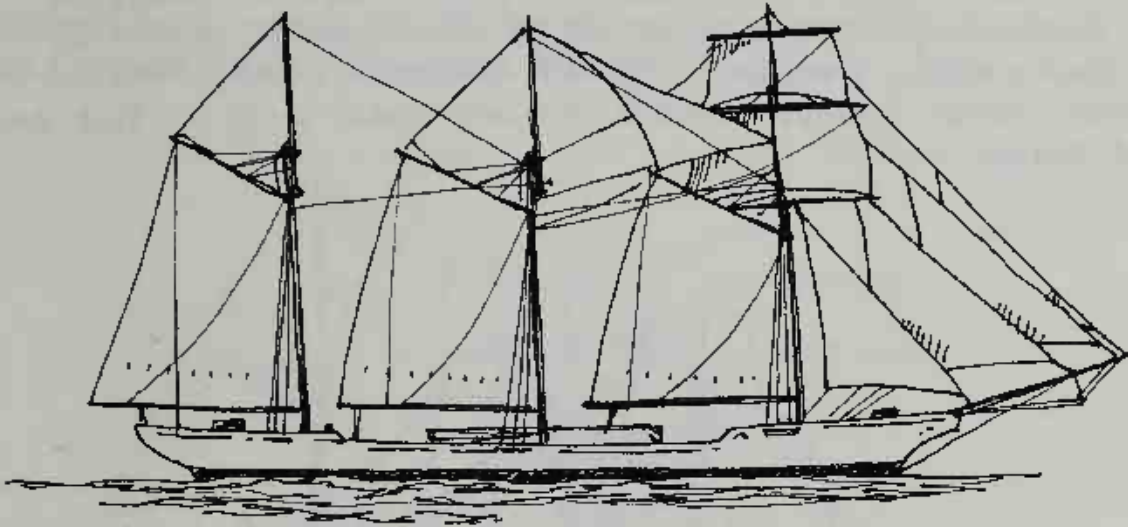
The THOMAS W. LAWSON was the only seven-masted Schooner to be built, but was too unwieldy to be successful, and was soon lost.

SCHOONER / Topsail Schooner

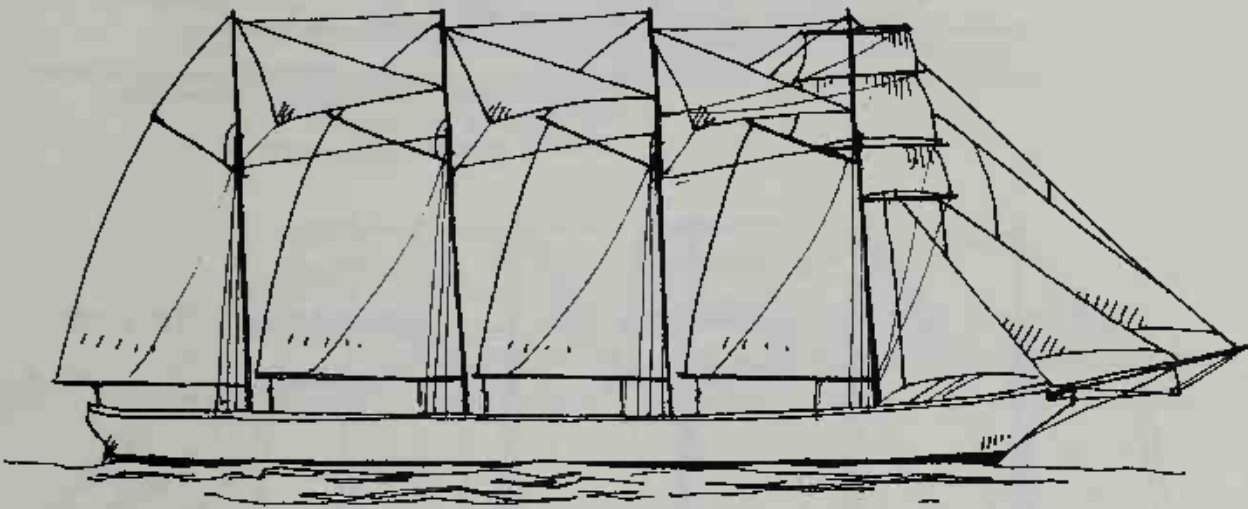
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b. Schooners were originally rigged with square topsails, and this type is now known as the Topsail Schooner. Advances in rigging design led to jib-headed topsails, as shown on the previous pages, and finally to Bermuda sails which require no topsails at all.





THREE-MASTED TOPSAIL SCHOONER



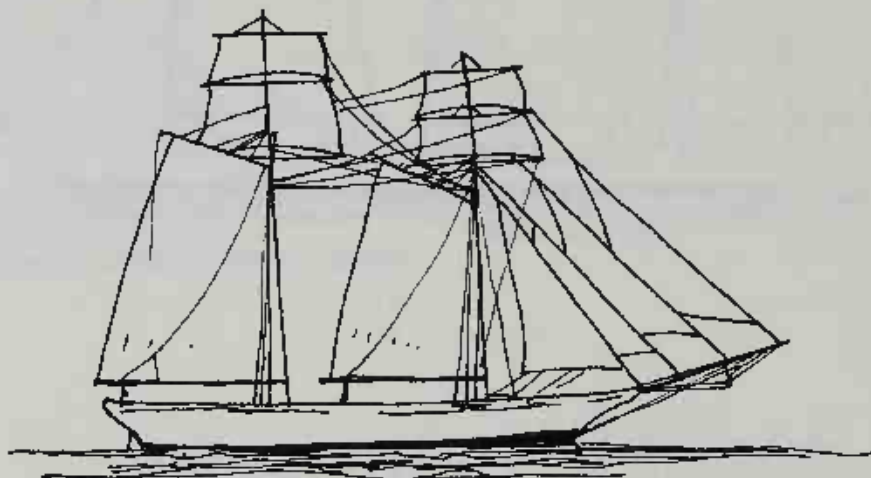
FOUR-MASTED TOPSAIL SCHOONER

The difference between a four-masted topsail schooner and a four-masted BARQUENTINE is that the BARQUENTINE carries no fore-and-aft sail on the foremast and the schooner carries no main square sail.

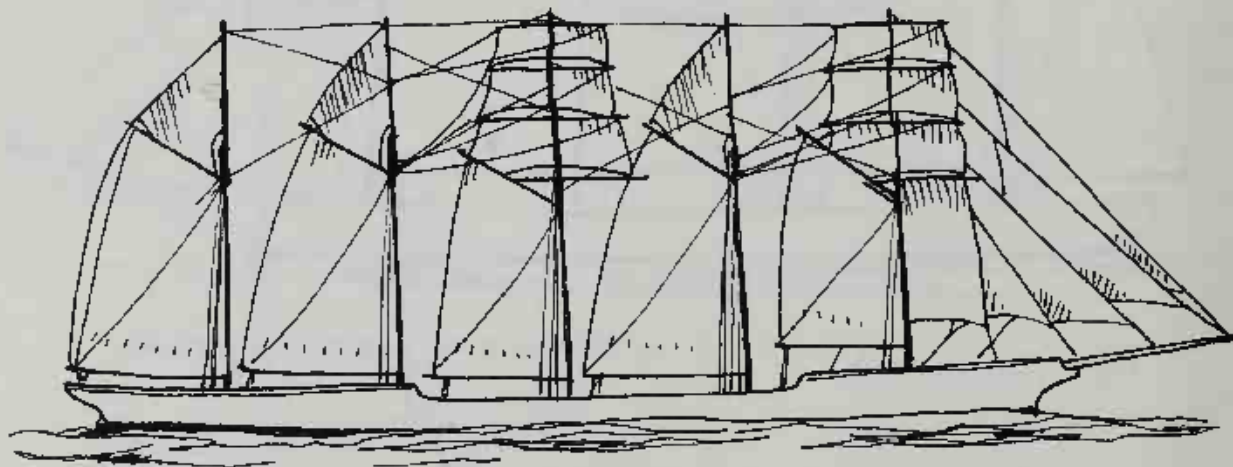
SCHOONER / Main Topsail Schooner

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c. The third main type of Schooner rigging is that of the Main Topsail Schooner or Double Topsail Schooner. As the name implies, this is a vessel that carries square topsails on two masts, the term Topsail Schooner being limited to those vessels with square topsails on one mast only. Two examples are shown below.



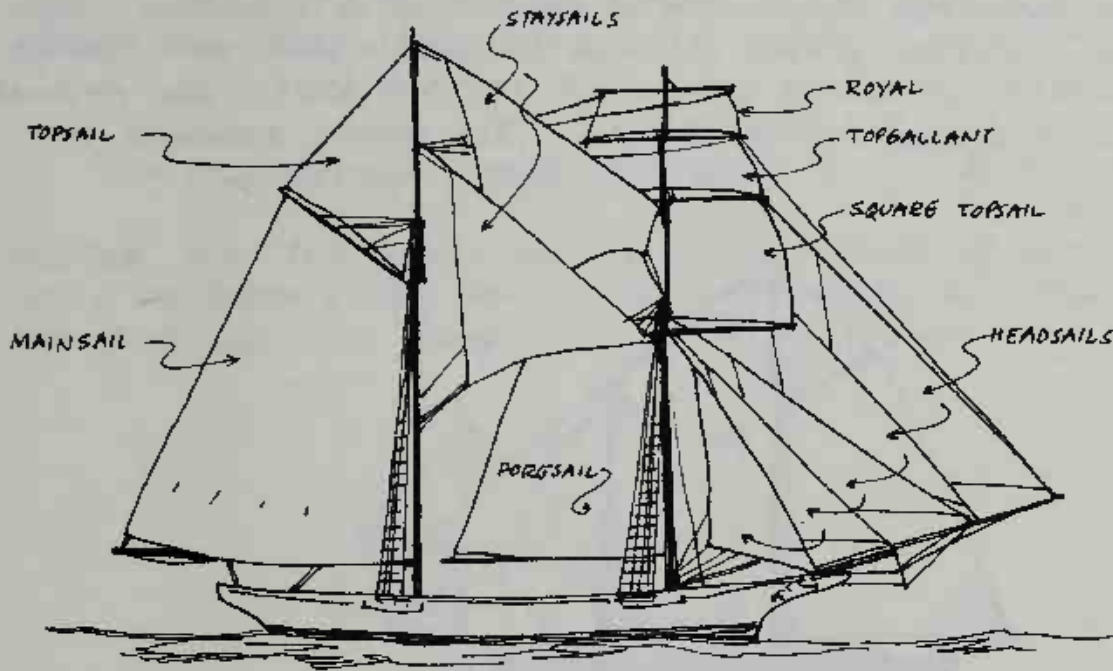
MAIN TOPSAIL SCHOONER  
(TWO TOPSAIL SCHOONER  
DOUBLE TOPSAIL SCHOONER)



FIVE-MASTED TWO TOPSAIL SCHOONER

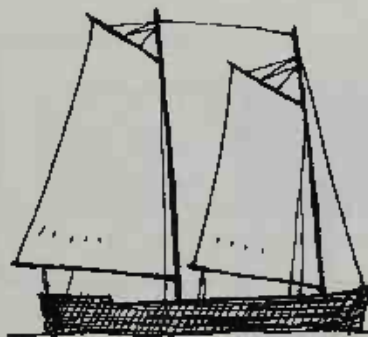
~ BUTTERMAN SCHOONER

The Butterman Schooners carried dairy products from Guernsey to London in the 19th century, and because of fierce competition carried lots of sail and were very fast.



~ CAT SCHOONER

A Cat Schooner carries no headsails (see illustration above), the foremast being set right in the bow. see also CATBOAT.

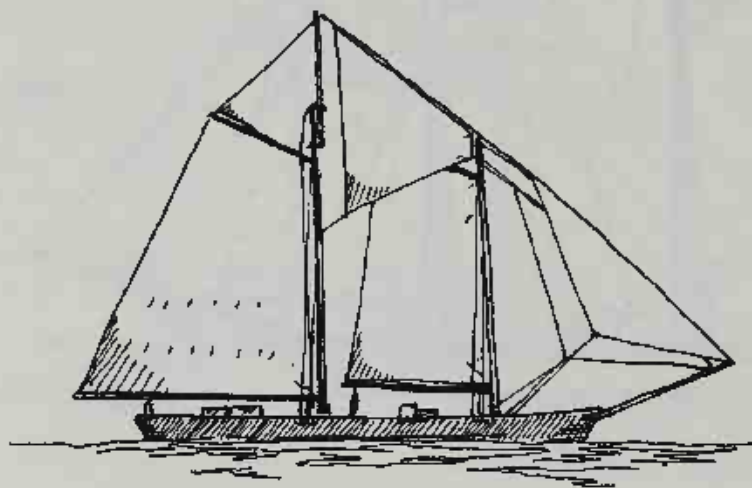


## SCHOONER / Centerboard Schooner

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### ~ CENTERBOARD SCHOONER

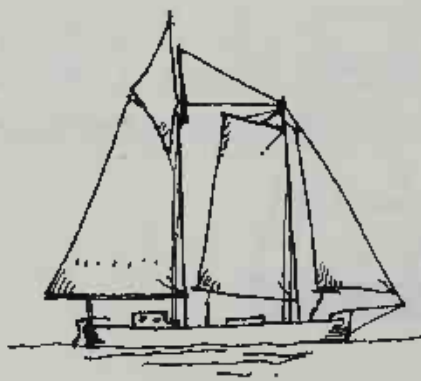
The essentials of a Schooner rig are two fore-and-aft sails, the aft sail being the bigger, and a headsail (except in the case of the CAT SCHOONER), all other sails being incidental. Now the three main types described at **2** have inevitably given rise to numerous varieties, of which the Centerboard Schooner shown below is but one. Aside from having a centerboard, which is a kind of movable keel, the foremast carries not a topsail but a staysail. (See STAYSAIL SCHOONER.)



### ~ CHESAPEAKE BAY SCHOONER

the Chesapeake Bay oyster fisheries.

The Chesapeake Bay Schooner was used in





Gloucester Fishing Schooner / SCHOONER

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~ GLOUCESTER FISHING SCHOONER :

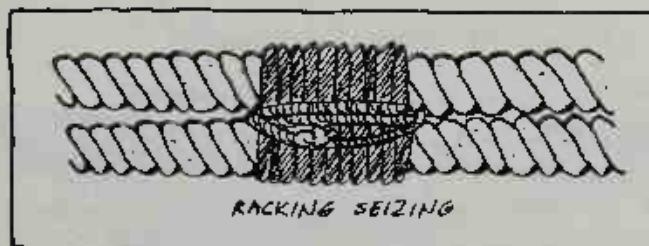
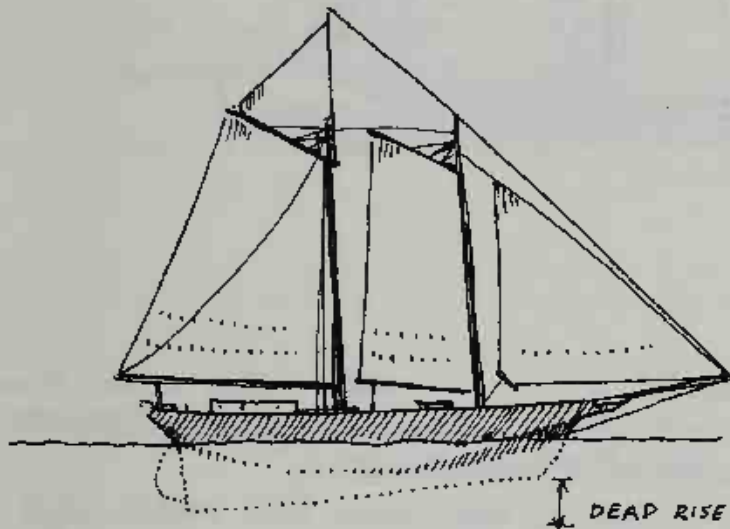
Gloucester Fishing Schooners were

developed in Gloucester and other Massachusetts Bay ports for market fishing and service on the Grand Banks for cod fishing. Beginning around 1846, a number of distinctive types gradually evolved, which are shown below in chronological rather than alphabetical order.

: ~ FILE-BOTTOM (SHARPSHOOTER)

Modeled after the BALTIMORE

CLIPPER, the File-Bottom was so called because of great dead rise (the bottom of the hull being much deeper aft than forward). The first one, the *Romp*, was built by Andrew Story in 1846-7.

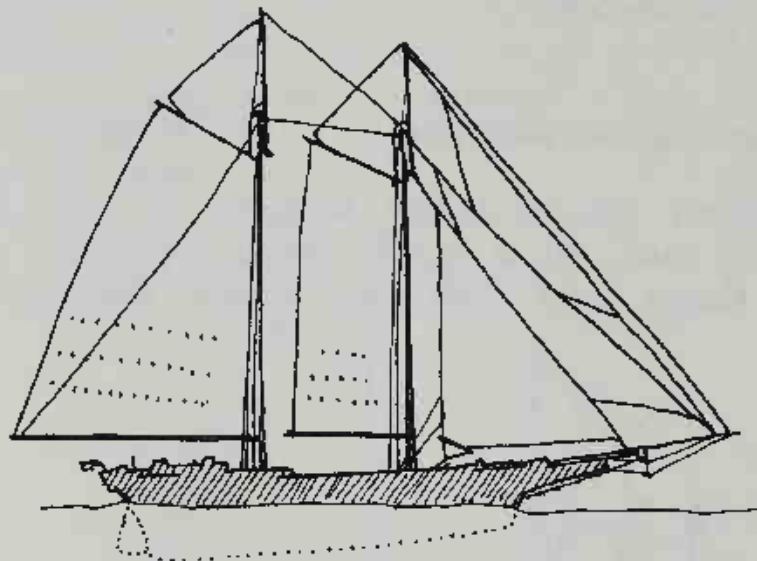


SCHOONER / Gloucester Fishing Schooner

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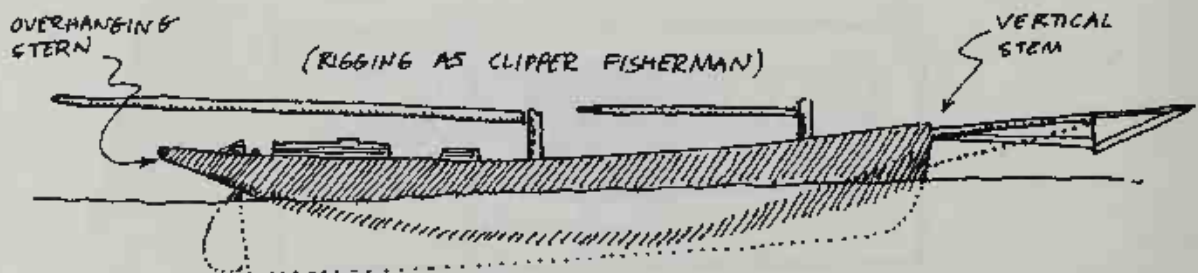
: ~ CLIPPER FISHERMAN

As competition increased, speed became essential and a faster Schooner with a larger sail plan was built. This was the Clipper Fisherman, which although fast, capsized easily. Consequently, many lives were lost on this type.



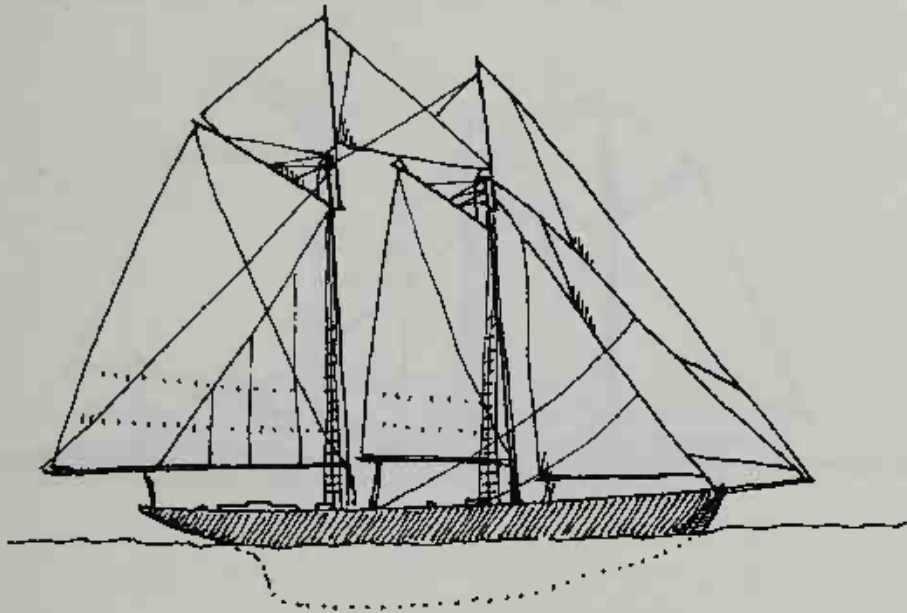
: ~ PLUMB STEMMER

In 1884 the safer Plumb Stemmer was introduced with a hull patterned after the PILOT SCHOONERS.



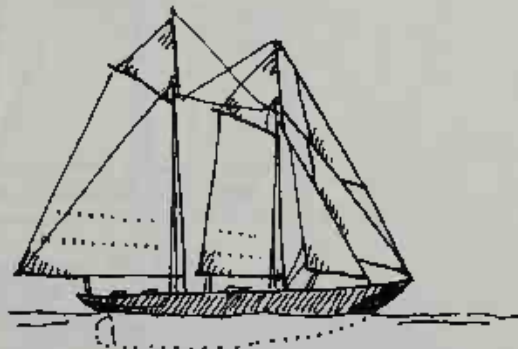
:- INDIAN HEADER

Around the late 1890's Gloucester Schooners were built with round stems and a curving keel. The early ones were given Indian names and the type consequently became known as Indian Headers.



:- KNOCKABOUT

Eventually the long and dangerous bowsprit was removed, and the last major type before sail gave way to engine was developed: the knockabout.

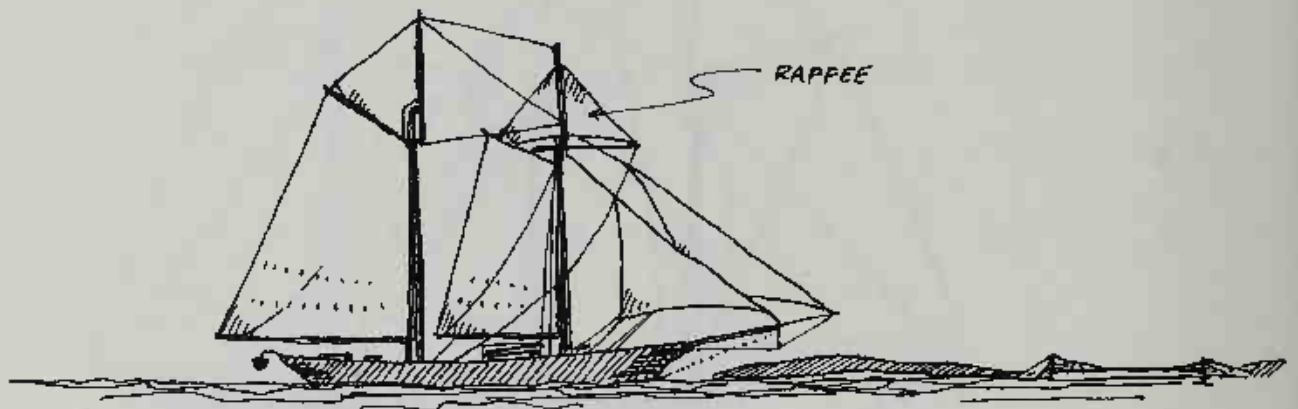


SCHOONER / Great Lakes Schooner

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~ GREAT LAKES SCHOONER

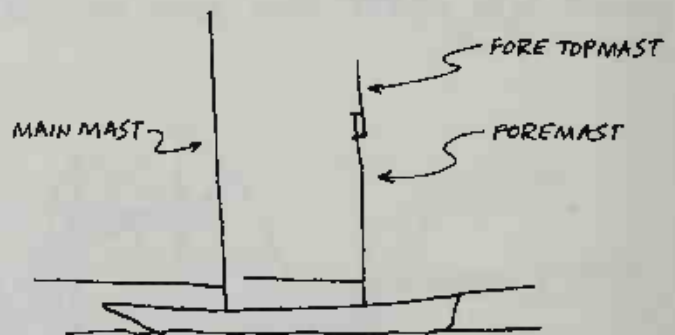
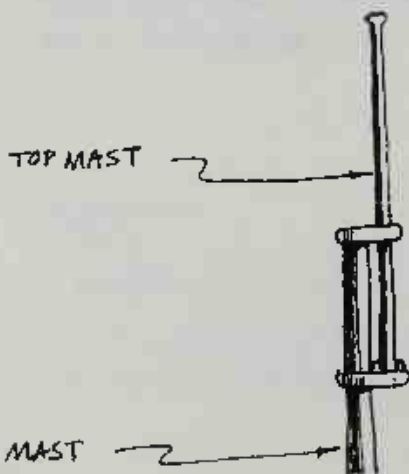
Two- and three-masted Schooners were common on the Great Lakes as cargo carriers throughout the 19th century. Various sail plans were used, but the hulls were usually sharp-ended and of shallow draught. The Great Lakes schooner shown here, carries a raffle sail on the fore-topmast.



~ JACKASS SCHOONER

main topmast.

Jackass Schooner is the term used for a schooner with no

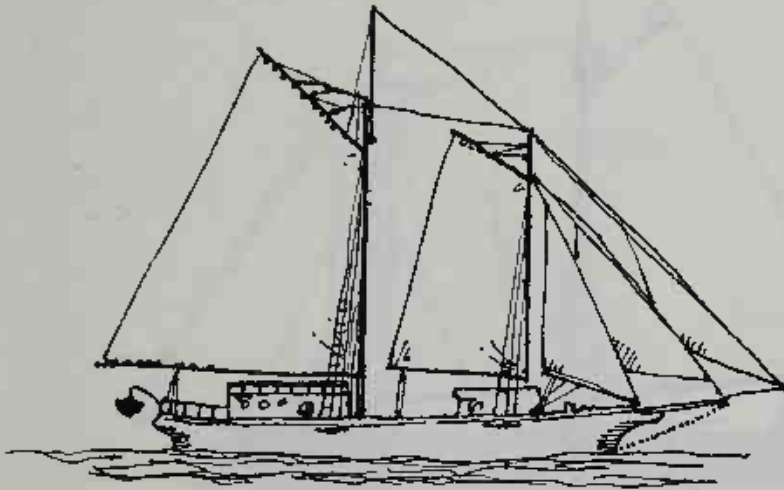


JACKASS SCHOONER WITH NO MAIN TOPMAST

— PACIFIC ISLANDS TRADING SCHOONER

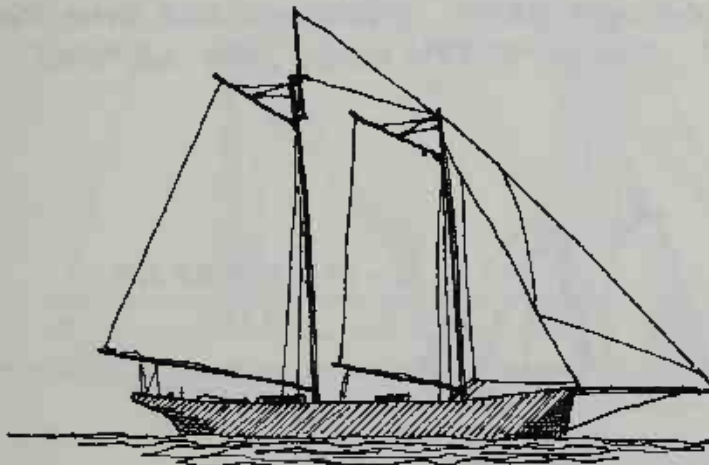
Pacific Islands Trading Schooners are among

the last remaining working Schooners. Usually fitted with auxiliaries and deck houses, they are a varied type, which may be found all over the South Pacific.



— PILOT SCHOONER

Pilot Schooners were generally fast, shallow-draught vessels with raking masts. Over the period from 1750 to 1900 a number of changes necessarily occurred but in general they were very similar to the BALTIMORE CLIPPERS. (See also PILOT BOAT.)

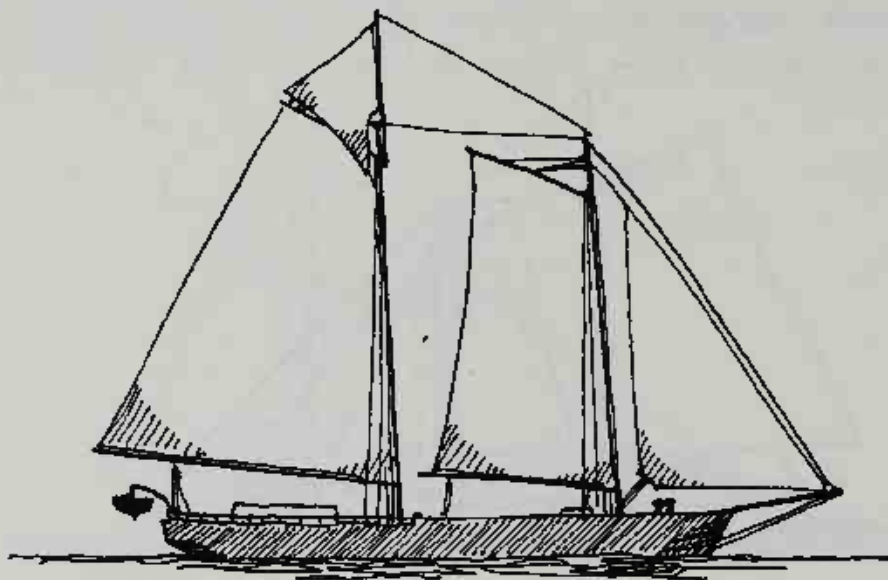


PILOT SCHOONER 1850

SCHOONER / Pungy

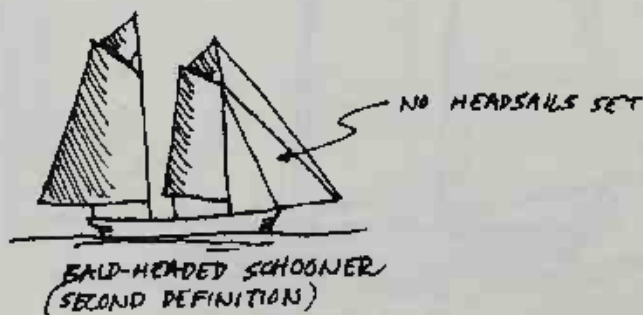
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— PUNGY The Pungy was a local schooner type from the Chesapeake Bay, where it was used for dredging oysters during the last half of the 19th century.



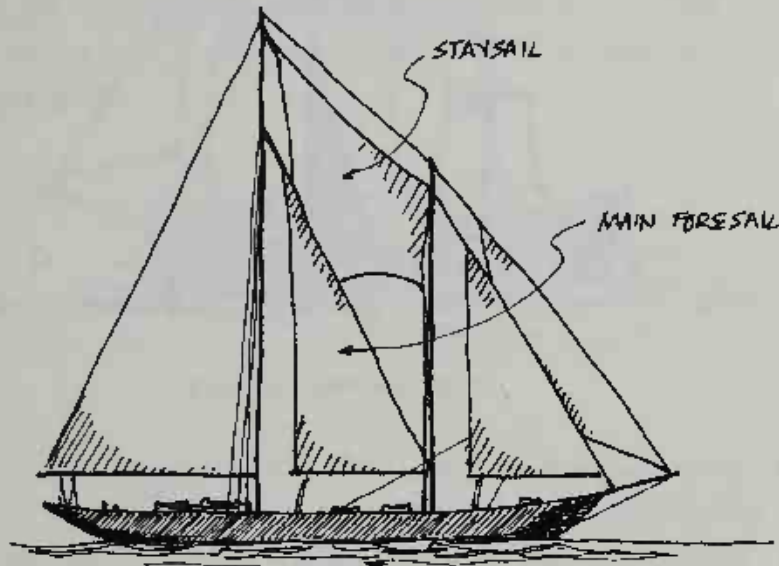
— RAM SCHOONER (BALD-HEADED SCHOONER) The term Ram Schooner refers to a schooner whose masts are single poles—there being no topmasts (see illustration under JACKASS SCHOONER).

The term Bald-headed Schooner is sometimes used to mean a Ram Schooner as defined above, although the term bald-headed actually may be used of any vessel under way without her headsails set.

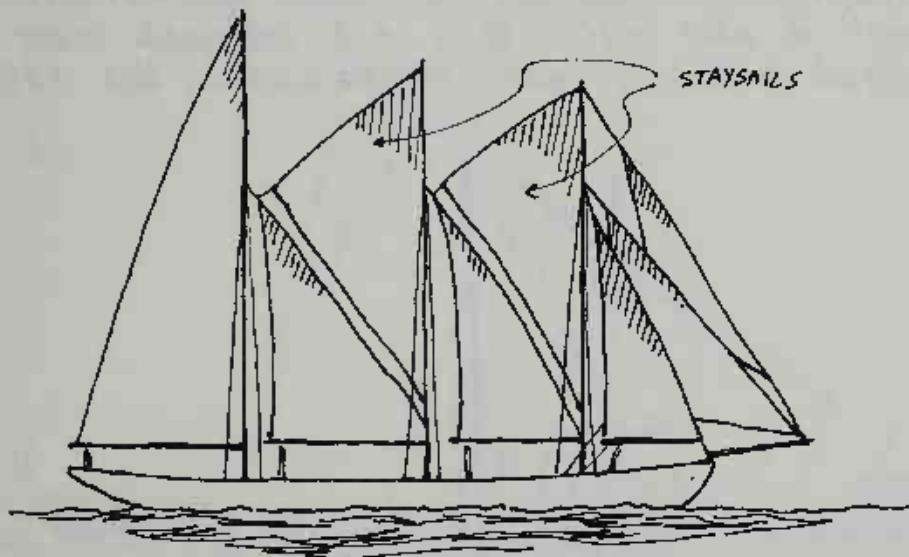


~ STAYSAIL SCHOONER

The Staysail Schooner is a relatively recent development in which the staysails often carried by large sailing ships are enlarged to the point where they are almost the main sail, the actual mainsail being reduced to a triangular sail no longer attached by its luff to the mast.



TWO-MASTED STAYSAIL SCHOONER



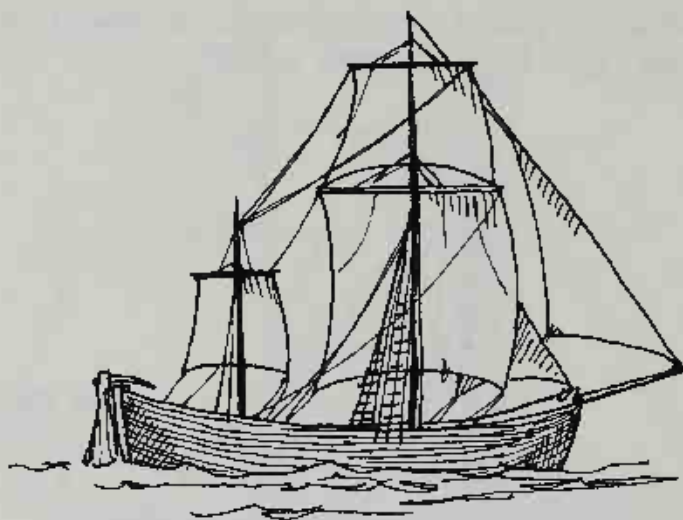
THREE-MASTED STAYSAIL SCHOONER

## SCHUYT

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### SCHUYT

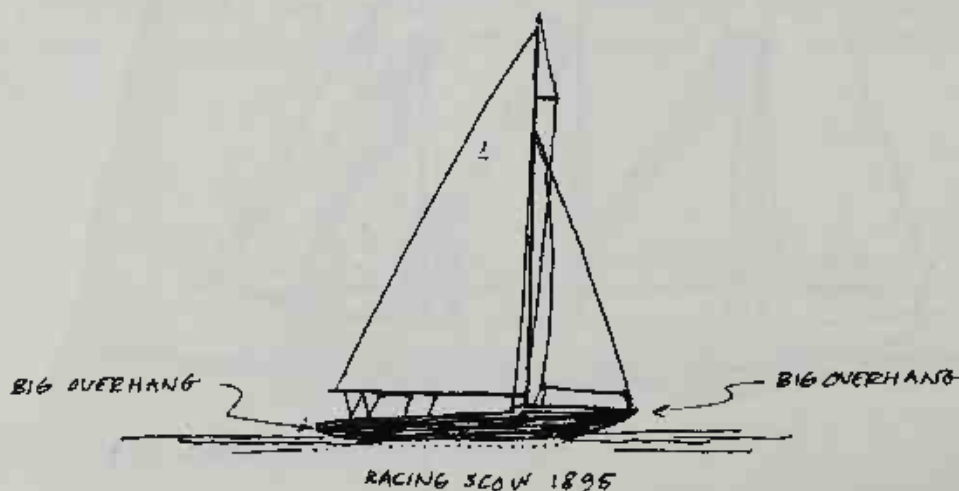
The 17<sup>th</sup> century Dutch Schuyt was related to the KETCH. The 19<sup>th</sup> century Schuyt was a small SLOOP-rigged sailing boat.



17<sup>TH</sup> CENTURY SCHUYT

### SCOW

The word scow probably comes from the Dutch, 'Schouw,' which was a shallow-draught, open pleasure boat. Consequently, the word has been used synonymously with PUNT, although it also refers to a flat-bottomed SLOOP- or SCHOONER-rigged American racing YACHT used in the 1890's.





**SCULLER**

The sculler was a small river-boat, which was the 17th and 18th century water taxi in London when the River Thames was used as a main thoroughfare.

**SEABOAT**

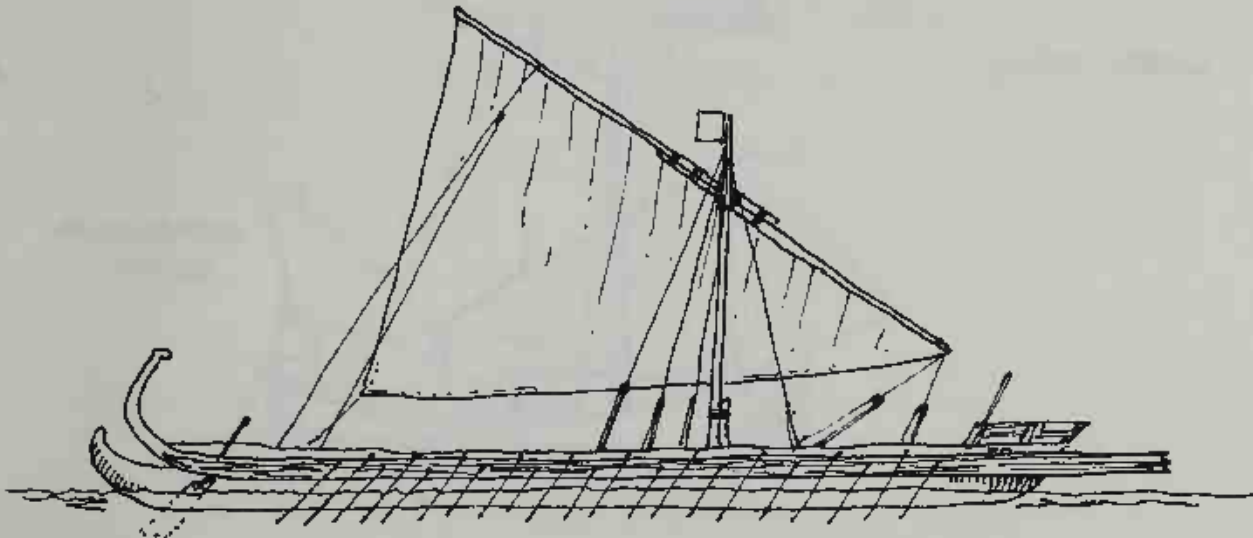
Seaboard is the name used in the Royal Navy to designate ship's boats hung in davits when at sea as opposed to those stowed inboard. They are usually CUTTERS (see CUTTER ?) or WHALERS, but when used as LIFEBOATS they are so known.

**SEALER**

A sealer is a vessel designed for the capture and processing of seals. Smaller than WHALE CATCHERS, they are equally strong, having also to cope with Arctic ice.

**SELANDER**

Together with the DROMON, the selander is one of the vessels that gradually supplanted the TRIEMME in the Mediterranean after the fall of the West Roman Empire. The illustration below, although a compilation of crude contemporary sources, is conjectural.



SENEGAL PIROGUE

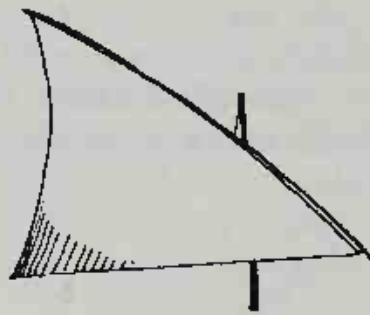
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SENEGAL PIROGUE.      see PIROGUE

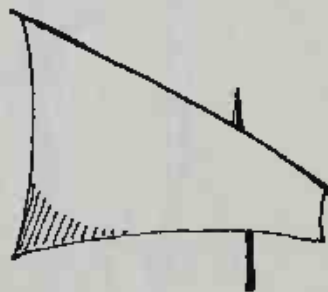
**SEPULCHRAL SHIP**      Sepulchral ship is the term used to describe ships used in connection with burial rites. Use of such vessels is worldwide and very ancient. From the ancient Egyptians' and Viking burial ships to the New Zealand Maoris, man has cast his corpses adrift in boats in order that their souls might be carried on to wherever it was believed they would go.

**SETTEE**      The settee was a two-masted Mediterranean vessel similar to a GALLEY (and sometimes called a BALANCELLE) used from the 16th to the 19th centuries. The rig was lateen, but the sails were quadrilateral rather than the usual triangular shape - these sails being known as settee sails.

LATEEN SAILS:



TRIANGULAR  
LATEEN



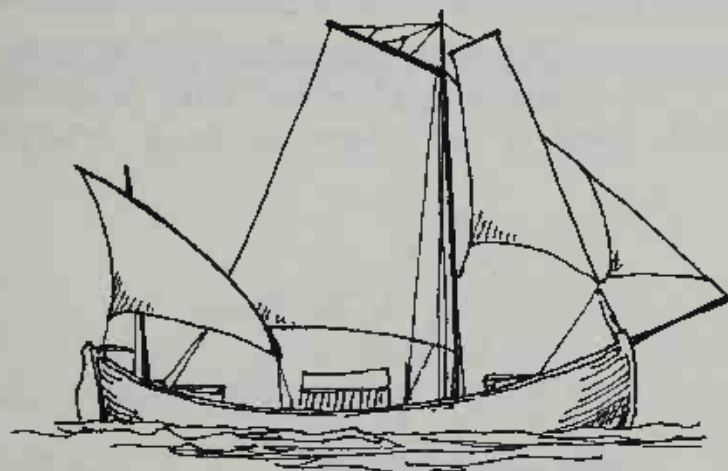
QUADRILATERAL  
SETTEE

**SHALLOP :** Shallop was once a common name applied to various vessels.

- a. The most usual shallop was a small vessel, usually schooner-rigged but later more commonly lug-rigged, often used as a TENDER to MEN-OF-WAR during the time of the sailing navies. The type eventually gave way to the LONGBOAT.
- b. The shallop was also a large, heavy undecked boat often made for emergency purposes out of the timbers of a wrecked ship.
- c. The shallop, or Chaloupe, was a French GUNBOAT of the 18th and 19th century. It carried one gun and a crew of about forty.
- d. Small, early American fishing boats were known as shallops.
- e. Shallop was sometimes used to describe a two-man SKIFF.

~ FRENCH SHALLOP

The French shallop was a large, decked merchant SLOOP - which sometimes carried a small sprit- or lateen-rigged mizzen - used in 18th century Holland and Flanders.

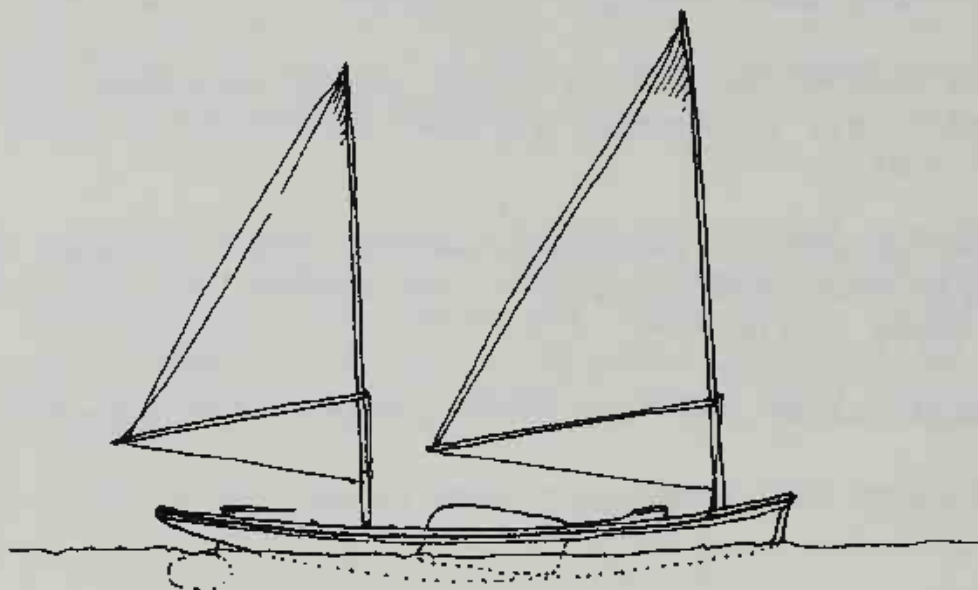


## SHARPIE

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### SHARPIE

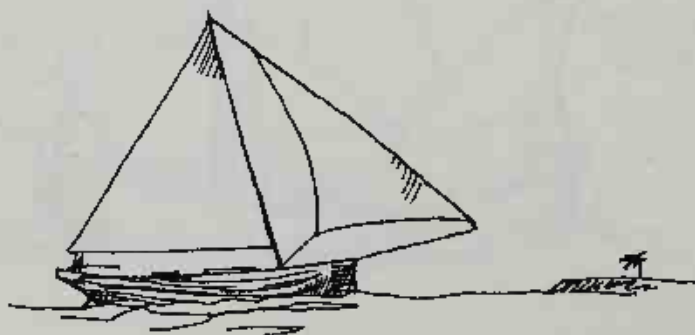
The sharpie was a very shallow-draught flat-bottomed centerboard boat, originally used in the Connecticut oyster fisheries, and which spread up and down the Eastern seaboard of America. They were variously rigged as CATS, SLOOPS, or SCHOONERS. They were eventually supplanted by power boats.



TWO-MASTED NEW HAVEN  
SHARPIE, 1860

### SHARPSHOOTER

The sharpshooter is a small, open workboat from the Bahamas which carries a mainsail and a jib from a long bowsprit.

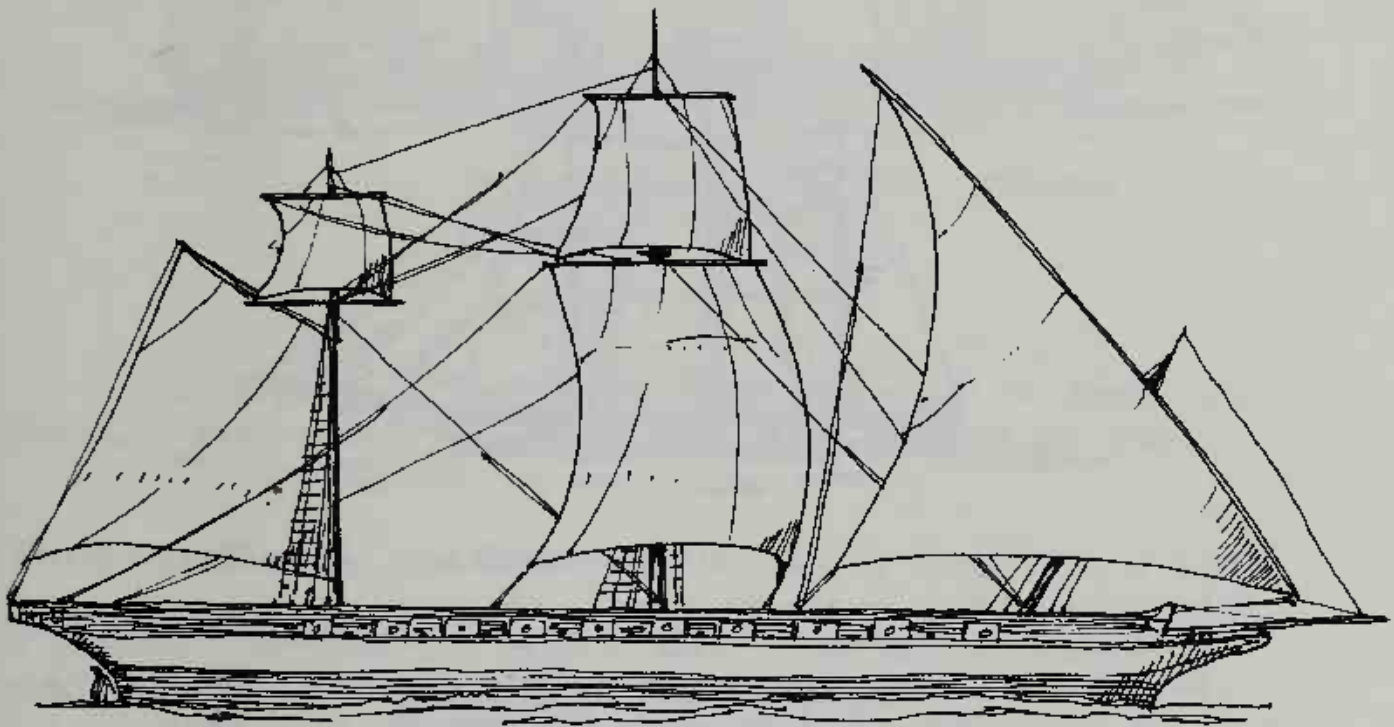


SHARPSHOOTER.

