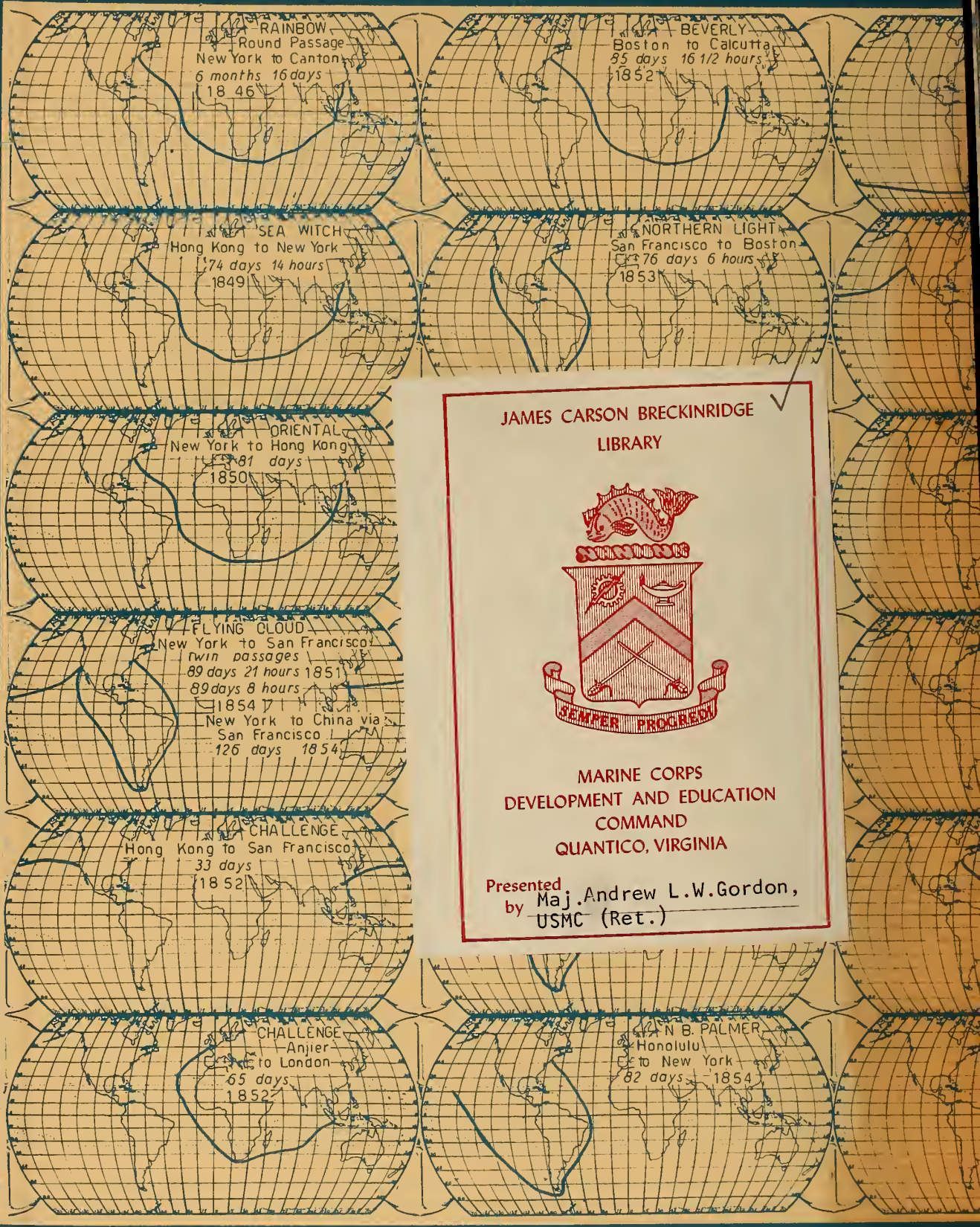

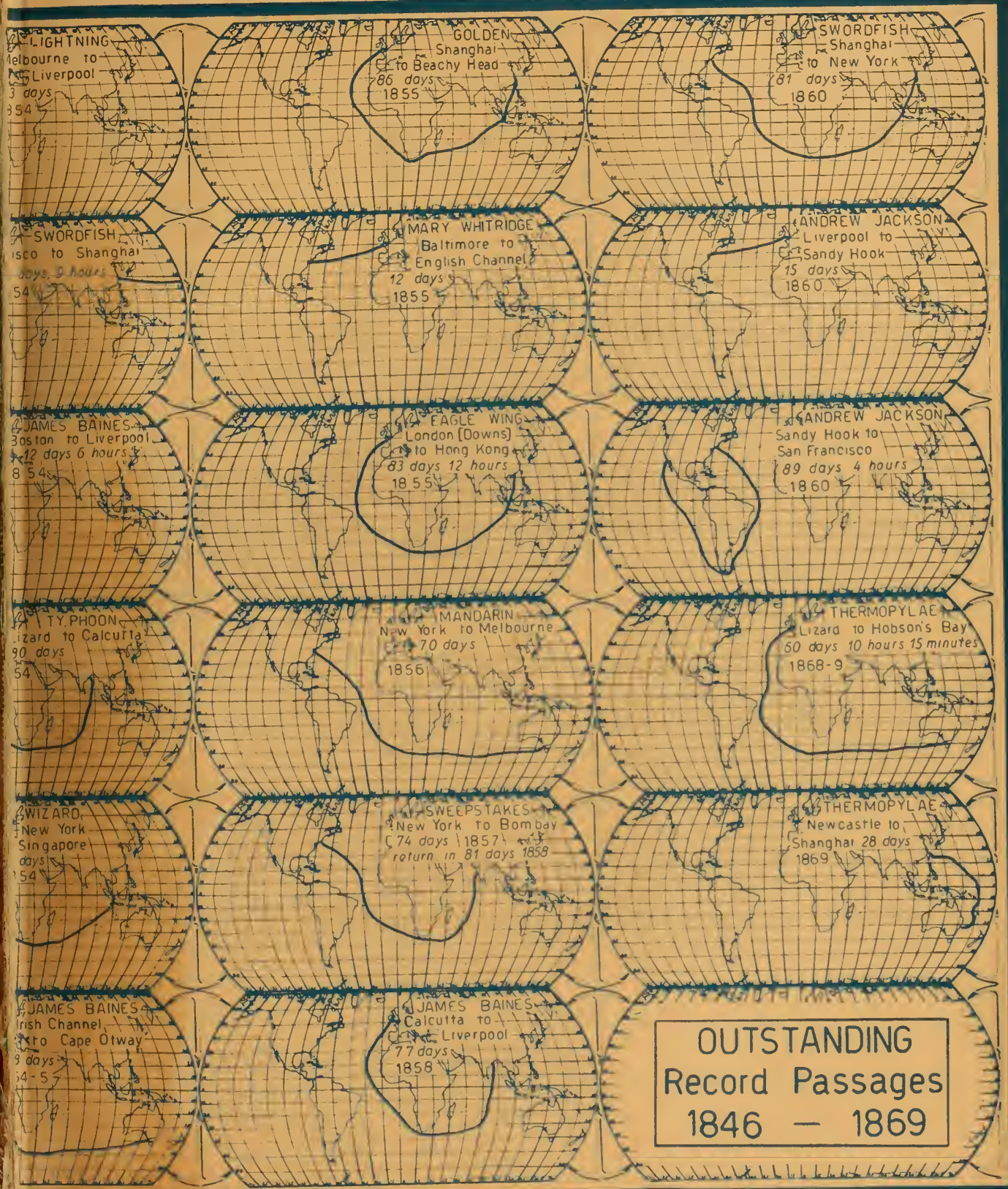
LIGHTNING
elbourne to
Liverpool
3 days
54
GOLDEN
Shanghai
to Beachy Head
86 days
1855
SWORDFISH
Shanghai
to New York
81 days
1860
SWORDFISH
isco to Shanghai
days, 8 hours
54
MARY WHITRIDGE
Baltimore to
English Channel
12 days
1855
ANDREW JACKSON
Liverpool to
Sandy Hook
15 days
1860
JAMES BAINES
Boston to Liverpool
12 days 6 hours
8 54
EAGLE WING
London (Downs)
to Hong Kong
83 days 12 hours
1855
ANDREW JACKSON
Sandy Hook to
San Francisco
89 days 4 hours
1860
TY PHOON
izard to Calcutta
90 days
54
MANDARIN
New York to Melbourne
70 days
1856
THERMOPYLAE
Lizard to Hobson's Bay
60 days 10 hours 15 minutes
1868-9
WIZARD
New York
Singapore
days
54
SWEEPSTAKES
New York to Bombay
74 days 1857
return in 81 days 1858
THERMOPYLAE
Newcastle to
Shanghai 28 days
1869
JAMES BAINES
rish Channel
to Cape Otway
9 days
54-5
JAMES BAINES
Calcutta to
Liverpool
77 days
1858
OUTSTANDING
Record Passages
1846 — 1869

CLIPPER SHIPS

OF

AMERICA

AND

GREAT BRITAIN

Taking in Sail

CLIPPER SHIPS

OF AMERICA AND GREAT BRITAIN

1833 - 1869

WITH

Thirty-seven Wood Engravings in Full Color

by

Jacques La Grange

Text by

Helen La Grange

Over fifty pen-and-ink drawings and plans of ships. Appendices of technical details, elements of naval architecture and the art of shipbuilding, spar dimensions, abstract logs and other features.

G.P. PUTNAM'S SONS

NEW YORK

The engravings have been printed under the personal supervision of the artist.

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Lines of Ships, Sail Plans, and Charts

The Wave

INTRODUCTION

Grand Gestures in the Face of Time

The year is 1845, the month is January, and the time is shortly before nine o'clock on a Wednesday morning. New York City is smelling like the between decks of an early immigrant packet ship in a storm, but neither that nor the broken sidewalks with their sticky coating of thawed snow, mud, and filth have kept a crowd from gathering at the foot of East Fourth Street to watch the launching of a new ship for the China trade. Calamity, or the expectation of it, will draw a crowd in any weather.

Pretty ladies from the upper reaches of Fifth Avenue toss their velvet-bonneted heads, and lift their skirts just an inch or two farther above the mud than do their calico-clad sisters in the press beside them. Bearded gentlemen, who have wandered up from breakfast at the Tontine Coffee House, are expressing views about the new ship very similar to ones held for many months by some of the baize-coated old chaps rubbing shoulders next to them. Everybody in the crowd, rich and poor alike, knows ships—and in particular knows this ship. Hasn't she been a-building on the stocks for two long years and more, and don't they whisper that the owners held her back because they thought she couldn't sail? One old salt remembers about a vessel built in Baltimore that was so sharp that she went completely under at her launching, and this one, waiting for her baptism, is far from having the buoyant, bluff bows of safety.

The crowd stamps its feet and blows on cold fingers as it waits to hear the word to knock away the dog shores. At last, gun fire from somewhere—a sharp cry of "There! There she goes!"—breaths drawn in—and the slender bit of beauty glides rapidly downward like a living

thing, dips slightly as she touches the water, rises, rights herself, and gracefully moves away. Men and women roar good-naturedly until they are hoarse and thirsty. Later there will be merry-making in the mould-loft, and as the crowd disperses with mixed emotions—for, after all, nothing untoward had happened—it is blissfully and enormously unaware that, on this frosty winter morning, it has witnessed an event that will thereafter be referred to in shipping circles as one of astounding significance.

An unseen hand turns over a page in the Book of Time and writes therein: "This morning from the yard of Smith & Dimon was launched a new ship, the Rainbow." *Coincident with this is the turning point in the history of the American merchant marine: the beginning of the Era of the Clipper Ship.*

* * * * *

The *Rainbow* is acknowledged to be the first extreme clipper to sail the seas, but none of the distinguished recorders of clipper-ship history contends that she emerged complete in every detail and innovation from the mind of one man, or in one day. Instead, her growth was like the slow blossoming of a flower, nursed into existence and beauty from a seed planted by unknown hands in the fertile soil of American imagination back in some earlier time. To say that the seed was watered by the tears of oppression, that the soil was plowed by the fingers of rebellion, and that the clipper ship was the complete and final expression of an urge for equality, attended by the growing pains of a desire to show superiority, is to give you at once its flower and the germ of its decay.

* * *

There is some reason to wonder why not all Americans are lovers of ships, since, back in the pages of each one's history, a sea passage, different from all others, and a ship, have played a destiny-changing rôle; yet there is no reason to wonder why Americans have been builders of ships, and that they have built them well. One needs only to know that America, as a nation and a people, practically sprang from the sea.

The sea has always been the friend that has brought settlers to the New World, but in early days it not only carried them westward but, in many cases, furnished food for their very existence. At one time it was one of the few roads open for communication with fellow countrymen and, in the shapely and shapeless rolling lanes of trade, it bore upon its surface the very life-lines of a future nation. If, when prodded by storms and hurricanes, it was also tempestuous and cruel, it was no different from any other supporter of life that patted and punished intermittently. Colonists, explorers, and adventurers alike loved it, hated it, and did not hesitate to cope with it.

Shipbuilding within the confines of the early Americas falls into three distinct divisions: ships built for escape, ships built for trade, and ships built for protection.

Into the first division falls the half-legendary story of the repair work which Thorwald the Norseman did to his Viking craft in 1004, which gave to Cape Cod the Norse name of Kjalarness, or Cape of the Keel; and into it also falls the building of the raft—although this can scarcely be called a ship—which Nicuesa the Spaniard made in 1509, when he was shipwrecked on one of the West India keys. Lope de Olano built a caravel at the mouth of the Belen River in 1510, but this was never completed; but in the year 1516 Balboa felled trees on the Pacific side of the Isthmus of Panama and out of them constructed four brigantines. In 1520 Martin Lopez built two brigantines for Cortez, and in the same year constructed thirteen more at Tlaxcala and launched them, April 28th, upon Lake Tezcuco.

In 1528 Pánfilo de Narvaez, the self-styled Governor of Florida and the Mississippi, and his men built five brigantines, each about thirty-three feet long, forging their armor and horses' trappings for nails, cutting up their horses' manes and tails for cordage, and using their shirts for sails. Four of these ships were wrecked off Galveston; the fifth was never heard from. In 1542 Luis de Moscoco and the survivors of the de Soto party sailed down the Mississippi from the mouth of the Arkansas River in several rudely made brigantines; and in 1562 Nicholas Barré and the French colonists near Beaufort in South Caro-

lina built an unseaworthy pinnace, sailed out in her for France, and were eventually rescued by an English ship which carried them off to prison.

These ships were rude and could scarcely be called ships, but they are representative of the indomitable courage and daring that have marked all early American shipbuilding ventures. Few of these ships carried their builders to anything but disaster; but, finally, in the year 1607 a successful ship of escape was built. This was the little 30-ton pinnace *Virginia,* constructed by the Popham colonists, who included Thomas Digby, a master shipbuilder, among their number. When she was completed and launched at the mouth of the Kennebec, two-thirds of the colonists sailed home in her, and in 1609 she was one of a squadron that sailed from Woolwich and Plymouth to Virginia carrying the largest group of settlers that had, to that time, forsaken England. Aboard one of the ships of this squadron—the *Unity*—was a member of the famous shipbuilding family of Pett.*

Manhattan was the scene of the next American shipbuilding venture, when the lawyer-captain Adrian Block built the 16-ton *Onrust* to replace the galiot *Tiger,* when that ship caught fire and burned to the water's edge while standing by, in 1613, for a cargo of furs. While the ship was building the traders erected rude winter quarters at what is now No. 39 Broadway, and when spring came round again the *Onrust* was launched in the waters of the Upper Bay. She was little more than a yacht—38 feet on the keel, 44½ on deck, and 11½ on the beam—but before going home she explored the coasts of New England and Delaware Bay, and in 1616 Captain Hendrickson discovered the Schuylkill River in her, and explored nearly the entire coast from Nova Scotia to the Capes of Virginia.

Shipbuilding entered the second division around 1620, when a shipyard was established in Virginia for the purpose of building vessels to transport tobacco and produce from farms that stretched for one hundred and fifty miles up the James River. Four years later a shipbuilder established himself among the Plymouth colonists and, though he died

* See *Sovereign of the Seas,* page 173 *et seq.*

shortly after, managed to complete two shallops—or primitive schooners—for the country trade. One of these carried corn to the colonists at the mouth of the Kennebec; in the following year it was sawed in the middle, lengthened five or six feet, and decked. In 1627 a pinnace was built at Buzzards Bay for trade with Manhattan, and in that year she seems to have represented, together with a bass-boat and a shallop, the entire tonnage of New England. It was not until 1631 that the Massachusetts Colony built their first vessel, the famous 60-ton *Blessing of the Bay,* constructed by Master Walter Merry, owned by Governor Winthrop, and launched on the 4th of July. The same year the 800-ton *Nieuwe Nederlands,* fitted out with 30 guns, was built at New Amsterdam by two Belgian shipbuilders, and financed by Peter Minuit out of Dutch West India funds. At this time no one in America knew what to do with a huge 800-ton ship, and the venture was put down as a colossal failure. The expense of her building eventually cost Minuit his office, and brought about his recall to Holland. This discouraged the building of large ships in the colonies for many years.

In 1632 a Virginia-built ship carried corn to Boston; in 1636 Governor Endicott sailed against the Block Island Indians in a vessel built at Marble Harbor; in 1639 a Boston ship tried bravely to make its way through the Northwest Passage; in 1640 Master Hugh Peter of Salem, in the Bay Colony, built a ship, and a little later the Governor of Massachusetts wrote in his *Journal:* "The general fear of want of foreign commodities, now our money was gone, and that things were like to go well in England, set us working to provide shipping of our own, for which Mr. Peter, being a man of public spirit and singular activity for all occasions, procured some to join for building a ship at Salem of three hundred tons, and the inhabitants of Boston, stirred up by his example, set upon the building of another at Boston of one hundred and fifty tons. The work was hard to accomplish for want of money, etc.; but our shipwrights were content to take such pay as the country could make."

Early in the forty-eight years that followed, Massachusetts took the lead in the thriving shipbuilding industry that flourished up and down

the Atlantic coast, and the colonists in time would have had a satisfying and lucrative trade to keep it company had not England, suddenly aware and afraid, slammed shut the doors of most of the ports of the world to them with the British Acts of Trade.

Spurred into indignant action by these as well as other interferences, the Yankee skipper was quick to sense that the derision of time and space by means of swifter craft was the best aider and abettor he had in enabling him to thumb his nose at the impositions that handicapped his enterprise. Speed, upon which the success of American commerce was to depend until its need vanished with the vanishing need of the clipper ships, began for the first time to assume amazing proportions in the Yankee mind, and shipwrights lay awake far into the night to brood upon it. With the "long" ships of the past as a guide and the comparative sailing abilities of contemporary craft to observe, there was always something to borrow and add to the ever-growing "store of speed" that sharpened the wits and guided the tools of the Yankee builder.

A dying trade had to be quickened: if it was not legal it must be illegal and, with fast ships and "drivers" to man them, smuggling was made profitable and, to a people practically worn out by the necessity to circumvent accumulating restrictions from home, fairly easy. D. A. Wells says that nine-tenths of the colonial merchants and one-fourth of the signers of the Declaration of Independence were smugglers; but, fast as the ships were, England was faster and, when a committee of Parliament was appointed to see what evasive things the colonists had contrived to do, the surveyor-general of His Majesty's woods wrote that "in this province [New England] many ships are built for the French and Spaniards in return for rum, molasses, wine, and silks, which they truck there by connivance," and an unknown informer stated that "in this province [Pennsylvania] are built many brigantines and small sloops, which they sell to the West Indies." England soon tried to put a stop to the smuggling but, by means of a circuitous commerce carried on with the foreign West Indies, the colonists were able to obtain molasses in great quantities, distill it into rum, and exchange it with the Indians for furs, sell it to the fishermen at home, and in Nova

Scotia, Newfoundland, and Quebec, or ship it to Africa in return for slaves, gold dust, woods, wax, and gums. To the West India colonies they carried their superfluous beef, pork, butter, horses, poultry, tobacco, corn, flour, bread, cider, fish, and apples, cabbages, and onions. Candles made of spermaceti, which the whale fisheries furnished, and whalebone, were also exported, and there was already a ready market for ships themselves which, crude as they were and skimpily built, were beginning to take on a distinctive character and to acquire comparative speed.

Timber was plentiful, and shipbuilding increased. In 1771 alone, the thirteen provinces built vessels aggregating 24,068 tons, in the following order:

Massachusetts Bay	42	ships—83	sloops, schooners, etc.
Rhode Island	15	ships—60	sloops, schooners, etc.
New Hampshire	15	ships—40	sloops, schooners, etc.
Pennsylvania	15	ships— 6	sloops, schooners, etc.
Virginia	10	ships— 9	sloops, schooners, etc.
Maryland	10	ships— 8	sloops, schooners, etc.
New York	9	ships—28	sloops, schooners, etc.
Connecticut	7	ships—39	sloops, schooners, etc.
South Carolina	3	ships— 4	sloops, schooners, etc.
Georgia	2	ships— 4	sloops, schooners, etc.
North Carolina		— 8	sloops, schooners, etc.
New Jersey		— 2	sloops, schooners, etc.

In that same year a total of 108,150 tons cleared to the West Indies, 107,552 cleared to South America, 98,025 cleared to Great Britain, and 37,237 cleared to southern Europe.

The comparative swiftness of these vessels is shown by the fact that by 1776 little ships were built that were capable of logging nine and ten knots an hour—a speed that can be considered noteworthy in view of the five- or six-knot top speed of the merchantmen of other countries. With the best of these little craft under him, the Yankee skipper—knowing himself a mere beggar on the porch of trade—soon turned from smuggling to open rebellion, and finally to war. In those

harrowing early years of the American Revolution, with events shooting thick and fast down the rapids into an ever-widening stream of time, cuteness, courage, and the will to leave caution far behind on a receding shore contributed their factors towards developing men of the breed of the later clipper captains.

On November 10th, 1775, the Massachusetts Provincial Congress passed a law for the purpose of granting letters-of-marque and reprisal, courts of admiralty were established thereafter, Washington equipped five or six armed vessels, and all along the coast from north to south little privateers were fitted out to go against the enemy. Earlier in the year the British sloop-of-war *Falcon* was taken by the seamen of New Bedford, the King's sloop *Margaretta* was taken by the seamen of Machias, and the London brigantine *Nancy* was captured by the American schooner *Lee*. In December Congress passed an act authorizing the building of thirteen ships, six of which were built in New England, two in New York, four in Pennsylvania, and one in Maryland; and, with these, the beginning of the American Navy, shipbuilding entered into its third division: ships built for protection.

There are instances which distinguish the part played by American ships during the early days of the Revolution, but for the most part they were hopelessly outclassed by the superior size and armament of the British vessels. Before the treaty with France in 1778, and before the arrival of the French fleet in American waters, the United States captured six hundred British vessels and lost nine hundred. The captures were, however, noteworthy, and it is well to remember that they were largely brought about by the agility exercised in seizing the richly laden British merchantmen before enemy ships-of-the-line could interfere. After 1778 a number of ships were built at home for the Navy, new ones were purchased, and several more were constructed in France. During the same year Paul Jones was out terrorizing the seaport towns of England, Captain Barry engaged in, and escaped from, a seven-hour encounter with two English vessels off Maine, and Captain Silas Talbot made his successful attack upon the schooner *Pigot,* which, until then,

had prevented the landing of supplies and re-enforcements at Rhode Island.

During the course of the war the fifty war vessels equipped by Congress played their part with daring and alacrity, but no ships and men were more noted for either quality than the more than five hundred little letters-of-marque and privateers fitted out by the "states" and manned by the type of men that preferred the mixed adventure of irregularity to the petty depotism that hedged the life of a man-of-war's man. Jonathan Haraden and the *General Pickering* were samples of just such men and just such ships. Haraden, who as captain of the fourteen-gun sloop *Tyrannicide* had helped to capture a British naval vessel earlier in the war, was out in 1780 in the 180-ton *Pickering,* with fourteen six-pounders and a crew of forty-five men and boys, when he ran in with a British cutter of 20 guns. Haraden was on his way to Bilbao with a cargo of sugar at the time, but he beat off the British ship and later, on entering the Bay of Biscay, impudently ordered a British privateer carrying twenty-two guns and sixty men to "surrender to an American frigate or be sunk." The British ship did surrender, surprisingly enough, only in turn to be retaken by the *Achilles,* a fairly large British vessel carrying forty-two guns and manned by a crew of a hundred and forty. The following morning the *General Pickering* and the *Achilles* fought it out again, and Haraden recaptured his prize.

It was incidents such as this, and men such as Haraden, that caused insurance on British ships to mount twenty-three percent in those years; yet the quality of defiance and dare-deviltry that characterized the actions of master and man had been aged in the people up and down the Atlantic coast for many years before it was brought to a focus in wartime. In 1718 it was a group of Virginians who, under Maynard, subdued the notorious pirate "Blackbeard"; in 1744 it was a group of New York fishermen who burnt the boats of an English frigate in New York harbor, in a burst of animosity towards English press-gangs; in 1750, it was the young Ricketts of New Jersey who sailed under the guns of the British man-of-war *Greyhound* with their own "Birdgee" flag flying in open defiance; in 1757 it was a Boston

sailor who thrashed the commander of a British man-of-war for spying upon the sailors; and in 1772 it was a group of Providence sailors, headed by Abraham Whipple, who embarked in their open whaleboats and burned the British warship sent out to enforce certain tyrannical laws. The whole of America's confidence in the saving graces of speed, as pitted against power, is summed up in the correspondence that followed between Sir James Wallace and Whipple. Wallace wrote: "You Abraham Whipple on the 17th of June, 1772, burnt his Majesty's vessel the *Gaspee,* and I will hang you to the yard arm." All of America at the time might have been answering through Whipple when he replied: "Sir—Always catch a man before you hang him."

* * *

Preliminary peace articles between the United States and Great Britain were signed at Paris, November 30, 1782, and the peace eventually arrived the following year. On the 25th of November, 1783, the British troops evacuated New York City, and the following day Rivington's *Gazette* published a short account of the event:

"Yesterday in the Morning the American Troops marched from Haerlem, to the Bowery-Lane—They remained there until about One o'Clock, when the British Troops left the Posts in the Bowery, and the American Troops marched into, and took Possession of the City."

Immediately following the dinner given that day by the governor at Fraunces's Tavern, the first toast proposed was to the United States of America, and the second to "His Most Christian Majesty." America could well afford to drink both toasts. The war was over and she was, for the first time, free to make whatever progress she chose, in whatever way she chose, and build as she wished upon the ashes. The original navy of thirteen vessels—the *Washington, Raleigh, Hancock, Congress, Boston, Providence, Delaware, Randolph, Warren, Trumbull, Virginia, Effingham,* and *Montgomery*—was practically destroyed, trade and commerce had been weakened materially in the war years, agriculture was almost ruined, and the country was in

debt. But above all, she was free. New ports of the world were opened to her vessels, together with trade's attendant bitter competition, and the young country was anxious to prosecute her hard-won victory. Numerous little craft, spurred by the example of the ship *Empress of China,* which sailed to Macao in 1784, put out to sea—pathetically small and fearlessly eager—to carry the Yankee colors into faraway and unknown seas.

A little later there were other signs of Yankee progress, pregnant with meaning. On January 9, 1785, Madison wrote to Jefferson: "J. Rumsey, by a memorial to the last session, represented that he had invented a mechanism by which a boat might be worked with little labor, at the rate of 25 to 40 miles a day, against a stream running at the rate of 10 miles an hour...."

In 1786 the little sailing ship *Columbia* carried the colors around the globe; in 1787 Rumsey exhibited, on the Potomac, a boat which was propelled by means of a steam pump forcing a jet of water from the stern, and Fitch made a successful trip on the Delaware in a vessel 45 feet long and 12 feet on the beam, with a 12-inch cylinder engine; in 1790 the Revenue-Cutter Service was organized and Congress appropriated $23,327.50 to support ten equipped cutters—small, sharp-built, single-masters—with a complement of ten masters, thirty mates, forty mariners, and twenty boys;* in 1794 Congress authorized the formation of another navy; and in the same year young Orlando Merrill of Newburyport perfected the waterline model which was to revolutionize the science of shipbuilding.**

Great Britain and the United States entered into peaceful trade negotiations, and exporting and importing on both sides were resumed with a great show of activity. The King by proclamation removed all legal restraints upon intercourse with the United States, and, during the six years between 1784 and 1790, English custom-house returns showed the following state of affairs:

* The first regular armed cruiser in American history was a vessel carrying ten guns and forty men, built by the colonies of Hartford and New Haven in 1646 to cruise on Long Island Sound and prevent encroachments of the Dutch.

** See Appendix, page 332.

	Exports to Great Britain	Imports into United States
1784	£ 743,345	£3,670,467
1785	893,594	2,308,023
1786	843,119	1,603,465
1787	893,637	2,009,111
1788	1,023,789	1,886,142
1789	1,050,198	2,525,298
1790	1,191,071	3,431,778

The excess of British goods into the United States over American exports to Great Britain was in turn balanced by the French decrees of 1787 admitting American produce free of duty; and thereafter rice, barley, wheat, flour, and rye were carried across the Atlantic to France in great quantities. England was badly in need of timber, as were the West Indies, Portugal, and Spain, and, with the invention of Whitney's cotton gin, exports of cotton increased with startling rapidity. In 1791 the entire export of cotton from the United States was 189,316 pounds; four years later it had mounted to over six million pounds. Ships were needed for this remarkably increased carrying trade, and the figures tell the story: in 1789 the registered tonnage of American-built ships was 123,893, in 1790 it was 346,254, and in 1791 it was over five times what it had been two years before, or 669,921 tons.

In the outside world the march of major events went on. The Napoleonic wars came to leave their trail of wreckage over Europe, and America, as a neutral nation, carried cargoes to all the belligerents, and was called upon, as well, to carry Spanish, French, and English goods to the West Indies. At this time the ships of William Gray of Boston were navigating every sea, and it is said that, when his captains carried fish to the West Indies, each hung up a stocking in the cabin of his ship, placed in it the proceeds of sales, purchased rum, molasses, and sugar in turn, paid the cost out of the stocking, and returned home with a neat balance intact. No books were used, and none were wanted; the stocking answered every purpose. In New York John

Jacob Astor plotted out voyages to the northwest coast and laid out schemes that it took ten years to bring to maturity. Philadelphia had Stephen Girard who, in 1791, ordered the beautiful ships *Montesquieu, Helvetius, Voltaire,* and *Rousseau* for his trade to Calcutta and China; and in Baltimore were the Pattersons in the van of the shipping commerce of that city.

During these years America was tasting, for the first time, a lively trade and generous profits, only to find herself, in turn, harried by the pirate craft of every nation, or her ships, men, and cargo seized by France and England, both of whom had established blockades. War between England and the United States at that time was narrowly averted by Jay's Treaty and the payment, by England, of ten million dollars' indemnity; and French complaints to the treaty were ended in 1800. In 1806, however, England declared that Europe was in a state of blockade from the Elbe to Brest. Napoleon at once retaliated, and the United States, in a frantic effort to save her ships, declared an embargo on outgoing shipping, with the result that to the danger of running blockades was added the sport of evading the law. The need for speedy ships continued, and a large traffic was constantly carried on. Hot words passed between the American people and their government, and hotter words were bandied back and forth across the Atlantic. France, after the marriage of Miss Patterson of Baltimore to Jerome Bonaparte in 1803 brought about the admission of many a valuable cargo into that country, practically passed out of the picture so far as any objections to other blockades were concerned. But on June 19, 1812, war relations between the United States and Great Britain were resumed, and the people of America—forgetting for the moment their differences at home—banded together to fight for their right to the freedom of the seas.

During these years inland tonnage increased enormously, but large numbers of American seamen who had manned American merchant ships, nevertheless, found themselves out of employment,* and they at once crowded into the navy or into little privateers. These men

* American tonnage at this time was over one million tons.

were of a caliber well known to England when she had sought to impress them into her own ships, but Nelson's victories were still fresh in American minds, and it is said that Congress, fearing the results of matching naval wits with England, wanted to send the government ships up the river out of reach of the English cruisers. The officers of the navy thought differently, however, and at length prevailed upon Congress to let them go to sea. In seven months' time five hundred British merchantmen were taken, and, among the frigates ordered by Congress just before the quasi-war with France in 1798-1801, the *Constitution* * won undying fame for herself with her kill of eighteen English men-of-war.

One of the most important parts in the War of 1812 was that played by the privateers—speedy little brigs, brigantines, fore-and-aft and topsail schooners, none bigger than two hundred tons—that swarmed out of Baltimore and other ports up and down the Atlantic coast. An article in the *Boston Daily Journal,* published some years later, gives a rather complete account of the speed and sailing qualities of these, the Baltimore clippers and the pilot boat type of craft, and for this reason is reproduced here, almost in its entirety. The writer, who signs himself with the very nautical name "Hawser Martingale," says:

"The pilot boats belonging to Baltimore and other ports of the Chesapeake, have ever been celebrated for their sailing qualities, and especially for their ability to beat to windward, and vessels of larger size than the pilot boats, even reaching to the capacity of upwards of three hundred tons, but built according to the 'pilot boat' model, were for many years regarded as the swiftest class of sailing vessels, especially in light or moderate winds, that have been built in any

* It may be of interest to those who are interested in the possibility of French influence over the design of the frigates of this class, and to whom physical characteristics speak louder than birth certificates, to note that the *Constitution,* in particular, possessed the ease and stability of platform (stability of platform being considered one of the most important achievements of naval science as far as warships are concerned) which characterized the old French vessels of M. Sané and to which was attributed the manner in which Sané gave effect to the tumble-home side, low shifting center (metacenter), and low center of gravity.

country at any period. At what particular time the merits of the model became known, it may perhaps be difficult to ascertain; but as early as the year 1809, the term 'Baltimore clippers,' as applied to schooners and brigs of a particular model, built in Baltimore, was a familiar term—and numbers of them were sold to individuals belonging to the belligerent powers of that time and commissioned as privateers; others were purchased for slavers, and during the wars carried on by Spain and Portugal with their provinces in South America, the Baltimore-built private-armed vessels made a conspicuous figure, to the great detriment of the commerce of those European nations, which was terribly cut up by vessels and men, in some cases actually belonging to a nation which held out to them the olive branch of peace!

"I happened to be in the West Indies in the year 1810, and there was much talk in the islands of a French privateer schooner of the genuine Baltimore pilot boat model, called *La Superior.* This privateer was commanded by a remarkably able and energetic Frenchman, who took a singular pleasure in inflicting injuries on the British commerce in those seas; indeed, the amount of the British property he destroyed was enormous. The privateer, which was fitted out at St. Pierre in Martinico, was said to have been the fastest sailing vessel ever known among the windward islands; and her commander laughed to scorn the repeated attempts made to capture him by the finest vessels in the English navy. Indeed, the *Superior* seemed to be almost ubiquitous—one day she would be seen hovering off the Island of Antigua, and after pouncing upon some unfortunate English ship, would take out the valuables and specie, if any on board, transfer the officers and crew to a drogher bound into the harbor, and then scuttle the vessel. On the day following, a ship would be seen on fire off Montserrat or St. Kitts, which on inquiry would prove to be an English merchantman captured and destroyed by *La Superior*—and perhaps a few days afterwards she would be pursuing a similar career on the shores of Barbadoes, far to windward, Grenada or Trinidad.

"This privateer, *La Superior,* was to the Englishmen, the terror of those seas. Indeed her sailing qualities were a marvel to all old salts —and many an honest man, who had never heard of a 'Baltimore pilot boat built' craft, was sorely puzzled to account for the success of this privateer in avoiding the many traps which had been set for her by the long-headed British officers on that station. With many,

the conclusion finally arrived at was that the Captain of the privateer had unlawful dealings with the great enemy of mankind, and for the malignant pleasure of annoying the English, and the gratification of filling his pockets with the spoils of the most redoubtable enemies of France, he had signed away his soul....

"At last, one after another, every French port in the West India Islands was captured by the British, and there was no longer a nook belonging to France in those islands to which this privateer could resort for protection... and one fine morning the Captain of the British sloop of war *Ringdove,* which was then cruising between Nevis and St. Bartholomew, was actually astonished at beholding the *Superior*—that 'rascally French Privateer'—for she was as well known, in those seas, as the *Flying Dutchman* is off the Cape of Good Hope—come down from the windward side of St. Bartholomew under easy sail, pass round the southern point of the island, hoist the tri-colored flags as if by way of derision, and boldly enter the harbor of this island, belonging to the Swedish government, and at that time, of course, a neutral port!

"It was not many hours, before the *Ringdove,* having hauled her wind, was off the harbor, lying off and on, and the Captain, in 'full rig,'... was going ashore in a great state of excitement. But when he reached the landing, he found to his utter disappointment and confusion only the *hull,* with the spars and rigging of the privateer, left. ...The schooner was hauled up to the head of the *canash* and on examination it was found that every part of the vessel had been so strained by carrying sail, and that so much damage had been caused to her planks and timbers by worms, that she was good for nothing. The spars, sails and rigging were sold, but the hull, which soon filled with water, remained there for years, and was greatly admired by every genuine sailor as the most perfect model of a fast-sailing vessel that could be devised by the ingenuity of man."

As far as the English vessels were concerned, nearly all the American privateers of the War of 1812 seem to have had "unlawful dealings with the great enemy of mankind for the malignant pleasure of annoying the English," and the tales of the prizes they captured are legion. The outcome of the war should have been easily predicted. The officers of the American Navy—men like Hull, Perry, Lawrence,

Decatur, and Bainbridge—were extremely capable, and the American frigates, with their well-cut sails, were superior to those of Britain; and what was probably most important of all and more overwhelmingly in favor of American victory was the fact that the Americans had *regular sights* to their cannon, which the British had not. This factor alone would have given any little ship an excessive advantage over a large one. The naval battles of 1812 are one long story of shots that missed on the part of the British, and shots by the Americans that nearly always found their mark.

By 1814, when the Treaty of Ghent was signed and the war came to a close, both Great Britain and the United States realized that little had been gained, or ever could be gained, by the re-opening of an old wound of animosities. True, the United States acquired her coveted freedom of the seas, and not only had a lusty, rapidly growing trade to look after, but a navy to protect it. Taking stock in what must have seemed an unusual calm after a siege of storms, the young nation, now a power among nations, began to search her harbors with inquiring eyes, and saw that, no matter how well they had served in the past, her ships, lying freightless at her docks, were totally unfit for a commercial life of new dimensions. Accommodations for passenger traffic also presented a problem, since the American public, having learned through two wars that it could stand sturdily on its own two feet, now wanted to travel, and on the other side of the Atlantic men and women were turning hopeful faces westward. In a nation in which, to 1860, the majority of fortunes were made in shipping, it was only natural that the men chiefly interested should rise equal to every occasion.

Then as now the bulk of commerce was taking the transatlantic route to Europe, and out of a whirl of activity and shipbuilding that followed the War of 1812, two events that cast shadows on the north Atlantic were to project their influence far into the future. One was the crossing to Liverpool in May, 1819, of America's pioneer steamship, the *Savannah,* and the other, which preceded the *Savannah* by one year and a few months, was the passage of the less than 400-ton

sailing ship *James Monroe.* The latter was America's first ocean "liner," and with it the famous pioneer Black Ball Line of Packets was established. For the first time in history sailing dates were fixed and kept, and some attempt was made to take the impromptu building of sleeping accommodations, and the dispensing of medicines and of fuel for cooking, out of the hands of "Chips," the carpenter. The success of the new endeavor soon brought demands for larger ships. Cargo space was increased at some sacrifice to speed, and passenger accommodations were made as luxurious as the ingenious minds of shipowner and builder could, at that date, imagine. Live stock in great variety was carried to supply food, and later hot rolls replaced the "finer" type of ship's biscuit on the menus of the cabin class.

In time the Red Star, the Swallow Tail, and the Dramatic lines entered the competition; Philadelphia established its Cope Line; and Boston became noteworthy for the White Diamond Line of Enoch Train. Speed was once again becoming essential, and it was not long before the various lines were fighting to establish reputations for making the quickest crossing. Passengers wanted to travel within the breath-taking average to Liverpool, and mails and specie must be delivered quickly; and so the packet captains, sprung from a background of a people drawn in blood and sweat, drove their ships to a point just beyond that of breaking, patched up their damages as they went along, and—by getting there somehow—got there quickly. A speeded-up motion picture of a passage on one of these ships would reveal a succession of broken spars, torn sails, and men dashed helplessly from the rigging. But if men went, they went. Since the very beginning of commerce, fortunes have been made out of man-killing enterprises, and the packet period was no different from any other. Progress cannot stop to take toll of the losses, nor can statistics show whether the weight of battered human flesh on the one side of the scale equals or far exceeds the weight of gold on the other. The packet ships were very profitable.

The packet ships of 1836 merited this insertion in M'Culloch's *Commercial Dictionary*—a British publication:

"The establishment of regular lines of packets from New York to foreign ports, and also every principal port in the United States, has produced a new era in the commerce of the city, and redounded equally to the benefit of the enterprising individuals by whom they were projected, and the public. The principal intercourse is carried on with Liverpool; there being about 20 packet ships, distributed in 4 lines, employed at present [1836] in maintaining a regular communication with that port. A dozen packet ships are also employed in the trade between New York and London; and 15 in the trade between New York and Havre. These ships vary in size from 450 tons, the burden of the smallest, to 800 tons. Their tonnage has latterly been increasing; and, at an average, it may now be estimated at about 600 tons. These ships are all American property, and built chiefly in New York. They are probably the finest and fastest sailing merchant vessels in the world; being beautifully modelled, of the best workmanship, and fitted up with every convenience for passengers, and in the most expensive style. The safety, regularity, and expedition with which they perform their voyages is quite astonishing. The average length of a voyage from Liverpool and Portsmouth to New York, may be estimated at about 34 days, and, from the latter to the former, at about 20 days. The Independence, of 730 tons, Captain Nye, made the voyage from New York to Liverpool, in the course of the present year, in 14 days; and the Toronto of 650 tons, Captain Griswold, made the voyage from New York to Portsmouth in the same time. And it is material to observe, that these voyages are not reckoned from land to land, but from *port* to *port*.

"The packet ships from New York sail from London on the 7th, 17th, and 27th; and from Portsmouth, or rather Cowes, at which place they touch, on the 1st, 8th, 16th, and 24th of each month; those bound for New York from Havre sail on the same days as those from Liverpool.

"Cabin passage to New York from London and Liverpool 35 guineas; from New York to London and Liverpool 140 dollars; a cabin passage to New York from Havre 140 dollars, from New York to Havre, the same. This includes provisions, wines, beds, etc., so that the passengers have no occasion to provide anything except personal apparel.

"Packets for *Philadelphia* sail from Liverpool on the 8th and 20th

of every month throughout the year; and 4 of these ships sail *from* Philadelphia for Liverpool on the 20th of each month; the others do not always return *direct* for Liverpool, but sometimes go to Charleston, Savannah, etc., to bring cargoes of produce to Liverpool.

"Cabin passage same as that to and from New York.

"These ships, 8 in number, are all American built and owned, and average about 500 tons burden; some of them are as splendid as the New York packets, and all are fitted up with every regard to comfort.

"Three American packet ships are employed in the trade between New York and the Clyde; and an American packet ship sails from Liverpool for Boston twice every month.

"The rate of *steerage* passage varies, in the course of the year, considerably; depending upon the number of ships and the number of passengers going at the time. By the packet ships it fluctuates from 3 to 6 guineas for each full-grown person; and children under 14 years are taken at half-price. By other ships the rate of steerage passage varies, at Liverpool, from 1l. 10s. to 5l.; being sometimes reduced, by competition, so low as 30s.; but the average rate may be taken at 4l. For these rates, the ship provides nothing but berths, fire, and water; the passengers provide their own provisions, bedding, etc. The expense of provision for a poor person, who might wish to be as economical as possible, for the voyage out to the United States, would not be more than from 40s. to 50s. . . .

"It has been proposed to establish steam packets between New York and Valentia harbour, on the west coast of Ireland; but as yet little progress has been made in the undertaking. It may be doubted, indeed, seeing how well the intercourse is maintained by the sailing packets, whether the introduction of steam packets would be of material service."

In the meantime, as the ocean "liners" shuttled back and forth across the Atlantic, the form of the cotton carriers, which had been built on the kettle-bottom plan, under the old length-by-breadth tonnage rules, was altered to suit packet requirements, when they began to pick up passengers as return cargo from Havre. The West India trade at this time was cut off because of Britain's refusal to open her ports there. But Baltimore continued to build small schooners, brigs, and similar craft long after New York and other northern towns had

turned their attention elsewhere, and there was still a flourishing trade in coffee and fruits from Rio, and slave-running; and out in the China seas there were always money-making cargoes.

* * *

While these events were taking place on the western side of the Atlantic and the government of the United States was swelling its revenues by leveling a series of tariffs on importations, England, home from her many wars and looking over her domestic assets, hit upon a happy solution for many of her financial problems, not by leveling tariffs, but by holding out inducements, in the way of easy entry and advanced payments on merchandise, to attract to her doors the products of the world. In this way she became a general warehouse for outfitting ships with assorted cargoes, part of which were composed of the products of Asia, Africa, America, and the Continent, and part of which were made up of British manufactures; and, with the money advanced on incoming products, she also became the banker—a situation which was eventually to end in an American panic. Her own merchant marine at this time, save for the ships of the British East India Company which were favored by the monopoly of trade in the Orient, was slowly being throttled. British colonial trade was still restricted to British ships, but stupid tonnage laws encouraged a type of ship that was better known for its ability to wallow on its belly than to sail; the corking up of the lucrative Eastern trade, with the Honourable John Company holding the only corkscrew, was as good as a knife in the back to other enterprise; and ships themselves, protected by heavy insurance rates, were rotting away in the harbors from sheer neglect. An investigation was ordered for the purpose of looking into these conditions, and in 1832 commerce with the Orient was thrown open to all British ships, and the lofty frigates of the British East India Company, with their three hundred percent profits and leisurely journeys, were soon swept from the seas.

The year before, little British schooners had ferreted out another lucrative trade in the east—the smuggling of opium into China out

of India. In 1833, the year the *Ann McKim* was launched in Baltimore, the little English schooner *Jamesina* sold three hundred and thirty thousand pounds' worth of the drug from India's poppied fields, and American merchants heard the tinkle of the silver coins all the way to New York and Boston. In 1841 and '42 the *Angola* and other American clipper-schooners, heavily armed, were racing eastward to pick up opium cargoes, beat their way against heavy head seas into the Chinese Ladrones, ride out the treacherous typhoons, fight off Mandarins justly worried over the future of China, keep a weather eye open for pirates, dump their cargoes on lonely shores, collect enormous profits, and fly away again to face new danger from yellow hands that reached out to seize and steal and slaughter. Opium-running in sailing ships yielded handsome returns for almost twenty years, when the ships were superseded by steam.

The regular China trade, composed principally of traffic in tea, silks, dark brown sugars, and other exotics commanding luxury prices at home, had always attracted the aristocracy of the merchant marine both in America and in England. Prior to the Revolutionary War this type of merchandise came to America only through England or was smuggled under English noses and bowsprits from her competitors; but after America had won her freedom she sent her own ships, as we have seen, direct to the China shores. In spite of the fact that trade with that country was greatly restricted and not encouraged by the Mandarins, competition soon grew up among the American ships, and there was always, in ship designing, some attempt to combine speed with cargo-carrying capacity. England, until the Honourable John Company lost its monopoly, and even for some time after, continued to bring home such merchandise on the tall, frigate-built Indiamen which, elegant and grand as they were, disdained the thought of hurry much as a dowager duchess would have disdained an invitation to join in a potato race. In America, where speed had from the very earliest days been bound up inextricably with trade, a few captains and shipbuilders plunged their hands deep into a bagful of tricks and began to pull out record passages.

Record passages became the rage.

In 1842 the *Ann McKim* passed Java Head and reached Anjier 79 days out from New York; in 1843 the *Natchez* swelled with pride over a 92-day passage from Canton to New York; in 1844 the packet *Helena* covered the same distance in two days fewer; and in 1845 China opened five new treaty ports and the *Rainbow* was flung into the sailing-ship competition.

The clipper-ship era was in full swing when, into a world grown dizzy in an attempt to make Speed synonymous with Progress, three major events burst forth like rockets to tear down whole walls of time and theory, and to spatter, in their passing, shower upon shower of shining bubbles that mirrored within their depths a miser's frenzied dreams of plenty.

The first rocket struck on January 24, 1848, when the New-Jersey-born James Marshall saw something glittering in a ditch in California, and found that it was gold.

The second rocket struck in 1849 when England, after a bitter struggle with Parliament, flung open her doors of trade without restrictions to every nation in the world.

The third rocket, as if flung by a hand gone drunk with prodigality, struck in faraway Australia in March, 1850—and the news that traveled forth screamed gold again—more gold!

The race was on in earnest.

* * *

Never before nor since has the world seen anything like the sensational years that followed. Relentless as a plague, gold-seekers swept forward to California, breaking their backs and their hearts on the way; starving, thirsting, and cholera-ridden they stopped by the wayside to bury their dead, and then swept onward again, singing their little songs about Susannah, and keeping their gaze fixed westward to a point where the sun goes down in a burst of golden glory.

Clipper ships tore round the Horn and beat a racetrack in the mocking, iridescent waters. In Australia, men mad with new-found

riches were scattering gold on the decks of incoming ships; while others ashore, equally bereft of their senses, flashed whooping up and down in gayly decorated carriages, each blazing with the vivid Union Jack. Eastward, where brightly colored junks and sampans lay like beadwork on the fringe of China, tall clippers hurled into port for cargo, and once loaded were quickly out again, recklessly eager to be in England with the first teas of the season. The tide was running high on every shore, and ships were riding in with it.

The hammer notes of ten thousand men rang from the shipyards sprawled along New York's East River, and up and down the north Atlantic coast town after town hummed and boomed with industry. Man seemed to rival Nature in a perfect orgy of inspired invention and turned out sleek thoroughbred after sleek thoroughbred, whose long white arms stretched outward to embrace the breeze and draw into themselves the very essence of moving, pulsing life. Captains, hanging up new records, were mobbed and fêted and idolized.

Honors and gifts were heaped upon the honest-faced "old man" who developed an eerie instinct for knowing to the last split second when to reef or take in sail, and who was capable of an acetylene-torch-blue stare that could burn into the pit of a rebellious sailor's stomach and animate his arms and legs like those of a clockwork doll; and rafters rang with praise for the damn-your-eyes maniac for speed, who rode his ship like a fiend atop a whirlwind. In modest and pretentious homes, in ballrooms under the gaslight flares, over bars in the best cafés, in dance halls and bordellos of the waterfront, hands were raised and toasts were drunk to the latest fancy of them all: the fleetest clipper queen. Those were the fabulous 'fifties—an age that was almost epic in its madness.

* * *

For over twenty years the eyes of a world-wide audience were on the seas watching a rapid change of scene in which lust and cruelty, courage and heroic daring, played their parts. And always through

it all there passed, like a recurrent melody, the haunting, heart-breaking beauty of the clipper ship.

In America the Civil War changed all that. A few short years of strife, depredations by the *Alabama* and her kind, and the backbone of the American merchant marine was broken. England tried to carry on, and succeeded nobly in staging some of the most thrilling races the world has seen. But by 1869 a Khedive in Egypt had commissioned an Italian composer to write the lovely China clipper's swan-song. On November 17 of that year the Suez Canal was opened, and the clippers that were not defeated by what the sailors called "that dirty ditch" soon yielded precedence to steam, while a fickle public hummed the music from *Aïda*. After that the remaining clippers went to Australia for the wool trade, though even there in time the old wooden ships were no longer wanted—an iron door was closed upon them.

As far as the world of ships was concerned, the reign of the clipper was over.

* * *

Today the same breezes blow that blew sixty, seventy, eighty years ago, the waters roll upon the shore, and the bones of countless clippers stir restlessly on the ocean's bed. Old captains sleep in quiet graveyards where the grass grows green, or are one with the elements they loved and fought so earnestly. And yet it seems as if their footsteps ring out upon the quarter-deck as they steer their ships across the years into the port of a poet's dream, and a red-shirted sailorman starts a chanty to stir the heart of the romanticist with the silent drumbeats of a vanished ecstasy.

Their ships are still making grand gestures in the face of Time.

ANN McKIM

Baltimore Clipper Ship
1833

It would be both logical and interesting to open a record of the clipper ship with a true account of the origin of the name, a description of the ship to which it was first applied, and fully documented evidence of the vessel that revolutionized the lines of the mid-nineteenth-century cargo-carriers, and was responsible for the world-wide acceptance of nineteenth-century American ship design; in fact, such a beginning would be little short of amazing to all those who have spent years, or even hours, of vain research among dusty files and yellowed papers for a trace of those mysterious and elusive factors.

The self-explanatory term "clipper" was, apparently, first applied to the heavily sparred fast vessels of Baltimore some time prior to the War of 1812, but craft of this type—brig-rigged and schooner-rigged for the most part, and only occasionally ship-rigged *—are not to be confused with the true clipper ships of the forties, fifties, and sixties. The origin of the name itself is lost in the past; and, judging from the various types of ships put forward from time to time as the "first" clipper, together with the number of conflicting statements that account for the influence of such vessels, it would seem that the original ship is also lost in the past, or that she never existed save in the theoretical ideal towards which countless builders worked—an ideal composed of a blend of speed and capacity, of weatherliness and great beauty.

To take a few facts as one finds them, and to use them for the purpose of bludgeoning a reader into an acceptance of one's own preju-

* See sail plans, Appendix I, page 354.

Ann McKim

dices, is to evade an issue; facts, as any law court knows, can be twisted most convincingly to suit the purpose in hand; and history generally obliges the seeker of truths not only with isolated slivers of evidence, but also with their contradiction. Tradition, because of this, is one of the hardest things in the world to budge, and since the influence of the Baltimore-built *Ann McKim* over the design of the clipper ship is traditional rather than certain, she holds, from this standpoint, an important if widely contested place in clipper-ship history, and justly merits initial consideration.

There are three principal claims put forward in favor of the *Ann McKim* as either the first clipper ship or the immediate ancestor of the clipper: the first is, that she was the earliest large vessel to combine a ship's rig and sail-expanse with the improved-upon and fined-down lines of a small, swift craft; the second, that the attention drawn to her after her appearance in the maritime world led to an attempt on the part of shipbuilders to improve the model and sailing qualities of ships; and the third, that John Willis Griffiths, impressed by her lines when he saw her undergoing repairs in an East River shipyard, drew from her his inspiration for the *Rainbow*.

It is not altogether true that the *Ann McKim* was the first sharp ship-rigged craft, of clipperly qualities, that sailed out of Baltimore in her day, nor is it possible to believe that the *Ann McKim* or any other one ship incited the builders to improvement, since the whole course of shipbuilding in America all the way from privateers, smugglers, slavers, and opium-runners to legitimate traders shows one long quest for the perfect model, constant experimentation, constant change, and constant improvement. On the other hand, it is only fair to say that the simplicity of the design of the *McKim* and her narrowness of beam in proportion to her length may have suggested certain material changes in the lines of the fast Atlantic packets, which, from the day of the first "liners" to the day when they abdicated in favor of steam, were also constantly undergoing changes of a sort which resulted in improvement. Since both the *Ann McKim,* as representative of the Baltimore clipper type, and the packets were evolutionary de-

signs, combining, between the two, the most noteworthy time-tested principles of the fast cargo-carriers of north and south, there is some logic in assuming that, if the *Ann McKim* mothered the clipper breed, the packet ship fathered it, and that together they made possible—and hastened—the advent of the right type of ship for that amazing era. A comparison between the plans * of the *Ann McKim* and the *Rainbow* will show just how far the former's influence extended over the latter, and the reader can draw his own conclusions.