SEE SCHOONER, GLOUCESTER FISHING

SHEBEK (CHEKECK)

The shebeck was a late 18<sup>th</sup> century Russian adaptation of the Mediterranean XEBEC. Whereas most XEBECs were completely lateen-rigged, the shebeck was a mixture of lateen, square, and fore-and-aft rigs. The shebeck could also be rowed and had gun ports.



SHELL

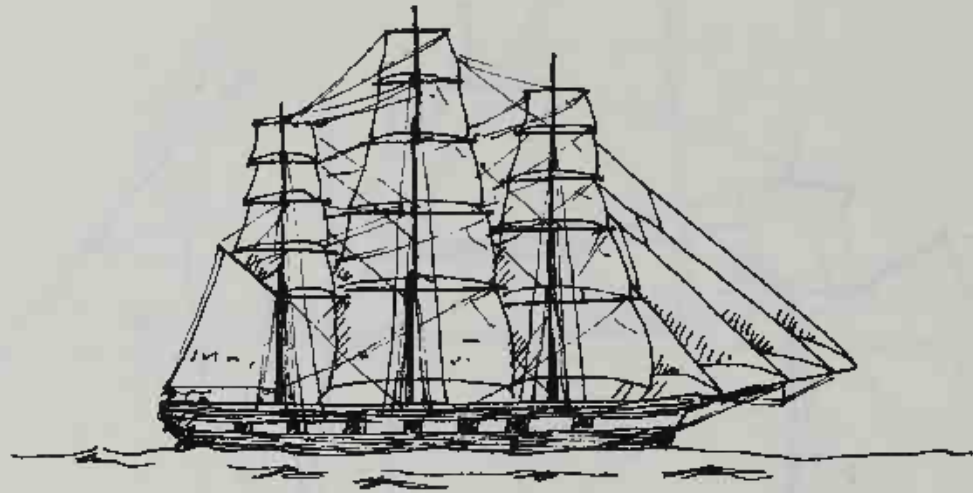
A shell is a very narrow, light rowing craft used for racing. There are one-man shells and shells rowed by eight oarsmen and a cox.

## SHIP

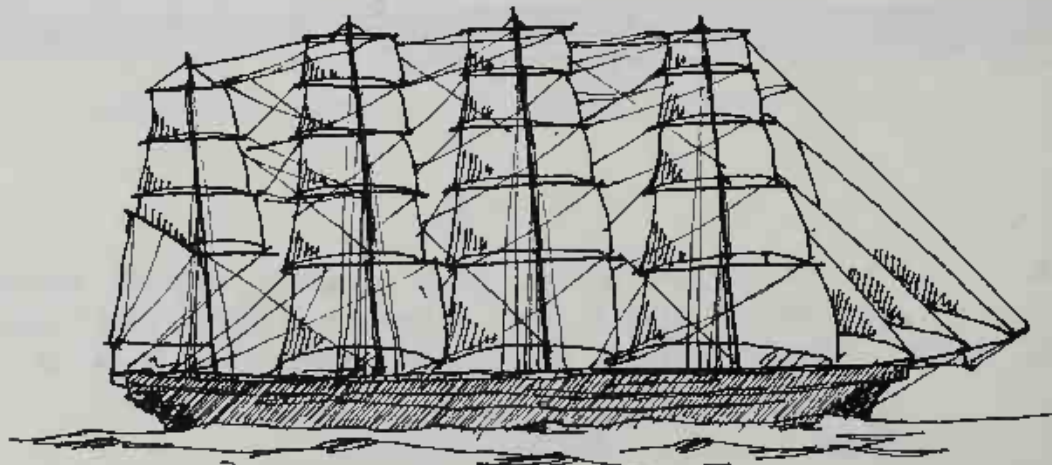
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**SHIP** The word ship comes from the Old English word, 'scip' (pronounced the same as ship), and is the generic term for seagoing vessels as opposed to **BOATS**. The word ship is usually personified as feminine, at least since the 16th century.

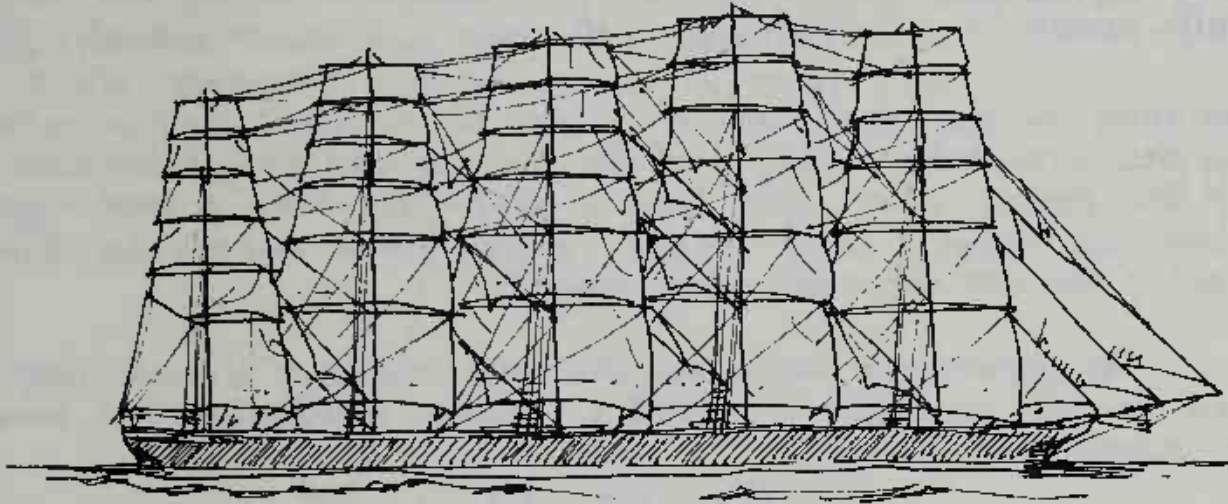
The strict nautical definition of ship is more limited, and refers only to a vessel with a bowsprit and at least three masts, all square-rigged.



THREE-MASTED SHIP, 18TH CENTURY



FOUR-MASTED SHIP, 19TH CENTURY

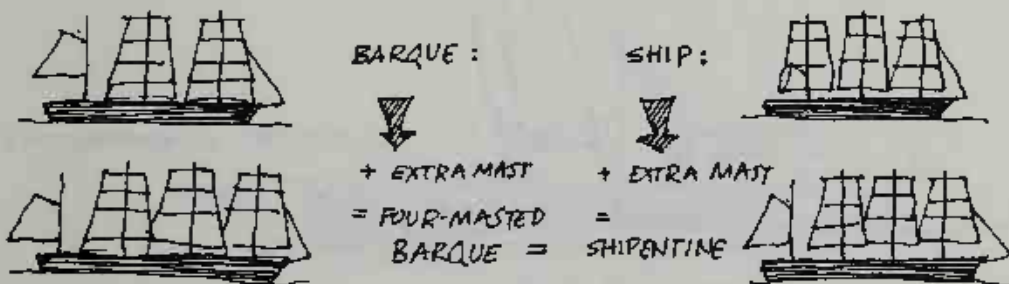


FIVE-MASTED SHIP PRUSSEN : 1902

The *Prussen*, a German Ship launched in 1902, was the only five-masted Ship ever built. She carried 47 sails!

**SHIPENTINE**

A shipentine was a ship (i.e. a vessel with three square-rigged masts) with a fourth fore-and-aft rigged mast. Of course, thought of another way, it could also be called a four-masted **BARQUE**, (i.e. a vessel with at least three masts, the aftermost of which is fore-and-aft rigged, the others being square-rigged).



## SHIP-OF-THE-LINE

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**SHIP-OF-THE-LINE.**      see WARSHIPS

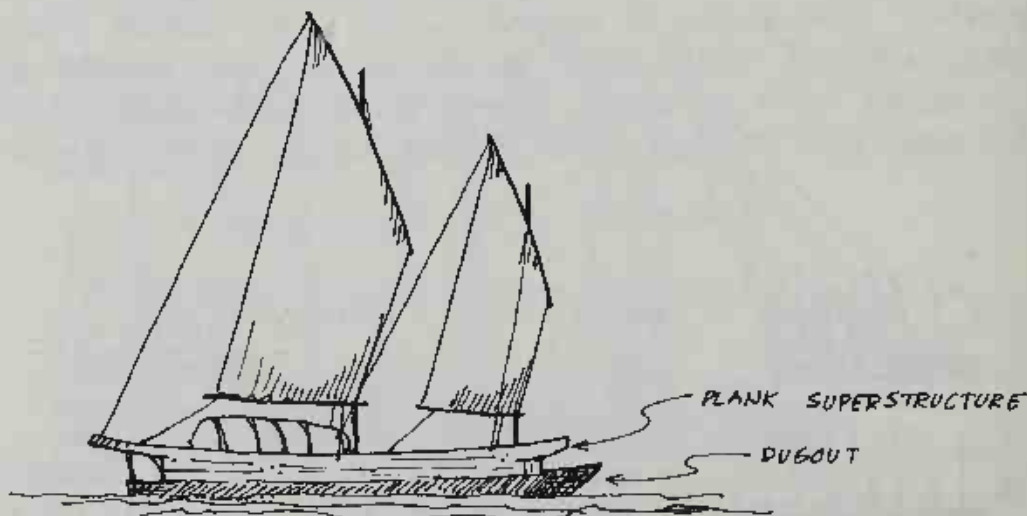
**SHIP-SLOOP**      Although both SHIP and SLOOP are distinct types of vessel, the term ship-sloop, which was common in the 19th century, refers to a naval class or rating. In this connection, sloop was the class immediately below that of the FRIGATE class, and thus a ship-sloop was a SHIP-rigged Sloop-class vessel, i.e. a smaller SHIP than a SHIP from the FRIGATE class (FRIGATES were also SHIP-rigged).

The apparently confusing term was necessary because sloop-class vessels could also be rigged as BRIGS or SCHOONERS, but never as SLOOPS!

In America the sloop class was called CORVETTE. (See CORVETTE for an illustration of ship-sloop.)

**SINGAPORE JUNK.**      see JUNK

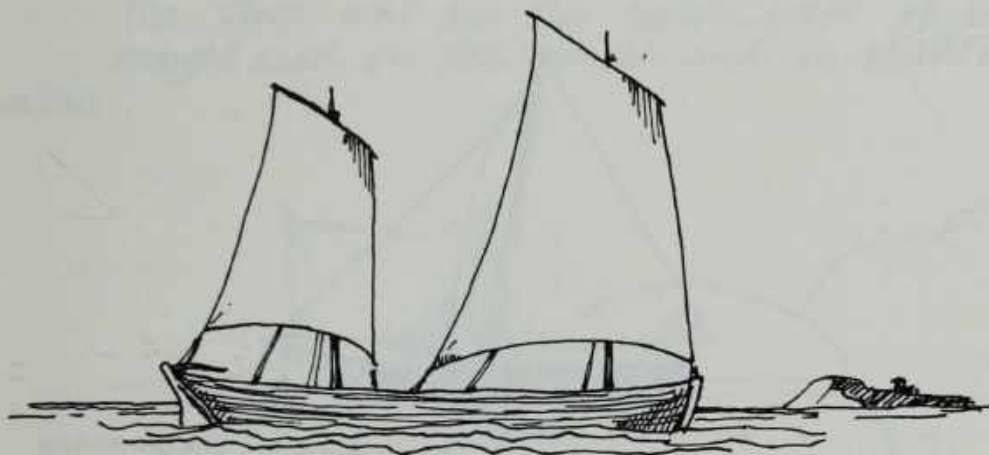
**SINGORA LAKE BOAT**      Used on Singora Lake in Malaya, the Singora Lake Boat is a two-masted Siamese type DUGOUT.



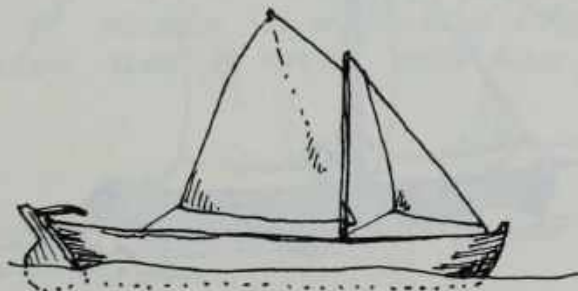


**SKAFFIE**

The skaffie was a Scottish fishing boat. Actually a LUGGER, it was similar to the FIFIE but flatter-bottomed. It was eventually supplanted by the ZULU.

**SKIFF**

- a. In the British Navy, a skiff was a SHIP'S working boat: a small, two-man rowed boat.
- b. Skiff also means a light pleasure boat used on inland waters, usually flat-bottomed.
- c. In America a skiff was a small working boat, fitted with a single spritsail.

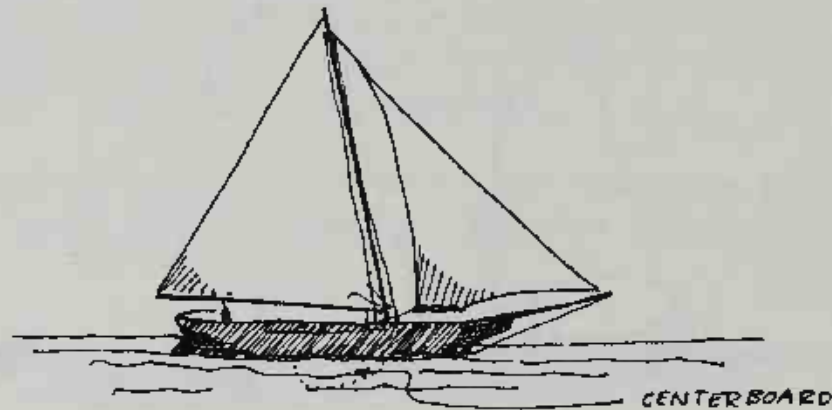


NEW JERSEY BEACH SKIFF

## SKIPJACK

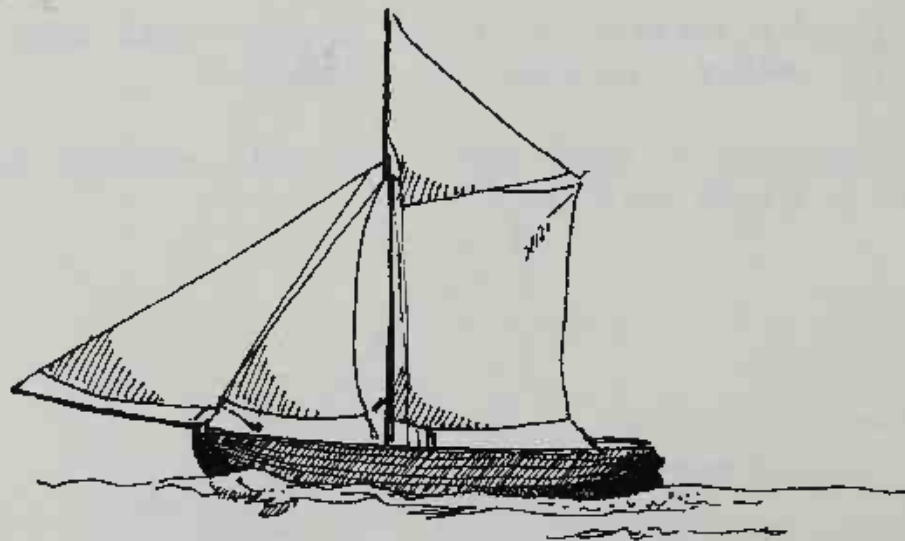
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**SKIPJACK** The skipjack, which originated in Chesapeake Bay, was a common East Coast American workboat. The mast was raked aft so that the halyards could be used to hoist cargo on board. Sloop-rigged, skipjacks were superseded by SHARPIES.



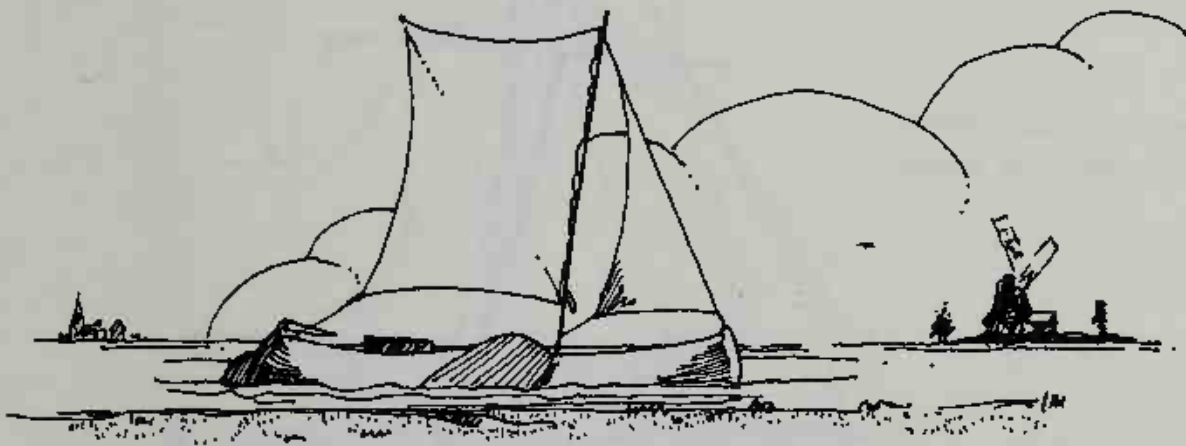
## SKOVSHOVED HERRING BOAT

The Skovshoved Herring Boat was a Danish fishing boat with spritsail and topsail and two headsails.



**SLAVER** vessels used for transporting slaves from Africa to the Americas were known as SLAVERS. BALTIMORE CLIPPERS were much used, as were other relatively small but fast ocean-going ships.

**SLOOP** The sloop was an old Dutch craft of shallow draught used on the canals and in shallow coastal waters.



**SLOOP :**

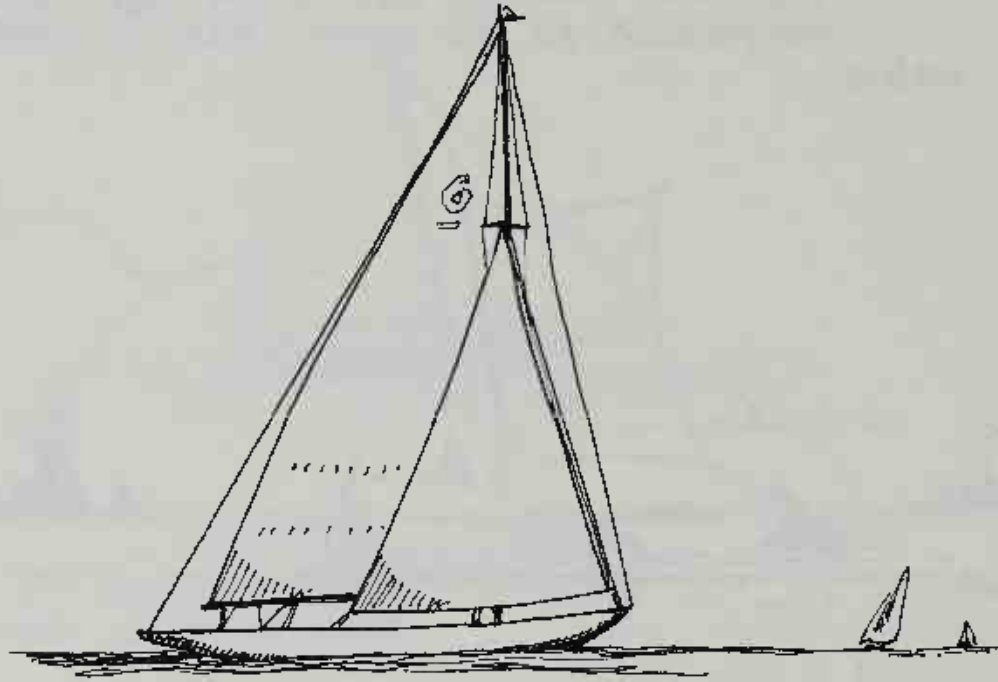
- A. During World War II, sloop was a term used to designate a small anti-SUBMARINE CONVOY ESCORT vessel.\*
- B. During the days of the sailing navies, sloop referred to the class of vessels immediately below that of FRIGATES. See the articles under SLOOP-OF-WAR, BRIG-SLOOP, SHIP-SLOOP, and CORVETTE.

\* This was British usage, in America this kind of vessel was known as CORVETTE.

## SLOOP

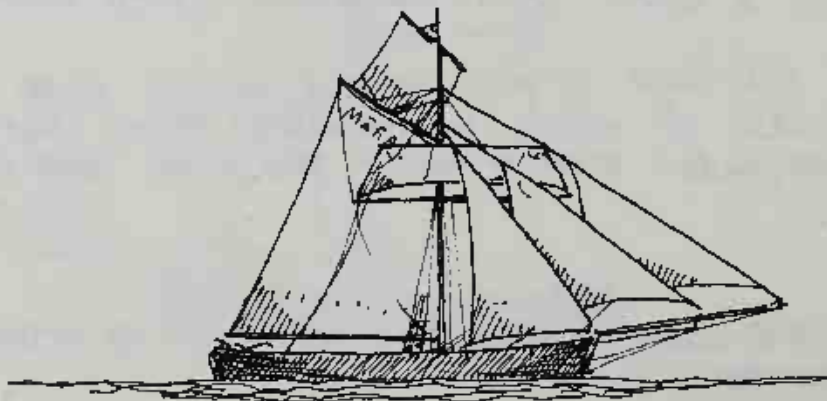
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c. Sloop is also used to denote a sailing vessel with a single mast, fore-and-aft rigged, and carrying a single headsail, although in America the term also includes vessels with two headsails, which would be called CUTTERS in the rest of the world. (In America CUTTER means the old-fashioned vessel which carries a jib on a bowsprit.)



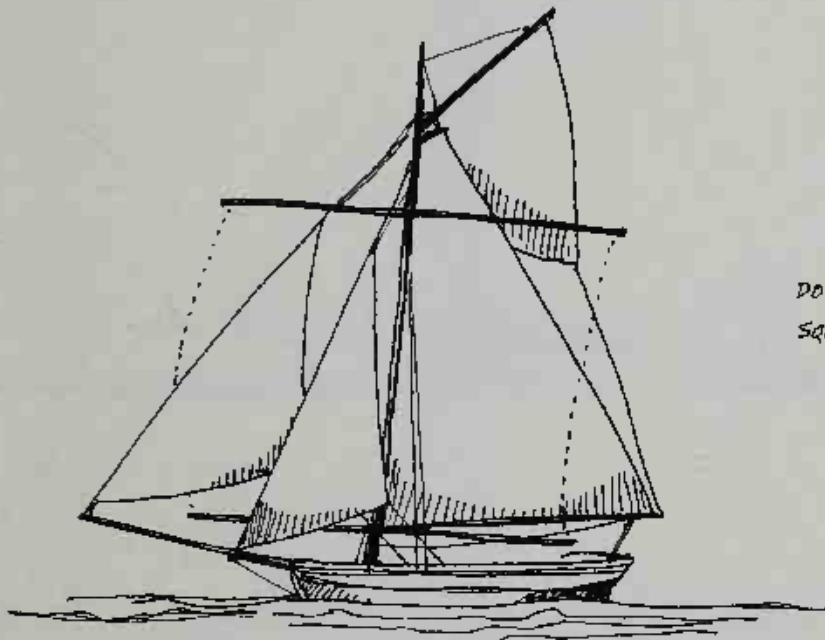
6 METER RACING SLOOP

~ BALTIC SLOOP



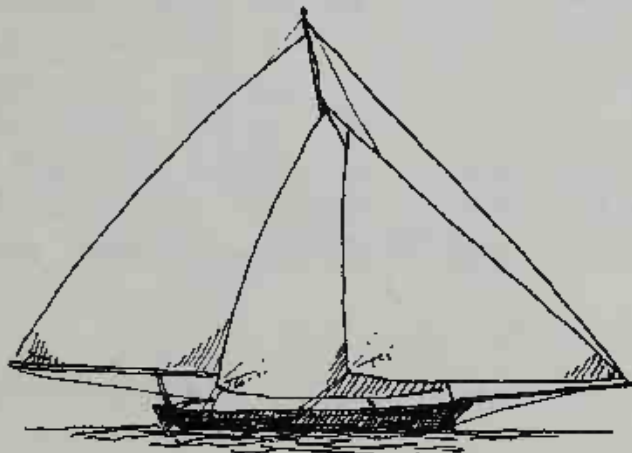
~ BERMUDA SLOOP

a. From about 1690 until about 1830 the Bermuda Sloop was a very fast boat, especially to windward, much favored by pirates and privateers and used as light cruisers by the British Navy in the West Indies.



DOTTED LINE INDICATES  
SQUARE SAIL, WHEN SET

b. After 1830 the Bermuda Sloop was a smaller vessel, much used for racing, noted for its excessive sail area.

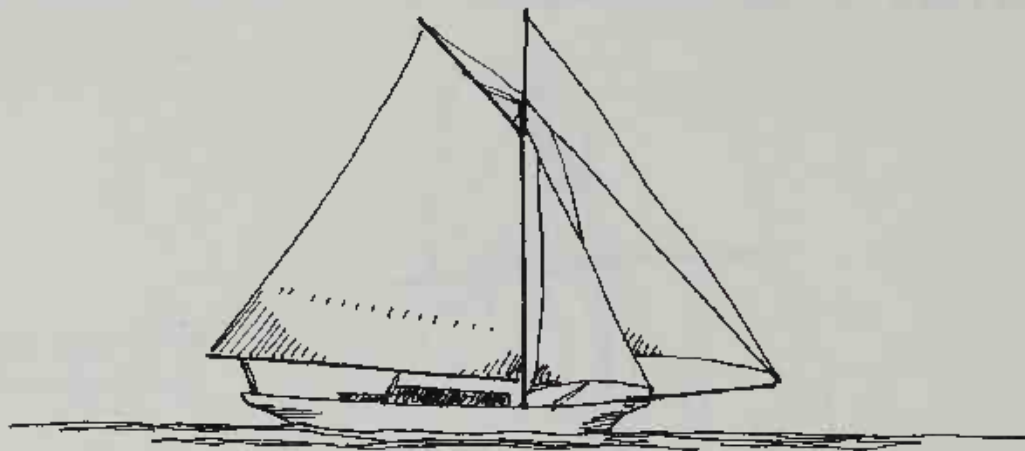


## SLOOP / Friendship Sloop

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### ~ FRIENDSHIP SLOOP

Originally an offshore fishing boat built at Friendship, Maine, the Friendship Sloop became popular as a pleasure YACHT, and now there is a Friendship Sloop Association.



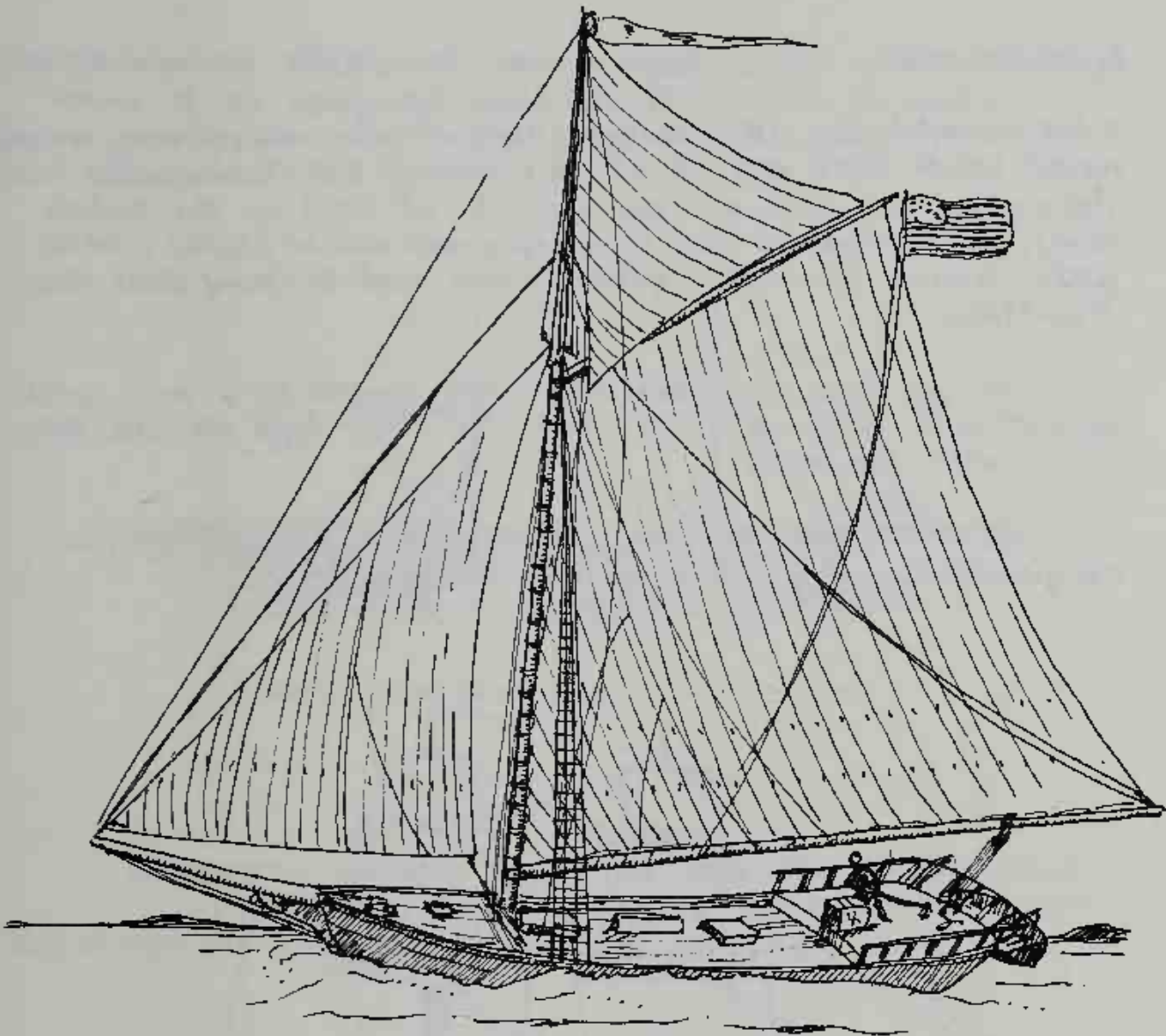
### ~ HUDSON RIVER SLOOP (NORTH RIVER SLOOP)

The Hudson River Sloop, modeled after old Dutch boats, is a shallow-draught, centerboard boat up to 90' (27.5m) long, used for passengers and cargo on the Hudson before the advent of steam.

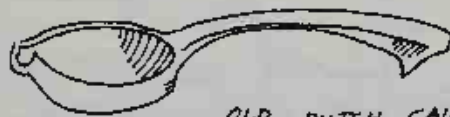
Until 1812 these Sloops carried square topsails; after that date the triangular topsail proved more convenient. Since these boats were designed for use on the river, the masts are so built and stepped as to allow gybing, a process involving swinging the boom from one side to the other when sailing before the wind, and which invariably dismasts most other vessels. In open waters gybing may be conveniently avoided, but it is often hard to avoid it on a narrow river.

Hudson River Sloop / SLOOP

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HUDSON RIVER SLOOP



OLD DUTCH CAULKING SPOON

## SLOOP-OF-WAR

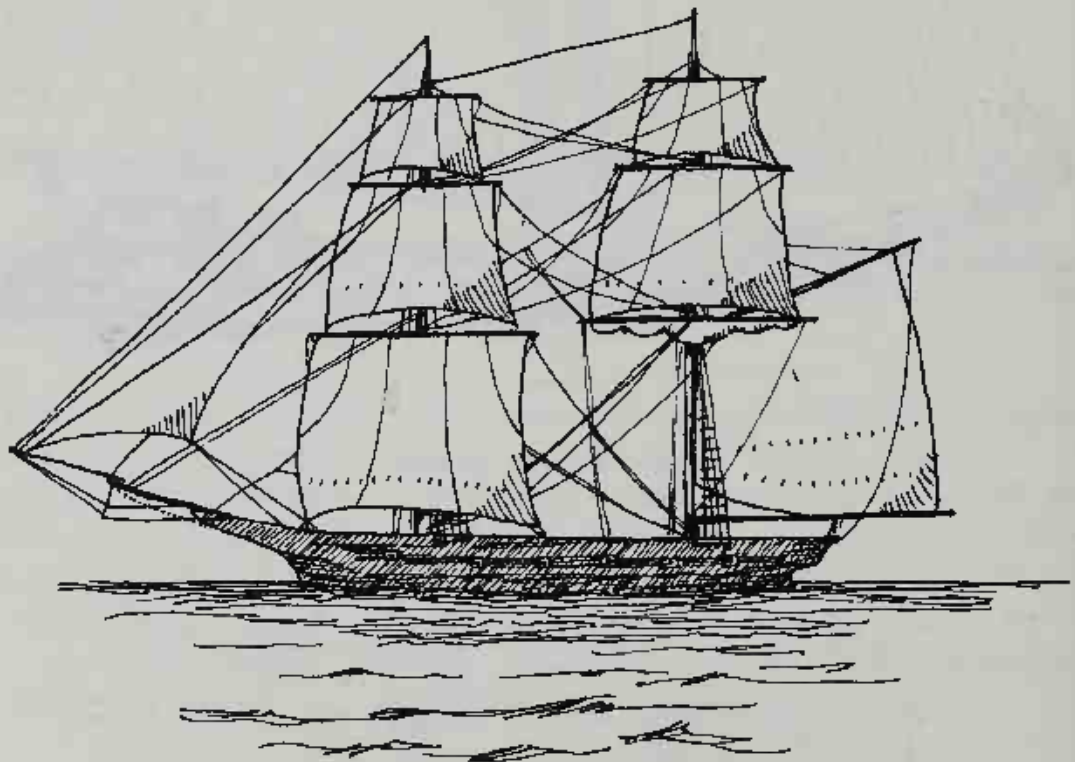
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### SLOOP-OF-WAR

Sloop-of-war is actually synonymous with the definition given at **B.** under **SLOOP.** Until the 18th century, sloop-of-war meant any small naval vessel that did not fit into any of the other classes. Thereafter, two distinct types evolved, at least in the British Navy, for in America the term remained rather elastic, both types having less than eighteen guns and ranking thus below **FRIGATES.**

The one type was the **SHIP-SLOOP**, rigged as a **SHIP**, with square sails on three masts, and the other type was the **BRIG-SLOOP**, with two masts.

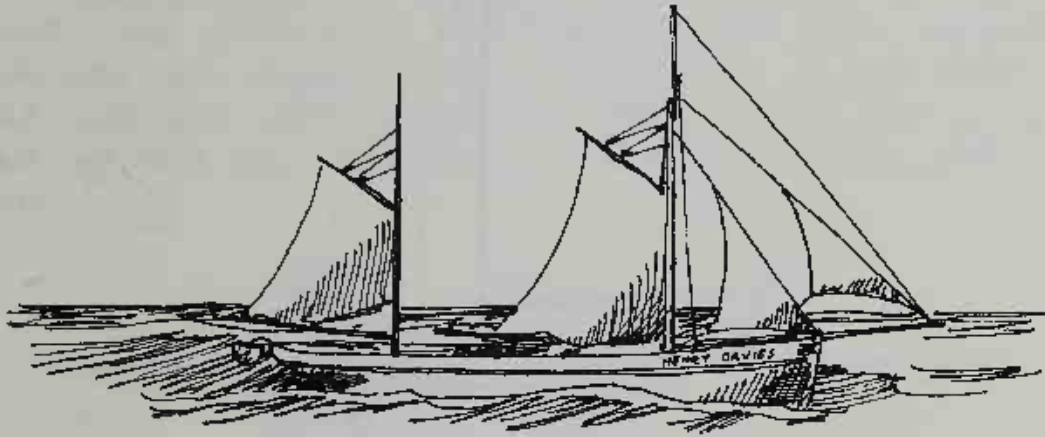
As **TRAINING SHIPS**, sloops-of-war were the last of the navy's sailing ships, lasting until 1904.



BRITISH BRIG-SLOOP-OF-WAR, 1830

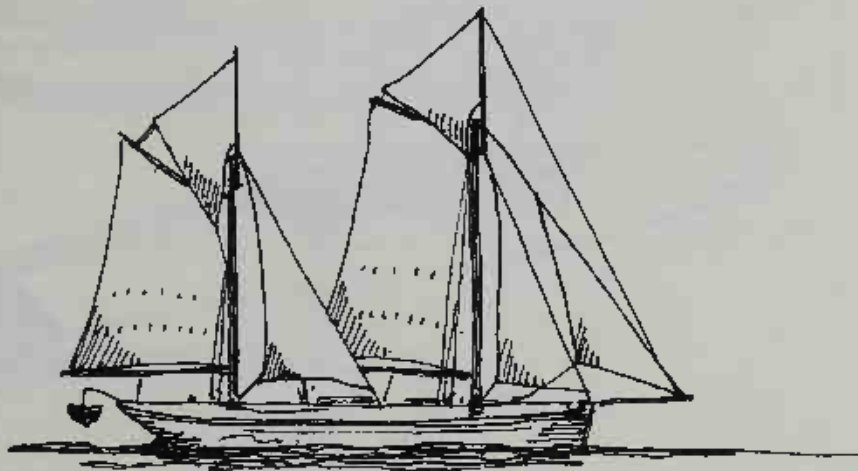


**SMACK :** The word *smack* today means any small fishing craft whether driven by sail or engine, but originally it was a fore-and-aft rigged inshore fishing boat, descended from the HOY.



BRITISH FISHING SMACK REEFED DOWN IN A GALE

— **LOWESTOFT SMACK** The Lowestoft Smack was a KETCH-rigged TRAWLER from the British east coast fishing port of Lowestoft.

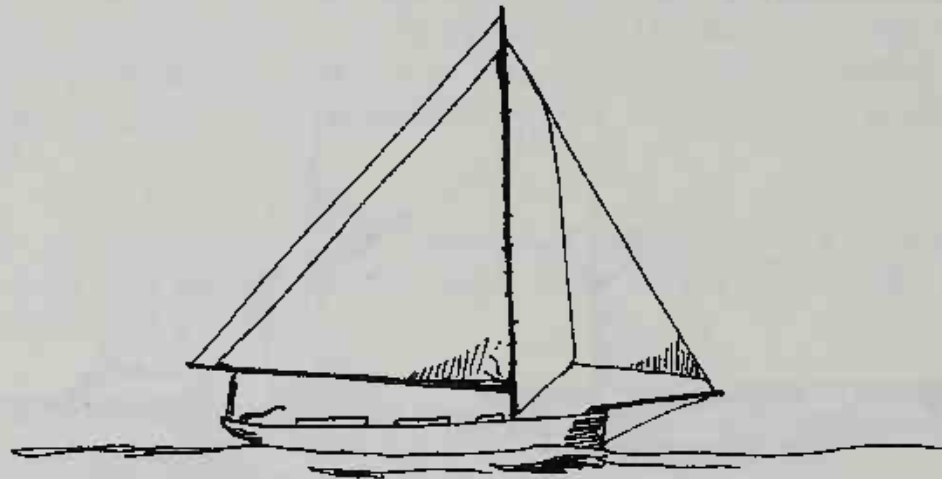


## SMACKEE

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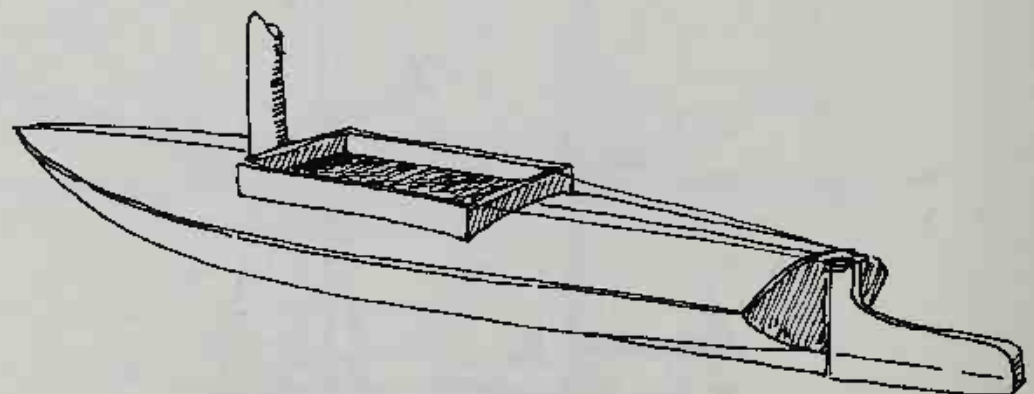
### SMACKEE

The Smackee is a SLOOP-rigged fishing boat common to Key West, Florida.



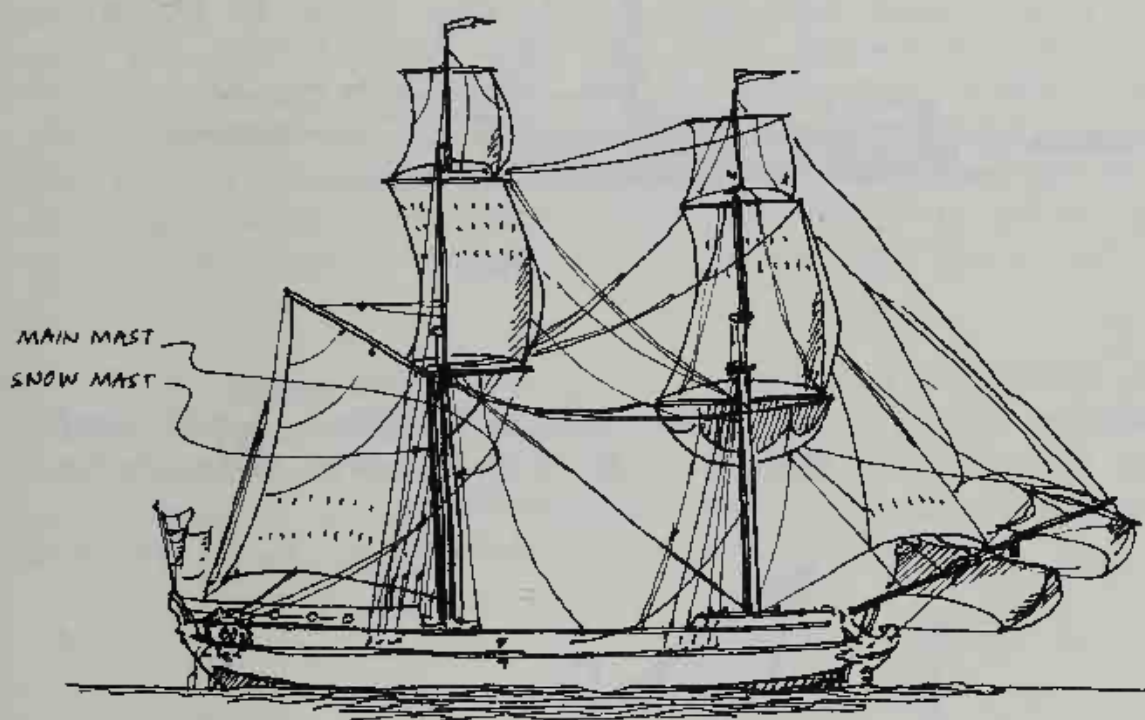
### SNEAK BOX

The Sneak Box was a once-famous boat, used for hunting wildfowl, which sat very low in the water in order to be hidden. The original Sneak Box, also known as a Devil's Coffin, was built at Barnegat Bay in New Jersey, in 1836.



SNEKKJA .      SEE ESNECCA

**SNOW**      The snow, which was a true northern vessel, was similar to the BRIG, which came originally from the Mediterranean. Usually bigger, the snow carried an extra mast, the snow mast, immediately abaft the mainmast, to which was set a gaff-sail. Eventually the two types combined into the MAN-OF-WAR BRIG, which had the square mainsail of the BRIG and the gaff-and-boom mainsail of the snow.



SNOW 1770

SÖNDFJORD YAWL .      SEE YAWL

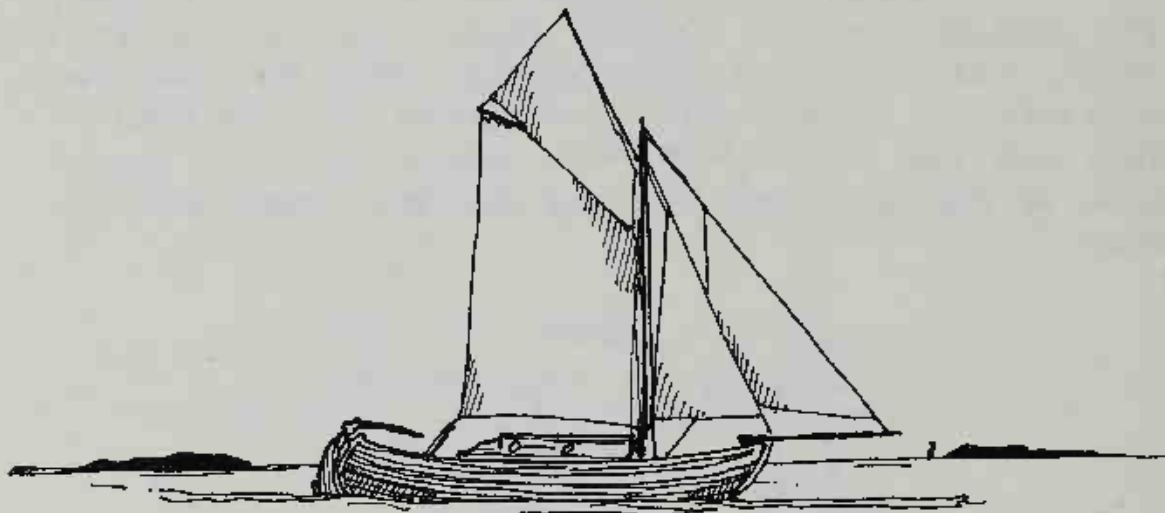
SÖNDMÖERSK YAWL .      SEE YAWL

SOUND BOAT

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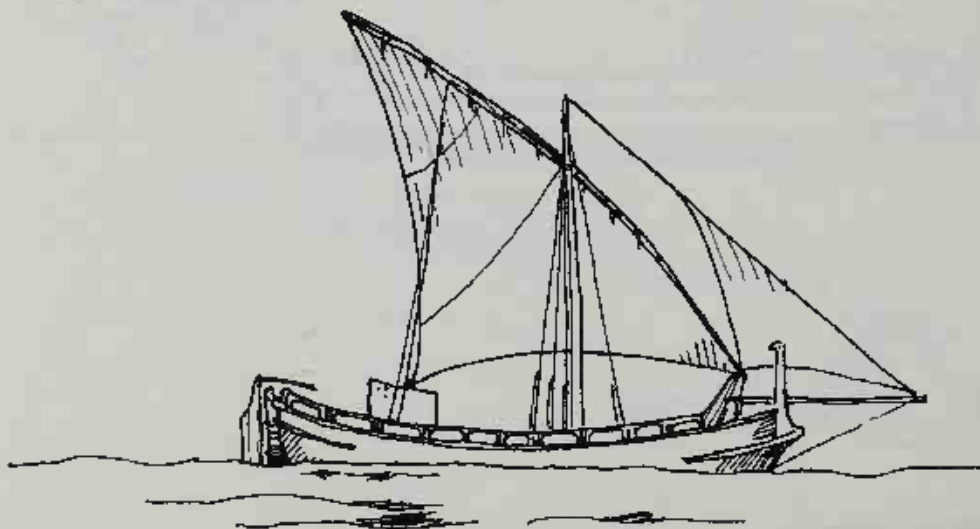
SOUND BOAT

Danish Sound Boats were CUTTER-rigged fishing boats that worked the Kattegat and Oresund Sound. They were double-enders.



SPERONARA

The Speronara is a lateen-rigged boat with a high vertical stem, from Malta.



SPORT FISHERMAN.      SEE MOTORBOAT

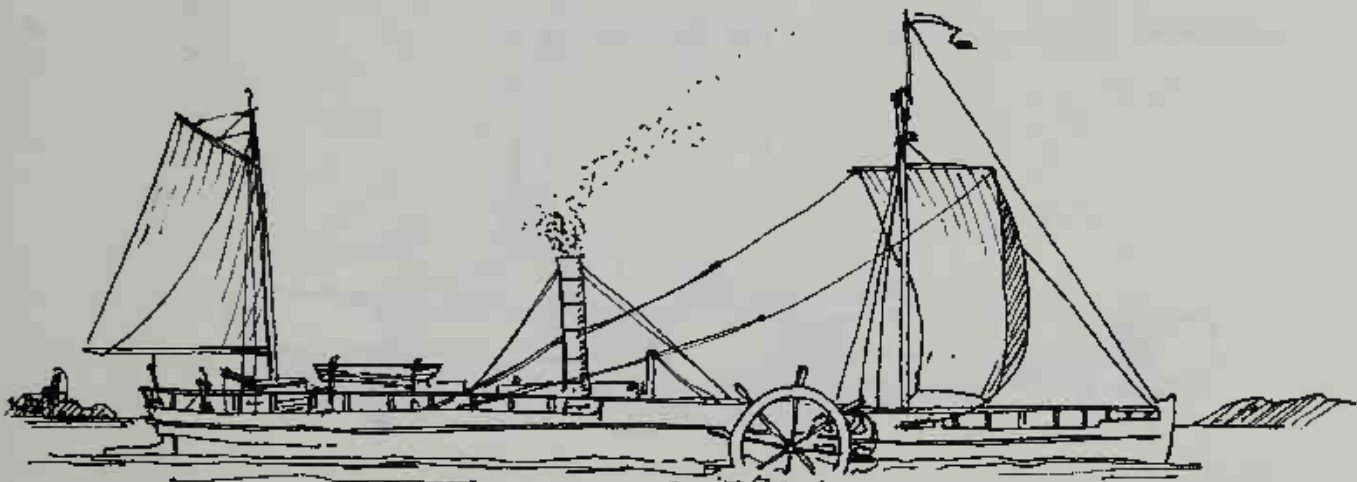
STATE BARGE.          SEE BARGE

STAYSAIL SCHOONER.    SEE SCHOONER

### STEAMSHIP

The history and development of the steamship could fill this whole book, but suffice it here to point out that although mechanical means as opposed to wind alone had long been known and tried, it was not until 1807 that the first steamship was put into regular commission. This was the *Clermont*, Robert Fulton's ship, which plied between New York and Albany. Such was the impact of steam, and later other forms of power, that in only a hundred years sail was a thing of the past except for pleasure boats. (But see DYNASHIP for a possible return of sail.)