It would be well to leave the origin of the clipper at this point were it not for the fact that other claims rise up to refute all definite statements, and three, at least, are deserving of more than passing consideration.

One is that the northern flush-deck pilot boats, which owed much of their speed to the wonderful fit and cut of their sails, had a direct influence on all the crack packets sailing in the China trade, and were immediately responsible for the clipper; another is that the styles and good points of small craft, including the Baltimore clipper, Massachusetts Bay dory, Long Island sloop, Newport boat, Down East lumber schooner, Hudson River sloop, and the ship, were all assimilated to produce the extreme clipper; and the third is that the clipper ships reflected only the demands made upon them by trade and that, just as the pattern of the kettle-bottomed cotton- and produce-carriers was altered to suit circumstances when those ships were engaged to take on return cargoes of German immigrants at Havre, so was the clipper designed and built when speed once more became a commercial necessity. To all this may be added the words of an English writer: "Yankee ingenuity would always devise ways of giving them [the English] a great deal of trouble."

After shuffling and reshuffling theories and opinions—each of which contains enough truth to sound convincing until other theories are taken into account—the *Ann McKim* can at least be accepted as a provocative prelude to an amazing era, without which no chronicle

* For method of reading plans and other technical information, see Appendix I, page 320 *et seq.*

of the clipper ship is quite complete. She was built in Baltimore by Kennard & Williamson of Fell's Point for the wealthy sea-dog and merchant, the Honorable Isaac McKim. With a measurement of 143 feet in length, she was easily the largest merchantman of her day, and, with a complete disregard for the expense of her building, she was by far the handsomest. Her beam was 31 feet, her mean depth 14 feet, and her registered tonnage 493. She had a square stern and the heavy after-drag common to the Baltimore clippers, drawing as she did 17 feet aft and 11 feet forward; but her greatest fault lay in her small capacity for cargo, which made her something of a mere speed phenomenon. The finest materials, personally selected by Captain James Curtis, were used in her construction, running her entire cost to little short of fifty thousand dollars, nine thousand of which was spent for imported red copper for sheathing and fastenings throughout. Her frame was of live-oak, and the carving of her figurehead and stern was carried out with grace and beauty. On deck the gleaming brasswork of her bells and trimming was reflected in the polished Spanish mahogany of her rails, hatch coamings, and skylights. She mounted twelve brass guns—guns being a feature of all merchant vessels in those days for protection against pirates and marauders in foreign waters. With her lower masts fitted into place, the standing rigging attached, and topgallant masts raised at the top and flag-bedecked, she was launched at 4:30 o'clock on the afternoon of June 4, 1833, and named in honor of the owner's wife.

During the ensuing months the *Ann McKim* busied herself taking in a cargo of that particular brand of southern flour which does not sour on a trip across the Equator, and, having everything in readiness by the 30th of August made sail and set out, under the command of Captain Walker, for the first lap in the long voyage around the Horn to Peru. Since the earthquake that Peru suffered in 1678 had made a huge portion of her soil incapable of producing wheat—rusting the grain as soon as the head began to form—and since Chile, the chief source of Peru's agricultural products, suffered from frequent droughts (the land around Coquimbo, for instance, was barren from 1830 to

1833), the *McKim* was certain of a ready market for her cargo. She arrived at Callao—welcomed by clouds of gulls and pelicans, in a harbor which affords one of the safest anchorages in the world—on December 3, after a passage of 95 days, and soon was disposing of part of her 3,500 barrels of flour.

The history of Callao has not been a happy one, nor was her appearance, at that time, as seen from the harbor, other than chill and desolating. Standing on deck of the *Ann McKim* on any of those clear, dry December days, one would have seen only a weary stretch of sandy plain, dotted by a few low dwellings that served to mark the attempts of the inhabitants to rebuild the city upon a ruin. Between October 28, 1746, and February 16, 1747, Callao was thrown into a mad and reeling state of terror, the city being ripped from end to end during that period by no fewer than four hundred and thirty earthquake shocks, followed by mountain-high inundations from the sea crushing in like solid, rolling walls. Of 4,800 inhabitants, 4,600 were either swallowed by the earth or thrown back by the sea in tangled heaps of dead; the buildings disappeared as if a giant hand had tucked them into a large brown envelope; and practically all shipping in the harbor was destroyed, as vessels rode the water high over the city and were tossed in splintered bundles on the road to Lima.

Callao was again in ruins after the more recent revolution, from which Peru emerged independent of the restrictions and extortions of the civil and ecclesiastical rule of Spain. In 1833, when the *Ann McKim* lay in the harbor, the nearby protecting presence of the U. S. schooner *Dolphin,* Lieutenant-Commander Vorheese, was a gentle reminder of Callao's still unsettled state. Prospects for legitimate trade were, however, far brighter than they had been in the days when American vessels were forced to steal into all Peruvian and Chilean ports, carry on their profitable but surreptitious trade with the inhabitants, and trust to their ships' agility to reach the high seas without encountering red death from the sides of a lurking Spanish man-of-war.

The *McKim* remained on the South American coast for many months, and it was not until the following April that she tripped her

anchors and stood out to sea from the roadstead of Huascho. She winged her way, in a 72-day passage to Cape Henry, where she took her pilot on board and entered Chesapeake Bay. On June 16, 1834, she was once more lying in the port of Baltimore.

In the meantime the United States was sliding rapidly downhill on the road to panic. Land speculation, beginning with profits made from normal rises in land-values, had whirled, early in the 1830's, into a 24-hour-a-day gambling dervish dance, joined by all who cared to go to the trouble of obtaining credit that was easily obtainable.

Land was purchased on credit and sold on credit; and the castle-in-Spain fortunes thus made consumed merchandise that was obtained on credit from dealers, who imported their wares through London-American houses—on credit. These London-American houses purchased the original wares through credit extended by the Bank of England; and the Bank of England's ability to extend such credit rested precariously on harvests.

In America ordinary employments were neglected while the population traded in land, so that production suffered in proportion as consumption of foreign goods increased. Between the years 1820 and 1830 the margin of imports over exports had been five per cent; between 1830 and 1840 it jumped to twenty per cent. During this latter period 577 new banks were opened to extend credit; the imports of silk per year rose from less than six millions of dollars to nearly twenty-three millions of dollars; in 1835 New York City had an eighteen-million-dollar fire—and the city was rebuilt on credit; and in 1836 Russia was exporting *wheat* on credit to America at two dollars per barrel.

There was still more to this famous credit "House That Jack Built" system of finance. The Federal Government, to keep business brisk, sold its own lands on credit; and the banks issued paper to circulate as money, to quicken purchases. Then the house began to topple under the gun-fire of events. First shot: the Government issued its "specie circular" demanding cash payments of land in specie. Second shot: the harvests of England failed in 1836 causing the Bank to contract. Third shot: American houses abroad were ordered to curtail their credits.

Fourth shot: in May, 1837, every bank in the Union suspended payments. Fifth shot: the American houses in London failed for many millions, followed by the rapid rat-tat-tat of creditors bringing down creditors, who brought down creditors, who brought down banks. Thus are panics made.

It was into that kind of year that the *Ann McKim* came home in one of her record passages on the South American run: 59 days from Valparaiso to the Virginia Capes—42 days from off the Horn. Considering the general state of affairs, her excellent runs and lovely appearance must have attracted unusual attention among the merchants, because, upon the death of Isaac McKim, she was purchased by Howland & Aspinwall of New York. In fairness to the *Ann McKim* it is worth noting that, even had she been the finest and most desirably designed vessel afloat at the time of her purchase, conditions would have precluded the possibility of her setting a fashion.

In 1838 she made the run from Coquimbo to Baltimore in 60 days—53 days from off the port of Valparaiso, establishing the supreme record of her Cape Horn career. The Baltimore papers exulted over her magnificent passage, but even that year—over thirty years before the ultimate extinction of sail as a practical commerce carrier—there were other papers exulting, ominously enough, over somewhat different passages. On April 5, 1838, Britain's pioneer transatlantic steamship *Sirius* made her timid way, in 18 days 11 hours and 15 minutes, from Queenstown to New York; with the little *Great Western,* 10 days 10 hours and 15 minutes out, at her heels. The New York *Evening Post* on the following day wrote: "The Battery was thronged yesterday morning with thousands of persons of both sexes to look on the *Sirius*"; and "When the *Great Western* at a later hour was seen ploughing her way through the waters towards the city the crowd became more numerous, and the whole bay to a great distance was dotted with boats, as if everything that could be manned by oars had left its place at the wharves. It would seem, in fact, a kind of triumphal entry."

That same year Captain Martin took the *Ann McKim* out to China

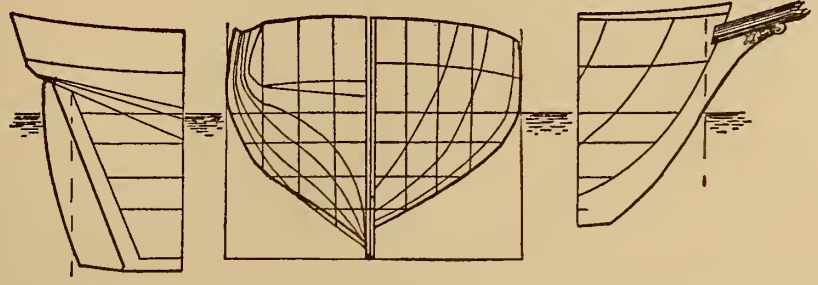
and brought her home again in 150 days, arriving in New York on the 23rd of November, 1840. In 1842 her 79-day passage from New York to Anjier established a new record, and in the spring of the following year she was home again in 96.

Time, however, did not stand still while sharp ships cut fine passages. Events of major importance continued to happen in surprising though not always unexpected quarters, and one—the Opium War in China—was to bring about results that were to give the first impetus to clipper-ship development. The war was brought on when the Chinese, in 1841, destroyed a large quantity of opium: an act that followed upon England's attempts to abolish smuggling and to open markets in China for the forbidden product. Charming, aloof, and almost entirely secure within her Wall, China had no wish to trade with the European peoples, and it took European commerce—in spite of the Portuguese foothold it had gained in Macao as early as the sixteenth century—over three hundred years to break down the door and penetrate to the mysteries of the Middle Kingdom. The Opium War brought about the opening of Amoy, Foochow, Ningpo and Shanghai to outside commerce, and the ceding, in 1843, of Hongkong to England. It also brought an end to the long reign of the body of *hong* merchants, to which China had given—rather distastefully—the privilege of dealing with the English "red-haired devils" and the American "second-chop Englishmen." It brought about, as well, the negotiation—by the Honorable Caleb Cushing—of a very satisfactory treaty between the United States and China.

With the opening of new Treaty Ports in the East, and with the greater ease with which ships were able to procure cargoes—together with the attendant increased trade and a rapid making and breaking of former record passages—finer and faster ships were demanded by the shipping world. The keel of the nearly 600-ton *Houqua,* another contender for the honor of being termed the first clipper ship, was laid down in 1843, by Brown & Bell for A. A. Low & Brother. The same year the 598-ton China packet *Helena,* a fast ship built in 1841 by William H. Webb for N. L. & G. G. Griswold, was taken round

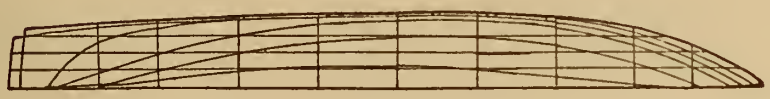
the Horn to Valparaiso in 83 days, and rushed home from Canton by Captain Deliverance P. Benjamin in 90 days. A few days after the *Helena's* return, Webb's new 500-ton *Montauk* was launched, and in May the *Houqua* was ready to leave the ways. After her launch, Captain N. B. Palmer took her out to Hongkong in 84 days and brought her home in 90; in the same year Webb's new *Panama* and Samuel Hall's barque *Coquette,* also launched in 1844, were loading teas in China. America, even at that time, was easily preparing fast ships for any emergency.

Other ships were launched in quick succession and the newspapers daily reported new and fascinating records. The *Ann McKim,* never an adequate cargo-carrier, was eventually shifted back to South America, where she was sold, in 1847, at Valparaiso. For five years she sailed under the Chilean flag until the day in 1852 when she was completely dismantled off the coast, and the world lost—perhaps not America's first clipper—but a ship that had been, in her day, one of Baltimore's most beautiful belles.



STERN BODY PLAN BOW

SHEER PLAN



HALF BREADTH PLAN

Lower plans
½ Scale of
Upper Plans

BALTIMORE CLIPPER SHIP
ANN McKIM
1832-1833

Built by KENNARD & WILLIAMSON
AT FELL'S POINT
Baltimore, Md.

Drawn from
HALL'S REPORT
Length 143 Ft
Breadth 31 Ft
Depth 14 Ft.

First Extreme Clipper Ship
1845

THE years between the launching of the *Ann McKim* and the first of the "roaring 'forties" made clipped-winged dashes across blue vaults of time, and business ran and fell and bumped and scrambled after. The shadows of a passing decade blotted out the middle 'thirties as New York's "coach-spring" public bounced its way in and out of a fire, a depression, and a panic, and back again to solid commercial enterprise. Shipping, in company with practically every industry, was driven under in the panic of 1837, but re-emerged to "crack on" sail with added vigor. Each new record hung up by a wild-eyed captain slamming his packet home from Canton or Liverpool gave a new fillip to progress, and, as the decade turned, the Yankee surveyed the scene with unconcealed contentment. Like Alexander Mackay's "Jefferson Brick" he solemnly believed that Young America could turn her hand to almost anything "from whippin' the universe to stuffin' a mosquito," and, if at times he seemed a foolish chanticleer, he can at least be forgiven for possessing a national pride he could not otherwise express.

As for ships, this satisfaction, instead of releasing a hidden stream of fresh creativeness, almost congealed it. The wind packets that sailed across the north Atlantic were admittedly the finest, fastest ships under sail in their day, and the fairly sharp and comparatively finely built China packets were making, at that time, some astonishingly curtailed passages. According to the die-hards of the early 'forties (who were in all probability of the opinion that steam was enough of a radical

Rainbow

change to fight against), it was not necessary to introduce even minor changes to the then accepted sailing-ship model, or to carry those minor changes into major excess. Consequently, when John Griffiths,* well-known naval architect that he was, proceeded to give lectures in which he advocated further changes in ship design, the changes —minor or major—were not readily accepted, and pointed remarks were directed at the model of a ship which he exhibited at the American Institute in 1841, and which not only represented what he thought a fast ship should be but also was a combination of a number of individual fast-sailing principles that other designers and builders had tried out separately and with success.

It was some time before shipowners of New York were willing to invest money in Griffiths's experimental vessel—although it is not unlikely that other designers profited, between 1841 and 1845, from Griffiths's ideas—but in 1843 Howland & Aspinwall ordered a new ship based on the lines of the discussed model, and after two years of doubt and harangue and much criticism as the building progressed, stopped, and progressed again, the *Rainbow* was finally launched.

Since the *Rainbow* has been called the first extreme clipper it is as well, at this point, to attempt an explanation of just what constituted a "clipper," and in what manner the *Rainbow* differed from the type of ships that preceded her. During early colonial days, when groups of English settlers arrived in America, nearly always with a shipbuilder included in the party, the design of American vessels was definitely English—and later, English with a strong flavor of French.** Lack of money and materials in early America, however, precluded a slavish

* Griffiths's *Treatise on Marine and Naval Architecture* was the first important work on shipbuilding published in America.

** Captain Garbett, R.N., says: "The Duke of York, afterwards James II, assisted by the celebrated Samuel Pepys, as Secretary, did much for the navy. He appointed a new commission when he came to the throne, with which he joined Sir Anthony Deane, the best naval architect of the time, who essentially improved the ships of the line by copying from French models; at this time and during the XVIII Century, naval architecture was zealously studied in France, and the English constructors were so sensible of their inferiority that even up to the beginning of the XIX Century all our best ships were either captured from the French or copied from them."

copying of the more or less ornate ships of the mother country and, owing to the need to skimp and save, the small colonial vessels took on a quality that was distinctly their own. What happened to them afterwards is described in Henry Hall's *Report on U. S. Shipbuilding,* made in 1880 for the U. S. census:

"A permanent impression has been made upon the form and rig of American vessels by forty years of war and interference. It was during that period that the shapes and fashions that prevail today were substantially attained. The old high-pooped decks and quarter galleries disappeared with the lateen and lug-sails on brigs, barks, and ships; the sharp stem was permanently abandoned; the curving home of the stem above the house poles went out of vogue, and vessels became larger in proportion to beam. The round bottoms were much in use, but the tendency toward a straight rise of the floor from the keel to a point half-way to the outer width of the ship became marked and popular.* Hollow water-lines fore and aft were introduced; the forefoot of the hull ceased to be cut away so much, and the swell of the sides became less marked; the bows became somewhat sharper and were often made flaring above the water, and the square sprit-sail below the bowsprit was given up. American ship-builders had not yet learned to give their vessels much sheer, however, and in a majority of them the sheer line was almost straight from stem to stern; nor had they learned to divide the topsail into an upper and lower sail, and American vessels were distinguished by their short lower mast and the immense hoist of the topsail. The broadest beam was still at two-fifths the length of the hull. Hemp rigging, with broad channels and immense tops to the masts, was still retained; but the general arrangement and cut of the head, stay, square, and spanker sails at present in fashion was reached. The schooner rig had also become thoroughly popularized, especially for small vessels requiring speed; and the fast vessels of the day were the brigs and schooners, which were made long and sharp on the floor and low in the water, with considerable rake to the masts."

From this point Hall continues elsewhere with:

* A good explanation of the term "dead-rise at half-floor."

"The clippers first built had sharp floors and sailed with a drag.* Some of them from Baltimore drew 16 feet aft and only 8 feet forward, the midship section, or broadest part of the hull, being at two-fifths the length of the bow, as in the packets and heavy freighting ships. The forward body was full and the after body lean and tapering under water. This was gradually changed in imitation of the fast yachts and pilot boats of New York City, and after 1851 the long, sharp bow was considered the best for speed. The midship section was moved back in a few vessels to the center of length, and the after body was made fuller and more powerful. The ship was then made to sail on an even keel. The bottom was also made fuller." **

The chief innovations advocated by John Willis Griffiths, and exemplified by the *Rainbow,* lay in lengthening the bow in a graceful upward curve over the water, making the bow itself concave instead of round or bulging (in imitation of the fast yachts and pilot boats of New York City, as stated in Hall's *Report*), placing the greatest breadth of beam farther aft than usual, and lightening and sweetening the line of the stern above the water. These features, which added materially to the speed and beauty of a ship, together with towering spars, an enormous spread of sail, and a captain with an instinct for racing a ship, constituted the extreme clipper.

The concave bow of the *Rainbow,* as has been shown in Hall's *Report,* was a feature of the New York yachts and pilot boats, and consequently was not so unfamiliar in the early nineteenth century as the criticism leveled at the *Rainbow* would lead one to suppose; but mistakes in naval architecture have proven again and again that the rule for a small ship is not necessarily the rule for a large one, nor does a peculiarity in structure that fits one craft for one purpose altogether fit another craft for another purpose—especially when a seagoing ship is under consideration. On this score, it is useless to wonder why this feature of the *Rainbow* met with opposition; although it was eventually proven that the sharp-bowed ship rather than the one

* The first three sentences define the "Baltimore clipper" type.
** The last four sentences define the extreme clipper.

with the bluff, buoyant bow not only was safer in heavy weather and able to live out storms that would have wrecked an apple-cheeked vessel, but also rode more gently and with a greater degree of ease. It must also be remembered that the Liverpool packet, the pride of the larger coastal cities, was built with a bow that looked like a church-bell inverted, with a bulge under the water and a flare at the top. The shape itself was conducive to speed and buoyancy, but as the ship rode over a wave she came down again with an enormous thump and a shock that was violent enough to be felt in every timber. The clipper bow, by slicing knifelike through the waters, not only tended to conserve some of the energy wasted by perpetual 'scending and pitching, but provided a desirable equilibrium by proportioning the underwater part of the bow to suit the portion out of water, and diminished the room for carrying weights in the forepart of the vessel where they are highly undesirable.

In placing the greatest breadth of beam nearer amidships, Griffiths was dealing a death-blow to the widespread prejudice in favor of modeling a ship on the time-honored "cod's head and mackerel tail" theory: that is, round and beamy forward and tapering out tail-like to the stern. Since the clippers tapered not only toward the stern but also toward the bow, it was necessary to transfer the foremast to a position nearer amidships where the weight could be carried with greater ease and safety; and this arrangement not only gave more stability, placing the forward sail in a position to increase its power and usefulness, but helped as well to transfer more bulk to the after part of the ship where it was more desirable. According to the *Iconographic Encyclopædia,* a work published in Germany prior to 1849, the statement is made that "the English make the greatest breadth of the ship toward the bow, believing that in that case she sails better and minds the helm more readily; yet it has been shown by experiments in France that it is best to have the greatest breadth amidships." Around this time, however, J. Scott Russell called attention in Great Britain to the mistake of constructing vessels on the "cod's head and mackerel tail" plan, and in 1848 Mare built a 50-ton iron cutter, the *Mosquito,* with

a long, hollow bow and full after body. Prejudices against the *Mosquito* discouraged the further building of this type of vessel in England at that time.*

Hall continues his *Report* by saying: "The sharp floor did not give enough cargo capacity; and the sharp bow and stern had so little buoyancy, as compared with the square body or middle portion, that the ends of many clippers sagged and broke down, subjecting them to continual repairs, one of them being compelled to repair to the extent of $15,000 after her first voyage. Besides that, there was a lack of stability in the sharp bottoms."

There is no doubt that some of the earlier clippers were weak and troublesome in this respect, since they attempted to maintain the sharp stern of the earlier bluff-bowed ship—which was a necessity if those ships were to be made to steer well, but which took away from the power, stability, and weatherliness of a ship that also possessed a very fine forepart. It stands to reason that a vessel that is knifelike at both ends must carry all her weight in the middle, and practical experience in time taught the designers of the period to counterbalance a fine bow with a buoyant stern; yet it is no uncommon thing today to hear later clippers criticized because of that after fullness. The most important thing to remember in judging a ship is never to find fault with or overpraise any one of her separate parts, but to *judge a ship by the harmonious working of all her parts in unison*—and these parts must include not only the plan of the hull, but also the rake of the spars, the sail plan, stowage and trim, balance of stern and bow, balance of underwater body and overwater body, and the balance of the whole body with the balance of sail. A defective working in any one of the parts,

* The plan Russell advocated was definitely not influenced by American ideas, since the conclusions at which he arrived were based upon an investigation, begun in 1834, of the possibility of applying steam navigation to the Edinburgh and Glasgow Canal, during which he determined, among other things, the rate at which a canal boat can be towed with the least demand on the horse. These observations led him to propose a new system of shaping vessels which, if carried out, would have incorporated many of the changes advocated by Griffiths, while eliminating many of the early faults. It is evident, therefore, that England would have developed ships with clipperly advantages, even if America had not.

or bad stowage and trim, will materially impede the progress of any ship through the water. The secret of the perfect sailing ship, therefore, is perfect equilibrium: complete relaxation to the winds, easy and non-resisting passage through the water, and a ready response to the will of her master. Perfect equilibrium is judged *by the records—and nothing else but the records.*

A further fault which some of the earlier clippers possessed was due to the belief that fullness on the forward part of the deck was necessary for working ship. This in itself was a good enough theory, but the tendency was naturally to place weights in the forepart, with the result that if the ship took a heavy head-sea over the bows, she was very close to disaster. The *Rainbow* had this bad feature, as can be seen from her half-breadth plan, and it is very possible that it was responsible for her eventual loss.

All in all, however, the *Rainbow* was an exceedingly dainty ship when finally completed, but even the New York *Herald,* usually so generous with its praises, could only remark that she held out a promise of "great speed." She was 750 tons and measured: length 159 feet, breadth 31 feet, and depth 18 feet. She was built by Smith & Dimon, and was launched on January 22, 1845.

During the year of her launching, the treaty ports were opened with China—the issue of the *Herald* that spoke of the new ship announced the terms of the new treaty—and trade with the Orient took a definitely upward slant. In this respect the opening of the clipper era coincided with the advent of the clipper ship, and there is no question about which preceded or followed the other. Griffiths's ship was exceedingly fortunate in this respect—as well as in the fact that it was no fairy tale that there was gold at the end of this *Rainbow.*

On her maiden voyage the *Rainbow* sailed for the Flowery Kingdom under the famous Captain John Land—who later had a clipper named after him—and fetched New York again the 19th of September after an out-of-season run of 105 days, establishing a record of seven months and seventeen days for the round trip. She left New York again on October 1, and, after a record voyage to Macao and back,

scissored up past Sandy Hook on April 16, 1846, with practically a month snipped off her former record. The usually taciturn John Land was hilarious, and, wherever his old white head was seen, someone was acquainted with the record: 60 days from Macao to the Line, 79 days from Macao to New York, and six months sixteen days for the entire passage there and back. "The ship couldn't be built to beat the *Rainbow*."

That same year events occurred at home and abroad that further animated all shipping and imparted an unusual briskness to business. When the Honorable Caleb Cushing—or Ku-ching, as the Chinese preferred it—returned to the United States by way of Mexico, after having successfully negotiated the treaty with China, he was robbed, by the Mexicans, of all his baggage. This insult was the culminating point in a long line of insults which had taxed the patience of the American people, and—as culminating points so often have the habit of doing—it precipitated war, and new ships were needed for the conveyance of the largest number of government transports that had ever gone by sea to campaign in an enemy country. The second event of the year was the Irish potato-crop famine, which shot trade sky-high and underscored the importance of England's modified Corn Laws. In 1842 England, somewhat chastened by the results of the disastrous crop failure of 1836, modified her laws so as to allow provisions that had formerly been prohibited to be admitted at fairly low duties; and the potato-crop famine came at a time that was most advantageous to the many hundreds of Americans who had been driven from cities to farms by the panic of 1837. Exports exceeded one hundred million dollars in 1846, and the Federal Government, having fully recovered from its embarrassment of the 'thirties, reduced the general average of duties on imports to some 7 per cent under the average to which they had been raised in 1841-2. In 1847 domestic exports climbed to $150,637,464—an amount which was not passed nor even reached again until 1851 under the stimulation of the clipper fever—while imports were steadier at $146,545,638.

The sailing ship was carrying its full share of the traffic during the

excitement of 1846, but the lasting benefits of the need for ships were more fully felt by steam. The Cunard Line, beginning with a fleet of four ships, was definitely established in 1840 when the little *Britannia* (which later brought Charles Dickens over in 1842) arrived at Boston from England in July of that year. This little mother of the present-day Cunarders was built of wood at Greenock in 1840 by R. Duncan, and her side-lever engines were fitted by Napier. She was barque-rigged, square-sterned, and bluff bowed, and, on her 14 day 8 hour passage from England to America with the mails, she consumed an average of 38 tons of coal a day and made an average speed of 8½ knots. Her measurements were: length 207 feet, breadth 34.3 feet, depth 24.3 feet, tonnage 1,156, horsepower 740, and cargo capacity 225 tons. She had accommodations for 115 cabin passengers.

In 1846 E. K. Collins sold his fine Dramatic Line of American wind-packets and turned to steam. The same year, however, the dainty pre-clipper *Ariel*—which was to make some fine, but not record, runs in the China trade—was launched by Currier & Townsend of Newburyport; and the packet *Yorkshire* came home from Liverpool in the record time of sixteen days. Old sidewheelers were churning down the Mississippi with their safety-valves fastened down, tar and pitch in their furnaces, and their tense-faced captains standing with rifles in hand, each ready to shoot down the other fellow's pilot if he lost the race. Frontier days. The first steamship tragedy—the more than million-dollar loss of the little ocean-going British-owned *President* in 1841—was scarcely remembered by a people who were taking popping safety-valves, boiler explosions, and scaldings in their stride.

Nothing stopped the attempt to make speed in those years. The Baldwin-built locomotive *Old Ironsides* was said to have raced at 62 miles an hour in 1833, and for over ten years afterward steam locomotives were blowing up here and there in an effort to do better. In 1847 the new 1,400-ton river steamer *New World* attracted attention when she went from New York to Albany in 6 hours and 20 minutes, exclusive of landings; and the same year the *Rainbow* upheld the glory of sail by coming home from Canton, under Captain William Hayes,

in 85 days. In 1848 she repeated the run, under Captain Marshall, in 88 days.

A few days after the *Rainbow's* last homecoming Captain Hayes took her out on her fifth voyage, bound for Valparaiso, but she never romped into port again. No trace of her was ever found. She simply vanished from the waters.

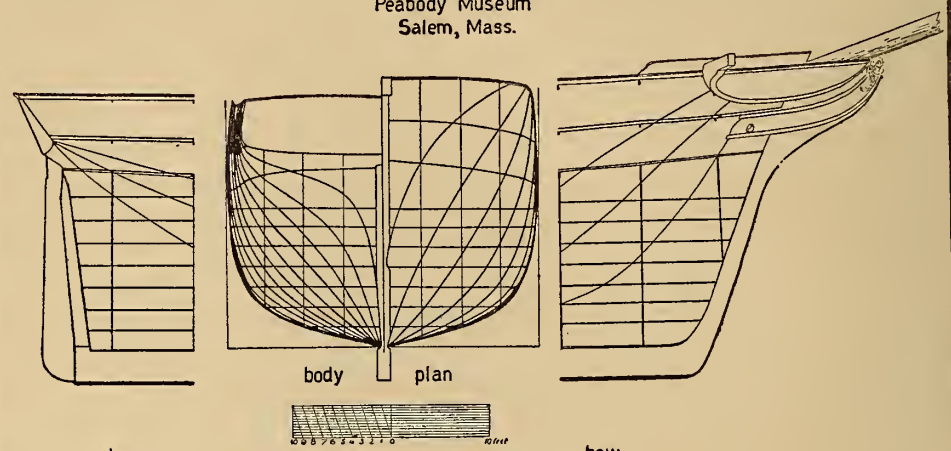
Clipper Ship

RAINBOW

1843–1845

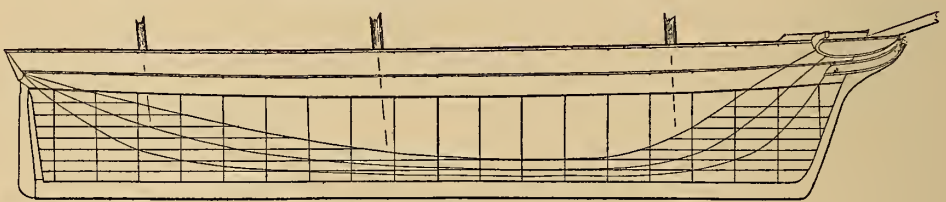
DESIGNED BY JOHN WILLIS GRIFFITHS

Built at New York
by
Smith and Dimon
drawn from plans in the
Peabody Museum
Salem, Mass.

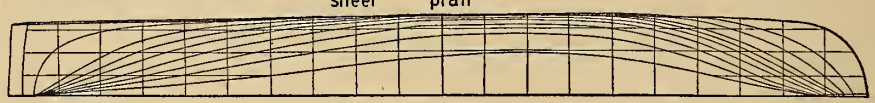


body plan

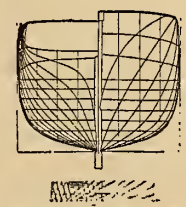
stern bow



sheer plan



half breadth plan



length 159 feet
length on load water line 154·13 feet
beam moulded 31·8 feet
depth of hold 20 feet 1½ inches

SAIL PLAN

China Clipper
1846

BLACK and shining of hull, with a bright gilded dragon for a figurehead, the *Sea Witch* slid down the ways on December 8, 1846—another masterpiece by Griffiths from the yard of Smith & Dimon. "The prettiest vessel we have ever seen," said the *Herald;* and Captain Robert Waterman, who was to have command, took the former Cordelia Sterling, as a bride, to the launching.

Speed was written into almost every line of the *Sea Witch,* and Waterman, who then at thirty-eight was in the very prime of his life, had a definite ability to make swift passages. He had no sooner taken command than the new vessel began to establish records that have never since been broken by ships of the sail, and which it took over a quarter of a century of steam development to better. A strong northwest gale carried the *Sea Witch* out of New York on December 23, 1846, giving her a grand start on her maiden voyage to China. She sent letters ashore at Rio 25 days later, and 79 days after that anchored at Hongkong. She came home against the monsoon on the 25th of July in the following year—a little over 81 days from Canton. The New York *Herald* said, "The Canton packet *Sea Witch,* as the whole world knows, has made a remarkably quick passage to China." On August 14th she left port again in charge of Mr. John Hyer of the pilot boat *John E. Davidson,* and, in one hour and three minutes, was scorching out to sea, reaching Hongkong early in the month of November—105 days out.

Events parallel each other, and meantime the eggs of the most fan-

tastic years the world has ever known were being hatched—not in the East, but in the West.

Two months before the *Sea Witch* came home from her first smart passage out to China, James Marshall—wagon-maker, mechanic, and recent member of the California battalion that was aboard the U. S. sloop-of-war *Cyane* when she took San Diego from Mexico in 1846—set out with rifle, blanket, and a few provisions to seek, apparently, a site for a sawmill, but in reality to plunge the world into a vortex revolving around a golden center.

Let us look back at the life of this man who was the innocent cause of the Gold Rush to California, and at the events leading up to the moment for which they themselves had happened. Marshall was born in New Jersey, but, like many others of his day, felt early in life the curious gypsy-urge of the born pioneer. In 1844 he was in Missouri. A train of a hundred wagons—California-bound—passed by and Marshall joined them. A year later he was buying land in Sacramento Valley from John Sutter, part of whose own vast estates had been purchased from the Russians, when the colonizing dreams of those people fell through. A short while passed in peace and happiness, until 1846 rolled around. From then on, one heavy-footed event after another marched into California, and, as far as Marshall and Sutter were concerned, practically kicked the peace and happiness into oblivion.

While rumors of war between the United States and Mexico were sending flickering shadows across sunlit days, Mexico grew alarmed over the fresh influx of emigrants to the West, and was nervously affected by the innocent movements of Captain Frémont and his exploring party. She ordered the intruders to get out, and all would-be intruders to stay out. The result precipitated the abortive attempt to make California a republic under the Bear Flag. Emigrants were arriving in California, and they intended to stay. Which they did—but not under the Bear Flag. Soon afterward, the flickering shadows began to shape themselves into definite facts, and war between the United States and Mexico became a reality. Before July of '46 was

Sea Witch

out, the Stars and Stripes were flying over Sonoma, San Francisco, Sutter's Fort, and Monterey.

Marshall returned after the war—a penniless, unpaid soldier—to a ruined ranch. In despair he offered his services as a millwright to Sutter in return for a partnership in a proposed lumber business, and Sutter accepted them. In May, 1847, Marshall worked his way up the American River and found a proper site for a sawmill in the midst of rich timber country. In August he brought up men and tools and set to work. A little camp was established above Coloma, log houses were erected, the framework of the mill was begun, the river was dammed up, and a ditch was cut for the millrace.

For several months Marshall went through the evening routine of freeing the dammed-up waters, and through the morning routine of closing the gates again, in his work of deepening the millrace. On the morning of January 24, 1848, while his men were at breakfast, he closed the gates as usual, and, while watching the waters receding from the ditch, saw first one, and then another, tiny pebble-shape of gold.

The first discovery of gold was no more thrilling than that. Marshall took his news and about three ounces of the metal to Sutter's Fort. Sutter cautioned secrecy, but a party of Mormons smelt the gold, and Sam Brannan—who had brought a shipload of these people out in 1846—screamed the news through California. It was the end for Sutter and Marshall. Practically all of California swarmed with pick, shovel, and basin to the scene of the miracle to dig for gold, and in September the news was in New York on its journey round the world.

Nine days after the discovery of gold in California, in February, the Treaty of Guadalupe Hidalgo was signed, making California a permanent part of the United States. On the 16th of the following month the rakish-looking *Sea Witch* dashed home from Canton in a record run of 77 days. Disturbing news was coming from abroad. In April, London was threatened with a Chartist outbreak, and Louis Napoleon—who was to achieve the presidency of France in the following December—paraded the streets with a policeman's mace in the cause of British order. Fresh news of the 1848 Revolution in France

crossed the Atlantic in June. Out West the Mormons were slyly packing up their possessions and stealing away to Salt Lake City with their goods and gold. In August more disturbing news—this time from the high seas. The tale of the immigrant, aboard the year-old American liner *Ocean Monarch,* who mistook a ventilator for a chimney and lighted a fire under it, causing the death of 178 passengers and the loss of the ship. Then September in New York. The first hysterical news of gold, followed by calm letters from T. O. Larkin, U. S. naval agent at Monterey, to confirm it. And, in the midst of the excitement, the *Sea Witch,* breathlessly home from China, establishing the record China-run for all time—an almost unbelievable 74 days and 14 hours anchor-to-anchor from Hongkong.

In October Howland & Aspinwall were ready at the psychological moment with their fine new Pacific Mail steamship *California.* While the month was still in its infancy she steamed out of the harbor loaded to capacity with the westward-bound, on their way to build their "calico palaces" and dig for gold. In November the new Smith-&-Dimon-built *Memnon*—which in 1849 was to set a 123-day passage mark for subsequent California-bound clippers to shoot at—sailed past the steamship *Europe* in a 14 day 7 hour run to Liverpool. The year ended with new branches of trade opened between the United States and France and other countries of the Continent.

In 1849 the *Sea Witch* sped round the Horn to Valparaiso, and thence to Canton in 118 sailing days, returning to New York on March 7, 1850. That was the last of her China passages for two years. Shortly afterwards she was put on the San Francisco run to carry cargo and passengers to the "Hell's Delights," "Hang Towns," and "Bloody Gulches" of California; Captain Waterman resigned to take command of the Pacific Mail Steamship *Northerner*—a ship which was wrecked in 1860—and the *Sea Witch* was handed over to Waterman's mate George Fraser, who was no less a mileage eater than the "old man" himself. On April 13, 1850, the *Sea Witch* sailed from New York, and showed herself every inch the marvel under Fraser that she had been under Waterman. By July 24 she was slicing her way through

the then 100-day record to the Golden Gate, with a passage of 97 days behind her.

The *Sea Witch* was beautifully built. Her hull was painted black above the copper, and above that she wore a narrow red and white stripe. She carried the house-flag of Howland & Aspinwall: a blue and white flag with a white cross, whose top, bottom, and sides touched all edges; a blue bar at the top fixed-corner; a blue-and-white-striped bar at the lower fixed-corner; and the same bars in reverse order on the ends that fluttered loose in the wind. Howland & Aspinwall intended the *Sea Witch* expressly for Captain Waterman, who had shown such remarkable work in the old flat-bottomed New Orleans packet *Natchez*. The *Sea Witch* measured: length, 170 feet, 3 inches; breadth, 33 feet, 11 inches; depth, 19 feet; and tonnage, 908. Her long, hollow bow and great dead-rise were even more extreme than those of the *Rainbow,* and she carried an even more imposing spread of canvas: three standing skysail yards, royal studdingsails, large square lower studdingsails with swinging booms, ringtails, and water sails. Being excessively buoyant, she rolled and needed plenty of ballast, but, in spite of the fact that she sat very low in the water when loaded, she was never the wet ship that the *Rainbow* was. The details of her rigging and outfit were supervised by Captain Waterman, who had a reputation for keeping his ships smart and trim aloft. Her officers and crew were picked men, several of them originally from the *Natchez*. The *Sea Witch's* 24-hour record-run was 358 miles, a speed which far exceeded that of any steamship of that day.

After 1850 the *Sea Witch* stayed on the California run for four years, scattering records wherever she went, and at the end of that time she was again put on the direct route to China. On January 12, 1855, a little over seven months after she had put into Valparaiso with holes bored in her bottom on her homeward passage from China via Coquimbo, she arrived at New York in 64 days from Valparaiso. The *U. S. Nautical Magazine and Naval Journal* for February, 1855, in commenting upon the excellency of this passage, said she was "14 days from Valparaiso to Cape Horn; came round with heavy westerly gales

in latitude 57° South; in 32½ days passed between Trinidad and Martin Vas; and in 41 days crossed the Equator in longitude 40° West; from thence light winds until she got in the gulf; had no N.E. trades, calms and light airs from S.E. prevailing."

That same year, during the late spring, one of the many tragedies of the sea occurred, and the little *Sea Witch* put into port at Rio carrying the dead body of Captain Fraser, who had been murdered by his mate. Captain Lang assumed command immediately afterward, but by that time the once immaculate vessel was beginning to show the extreme appearance of age and the bad effects of nine years of incessant riding. On March 26, 1856, while bound from Amoy to Havana with a cargo of coolies, she slammed into a reef on the east coast of Cuba, and was completely done for.

China Clipper
1849

THE *Oriental* has always been a glamorous vessel, partly because she has long since been the symbol of an aristocratic trade that dealt in fragrant, exciting cargoes; and partly because she was the highest expression of hands that diligently wrought a precious link between a luxury-loving Occident and the half-forgotten treasures of the East. She has been glamorous also because of the electrifying effect her beauty had upon England as she lay in the West India Docks in 1850—looking as fragile as a teacup, and as inscrutable as the moon, and commanding British awe and respect for America in a measure that war, Yankee pilgrimages to the Court of St. James's, homemade pride, and ambassadorial overtures have never been able to equal.

The *Oriental* was launched in 1849. In the same year Great Britain finally repealed her famous Navigation Laws, the first of which had been passed in 1651 by the Parliament of Cromwell, and then confirmed by Charles II after the Restoration. The Cromwellian Act was an adroit political maneuver calculated to disguise efforts toward war with Holland and to check the increasing power of the Dutch—at that time the greatest commercial carriers on the seas. The Act had its desired effect. Holland was crushed in the ensuing wars, and the bulk of the world's carrying trade—particularly that of the rich markets in the Far East—was thrown into ships of British register. The monopoly thus created was far too pleasant to lose, and, from time to time, the early law was amended and added to rather than

repealed—a fact which became increasingly irksome to young America.

Absurdities followed the War of Independence—with the United States passing similar laws and both nations participating in the rather silly traffic of sending ships in ballast to the other country to bring home produce. This condition persisted until the vessels of the United States were placed upon the footing of the "most favored nation"; but up to 1849 the barrier built up by the Navigation Laws was, except in certain instances, almost impregnable. It truly seemed as if "only the devil could beat the English who had beat the Dutch." No merchandise could be imported into England save in British vessels (British registered, British navigated, and three-quarters British manned) with the exception of a few items which were permitted entry in ships belonging to the country producing the goods, such items including: masts, timber, boards, tar, tallow, hemp, flax, currants, raisins, figs, prunes, olive oil, corn or grain, wine, brandy, tobacco, wool, sumach, madder, barilla, brimstone, oak, bark, cork, oranges, lemons, rape seed, and clover seed. The produce of Asia, Africa, and America could not be imported through European markets for home use, save from beyond the Strait of Gibraltar. No traffic could be carried on with Jersey, Guernsey, Alderney, Sark, or Man, and exports were not to be made to Asia, Africa, or British possessions in America save in British ships, or in ships of the country producing the goods. All ships that were navigated contrary to the rules laid down for determining the status of a British vessel were subject to a forfeit of £10 each for every foreign seaman aboard; and a penalty of £100 plus the forfeiture of goods was incurred by all vessels importing or exporting contrary to the laws of navigation, save those vessels which—however navigated—imported merchandise for re-exportation. It is interesting to note that such penalties collected were expended on the prevention of smuggling.

These Acts were very popular in England. Sir Josiah Child referred to them as "our *Charta Maritima* . . . one of the choicest and most prudent acts that ever was made, and without which we had not

Oriental

been owners of one half of the seamen we do at present." Dr. Smith called them "the wisest of all commercial regulations of England," and Lord Sheffield hailed them as "the guardians of the prosperity of Britain."

It is to be feared, however, that these worthy gentlemen could not see the Navigation for the Acts, since the increasingly important effect of them was to put a padlock on British initiative and force high prices on the people, while the additional act of 1786—which forbade British subjects to own foreign-built vessels—provided the very key to fasten it. The repeal of all these laws threw open the trading ports of Great Britain and her colonies to all the world, and ships and pulses raced in an effort to capture British markets.

Meanwhile, the *Oriental* sailed from New York on September 14, 1849, Captain Nathaniel Brown Palmer in command, and, reaching Hongkong on January 1, 1850—109 days out—picked up a cargo of tea. Eighty-one days later she was in New York again, and, though the passage did not compare with Waterman's miraculous 1848 run in the *Sea Witch,* it was an excellent one for a cautious captain of fifty, who was thinking of giving up his command. This passage in the *Oriental* was, in fact, Cap'n Nat's good-by to sail—if not to the sea, though he himself considered it so. Shortly afterward, he took the steamship *United States* to Bremen for disposal, but the escorting of a "tea-kettle" across the Atlantic was to him scarcely comparable with the ineffable thrill of sail. The *United States* was a matter of routine, of duty; his passage in the *Oriental* would be remembered as the beautiful climax to a brilliant career.

Nathaniel's brother, Theodore, next assumed command of the *Oriental,* and, taking her out of New York on May 19, 1850, ran her down to the Equator in 25 days. Twenty days later she was off the Cape of Good Hope, and sixteen days after that she was racing past Java Head, arriving in Hongkong on August 8—81 days from New York. This passage established the all-time sailing record for the outward run from New York to China, as the *Sea Witch* had, in the pre-

vious year, established the all-time sailing record for the homeward run.

The fame of the *Oriental* sped up and down the Chinese coast on wings of wonder, and an immediate rush was made through Russell & Co. to charter her for the London teas. In eighteen days she was spick-and-span and ready for sea again. Going through the usual routine on the eastern coast, she had been stripped to her girt-lines: each mast and yard, save for the lower ones, had been sent down on deck, stripped of its rigging, and overhauled. Her tops were lifted and every masthead examined, her rigging was newly blacked, and she was freshly painted inside and out. By August 28 she had taken in 1,600 tons of tea at £6 per ton of forty cubic feet, while British ships stood patiently by waiting for cargoes at £3.10s per ton of fifty cubic feet. Ninety-seven days later she was in England—the first American clipper to reach the British market after the repeal of the Navigation Laws. Her arrival created a sensation.

Old men rubbed their eyes and whispered of visions, when they saw her; crowds swarmed to the docks to take one look, and then to fall in love with her. There had never been such a passage—and never before so sweet a ship. There she lay, every inch a thoroughbred: her shining hull eloquent of speed and beauty, tall, raking masts rearing upward to the sky, broad yards and studdingsail booms giving silent evidence of an enormous spread of sail, brasswork polished to the brightness of mirrors, and decks holystoned to spotless white. The crowds continued to throng the docks for days; the newspapers published her portrait; and the British Admiralty sought permission to take off her lines when she lay later in drydock at Blackwall. Steam for the moment was a puffing parvenu on a far horizon; the Navigation Acts were well forgotten; the *Oriental* had grossed £9,600 in freights and had brought approximately a million catties of tea to London. Before the year was up, England had a clipper.

The *Oriental* was built in the yards of Jacob Bell—who had continued in business after the firm of Brown & Bell was dissolved in 1848—at the foot of Stanton Street, New York City. She cost seventy thousand dollars, and was owned by A. A. Low & Brother, flying the

yellow, red, and yellow house-flag of that company. Captain N. B. Palmer, her first commander, who had acted for many years as confidential adviser to the brothers Low in matters relative to their ships, had a hand in her designing, as he had also in the designing of the preclipper *Houqua* and the excellent clipper *Samuel Russell,* both of which were built by Brown & Bell for the Lows and commanded in turn by Captain Palmer. The former vessel was named for the *hong* merchant Houqua; the latter for the founder of the house of Russell & Co. of China, with whom the brothers Low began their career. Both the *Houqua* and the *Samuel Russell* outlasted the *Oriental,* though, curiously enough, all were lost in eastern waters. The *Oriental* measured: length 185 feet, breadth 36 feet, depth 21 feet, and was 1,003 tons' burden. She had two decks and was built of white oak, locust, and cedar. The New York *Herald* spoke of her launch on August 4, 1849, as "exceedingly beautiful."

The *Oriental's* arrival in London had been in December. The *Argonaut,* which had sailed from China at the same time, did not arrive in England until January 17, 1851, and before the *Oriental* was to arrive again in the following November fifteen other American ships had proceeded from China laden with tea for the British markets. California gold—mad ravings across the desert—cholera and yellow fever at Chagres—quarrelsome, bickering passages round the Horn—the latest development of steam: all these seemed far away and half-forgotten like a delusive nightmare of some other day and time. The *Oriental* was aloof from those things; the excitement that she figured in was the excitement that she carried with her.

In 1852 the *Oriental* was in New York again for the first time in almost three years—home with a series of excellent passages to chronicle her fame. She added another in 1853: the fair passage, under Captain C. A. Fletcher, of 101 days to San Francisco. The following year she was again in China and met with tragedy on the 25th of February. She was lost that day coming out of Foochow in charge of the pilot, and went down in the swirling chow-chow waters of the beautiful River Min.

California Clipper
1850

THE year 1849 witnessed the procession of an almost unbroken army of human ants crawling overland, and the grim cloud-dark specter of a horde of hungry human locusts crossing seas—unwittingly but unerringly bent upon the piecemeal destruction of lazy Arcadian California, with her unpractical grand seigneurs... and her gold. Round the Horn they beat their way through ice and snow, through tempests and gales, in overloaded, undermanned, determined ships. Over the Isthmus they went, dragging themselves from the cesspool of Chagres through beauty-tortured jungles to the insecurities of Panama. Over the desert from the Missouri to the Sierra Nevadas, through fiery days and freezing nights, up the Santa Fé Trail from Mexico, down from Oregon, and across the Pacific they trooped—more than ninety thousand human beings in that one year—sick, destitute, tired, falling in their tracks and crawling, the fever of gold-glitter in their eyes, the pounding of gold-lust in their pulses, the radiance of promised riches—sunlight-blinding—upon faces that had stared too long into nothingness. So they came—the pill-dosed, pick-and-shovel, gambling Mayflower-aristocracy of California.

The birds of prey, sense-certain of their plunder, followed after. American politicians, Australian pickpockets, Irish bandits, French ladies of pleasure, Chilean thieves, and Peruvian fandango dancers were suddenly present like leaves in spring when the sap is running sweet and new, ready to whirl away again, weighted with the gold of summer-profit, when the first nip of frost and wintering disillusion

worried the air. Boatload after boatload of future laundrymen left China, and humble artisans from the opposite direction discovered anew the proper course of Empire and profited by their wisdom.

During 1849 seven hundred and seventy-five ships cleared from eastern ports for California, and fifty thousand men, women, and children, who trusted to horses and wagons and their own tired, bleeding feet, forged overland. At the end of the year the various land-routes to California were signposted by discarded gold-machines, wash-basins, broken-down prairie schooners, the bleaching bones of men and beasts, and five thousand little mounds that marked the graves of the defeated; wrecks of ships were piled up along the coasts of the two Americas; and there was a vague wonder in eastern homes about the many valiant tubs that sailed out into the blue dusk and simply vanished.

There are those who have found an admirable courage in the driving urge that carried the gold-seekers on to their ultimate goal. Such courage has existed since the earliest days of man; such courage could be repeated tomorrow... and not necessarily for gold. Those who were drawn by the yellow magnet pushed ahead if they had the strength; they stayed behind, sickened, went mad, and died by the wayside if they lacked it. There was nothing essentially thrilling or admirable about that greed for gold; there was much that was insane, fantastic, sickening, and utterly rotten. In the early days of the old coasting traders, when perhaps two or three American ships touched at the Pacific coast in the course of a year, captains and crews alike were received with courtesy, and they extended courtesy. If Indians were bothersome, as they sometimes were, a few were taken aboard ship as hostages, and that matter was settled. The first day in harbor it was not strange for a trader to dress his ship from stem to stern with the varicolored flags of every nation, and, in order to impress a people who loved ostentation and ceremony, to invite the élite of a town aboard to dine. Trade was carried on—to an incredible amount —at leisure, amid displays of mutual admiration. The Spaniard may at times have lived in a rude enough house ashore, but his plate,

cooking utensils, and even furniture were frequently of solid silver. Perhaps he was lazy and his clothing was poor—if so, he was glad to exchange any amount of furs, pearls, and silver for muslins and satins. He entertained his American guests lavishly: there was music, dancing, and exhibitions of the superb horsemanship for which he was famous. When the trading was over the seaman left with regrets. He was loaded with trinkets and gifts and all the fruit and food his vessel could carry. His remembrance of the Californian was pleasant, as was the Californian's remembrance of him. When the Mexican War was fought these people yielded peacefully, welcoming the protection of the Stars and Stripes, little dreaming of what Gold Rush days would bring—that their picturesque hills would be dug full of pot-holes, their servants shot, their lands squatted, their houses robbed, and their cattle stolen. What the gold-seekers did to the California Spanish would have made Drake blush and Queen Elizabeth pallid; perhaps it is true that the pioneer of the goldmines could put a feather in his hat and call himself the winner of the nineteenth-century marathon of bravery, but if so the feather was probably stolen from an Indian.

The terrific exodus of men and women to California opened, for a few years, one of the richest markets the world has ever known. Eggs were $1 each; onions, $2 the pound; beef, pork, and flour were $40 to $60 a barrel; salmon caught in the Sacramento River fetched $2 each; tea, coffee, and sugar sold at $4 a pound; wooden bowls were $2.50 to $7.50 each; boots were $50 a pair; whiskey was $10 to $40 a quart; a breakfast of ham, eggs, and coffee cost $6; a shave, $4; picks and shovels were $5 to $15 each; laudanum was $1 a drop; and quinine was any price. Cooks were paid $400 to $500 a month; stevedores, $20 to $30 a day; laundries received from $10 to $12 a dozen for washing shirts, and miners made anywhere from $100 to $1,000 a day washing dirt. The scarcity of food and supplies, with gold flowing in a ceaseless stream, threw eastern shipowners and shipbuilders into a lather of haste to replenish the needs and divert the stream.

In 1850 thirteen California clippers, of which the *Celestial* and *Mandarin* were first, were quickly released from the ways. The *Surprise,* third to be launched, was Boston's first large clipper. She was designed by Samuel Harte Pook, one of the few naval architects of the time working independently of any yard, was built by Samuel Hall, and owned by A. A. Low & Brother. At her launching on October 5 she was given a tremendous ovation and was the object of much discussion for some time after.