A steamship, then, is a vessel whose motive force is provided by a steam engine. The change from sail to steam was gradual, both being used at first. Eventually steam gave way to more sophisticated forms of power such as in the HYDROFOIL and nuclear-driven vessels.



Clermont : 1807

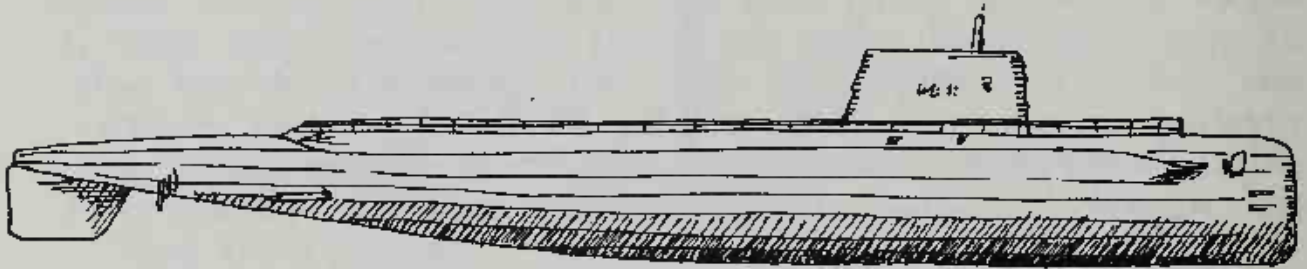
## SUBMARINE

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### SUBMARINE :

A submarine is a vessel which can operate beneath the surface of the sea. Designs had existed since the 16th century, but the first working submarine did not appear until 1775. However, it was not until the First World War that submarines were used in any number. (see U-BOAT.)

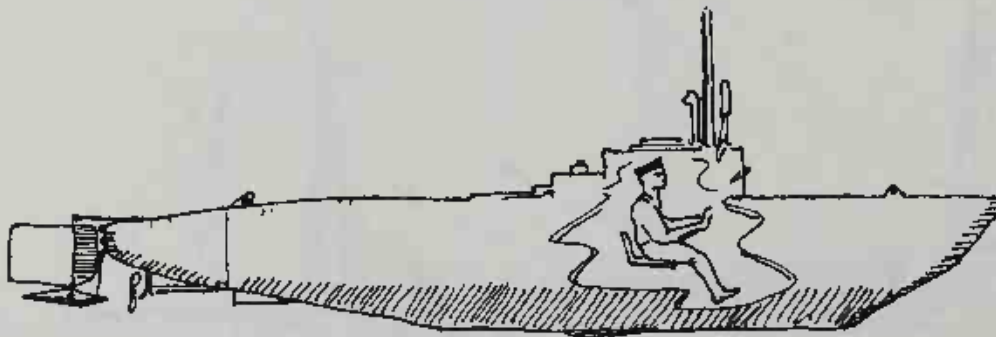
With the advent of nuclear power, the submarine, though still limited with regard to communications, became totally able to operate and remain underwater indefinitely.



NUCLEAR-POWERED TRITON SUBMARINE  
447' (136 m) LONG

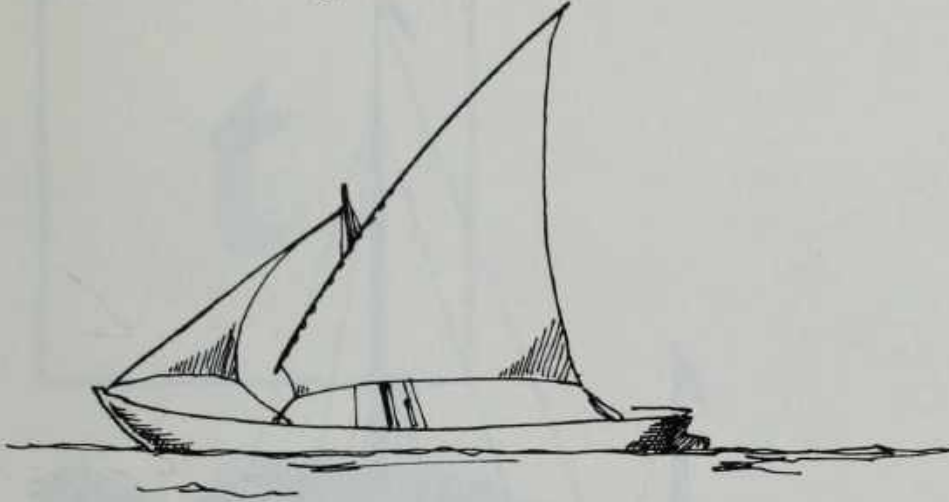
### ~ MIDGET SUBMARINE

~ MIDGET SUBMARINE  
Midget or Dwarf submarines were one to four-man submarines used mainly for harbor attacks.



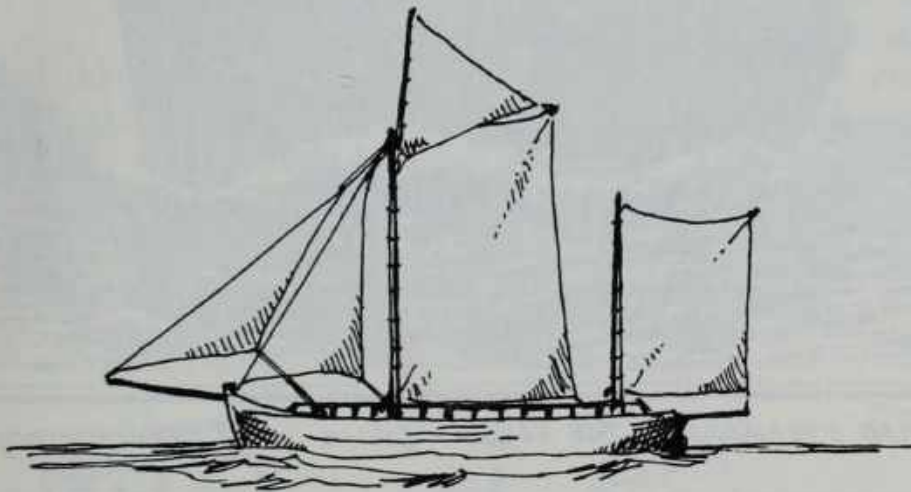
**SUEZ SHORE BOAT**

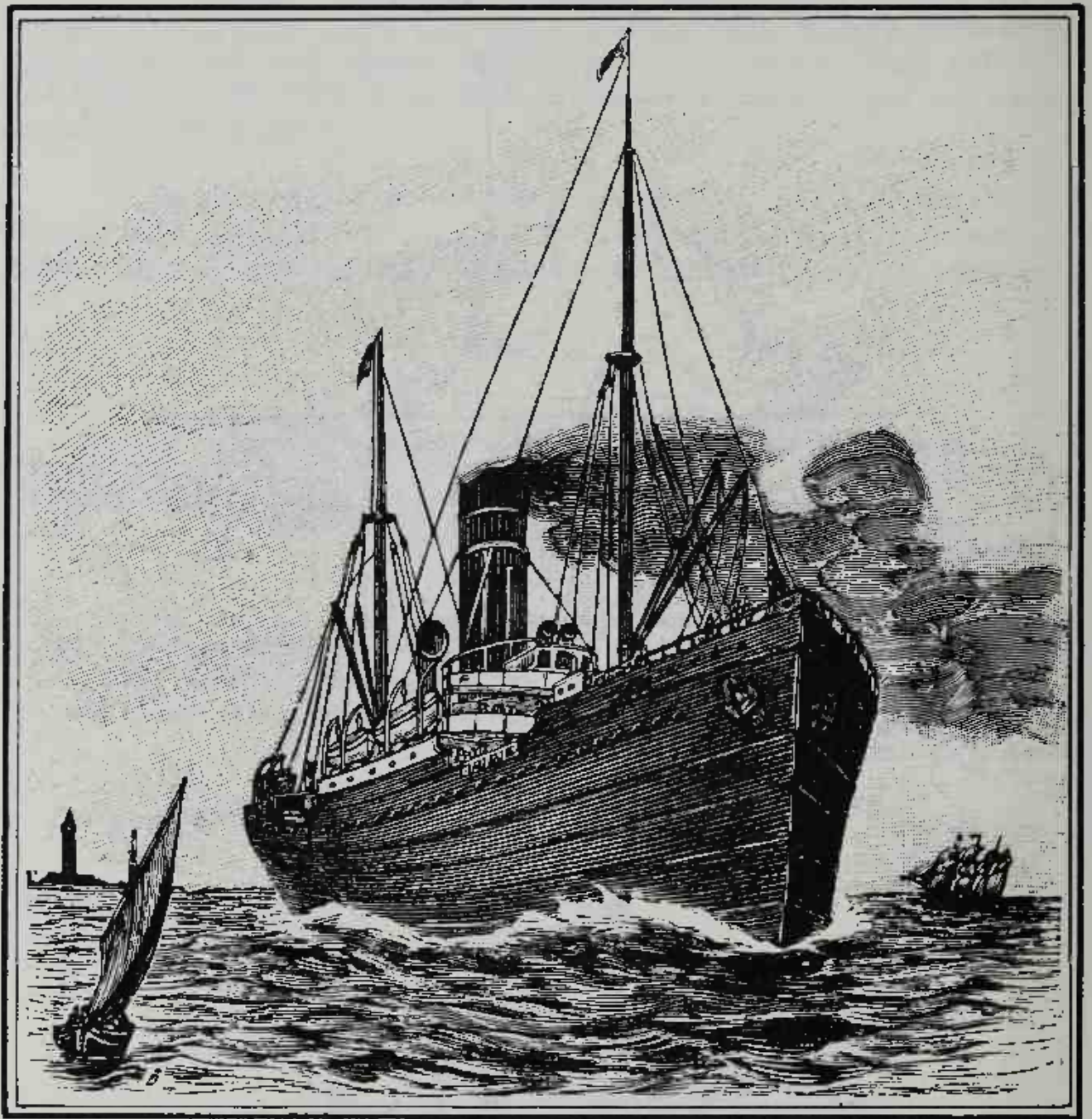
The Suez Shore Boat is a typical Arabian boat from Suez, with a settee sail and a small jib.



**SWEDISH FISHING BOAT**

The Swedish fishing boat used for mackerel fishing was a double-ended KETCH or YAWL of enormous beam - the beam being three-quarters the length!

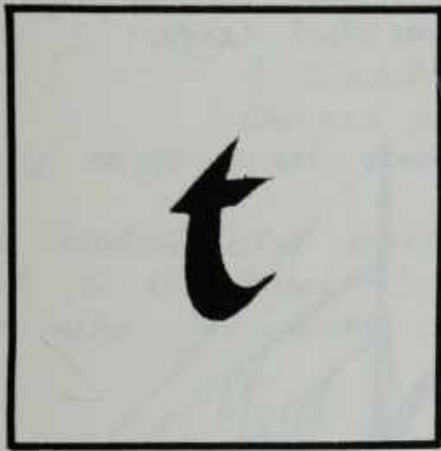




A FRENCH CARGO STEAMER OF THE EARLY 1900'S

*contemporary engraving*





TAHITIAN CANOES.

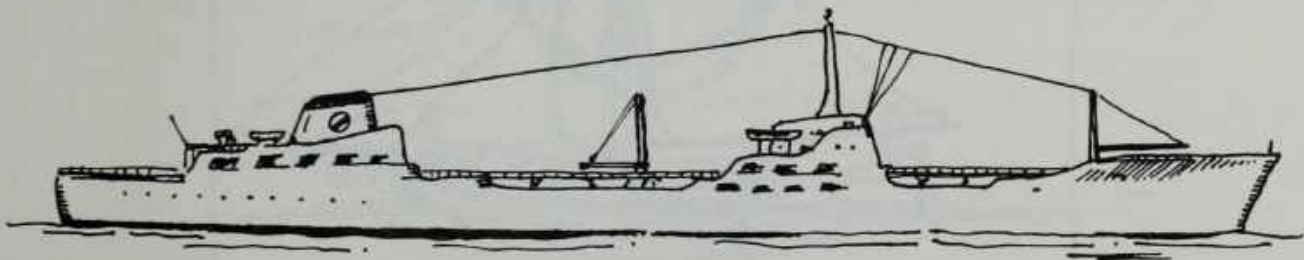
SEE CANOE

TAHITIAN PIRAGUA.

SEE PIROGUE

### TANKER

Although the Chinese carried oil in special JUNKS as long ago as the 18<sup>th</sup> century, the modern Tanker did not appear until the end of the 19<sup>th</sup> century. Used for carrying oil, liquified gas, ore, and chemicals, Tankers have grown in size from 5,000 tons in 1912, to 250,000 tons (V.L.C.C., Very Large Crude Carriers) and even 400,000 tons (U.L.C.C., Ultra Large Crude Carriers).



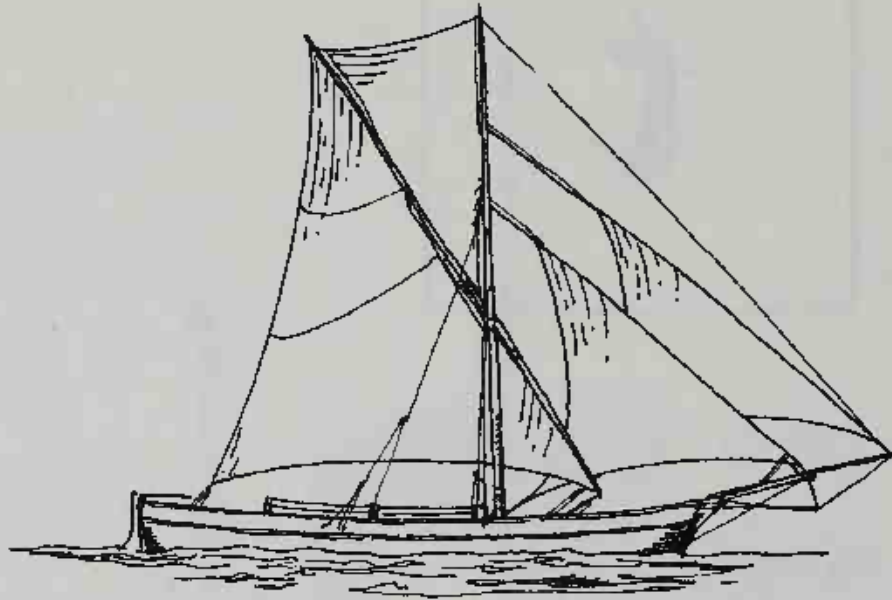
TANKER, 1950

## TARTANE

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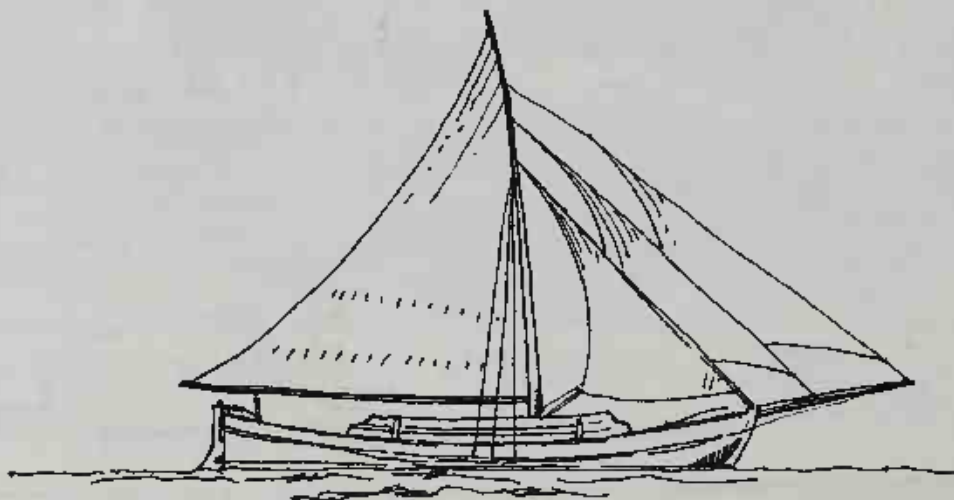
### TARTANE

The Tartane is a lateen-rigged Mediterranean coastal trader developed from old Arab cargo boats, which were somewhat larger.



### TCHEKTIRME

The Tchektirme is single-masted Turkish coastal vessel



TEA CLIPPER .      see CLIPPER

**TENDER**                      A Tender was a small vessel which serviced a larger ship when in harbor, by carrying cargo, mail, and passengers, to and fro.

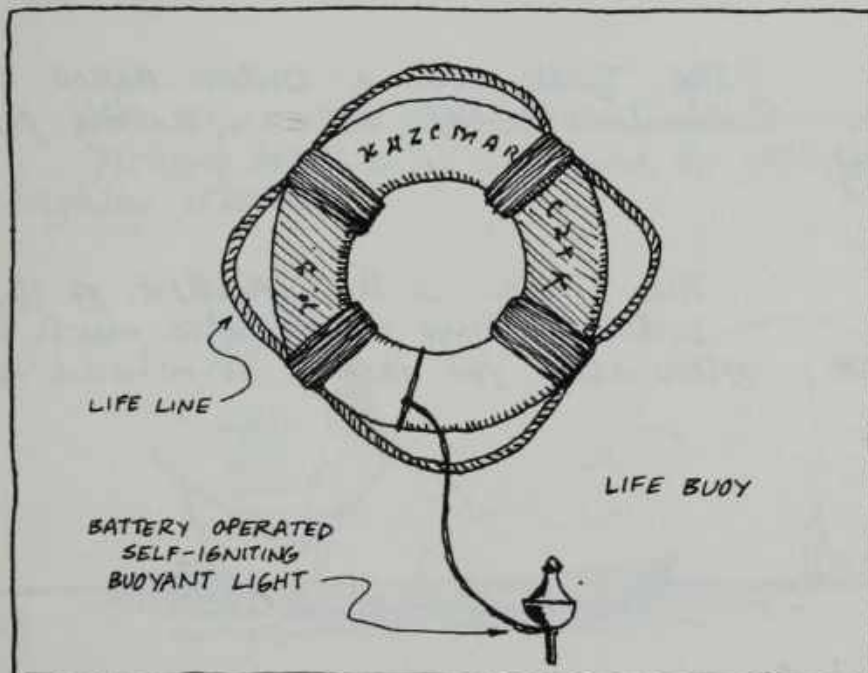
Press Tenders were small boats commanded by a lieutenant in the Royal Navy for collecting and delivering impressed men for naval service.

TEPUKEI .              see CANOE

THAMAKAU .            see CANOE

THAMES BARGE .      see BARGE

TOPSAIL BARGE .      see BARGE

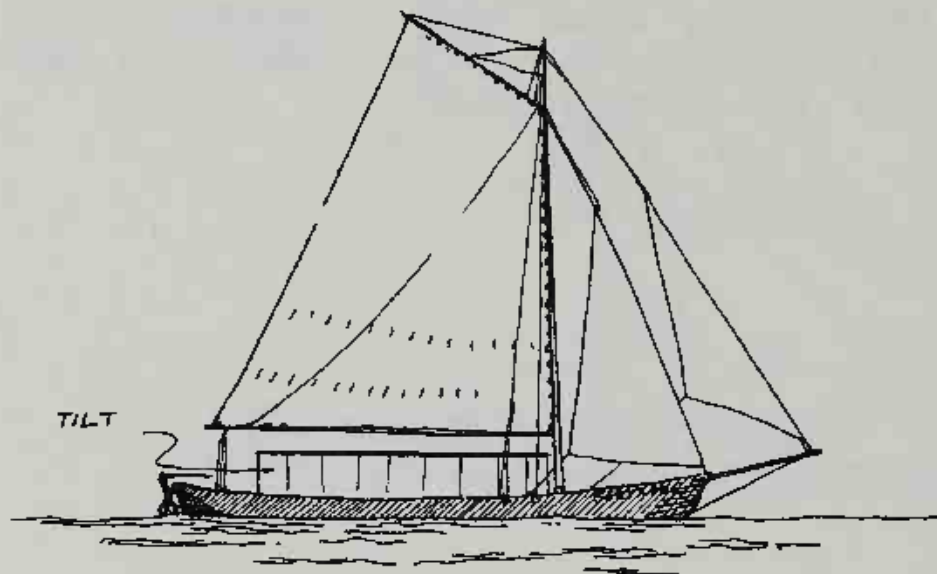


## TILT BOAT

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### TILT BOAT

Before being supplanted by steamers, Tilt Boats were the common English east coast FERRY, carrying passengers between London and such places as Margate and Ramsgate. They got their name from the awning or 'tilt' used to shelter deck passengers.



### TJALK

17th century.

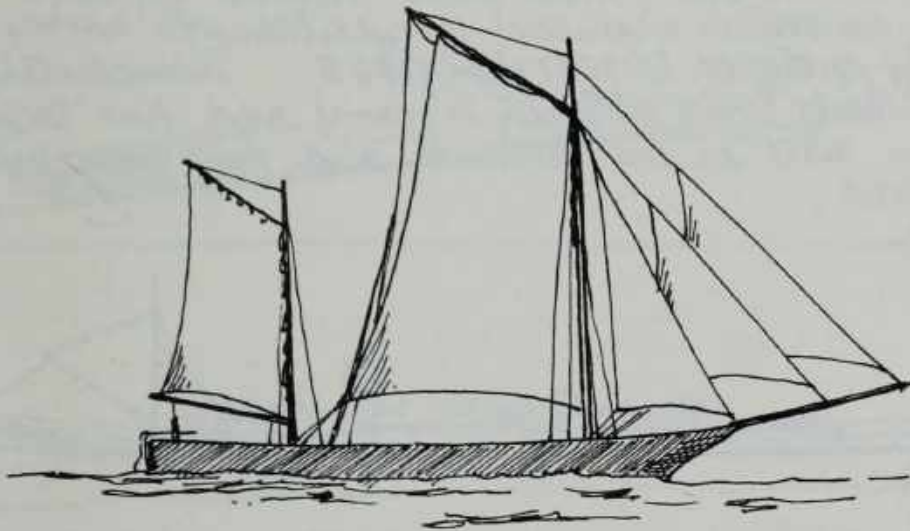
The Tjalk was a Dutch BARGE-type vessel, similar to the BOEIER, dating from the

### TJOTTER

The Tjotter is the smallest of the traditional Dutch sailing craft, also much like a very small BOEIER, often used for racing in inland waters.

**TONGKANG**

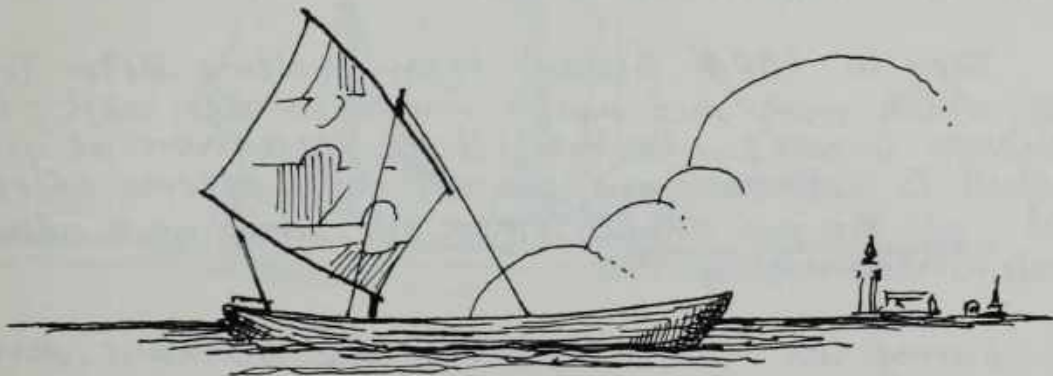
The Tongkang is a large, open vessel, used for transporting logs from the East Indies to Singapore. KETCH-rigged, it is a kind of LIGHTER



**TONY.**      see CANOE

**TOPO**

The Topo is a flat-bottomed, double-ended small fishing boat once common in Venice. The sail was often brightly colored.

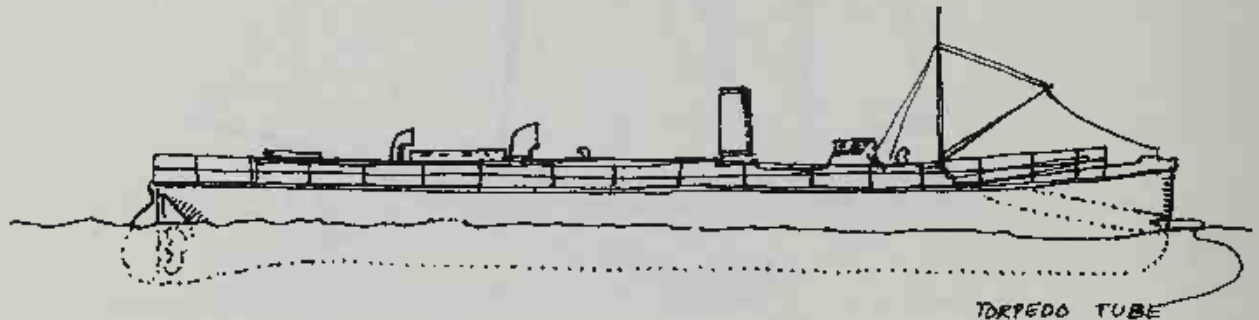


## TOPSAIL SCHOONER.

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TOPSAIL SCHOONER.      SEE SCHOONER

**TORPEDO BOAT :**      Torpedo Boats are naval vessels that attack with torpedos, which are essentially unmanned, underwater, steerable explosives. Robert Whitehead, an English engineer, is credited with having first successfully developed torpedos in 1868. Immediately thereupon boats were designed to carry and fire torpedos, at first from tubes on the foredeck and then from tubes built into the bows.



19TH CENTURY TORPEDO BOAT

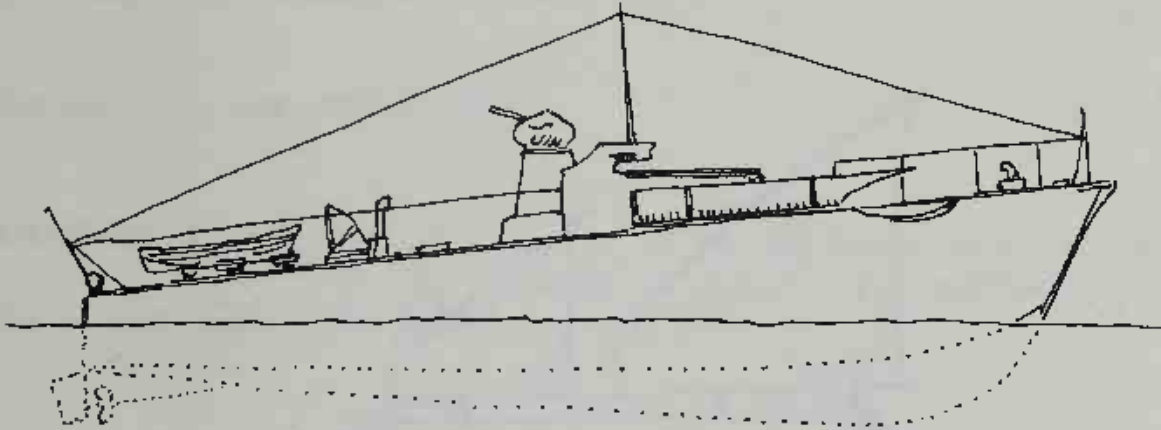
### - MOTOR TORPEDO BOAT (M.T.B., E-BOAT)

As the various naval powers strove to keep pace with one another, the TORPEDO BOATS quickly grew in speed, size, and armament until they turned into DESTROYERS by 1900.

Then in 1904 Britain began building Motor Torpedo Boats, which were once again much smaller craft, to discharge torpedos. However, these boats were at first attached to CRUISERS and did not really become effective until, at the end of World War one they were allowed to operate independently.

During the Second World War the Germans developed

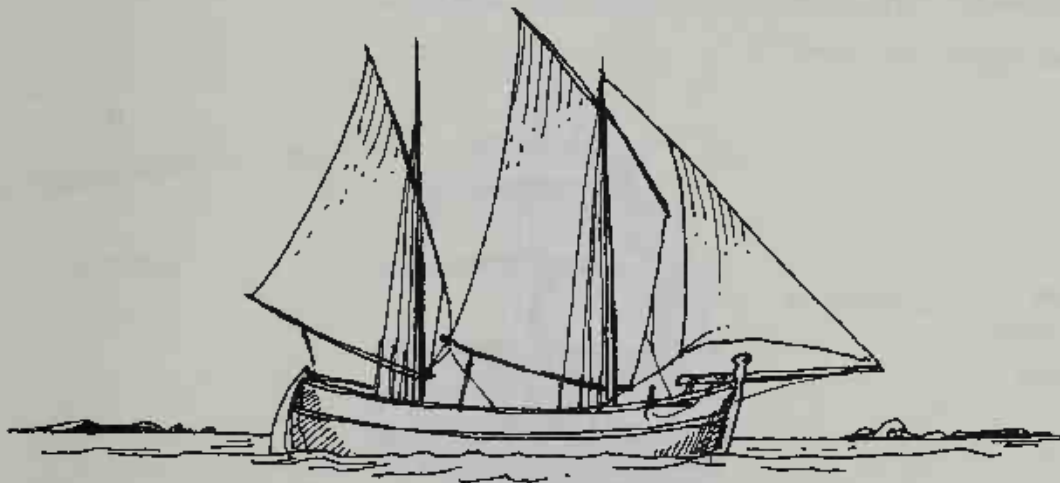
the Schnellboot, which was called the E-Boat by the British and Americans. Both the M.T.B. (Motor Torpedo Boat) and E-Boat were very fast, being capable of more than 40 knots.



BRITISH MOTOR TORPEDO BOAT 1945

**TRABACOLA or TRABACCOLO**

The Trabacola was a medium size Adriatic coasting vessel of the 17th to 19th centuries. Built in Venice, they carried cargo and occasionally troops.

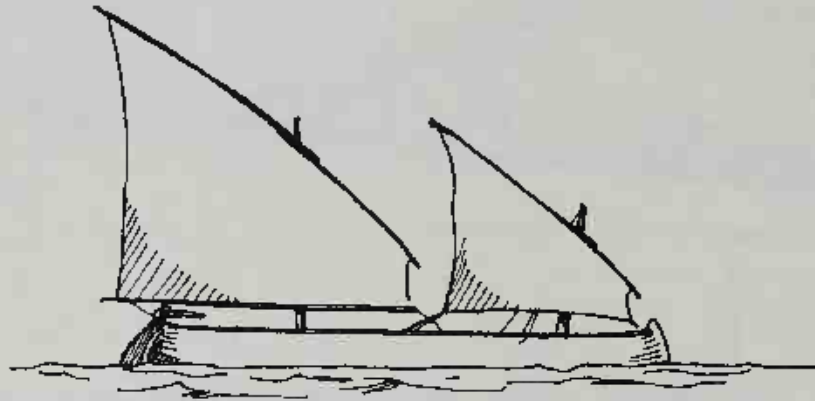


## TRABACOTO

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### TRABACOTO

The Trabacoto, popular in the 17<sup>th</sup> century, was a small fishing boat from southern Europe, and is thought to have developed from the GALLEY. Its settee sails were often brightly colored.

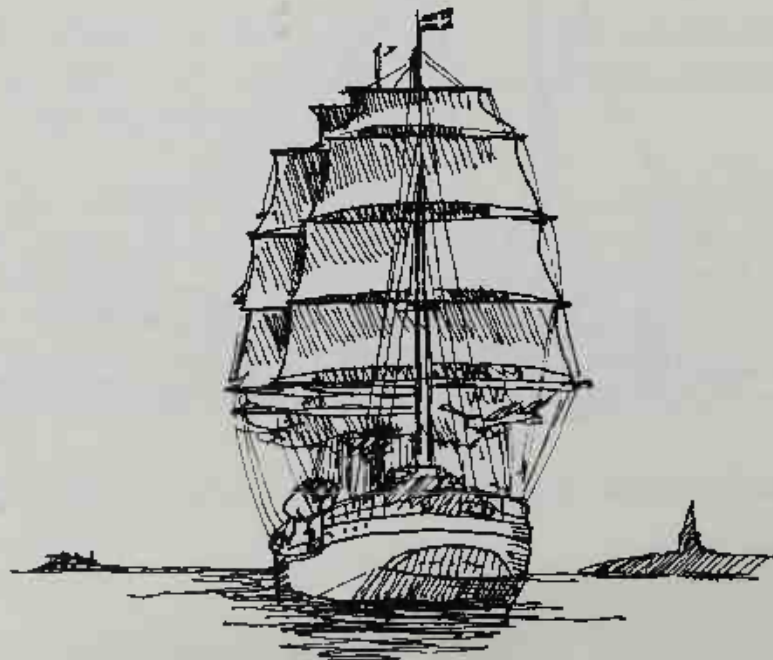


TRAIN FERRY.      SEE FERRY BOAT

### TRAINING SHIP

Training ships may be any sailing ship, from a BARQUE to a BRIG, maintained by governments for training future sailors.

THE DANISH  
TRAINING SHIP  
Danmark





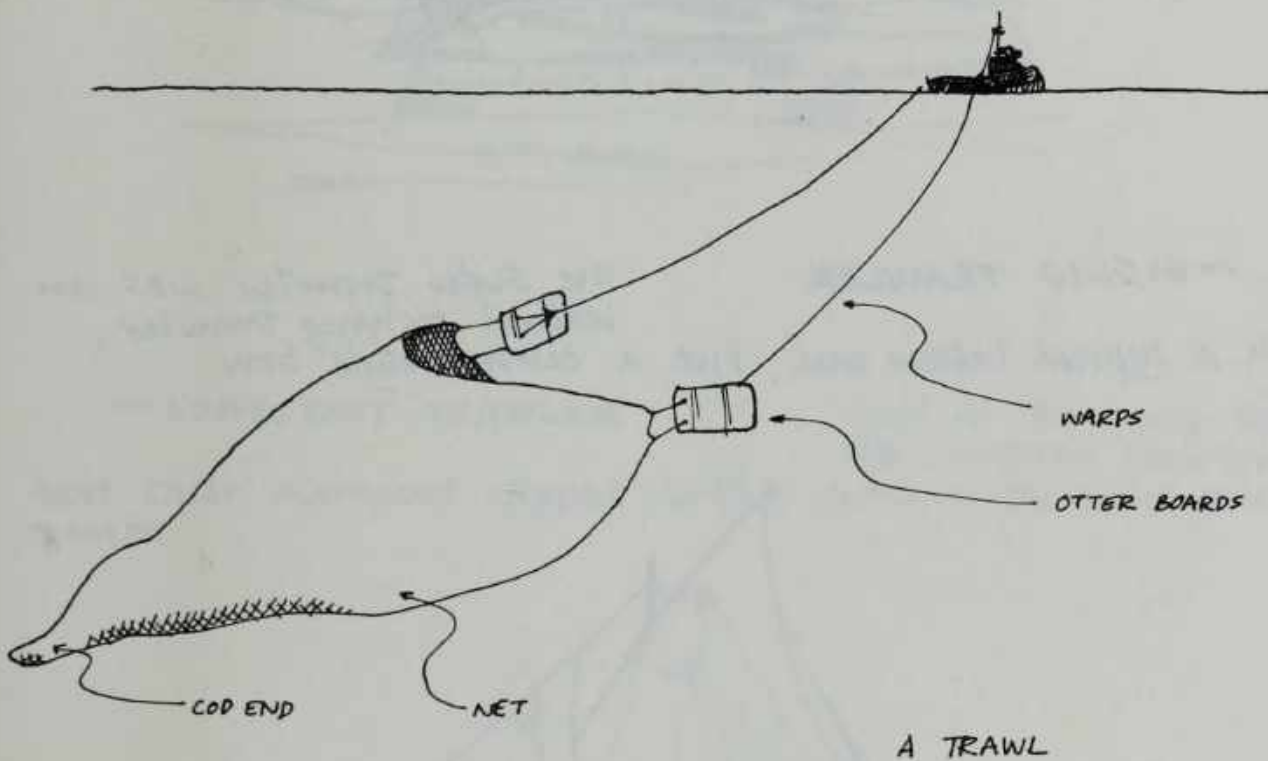
**TRANSPORT SHIP (TROOPSHIP)**

Transports or Troopships were ships engaged in transporting troops overseas. Originally naval vessels were used, later commercial LINERS, and nowadays mainly aircraft.

**TRAMP.** SEE CARGO SHIP

**TRAWLER :**

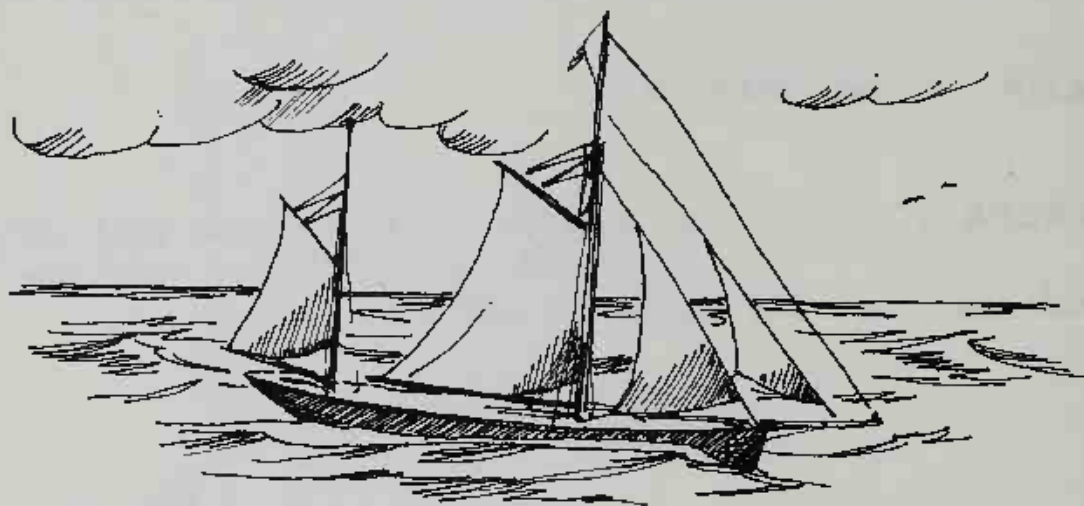
A Trawler is a fishing boat designed to operate a trawl for catching fish which lie near the bottom of the sea.



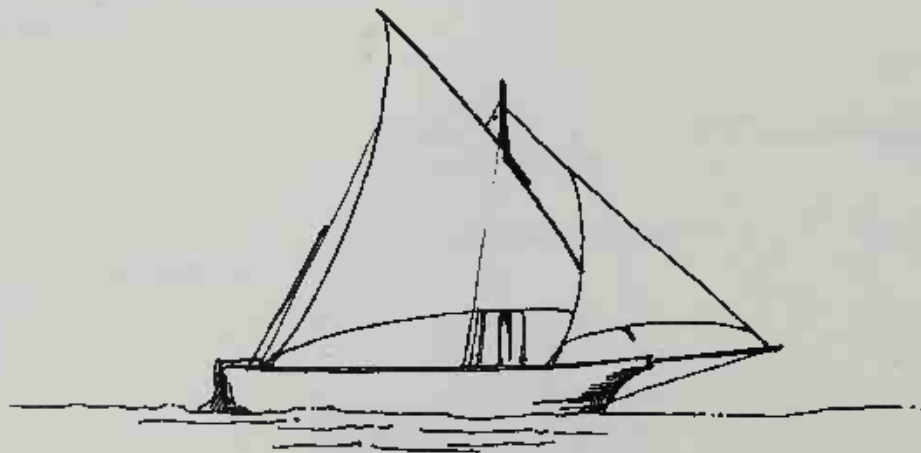
TRAWLER / Brixham Trawler

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- **BRIXHAM TRAWLER**      Brixham trawlers were large  
KETCH-rigged boats, very good  
in heavy weather, which worked from Brixham in southern  
England.

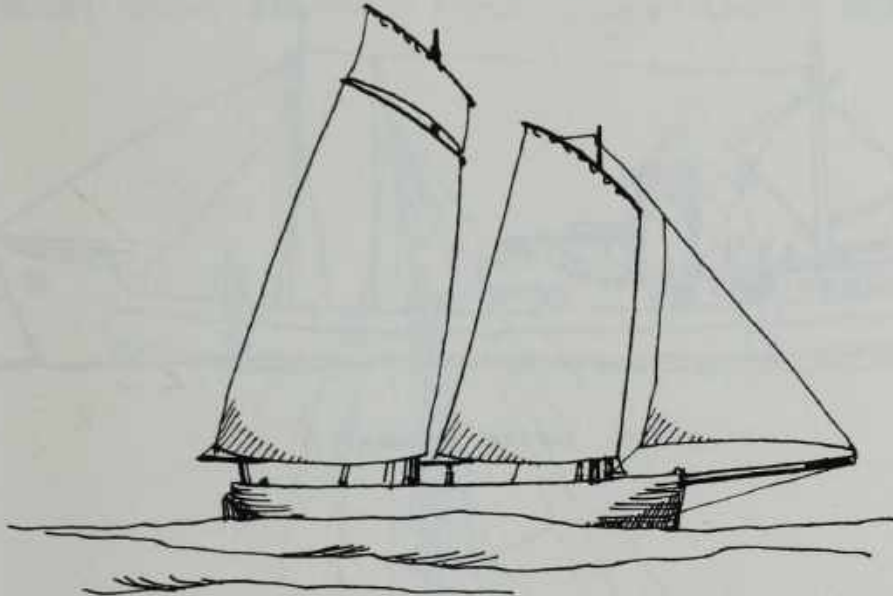


- **GIGLIO TRAWLER**      The Giglio trawler was an  
Italian fishing trawler,  
with a typical lateen sail, but a CLIPPER-style bow.



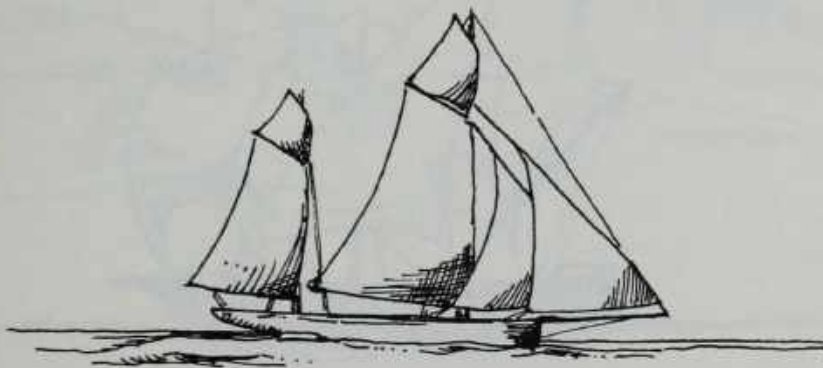
- HAVRE TRAWLER

The Havre Trawler was a double-ended lug-rigged Trawler used from the French port of Le Havre.



~ LOWESTOFT TRAWLER

Used in the North Sea, the Lowestoft Trawlers have their mainmast stepped further forward than the BRIXHAM TRAWLER.

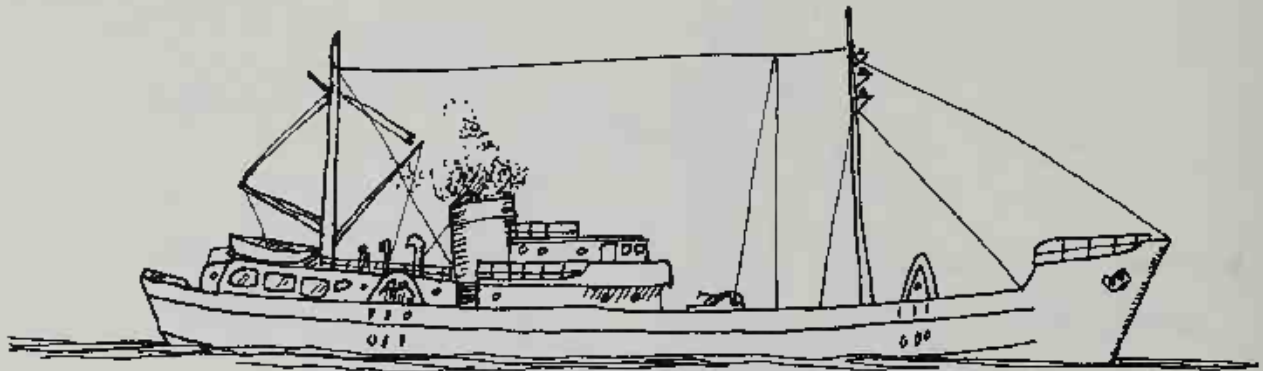


TRAWLER / Motor Trawler

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- MOTOR TRAWLER

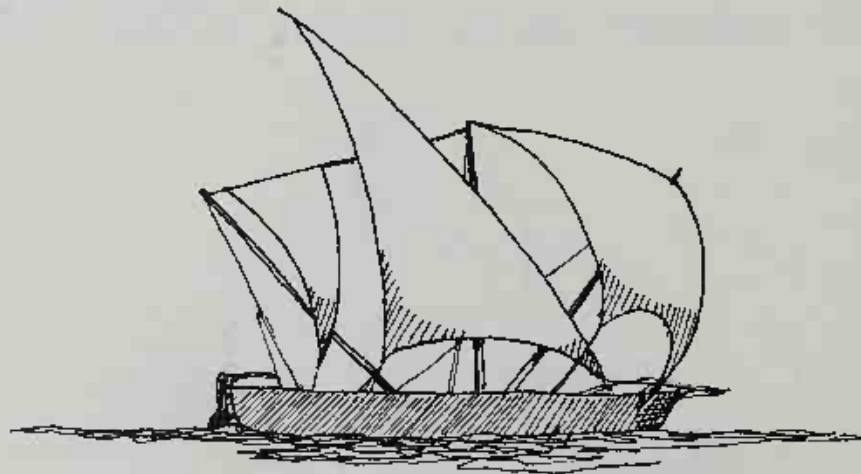
The days of the various sailing trawlers are gone now, and motor trawlers have taken their place. They are now very sophisticated vessels and often travel thousands of miles to their catch.



BRITISH MOTOR TRAWLER

- NAPLES TRAWLER

Used in the Bay of Naples, the Naples trawler, which is lateen-rigged, set various odd sails in the right weather like other Tuscan and Portuguese craft.



**TRIMARAN**

A trimaran is a form of MULTI-HULL, and as such is a development of the CATAMARAN (d). Trimarans have a central hull and a float on both sides. They are used mainly as ocean YACHTS for racing or cruising. Their lightness and extreme stability make them much faster than similar sized single-hulled boats.

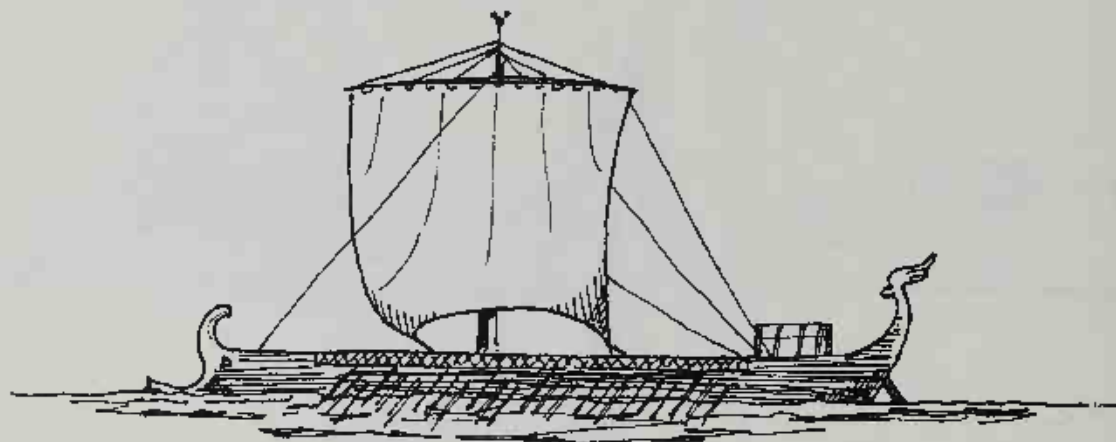


OCEAN-GOING TRIMARAN

## TRIREME

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**TRIREME** The Trireme was a Mediterranean war GALLEY, common from Roman times to the 12th century. There is some confusion as to whether Trireme meant three banks of rowers or three rowers to each oar, the former being the most commonly accepted idea.



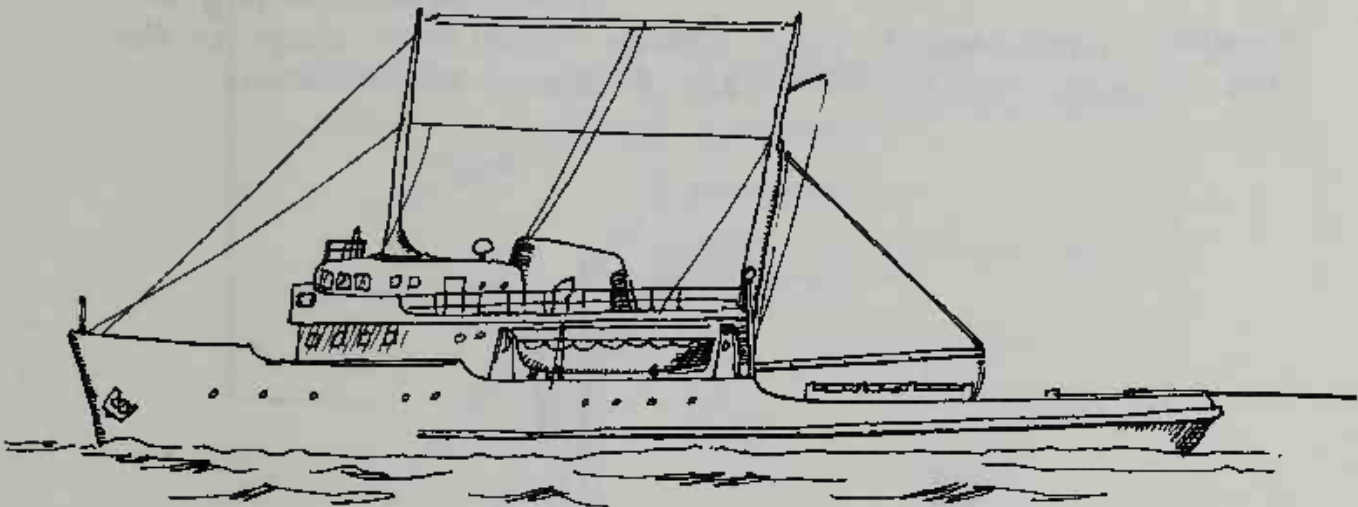
**TROOPSHIP.**      see TRANSPORT

**TSUKPIN.**      see PROA

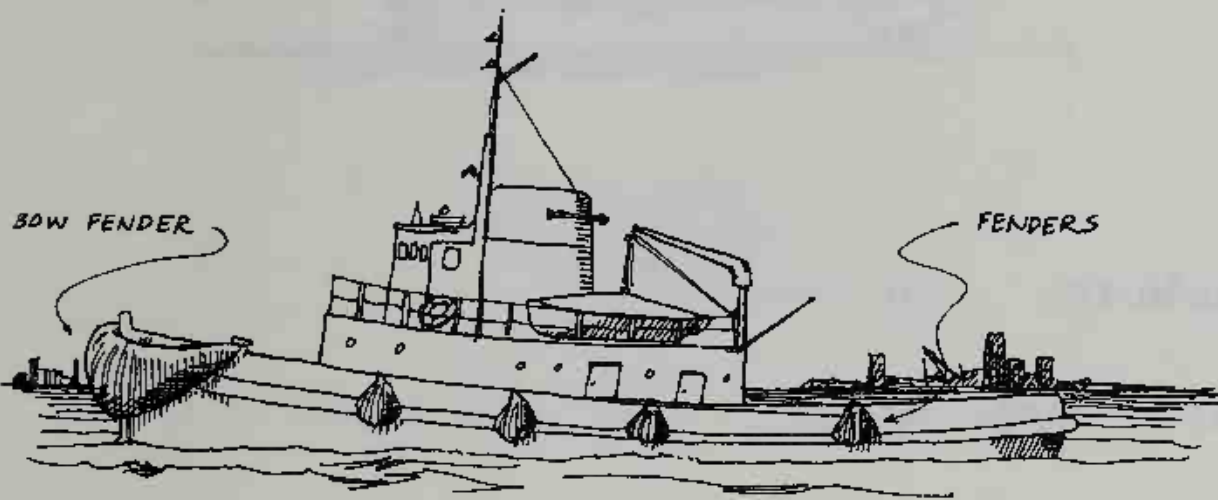
**TUG**      Tugs, originally known as tug-boats, came into existence after the development of steam power, in the early 19th century.

Although, as the name implies, Tugs pull other vessels, some types, such as the New York Harbor Tugs, are designed to push, and are consequently built with large bow fenders.

There are basically two types of Tugs, illustrated opposite, Ocean-going and Harbor Tugs.



OCEAN-GOING TUG



HARBOR TUG

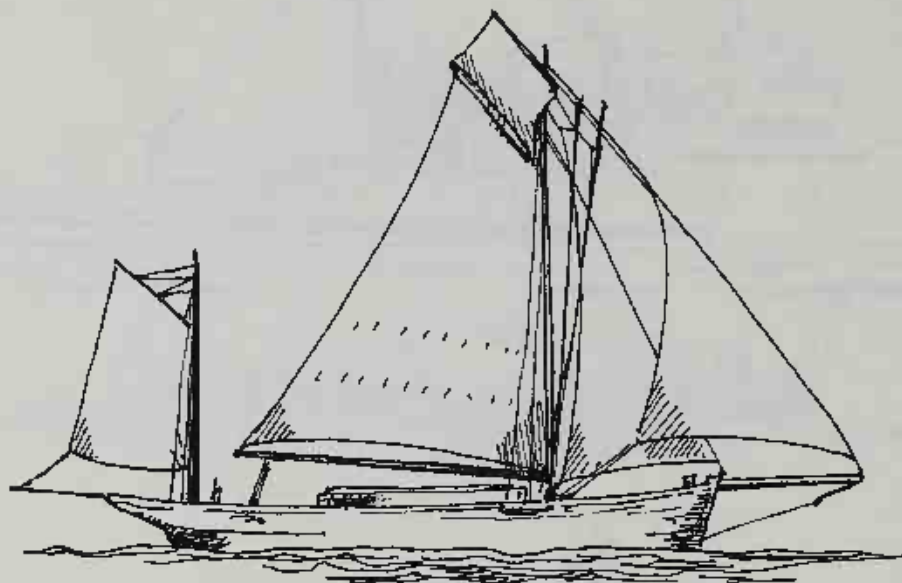
TUNA CLIPPER.      SEE PURSEINER.

## TUNNY FISHERMAN

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### TUNNY FISHERMAN

In the days before PURSEINERS, Tuna, called Tunny in Europe, was caught from Tunny Fisherman such as the YAWL - rigged French boat from Brittany shown below.



**TUINGUTO.**      SEE CANOE

**TURRET DECK VESSEL.**      SEE CARGO SHIP

### TURUMA

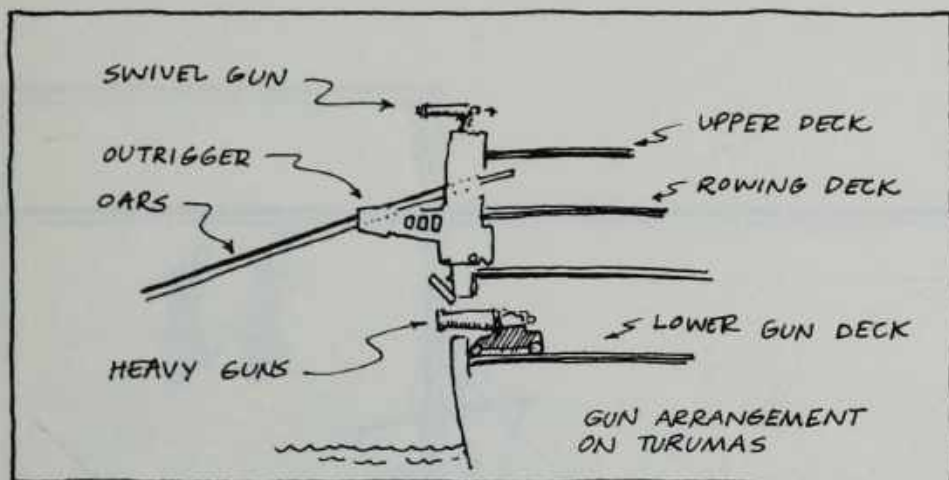
The Turuma was a Swedish vessel, built around 1775, related to the HEMMEMA, the POJAMA, and the UDEMA. They were all combinations of the GALLEY and the MAN-OF-WAR.

The Turuma had twenty-four heavy guns below the oar outriggers and twenty-four swivel guns mounted above the oar outriggers.



TWAKO

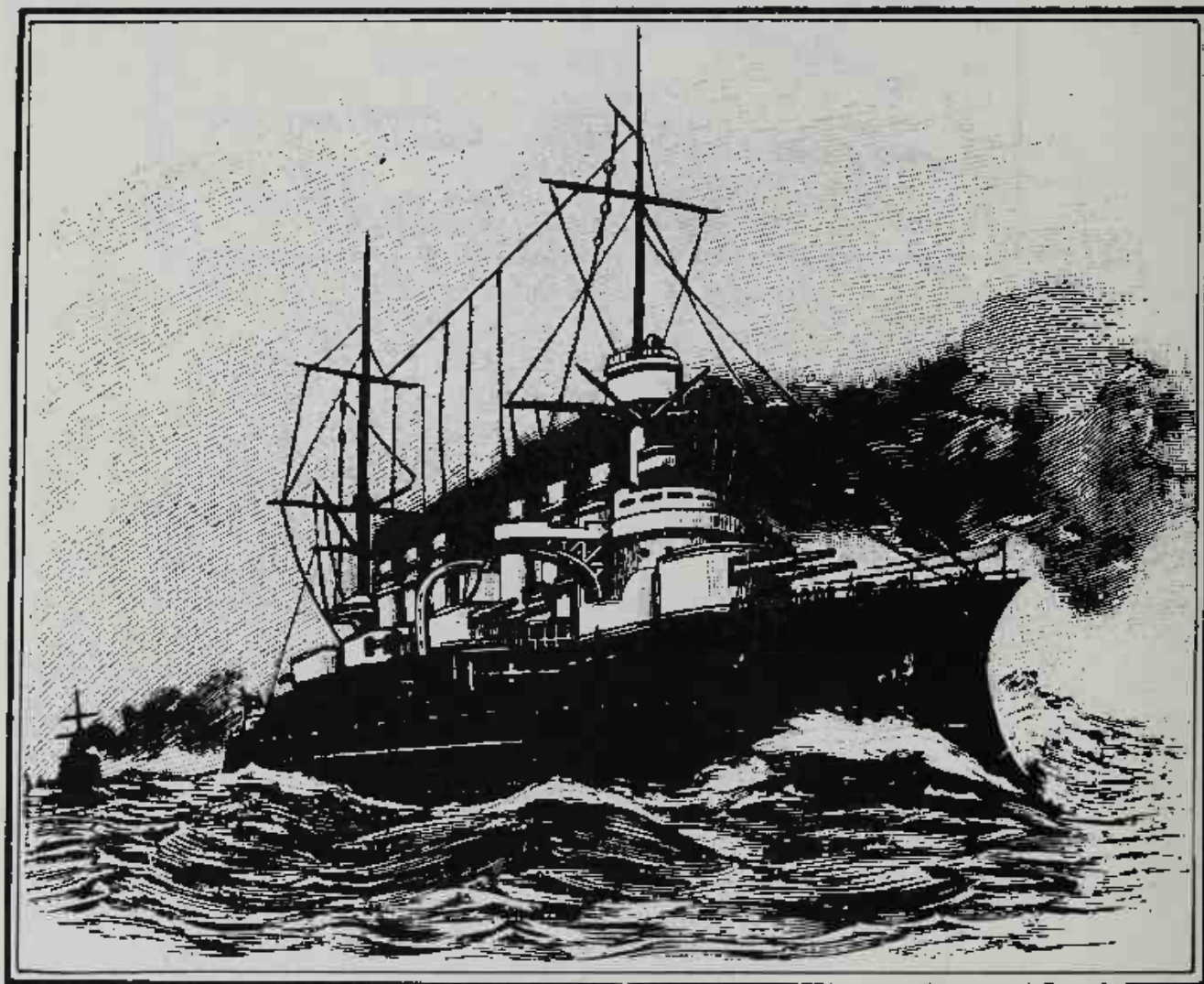
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TWAKO or TWAQO.      see JUNK

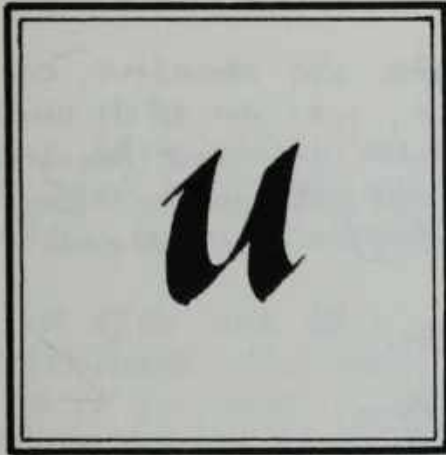
TYNE KEEL.      see KEEL





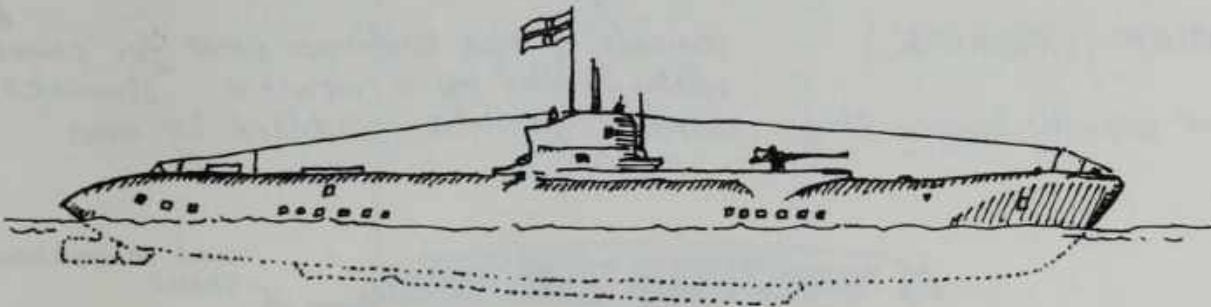
A FRENCH BATTLESHIP OF THE EARLY 1900'S

*a contemporary engraving*



### U-BOAT

U-Boat was the term used by the allies in the Second World War to designate all enemy SUBMARINES (the allies' vessels being called SUBMARINES). The term actually stands for 'Unterseeboot', the German word for SUBMARINE.



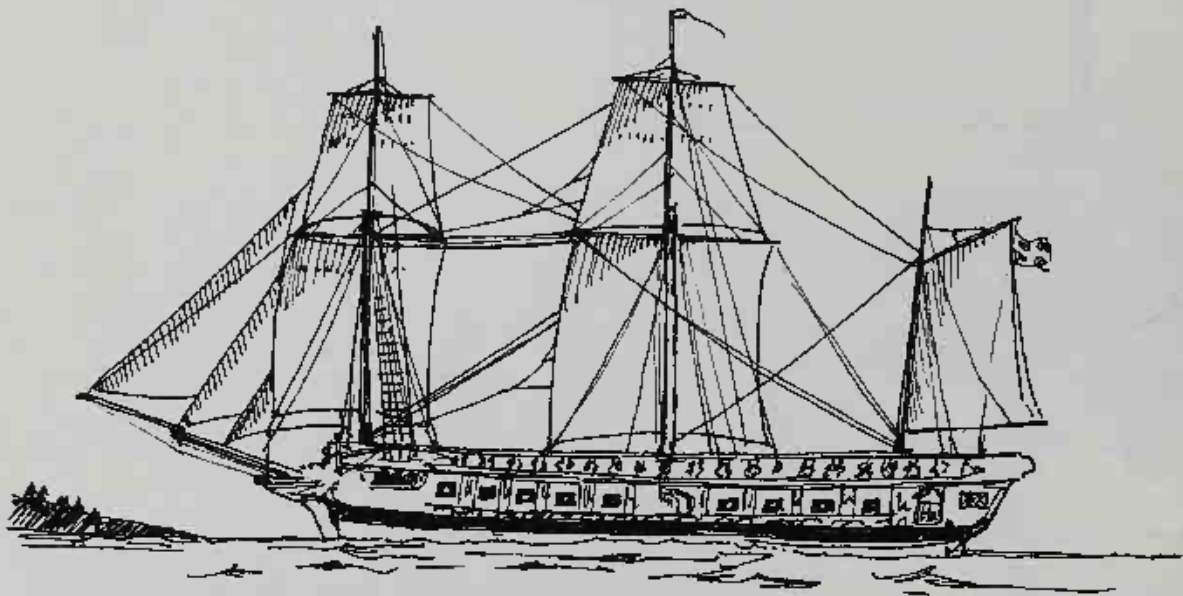
A WORLD WAR I GERMAN U-BOAT ON THE SURFACE

UCHE

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UCHE .      SEE CANOE

**UDEMA**      The Udema, like the HEMMEMA, the POSAMA, and the TURUMA, was an 18th century Swedish development of the GALLEY. Nine heavy guns were mounted along the centerline of the side so that they could be fired to either side over the outriggers for the oars.



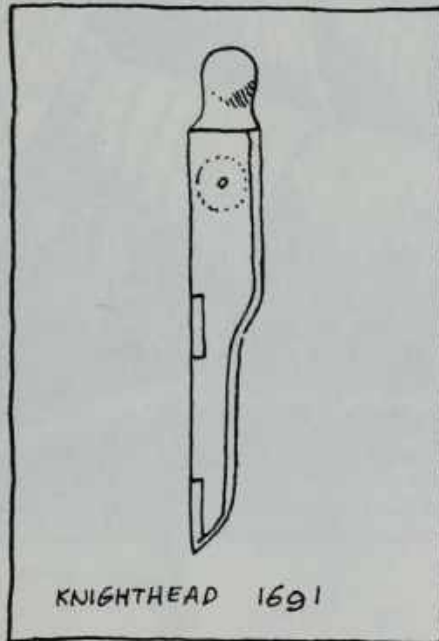
**UMIAK (OOMIAK)**      Umiaak is the Eskimo word for CANOE when paddled by a woman. Umiaaks are usually larger than KAYAKS, which are paddled by men.

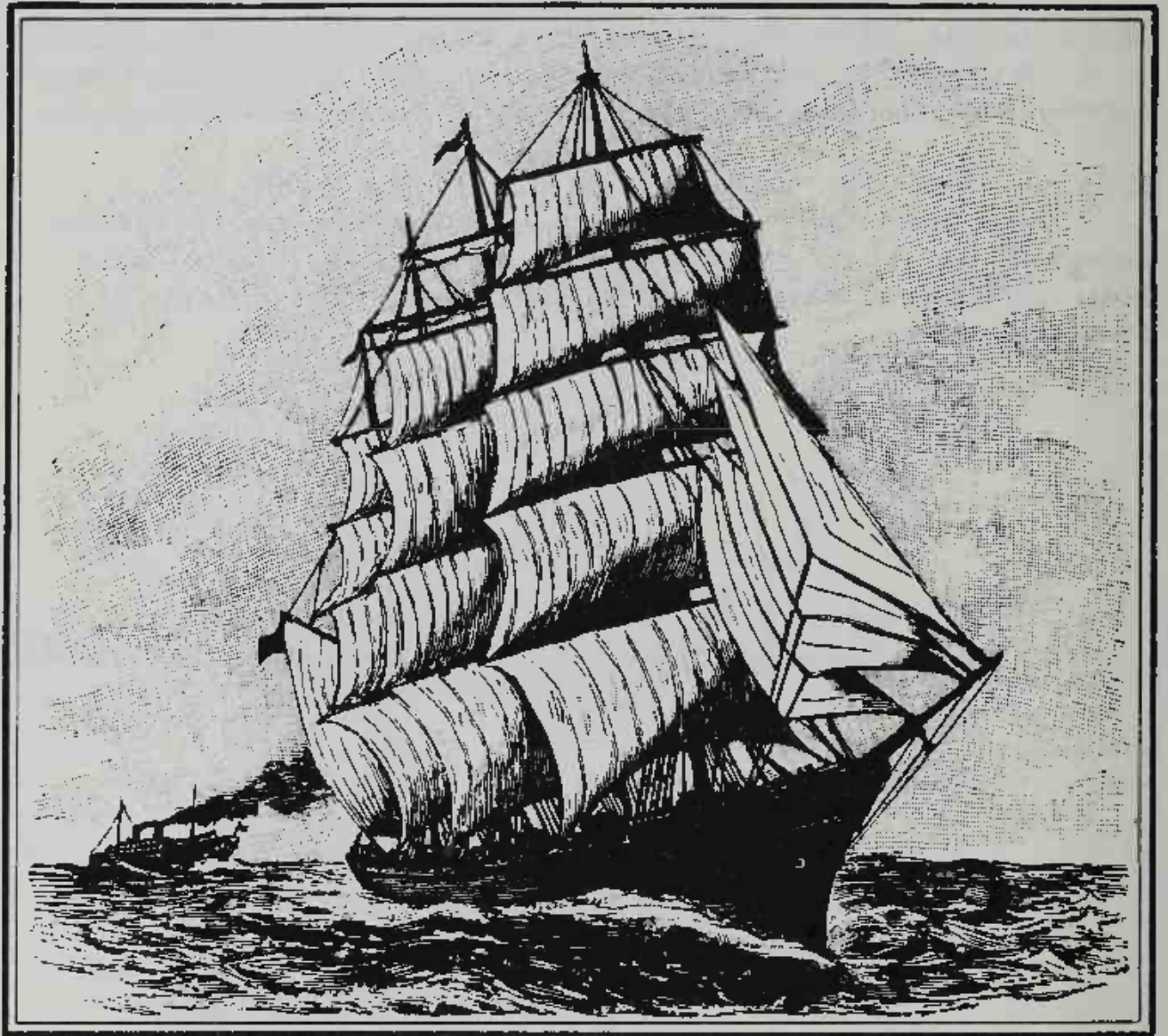


UNA BOAT.     see CAT BOAT

## URCA

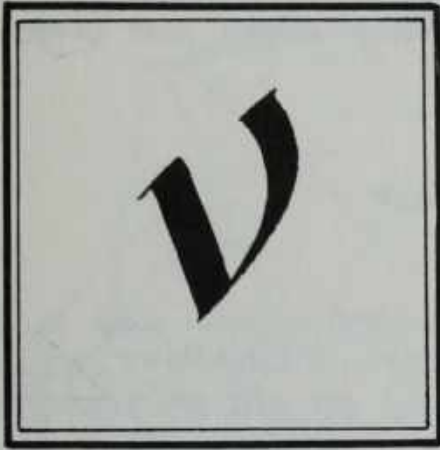
- a. In the 16th century an Urca was a Spanish ship, similar to a small GALLEON, which was only lightly armed and mainly used to transport stores, chiefly in the Mediterranean.
- b. In the 17th and 18th centuries an Urca was a flat-bottomed, very high-sterned boat of about 300 tons, carrying six or so guns. These Urças, which would have been called FLY-BOATS by the Dutch, were used chiefly as DISPATCH BOATS.





A CLIPPER SHIP

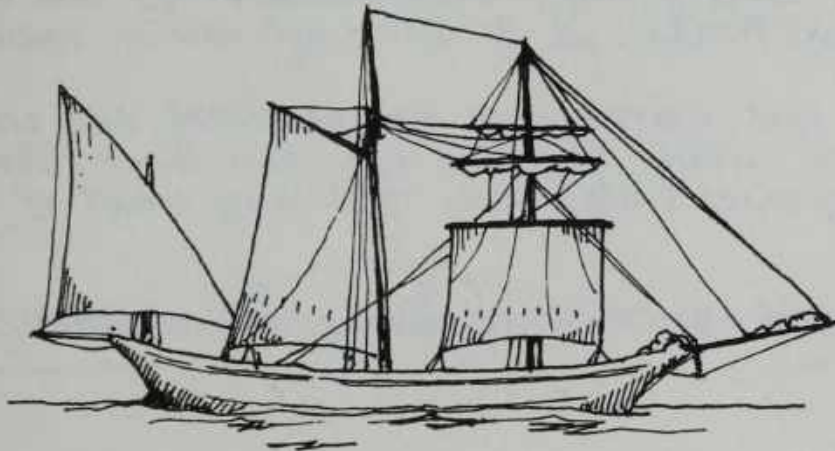
*early 20th century french engraving*



**VAKA.**      *SEE CANOE*

**VANAGI.**      *SEE CANOE*

**VELOCERA**      *The Velocera is an Italian coasting vessel distinguished by sometimes being rigged with all three major rigs: square, fore-and-aft, and lateen.*



## VESSEL

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**VESSEL** A vessel is a CRAFT or SHIP of any kind, but usually larger than a ROWING BOAT and often restricted in meaning to something which plies larger rivers and lakes and the sea.

**VICTORY SHIP.** SEE CARGO SHIP

**VICTUALLER** In the days before much was known of food preservation, Victuallers, which were usually merchant ships taken up for the purpose, were required to accompany or supply ships in time of war or on long cruises.

In the case of long voyages, the Victuallers would often be broken up when they had delivered their stores, as was the case at the Straits of Magellan on Drake's first voyage around the world in 1577.

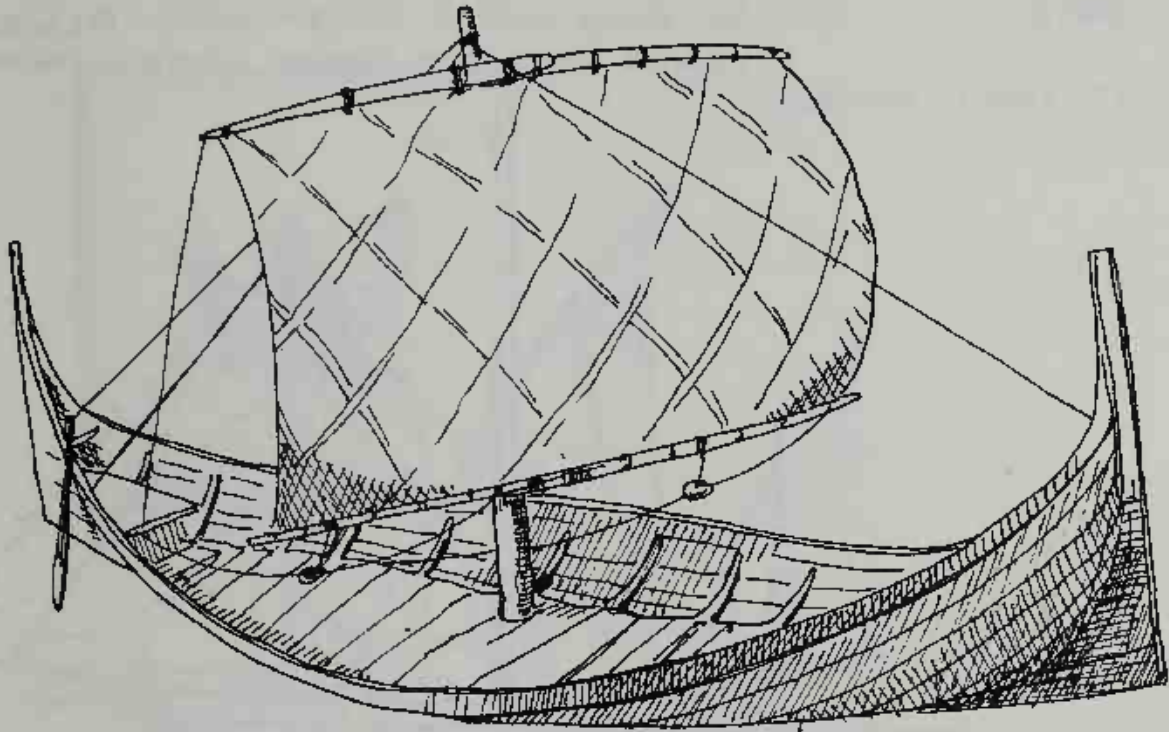
**VIKING SHIP :** There are rock carvings of Scandinavian boats which date from 2000 B.C. and which show features similar to later Viking ships, e.g. curved ends and carved animal heads.

By the time of the Vikings (600-1,000 A.D.) there were several distinct types, examples of which have been preserved, such as the Oseberg Ship, the Gokstad Ship, and the Nydam and Kvalsund Boats, all of which are now in museums.

Karvs and Knorts were Merchantmen and coastal trading vessels, which ranged in size from ten- or fifteen-oared boats up to thirty-oared boats, which could carry crews of two hundred.

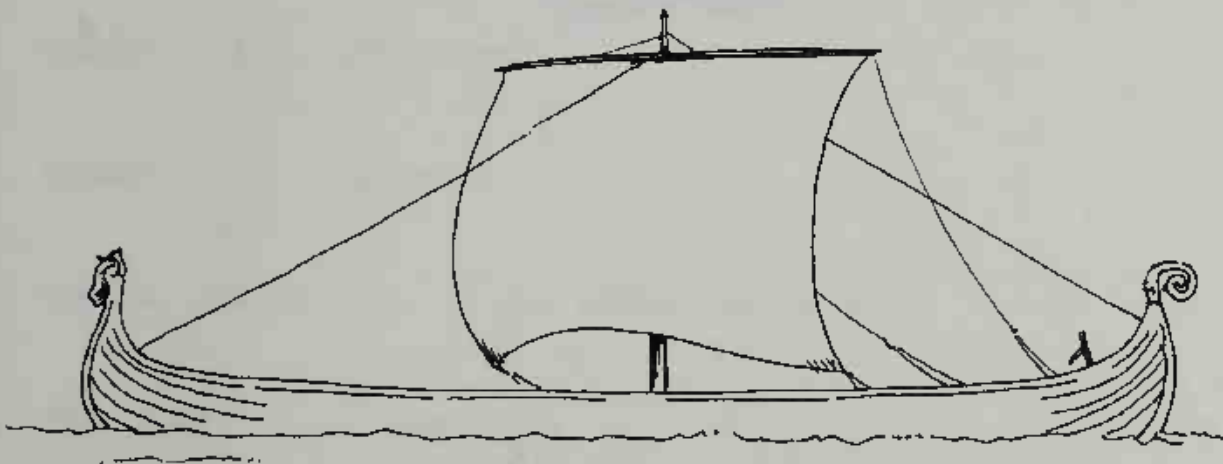
A typical 8th century Viking Merchantman is shown opposite.





~ LONGSHIP

The Longship or Drekkir (see DRAGON) was the Norse or Viking GALLEY used for raiding and war purposes. These ships pulled up to eighty oars and traveled as far as Greenland and North America.

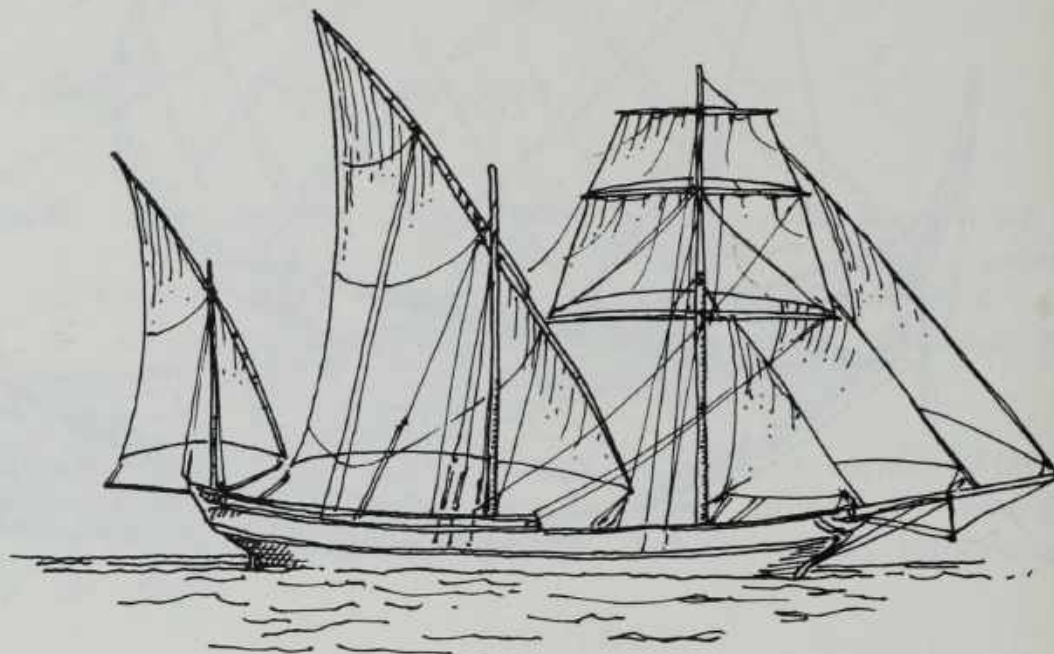


VINCO

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VINCO

The Vinco was a three-masted POLACRE-rigged ship from Genoa, Italy, common in the 19th century.





WA.           SEE CANOE

WA'A.           SEE CANOE

WAGA.           SEE CANOE

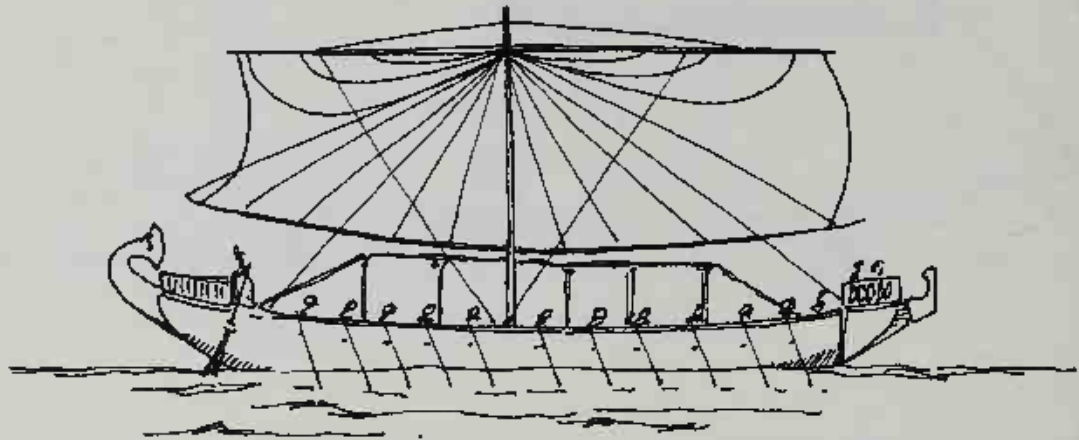
WAKA.           SEE CANOE

WAKA TAU.           SEE CANOE, MAORI WAR

WA LAP.           SEE PROA

**WARSHIPS (MAN-OF-WAR, SHIP-OF-THE-LINE) :** The term  
Warship  
in its most general sense means any ship or vessel either designed for or employed in war.

Until approximately 1000 B.C., it would appear from such evidence as is available that EGYPTIAN CRAFT (the earliest ships of which we have any record) were single-design vessels, the same vessel being used for war, commerce, or pleasure.



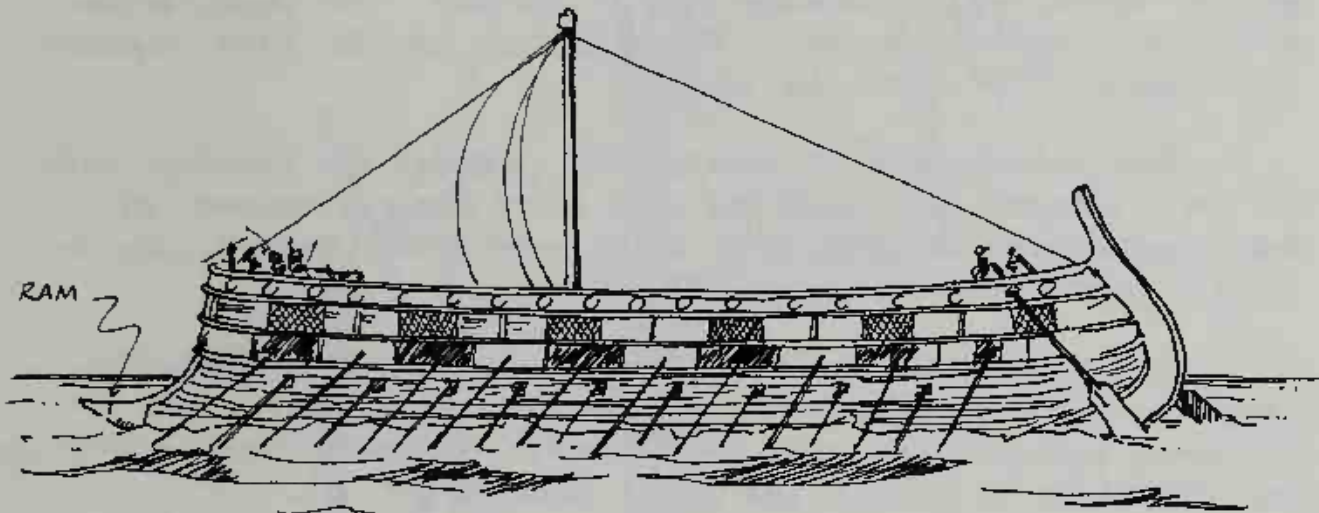
EGYPTIAN SHIP CIRCA 1500 B.C.

For the next two or three thousand years Warships were chiefly GALLEYS. It was the Phoenicians who developed the war GALLEY, presumably from earlier EGYPTIAN CRAFT.

The war GALLEY was rowed by banks of rowers, and had as its main weapon a pointed ram at or just below the water level which was used to sink enemy vessels. Fighting was done by archers and stone slingers.

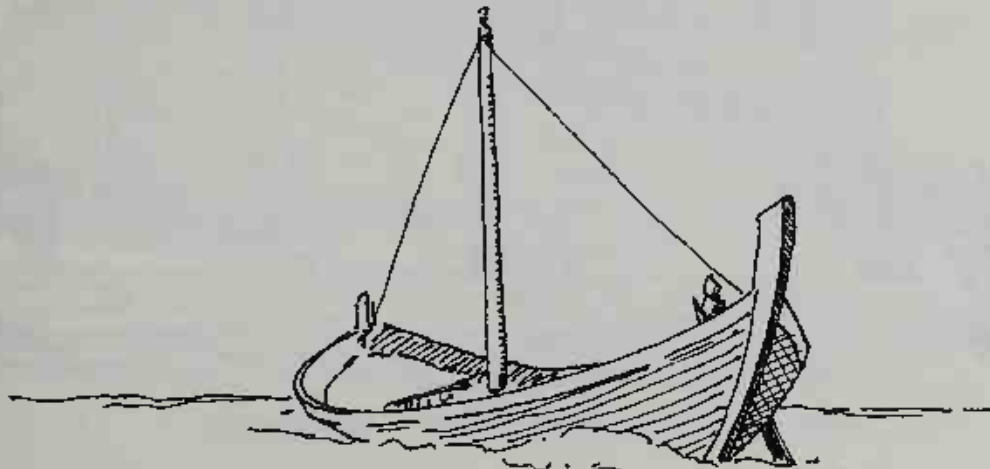
War GALLEYS increased in size under the Carthaginians, the Greeks, and the Romans; and various types, such as BIREMES,

TRIEMES, and QUADRIEMES, etc. were developed.



PHOENICIAN WAR GALLEY 400 B.C.

GALLEYS as warships lasted well into the 18th century in the Mediterranean but had virtually disappeared in northern seas by 1000 A.D., the last practical examples (except for a few odd hybrids such as the ROSAMA and the CONTINENTAL GALLEY) being the VIKING LONGSHIPS. These ships, being also sailed, were not strictly GALLEYS, although the oar was the main means of propulsion. VIKING LONGSHIPS had no ram.



VIKING LONGSHIP 1000 A.D.

## WARSHIPS

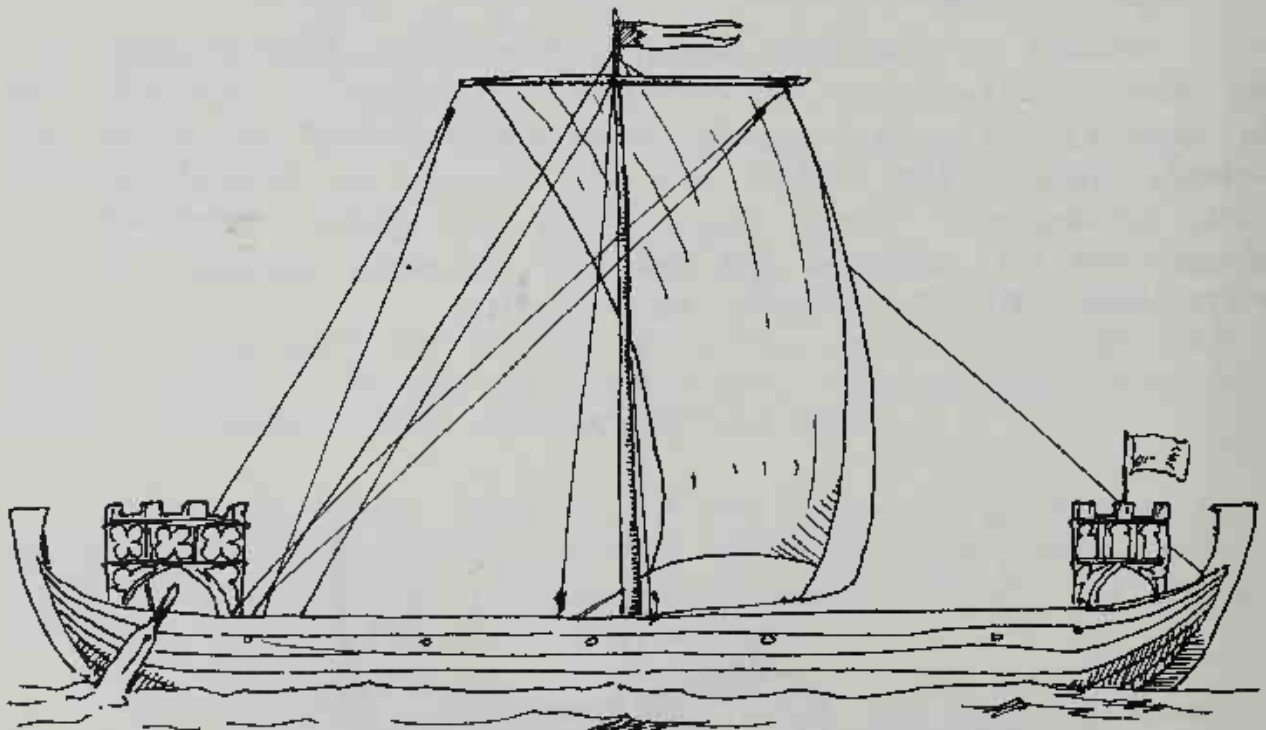
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While GALLEYS, and their relations, GALLEASSES, reigned supreme as Warships in the Mediterranean, the sailing Warship of the north was relatively slow to develop. At first, when ships were needed for war, the practice was to hire regular merchant ships for the occasion.

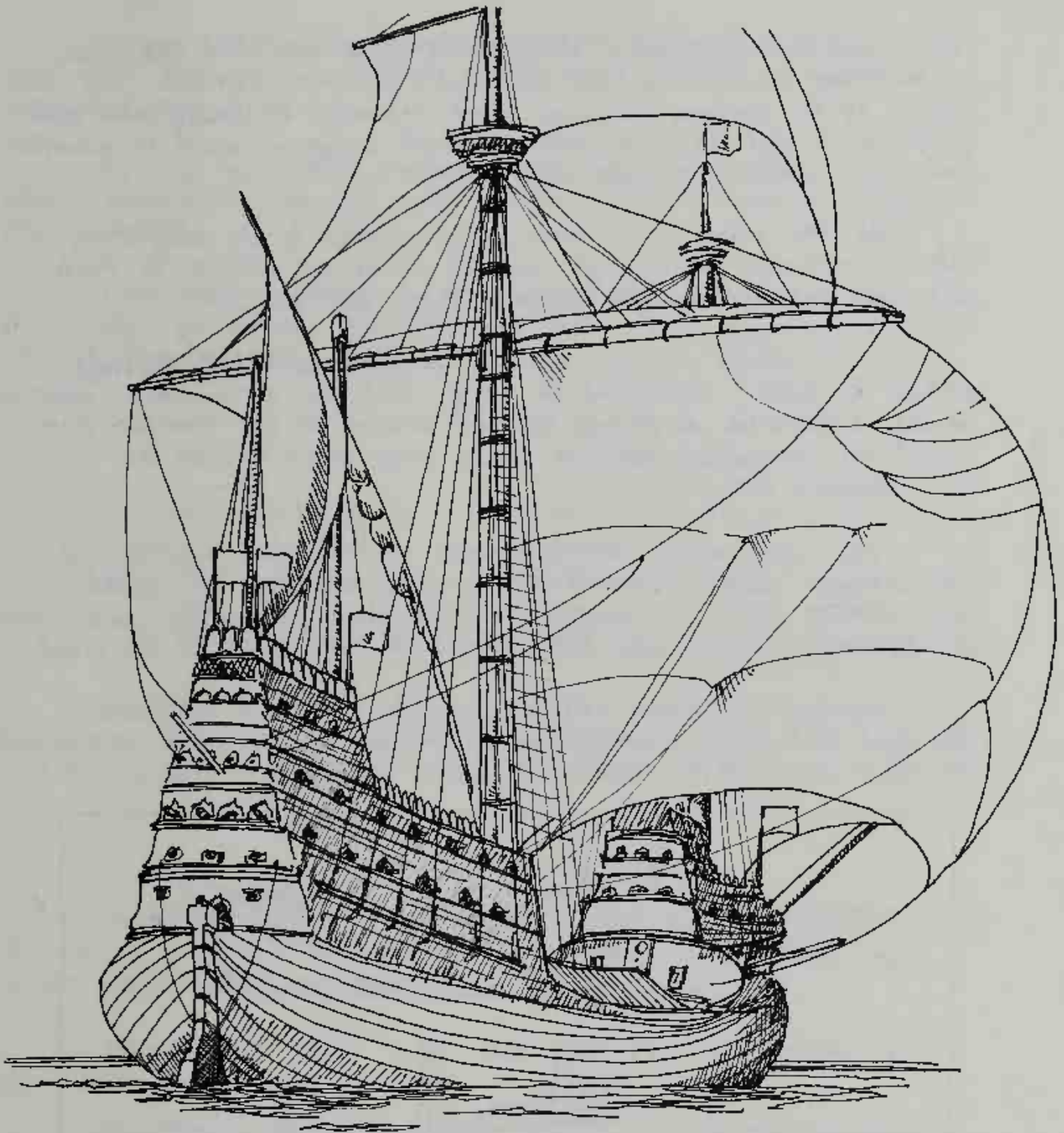
The introduction of gunpowder provided the Warship with its own weapon, and made the ship more than a means of transportation. Consequently, ships were built specifically to carry guns.

At first, these early Warships had low freeboard, and guns mounted on platforms in the bow and stern. But as the guns increased in size and number it was found necessary, for stability, to mount the guns amidships.

This led to the building of ships with high castles in the bow and stern to provide a better field of fire for small guns and muskets, and also to provide protection against boarders attempting to enter the ship by the low waist.



13TH CENTURY ENGLISH WARSHIP WITH CASTLES



1520 PORTUGUESE MAN-OF-WAR *Santa Catarina do Monte Sinai*  
REPRESENTING THE PEAK OF DEVELOPMENT OF 'HIGH-CHARGED  
SHIPS'

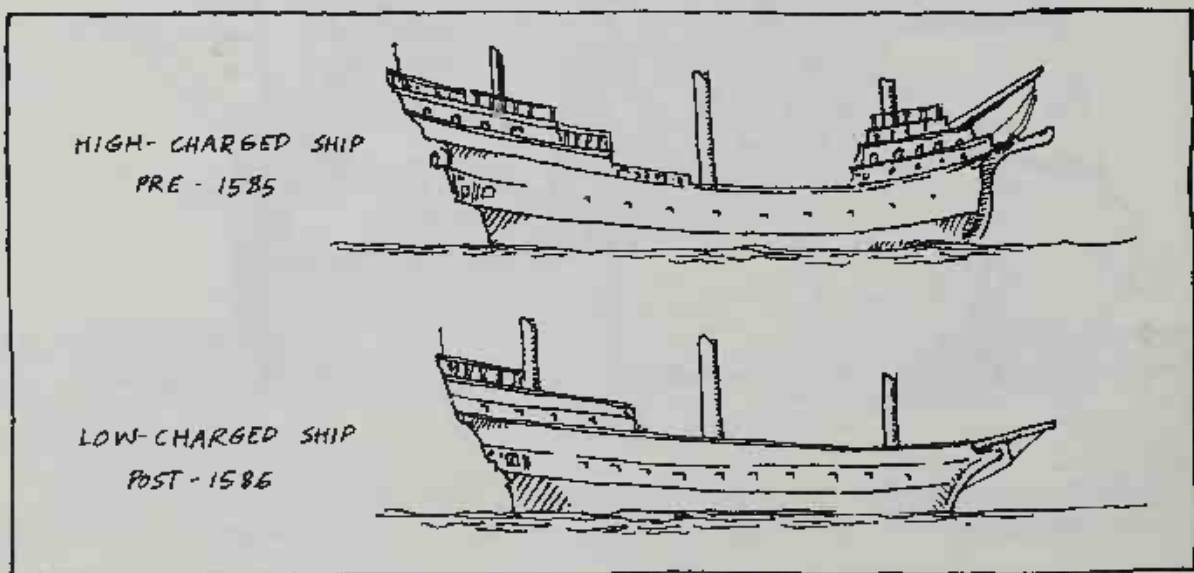
The two preceding illustrations show how far the idea of building castles in the bow and stern was carried. By the early 16<sup>th</sup> century cannon were mounted on board and gun-ports were cut in the sides so that cannon could be mounted on a gun deck below the upper deck.