The usual preparations for the launching of a vessel were begun as soon as she was painted and coppered—although ships were frequently taken into drydock when the launching was over, and coppered afterwards. In some cases a cradle, which rested on each side of a platform sloping to the water, was built under the ship, and when the time for launching came these sides of the platform (or ways) were greased with tallow. All the blocks and shores were removed, save one. When the moment for launching came, this final prop—called the dog-shore—was struck downward, and the vessel, either of her own volition or aided by the agitating motions of those aboard, slid stern-first into the water. When afloat she was rolled from side to side to disengage the cradle. Another custom was to launch the vessel directly from the stocks, and as soon as the rope which held her was cut free—and the last prop was knocked away—she would begin to slide downward so rapidly that it was necessary to pour water on the smoking ways. She plunged as soon as she struck the water, but rising again had a tendency to glide quickly away until brought up smartly by an anchor. As a launching was always something of a ceremony, the ship was decorated with flags, and just as she began to move along the ways a bottle of rum was broken over her forefoot and her name was called aloud, in christening. After the launch her rudder was shipped and she was towed away to receive her outfit: spars (masts, yards, booms, gaffs, and all small pieces used to support rigging and sails), rigging (all the ropes used for the support of masts, management of sails, etc.), and tackles (all blocks, rollers, or pulleys through which the running rigging passes). After

that she received her sails, small boats, navigating instruments, medical supplies, and provisions.

Mr. Hall, however, had indeed a surprise on the day the *Surprise* was launched. He had prepared a ladies' pavilion from which relatives and friends of the workmen might watch the launch, and in the mould-loft—on flag-decorated tables—he had had a luxurious lunch laid out. The novelty of the day—and it was a thrilling one for those who went to every launch and could predict the future of a vessel from the way she took the water—was the fact that the *Surprise* was fully rigged, with all her running gear in place, and skysail yards across. The launching of a vessel was always a tormenting occasion, particularly for the builder, since from the moment the draughtsman first put pencil to paper, to trace out her design, to the day when she received her new suit of snow-white sails, it was necessary that every particular conformed to a carefully calculated formula. One variation between her conception and her creation might have caused her lines to deflect as she hit the water—the very position of a mast might have exerted an important influence on the qualities of the ship and determined to a great extent her capacity to sail. The fact that the *Surprise* entered the water without a hitch was evidence of Mr. Hall's supreme ability as a master of precision. The *Surprise* was a 1,262-ton vessel with a length of 183 feet, a depth of 22 feet, 38-foot beam, and dead-rise of 30 inches. Her figurehead was a gilded flying eagle; the arms of New York were carved upon her stern.

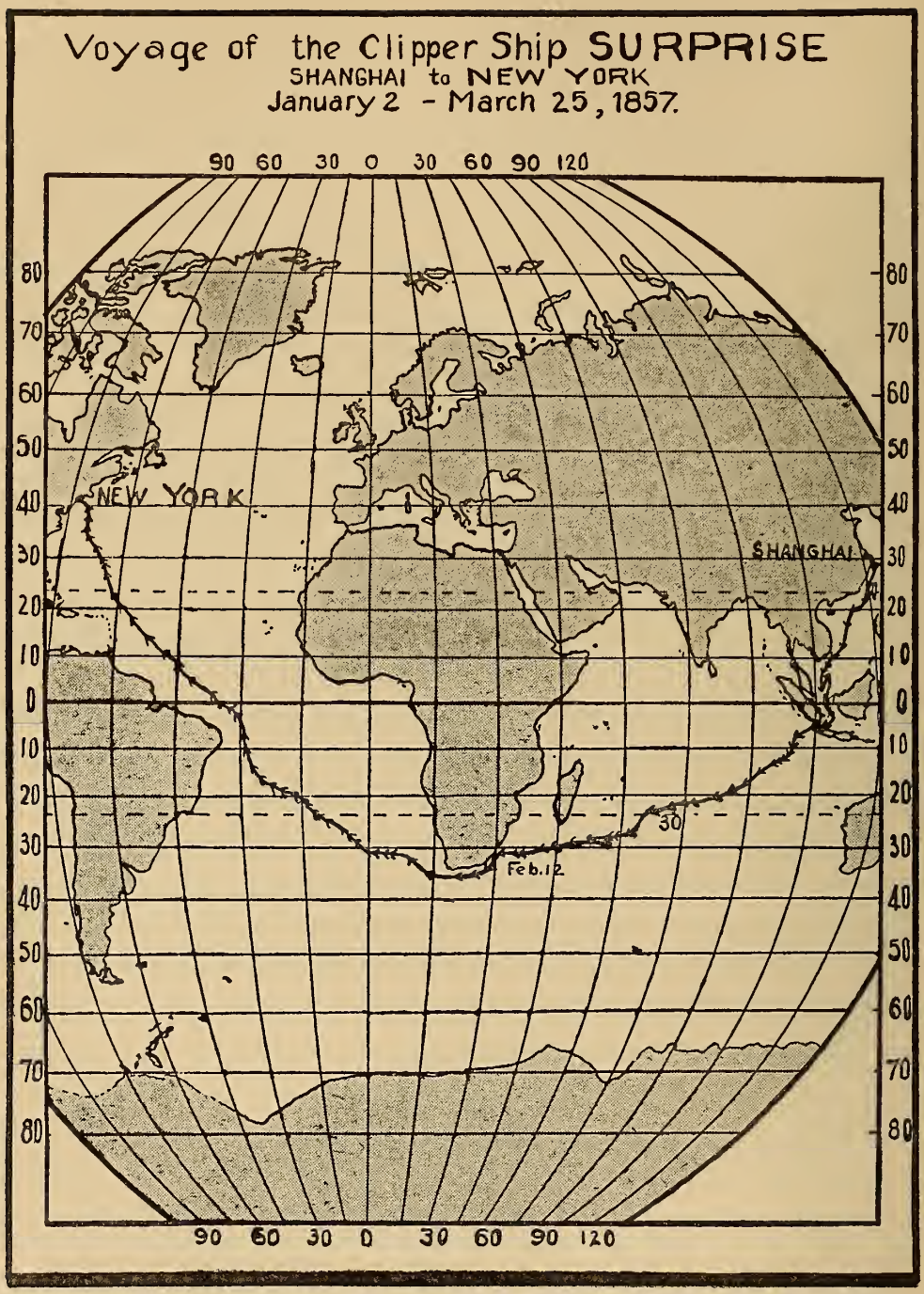
As soon as the *Surprise* was ready for sea she was towed around to New York by Boston's famous ocean-going tug, the *R. B. Forbes* —another vessel in whose designing Pook had had a hand. She took on 1,800 tons of cargo valued at $200,000, and the New York *Herald* thrilled with: "The handsomest ship ever seen in this port." By December 13 the *Surprise* was leaving for San Francisco under the command of Captain Philip Dumaresq, who had learned fast sailing in the opium trade. Forty-five days previously the pre-clipper *Helena,* commanded by Captain John Land of *Rainbow* fame, cleared for 'Frisco, and on December 15 the new Baltimore-built clipper *Sea Nymph*

followed out on the heels of the *Surprise*. On March 19, 1851, Hall's ship was beating into San Francisco, second clipper in of the season, with a new record of 96 days 15 hours. The *Helena* had put into port six days before; the *Sea Nymph* did not arrive until 61 days later.

The *Surprise* was one of the most profitable clippers ever constructed. Her freight on this first trip amounted to $78,000, and the list of her cargo filled a manifest twenty-five feet long. From California Dumaresq took her across to Canton, where the fame of her new-made record won her a charter for the London teas at the same price commanded by the *Oriental* the year before. She arrived in London on November 12 in the unfavorable-season run of 106 days 12 hours, her freight receipts by this time totaling a sum sufficient to pay for her entire cost and running expenses, with a profit of $50,000 left over.

In 1852 Captain Dumaresq resigned to take command of the *Bald Eagle*—then a new clipper built by Donald McKay for George B. Upton, of Boston—and the *Surprise* passed to Captain Charles Ranlett. From then on for twenty-four years she continued to make excellent passages and profits. In 1853 she sailed from Shanghai to New York in 98 days, but in '56 and '57 * she made the same run in little more than 82 days apiece, shipping it green all the way. After going into drydock for copper and repairs after the last run, the *Surprise* was again ready for a fling at the China trade, in which she stayed until 1876. On February 4 of that year she struck a sunken rock just outside of Yokohama and was completely lost.

* The log for this passage is given in Appendix III.


Voyage of the Clipper Ship SURPRISE
SHANGHAI to NEW YORK
January 2 - March 25, 1857.
90 60 30 0 30 60 90 120
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80
NEW YORK
SHANGHAI
30
Feb. 12
90 60 30 0 30 60 90 120

California Clipper
1850

All through 1850 letters from California—nearly 125,000 of which were received during the closing quarter of the year—piled up in white drifts at the New York Post Office, and nearly all ended with: "There seems to be no end to the gold!"—a refrain so dynamite-loaded that it seemed, at times, as if it were capable of blowing the entire population of the eastern coast westward to California. The gold hysteria grew less and less controllable—but there were sound reasons for it. From the time of Marshall's discovery more than forty-one millions of dollars' worth of the metal had been dug out of the ground like so many potatoes or shaken, like alien dust, out of the sand and gravel of streams. The need for gold—not for greenbacks, nor for coins, but for the metal itself—was so acute in early nineteenth-century America as to seem, today, incomprehensible. But the fact remains: early America had little money and she had, save for the "fool's gold" of Jamestown and the small amounts discovered in Georgia and the Carolinas, *no gold!*

During the space of colonial days everything from wampum to musket balls served for money; in 1781 barbers papered their shops with the worthless Continentals; issues of paper money were received with mixed feelings, and, to the early 1840's, English, French, and Spanish coins were commoner than those of the United States. Charles Dickens observed this fact when he visited America, and entered it in his notebook with amazement. He observed as well that, for £5 in

gold, there were not a few men in the Middle West who would murder their fathers.

Less than nine years later the Reverend Walter Colton, U.S.N., jotting down his observations in San Francisco, presented an entirely different picture. "Hazards are made in commercial transactions and projects of speculation, that would throw Wall-street into spasms," he wrote. "I have seen merchants purchase cargoes without having even glanced into the invoice.... In one cargo, when tumbled out, were found twenty thousand dollars in the single article of red cotton handkerchiefs! 'I'll get rid of these among the wild Indians,' said the purchaser, with a shrug of his shoulders. 'I've a water-lot which I will sell,' cries another. 'Which way does it stretch?' inquire half a dozen. 'Right under that craft there,' is the reply. 'And what do you ask for it?' 'Fifteen thousand dollars.' 'I'll take it.' 'Then down with your dust.' So the water-lot, which mortal eyes never yet beheld, changes its owners without changing its fish. 'I have two shares in a gold mine,' cries another. 'Where are they?' inquire a crowd. 'Under the south branch of the Yuba river, which we have almost turned,' is the reply. 'And what will you take?' 'Fifteen thousand dollars.' 'I'll give ten.' 'Take them, stranger.' "

Thus the California stories ran. Men and women mobbed the shipping offices demanding tickets for the land of gold and wild finance, and were willing to pay any price for any type of accommodation. Merchandise was arriving by way of lakes, canals, rivers, and railroads for shipment to miners who little cared how they scattered their "dust," and freights were proportionately very high. Lynx-eyed merchants bent over statements, straightened, and ordered new ships. In six months' time the state of Maine built and launched 326 vessels, New York followed with 224, Pennsylvania was third with 185, Massachusetts fourth with 121, and Maryland fifth with 150. In all, 1,360 vessels, of which 159 were steamers, were built within six months in 1850. Among the 247 ships that were built, there were a few more shapely than the rest, with beautiful, unforgettable names: *White Squall, Witchcraft, Sea Serpent, Race Horse, Stag Hound.*

Stag Hound

It was the building of this last vessel that brought the word "genius" —not for the first time, but to the very end of time—into close association with the clipper; since the *Stag Hound* marked the entry, into the ranks of clipper builders, of the master-builder of them all—Donald McKay. In time the term "clipper fever" became synonymous with "gold fever"; in time the clipper became synonymous with America's brief moment of supremacy upon the seas; and in time the word "clipper" itself brought to mind the name of one man—Donald McKay. His name stands today, as it did then, at the head of the list that includes such brilliant ship-designers of the nineteenth century as Webb, Griffiths, Pook, Steers, Lenthall, and Delano. America owes more to Donald McKay than to any other man for her part in making the sailing ship a fabric of surpassing beauty and the Stars and Stripes of ocean-wide fame. Yet Donald McKay was not, by birth, an American. He was born on September 4, 1810, at Shelburne, Nova Scotia—grandson of Donald McKay, once of Tain, Ross-shire, Scotland.

At the age of sixteen young Donald came to New York and began his career as an apprentice—to learn the rudiments of ships' carpentry —at the yards of the Connecticut Yankee builder Isaac Webb, then located on the East River front from Fifth to Seventh Streets. Six years later he was free-lancing for Webb, for Brown & Bell, and for Smith & Dimon. Then followed marriage with the daughter of John Boole, the shipbuilder, as well as a period of stimulating companionship with John Willis Griffiths, sharing the latter's admiration for the *Ann McKim*.

An unpleasant interlude of employment at the Brooklyn Navy Yard prefaced a trip to Wiscasset, Maine, where he drafted and superintended the building of some ships for Brown & Bell. Visiting Newburyport in 1840 he finished the ship *Delia Walker* for John Currier, Jr., and a year later entered into a partnership with William Currier, also of Newburyport. The *Courier,* which was the most famous ship built during this partnership, was launched in 1842, and, during the

ten years that preceded her final end in the Falklands, she succeeded in making many notable passages in the Rio coffee trade.

After McKay's first partnership was dissolved, another was entered into with William Pickett—and the *St. George, John R. Skiddy,* and *Joshua Bates* were built. The *St. George* was the pioneer packet of the Red Cross Line of New York to Liverpool packets. She was later destroyed by fire in the English Channel—a fate which pursued many of the McKay vessels. The *John R. Skiddy* was also a packet, owned by William and Francis Skiddy, and sailed between New York and Liverpool in the '40's. She went ashore the beginning of April, 1850, on the coast of Wexford, Ireland. The *Joshua Bates,* built for Enoch Train of Boston, was the prelude to McKay's later connection with Mr. Train and with the latter's famous White Diamond Line of Boston-Liverpool packets. In 1862 she was purchased by Francis E. Beaver of Melbourne, in 1864 by Lowe Kong Meng, and in 1872 by William Henry Bean of Adelaide. A few months after the last purchase she was condemned at Mauritius.

In 1845 McKay was in Boston, had built his own residence on White Street, and was launched on a shipbuilding career that was entirely his own. From his yards at the foot of Border Street, East Boston— a spot favored by Boston shipbuilders because of the splendid anchorage offered, everywhere from Jeffries Point to Chelsea Bridge, for vessels of the greatest draught even during the violent northeast gales—one famous vessel after another emerged. The *Washington Irving,* built for Enoch Train, was launched on September 15, 1845; the lavishly carved *Anglo-Saxon* and the *New World,* which were launched just in time to profit by the Irish potato famine, left the ways in September, 1846; in July, 1847, was launched the little *Ocean Monarch* which figured in the tragic burning of 178 immigrants the month before the *Sea Witch* established her all-time record run from China; and the *A. Z.,* built for Zerega & Company, followed three months later. The year 1848 saw the launching of the *Anglo-American, Jenny Lind,* and *L. Z.;* in 1849 the *Plymouth Rock, Helicon, Reindeer,* and *Parliament* were built; and then, in 1850, there followed in rapid

succession the *Moses Wheeler, Sultana, Cornelius Grinnell, Antarctic, Daniel Webster,* and the California clipper *Stag Hound.*

Ten thousand people gathered on the 7th of December, 1850, to see the sculpture-clean body of the *Stag Hound* pierce the waters of Boston Harbor. One can picture that launching. The *Stag Hound* herself lay tense in her cradle as steam rose high from the boiling whale-oil being poured upon frozen tallow. The christening was quick, with rum that came, fittingly enough, from Medford where the first New-England-built vessel *Blessing of the Bay* had been built and launched two hundred and nineteen years before. The great vessel stirred as the tallow melted, seemed to come alive, and suddenly streaked to the waters as cheers rose high and mingled with the notes of the bells of Boston flaking downward in the icy air.

The *Stag Hound,* with a registered tonnage of 1,534, was the largest merchant vessel of her day, and was, together with the *Flying Cloud,* perhaps the most happily named of all the clippers. We catch, in one, a swift sense of lithe, animal grace; in the other, a vision of ethereally massed, moving majesty; and, in both, a combination that expresses, alow and aloft, the very poetry of motion.

The steam-tug *R. B. Forbes,* her brilliant red hull filled with importance like a band leader's coat, towed the *Stag Hound* down to New York, where the new clipper gave the citizens their first tart taste of dangerous Boston competition. Not since the days of the *Rainbow* had a sharp ship aroused so much comment. Granted that she was an imposing sight with her 215 feet * of leanness, with the blue and white of her house-flag calling attention to her towering height of mainmast, and with her 86-foot horizontal reach of mainyard and 11,000-yard spread of canvas, there was, nevertheless, great anxiety expressed about her ability to "weather it," although there was no doubt about her potential speed. The figurehead of a panting stag hound accentuated the feeling of swiftness imparted by the design of

* It will be noted that the measurements given in the text do not always agree with those given on the plans. The measurements given in the text are the registered dimensions; those given on the plans are derived from the plan sources.

the ship in its entirety; and her bow, arching upward a good five feet higher than her stern, gave her the appearance of an animal ready to "go," and straining at her leash. There was a thought that she would bury when driven; and the marine underwriters, with this idea in mind and believing that her 39 feet of elliptical narrowness and 21-foot depth were out of all proportion with her length, charged extra premiums to insure her. There were others who thought differently, however, and she lost no time in picking up a cargo at $1.40 a cubic foot—a nice $70,000 profit in freight.

On February 1, 1851, with her cargo stowed and forty-six hands aboard, she made sail and, picking up a strong westerly breeze, cut out of New York on the ebb-tide for 'Frisco. In 108 sailing days she was there; in spite of the fact that she had lost her mainmast and three topgallant masts six days out at sea, she crossed the Equator 21 days from Sandy Hook, and arrived at Valparaiso with a jury-rig a bare 30 days later. Captain Josiah Richardson wrote back to George B. Upton and Sampson & Tappan, her owners: "The ship is yet to be built to beat the *Stag Hound*. . . . I am in love with the ship. . . ."

After discharging her cargo at San Francisco, the *Stag Hound* was ready for sea again on June 26. She sailed first to Manila and from thence to Canton for tea, arriving at the latter port on the 26th of September. The *Oriental, Surprise, Memnon,* and *White Squall* had already come and gone from China with teas for the London market that year and, with the arrival of another fine ship like the *Stag Hound* and the new clippers that England was building, it began to look as if the Reverend Doctor Bridgman, out in Shanghai, had been right when he wrote home the previous year that "the shipping has increased with great rapidity, and it will probably continue to do so." The letter that Captain Crocker brought home from Doctor Bridgman in 1850 in the *Horatio* gave 137 sail as the number lying in 1849 off Shanghai alone.

The *Stag Hound* brought her tea to New York, and after its sale had enough money grossed out of her various transactions to pay her own cost and hand over an additional $80,000 to her owners—yet Donald

McKay had designed, draughted, and built the ship in 60 days, and she had been away from home but ten months and 23 days over.

Captain C. F. W. Behm took the *Stag Hound* out to 'Frisco on her second voyage, sailing from New York on the first day of March, 1852, and arriving there on the fourth of July. She had taken 124 days to complete the passage, but had had the ill-fortune to run into a twenty-day calm while still a thousand miles out of San Francisco. Nineteen days later she was out to sea again, and racing the *Sea Serpent* to Whampoa won the race with a good nine days' margin. The date of her arrival in China was September 6, 1852; she was away again on the 25th and put into New York 95 days later.

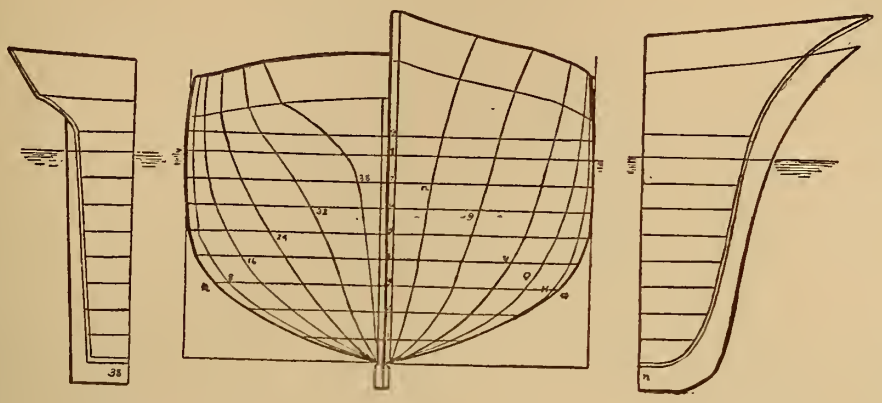
The *Stag Hound* had none of the fine breezes that blessed the careers of ships like the *Sea Witch, Surprise,* and later clippers, and as a result none of the passages of her entire career were very exciting. In 1853 it took her 127 days to reach San Francisco, although the passage was made longer by a ten-day stay at Juan Fernandez taking in water. Her China passage that year was made in 61 days, but sailing homeward, during which time she battled with a five-day typhoon, she made the fine run of 89 days—eight days over the all-time record of the *Oriental.* Her 1854 passage to San Francisco took 110 days, from thence to Hongkong 49 days, and from Shanghai to London 91 days from Java Head. She returned once again to Hongkong and from thence sailed home in 122 days.

In 1857 she repeated her 108-day passage to San Francisco, sailing, however, from Boston. This was followed by a 51-day sail to Hongkong, and a homeward run from Foochow of 113 days. In 1858, Captain Samuel B. Hussey in command, she sailed from Boston to the Line in 18 days, and beating her way around the Horn through mountainous seas made her last port in San Francisco in 121 days. Her voyage to Hongkong that year was made in 58 days.

In 1860 she was sold to E. & R. W. Sears of Boston, and in the spring of the following year Captain Lowber, her new skipper, was awarded a prize by James Gordon Bennett of the New York *Herald* for outracing the mail steamer *America* to London with a copy of

Lincoln's first inaugural address. Failing to pick up an Australian charter at this point, as had been desired by her owners, she took on a cargo of Newcastle coal for San Francisco, Captain Wilson in command.

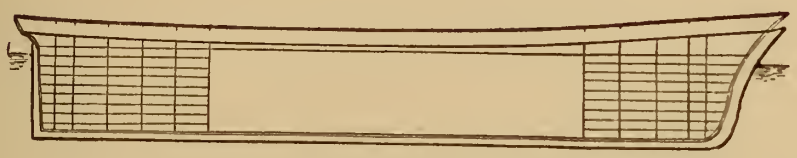
The *Stag Hound's* last cargo proved to be her undoing; off Brazil she took fire from spontaneous combustion. As she filled with smoke, Captain Wilson pulled the American ensign from her sail locker, wound it around his body, and jumped into the boat. He and the crew reached shore in safety. Of the *Stag Hound* there was nothing left for delivery to her owners but a large bundle, in which Captain Wilson had wrapped the Stars and Stripes.



STERN

BODY PLAN

BOW



SHEER PLAN

HALF BREADTH PLAN

Lower plans
1/3 Scale of
Upper Plans

CLIPPER SHIP
STAGHOUND
1850
Designed by DONALD McKAY
EAST BOSTON

Drawn from
HALL'S REPORT
Length 209 Ft.
Beam 39 3/4 Ft.
Depth 21 Ft.

California Clipper
1850

It is uncertain whether the "chicken fever" of the mid-nineteenth century had anything to do with the naming of Samuel Hall's clipper ship *Game Cock,* which was launched just fourteen days after the *Stag Hound* left the ways; but the "chicken fever" itself throws an amusing sidelight on a period that was noted for pulses that raced alike over matters important and trivial.

In 1849, Boston held an exhibition of fancy poultry. That was the beginning, and in the following year twenty thousand people gathered to gaze upon twelve thousand of the Oriental birds. Ten years before, the value of poultry in the United States was twelve millions of dollars, round figures; after 1860 it had risen to over sixty millions. What effect the "chicken fever" had upon increasing values during the decade between 1850 and 1860 is not known, since the censuses for those years were not taken; but, during the boom exhibition years between 1850 and 1855, eggs were selling at three dollars a dozen and hens at ten dollars the pair, and chickens of favorite breeds were referred to in public—even by men like Clay and Webster—in the most astonishing terms of affection.

The "gambling fever" was equally high in those days, and many a wager was placed upon ships of the caliber of the *Game Cock* when merchants gathered before the midday meal in front of the old Exchange in Boston or, after a busy day, for a glass of grog at the Astor House bar in New York City. The *Game Cock,* appropriately enough, was matched from the very moment of her launch. The day she slid

Game Cock

down the ways in Boston, the superstitious of Salem were predicting an ill future for the new clipper *Witchcraft,* which was receiving her first trial by water on that very day. Both ships were designed by Pook and they were similarly proportioned. The *Game Cock* was a ship of 1,392 tons; the *Witchcraft,* of 1,310. The *Game Cock* was 187 feet long; the *Witchcraft,* 190 feet 6 inches. Each had a 39-foot beam and a 22-foot draft. The former had 40 inches dead-rise; the latter, 35. The *Game Cock* was built by Samuel Hall of Boston and owned by Daniel C. Bacon and Robert L. Taylor of that city. The *Witchcraft* was built by Paul Curtis of Chelsea and owned by William D. Pickman and Richard S. Rogers of Salem. Both had received their outfits and had their California cargoes stowed under their hatches in April, 1851. On the third of that month the *Game Cock,* Captain Lewis G. Hollis in command, raced out of New York, followed on the fourth by the *Witchcraft,* Captain William C. Rogers in command.

In May, after weeks of relentless driving, the two ships brought up in the capacious and beautiful harbor of Rio de Janeiro. The *Game Cock,* with her mainmast sprung, made her wary way into port on May 10, thirty-seven days out; and the *Witchcraft* put in four days later minus her mizzen.

The entrance to Rio Harbor faces south and opens into the quiet, island-studded waters of a great oval basin believed once to have been hidden within an unbroken circle of mountains until the dammed-up waters, by their own force, burst down the barrier between and found an outlet to the sea. At the rise of the tide those sailing vessels of long ago floated easily, without the need of a pilot, over the bar at the harbor's mouth and passed between the guarded entrance, with the fantastic granite peaks of Gavia, the Sugar Loaf, and Corcovada rearing skyward on the left and—on the right—the lofty fortified castle of Santa Cruz. As the ships' anchors rippled the surface of the water into a thousand reflected shapes, the passengers saw before them the low buildings of San Sebastian, San Domingo, and Praya Grande thrown into somber contrast by the deep green vegetation of the mountains,

out of whose recesses dozens of little rills leaped downward and cut their frolicking way across a glittering beach.

Shoreward a flight of wooden steps led upward to a seawall and a parapet, and just beyond lay the violent impact of foreign and native life. It cannot be said that the traveler of the 1850's was favorably impressed with the human side of Rio—but around the solid rock sides of Snake Island, which was separated by a channel from the city, vessels of the largest burden were afforded perfect security and access to near-by wharves, dockyards, magazines, arsenals, naval stores, a sheer-hulk, and facilities for heaving-down and careening. By a special edict of the Emperor, Americans on their way to California were allowed the greatest liberty. Homes were sometimes thrown open and courtesies extended, but it was apparent that when many American ships were in the harbor the women were closely guarded and seldom visited the streets.

Signal Hill and the Sugar Loaf were to look down on many disabled American clippers before the Gold Rush days were over, and the ships were to be seen, as well, in increasing numbers by the mountains of other towns along the South American coast. The *Game Cock* was forced to discharge at great expense to effect repairs and—during her 57 days' wait in port—her sailors and passengers had ample time to acquaint themselves with the city.