At this point in history ships began to be fought by their own crews instead of merely carrying soldiers to fight, although musketeers still fought from the 'castles'.

Such ships as the famous English warship *Henry Grace à Dieu*, launched in 1514, and the Portuguese warship *Santa Catarina do Monte Sinai*, shown on the previous page, could now be called Men-of-War, and were known as HIGH-CHARGED SHIPS.

The next major development was the introduction of LOW-CHARGED SHIPS, designed by Sir John Hawkins in 1585. LOW-CHARGED SHIPS did away with the high forecastles and were consequently faster and better able to sail close to the wind.

Other maritime nations quickly followed England's lead and the basic warship design remained virtually unchanged for the next three hundred years, increasing only in size.





After Sir John Hawkins' innovative design in 1585, there was little change in warships except for a gradual increase in size and sail area.

By the mid-18th century most European nations classified their warships into six rates according to the number of guns they carried.

Lord Anson, during his first term\* as First Lord of the Admiralty, introduced the following rates: (The figures in brackets reflect the changes made in 1810.)

FIRST RATE :	100 (110) GUNS OR MORE
SECOND RATE :	84 (90) TO 100 (110) GUNS
THIRD RATE :	70 (80) TO 84 (90) GUNS
FOURTH RATE :	50 (60) TO 70 (80) GUNS
FIFTH RATE :	32 TO 50 (60) GUNS
SIXTH RATE :	ANY NUMBER OF GUNS UP TO 32

Ships of the first three rates were considered powerful enough to lie in the line of battle when fleets engaged battle, and were thus known as ships-of-the-Line.

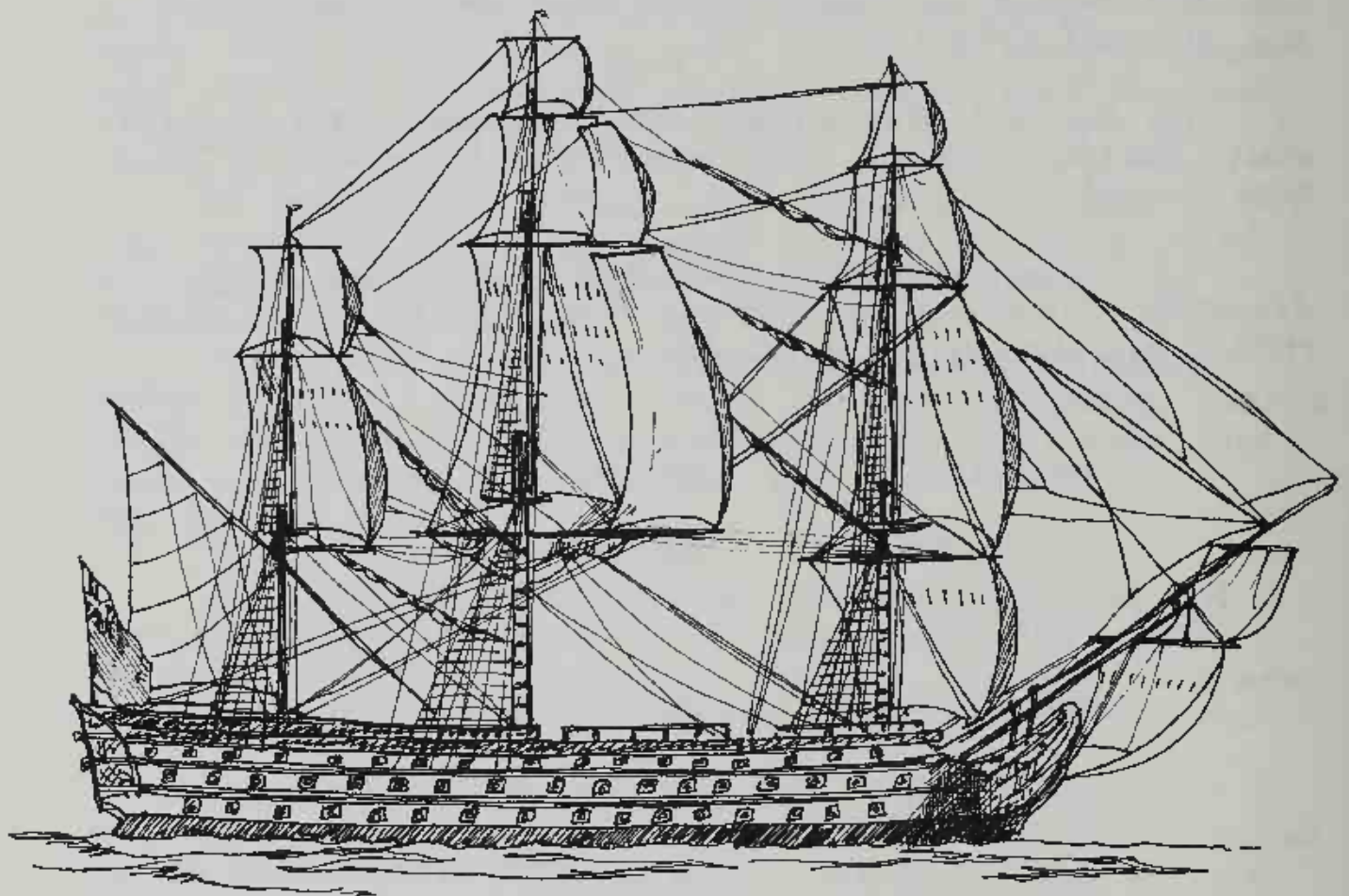
Fourth rate ships were rare, and only occasionally used as ships-of-the-Line.

Fifth and sixth rate ships were known as FRIGATES; but sixth rate ships, if only commanded by a Commander, and not a Captain, were known as SLOOPS. All rates were three-masted.

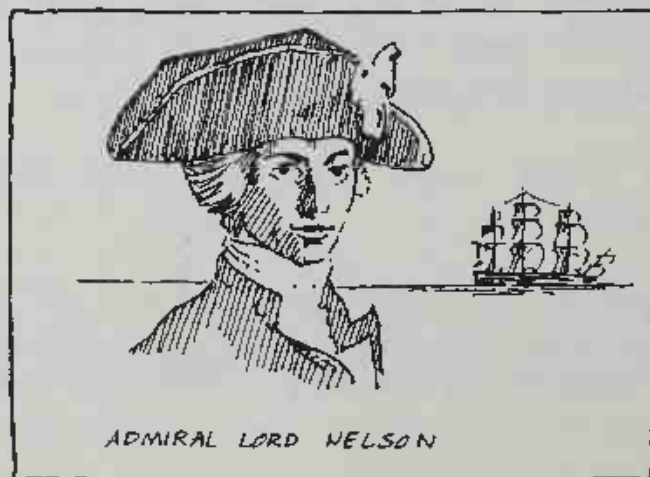
\* 1751-6

WARSHIPS

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MAN-OF-WAR  
18 TH CENT. 1ST RATE (100 GUN)  
SHIP-OF-THE-LINE

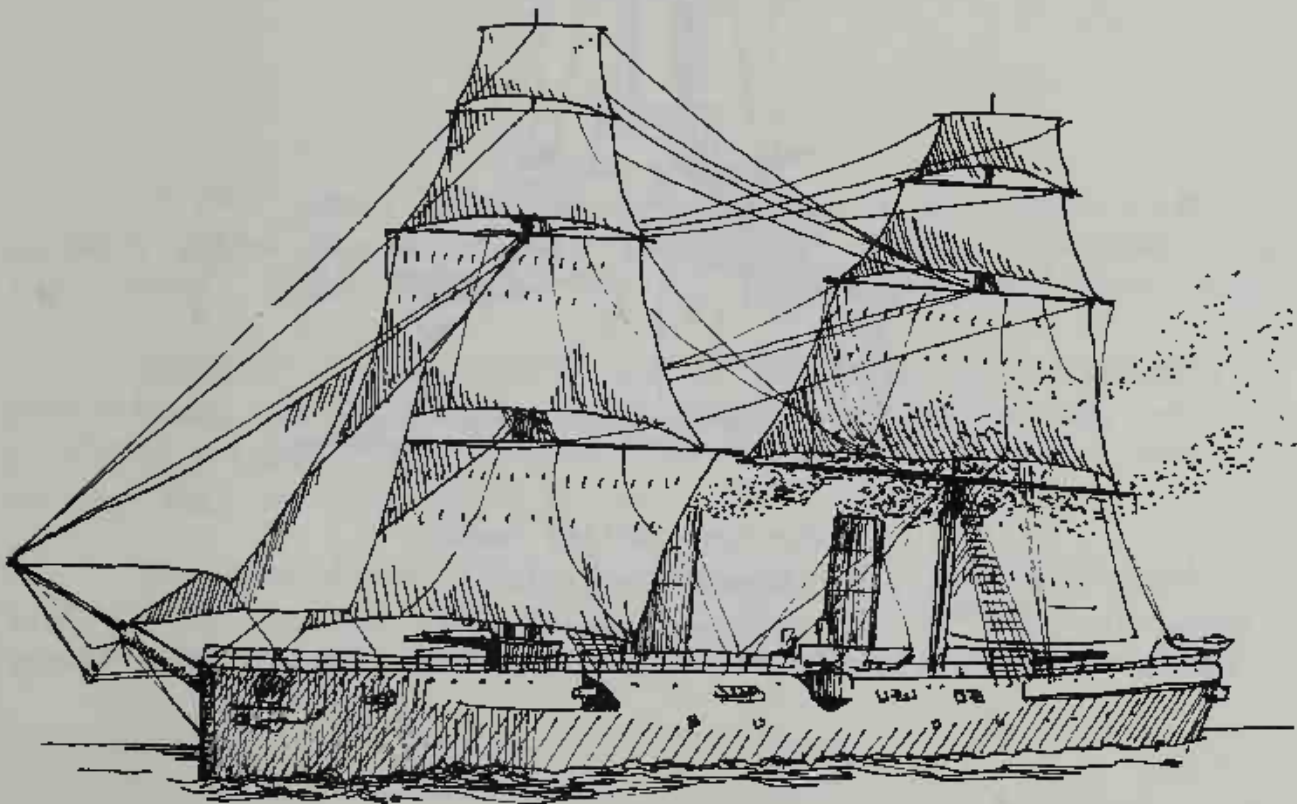


The invention of the first efficient steam engine by James Watt in 1769 led gradually to the abandonment of sails. At first steam was little used by warships since paddle-wheels were too vulnerable. But with the introduction of the propeller, the superiority of which was proved in a famous tug-of-war in 1845 between the two Royal Navy steam sloops, H.M.S. *Rattler* (propeller-driven) and H.M.S. *Alecto* (paddle-driven), most warships had steam engines installed.

At first steam was considered auxiliary to sail; and then for a long time sail was retained as auxiliary to steam.

From the middle of the 19th century, (after the destruction of a wooden Turkish fleet by Russian shells at the Battle of Sinope in 1853) warships were built with at first iron and then steel hulls.

Sails finally disappeared just before the end of the century.



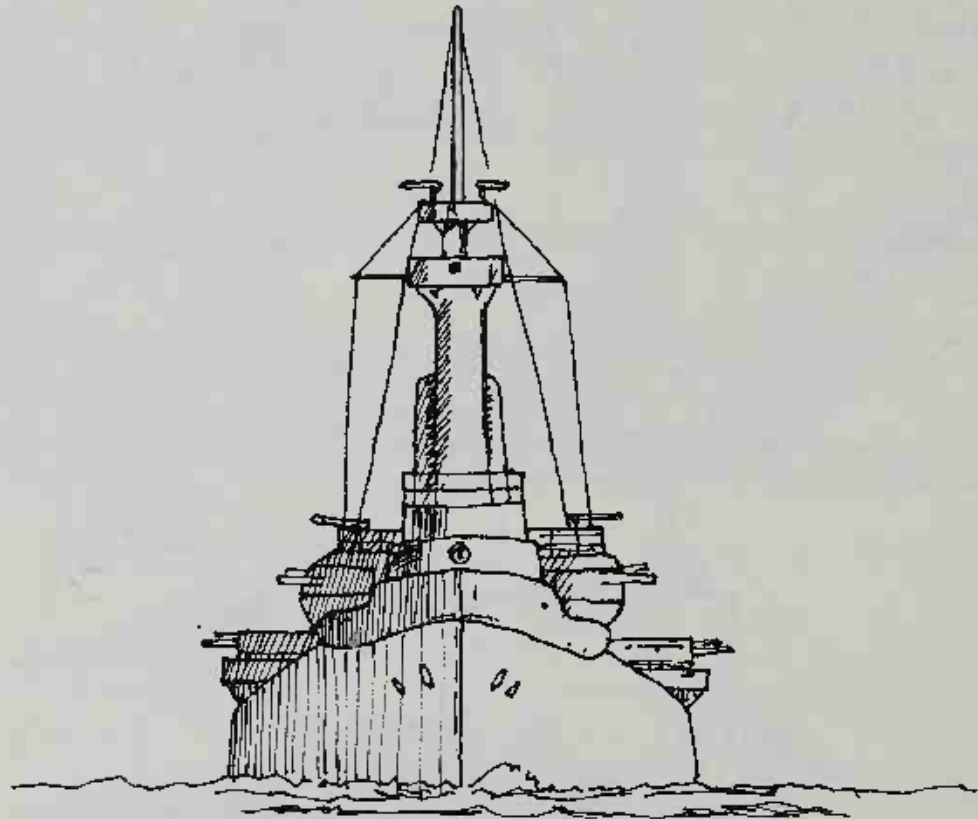
H.M.S. *Inflexible* : 1887

## WARSHIPS

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Once Warships were being made of steel and driven by engines, their armament also increased. The muzzle-loaded naval cannon, mounted on a wooden carriage, gave way to long-range breech-loading guns firing explosive shells instead of solid shot.

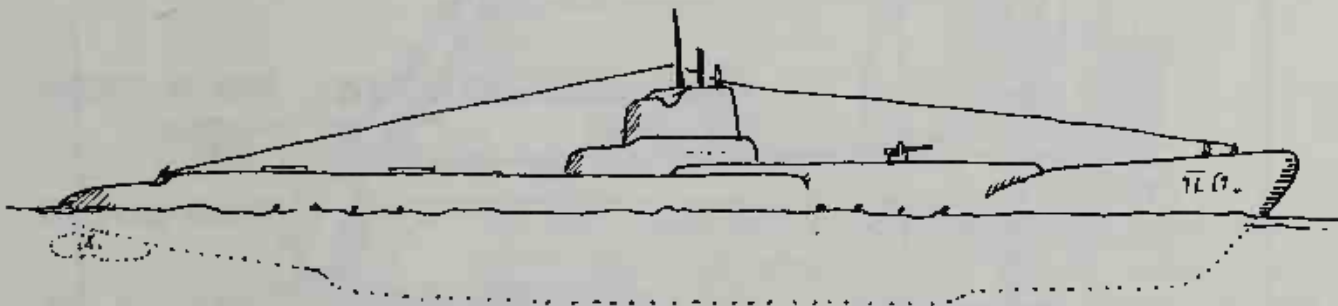
The Man-of-War had been supplanted by the BATTLESHIP. In fact, after 1900, most navies now classed their Warships into BATTLESHIPS, AIRCRAFT CARRIERS, CRUISERS, DESTROYERS, and FRIGATES. The old order of Ships-of-the-Line was gone.



EARLY 20TH CENTURY WARSHIP  
FRENCH BATTLESHIP  
*Jauvéguiberry*

After 1900, warship development grew ever faster. Steam engines gave way to high-speed turbines and guns increased in size and range. However, an entirely new form of warship was about to appear; the SUBMARINE.

By the end of the First World War the SUBMARINE was well on its way to becoming the dominant naval weapon of the 20th century, although it sounds a little odd to call it a warship.

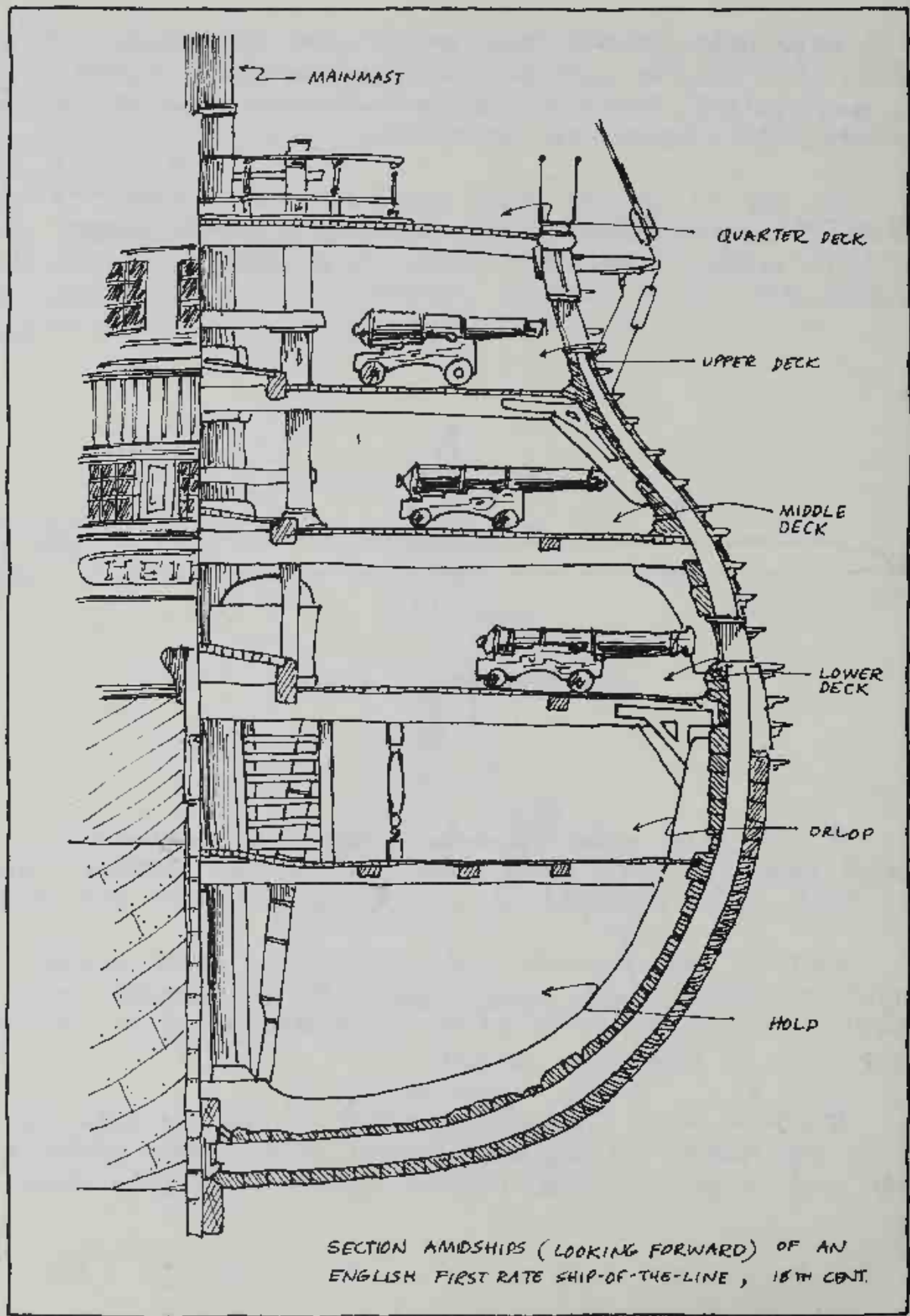


GERMAN SUBMARINE 1914-18

A few years after the introduction of the SUBMARINE, aircraft began operations from ships and AIRCRAFT CARRIERS came into being. These developed into the biggest warships ever built.

HOWEVER, the increased use of long-range guided missiles brought an end to huge ships. Especially as missiles were developed which could be fired from SUBMARINES, so a reduction in the size of warships ensued.

It seems likely that the function of the old warship will in the future be divided between underwater striking units and small, versatile, nuclear-powered surface ships.



**WEATHER SHIP**

Weather ships were originally obsolescent WARSHIPS such as SLOOPs, FRIGATES, and CUTTERS, which stayed in one place at sea to measure things like barometric pressure, temperature, and wind velocity. Later, special vessels were built for these purposes although today much meteorological information is gathered by satellite.

**WEST INDIAMAN**

West Indiaman was the name given to any ship regularly plying the trade route between Europe and the Caribbean (West Indies). Compare EAST INDIAMAN.

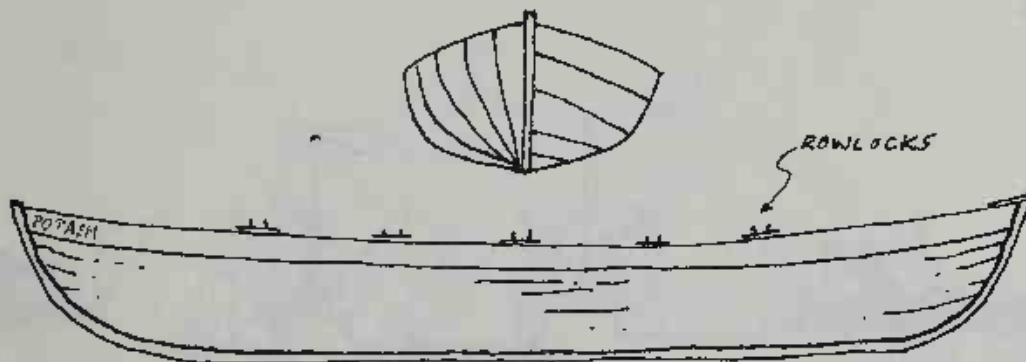
**WEST RIVER CHINESE JUNK.**

see JUNK

**WHALEBOAT**

In the days when whales were hunted from sailing ships, these ships were known as WHALERS. EVERY WHALER carried a number of open, double-ended whaleboats from which the actual harpooning was done.

Later the term was applied to similarly built open boats used for coastal work; the fact that they were double-ended making it possible to beach them bow-to or stern-to.



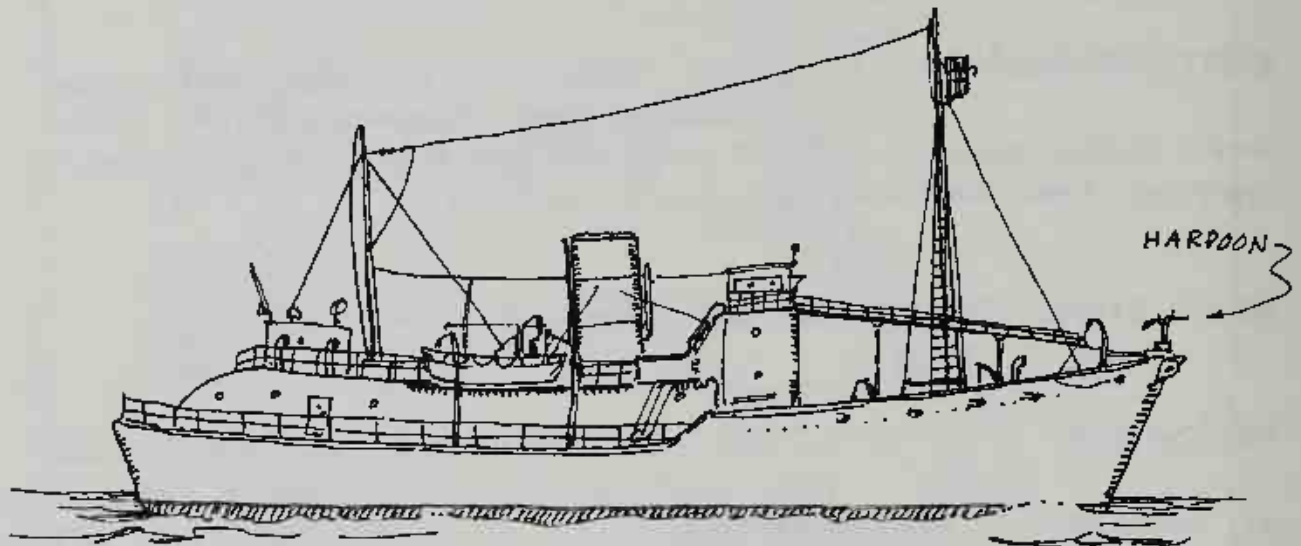
WHALEBOAT 1800-1850

## WHALE CATCHER

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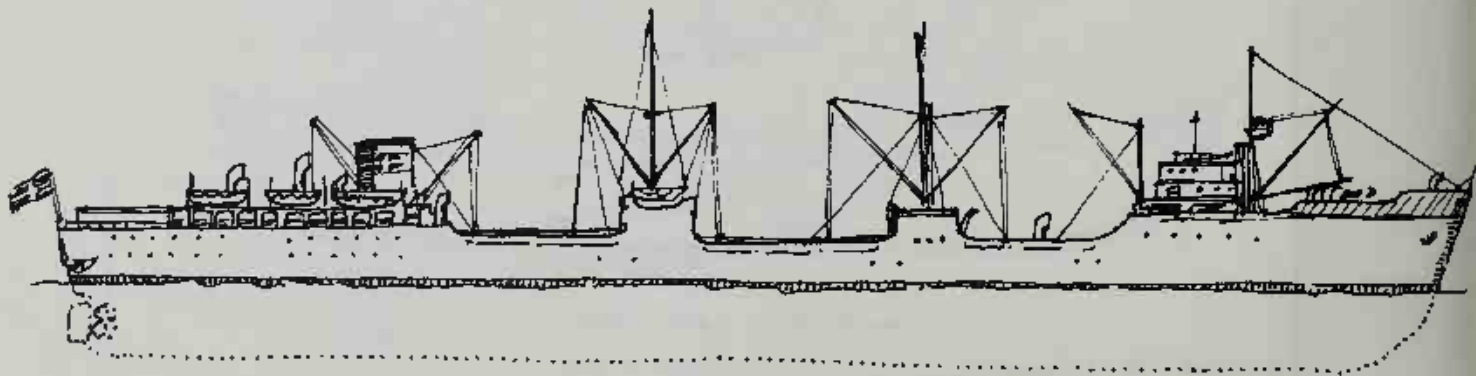
### WHALE CATCHER

Nowadays, whales are hunted from Whale Catchers, which act as TENDERS to a large WHALE-OIL FACTORY VESSEL. The Whale Catchers are used entirely for harpooning the whales, which are then brought to the factory ship for processing.



### WHALE-OIL FACTORY VESSEL

A Whale-oil Factory Vessel is a large modern vessel for processing whales as they are caught by the attendant WHALE CATCHERS.



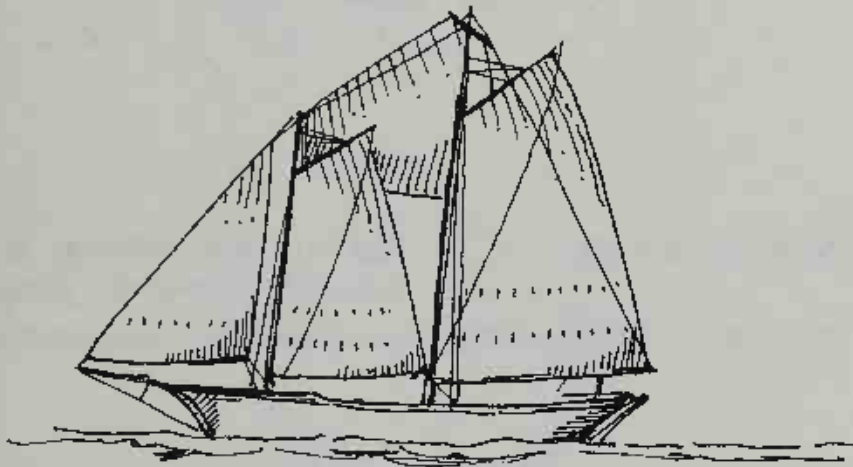
NORWEGIAN WHALE FACTORY SHIP  
638.5' (194.5 m) LONG



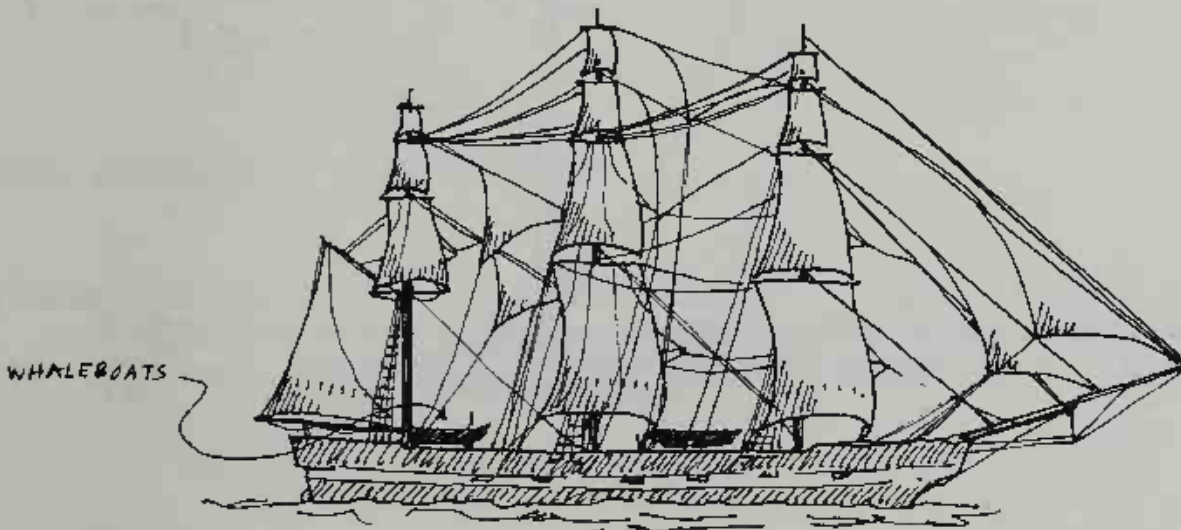
**WHALER or WHALING SHIP**

Whaler was the generic name given to ships of all types engaged in the whaling industry. The old whaler caught whales with the help of small WHALEBOATS. The modern whaler (WHALE-OIL FACTORY VESSEL) uses WHALE CATCHERS to catch the whales. While all these vessels may be called whalers, there is no distinct type known as a whaler.

Today, however, there are two broad meanings to the term whaler which are more specific. The first refers to the old sailing ships of many types, which hunted whales. The second refers to a WARSHIP'S boat.



TANCOCK WHALER (SCHOONER)

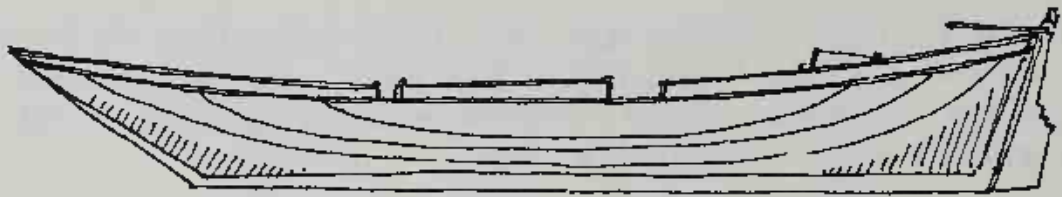


AMERICAN WHALING SHIP  
BAO (SHIP)

## WHERRY

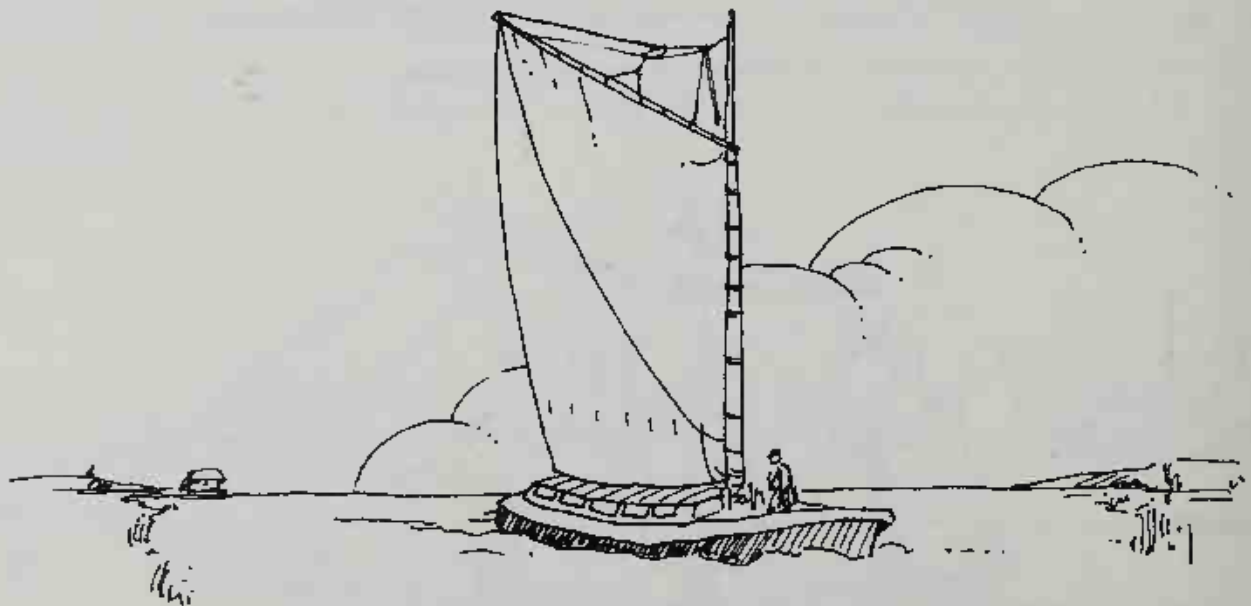
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**WHERRY:** The wherry was at first a light, open **ROWING BOAT**, used on the lower reaches of the River Thames in the 17th and 18th centuries. Somewhat resembling the Turkish **CAIQUES**, the wherry was a gentleman's boat, and as such was soon introduced to the colonies.



ADMIRALTY WHERRY, 1697  
10'6" (3.2 m) LONG

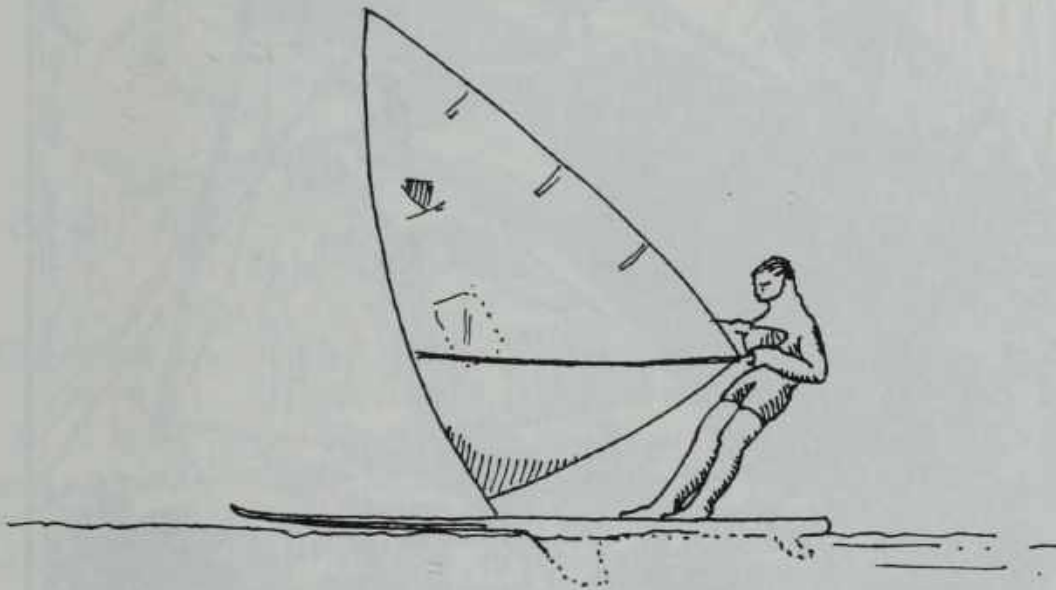
**NORFOLK WHERRY** The Norfolk Wherry is a large, shallow-draught, freight-carrying **BARGE** used on the Norfolk Broads in England (compare the **THAMES BARGE**).



**WHITEHALL.**      SEE ROWING BOAT

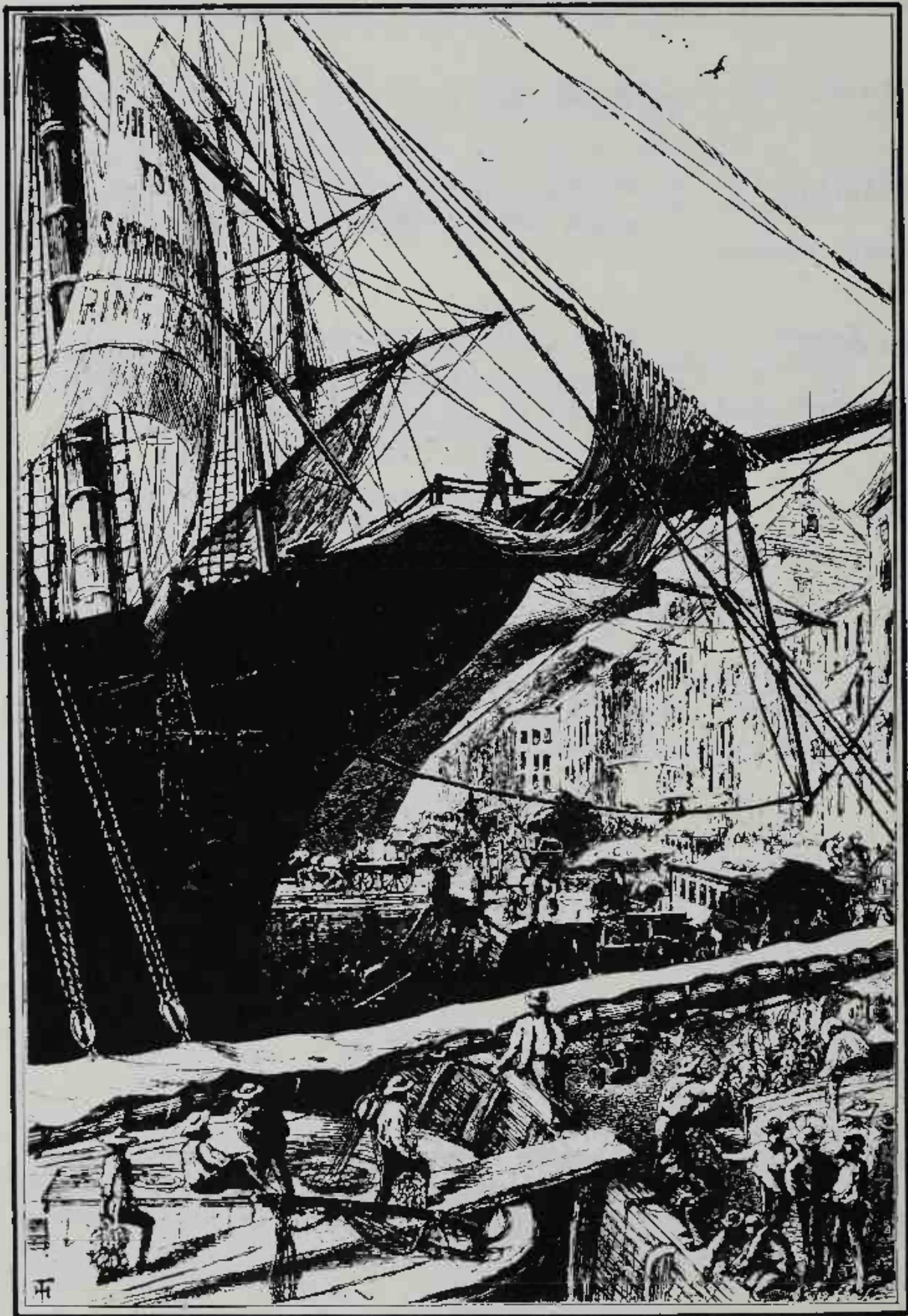
**WINDJAMMER**      Windjammer is a non-nautical name by which square-rigged sailing ships are sometimes known.

**WINDSURFER**      The windsurfer is a kind of sailing surfboard, sailed by balancing upright on the board and holding on to the boom.

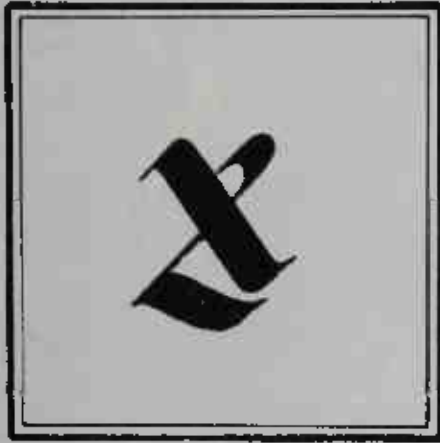


**WOOL CLIPPER.**      SEE CLIPPER

**WRECK VESSEL**      A wreck vessel is a moored vessel, usually with no means of self-propulsion, situated over a wreck which would otherwise be a danger to navigation.



UNLOADING BANANAS IN 19TH CENTURY NEW YORK *American engraving*

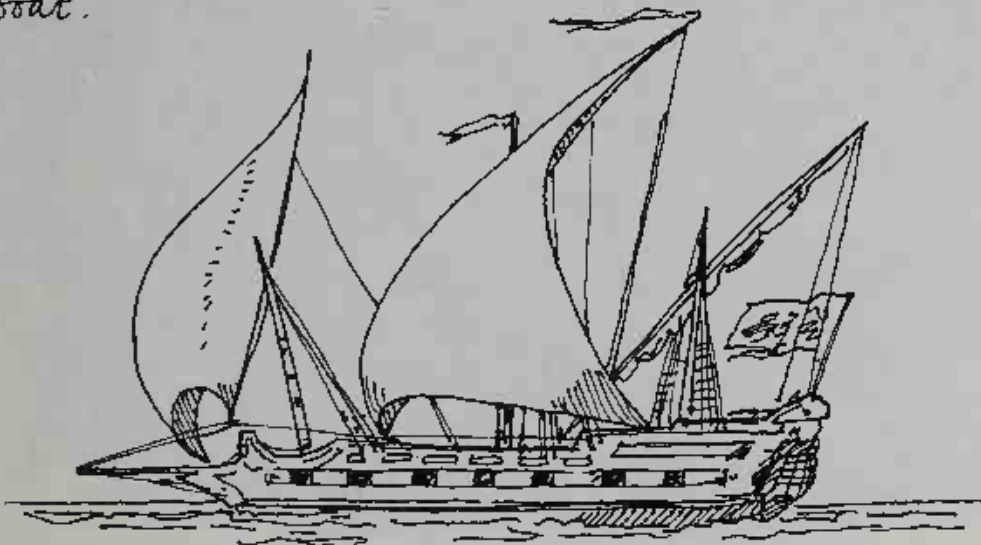


**X-CRAFT.**

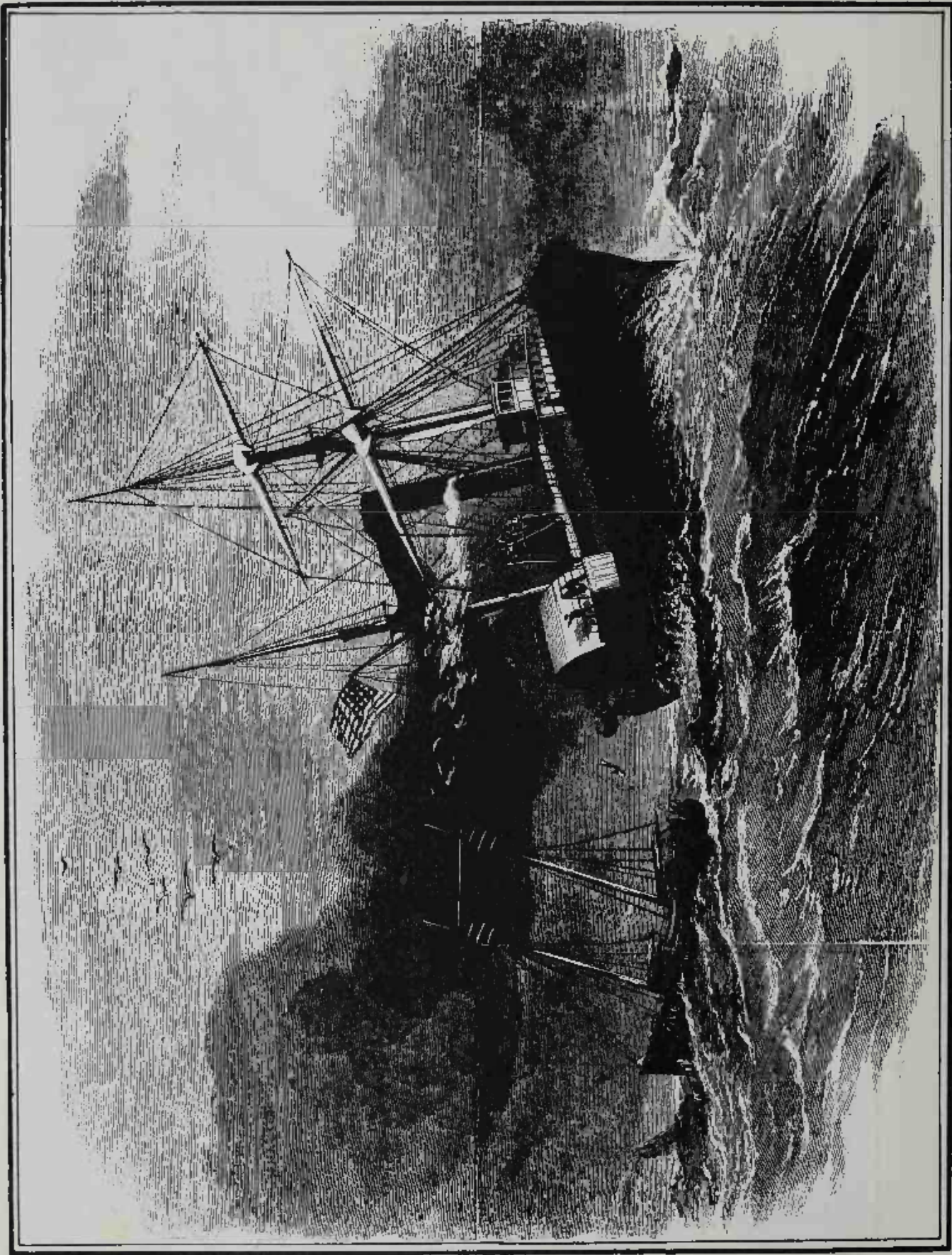
SEE SUBMARINE, MIDGET

**XEBEC**

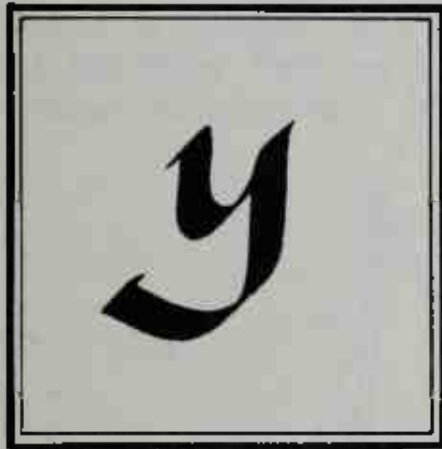
The xebec was a Mediterranean sailing descendant of the GALLEY, much used by corsairs from the 16th to the 19th centuries. Their rig varied from square to lateen, according to the wind, which necessitated much work and large crews - up to three and four hundred men for a twenty-four-gun boat.



SPANISH XEBEC 1760



A 19TH CENTURY STEAMER DELIVERING PAPERS TO THE FIVE FATHOM LIGHTSHIP American engraving



**YACHTS :** The word Yacht comes from the Dutch word, 'jachten' meaning to hunt, to hurry. (The 17th century Dutch JACHT was used as a fast DISPATCH BOAT.)

When Charles II was restored to the English throne in 1660, the city of Amsterdam (where he had been staying during the time of the British Commonwealth) presented him with the Yacht *Mary*. This Yacht, which had originally been built for the East India Company, was a private pleasure boat, related to the *ESNECCAS*, vessels used to convey "princes, ambassadors or other great personages from one kingdom to another" (Falconer's *Marine Dictionary*, 1771).

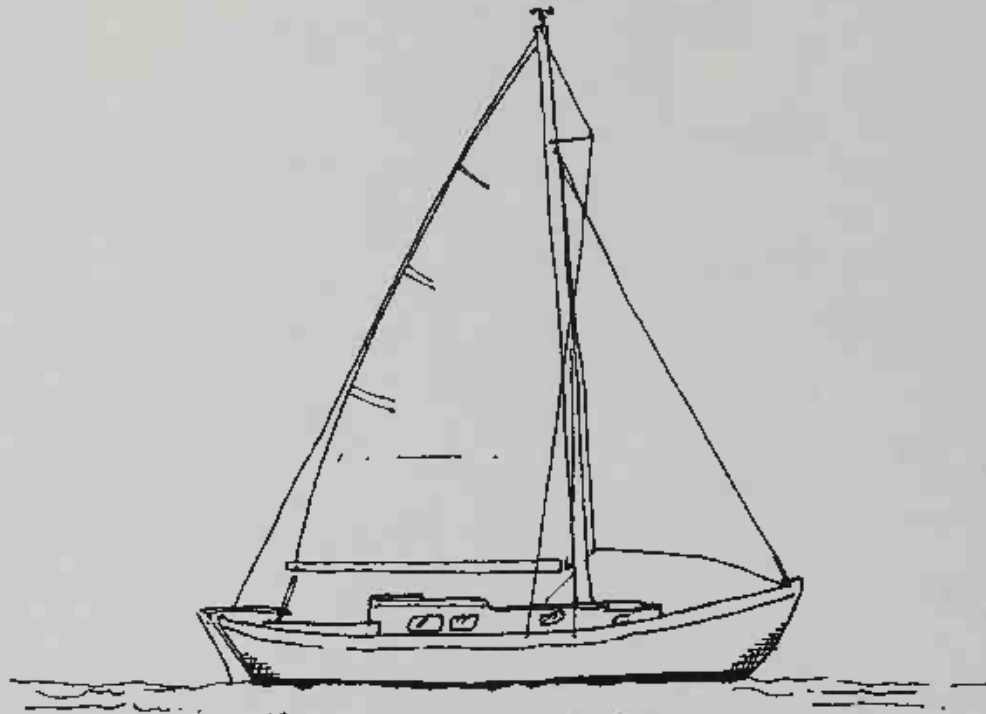
So from 1660 on, the word Yacht was used to denote a small, fast, pleasure boat.