The visitor would have landed on the beautiful chiseled-granite quay, passed across the public square, with its granite foundation and glistening surface of quartzose sand, observed its fountain sparkling in the center, decided that the palace, the cathedral, the theater, the convents, and the opera house were not too magnificent, and passed into the city proper. Here the American was shocked to see the close mingling of blacks and whites, and to learn of the frequent marriages between them; he was worried by the constant ringing of church bells; he was irritated by the hustle-and-bustle and irreligious theater-going on Sundays; he hated eating farina and food rolled in the flour of the manioc root; he was pestered by the mosquitoes; and, above all things, he fretted and fumed and was disgusted, in a city that lacked even the

most primitive forms of sanitation, by the smells. Perhaps that was all he remembered when he finally put to sea again. For others, however, there were colorful days in the Rua Ouvidor with its shops and fabrics and fashions, and in the Rua d'Ourives with its fortunes in jewels; there were the unforgettable Brazilian fruits, unmatched elsewhere in the world; there were moments watching the water-carriers come and go from the fountain of Hafariz with their water-jars atop their heads; and there was amusement looking on at the half-naked negro laundresses beating their clothes at the public basins. There were curious days spent in churches whose altars were inlaid with silver and gold, and hung about with the waxen counterparts of diseased portions of the body—in honor of saints who had brought about cures; and there was the vivid pageantry of saints' days, when the huge choir gathered and organs and flutes and hautboys played, when orange petals were strewn on the steps and streets, when black-robed women in white lace shawls and garlands of flowers knelt at prayer, and firecrackers, set off in front of the church, preceded and closed the ceremony. There were long, lazy afternoons sitting on a bench at the Botanic Gardens, looking out over the bay where scores of European flags scrolled from the spars of anchored vessels, and swarms of little canoes and feluccas sped back and forth over the water on countless errands. There were long, rambling walks surrounded by the scented foliage of growing cinnamon, red pepper, clove, mango, mimosa, terrestrial orchids, bougainvillea, fruit trees, palm trees, breadfruit trees, and bamboo; and there were little excursions to Sugar Loaf, to the forest primeval, and into the beautiful little suburbs where the many American and English merchants had built their homes.

The *Game Cock* and *Witchcraft* were fortunate in having arrived at Brazil during the most favorable period of the year; but, of the two, the *Witchcraft* was the more fortunate in that she was able to leave port 26 days before her rival. The two ships parted company on May 10, and the *Witchcraft* went on to set a 62-day all-time record passage from Rio to San Francisco, and to put to rest many an old Salem superstition. Her net sailing days from New York amounted to 102.

The *Game Cock* set sail from Rio on July 6, but her luck for the remainder of that passage did not better. She arrived at the Golden Gate on October 5, in 91 days from Rio, 127 net sailing days from New York. From San Francisco she set sail on November 1 for Honolulu, which she reached in sixteen days. From Honolulu she made the excellent passage of 19 days to Hongkong, averaging 261 miles a day, and equaling the record passage made by the *Memnon* in 1850. On January 17, 1852, she arrived at Bombay, 33 days later.

During the latter part of the same year the clipper ship *Grey Feather,* which had been built in Maine in 1850, the *Trade Wind,* a year-old clipper from the yards of Jacob Bell, and the *Game Cock* were at their loading berths in New York at the same time, taking in freight for California. The first ship cleared on the 4th of November; the second ship, heavily laden with 4,300 tons of measured cargo and forty-six first-class passengers, was out on the 13th; and the *Game Cock* followed three days later.

The *Trade Wind* was the first to arrive in California, putting in on the 24th of February after a 103-day passage. When the *Game Cock* arrived on the 10th of March, 114 days out, two other ships came in with her. These were the *Meteor,* which had sailed from Boston on November 17, and the *Telegraph,* which had sailed from the same port on November 15. The passage of the former was 113 days, and of the latter, 115 days. The *Game Cock* with her 114-day passage figured second in both races. The *Grey Feather* brought up the rear five days later with a 126-day passage.

In August, 1853, the *Telegraph* made a record passage of 58 days from Valparaiso to Boston; and just seven days before the *Game Cock* arrived at San Francisco in April, 1854, 115 days out, the *Telegraph* chalked up another record by arriving at the Golden Gate 34 days from Valparaiso. In March of the same year the *Witchcraft* was sold to T. Magoun & Son of Boston. In 1855 the *Game Cock* made a slow run of 150 days to San Francisco. In 1857 the *Telegraph* was burned, repaired, and renamed the *Henry Brigham.* Two years later the *Meteor* made a record passage of 15½ days from 50° South Pacific

to the Equator, and in 1861 the *Witchcraft* was lost near Hatteras in the month of April.

From then on the other ships began to disappear, one by one, from familiar harbors. In 1862 the little 586-ton *Grey Feather,* which had been built in 1850 by C. S. Huston of Eastport, Maine, for L. H. Sampson & Co. of New York, was sold at Bremen; and the 1,068 ton *Meteor,* built in 1852 by E. & H. O. Briggs for Curtis & Peabody of Boston, was sold to England. In 1865, the 1,068-ton *Telegraph,* built by J. O. Curtis of Medford for P. & S. Sprague of Boston, was sold in Peru and three years later was burned at sea.

The *Game Cock,* which had outlived all her old rivals although she had never won a contest, was abandoned off the Cape of Good Hope in 1880.

California Clipper
1850

As 1850 drew to a close and the year 1851 was flung open to a new train of major events, a flotsam and jetsam of news from the far corners of the seas was washed in to the port of New York. Most of the incidents were of the vintage of the latter '40's, but the knowledge of them traveled homeward by slow and devious routes—as befitted the passage of all things that had nothing to do with gold.

Some of the mysteries of lost ships and delayed passages were cleared up, and between the lines of laconic and somewhat callous reports one catches a glimpse of the spread fingers of tragedy that raked the seas with undeviating regularity in those days, and wrote their signature in the hieroglyphics of snapped spars, charred timbers, and gutted hulls.

The barque *Chalcedony* was ashore at Talcahuano, and the brig *Rodman* was ashore in the Straits of Magellan; the brig *Mechanic* was breaking up at the mouth of the Chagres, and the ship *Fanchon,* afire 1,200 miles from land, was reported burnt to the water's edge. There had been people aboard these ships; little manikins of the past who shouted and screamed, or who had looked calmly at the sky and the waves and said, "This is death"; but their names and the names of the ships mean nothing today. One reads of them in the annals of the sea and looks back at them coldly; they are a little, representative group of cameos cut straight from the heart of tragedy, nothing less, yet nothing more.

In Hobart Town the *Courier* published an account of the wreck of

John Bertram

the packet *James Monroe* and noted the arrival of part of her crew and passengers, out of the sea, in the longboat. The *John Q. Adams,* commanded by Captain Nickels who was to win later fame in the clipper ship *Flying Fish,* put in at Boston from Calcutta with word of a collision with the barque *Hindoo,* laden with coal from Newcastle. The message was terse: she sank in about ten minutes; captain, officers, and crew were saved. The schooner *Mary and Helen* brought home Captain Douglass and his crew from the wreck of the *Robert Ramsey,* blown down in a hurricane. The captain had a harrowing story to tell of ten days at sea without water and no food to eat but a little raw flour. When boarded by the rescuers, three-foot seas were surging over the disabled vessel amidships. The ship *Isaac Webb,* homeward bound from Liverpool, was struck twice by lightning. Two of her seamen were killed, and five disabled. The barque *Channing* was burnt off the coast of Brazil, and the crew rowed sixty heartbreaking hours in open boats before they reached land. In a heavy shower of rain, lightning shivered the mainmast of the brig *Lincoln* and communicated fire to her hold. Four days later her crew was saved. The barque *Lucy Ellen* was capsized in a white squall, and the ship *Hemisphere* was dismantled. Two men were killed, and two washed overboard.

Other news came in. In August, 1850, an account was published of Captain Glynn's rescue, in the U. S. ship *Preble,* of sixteen American seamen imprisoned in Japan. Fifteen were survivors of the shipwrecked crew of the whaleship *Lagoda* of New Bedford, and the sixteenth was Ronald McDonald of the whaleship *Plymouth,* who had entered Japan when prompted by a desire to learn more of that secret country and its inhabitants. The rescue was not without its comic-opera touches, but it was effected in spite of attempts to "shoo away" the American ship and to frighten the crew by an imposing array of land fortifications painted upon a canvas back-drop. The rescue of the men, together with the information they had collected about the country, was considered of first importance to the outside world; and one can grant that, in their small way, they too had done their pioneering share

towards changing Japan from a land of mystery into another port of call.

The details of Captain Glynn's rescue were scarcely "yesterday's news" when it became known that Captain McMichael, out in Webb's fast China packet *Montauk,* had discovered a new island (latitude 27° 35′ to 28° 40′ North by longitude 129° 05′ to 130° 18′ East) between the Loo Choo Islands and Japan, when he was out that way in November, 1849, on a passage from Sydney to China.

Then from Turk's Islands, down around the Bahamas, came word from the American Consul of a bottle washed ashore at Long Bay. Inside the bottle was a note from J. C. Walch, Lieutenant-Commander of the U. S. schooner *Taney,* requesting the finder to report the time and place picked up to Lieutenant M. F. Maury, Superintendent of the National Observatory at Washington. In 172 days it had cruised along the Equatorial current into the Caribbean Sea to the Gulf of Mexico, past the Tortugas and Key West, and through the old Providence Channel to Turk's Islands. To us the meanderings of the little bottle are of no importance; its real significance lies in the glimpse it gives of the quiet workings of that remarkable man: Lieutenant Matthew Fontaine Maury, the "Pathfinder of the Sea." Without his work on his celebrated wind and current charts, many of the fast passages of the later clipper ships would never have been made; and without the material he painstakingly amassed relative to the physical geography of the sea, the temperature of air and water, clouds, and the strength and direction of winds and currents—by means as simple and unobtrusive as the cruise of the little bottle—the old "rule of thumb" methods of navigation would probably have prevailed aboard the naval and merchant vessels of the world, until long after the clipper ship era was over.

Two events, each in striking contrast to the other, opened the year 1851. In Boston a Captain Ballard of the ship *Rambler* was fined $190 for cruelly beating three sailors, and in New York Captain Henry R. Hovey, of the ship *Devonshire,* was awarded a gold box and given a framed testimonial of thanks by Mayor C. S. Woodhull, in behalf of

the city of New York, for the heroic rescue, by himself and his men, of the 175 persons who composed the passenger and crew list of the new steamer *Helena Sloman,* of Hamburg, wrecked in November, 1850.

About the time Captain Hovey received his gold box in January, two of the new 1850 clippers, the *Sea Serpent* and the *Eclipse,* were at their loading berths in New York, while up in Boston the owners of the fine new clipper *John Bertram* were preparing her for her maiden voyage to 'Frisco. The *John Bertram*—named for Captain Bertram, merchant and seaman of Salem—was a sharp, but not extremely narrow, ship of 1,080 tons measuring: length, 180 feet, beam, 37 feet, and depth, 20 feet. She had been built in 1850, in the short space of sixty-one days, by Elwell & Jackson of East Boston for Flint, Peabody & Co. and Glidden & Williams. She was the pioneer clipper of the latter's line of San Francisco clippers.

On January 11 the *John Bertram,* commanded by Captain Frederick Lendholm, was out of Boston. The same day the *Sea Serpent,* commanded by Captain William Howland, and the *Grey Feather,* commanded by Captain Daniel McLaughlin, sailed from New York. A day later, from the latter port, the Philadelphia-built clipper-barque *Isabelita Hyne* sailed, followed on the 15th by the *Eclipse,* a crack clipper built by Jabez Williams of Williamsburg. These were the first clippers to sail in 1851, and they were out to break the 97-day record of the *Sea Witch* or, failing that, to better the 104-day mark of the *Celestial* or even the twin 109-day passages of the *Race Horse* and the *Samuel Russell*—the best passages of 1850.

On March 18 the *Eclipse* put into Valparaiso with some of her spars and sails missing—evidence enough of a racing master and a wild drive round the Horn; on March 25—a day after Valparaiso had had one of her more startling earthquake shocks—the *Sea Serpent* put in with a sprung bowsprit and lost spars and sails; and on the 29th the *John Bertram* was in with both mainmast and bowsprit sprung. The wreck-strewn passages of 1851 had made a good beginning, and, even if no other records were to be broken that year, it seemed certain that

one record—the number of "lame ducks" putting into Valparaiso for repairs—would surpass the grand total of 1850.

For Valparaiso was blooming in the backwash of the Gold Rush. During the course of 1850 six times as many American seaman—an approximate 15,000—visited the port as had done in 1849. Her streets were filled with deserters, and boarding-house keepers were busily undermining the morale of every sailor that chanced ashore. Conscientious captains soon knew her as one of the "dreadful ports": one with inadequate accommodations, plenty of temptations, and little protection from either disease or the staggering bills that a common sailor could cancel only by deserting one ship and seeking advance pay from another when he shipped again.

The *Eclipse,* the *Sea Serpent,* and the *John Bertram* were in port less than a month effecting repairs and then were out again on the last leg of the journey, destined to chalk up fair passages but to leave those of the crack clippers of 1850 still standing. The *Sea Serpent* was the first to reach the Golden Gate, 114 sailing days from New York; the *Isabelita Hyne* put in on the following day, May 18, 125 sailing days out; the *Eclipse* arrived on May 20 with the shortest passage—112 sailing days, which included the very fine run of 62 days from New York to Valparaiso; the *Grey Feather* arrived with the longest passage —138 days—on May 30, though it must be remembered that she was a very small ship; and the *John Bertram* followed on June 3 with another 125-day passage.

During the interim that had elapsed between the swift entry of the *Surprise,* with her record-breaking passage, earlier in the year, and the arrival of the *Sea Serpent* on May 17, San Francisco had had the third fire of her tempestuous three-year gold-fever career; but the whispers of arson that were steadily rising into loud-voiced demonstrations of wrath all over the city did not interfere with a gay dinner party given in honor of Captain Hamilton of the *Eclipse* at the Niantic Hotel, that curious hostelry whose cellar was the buried old hulk of the *Niantic*— a British ship made derelict in 1849 by the overwhelming desire on the part of her captain and crew to rush to the goldmines.

Other, secret developments were providing a titillating undercurrent of anxiety and hope to the town, however. Shortly after May 3, the first Committee of Vigilance was organized by a hundred of the more peacefully inclined residents of San Francisco, who had tired of the slow-footed and none-too-sure official justice of '49 and '50 and had come to the decision that the time was over-ripe for introducing a few quick-step measures of their own. In brief, their main reason for uniting was to drive out incendiarism and crime, forcibly but fairly, by means of their own law courts, their own trials, and their own conceptions of punishment.

San Francisco did not have long to wait for the Committee of Vigilance to go into action. Thirty minutes after the first meeting was over on the night of June 10, the city's fire-bell tapped out two notes, and again two notes. This was the pre-arranged signal for an emergency meeting of the Vigilantes, and within the next three hours and a half, the first captured criminal—an ex-convict named Jenkins from Sydney—was tried for a freshly committed robbery and found guilty. Before two o'clock was past, the feet of Jenkins drummed a silent tattoo against a receding floor, as the fire-bells tolled a melancholy dirge, and the pianos of the El Dorado and the Bella Union pounded out a dance-step. He was hanged from the gable of the famous "old adobe," while the light from the open doors of the dancehalls poured lemon-yellow patches across the Plaza and threw into grotesque outlines the upturned faces of the watchers, including those of the wide-eyed, open-mouthed, astonished sailors of the recently arrived *John Bertram*.

The *Bertram* was out of San Francisco on July 5, thirteen days after the city had had another fire—the worst in her history—and six days before James Stuart of the "Sydney Ducks" was hanged for a score or more major and minor offenses. Fifty-eight days later, homeward bound, she chalked up an all-time record run from San Francisco to Rio.

In 1852 she was again at San Francisco, arriving out on March 26 in one of the best twelve passages of the year—106 days from Boston.

She had sailed from her home port on the 12th of December, and her outward passage surpassed that of all other ships sailing near the same time. The *Seaman's Bride,* a year-old clipper built in Baltimore, sailed on December 10 and did not arrive in San Francisco until the following May, although she was only 119 sailing days on the way. The *Hurricane* and the *Invincible,* sailing on December 17 and 20 respectively, were 120 and 115 days on the way.

From San Francisco the *Bertram* swept on to China for the London teas, but showed up badly on her passage from Shanghai to England. She was 76 days to the Strait of Sunda, and an additional 84 days to her market in England. In 1853, still under Captain Lendholm, she made her San Francisco passage in 114 days, surpassing by four days that of the fine new *Queen of Clippers,* which sailed from New York on her initial voyage on the same day.

The *John Bertram* was among twelve of the clipper ships that were either lost or sold in 1855, but she was, fortunately, among the latter group, having been purchased by William F. Schmidt of Hamburg. On March 17, 1883, she was abandoned at sea, leaving behind her a series of able runs and fast passages to round out her career of thirty-two years at sea.

N. B. PALMER

California Clipper
1851

The year 1851, against a filigree background of events, was studded with an array of fine ships and flashing passages. The first clipper to leave the ways that year was, like the *Oriental* before her, the landsman's idea of an aristocrat of a ship, and the blue-water man's ideal of a sweet sea-sailer. She was the *N. B. Palmer,* and everything about her was of interest: her builder, the ship herself, her owners, her captain—even her name; and snap passages were expected of her from the moment of her launching.

When Jacob Westervelt built the *N. B. Palmer* he put into her years of hard-won experience with ships, from the keel up, on the stocks, and far out at sea; and not a cent was spared to make her not only as fine a craft as the mind of a naval architect could originate, but as pretty a piece of workmanship as the most fastidious owner could desire. Westervelt himself was born, in 1800, in Hackensack, New Jersey, and had spent his early life at sea. When he returned with an invaluable knowledge of the ways of a ship, born of a term before the mast, he entered the yards of Christian Bergh—veteran New York packet-builder—as an apprentice, rose to a partnership, and in 1837 retired, while still a young man, with a fortune. He traveled abroad, returned, built two more ships at Williamsburg, and then—restless and at odds with idleness—this shipbuilder, son of a shipbuilder, the doorway of whose very home was ornamented with the carved stone stern of a ship, started in business all over again, taking as his partner a builder named Mackay. From time to time there emerged, from the

yards of Westervelt & Mackay, such well-known packet ships as the *Ocean Queen, American Eagle,* and *Devonshire,* but the pinnacle of their partnership was reached when they constructed the *N. B. Palmer.* In 1854 Jacob Westervelt was elected Mayor of New York City.

The *N. B. Palmer* was a ship of nearly 1,490 tons register, and measured: length, 202½ feet, beam, 38½ feet, and depth, 21 feet 11 inches. She was built of white oak, live-oak, locust, and cedar, with overlapping lodging knees and long-armed, long-bodied hanging knees, of strong white oak. Her treenails were wedged inside and outside—not driven—into her timbers, and she was square-bolted and fastened throughout. Her hull was painted black from the copper up, with a stripe of gold around the waist. Her lower masts were all made, and iron-hooped. She carried brass guns, and at one time had a carved wooden sailor holding a compass in place of the usual binnacle, but this was removed after it was found that the blank stare of the wooden tar disturbed the helmsman. A full-rigged model of this ship was sent to London in 1851 where it was exhibited to admiring eyes at the Crystal Palace.

A. A. Low & Brother, who owned the *Palmer,* named her after "Captain Nat," one-time commander of the fine China ships *Houqua, Samuel Russell,* and *Oriental,* whose career was even more varied and decked with honors than that of Jacob Westervelt. He was born, in 1799, at Stonington, on Long Island Sound, the child of a prominent lawyer who numbered among his distinguished colonial forebears an uncle who fell at the battle of Groton Heights in 1771.

At the age of fourteen young Palmer went to sea aboard a little coasting vessel, which plied up and down between Maine and New York. It was a good beginning, and at eighteen he was appointed second-mate of the brig *Hersilia,* Captain J. P. Sheffield, and, during one of the sealing expeditions to the Falklands in this ship, discovered the rich sealing rookeries of the fabled "isle of Auroras" in the South Shetlands—a part of the world then unknown to any but a few Spanish vessels. When he returned home he was given command of the 40-ton sloop *Hero,* and sailed in company with the *Hersilia* on another

N. B. Palmer

sealing expedition in 1819. A rich cargo of furs resulted, and in 1821 Palmer, in the *Hero,* and Captain William Fanning, in the *Alabama Packet,* in command of six other vessels, sailed in search of new sealing grounds. While the ships were separated, Palmer discovered that part of the map which now bears his name: Palmer Land—a slice of territory which shimmers among the conical masses of opalescent, white, black, and emerald icebergs on the beautiful, but chill, coastline of the Antarctic.

Then followed the command of the schooner *Cadet* and a number of voyages to the Spanish Main; the command, in 1826, of the brig *Tampico;* passages to Europe in the brig *Francis;* and command, in 1829, of the brig *Annawan,* in which he explored new sealing grounds about Cape Horn that year in which the temporary government at Buenos Aires forbade United States seamen to frequent the whale and seal fisheries in the waters, and on the coasts, of the Falklands and adjacent islands. He was accompanied on this latter voyage by J. N. Reynolds, the author of several books of travel, who was with Commodore Downes, as secretary, three years later in the U. S. frigate *Potomac,* during the engagement in which the United States punished the pirates of Quallah-Battoo in the interests of the American merchant marine.

In 1833 Palmer was given command of the New Orleans packet *Huntsville,* owned by E. K. Collins & Co., who later founded the Collins line of steamships. During the following nine years he commanded the *Hibernia,* and helped to design the *Garrick* and the *Siddons* for Collins's Dramatic Line of New York-Liverpool packets. When he commanded the *Garrick,* he made the then record-run of twelve days to Cape Clear, and, in 1839, in the *Siddons,* beat the fast U. S. frigate *United States* by ten miles in a ten-hour race. In 1842 he was appointed to the command of the fast China packet *Paul Jones,* a ship owned by John M. Forbes and Russell & Co., and on his way home from China the following year had William H. Low as a passenger aboard. It was a fortunate meeting for both men, since the passenger became interested in a little model of a ship

which the Captain was making during his spare hours. The rest is history: the *Houqua,* owned by A. A. Low & Brother resulted, and the *Samuel Russell* and *Oriental* followed after.

In his hours of relaxation at home Captain Palmer's days sparkled over as many facets of activity as they did at sea. He owned fifteen yachts, including the schooner *Juliet,* which he had designed himself, and had another—Rutherford Stuyvesant's famous schooner *Palmer*—named for him. He belonged to the New York Yacht Club and the Currituck Club, and spent the years, after his retirement in 1850, in days of fishing, duck-hunting, and cruising about on the waters of the New England coast in the beautiful *Juliet.*

He was an old man in 1876 when he took his brother Alexander's eldest son, an invalid, to Santa Barbara for his health, and then on to China in the clipper ship *Mary Whitridge.* The nephew died on the return trip in the steamer *City of Pekin,* and Captain Nat followed on June 21, 1877, shortly after he landed, alone, in San Francisco.

Captain Charles Porter Low—who later published the book *Some Recollections,* in which the ships *Houqua, Jacob Bell, Samuel Russell,* and *N. B. Palmer* figured—was the first commander of the *N. B. Palmer.* He was born in Salem in 1824—another, younger brother of the shipowning Lows, spent his early life in Brooklyn—where his parents had moved when he was a child, and went to sea when he was little more than a boy. In 1842 he shipped on board the *Horatio,* Captain Howland, as a sailor before the mast and made one voyage to China and back. Not ships alone, but the sea itself, charmed him; and in spite of parental objections to his selection of a hard life, instead of one that family influence would help to round out in serene and affluent comfort ashore, he went to sea again and again—first as an ordinary seaman with Captain Griswold on board the *Toronto,* a Liverpool packet built in 1835 by Christian Bergh, and then, four weeks after he left the *Toronto,* "longing for the sea again," he shipped as one of four able seamen with Captain Wolfe in Donald McKay's little Rio coffee trader *Courier.* Years later he wrote of this latter ship:

"... after being on board the *Toronto* it seemed like child's play to handle her royal and topgallant sails.... The voyage was one of the pleasantest I ever made."

When the *Houqua* was built, Charles Low sailed first as third, then as second, then as first mate with the brothers Nathaniel, Alexander, and Theodore Palmer, and at twenty-three was appointed to his first command. In 1850 he took the clipper ship *Samuel Russell* to California in the unprecedented time of 109 days, arriving at San Francisco on May 6—79 days before the *Sea Witch* romped into port with her 97-day record.

The following year on May 7 Captain Low took the *N. B. Palmer* out of New York on her first San Francisco passage. He crossed the Equator in 26 days, was 60 more to the Horn, and arrived at San Francisco on the 26th of August—106 days out. In the latter part of the same year, in China, he made the excellent run of seventy hours from Woosung to Hongkong.

In 1852 the *N. B. Palmer* sailed out of New York on the 22nd of May, four days after the *Gazelle,* Captain Dollard, sailed from the same port, and eight days after the *Flying Cloud,* Captain Creesy, sailed from Boston. Both the *Gazelle* and the *N. B. Palmer* made excellent passages during the early months of the trip. On the 26th of May the *N. B. Palmer* sailed 390 miles in twenty-four hours; and shortly after crossing the Line the *Gazelle* caught up with the *Flying Cloud.* In the latitude of the Rio de la Plata Captain Low in the *N. B. Palmer,* streaked by the *Flying Cloud* and, gentleman that he was, hove to for the latter ship to come abeam. At two o'clock he and Captain Creesy arranged for a race, but the *Palmer* jostled her luck when she hauled two points to the westward for a side wind at the beginning of the match, and by daylight the following morning the *Cloud* had left her hull-down on the horizon in a pouring rain.

Exactly one week later—the night of July 9—while the *Palmer* was sailing in darkness under reefed topsails, mutiny broke out aboard, when a ruffian by the name of Semons put a bullet through the leg of Mr. Haines, the mate, and threatened to shoot the Captain. After

a struggle, during which another rascal known as Dublin Jack felled the second and third officers with a handspike, Semons was captured and put in irons. Now it happens that Captain Low was a kindly man and a gentleman, and when "the yacht"—as the *Palmer* was called in China—was in port, he and the beautiful Mrs. Low, who sailed with him, were noted for their graciousness and princely entertainments aboard ship; but for once Captain Low put his courtesy aside, and, tricing up Semons and Dublin Jack to the mizzen rigging, gave them each a taste of the kind of lashings that isn't found in a glass of grog.

The *Palmer* was 35 days off the Horn, and on August 11, when she put into Valparaiso to land the two men in irons, seventeen more men deserted the ship. On August 20 she again sheeted home her sails, and got under weigh for San Francisco. The *Flying Cloud* made a triumphant passage to that port 24 days ahead of the *Palmer*—113 days out. When the latter arrived on September 30, her log recorded a 130-day passage, including the time of her detention in port.

The following spring, on April 27, 1853, the *N. B. Palmer* sailed from China in company with the *Samuel Russell,* the barque *Comet,* and the ten-year-old *Joshua Bates.* Captain Nat's old ship, the *Russell,* beat his namesake into port by two days—arriving off Sandy Hook on July 26; the *Comet* arrived on the 29th; and the *Bates* came in four days later. The following September the *N. B. Palmer* left New York on the 27th and arrived at San Francisco on June 26, 1854—121 days out; but coming home again in July she chalked up the all-time record run of 82 days from Honolulu.

In 1858 the *Palmer,* fleet as a homing pigeon carrying a message of death, skimmed blue seas in the finest passage of her career. Another, youthful, dying Captain was in command. On Sunday morning, January 17, 1859, the *Palmer* was in port, 82 days from Shanghai in the record run of 36 days from off the Cape. It was a passage for rejoicing . . . save that five days later Captain Higham, her 28-year-old commander, was dead. In 1872 the *N. B. Palmer* was sold abroad, and twenty years later was abandoned at sea.