## YACHT / Cruising Yacht

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### ~ CRUISING YACHT

Cruising Yachts are built in many sizes and varying rigs, from small two-berth boats to vessels, capable of world circumnavigation, which are very well equipped with all kinds of electronic navigational aids and auxiliary engines.



ENGLISH CRUISING SLOOP YACHT  
21' (6.4m) LONG

### ~ DAY SAILER

A Day Sailer is the name given to pleasure Yachts designed solely for pleasure sailing of short duration. There are no cabins and no accommodations, although sometimes part of the boat forward is decked over to provide a small shelter and sometimes to enclose a head.

Day sailers, like the one opposite, are usually no larger than 21' (7m).

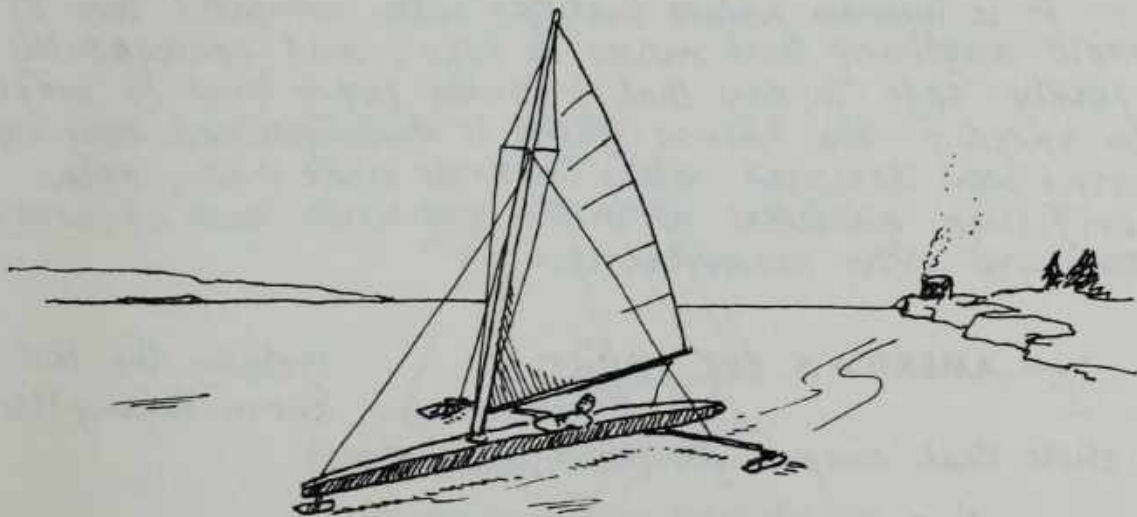




SLOOP DAY SAILER  
16'9" (5.11m)

~ ICE YACHT

Ice Yachts actually ride on skates on frozen bodies of water such as lakes.

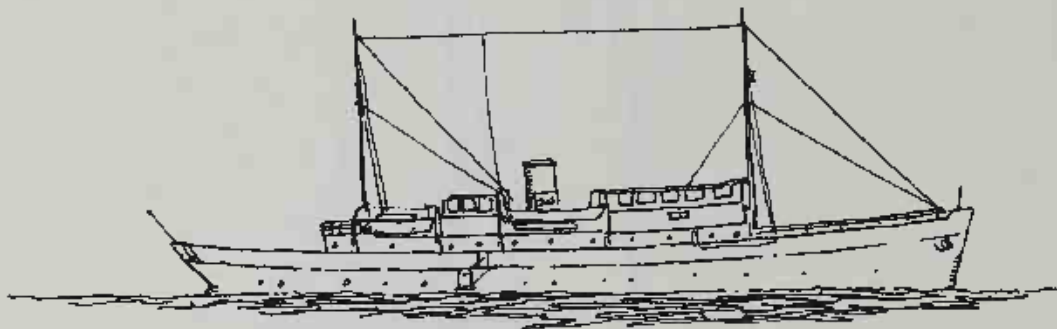


## YACHT / Racing Yacht

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### ~ MOTOR YACHT

Motor Yachts do not have sails and are usually very luxurious personal cruising vessels such as the *vedette*, shown below, which was built for Fred W. Vanderbilt in 1924. Royal YACHTS are today usually Motor Yachts.



MOTOR YACHT *Vedette*: 1924

### ~ RACING YACHT :

There are probably as many different Racing Yachts as there are vessels described in this book. The following entries are therefore merely a sampling of some of the better-known kinds.

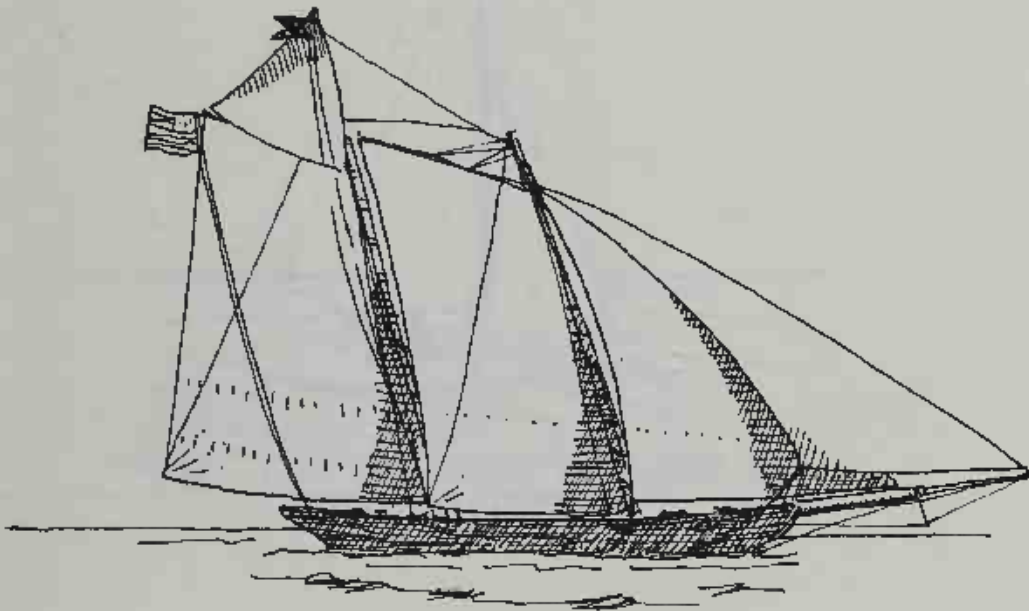
It is human nature that so often compels two of almost anything that moves to race, and consequently it is fairly safe to say that probably every kind of craft has been raced; the Racing Yacht is distinguished only by having been designed solely towards that end, often sacrificing qualities normally requisite such as comfort, room, and even seaworthiness.

### : ~ AMERICA'S CUP YACHT

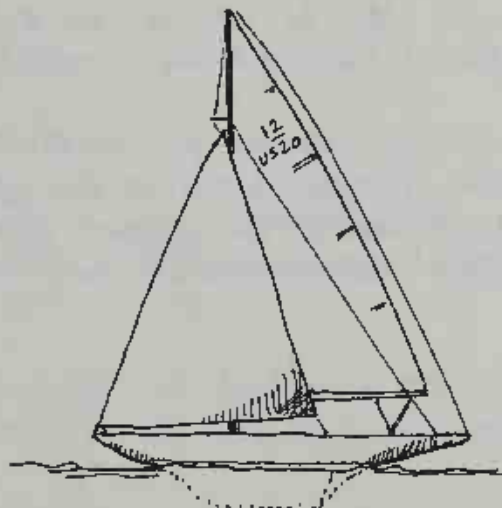
Probably the best-known Racing Yachts are those that compete for the America's cup.

The America's Cup is a trophy originally presented by the Royal Yacht Squadron in 1851 for a race around the Isle of Wight. The American SCHOONER *America* won the cup and the cup has never been won back from the New York Yacht Club, although more than twenty challenges have been made.

Competitors were at first yachts of the largest class, but since the Second World War the yachts concerned have all been of the International 12-meter Class (39')



SCHOONER YACHT *America*: 1851

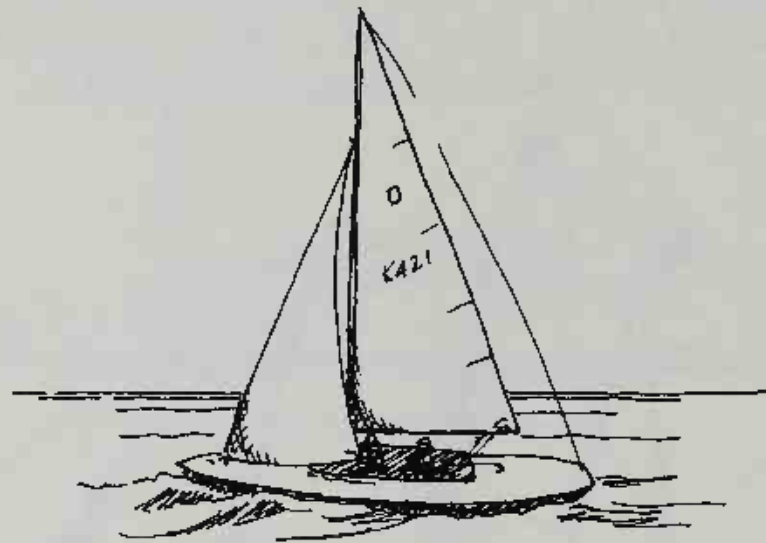


12-METER SLOOP YACHT *Constellation*  
(1964 WINNER)

**: - INTERNATIONAL DRAGON CLASS**

International  
Dragon Class

Yachts are ONE-DESIGN YACHTS designed by Johan Anker in 1928. They were widely popular until the recent introduction of less-expensive Yachts.



INTERNATIONAL DRAGON CLASS YACHT , 1965  
29.2' (8.88 m) LONG

**: - INTERNATIONAL METER CLASS**

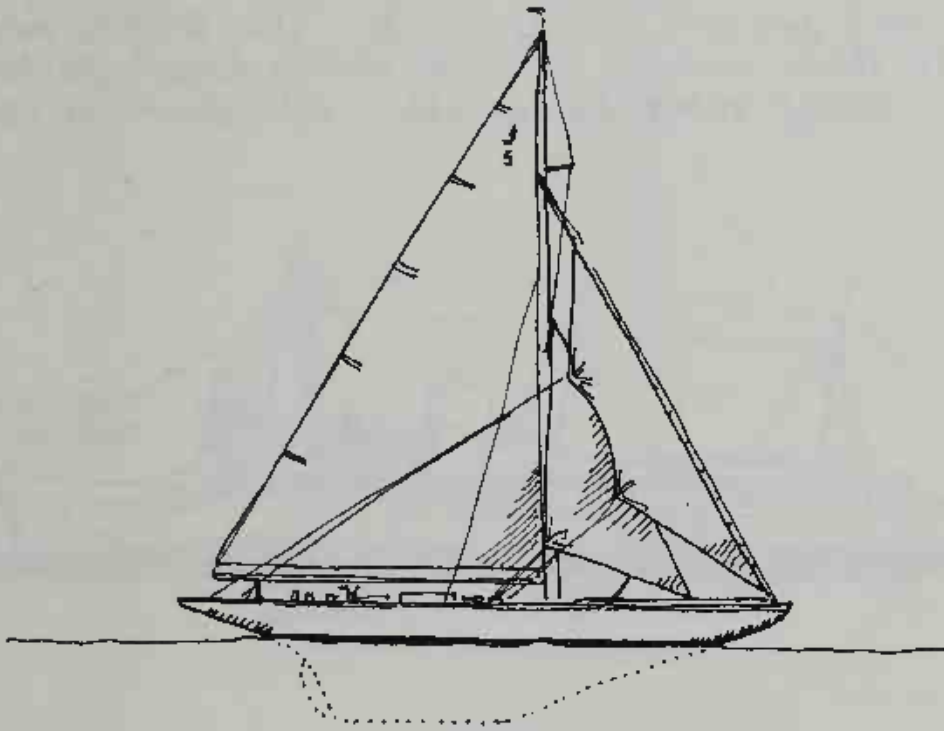
International  
Meter Class Yachts

are designed to rate as 12, 10, 8, 6, or 5.5 meters according to the International Yacht Racing Union rules.

The rating is not a measure of length so much as the result of a formula, which includes the yacht's overall length, the waterline length, breadths at different points, depths inside the hull, draught, total displacement, and sail height and area.

**:~ J-CLASS YACHT**

J-Class Yachts were the largest yachts built under the 1925 international rating rule. They represented the peak of yacht racing but only lasted a short while due to the huge expense involved.



J-CLASS YACHT Ranger 16TH AMERICA'S CUP WINNER, 1937 (135' (41.1 m))

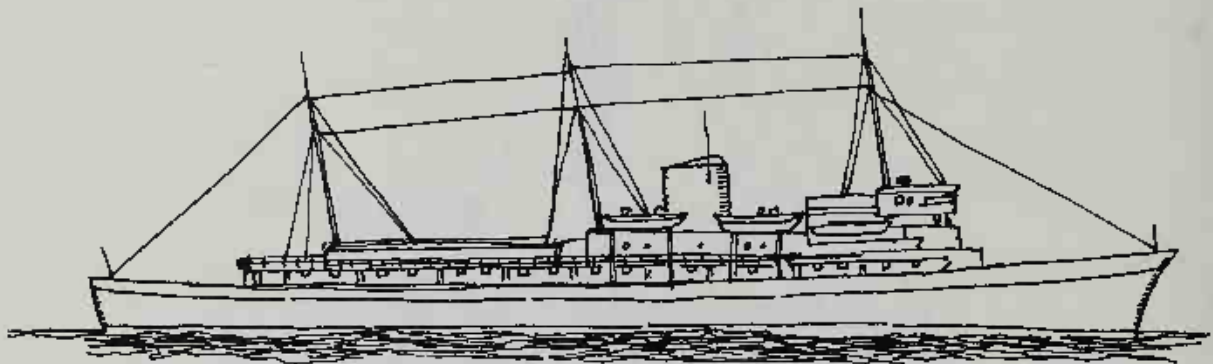
**:~ ONE-DESIGN**

A One-Design Class Yacht is a member of a class in which all the other boats are as nearly identical as possible. The purpose is to make the race resultant upon the individual skills of the helmsman and crews.

There are hundreds of different one-design classes from tiny 12' (3.6 m) Sailfish to the big one-tonners.

**- ROYAL YACHT**      Royal Yachts are vessels provided for the use of royalty and have been used for a very long time. Their origins go back to the ESNECCAS of the 12th century.

Since the advent of steam, Royal Yachts are propelled by engines and are not sailing vessels. The British monarchy, like those of other nations, has had many Royal Yachts, the present one being H.M.Y. Britannia, launched in 1953.



THE BRITISH ROYAL YACHT Britannia

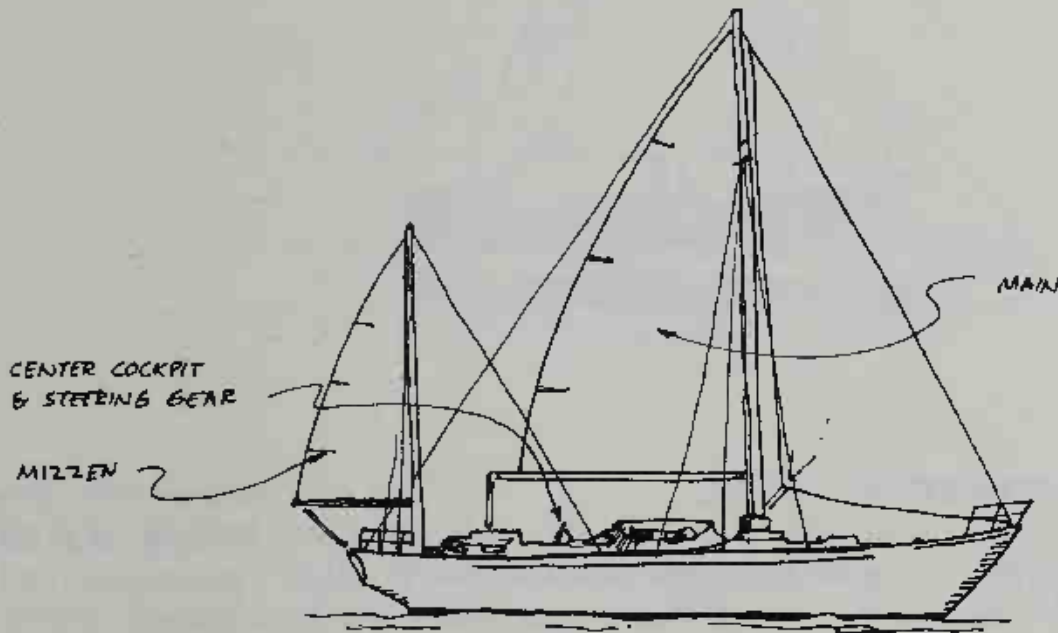
**YANGTZE RIVER SAMPAN.**      SEE SAMPAN

**YARMOUTH PINKY.**      SEE PINKY

**YARMOUTH YAWL.**      SEE YAWL

**YAWL :**      The word Yawl appears to come from the Middle Low German, 'jolle,' or the Dutch, 'jol,' and meant either a small ship's boat, like a PINNACE, or just a small sailing boat.

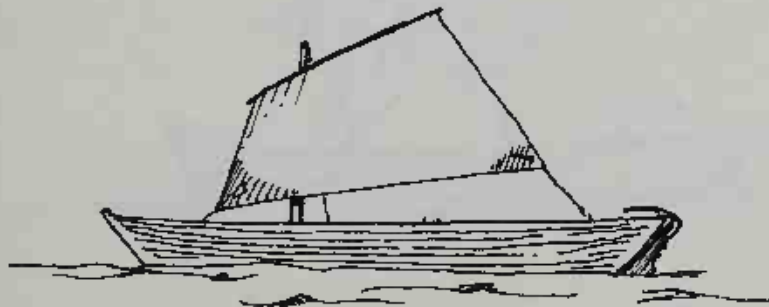
Apart from the particular Yawls mentioned below, the word today refers to any two-masted boat having a main-mast, and a small mizzen mast abaft the steering gear (in distinction to a KETCH, whose mizzen mast is stepped forward of the steering gear). This Yawl rig is popular on pleasure YACHTS.



YAWL-RIGGED CRUISING YACHT

~ NORWAY YAWL (ARENDALE YAWL)

The Norway Yawl is an open SKIFF used as a small fishing boat around Arendal, Norway.

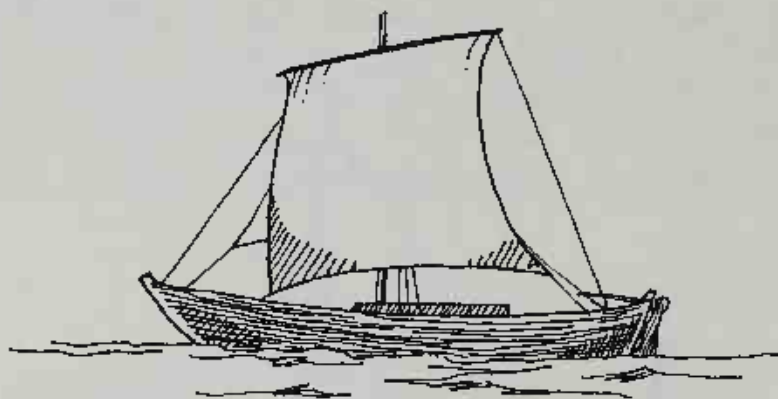


YAWL / Søndfjord yawl

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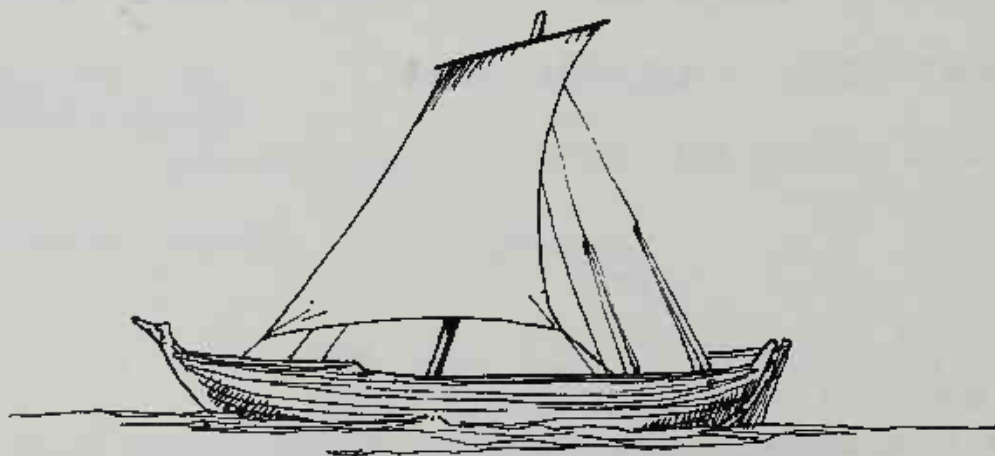
~ SÖNDFJORD YAWL  
herring fishing boat.

The Søndfjord Yawl is an open, double-ended, Norwegian



~ SÖNDMÖERSK YAWL  
VIKING SHIPS. It was double-ended, with high, ornamental stem and sternposts. It was an open fishing boat from the west coast of Norway.

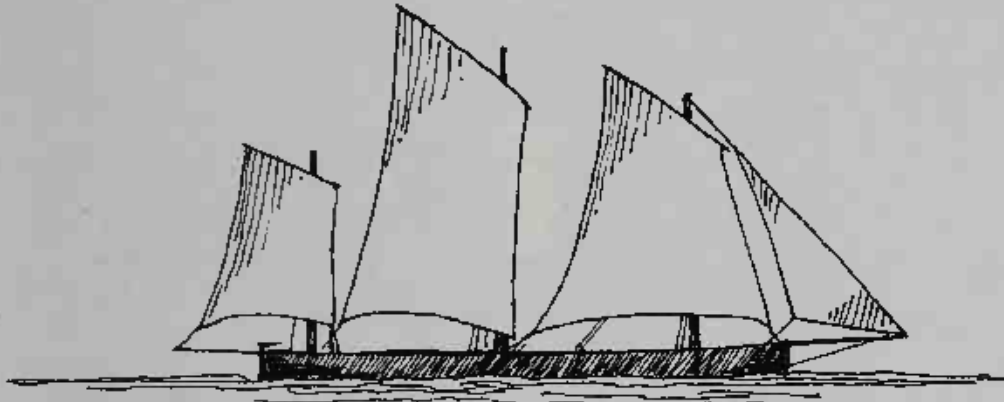
The Söndmöersk Yawl was similar to the old





**- YARMOUTH YAWL**

The Yarmouth Yawl is descended from the Scandinavian Yawl, but is much bigger. Used off the coast of Norfolk in England, these three-masted, double-enders could make 16 knots.



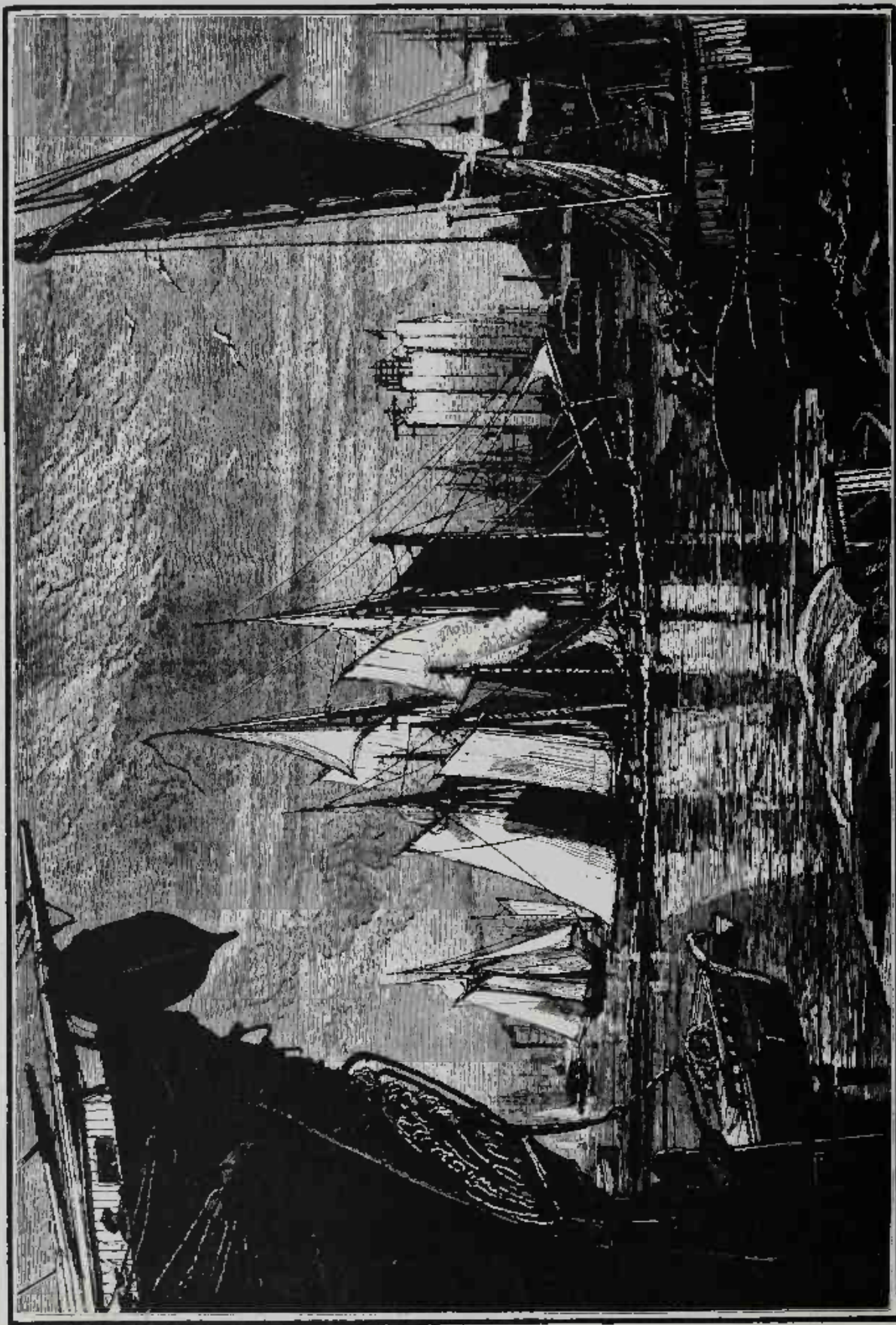
YARMOUTH YAWL, 1850

**YAWL BOAT**

The Yawl Boat was carried in davits from the stern of coasting vessels. It was an open, rowed boat, later supplanted in fishing vessels by the DORY.

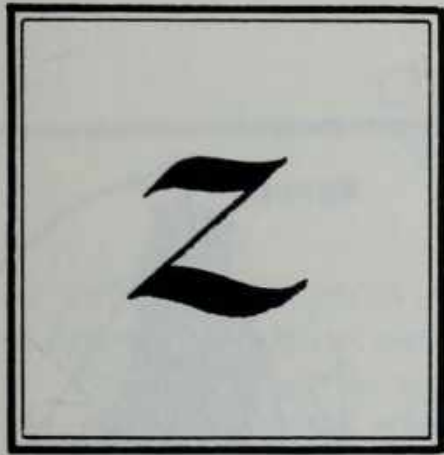
**YORKSHIRE LUGGER.** see LUGGER





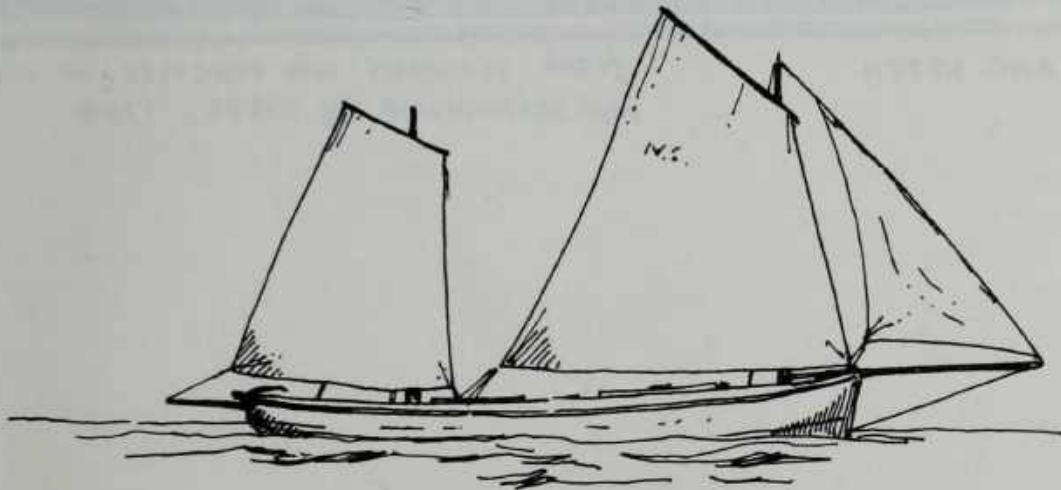
THE EAST RIVER, NEW YORK

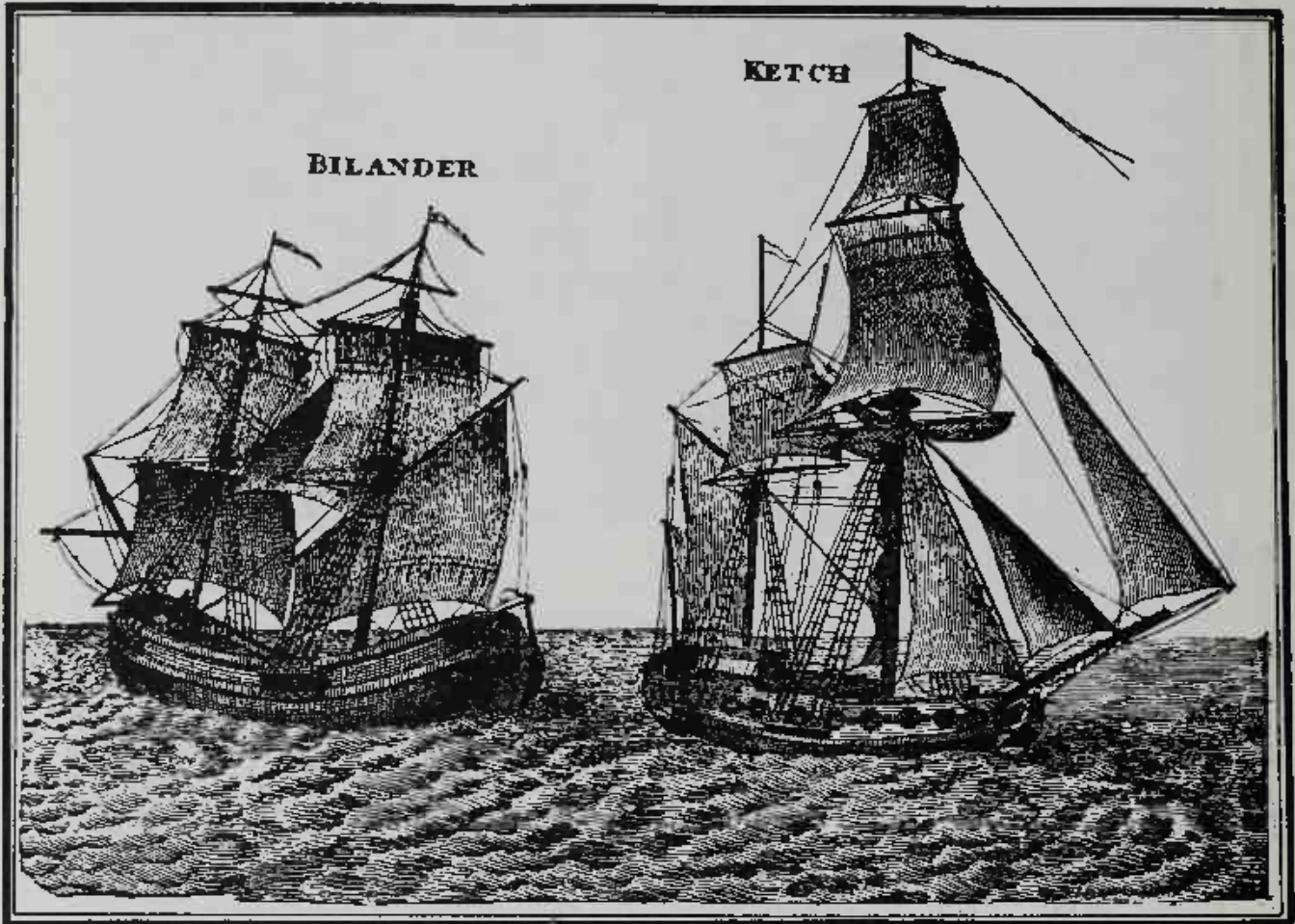
19TH CENTURY ENGRAVING



**ZARUG** or **ZARUK.**      see **DHOW**

**ZULU**      The Zulu was a compromise between the **FIFIE** and the **SKAFFIE**, which were also lug-rigged Scottish fishing boats. The Zulu was introduced by a boatbuilder called Cameron during the Zulu War (1878-1879), hence the name.





BILANDER AND KETCH

FROM ELEMENTS AND PRACTICE OF RIGGING  
AND SEAMANSHIP by STEEL, 1794

# Readers' Additions



While every encyclopedia aims at completeness, no one author can know everything and it is inevitable that omissions will occur. This space is to note any such omissions, which, if brought to my attention, I will endeavor to include in any future editions of this work.

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READERS' ADDITIONS

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# Glossary



NOTE: This is a glossary of only those sails and nautical terms found in the A to Z section of this book. It is by no means an exhaustive nautical dictionary, for which the reader is referred to the Bibliography following this section.

**ABAFT**

towards the stern, relative to some other object or position.

**AFT**

towards or at the stern, in a general rather than relative sense.

**AFTERMAST**

that mast, in a two- or more masted vessel, which is nearest the stern.

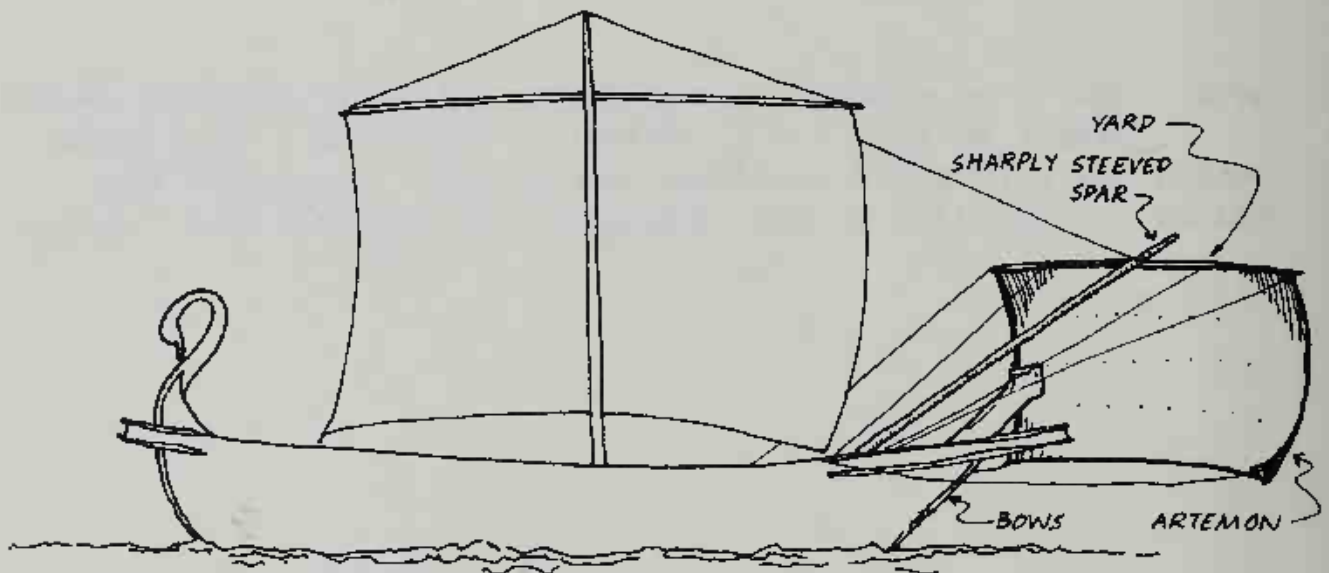
**AFTERMOST**

most aft.

## GLOSSARY

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- AMIDSHIPS** in the middle of the ship, whether longitudinally or laterally.
- ANCHOR** a large and heavy object, attached to the ship by a cable, designed to hold the ship in one place by digging itself into the sea bed.
- ANCHOR DECK** a special deck built in the bows of a ship to hold the anchor and its cable.
- ARTEMON** a small square sail set on a yard and carried below a sharply steeved spar over the bows of a Roman merchantman.

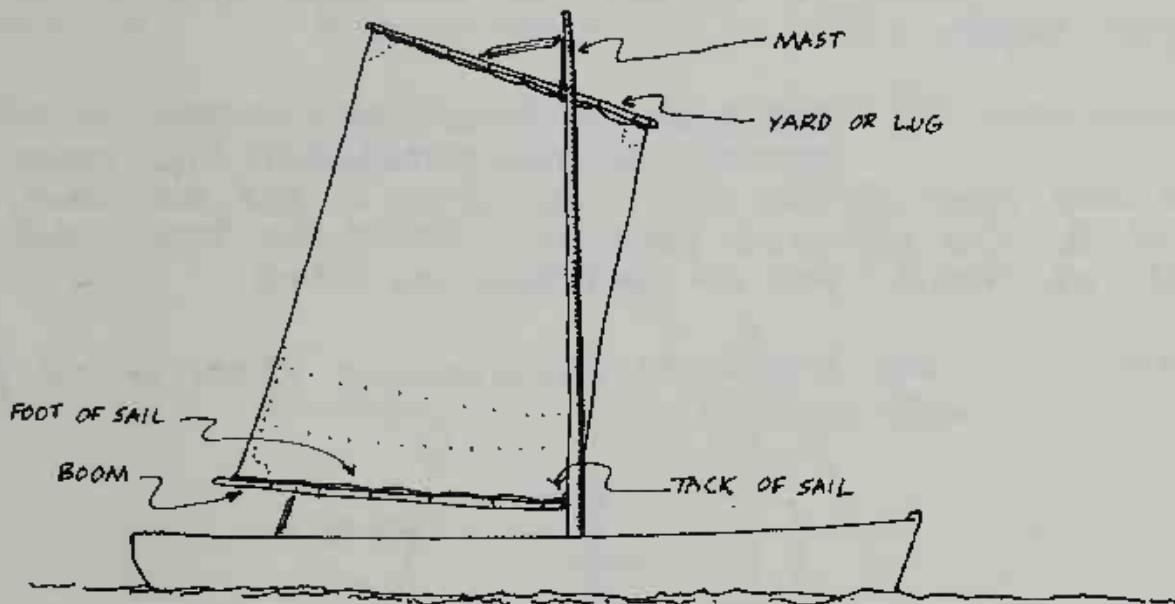


ROMAN MERCHANTMAN: A.D. 50

- ASTROLABE** an instrument used to take the altitude of the sun and the stars in medieval navigation, illustrated on page 23.



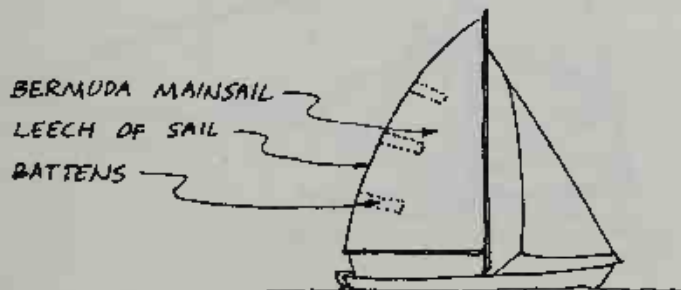
**BALANCE LUGSAIL** a lugsail, the tack of which is at the mast and the foot of which is laced to a boom, in contrast to a dipping lugsail which has no boom and the tack of which extends forward of the mast.



BALANCE LUGSAIL

**BALLAST** additional weight carried in a vessel to increase stability and to provide a satisfactory trim fore and aft.

**BATTEN** a. thin iron bars used to secure the hatch covers.  
b. thin wooden or plastic strips which fit into pockets in the leech of a Bermuda mainsail to hold it out.



## GLOSSARY

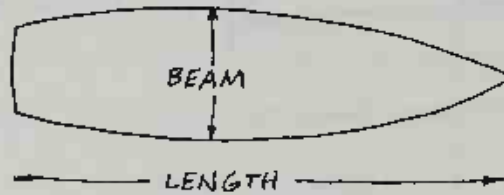
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**BATTEN DOWN, TO** the process of securing the openings in the deck and sides of a vessel when heavy weather is forecast.

**BEAK** the name given to the metal point or ram fixed on the bows of warships used to sink other ships.

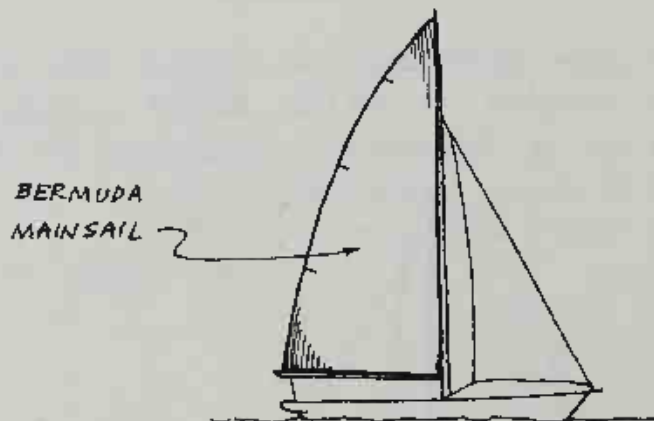
**BEAKHEAD** the space, in a sailing warship, immediately forward of the forecastle. This space, in the very front of the ship was open to the sea and was used as the seaman's lavatory, hence the term, still in use, of "head" for all lavatories on board.

**BEAM** the transverse measurement of the widest part of a vessel.



**BERMUDA SAIL**

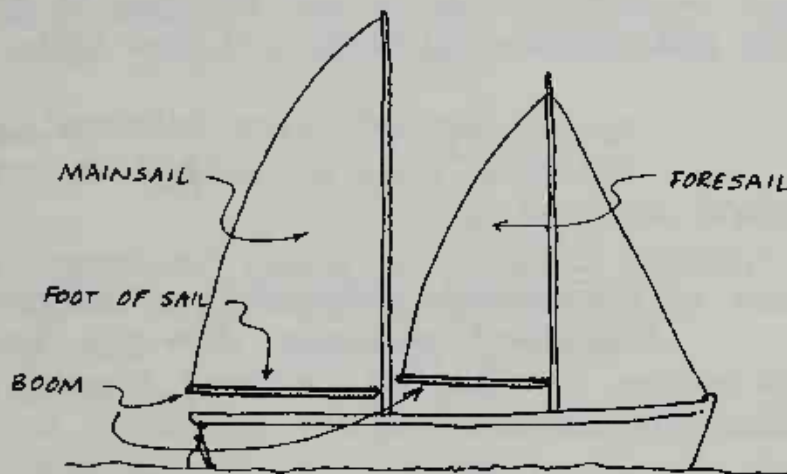
a very tall triangular sail common originally on sailing craft around Bermuda.



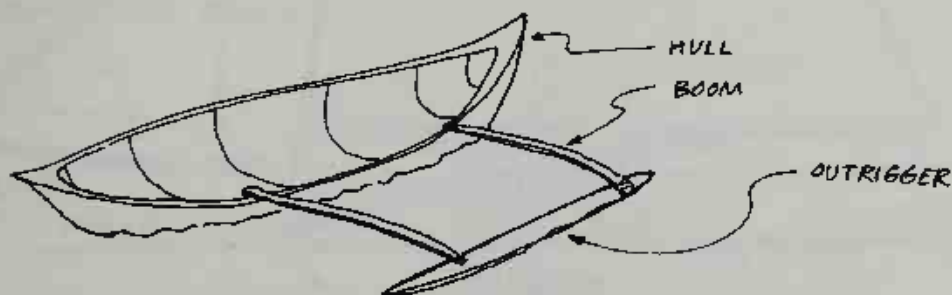
**BLOCKADE** in maritime warfare blockade means the interception of enemy trade. Before the invention of the long-range gun it was virtually synonymous with "investment," which was the patrolling of an enemy port to prevent movement in or out.

**BOARD. TO** to go on board, to go into a ship.

**BOOM** a. a spar to which the foot of the mainsail, the foresail, or mizzen is set



b. the spars which connect outriggers to the main hull are called booms.



DUGOUT CANOE WITH OUTRIGGER

GLOSSARY

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c. also the name of a barrier floating at water level across a harbor entrance to block it.

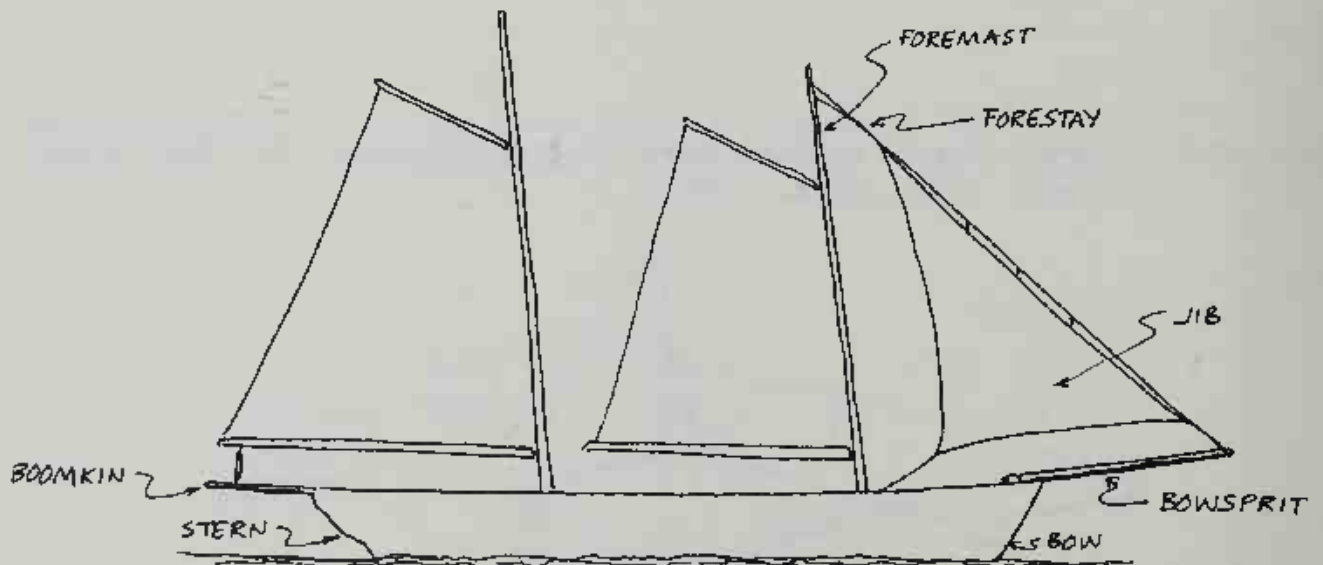
**BOOMKIN** a short spar extending horizontally from the stern, to which overhanging sails may be attached.

**BOW** the foremost end of a vessel, often used in the plural. The end opposite the stern.

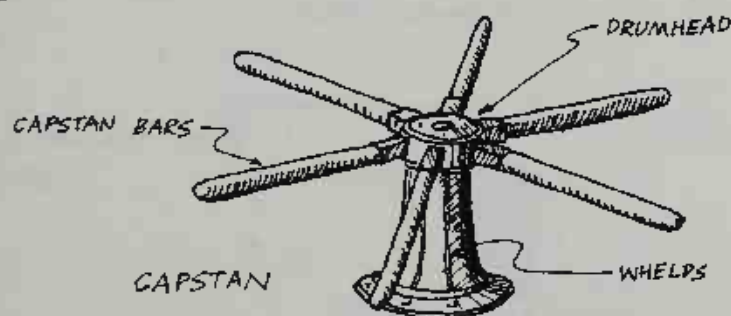
**BOW DOORS** doors in the bow of a ship through which men and armaments may be loaded and unloaded. See illustrations on pages 201 and 202.

**BOW FENDER** something let down between the bows and another ship or wharf to prevent chafing. See illustration on page 347.

**BOWSPRIT** (pronounced bowsprit), a large spar extending forward over the bows of a ship to provide the means of staying (making secure) the foremast, and from which the jibs are set.



- BOW-TO** with the bows leading.
- BRAIL, TO** to haul in the brails - ropes leading around the sail to the mast - so that the sail may be temporarily furled against the mast.
- BRIDGE** in the days of sail a ship was controlled from the steering wheel located in the stern, but when steam propulsion was introduced it was found that a better view was obtained from the bridge which connected the side paddle wheels. When the propeller replaced paddle wheels the bridge structure was retained as the best place from which to control the ship.
- CABIN** a room or space in a ship, partitioned off to provide a private apartment for sleeping or eating.
- CAISSON** a floating platform or tank which can be submerged and floated again. Caissons have several applications, such as floating submerged objects, providing a means of working on underwater structures, and closing the entrance to a dry dock.
- CANOE STERN** having a stern shaped like a canoe.
- CAPSTAN** a cylindrical barrel fitted on deck in larger ships for heavy lifting work, such as raising the anchor.

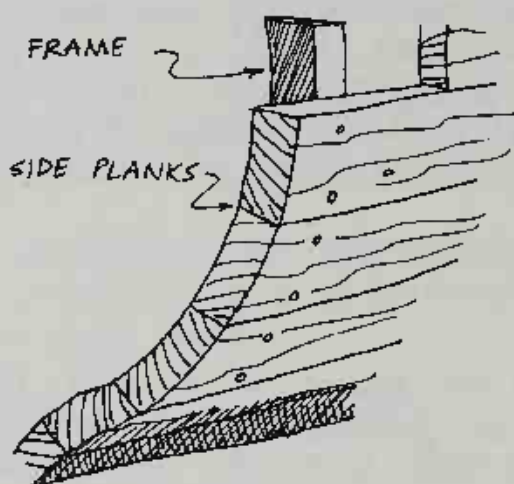


GLOSSARY

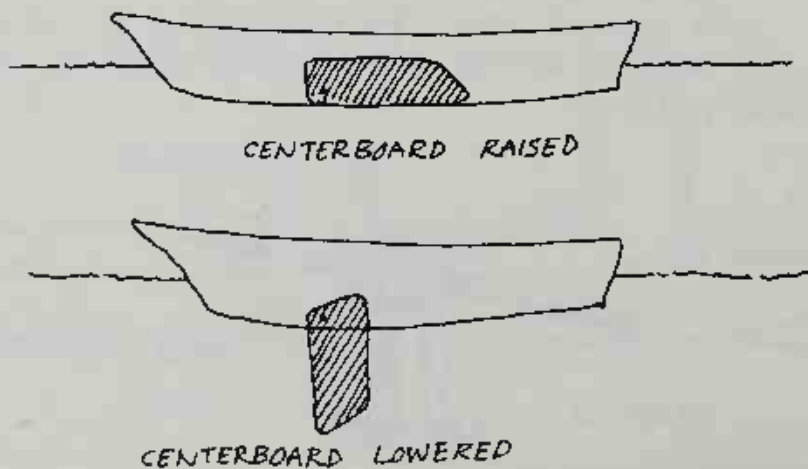
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**CARRONADE** a short, light carriage gun used by the Royal Navy during the late 18th and early 19th centuries.

**CARVEL-BUILT** a wooden vessel in which the side planks are all flush, as compared with clinker-built, in which the side planks overlap.



**CENTERBOARD** a device which is lowered in a boat of shallow draught to increase its lateral area and its resistance to leeway, or sideways motion.

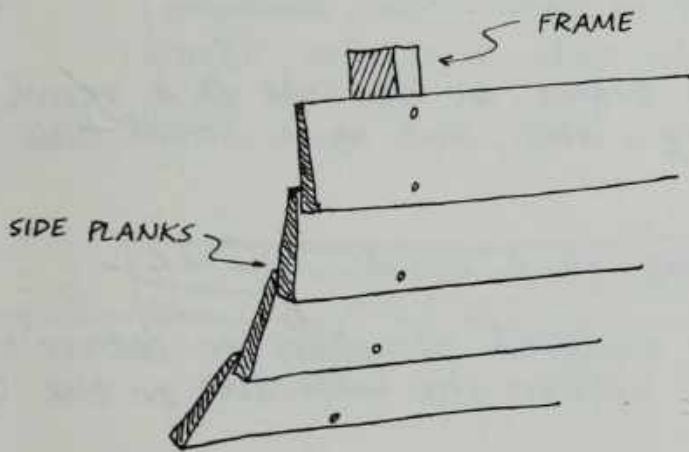


CENTER-OF-EFFORT  
acts.

a point on the sail through which the maximum wind force

CLINKER-BUILT

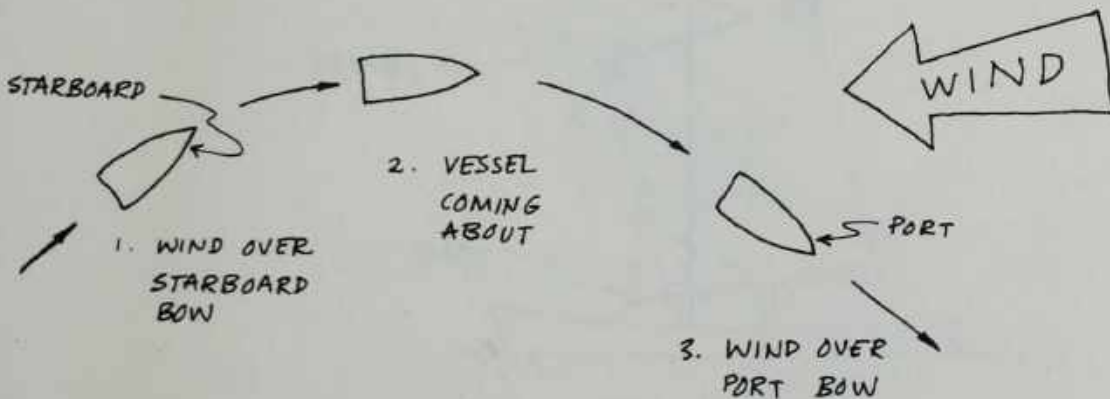
a method of boat construction in which the side planks overlap.



COME ABOUT, TO

until finally the bows swing round and the wind is taken over the other side.

the operation of pointing a sailing vessel ever closer into the wind



## GLOSSARY

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CON, TO the action of looking out and navigating, as in the conning tower of a submarine.

CONVOY one or more merchant ships sailing in company under the protection of naval ships.

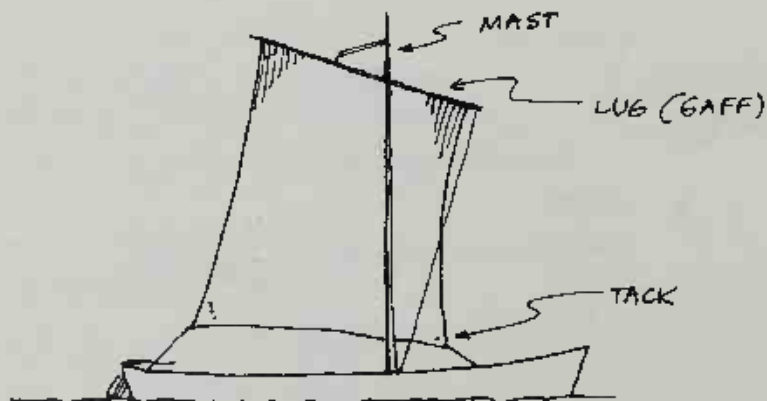
DAVIT a small crane, at the side of a vessel, used to carry, lower, and raise small boats such as lifeboats.

DECK the flooring of a vessel.

DECKHOUSE an enclosed structure or cabin built not within the hull but on the top deck of a vessel.

DIPPING LUG FORESAIL a dipping lugsail used as the sail on the foremast of a two- or more masted vessel.

DIPPING LUGSAIL a lugsail, the tack of which extends forward of the mast, necessitating the dipping (lowering) of the sail when coming about so that the sail may be set on the other side of the mast.



DIPPING LUGSAIL



## DOUBLE-ENDED

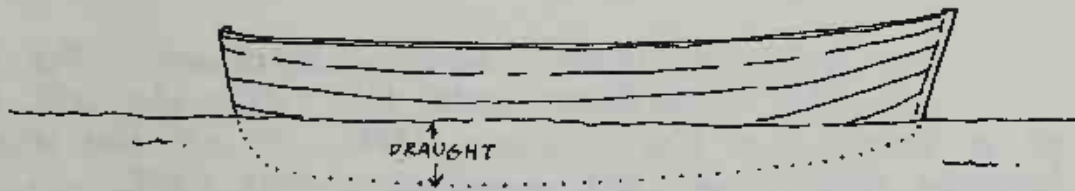
with the stern similar to the bow, as with a canoe.

## DOUBLE-OUTRIGGER

a vessel, such as a native canoe of the Pacific and Indian Oceans, having a counterpoising log rigged out from both sides to provide stability.

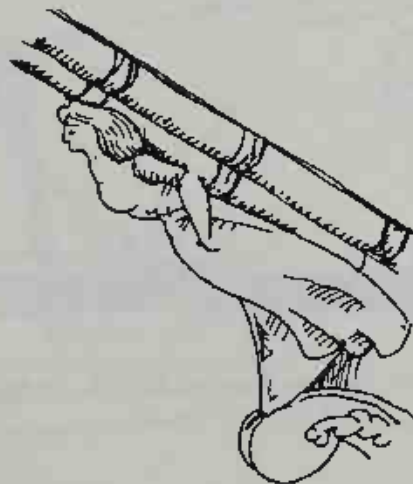
## DRAUGHT

(sometimes written 'draft' in American), the depth of water which a ship draws.



## FIGUREHEAD

an ornamental carved figure erected on the bows of a vessel, generally expressing some aspect of the ship's name or function. An old superstition that a naked woman could calm an angry sea led to many figureheads of women with bared breasts.



## GLOSSARY

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FIVE-MASTED, FIVE-MASTER

are set.

a sailing vessel having five masts from which sails

FLAG OFFICER

any officer in any navy of the rank of rear admiral (or the equivalent) and above; such officers, when in command at sea, denote their presence by flying a flag, in distinction to commodores, who fly broad pendants.

FLAGSHIP

the ship, in navies, that carries the admiral's flag. In mercantile shipping lines, the senior captain's ship.

FLEET

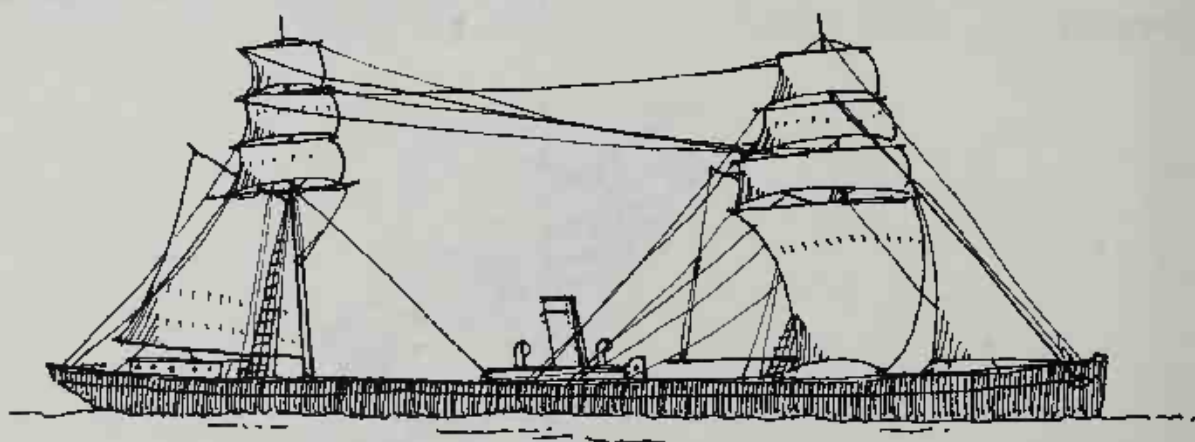
a group of vessels sailing together. The word is also sometimes used to describe all the vessels of a navy, e.g. the Russian fleet, or all the vessels of a similar type, e.g. the German U-boat fleet.

FLIGHT DECK

the deck, on an aircraft carrier, from which the planes take off and land.

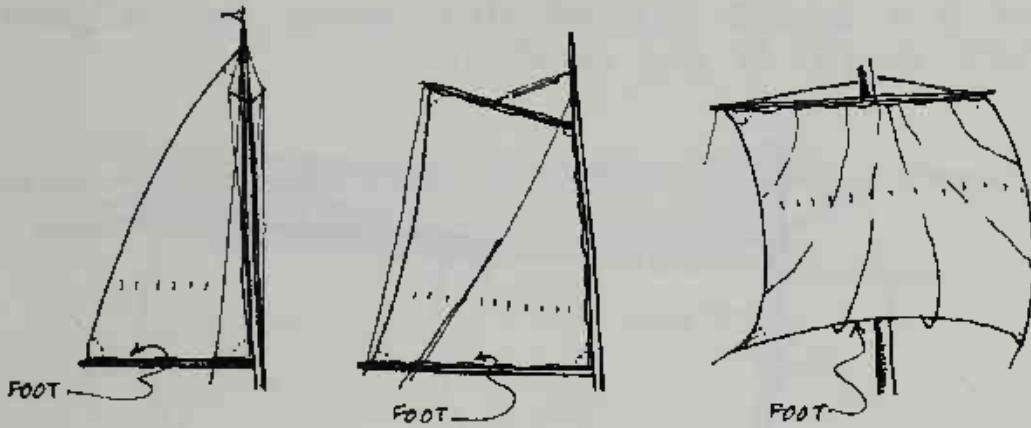
FLUSH-DECKED

a vessel, the top deck of which runs unbroken from stem to stern, with bridge or wheelhouse amidships.



19 TH CENTURY FLUSH-DECKED CARGO SHIP

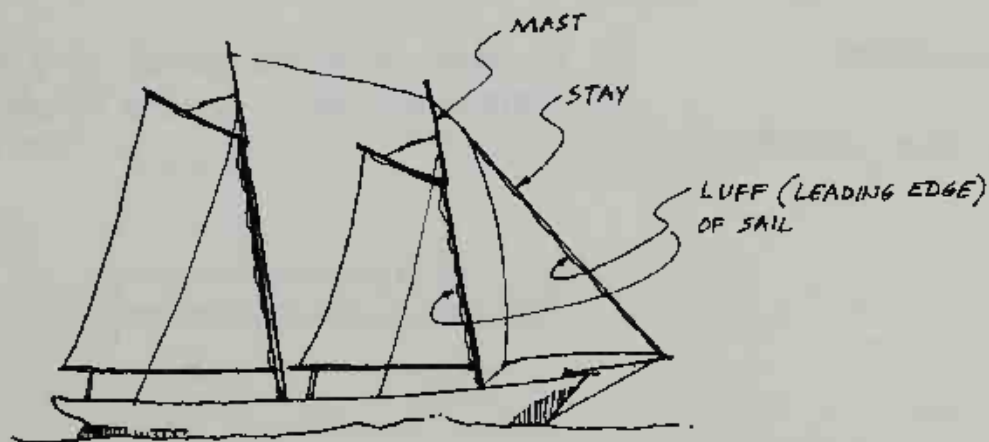
**FOOT** the bottom edge of a triangular or four-sided sail.



**FORE-AND-AFT** in the same direction as a line running from the bows to the stern, i.e. lengthwise.

**FORE-AND-AFT MAINSAIL** a mainsail which lies in a fore-and-aft direction, as in a modern yacht, in distinction to a square sail which lies across the vessel.

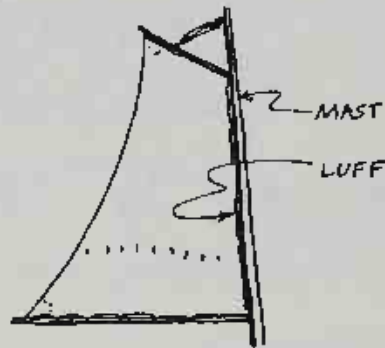
**FORE-AND-AFT RIGGED** a vessel in which the sails are arranged so that the luffs of the sails abut the masts or the stays.



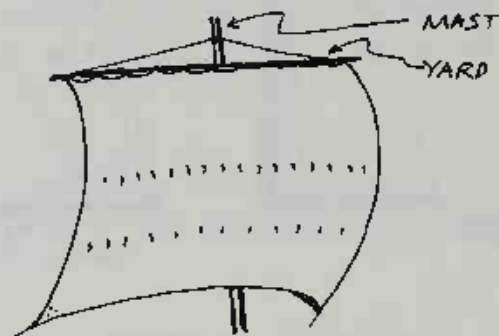
## GLOSSARY

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**FORE-AND-AFT SAIL** a sail set with the luff or leading edge to the mast or stay, as opposed to a square sail which is hung from a yard set at right angles to the mast.



FORE-AND-AFT SAIL



SQUARE SAIL

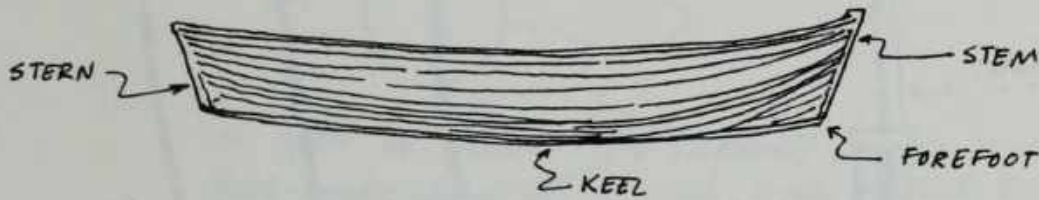
**FORECASTLE** (pronounced *fohksal*), the space below the deck in the bows of a ship. The word originated from the 'castle' which was built in the bows of medieval fighting ships, and from which the archers fought.

**FORECASTLE DECK** (pronounced *fohksal deck*), the short deck above the forecastle in the bows of a ship.

**FOREDECK** in a ship with no raised forecastle deck, the foremost part of the deck is known as the foredeck.

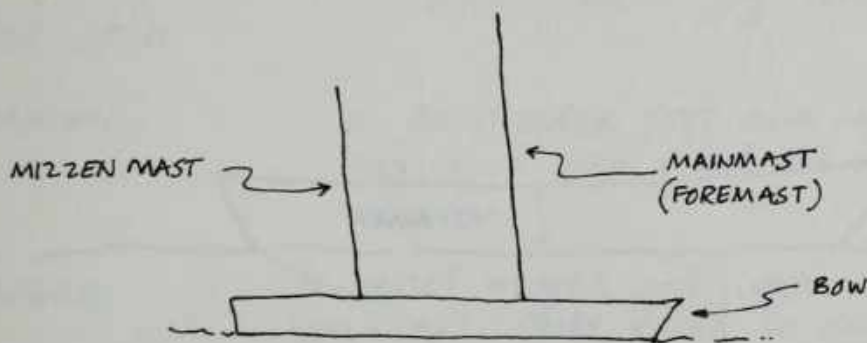
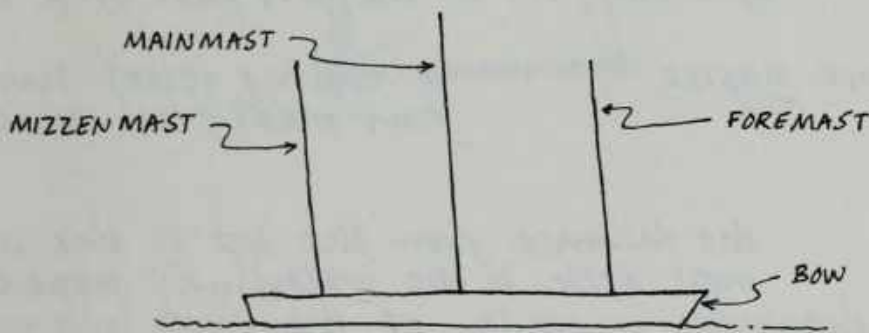
FOREFOOT

the point at which the stem joins the forward end of the keel.



FOREMAST

the first mast aft the bow, although if the second mast is smaller it is called the mizzenmast and the first mast, though still technically the foremast, is called the mainmast.

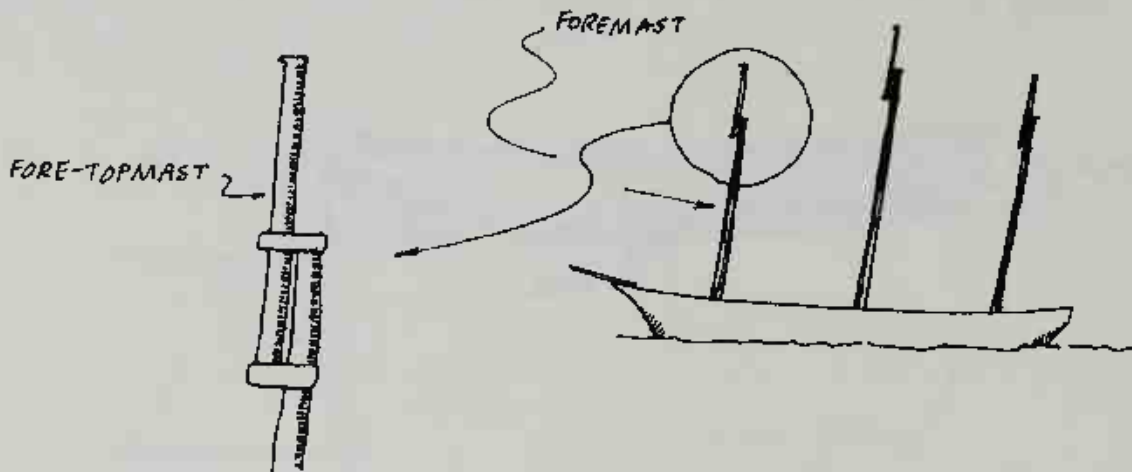


GLOSSARY

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FORE-TOPMAST

the uppermost part of the foremast.



FORWARD

(pronounced forrard), towards the bows of a ship, or in the fore part of a ship.

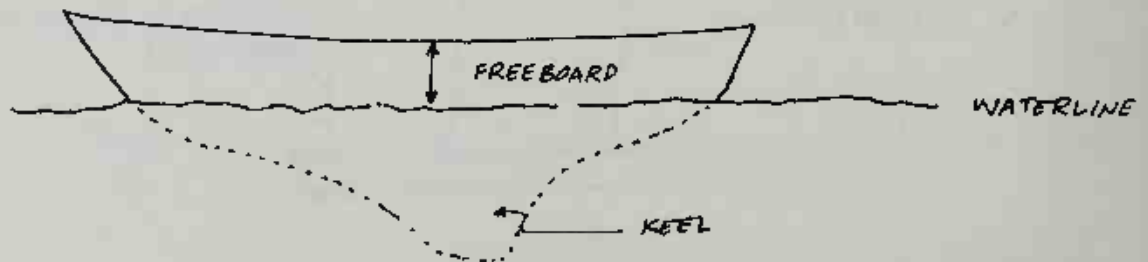
FOUR-MASTED, FOUR-MASTER

sails are set.

a sailing vessel having four masts from which

FREEBOARD

the distance from the top of the uppermost deck to the waterline, properly measured at the waist or center of the ship.

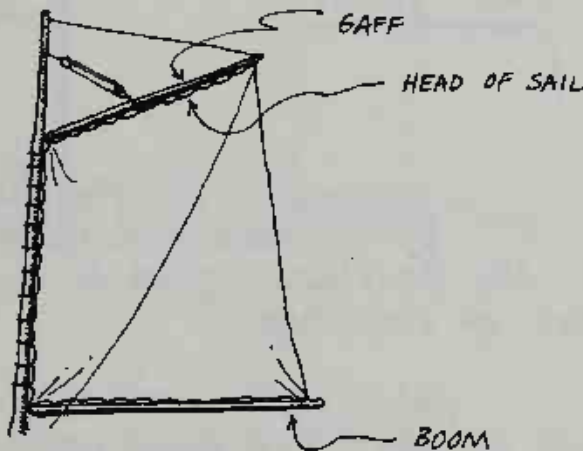


## FULL-RIGGED

properly a full-rigged ship has at least three masts, each fitted with a topmast, topgallant mast, and royal mast, all square-rigged with yards and square sails.

## GAFF

a spar to which the head of a four-sided fore-and-aft sail is set, and hoisted by.



## GAFF AND BOOM MAINSAIL

illustrated above.

a four-sided fore-and-aft mainsail which has a gaff and a boom, as

GAFF MAINSAIL  
boom).

a four-sided fore-and-aft mainsail, having a gaff (but not necessarily a

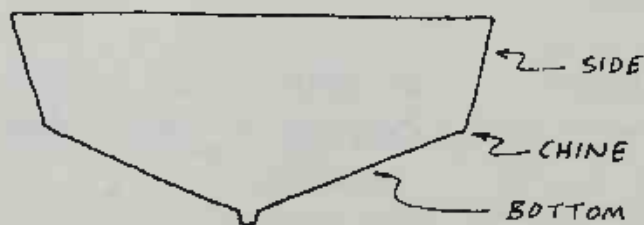
## GAFF-RIGGED

a vessel rigged with four-sided, fore-and-aft sails laced to gaffs.

## GLOSSARY

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- GAFF SAIL** a four-sided fore-and-aft sail which is laced to a gaff.
- GUN DECK** a deck on which guns are mounted. Ships may have but one or several gun decks, see illustration on page 370.
- GUNWALE** (pronounced gunnel), strictly, the gunwale is the plank which covers the heads of the side timbers of a ship, but its meaning has been extended to mean the extension above the deck of the sides of a small vessel.
- HALF-DECK** originally the structure on the upper deck of a merchant vessel where apprentices were berthed, the term now refers to any deck which extends over only part of the ship.
- HALYARDS** (also spelt halliards or haulyards), ropes, wires, or lines used to hoist or lower sails.
- HARD-CHINE** a hull having a pronounced angle at the point where the sides meet the bottom.



CROSS-SECTION OF HARD-CHINE HULL



## HARPOON

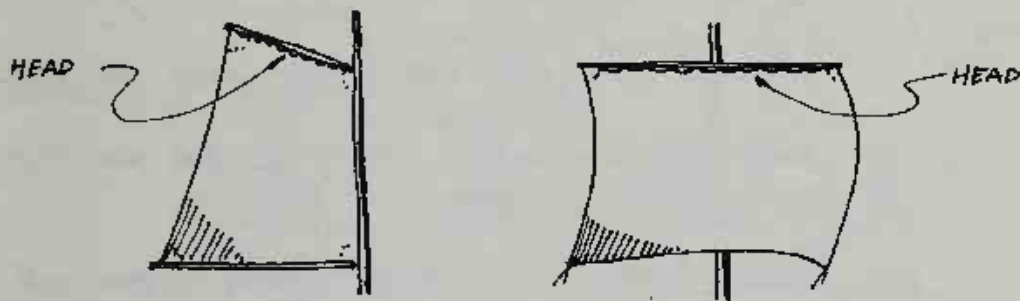
a spear with a barbed head and a line attached used for catching whales.

## HATCH

although often used to mean the cover that closes it, a hatch is properly an opening in the ship's deck designed for ingress and egress of people or cargo.

## HEAD

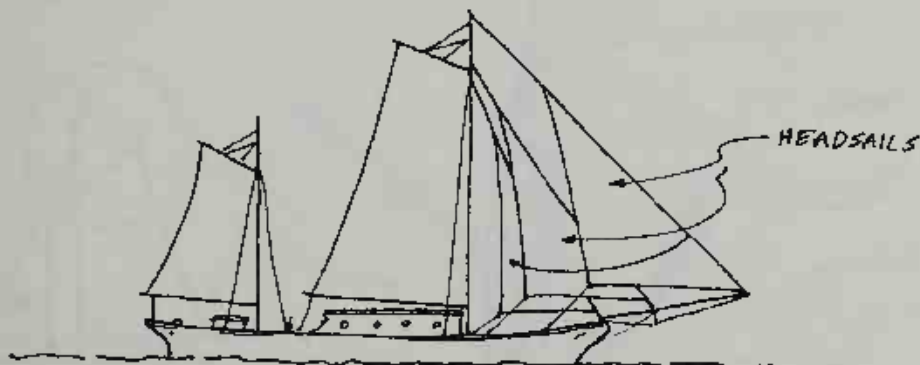
a. the top edge of a four-sided sail.



b. originally used in the plural to refer to the space forward of the fore-castle used as the seaman's lavatory, the word is still used in this sense though lavatories are no longer open or necessarily located in the same place.

## HEADSAIL

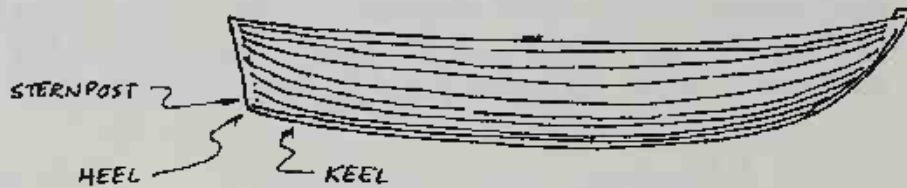
a sail hoisted at the forward end of a vessel such as a jib or staysail.



GLOSSARY

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HEEL the point at which the keel meets the sternpost.



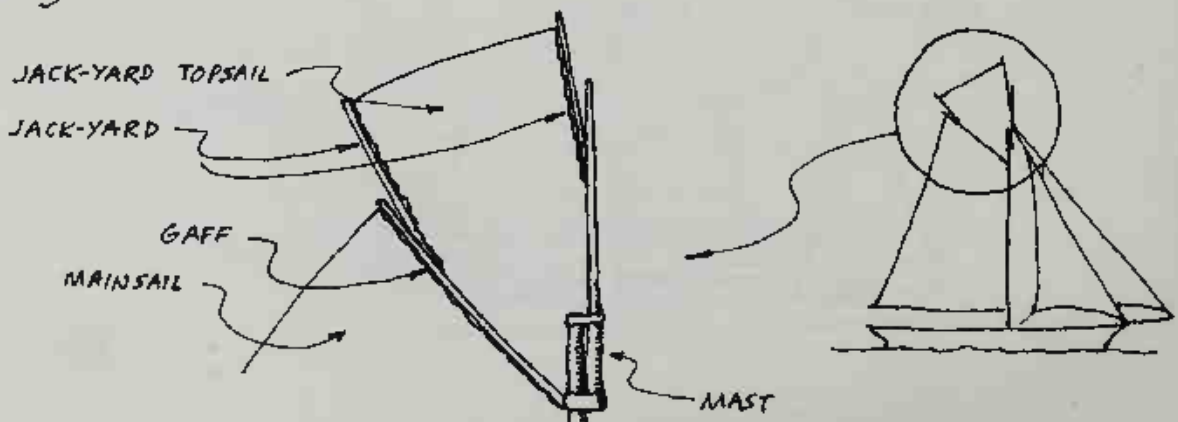
HELMSMAN the man who steers the ship at sea.

HOLD a large compartment below decks for the stowage of cargo and provisions.

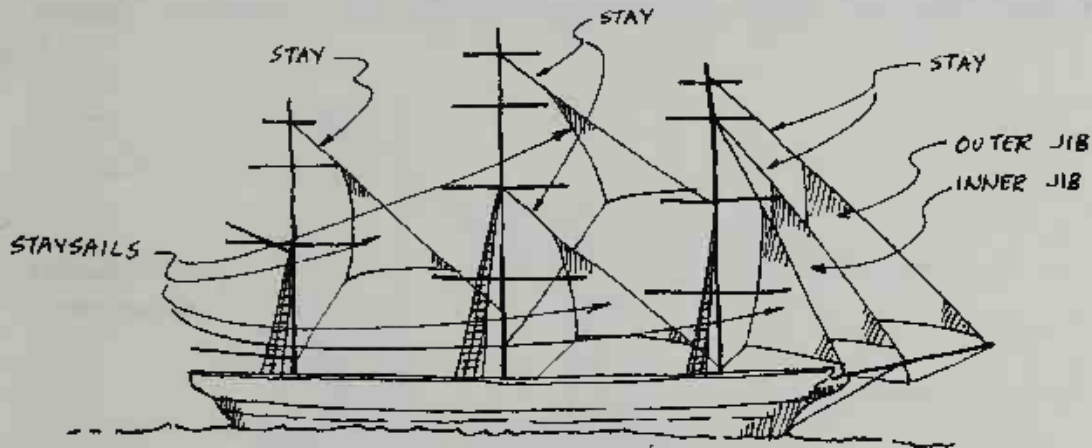
HULL the main body of a ship apart from all masts, rigging, engines, fittings, etc.

HURRICANE DECK a platform, the breadth of the upper deck, fitted over the deckhouses of a passenger steamer, and used principally as a promenade.

JACK-YARD TOPSAIL a triangular sail set above the mainsail in gaff-rigged vessels. The luff and foot of the sail are extended beyond the mast and gaff by jack-yards.



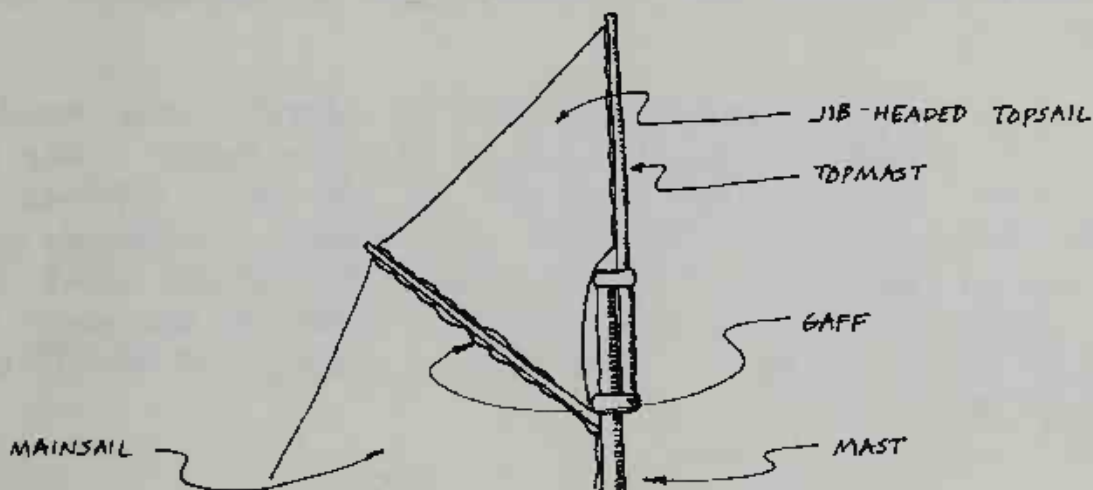
**JIB** a triangular sail set before the foremast. Old sailing ships often carried as many as six jibs. Jibs are set on the stays; if there is more than one jib, the aftermost one is usually called a staysail. All triangular sails set from the stays of masts other than the foremast are known as staysails.



**JIB-HEADED TOPSAIL**

a triangular sail set above the mainsail in gaff-rigged vessels.

Unlike the jack-yard topsail (see opposite), the jib-headed topsail just fills the area between mast and gaff.

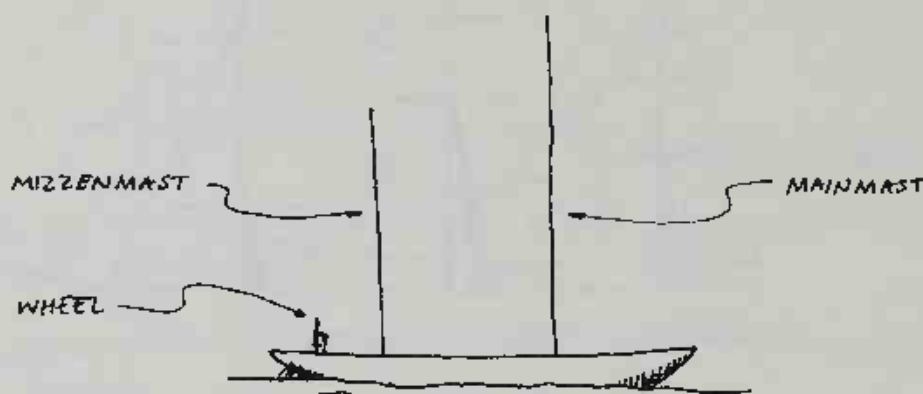


## GLOSSARY

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**KEEL** the lowest continuous member of a ship which forms its backbone and to which the stem, stern, and ribs of the frame of the hull are attached.

**KETCH-RIGGED** a vessel rigged with two masts, a mainmast, and a mizzenmast, stepped before the steering wheel or rudder head.



**KNOCKED - DOWN** originally referring to casks which had been taken apart by the cooper on board, the term now applies to sailing vessels rolled over by the wind or heavy seas so that the masts are in the water.

**KNOT** the nautical measure of speed: one nautical mile (6,080 ft (1,853.19 m)) per hour. The term comes from the number of knots on the ship's log-line which ran out when the line was thrown overboard while a 28-second sandglass emptied itself. The knots were tied every 47ft 3in (15m) and gave the speed of the ship in nautical miles per hour. The term is always  $x$  knots, never  $x$  knots an hour.

LATEEN MIZZEN  
a mizzen).

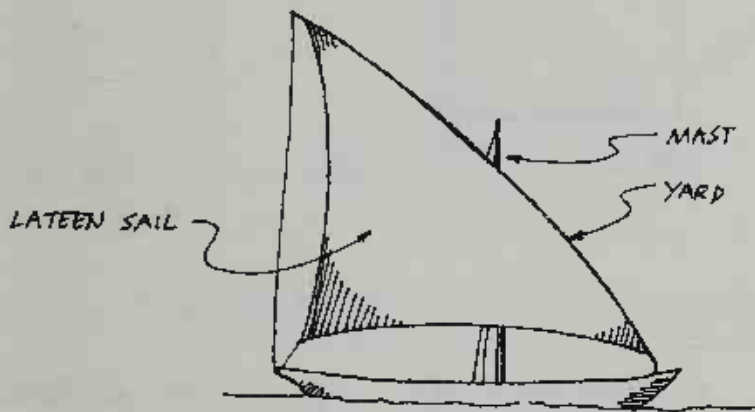
a mizzen mast having a lateen sail (or a lateen sail used as

LATEEN-RIGGED

a vessel rigged with lateen sails.

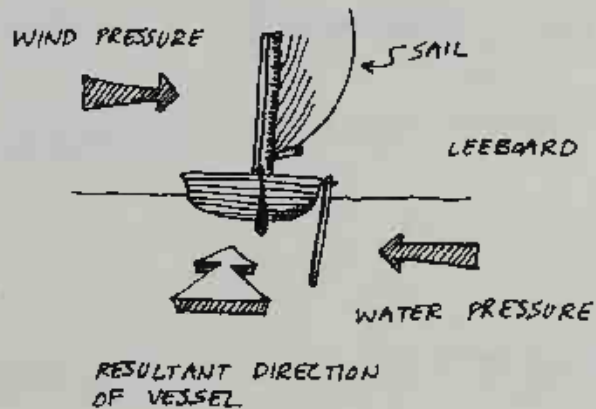
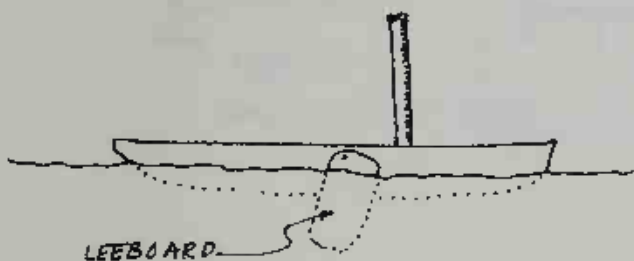
LATEEN SAIL  
the mast.

a triangular sail set on a yard hung at about a 45° angle from



LEEBOARD

a heavy board hung over the side of a shallow-draught vessel and lowered into the water to prevent the vessel from making leeway - being blown sideways.



GLOSSARY

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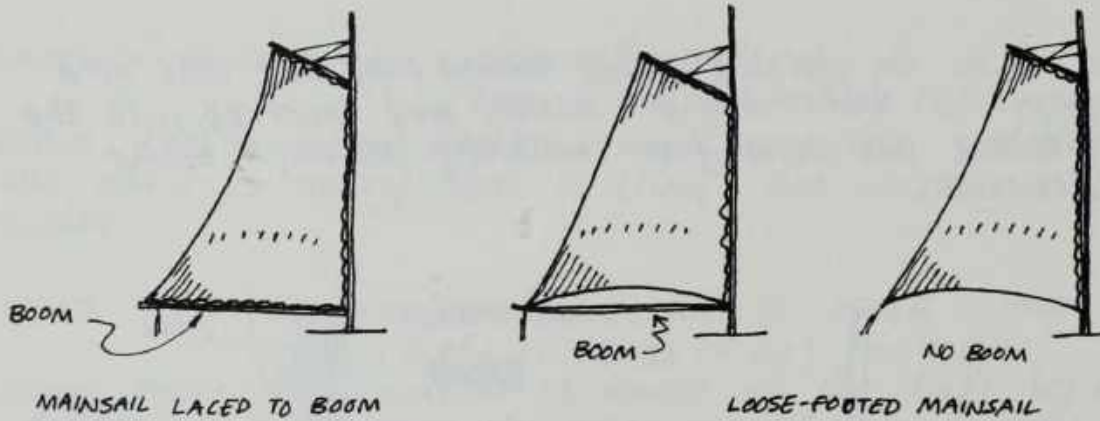
LEG-OF-MUTTON SAIL

a triangular mainsail used on small boats, hoisted from the top.



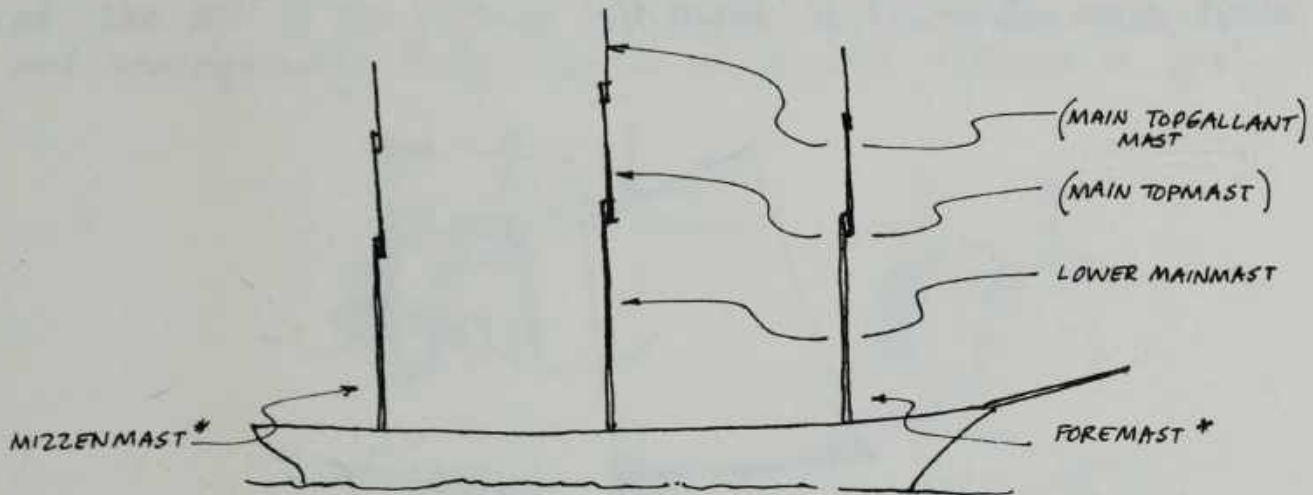
LOOSE-FOOTED

a fore-and-aft sail with no boom, or not laced to a boom.



LOWER MAINMAST

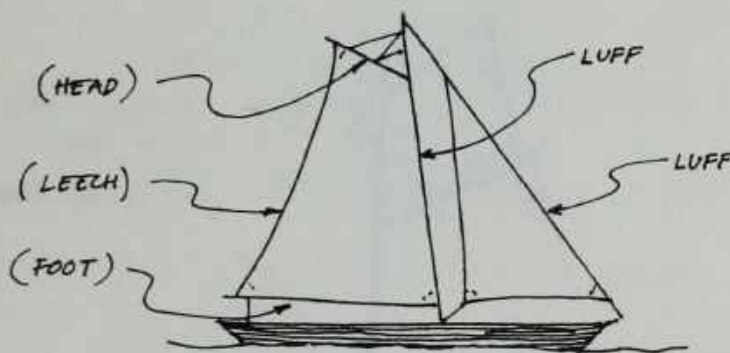
the lowest part of the mainmast.



\* THE VARIOUS SECTIONS OF THESE MASTS ARE NAMED SIMILARLY TO THOSE OF THE MAINMAST

LUFF

the leading edge of a fore-and-aft sail.



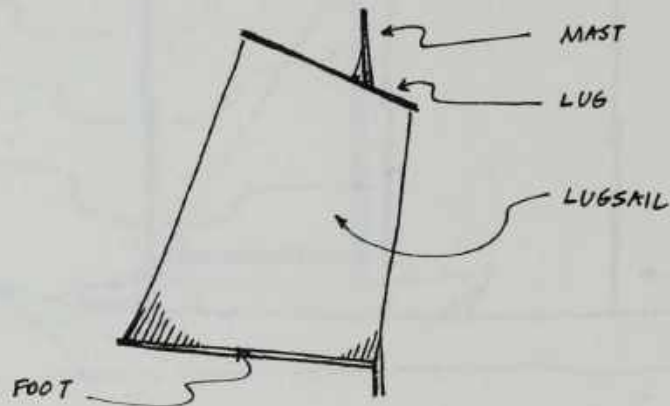
LUG-RIGGED

a vessel rigged with one or more lugsails.

GLOSSARY

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**LUGSAIL** a four-sided fore-and-aft sail that hangs from a lug or gaff which is generally two-thirds the length of the foot, and which projects past the mast from which it is hoisted.

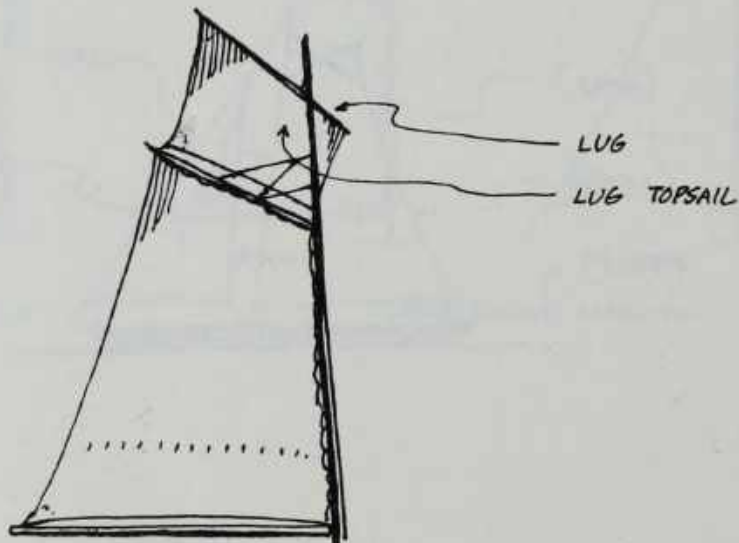


**LUGSAIL-RIGGED**

a vessel rigged with one or more lugsails.

**LUG TOPSAIL**

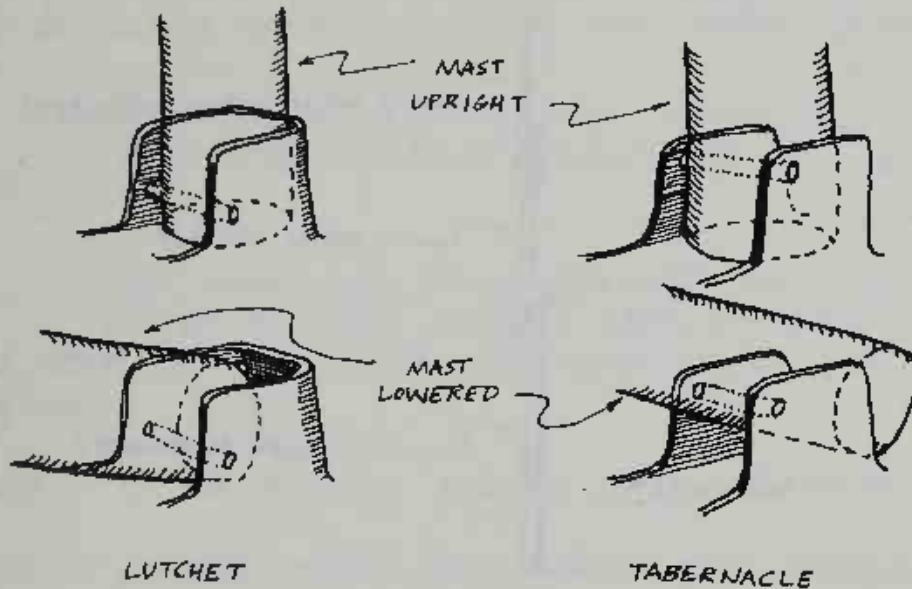
a topsail, with four sides, laced to a lug.





## LUTCHET

a form of mast housing on deck which allows the mast to be lowered when passing under low bridges. The mast is pivoted at the base rather than at the top of the fitting (as is the case with the tabernacle) and consequently only the back of the fitting is open.



## MAIN DECK

the principal deck in a ship; in two-deck ships, the upper one; in ships with more than two decks, the second one down.

## MAIN LUG

the principal sail in a ship being a lugsail.

## MAINMAST

the largest mast on a ship.

## MAINSAIL

the principal sail of a sailing vessel. on a square-rigged ship the mainsail (usually called the main course) is the lowest (and largest) sail on the mainmast.