Clipper Ship

GAZELLE

1851

BUILT AT NEW YORK

by

WILLIAM H. WEBB

for

Taylor and Merrill

Drawn from WEBB'S Plan

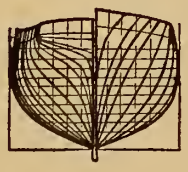
Condemned and sold, 1854

Renamed CORA

Registered 1861-2 as the

HARRY PUDDEMSEY

of LIVERPOOL

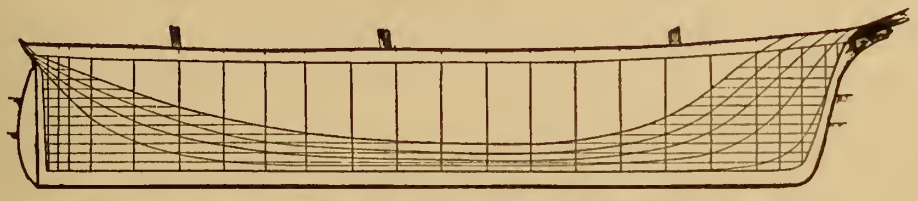


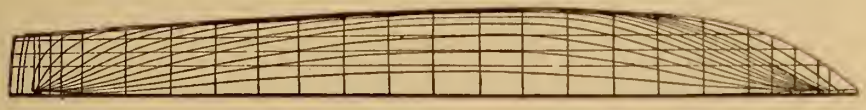
Length on deck 182 feet

Beam Moulded 38 ft. 2 ins.

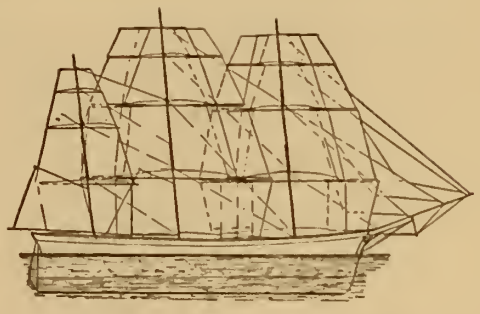
Depth of Hold 21 ft.

Tonnage C.M. 1340 tons





This ship, built with very great dead-rise, at the request of her owners, two retired ship captains, did not prove as fast as other clipper ships having much less rise of floor and greater cargo-carrying capacity. Mr Webb stated that excessive dead-rise of floor was not conducive to high speed, and that the flat-floored model was superior.



California Clipper
1851

THE *Witch of the Wave* was another of the crack clippers of 1851. She was built in the tradition of the Griffiths school—extraordinarily lean and graceful, sharp on the bottom, and with great dead-rise—and was owned by Captain John Bertram and Alfred Peabody, of Salem. Shortly after she was launched in the spring of the year, the *R. B. Forbes* came to take her to Boston, from which place, after she was loaded in Glidden & Williams's Line for San Francisco, she set out, under Captain J. Hardy Millet, to break a few records, and to establish some that have never yet been broken.

The *Witch of the Wave,* though the pride of Salem, was the product neither of that city nor of Boston, but of the picturesque yards of George Raynes, one of the principal builders of Portsmouth, New Hampshire. There, where the incense smell of fresh-sawed wood mingled with the fragrance of flowers and fruits and with the clean green odor of the vegetable gardens of what had once been the famous estate of Colonel George Boyd, and was, under Raynes, one of the showplaces of Portsmouth, the keel of the *Witch* was laid, and the lines of the lovely vessel rose in graceful sweeps against a background of green lawns, blue skies, and deep blue water.

Raynes, who had gone to Portsmouth from York, Maine, in 1835, was the builder of many fleet ships, including a number of opium clippers—the last of which, the sister schooners *Minna* and *Brenda,* were built in his yards in 1851—and the slim clipper ship *Sea Serpent,* which he built in 1850. The latter ship (the pioneer clipper of Grin-

Witch of the Wave

nell, Minturn's California Line), which trimmed the Boston-built *John Bertram* (the pioneer clipper of Glidden & Williams's California Line) in a race to San Francisco in 1850, made several notable passages under the formal Captain Howland—one-time commander of the *Horatio*—a gentleman who usually wore kid gloves when he appeared on deck, and gave orders to no one but the officer of the watch. The *Sea Serpent* topped off her career with a 79-day passage from Hongkong to New York, in 1856.

The New York *Herald* said, of the lines of the *Sea Serpent,* "They are as perfect as perfection itself"; yet the *Witch of the Wave* was, if anything, a lovelier and more remarkable ship. Both had wedge-shaped bows with lines swelling sweetly to the midship section and tapering off cleanly towards the stern, but a comparison between the measurements of the two shows the *Witch* to have been the longer, leaner vessel. The *Serpent* was 1,402 tons register, length, 196 feet, breadth, 39 feet, and depth, 20 feet. Both ships had 40-inch dead-rise at half-floor. The *Witch* was 1,498 tons register and measured: length, 220 feet, breadth, 40 feet, and depth, 21 feet. Her main lower mast of 90 feet was, according to the normal proportion of 2.0 to 2.5 times the beam of a ship, decidedly on the tall side; and her mainyard stretched an 81-foot horizontal sweep. The *Witch's* decks were clear and unobstructed, her between-decks had ample headroom, and her staterooms were fitted out in a manner more than luxurious for her day and time. The wainscot of the main cabin was of rosewood, birds-eye maple, satin, and zebra wood, with cornices and mouldings of white and gold. Her hull was black, and her figurehead, by John W. Mason, of Boston, was of a young woman, lightly clad in white and gold, whose feet barely touched the rounding crest of a wave. The stern decorations were of a child in a seashell drawn by dolphins. She flew the red-star, white-above-yellow house-flag of Glidden & Williams.

The barest descriptions of any of these slender sea-creatures of the '50's often hold within themselves the power to exert a strong tug at the heart, when one visualizes the trade in which they were engaged, and what qualities they had for engaging in it. It is sometimes diffi-

cult to understand how any such fabrics of cloth and polished wood, whose lines convey more of an impression of grace and fragility than does a spun-glass toy, could withstand the teeth and claws of a Cape Stiff gale, and mountainous seas that rolled down like tons of doom; yet Captain Millet took the *Witch of the Wave*—as delicate a piece of cabinet work as that turned out in any yard—and brought her in to San Francisco in 121 days, loaded with almost more cargo than she could bear—1,900 tons of it—without the loss of a single spar. On the first part of the passage she was 25 days to the Line, and 63 days to the Horn. In the latter part of October she fell in with a flat calm, which lasted for days and lengthened her passage accordingly.

From California the *Witch* sailed to China, and the following account, which appeared under her portrait in the May 1 number of the *Illustrated London News* for 1852, takes up the story from there. It states that:

"This large and beautiful clipper-built ship, commanded by Captain Millet, recently arrived in the East India Docks, Blackwall, from Canton, having made one of the most extraordinary and rapid voyages on record; she also brought one of the most valuable cargoes of tea that perhaps ever entered the port of London, having on board no fewer than 19,000 chests of tea of the choicest quality.

"This vessel is of 1,400 tons burthen, and was built at Salem, near New York, in the course of last year. She first proceeded to California, thence to Hong-Kong, and sailed from Whampoa, near Canton, on the 5th of January; made the passage to Java Head in seven days twelve hours; then had the wind W.S.W. to N.W. for several days, with a light trade wind, and made the Cape in twenty-nine days; then encountered strong easterly winds from the Western Isles, and took a pilot off Dungeness on the 4th of April, making the passage from China to the Downs in ninety days—a trip surpassing the celebrated runs of the *Oriental* and *Surprise* clippers.

"Had she not encountered the strong easterly winds up Channel, she would have made the voyage several days earlier; as it was, she was only four days beating up from the chops of the Channel, while some of our large vessels were nearly a fortnight doing the distance.

"The *Witch of the Wave* left the river on Thursday, the 22nd ult., and while in the docks was an object of great interest, her bows and general appearance being similar to the *America* yacht, which carried off the plate at Cowes last year.

"By the above it will be seen that she sailed round the world in ten months and a half, including loading and discharging at the above ports. The greatest distance she ran on the voyage was 338 miles in twenty-four hours."

The following June the *Witch* was again in Boston. Captain Benjamin Tay was now in command and, leaving Boston on the 22nd, he ran her to San Francisco in 119 days. Coming home in 1853 from Saugor, India, she made a brilliant passage that eclipsed all previous passages between similar points, and hung up the all-time record run of her career. She had sailed from India on the 13th of April, run from Sand Heads to the Cape of Good Hope in 37 days—a record—and arrived in Boston on July 3, in the unprecedented passage of 81 days. That same year she left Boston on August 16, one day after the splendid ship *Northern Light,* and arrived at San Francisco on December 11—117 days out—five days before the latter vessel hove into port.

In 1856 George Raynes built another, smaller *Witch of the Wave,* and the following year the original *Witch* was sold to Amsterdam and renamed *Electra.* She disappeared from the shipping lists after 1871, and it is presumed that she was lost that year.

Clipper Ship

WITCH OF THE WAVE

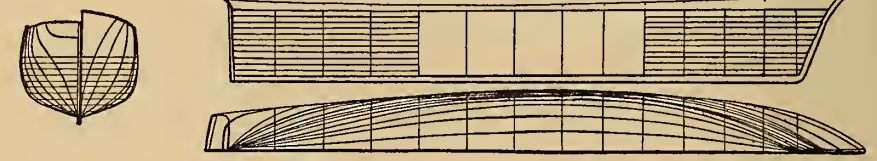
18 51

built at

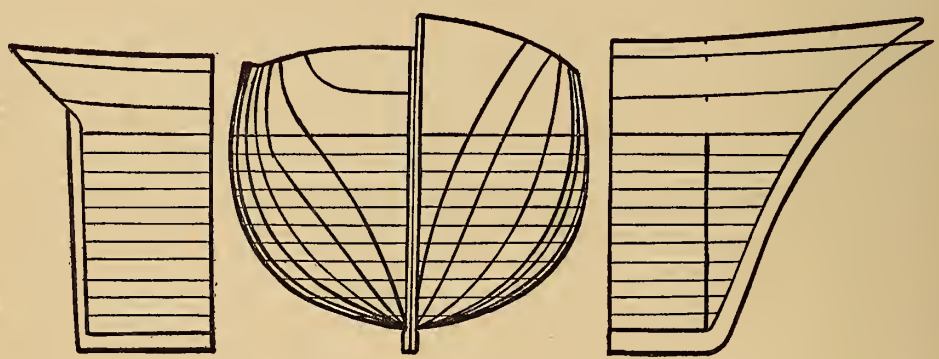
Portsmouth, N.H.

by

GEORGE RAYNES



length 220 feet. breadth 40 feet. depth 21 feet.
deadrise 40 inches. swell of sides 6 ins. sheer 42 inches.
tons 1498.



Upper lines 1/3 of lower lines

California Clipper
1851

THE city of Boston was blazing with excitement during the month in which the *Flying Cloud* was launched. On April 3, 1851, a negro slave named Thomas Simms, who had run away from a Georgia plantation, was arrested and placed under strong guard in the Boston Court House. The Abolition-minded North (Massachusetts in particular) had little patience with the recently passed Fugitive Slave Law, which gave slave-owners the unmolested right to remove slaves by force from territories to which they had fled, and penalized all those who had aided in the escape or later concealment; and it was feared that a rescue might be attempted. Only a month and a half before this, another runaway named Shadrach, who had found employment in the Cornhill Coffee House in Boston, was seized, jailed, and subsequently rescued by a colored mob, allegedly aided and abetted by a vigilance committee composed of influential Bostonians. Shadrach escaped to Canada, but Simms was taken under an armed guard of three hundred policemen and placed aboard a vessel bound for Havana, while the militia protected Faneuil Hall from any open demonstrations.

Five days later the use of Faneuil Hall for convention purposes was denied the Abolitionists, and a little later in the month the Board of Aldermen, in an honest effort to be consistent, denied the Whigs and Democrats the use of the hall for a public reception for Daniel Webster. A storm of indignation brewed, and opposing expressions of opinion rained down thick and fast on the heads of the authorities. The North

had not forgotten the recent speech of Webster's in which, while laying great stress upon the fact that more slave states could be created out of Texas, he took occasion to sideswipe the Abolitionists by remarking that their societies, for the past twenty years, had failed to produce any good or valuable results. Horace Mann, then presiding over the Abolitionists' Convention, called him a traitor to the North; but Webster's supporters contended that he was left with no other course but that of accepting and respecting the laws of the country even when they included such offensive and compromising measures as the Fugitive Slave Law.

It might have been expected that the launching of another clipper would fail to attract attention at a time when the city was boiling with mingled resentments, but on the 15th the always nautical-minded Bostonians turned from their bickerings to unite in the relief of common applause. Strong rivalries were in the air. Those between individual and individual were progressing towards a mass uniting of political opinions—North against South, and of commercial competition—America against England; but in a small way, before minor contests massed into major warfares, maritime Boston had, primarily, to settle a little shipbuilding and record-passage rivalry she was at the moment indulging in with near-by New York.

From early in the morning until the launching time of the new clipper, crowds of men, women, and children trooped to the fascinating world of the waterfront: a world of rattling carts and rushing people; of a forest of masts, and running and standing rigging that made cats' cradles in the trees; of bowsprits that poked like pointed muzzles at the dusty windows of gabled warehouses; of swinging booms and cursing stevedores; of the mingled odors of tea and spices, of coffee, tobacco, leather, and fish; of bales, boxes, bundles, and barrels; of ships' stores, slops stores, and instrument-makers' shops; of boarding-houses and public houses; of riggers' lofts and shipyards; of sights and sounds and tarry, salty, fragrant smells that played an ever-renewing tune of temptation across the heartstrings of the fresh-

Flying Cloud

water man and woke a thousand echoes in the mind of the deep-sea sailor.

On the morning of the 15th the ferry trundled crowds of people across to East Boston to watch the launching, at close range, in the holiday atmosphere of the McKay yards; while others stationed themselves at Chelsea Bridge and the Navy Yards at Charlestown, or huddled in tight groups in little boats and across the yards of near-by vessels. Even the roof-tops near and far were specked with dancing, shouting figures when the flag-decked *Cloud* finally kissed the waters of the harbor.

It was a gala occasion, and one to which the commercial world had looked forward for months. While still on the stocks the *Flying Cloud* had been sold by Enoch Train & Co., for whom she was originally built, to Grinnell, Minturn & Co., who were but one of many shipowning firms who had offered Train a handsome profit for the new vessel. Grinnell, Minturn paid Mr. Train ninety thousand dollars in cash after she reached them in New York, and every merchant and shipbuilder was a-tiptoe to see how well she would live up to expectations.

The *Cloud* has since had her detractors, but the shipping circles of the '50's seemed to be of one mind about her qualities, and her name and fame were indelibly penciled upon the minds of the people of her day, who were, so far as group description can be applied, the keenest judges of a ship that ever lived. The construction of the *Flying Cloud* is supposed to have inspired Longfellow's *The Building of the Ship;* George Francis Train, in his *Biography,* spoke of her as "that famous ship destined to make a new era in shipbuilding all over the world"; Duncan McLean, writing in the Boston *Atlas,* said: "If great length, sharpness of ends, with proportionate breadth and depth, conduce to speed, the *Flying Cloud* must be uncommonly swift, for in all these she is great"; and later, after she had fulfilled her promise by giving proof, in the only way in which a ship ever can give proof, of speed and greatness, the New York *Commercial* said: "Such a passage as this is more than a local triumph, and inures to the repu-

tation not alone of the builder of the ship and her enterprising owners, but of the United States. It is truly a national triumph, and points clearly and unmistakably to the preëminence upon the ocean which awaits the United States of America. The log of the *Flying Cloud* is the most wonderful record that pen ever indited, for rapid as was the passage, it was performed under circumstances by no means the most favorable."

The *Flying Cloud* has been immortalized in picture, poem, song, and story, but the recital of her attainments, like a familiar strain of music, is always worthy of repetition no matter who makes the arrangement. When she was properly outfitted after her launch, she was towed to New York City to take aboard cargo for San Francisco, and Captain Josiah Perkins Creesy was placed in command. Creesy, who was a typical clipper captain, had risen to that position in life by strength of will and sheer hard labor. He was born at Marblehead in 1814, and first went to sea, as a boy, in a thirteen-foot dory, which he sailed alone as far as Salem in order to indulge in little, thrilling glimpses of the old glamour-shrouded Indiamen and of the men who navigated them. At twenty-three he was himself a captain, and later had command of the 793-ton packet *Oneida,* which he sailed for many years in the China trade. The *Oneida* was far from being a clipper, but under Creesy she is said to have made five voyages in five years from New York to Anjier in ninety days or less: a galaxy of passages that was enough to make shipowners respect and admire him, and which eventually led to the command of the crack *Flying Cloud*. Mrs. Creesy, who sailed with Captain Creesy on all his voyages was something of a navigator herself and sailor enough to look forward to the long passage round the Horn and out to China.

When the *Cloud* arrived in New York, the citizens were treated to the sight of the largest merchantman afloat. She was a powerfully built ship of nearly 1,783 tons, 208 feet long on the keel, 225 feet on deck, and 235 feet from taffrail to knightheads. Her extreme breadth of beam was 41 feet, and her depth of hold 21 feet 6 inches. She had 20 inches dead-rise at half-floor—just half that of the *Staghound*—

and she carried a smaller spread of canvas. Her mainyard was 82 feet and her mainmast 88 feet in length—far from extreme measurements for a ship of her beam. She had a white and gold angel for a figurehead, and flew the red, white, and blue swallowtail flag of Grinnell, Minturn & Co.

On June 3 the *Cloud* passed Sandy Hook with a wild crew aboard. The clipper ships by this time had difficulty securing sufficient able seamen—the goldfields and shore occupations had enticed away most of the best of them—and a new vessel's complement was frequently made up of the scourings of the waterfront. Some of the men were frankly working what they hoped was to be an easy passage westward, and others were not seamen at all. In this respect a clipper captain of the '50's was bedeviled with all the tortures of a Columbus.

For the first three days moderate breezes from the west and northwest slipped the *Cloud* onward through a smoothly parting sea, but on the 6th of June the wind freshened until it blew a strong gale, and the ship, under a heavy press of sail, raced furiously through the water. In his log the Captain wrote: "Good breezes, fine weather," and we can see him chuckling in anticipation of a good blow with canvas set for a "whole sail" breeze. The combination, however, did not work, and on the same day he gravely recorded: "Lost Main and Mizen Topgallant Mast & Main Topsail yard."

The following day topgallant yards and masts were sent up, and on the 8th, the wind having hauled around to south-southwest, followed by gentle breezes from the southeast, the main topsail yard was sent up and all possible sail was set. For six days nothing material happened, but on the 14th it was discovered that the mainmast was badly sprung below the hounds. The weather, fortunately, was fine; repairs were effected and, the mast strengthened, the *Cloud* sped on.

She crossed the Line, into the world of the albatross, on the 24th of June, and from then on we follow her through majestic mornings and blue-arched days; through sunsets that mirrored cities and fields and forests in inverted lakes of fire; and through black velvet nights, when the world seemed enormous and only the Southern stars were

crowded and low. The men went about their duties with military precision: the carpenter was at his saw, the boatswain at his ropes, sails were made and yarns were knotted. Squalls came and went, followed by pleasant days. Lightning tore across the sky and rain fell.

On the 10th of July the *Cloud* sailed under double-reefed topsails straight into a gale. The sun, moon, and stars had disappeared, making observations impossible, and on the 11th the fore staysail and main topsail went with a bang. Around one o'clock pandemonium broke loose in that little world on the high seas. Off to the leeward a little brig had her fore and main topmasts snapped away, and aboard the *Cloud* the sight was paralleled by the discovery that her own main masthead was sprung. Orders cracked like whips, sailors swarmed into the rigging high above tossing seas, down came royal and topgallant yards, and off came the booms from the lower and topsail yards to relieve the mast. There were no observations that day, no cooked food, and—what was worse—no coffee.

The following day the larboard hawse stopper loosened and the forecastle filled with water. The carpenter then made a curious discovery: two auger holes had been bored in the deck under the after berth in the forecastle, and someone remembered that the owner of the berth had been seen coming out of the forecastle with an auger in his hand. The Captain tersely recorded that day that he "Put him in Irons." Another man, who was seen working at the holes with a marlinespike, was also put in irons, but before repairs were made water had seeped into the between-decks and among the cargo. The following day, in fresh breezes, the *Cloud's* main topsail tie and the truss band around her mast were carried away.

On July 15th land was seen twenty-five miles away, and on the 19th—25 days after she had crossed the Equator—the *Cloud* crossed latitude 50° South in the Atlantic. At three-thirty on the afternoon of the 20th, Captain Creesy ordered studdingsails on the larboard booms, but at four A.M., in a thick fall of snow, he was obliged to reef the topsails and furl the courses.

Foaming seas, with sleet, rain, and snow falling alternately, con-

tinued for two days; and on the 24th, with the Straits of Le Maire fifteen hours behind her, the *Flying Cloud* passed the snow-wrapped Horn five miles away. Two days later she was in latitude 50° South Pacific, having made the passage from the same latitude in the Atlantic in the magnificent time of seven days. From then on the *Cloud* fairly leaped ahead; and on July 31, in lower and topgallant studdingsails, royals, and fore topmast studdingsails, with heavy seas breaking on deck, her passage occasioned the remarkable log-entry: "Distance run this day by observation 374 miles, an average of 15 7/12 knots per hour, during the Squalls 18 knots of line was not sufficient to measure her rate of speed." This was the fastest day's run made by sail or steam up to that time and was 42 miles better than the best time of the Atlantic mail steamships.

From August 25 until the 30th the *Cloud* was off California in latitude 36° 03′ to 36° 29′ and longitude 141° 06′ to 127° 17′. On the 29th she lost her fore topgallant mast, and at 2 A.M. on the 31st she was hove-to waiting for daylight. At 6 A.M. she made the South Farallones, at 7 took a pilot, and at 11:30 came to anchor off the North Beach in San Francisco Harbor. Her time from New York was 89 days and 21 hours. She had broken all records, and Captain Creesy was the hero of the hour on the gold coast.

Most of the crew went off to the mines, and the *Cloud,* after discharging, was undermanned when she sailed across to China. During this passage she is credited with having made another 374-mile run in twenty-four hours, and her homeward passage from Canton was made in the fair time of 94 days. The maritime world of New York was wild with excitement when the *Cloud* reached home on April 10, and Grinnell, Minturn & Co. had her log printed on white silk in gold.

It was during the *Flying Cloud's* second passage to San Francisco that she fell in with the *N. B. Palmer* and raced that vessel. The *Cloud's* 113-day time that year was not remarkable—the 94 days of the Webb clipper *Swordfish* being the best trip made in 1852—but after she left San Francisco she made the short record-run of 8 days

8½ hours to Honolulu. She sailed from Canton on December 1 and reached New York 96 days later.

In 1853 the *Cloud* was home scarcely more than a month when she was again fitted out for San Francisco, and again matched for a race with a vessel built by the builders of the *N. B. Palmer.* This ship was the clipper *Hornet,* which cast off her pilot at Sandy Hook at two in the afternoon on the 28th of April, practically in company with the *Flying Cloud.* The following day the two ships were racing side by side, but on the 15th of May the *Cloud* was two days ahead crossing the Line. Disastrous weather was encountered off the Horn and the McKay clipper was struck by a mountainous head sea that ripped her fore topmast staysail to pieces. The first officer, Mr. Gibb, and the third officer and four seamen went forward to clear the damages, but the *Cloud* was like a bucking steed tearing through the water at a ten-knot clip. The men had no sooner arrived on the forecastle than she plunged her nose deep into the sea, and when she came up again Mr. Gibb and one seaman were gone.

The loss of the two men did much to add gloom to the remainder of the 1853 passage, but the *Flying Cloud* maintained her reputation to the very end by sailing into San Francisco practically in company with the *Hornet.* In actual racing time the *Hornet* had won by forty minutes, from the day in spring when the two ships met outside of Sandy Hook; but the *Flying Cloud* was winner by over an hour in sailing time, since the *Hornet* had made her actual departure from New York two hours ahead of the *Cloud* on the 28th of April. The two clippers arrived at San Francisco on August 12—105 days from New York. The *Flying Cloud* omitted her China trip that year and, encountering damaging seas once more, was forced to sail the rest of her passage to New York with a jury, or temporary, rudder.

In 1854 the gods of clipper fortune were at the *Cloud's* helm again, and Mercury himself was in command. Seventeen days after she discharged her pilot she streaked across the Equator; when she reached the Horn she spoke the clipper *Archer*—a fast ship that had sailed from New York nine days ahead of the *Cloud*—and asked Captain

Thomas aboard to dine. The invitation was not accepted, however, and the *Cloud* tore on to reach San Francisco—89 days 8 hours from New York! Having thus broken her own record she sailed on to make another. On June 7, 1854, she arrived at Hongkong in the unprecedented sailing time of 126 days from New York. Six years later the clipper *Andrew Jackson* rivaled the *Cloud's* second record California passage, but the twin record to California was never eclipsed.

On the 7th of August adverse currents and stormy weather carried the *Flying Cloud* on a coral reef in the China sea, her shoe was ripped from the keel, and the keel itself was cut through to the bottom planking, allowing water to enter. Captain Creesy saved his vessel without outside help and brought her home with her valuable cargo undamaged. The underwriters in New York, estimating that more than thirty thousand dollars was secured to them by the Captain's avoidance of a costly port of repairs, entertained him royally at the Astor House in New York City when he returned, and presented him with a service of silver.

In 1855 Captain Creesy made one more passage to San Francisco in the *Cloud*. She took 108 days, and on her return the Creesys retired from the sea. They stayed at their home in Salem, until six years later when Captain Creesy became a Commander in the U. S. Navy and was assigned to the clipper *Ino*. Later, as master of the *Archer*, he made two voyages to China. In his fifty-seventh year, still a comparatively young man for one whose life had been so crowded, he died at Salem.

In 1856, under Captain Reynard, the *Flying Cloud* was again up for 'Frisco. She sailed from New York on the 13th of March, put into Rio partly dismasted in June, and on September 14 completed the passage —185 days out. In 1857 and 1858 she was idle, and then in 1859 was repaired and put in commission again. Her new spars were considerably smaller than her old ones, but the good hull was still there, and in 1860 Captain Winsor took her out to China for tea. She loaded at Foochow that year—one of the ports which, by that time, had superseded Canton and Shanghai in popularity—and sailed out on the 6th

of August in the unfavorable summer monsoon weather. On December 7 she arrived in London after a 123-day passage.

It was in the following year, at the outbreak of the Civil War, that Captain Creesy entered the Navy, and a year later that his old racer, for the last time, unshipped her American flag. She was sold in 1862 to James Baines of Liverpool and for a time was a Black Baller to Brisbane. In the '70's she was sold to Smith Edwards of South Shields and was employed until 1874 in the lumber trade. In June of that year she ran ashore near St. Johns, New Brunswick, and while undergoing repairs caught fire and was practically gutted. That was the end of the *Flying Cloud*. She finished her days somewhere on a Canadian scrapheap: the sweet emblem of the American merchant marine at its proudest.

CLIPPER SHIP

FLYING CLOUD

1851

BUILT AT EAST BOSTON

BY

DONALD McKAY

Drawn from

HALL'S REPORT

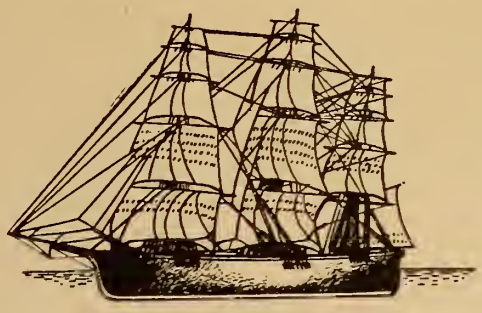
Length: on Deck 217½ ft
Registered 229 ft.
on Load Water-line 209½ ft

Beam (moulded) 40 ft.
Extreme 40 ⅓ ft.