GLOSSARY

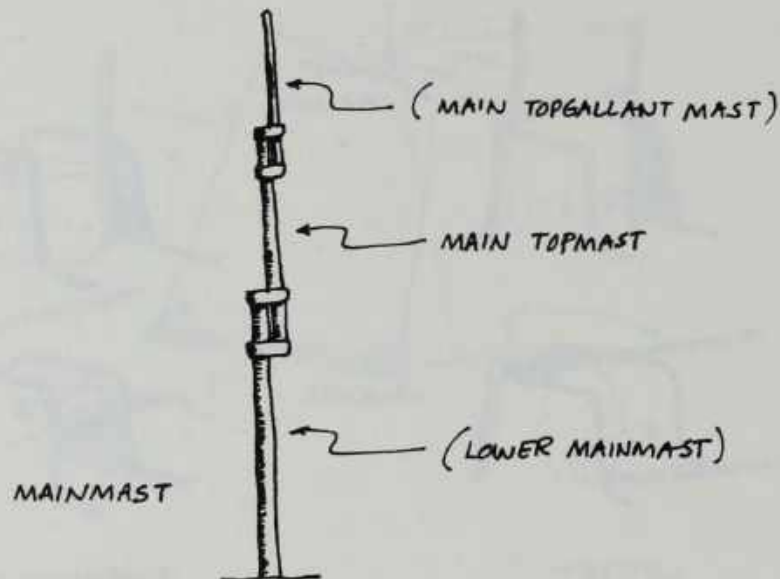
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MAIN SQUARESAIL

a four-sided sail set on the mainmast.

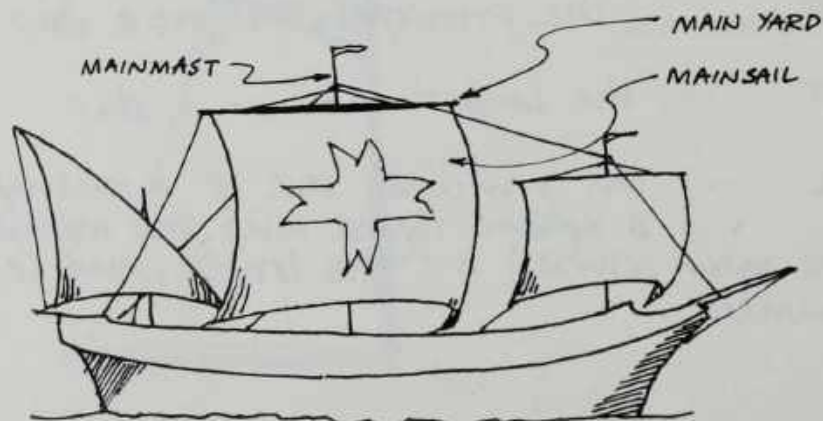
MAIN TOPMAST

the middle section of a three-part mainmast.



MAIN YARD

the yard on the mainmast; if there be more than one such yard, the one from which the mainsail is hung.



**MAKE, TO** the way of expressing a ship's speed: she makes six knots, i.e. the ship moves at six nautical miles per hour.

**MAST** a vertical spar (set in a ship) whose prime purpose is to carry sails, but which may also serve to carry wireless aeriaks and radar equipment.

**MIDSHIPS** the central fore-and-aft line of a vessel. Also the waist, or middle of the fore-and-aft length.

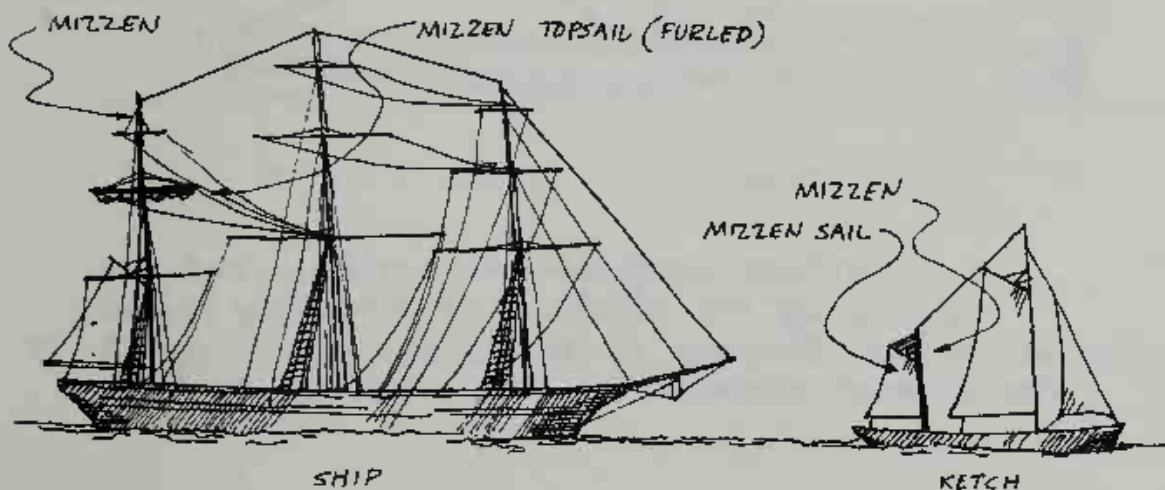
**MIZZEN** the name of the aftermost mast of a three- or more masted square-rigged sailing ship, and also the name of the small after-mast of a ketch or yawl.

**MIZZEN LUG** a mizzen rigged with a lugsail.

**MIZZENMAST** the mast from which the mizzen sail is set.

**MIZZEN SAIL** the sail that is set from the mizzenmast.

**MIZZEN TOPSAIL** the topsail set from the mizzenmast.

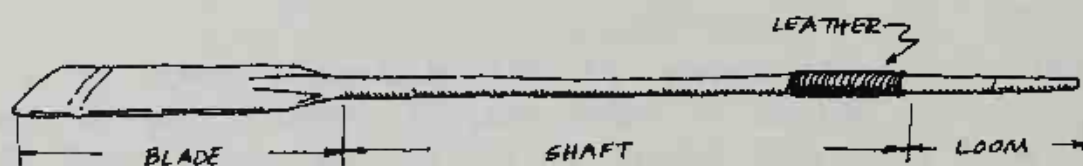


## GLOSSARY

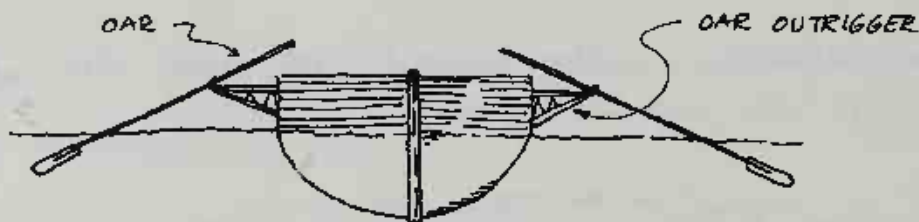
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**NET BOAT** a fishing boat which fishes with nets rather than with hooked lines.

**OAR** a wooden instrument which, used as a lever (the point of leverage being a fixture in the gunwale of the boat), pulls the boat through the water.

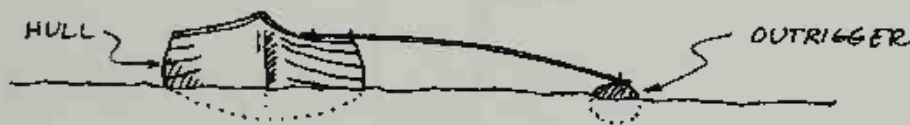


**OAR OUTRIGGER** a framework extension to the sides of a hull designed to hold the oars, as of a galley.

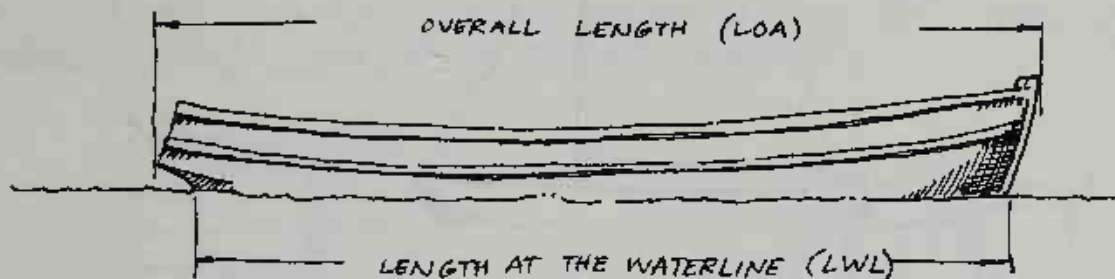


**OCTANT** a reflecting navigational instrument for measuring the altitude of heavenly bodies. It is called an octant because it has an arc of one eighth of a circle. The octant invented by John Hadley is shown on page 18.

- ONE-MASTED** a vessel having one mast.
- OUTBOARD** on the seaward side of the hull, such as an outboard engine which is generally placed aft the stem.
- OUTRIGGER** a counterpoising log of wood rigged out from the side of a hull to provide additional stability; by extension, the vessel which has such an outrigger.



- OVERALL LENGTH** the distance from the foremost part of the stem to the aftermost part of the stern. Often abbreviated to LOA.

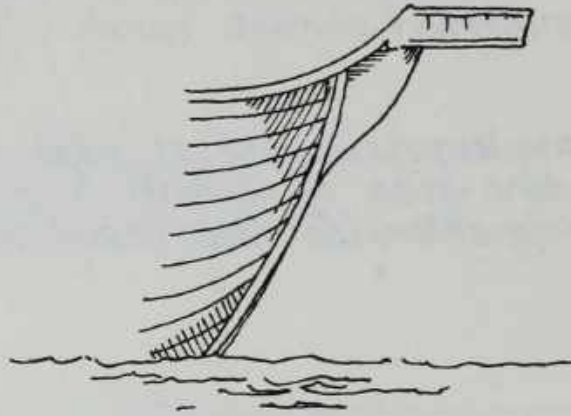


GLOSSARY

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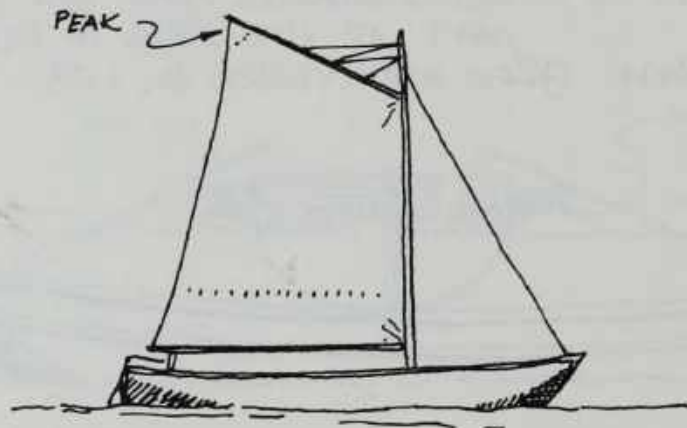
PARROT BEAK

a distinctive form of prow, as shown.



PEAK

the upper, after corner of a four-sided fore-and-aft sail.

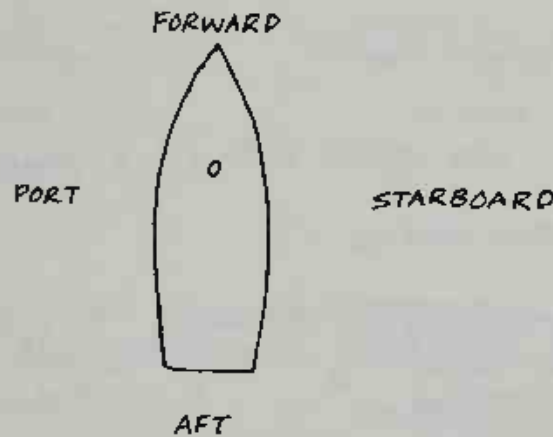


POLE MAST

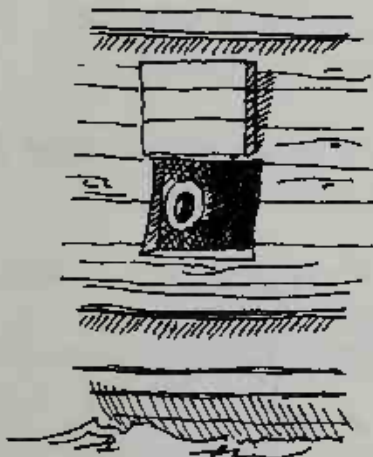
a mast made from a single spar rather than several sections. This was the kind of mast used on polacres.

**POOP** the name given to the short, aftermost deck, raised above the quarterdeck of a ship, which in large ships comprised the roof of the captain's cabin.

**PORT** the name given to the left-hand side of a vessel as viewed from aft.



**PORTHOLE** a corruption of the term "port," which was a square opening in the side of ships, for guns etc., and now often wrongly used to describe the round, glazed openings in the sides of modern ships, properly called scuttles.



PORT IN THE SIDE OF A WARSHIP

SCUTTLES IN A MODERN LINER

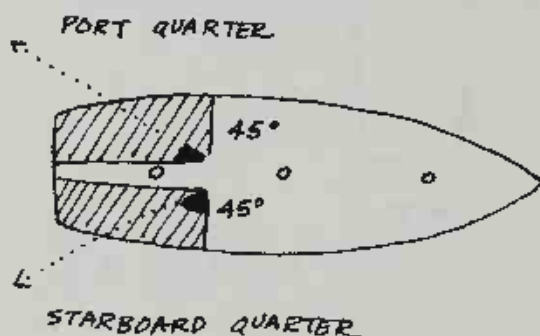
## GLOSSARY

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**PRESS GANG** the name given to those seamen whose job it was to bring in seamen for service in time of war, under the system known as impressment.

**PROW** a word used (rarely by sailors) to describe the forward end of a vessel.

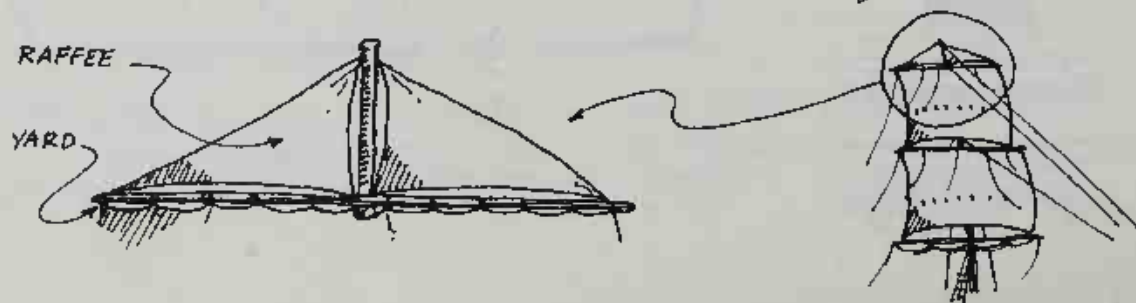
**QUARTER** the after side of a ship.



**QUARTER DECK** that part of the upper deck abaft the mainmast (or where the mainmast would be), commonly reserved for the captain and officers.

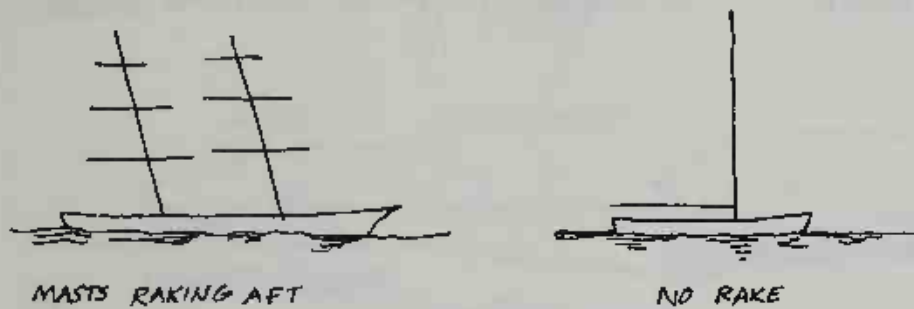
**RAFFEE TOPSAIL**

a triangular sail hung from the top of the mast to the yard below.

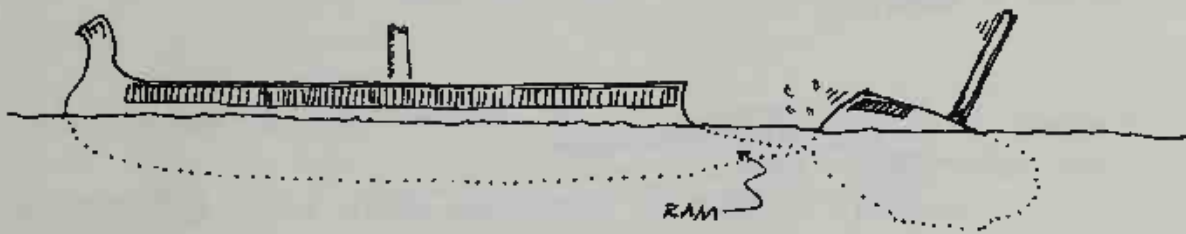




**RAKE** the angle of the masts to the perpendicular.



**RAM** a projection from the bow of a warship, at or below the waterline, designed to sink an enemy ship by ramming.



**RIG** the term used to describe the particular arrangement of masts and sails in a vessel.

**RIG, TO** the operation, in a sailing vessel, of setting up the rigging and yards to receive the sails.

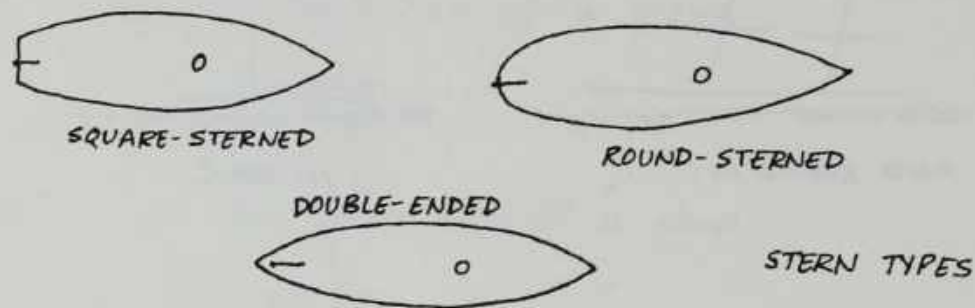
**RIGGING** the term used to describe all lines, ropes, cables, and chains, which support the masts and spars, and which hoist, lower, and trim the sails.

GLOSSARY

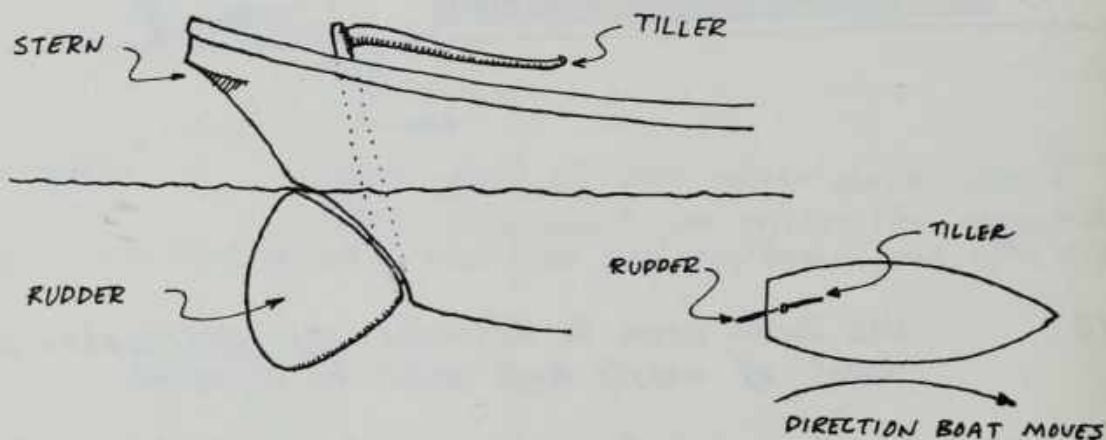
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ROUND-ENDED a vessel with a rounded stern.

ROUND-STERNEED a vessel with a rounded stern.



RUDDER a broad, flat device at the vessel's stern for steering.



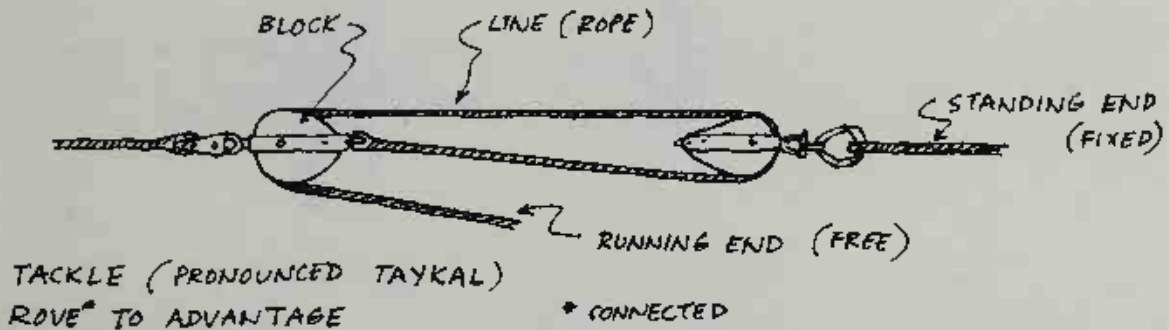
RUN BEFORE THE WIND, TO blowing the vessel ahead.

the situation of a sailing vessel when the wind is



**RUNNING TACKLE**

a pair of blocks connected by rope, which multiplies the power exerted on the rope, used for most lifting and moving jobs in a vessel.



**SAIL**

an assemblage of cloth designed to catch the wind and use its force to move a sailing vessel.

**SAIL CLOSE TO THE WIND, TO**

to point a sailing vessel as close into the wind as is possible and still achieve forward motion.



**SALVAGE**

a proportion of the value of a ship and her cargo paid to the rescuers who save her from danger. No salvage can be paid to the ship's own crew, however.

## GLOSSARY

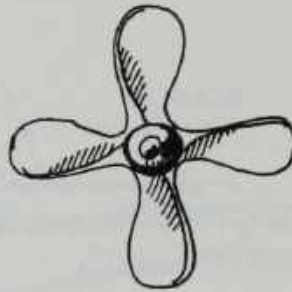
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SCREW

the rotating propeller of a steamship, by which she is forced through the water.



SIDE VIEW



END VIEW

SCULL, TO

a method of propelling a boat forward by working an oar over the stern.

SET, TO

to fix the sails on a ship.

SETTEE SAIL

a four-sided lateen sail (lateen sails having only three sides).



LATEEN SAIL



SETTEE SAIL

SHALLOW-DRAUGHT

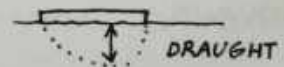
a vessel drawing little water.



SHALLOW DRAUGHT

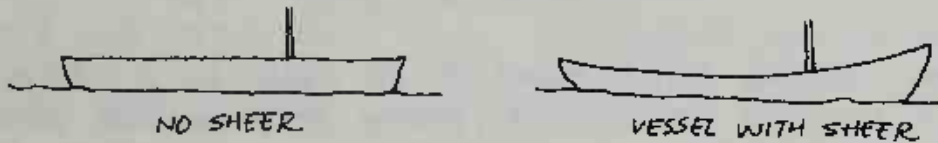


DEEP DRAUGHT



**SHARP-ENDED** a vessel whose stern ends in a point.

**SHEER** the curve fore-and-aft of the deck.

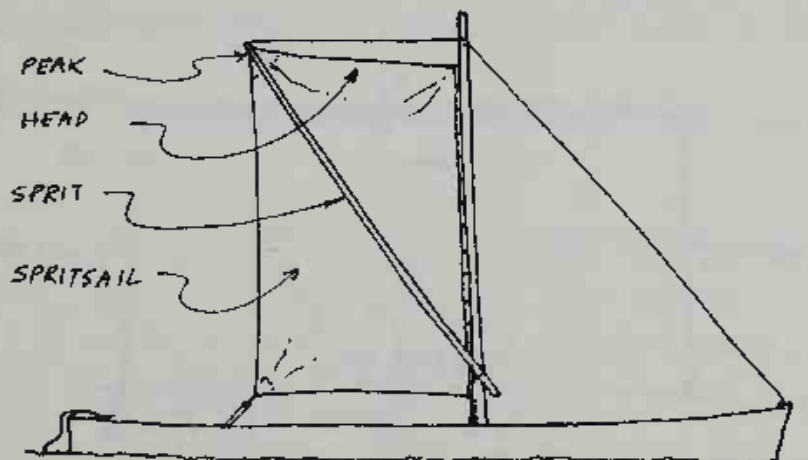


**SHIP RIG, SHIP-RIGGED** a vessel with at least three square-rigged masts and a bowsprit.

**SIDE DECK** a deck which runs only along the side of a vessel (as in a turret deck vessel) and does not extend the whole breadth of the vessel.

**SPAR** a general term for any wooden support used in the rigging of a ship, such as masts, yards, booms, etc.

**SPRITSAIL** a four-sided fore-and-aft sail the head of which is supported by a sprit, which extends upwards from the mast to the peak.



GLOSSARY

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SPRITSAIL - RIGGED

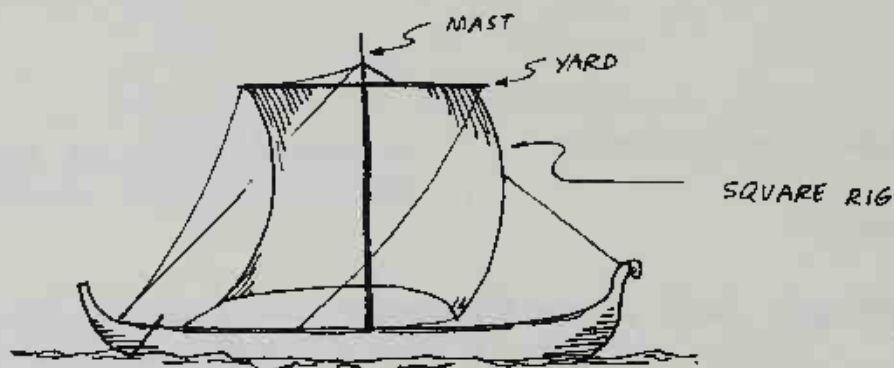
a vessel rigged with one or more spritsails.

SQUARE-ENDED

a vessel with a square stern; see the illustration on page 430.

SQUARE RIG

the arrangement of sails in a vessel where the sails are hung from yards which lie square to the mast.



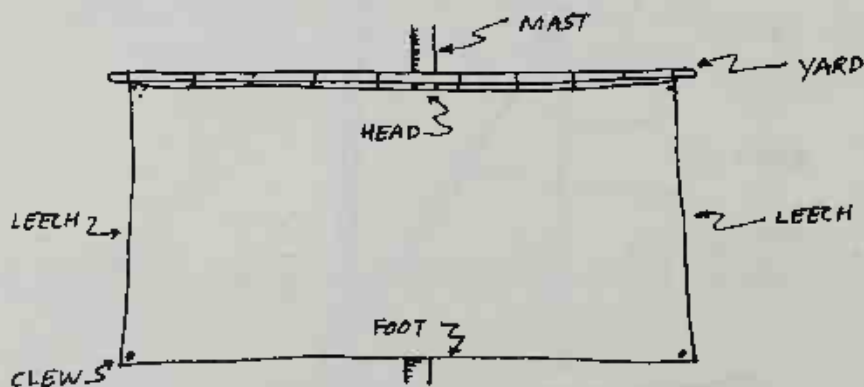
SQUARE-RIGGED, SQUARE RIGGER

yards.

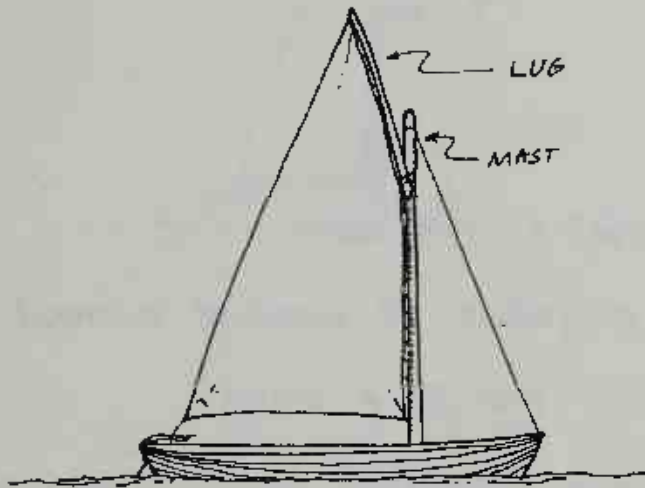
a vessel rigged with square sails hung from

SQUARE SAIL

a four-sided sail hung from a yard set square to the mast

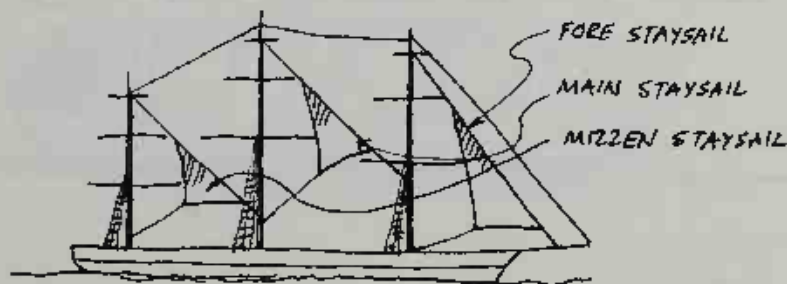


- SQUARE-STERNE** a vessel having a square stern.
- SQUARE-TOPSAIL** a four-sided topsail hung from a yard.
- STANDING LUG MAINSAIL** a lugsail set on the mainmast with the forward end of the lug made fast to the mast, of which it then becomes a virtual extension.



- STARBOARD** the right hand side of the vessel looking forward, so called from the early practice of hanging the steering oar or board from this side.

- STAYSAIL** a sail set from a stay - a line supporting a mast.

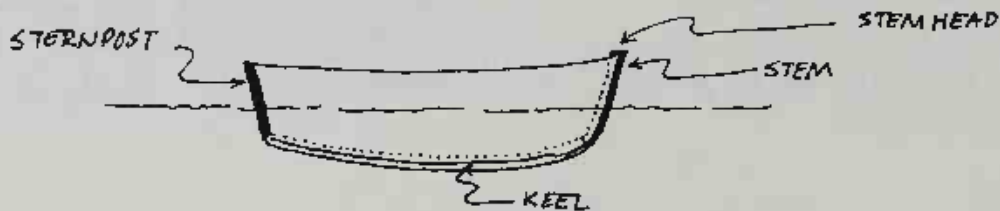


## GLOSSARY

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**STEEVE** the angle of the bowsprit in relation to the horizontal.

**STEM** the foremost member of the bow of a vessel, which joins the keel.



**STEMHEAD** the top of the stem.

**STEP, TO** the operation of erecting a mast.

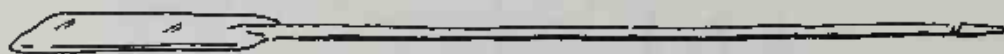
**STERN** the after end of a vessel.

**STERNCASTLE** the structure built in the stern of medieval ships, from which the archers and soldiers fought.

**STERNPOST** the aftermost member in a vessel's framework which joins the keel. See illustration at top of page.

**STERN-TO** to proceed stern first.

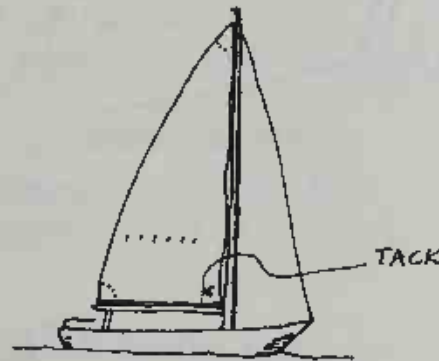
**SWEEP** a very long, heavy oar carried on sailing vessels for use when the wind failed.





**TABERNACLE** a fitting on deck in which the bottom of the mast is hinged, allowing it to be lowered when passing under bridges. See illustration on page 421.

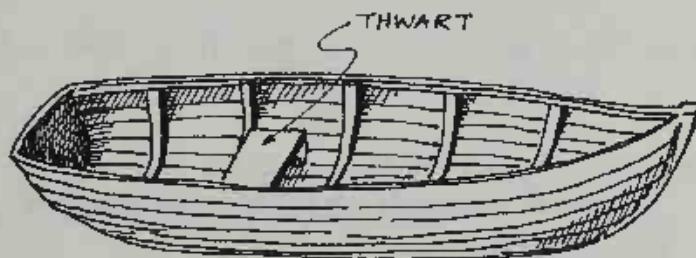
**TACK** the lower, forward corner of a fore-and-aft sail.



**TAFFRAIL** the after rail at the stern of a ship. Also in modern usage the aftermost deck area.

**THREE-MASTED, THREE MASTER** a sailing vessel having three masts.

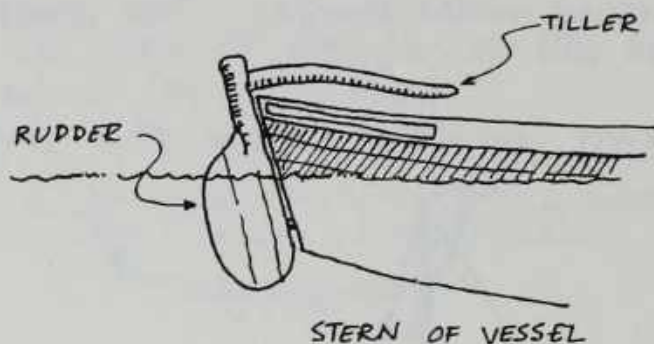
**THWART** a transverse wooden seat in a small boat, such as the seat in a rowboat on which the oarsman sits.



## GLOSSARY

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**TILLER** the wooden or metal bar that controls the rudder.

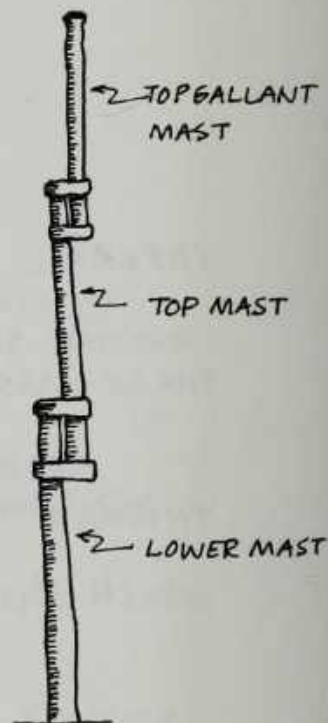


**TOPGALLANT MAINMAST** the third section of the mainmast.

**TOP MAINMAST** the second section of the mainmast.

**TOPMAST** the second section of a complete mast.

PARTS OF A COMPLETE MAST

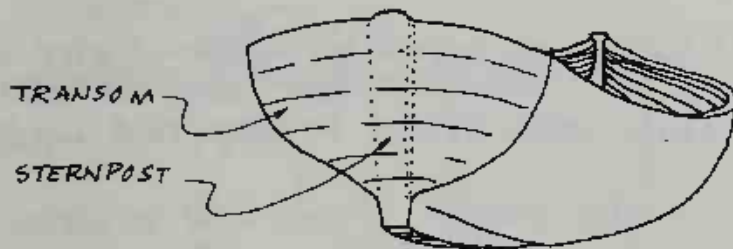


**TOPPING LIFT** a line which hoists or lowers the end of a spar.

**TOPSAIL** the sail set next above the mainsail. In many square-rigged ships the topsail became two sails: upper and lower-topsail.

**TOTAL DISPLACEMENT** the weight of the water which a ship displaces when floating fully loaded. This, at the rate of 35 cubic feet per ton (9 cubic meters per .8 metric tons) is the actual weight of the ship, since a floating body displaces its own weight in water.

**TRANSOM** the transverse timbers, which, fixed to the sternpost, give a vessel a flat stern.



**TRANSOM STERN** a vessel whose stern is constructed as a transom.

**TRIM, TO** the act of adjusting the weight in a vessel so that she floats at the required angle, and the act of adjusting the sails so that they lie at the best angle to the wind.

**TRUCK** the fitting at the top of a mast through which various lines pass.

**TWO-BERTH** a vessel with sleeping accommodations for two people.

**TWO-MASTED, TWO MASTER** a vessel having two masts.

## GLOSSARY

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**UNSHIP, TO** to detach or remove something from its fixed position, such as oars and masts.

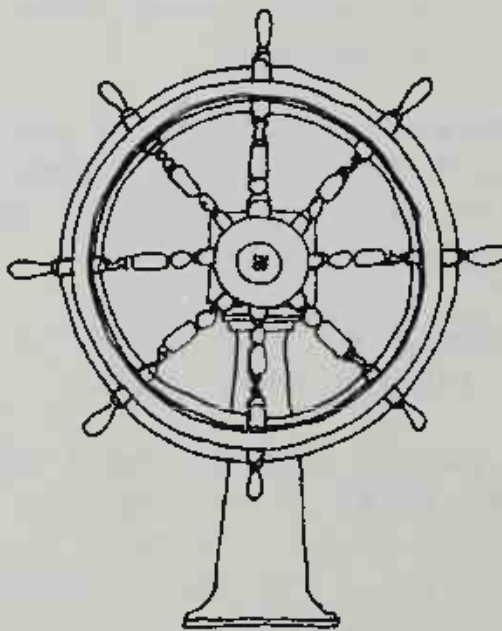
**UPPER DECK** the highest of those decks which run the full length of the ship. In those ships that have more than one deck it is the deck above the main deck.

**WAIST** that part of the upper deck which lies between the fore-castle and the quarter deck, or between the fore- and mainmasts.

**WASHBOARD, WASHSTRAKE** a movable upper strake or board which may be attached to the gunwales of some open boats to keep out water.

**WATERLINE LENGTH** the length, from bow to stern, of a vessel at the waterline.

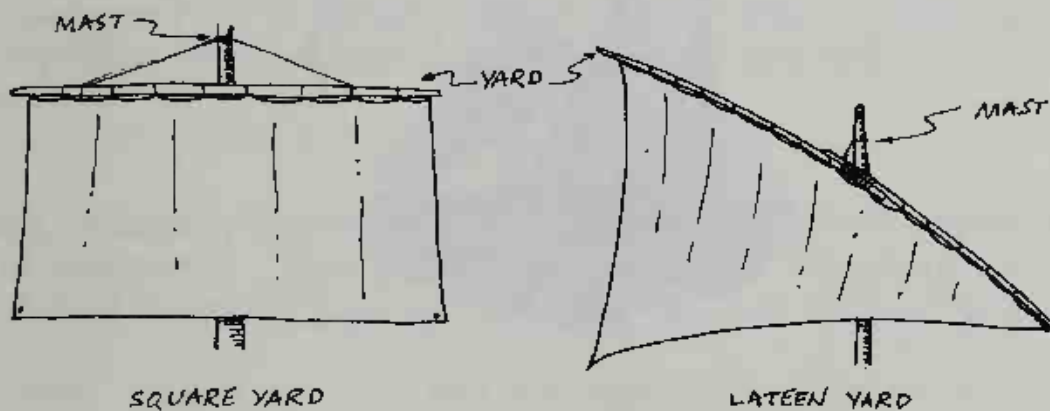
**WHEEL** the steering wheel, which is attached to the rudder.



**WHEELHOUSE** the deckhouse which houses the steering wheel. In large ships it is part of the bridge.

**WINDWARD** the side from which the wind blows.

**YARD** a large wooden or metal spar which crosses a mast and from which sails are hung. In square-riggers the yard is horizontal, in lateen-rigged vessels the yard crosses the mast diagonally.



**YARD TOPSAIL** a topsail which is set from a yard.

**YAWL-RIGGED** a vessel having two masts, a mainmast and a small mizzenmast stepped aft of the steering gear.



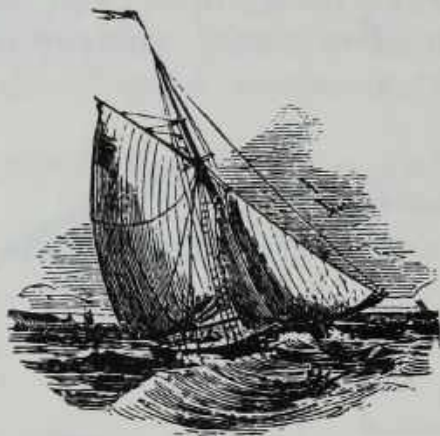
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# Bibliography



There are so many books on nautical matters that a complete bibliography of the subject would fill many, many pages. This, therefore, is a small, select list of books which are among my favorites, and which I think would appeal to readers of this book.

ANDERSON, ROMOLA, and R.C., THE SAILING SHIP: SIX THOUSAND YEARS OF HISTORY. New York: W.W. Norton & Company, Inc., 1963  
A small classic, tracing the whole known history of ships.

BLOOMSTER, EDGAR L., SAILING AND SMALL CRAFT DOWN THE AGES. Annapolis, Maryland: The United States Naval Institute, 1940  
A good reference book of sailing vessels in encyclopedic form.

BUDD, RHONDA, ed., SAILING BOATS OF THE WORLD: A GUIDE TO CLASSES. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1974  
A very complete book of specifications and illustrations of practically all contemporary small boat classes.

CHAPELLE, HOWARD I., AMERICAN SMALL SAILING CRAFT: THEIR DESIGN, DEVELOPMENT AND CONSTRUCTION. New York: W.W. Norton & Company, Inc., 1951  
Howard I. Chapelle is a noted marine author who has written several excellent books on ships and boats, most of them now standard works.

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HEATON, PETER, SAILING. Harmondsworth, Middlesex, England: Penguin Books Ltd., 1949

The first book I ever read on sailing and still my favorite.

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A wonderfully compendious book covering almost everything.

LANDSTRÖM, BJÖRN, THE SHIP. New York: Doubleday & Company, Inc., 1961

A copious and well-illustrated history of ships.

LETHBRIDGE, T.C., COASTWISE CRAFT. London: Methuen & Co. Ltd., 1952

A small but charming book about English coastal craft.

PAASCH, H., ILLUSTRATED MARINE ENCYCLOPEDIA. Antwerp, 1890

Although very old, still the best dictionary of ships and their parts ever produced.

ROSS, WALLACE, SAIL POWER. New York: Alfred A. Knopf, Inc., 1973

As its subtitle states, this is "the complete guide to sails and sail handling."

TRE TRYCKARE, CAGNER & CO., designers, THE LORE OF SHIPS. Gothenburg, Sweden: Tre Tryckare AB, 1963

A large book of illustrations, from various sources, of all sorts of things nautical.

WARD, RALPH T., SHIPS THROUGH HISTORY. Indianapolis and New York: The Bobbs-Merrill Company, Inc., 1973

A very readable introduction to the subject.



# Index

OF NAMED VESSELS



H.M.S. means the vessel belongs to the Royal Navy  
H.M.Y. means the vessel belongs to the British Crown  
U.S.S. means the vessel belongs to the United States Navy

Admiral Scheer, 44  
Alecto H.M.S., 246, 367  
America, 383  
Argos, 24  
Argus H.M.S., 21  
Ariel, 99  
Ark, 24, 160

Britannia H.M.Y., 386

Cambletown H.M.S., 138  
City of New York, 251  
City of Paris, 251  
Cleopatra's Barge, 33  
Clermont, 329  
Compiègne, 141

Constellation, 383  
Cutty Sark, 99

Danmark, 340  
Dreadnought H.M.S., 43, 128, 179

Fiery Cross, 99  
Flip, 144  
Five Fathom Lightship, 378  
Flying Cloud, 97, 98  
Forfarshire, 102  
Furious H.M.S., 21

Germanic, 242  
Gloire, 179

INDEX OF NAMED VESSELS

---

Gokstad Ship, 86, 356  
 Great Britain, 251  
 Great Eastern, 61, 251  
 Great Western, 251  
 Griffin, 150

Henry Grace à Dieu, 364

Iberia, 81  
 Inflexible H.M.S., 367

Jauréguiberry, 368

Karl Gaster, 118  
 Königsberg, 108  
 Kon-Tiki, 28  
 Kvalsund Boat, 356

La Belle, 246  
 La Salle, 246  
 Lion H.M.S., 42  
 L'orient, 198  
 Lusitania, 251

Magellan, 84  
 Mary, 379  
 Mauretania, 251  
 Monitor, 228

New Jersey U.S.S., 43

Nimitz U.S.S., 21, 22

Niña, 79  
 Nydam Boat, 356

Oceanic, 251  
 Oriental, 99  
 Oseberg Ship, 356

Popoffka, 264  
 Preussen, 100, 315

Queen Elizabeth, 251  
 Queen Elizabeth II, 251  
 Queen Mary, 251

Rainbow, 96  
 Ranger, 385  
 Rattler H.M.S., 246, 367

Salisbury H.M.S., 148  
 Santa Catarina do Monte Sinai,  
 363, 364

Savannah, nuclear ship, 241  
 Savannah, steamship, 250

Serica, 99

Sirius, 250

Smith's Knoll Lightship, 206

Stationers' Company State Barge, 33

Swallow, FRONTISPIECE

Taeping, 99

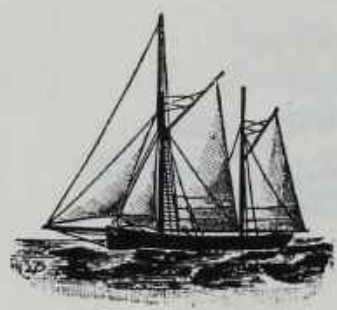
INDEX OF NAMED VESSELS

---

Taitzing, 99  
Thermopylae, 99  
Thomas W. Lawson, 295  
Titanic, 251  
Trelleborg, 141  
Tsesarevitch, 179  
Turret, 87  
Uma, 93  
United States, 251  
Vanguard H.M.S., 43  
Vedette, 382  
Warrior H.M.S., 179

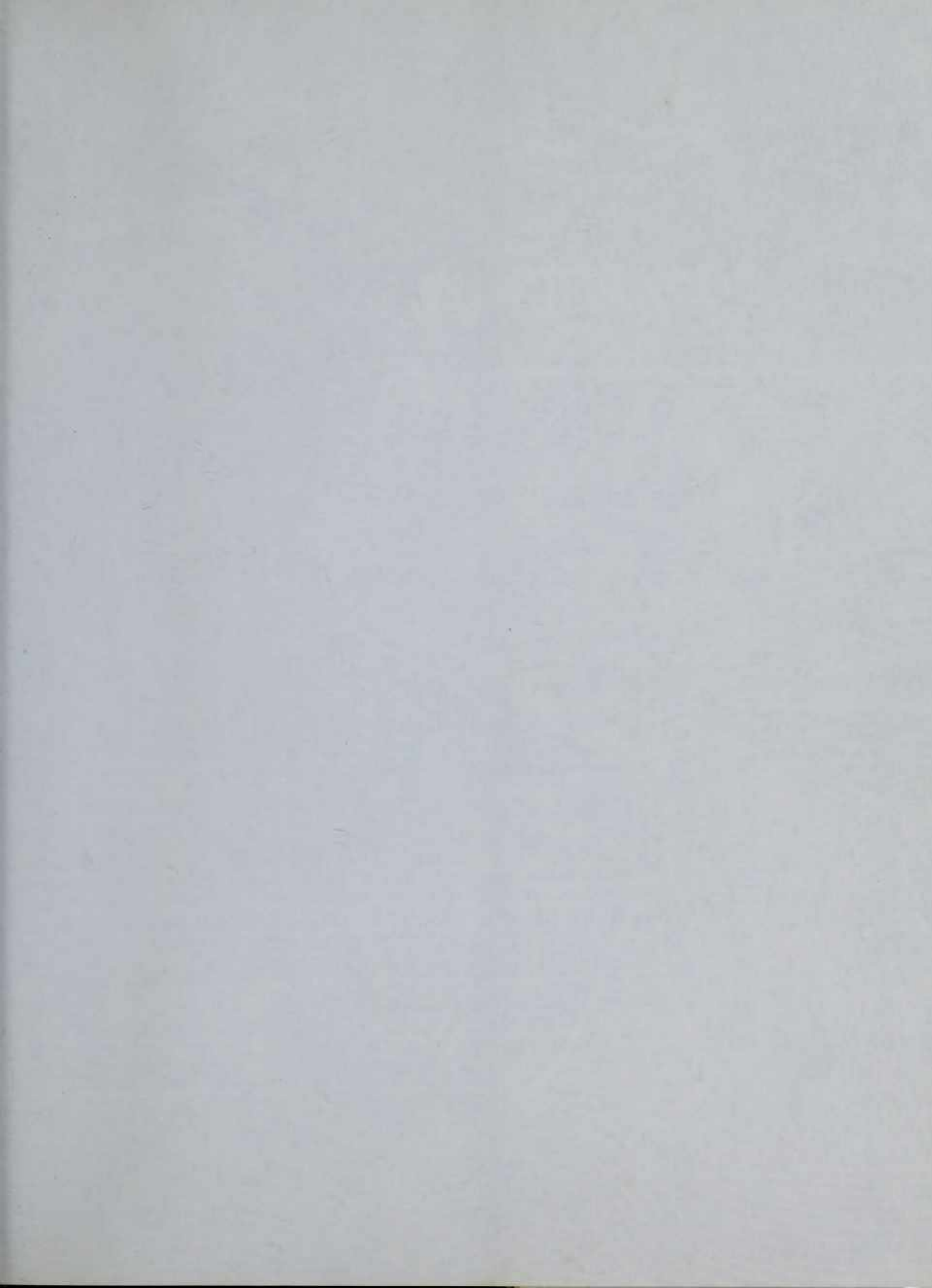


THE END OF THE WORLD



*Finis*







ARCA



Photo: Bernard Paturel

**GRAHAM BLACKBURN**, born in London in 1940, has lived in the United States since 1965. As well as being a writer and illustrator he is a keen sailor, and divides his time between Southern California and Woodstock, New York—where he lives in a house he built himself.

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