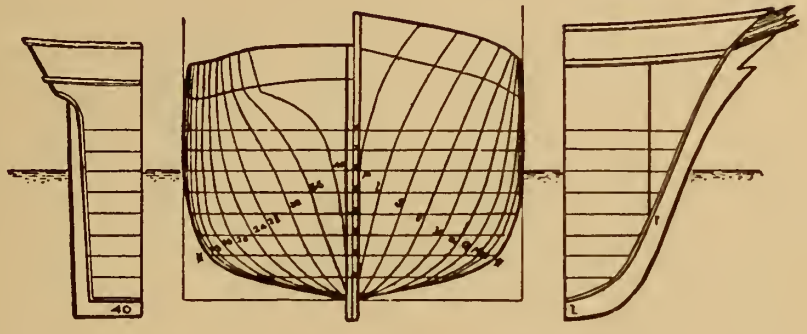
Depth (moulded) 23¼ ft.

Register 1,782 Tons

Displacement:
at 20 ft. 2,375 Gross Tons
at 17½ ft. 1,951 Gross Tons



HULL AND SAILS



STERN BODY PLAN BOW

SHEER PLAN

HALF BREADTH PLAN

LOWER HULL PLANS ½ SCALE OF UPPER HULL PLANS

California Clipper
1851

THE *Flying Cloud* was still taking aboard cargo when the *Challenge,* loudly cheered by a crowd that was conspicuously large for even that day of wide sailing-ship interest, was launched on May 24, 1851, from William H. Webb's yards on the East River between Fifth and Seventh Streets, New York City. The moment the *Challenge* touched the waters she was the largest and most expensive merchantman afloat, and, after she received her spars and sails, she was the most extreme in rig—perhaps of any time.

A glance at the design and measurements of the *Challenge* serves as a check on shipbuilding developments in America up to the spring of 1851—six years after the opening of new treaty ports in China had set the speed ball rolling, and practically two years after the revocation of the Navigation Acts in Britain and the discovery of gold in California had worked speed into a mania that has remained a matter for some astonishment these eighty-seven years since.

John Griffiths's distinction and the added glory that attached itself to the names of Pook and McKay can be traced in trade developments, in the plenitude of perishable or much-needed cargoes where cargoes had once been scarce or not demanded, and the ability of these men to leap into the breach and, drawing from their own reserves of knowledge, to design, with little experimentation, the type of ship that, given a Yankee "driver" for a captain, was supremely right for the time, the trade routes, and the occasion. Shipbuilding in those days, before steam and the use of machinery finally caused men of science to concentrate

Challenge

on the natural laws which made for uniform success, and before shipbuilding passed into the hands of the draughtsman and boilermaker, was still much of a "mystery"—in its medieval sense of a craft—based upon observation or tradition, a knowledge of timber, and an eye for form; and the builder of 1850, as well as for some time after, was faced with the task of carrying on from established principles, of improving designs which the world agreed were already perfect, and of having a heartbreaking "go" at records, sometimes made by ships which he himself had designed and built, which stubbornly refused to be broken. This accounted somewhat for unevenness in results, but it was also responsible for the favors that were lavished upon successful builders and captains, and for the wide interest shown in the performance of individual ships.

The *Challenge* endeavored to make her mark on the sea by being extreme in every way: if added length and tonnage were factors in increasing a day's run and decreasing a passage, she had them; if other spars were long, hers were longer; if other ships boasted an enormous spread of canvas, she boasted more; if sharpness was the secret, she had the sharpest entrance lines of any clipper afloat; and her pronounced dead-rise of 42 inches, her sharp V-bottom, was in the best tradition of the school of thought that had sent out ships like the *Sea Witch* and the *Samuel Russell* to make names for themselves in the China trade.

William H. Webb, builder of the *Challenge,* was the son of Isaac Webb who, although he was only forty-six when he died in 1840, was known as the "father of shipbuilders" because of the subsequent success of the many master builders (of whom Donald McKay was one) who were graduated from his yards in New York City. William, who was twenty-four years old at the time of his father's death, carried on the firm, then known as Webb & Allen, and in the ten years from 1840 to 1850 built the packet ships *Montezuma, Yorkshire, Havre, Fidelia, Columbia, Sir Robert Peel, Splendid, Bavaria, Isaac Wright, Ivanhoe, Yorktown, London, Guy Mannering, Albert Gallatin, Isaac Webb,* and *Vanguard.* Of these, the *Yorkshire* was the holder of a

collection of record packet-passages, the *Guy Mannering* was the second largest merchantman afloat in her day, and the *Albert Gallatin,* a ship of 1,435 tons built in 1849, was the largest. In 1841 Webb built the China packet *Helena,* in 1844 the *Montauk* and the *Panama,* and in 1850 the clipper *Celestial.* Following the *Challenge,* the clippers *Comet, Gazelle, Invincible,* and *Swordfish* were launched from his yards during 1851.

The *Challenge,* whose lovely pattern was drawn from the well of Webb's fine knowledge of performance and design, should have been, aside from her appearance, a ship of remarkable attainments. The fact that she was as infamous as she was famous is regrettable. She was extreme in every way; even those who touch her memory cannot seem to take the middle course.

Save for her cream-white deck and the broken tints that sun, shadow, and changing sky flashed across the white screen of her sails, the *Challenge* was a study in jet from her maintruck down. She registered 2,006 tons, was 230 feet 6 inches in length, 43 feet 6 inches in breadth, and had a depth of 26 feet. Her main lower mast was 97 feet high, the entire structure of the mainmast rearing upward 210 feet 6 inches from the heel to the sky; and her mainyard, when main course and studdingsails were set, measured 160 feet from boom-end to boom-end. Her complete suit of sails, which included skysails, studdingsails, and ringtails, required 12,780 yards of the cotton canvas which the Colt Manufacturing Company wove specially for her. The mainsail alone measured 80 feet on the head, 100 feet on the foot, and 49 feet 6 inches on the leach. She was the first three-decked clipper built in America.

In keeping with the high note of quality which distinguished the *Challenge,* her owners—N. L. & G. G. Griswold—gave their beautiful ship into the charge of Robert Waterman, whose work in the old *Natchez* and the *Sea Witch* easily earned him the finest command of that later day.

Waterman was born in New York City on the 8th of March, 1808, and first went to sea as a boy of twelve on a vessel bound for China.

From ordinary seaman and able seaman he worked his way to third, then second, officer aboard several vessels and at twenty-one became first mate of the Black Ball wind-packet *Britannia,* then commanded by Captain Charles H. Marshall. Marshall, who was part owner of several ships, including the *Europe* and the *Illinois* (the latter a packet in which Waterman also had a share), in 1836 succeeded to the ownership of the Black Ball Line. While mate of the *Britannia,* Waterman seems to have attracted attention for efficiency and the ability to maintain order and discipline among passengers and crew, but he is best remembered, while aboard that ship, for his rescue of a sailor who fell overboard from aloft during a heavy gale. He endangered his own life to do that, a fact which contrasts strangely with the later charges that were made against him after the memorable maiden voyage of the *Challenge.*

At twenty-five Waterman received command of the newly launched Black Baller *South America* and slammed her back and forth across the Atlantic until 1837, the year in which he left the Black Ball service to take command of the *Natchez,* a full-pooped, flat-floored New Orleans packet built in 1831 by Isaac Webb for the New York to New Orleans Line. Howland & Aspinwall owned the *Natchez* when Waterman took her to run a cargo from Boston to Valparaiso, and eventually to demonstrate the efficacy of the theory that favored the flat-floored type of design for all-around fast work in heavy weather, in preference to the advantages of close-hauled sailing in light winds afforded by a ship with pronounced dead-rise. In 1843, three years before the *Sea Witch* was launched, Waterman brought the *Natchez* home from Canton in 92 days, and in 1845 the old hooker opened the eyes of the shipping world when she came into New York from Macao in the unprecedented time of 78 days. It was a magnificent passage, magnificently engineered by her commander. The *Natchez* then passed to Captain Land, made several California voyages, and eventually tramped away the remaining years of her life as a whaler. Waterman proceeded to the *Sea Witch,* then to the steamship *Northerner,* and finally, although he had previously expressed his intention to retire

from the sea, to the *Challenge*. The shipping world sat back and expected miracles.

It was the 13th of July when the *Challenge,* her white sails making a many-petaled pattern against the sky, sailed away from New York City. She had had some difficulty making up her crew, and this has been attributed by some writers to Waterman's sudden reputation as a sort of sea-going fiend. Even if this assertion were true, it would not account for the difficulty experienced by all ships of the period in securing able seamen, nor can such evidence be accepted as a blanket condemnation of any one skipper.

In the ten years from 1840 to 1850 the registered tonnage of sailing ships, exclusive of coasting, whaling, and fishing vessels, had increased from 899,764 tons to 1,585,711 tons, and the tonnage of ocean-going steamers had leaped from nothing to 44,942 tons. Such increases were naturally sapping the ranks of able seamen, and, as has been previously pointed out, the goldfields were taking their share. In addition, the death-rate among seamen was not low. Nelson once said that "the average life of a seaman is, from hard service, finished at forty-five," yet in 1850 reports from the Seamen's Retreat at Staten Island, alone, showed that, out of sixty deaths in six months' time, forty-two were between the ages of sixteen and thirty-two, and the average age was a fraction over twenty-eight years. In 1851, in eight months' time, 103 deaths, of which six were between the ages of ten and twenty and only two were over sixty, were reported. If it were possible to tabulate the yearly deaths in home ports, in foreign ports, and at sea, the total would, obviously, be enormous.

It is these facts, rather than the bad reputation that endless driving and hard masters had given the clippers, that were responsible for the dearth of able seamen. Nor could seamen be trained overnight to fill the ranks that were being diminished by death, disease, and the lure of gold—and trained seamen were certainly necessary for the handling of a ship under sail, if the safety of ship, cargo, passengers, and fellow-men merited first consideration. In fact, throughout the nineteenth century, it was held to be desirable, if not imperative, that

the education of a seaman be begun at a tender age, and that practical knowledge be supplemented by reading and constant discussion of the many crises to be met with at sea.

Nor was cruelty a novelty of the '50's, or confined to clipper captains, or even to ships. In 1850, the New York *Evening Post,* in agitating for the abolition of flogging in the American Navy, published the following:

"We shall doubtless be told, as usual, that the officers of the navy are adverse to the abolition of corporeal punishments. These men, it will be said, should understand the matter; they have made the administration of military discipline the business of their lives, and they have found they cannot dispense with the cat-o'-nine-tails. The opinions of professional men, however, are of little value in matters of this kind. They become attached to practices which are general in their profession, and naturally enough suppose them necessary, because their experience is confined to them alone....

"We have before us a history of the gradual diminution of the practice of flogging in the English army.—One restriction after another was placed, by act of Parliament, on this brutal mode of punishment; and all this was done in opposition to the opinions of military men, who had their whole life long been concerned in the administration of military discipline. The good sense of the community prevailed over the prejudices of profession.

"Up to the year 1807, no limit was set to the number of lashes which a commander in the English army had the power to order. In that year, a private of the 54th regiment was sentenced to receive fifteen hundred, an enormity of punishment which was brought to the notice of George III, who was pleased to express his opinion 'that no sentence of corporeal punishment should exceed one thousand lashes.' The heroes of England continued, however, to be flogged most unmercifully, during the five years which followed, and in 1812, it was stated that the mean number of lashes inflicted monthly, in a regiment then serving in India, was seventeen thousand. Three-fourths of the soldiers in every regiment were flogged during the war with France, according to the estimate of a military officer. At length, in 1812, the subject was brought before Parliament, and the number of lashes reduced from one thousand to three hundred. This was, however, in

opposition to the opinions of military men. They held that discipline could not be maintained without the use of the lash. 'For many years of my life,' says Lord William Bentinck, 'in conjunction with ninety-nine parts of the officers of the British army, I entertained the same sentiments. It is only from long reflection; from the effects of discussion; from the observation that since that time, though corporeal punishments have diminished a hundred, perhaps a thousand fold, discipline has been improved, and the soldier treated like a rational being, and not like a mere brute, that my own prejudice and that of others have given way.' In 1842, Lord Stanley said in Parliament, that if the matter had been left to military men, the practice of flogging would not have been mitigated. It was public opinion, it was the judicious humanity of the country overpowering the opinion of the officers of the army, which effected the reform."

Before 1850 was out, Congress did put an end to flogging in the American Navy, and agitation was immediately begun to abolish the grog ration, "the grand cause of the flogging." Throughout the publicity which attended the matter, the merchant ships came off well, and it was said that "two facts have greatly contributed to render punishment of any kind unnecessary in merchant ships. One is that their crews are not generally furnished with ardent spirits. The other is the improved character of the Commanders."

In addition to the fact that trained seamen were at a premium during those days of hurried shipbuilding, it seems that men of good character, who wanted to go to sea, were equally scarce, and it has been said truly that the general type of men who shipped aboard the clippers drove better men into other trades. At no time does it seem that the reputation of commanders had much to do with the type of men who went aboard ship. A correspondent, who signs himself "Viator," in the March, 1851, number of *The Sailor's Magazine,* throws light upon the mode of shipping seamen, as it was then practiced, and explains why crews, as a whole, were bad: He says:

"Formerly when a voyage was determined upon, and the time had arrived for shipping a crew, the officer in charge of the vessel *'flew a pennant at the main,'* which was understood by Sailors to mean, *a*

crew is wanted. As applicants presented themselves, and were satisfactory to the officer, they were sent with his approbation to the Merchant's counting house, where the shipping articles were signed, and security if deemed necessary, taken for the advance wages paid. From my own observation, the character and standing of the Sailor were taken into consideration in the transaction; and especially with *green hands,* or ordinary Seamen. The profession at that period was considered more respectable and profitable than at present. Young men of wealthy families, and well educated, were frequently to be met with before the mast; they made the best of officers, consequently good crews were common.

"About the year 1805, there was an *émeute* in Harvard College, and from that institution there were twenty young men, who instead of returning to their studies, entered as ordinary Seamen on board the ship America, I think, Capt. David Woodward, for a trading voyage upon the western coast of South America, protected by her own guns, despite the vigilance of the Spanish *Guarde Costas.*

"Some dozen years later, in reviewing the career of these young men with one of their number, it was found that nineteen of them had become respectable ship-masters; of the other no account could be had.

"The custom that has grown up of late years, of procuring ships' companies for the merchant service through shipping offices and their agents, has had an exceedingly bad influence upon the character of Sailors, and upon their efficiency. Within the memory of many ship-masters and owners, the only agency of the kind in the United States, was established in New York, by a Captain Fisher, who was also a notary public. Thence the system has extended into every part of the Union, where there is a port of any importance—owners and masters, supposing that they were relieved from a great deal of trouble, by just giving an order for so many men, to be furnished on a given day. At first, the men were sent to the officer in charge of the vessel, for his examination, previous to the shipment, and for a time the system seemed to work well; but in a short time, combinations were formed between shipping agents, boarding houses, landlords and shopkeepers, and they held poor Jack in their keeping, and disposed of him to the best advantages for themselves. Crews were furnished of which neither the officers nor owners had any knowledge before they came on board, and just as the vessel was leaving; consequently they were obliged to take them whether good or bad, drunk or sober. The result has been

that the efficiency of crews has been much reduced, at least one fourth since the introduction of the present furnishing system."

The Reverend C. M. Nickels of New Orleans, writing to the same publication, is also enlightening. He says:

"As soon as a ship reaches the levee, even before she is made fast, the sailors are surrounded by a gang of miscreants called sailor boarding house runners, who receive a stipulated price for every sailor they bring to the house. As nearly as I can ascertain, there are 115 houses occupied for this purpose in the lower part of the city, and with one exception they are all cabarets or grog-shops. In these houses the poor sailor is stupefied, it is generally believed with drugged liquors, robbed of his hard-earned wages, and while intoxicated shipped for another voyage, and indebted to the captain for a month's advance wages, which has been pocketed by his landlord. Recently one of these landlords was charged in the First District Court, with a breach of trust, in refusing to pay over money received for a sailor's advance, whom he had shipped. The landlord said he paid it over to the sailor while drunk (!!) and that he lost it. The prisoner of course was acquitted....

"We frequently hear of insubordination and reluctance to do duty among seamen on shipboard, and various other troubles between them and their officers. What is the cause of these things? Whatever other reasons may be assigned, the practice of paying them advance wages has much and I believe principally to do with it. In nineteen cases out of twenty the sailor never sees it: it is pocketed by his landlord—he is sent on board the ship intoxicated, and when he wakes up he has but little knowledge of how he came there and less of what has been done with his money. But he well knows 'the dead horse must be worked out,' that during the voyage he must climb the masts, reef the sails, steer the ship, and when he arrives in port will have nothing to receive—probably be in debt to the ship, and without even a change of clothing. He of course takes no interest in his duties—moving mechanically about the deck—feeling dispirited, illnatured, and in many cases is quite willing to make difficulty with the officers, that he may have something to receive when he reaches port. The money advanced to his landlord, and from which he has derived no benefit is sufficient to account for all this....

"When sailors are scarce their landlords, or their runners, pick up

anyone whom they find intoxicated in the streets, or whom they can decoy into their houses and make so with drugged liquor—put on them a red flannel shirt, an old pair of sailor's trousers, and for their advance ship them as sailors.... In one case the captain of a ship who had unfortunately taken too much liquor, was shipped as a common sailor and went down the river in that capacity, leaving his own ship on the levee."

The whole system was a sorry mess both for officers who were expected to make good seamen of most of the battered wrecks that came their way, and for the poor devils who were rendered deaf, dumb, blind, and incapable under the spell of waterfront flattery. Heaven knows the good people ashore meant well when they indulged in the careless belief that, after months and even years at sea, the wandering sailor should find happiness in singing a hymn and reading the Bible; but the land shark, being a proper business man, knew that the ability to call Jack by his first name, a few well-chosen words of sympathy for his hard lot at sea, a handful of cigars stuffed into his pocket, a bottle passed around, and a message of welcome from some old girl, was the type of homecoming that warmed the cockles of the wanderer's heart and eventually led to an opportunity to explore his pocket. Even the best sailor found it hard to resist being debauched, beaten, robbed, and kicked back to sea for more money, and was always learning anew that another ship lay waiting at the end of every road ashore, together with another headache, and another grudge against his forsworn enemy, the Captain.

* * *

When the *Challenge* was ready to sail out of New York she had had to gather a crew of sixty-four men, after the *Flying Cloud,* the *Eagle,* and the *Telegraph* had practically exhausted the market. Even Captain Waterman was somewhat appalled when he saw his charges, but there was no turning back, and the trip around the Horn was eventually made under very trying conditions. What actually happened between the men and the officers in the 109 days it took the *Challenge* to reach California is still something of a mystery, aside from the fact

that mutiny broke out off Rio de Janeiro and drastic methods were used to enforce order and obedience. At any rate, a few days after the ship reached port the newspapers of San Francisco erupted into a series of accusations against Waterman, and it was said that five of the crew had died from the effects of kickings and beatings while at sea, and four had been deliberately shaken from the rigging. It was also said that five more were too mangled and maimed to leave the forecastle after the vessel had anchored. These newspaper stories, whether they came from reliable sources or by way of the touched-up versions of land sharks who saw suits for damages in the offing, were enough to arouse the ire of a San Francisco mob, who demanded that the *Challenge's* handsome, arrogant Captain be turned over to the leaders for hanging or burning. Since neither Waterman nor Jim Douglas, the mate, could be found at the moment, the mob pounced upon innocent old Captain Land, who happened to be in San Francisco at the time, and threatened to hang him. This threat, as well as that to Waterman and Douglas, would in all probability, have been carried out had not the Vigilance Committee stepped in, in the nick of time, in true Western fashion, and saved the day.

It was never proven that any of the crew of the *Challenge* were deliberately murdered, and after it was discovered that the men in the forecastle were not maimed but badly diseased, the whole affair died a natural death, until afterwards revived for the purpose of discrediting the clipper captains. Waterman was eventually tried, at his own request, and exonerated by the testimony of the passengers and some of his men. He settled down in California, founded the town of Fairfield together with Captain A. A. Ritchie, and in 1852 was appointed Port Warden and Inspector of Hulls at San Francisco. He died in 1884, and ever since then the legends have been clustering thickly about his name. To his friends he was always Captain "Bob"—a hard worker and conscientious master whose liking for fine clothes and dandified manner contrasted strangely with an odd religious streak. To his enemies he was "Bully" Waterman—a psalm-singing fashion-plate, a brute, and a killer. Both friends and enemies agree,

however, that Waterman had an uncanny ability to sense a wind, and to press his ships into extraordinary demonstrations of swiftness without damaging a sail or losing a spar. He was, in fact, one of the great geniuses of that era of speed.

After the fiasco in San Francisco, Captain John Land, who seemed to be always inheriting the Waterman ships, took the *Challenge,* and in 1852 made several fast passages, one of which was a 33-day run from Hongkong, where he had picked up a cargo of coolies, to San Francisco, and another an 8-day run from San Francisco to Honolulu. On this passage he was within four hundred miles of Hongkong in 27 days—a record, which rounded out the career of the old man, since he died shortly after reaching China. Captain Pitts, formerly first mate of the *Witchcraft,* succeeded in command of the *Challenge,* and, leaving Canton on August 5 of that year, reached Deal with the London teas on November 18 in the record time of 65 days from Anjier. The following year he took his departure from Canton on July 13 and did not arrive at Deal until the 20th of December.

In 1854 the *Challenge,* under Captain Kenney, made her New York to San Francisco passage in 120 days. It was not a good showing, and in 1859 she made her last passage under the American flag. At the end of it, Captain Fabens, who was then in command, took her into Hongkong where she was laid up for repairs and purchased, towards the close of 1860, by a Captain Haskell. In 1861 she was sold at Bombay to Thomas Hunt & Co. of Great Britain, and was renamed the *Golden City.*

In 1866 the *Challenge,* or the *Golden City* as she was still called, was purchased by Captain Joseph Wilson in London, and he describes her end in a letter written to Basil Lubbock and included by that writer in his account of the *Challenge* in *The China Clippers.* Captain Wilson was evidently none too pleased with his purchase, nor were her former owners, who spoke of her as a "confounded pickpocket." She was in sound condition throughout, however, and after a few minor repairs she was sent to sea but, save on a wind, proved a disappointment in the matter of speed. The spar plan of the *Challenge* had,

from the time of her launching, been cut down three times, but nevertheless Captain Wilson found her a dangerous ship to stay. The principal error that he found in her design seems to have been the hollow waterline, which caused a constant curling of a good-sized sea beneath her stem when traveling—a fault that naturally caused the sapping of power and the subsequent slowing-up of her passage through the water. As he speaks of her also as a "stiff" ship, and one that was therefore treacherous when rolling, it can be concluded that the *Challenge,* lovely though she was, was not one of the best practical examples of design in the clipper era.

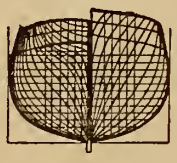
On her last voyage in the Java trade, seven men were swept from her deck in a gale off the Cape of Good Hope, the Captain was killed, and the wheel and officers' house, including the occupants, with the exception of the third mate and Captain Wilson's nephew, were carried away. Her fault in staying caused her loss on her next voyage, when she lost her rudder and fetched up off Ushant on the French coast. When a French gunboat tried to save her she, according to Captain Wilson, "took a shear and went off on a reef of rocks," and eventually broke up off Aberbrache.

Clipper Ship

CHALLENGE

1851

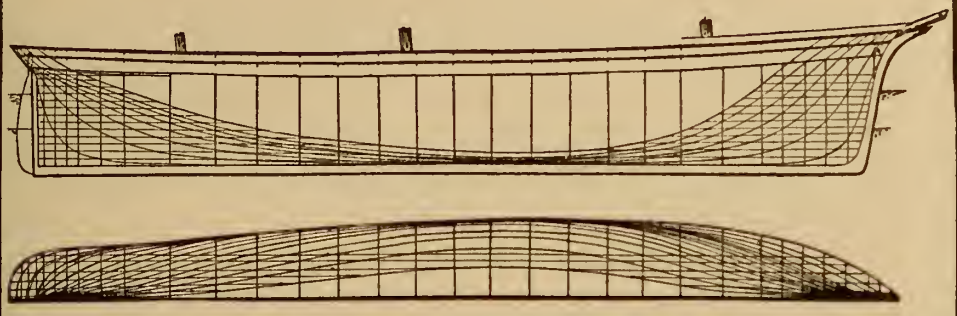
BUILT AT NEW YORK



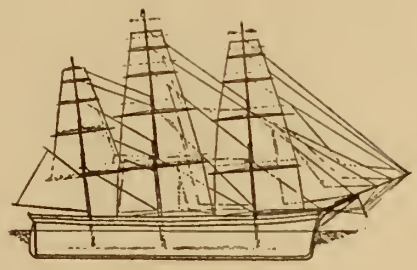
by

WILLIAM H. WEBB

Drawn from WEBB'S Plan



length on deck	250 feet
beam moulded	41 feet 8 inches
depth of hold	26 feet
tonnage c.m.	2350 tons
draft loaded	23 feet
original sail plan shown	



California Clipper
1851

THREE events of the '50's, none of which will probably ever be forgotten, were inextricably woven into the chequered career of the *Nightingale*. The first was the arrival, in America, of the Swedish wonder, Jenny Lind; the second, the beginning of gold-digging operations in Australia; and the third, the opening of the great International Exhibition in London.

The bearing that these events had upon Samuel Hanscom's lovely clipper was not shaped in chronological fashion, however, and the third takes first place in point of time, since it was for exhibition purposes that the *Nightingale* was built.

The London International Exhibition of 1851, which was suggested by Prince Albert at a meeting of the Society of Arts and which owed its great success in a large measure to his untiring efforts, was a masterstroke of diplomacy on the part of Great Britain. Fairs of a certain type, which had had their origin with the Society of Arts, had been held in Great Britain as early as 1761, but the attention of the world was not drawn to such exhibitions until Napoleon sponsored and directed the French one of 1798, and made it memorable by offering a gold medal to "that manufacturer who should best deal the heaviest blow to English trade." Ten of these rather selfish expositions followed in France from 1801 to 1849. In time other nations caught the idea and, from 1820 to 1845, nearly every nation in the western world held some type of exhibition for the encouragement of trade and the diffusion of knowledge. In 1849 France, who led the world in the scope and mag-

Nightingale

nificence of such affairs, had another large industrial display to which, in keeping with her policy of self-interest, the outside world was not invited. England, at the time, must have felt these national parties to be very irksome, or else her marvelous sense of doing the right thing—for England—at the psychological moment was perfectly sharpened for a lightning-like political play. At any rate, following upon Albert's suggestion, a royal commission was appointed and given a site of over eighteen acres for the erection of the famous "Crystal Palace," designed by Mr. (afterwards Sir) Joseph Paxton, in which to house an International Exhibition. England took one-half of the building for herself and her colonies, and the other half was given to the world. On May Day, 1851, Queen Victoria, in person, opened the exhibition. A hint of the grandeur of the opening day can be given by an excerpt from Thackeray. Years later he wrote: "Any of you who were present, as myriads were, at that splendid pageant, the opening of our Crystal Palace in London, must have seen two noble lords, great officers of the household, with ancient pedigrees, with embroidered coats, and stars on their breasts and wands in their hands, walking backward for near the space of a mile, while the royal procession made its progress."

In the course of the five months that elapsed before the exhibition was closed and the building moved to Sydenham, more than six million visitors viewed "the manifold beauties which combine to give the structure the character it bears" and which included everything from machine-printed paperhangings to the Koh-i-noor diamond. The model of the *N. B. Palmer* was there as representative of the American merchant marine, and the schooner yacht *America* went to Cowes and carried away the Royal Yacht Squadron Cup. The *Nightingale,* unfortunately, was never sent to the Thames, as had been planned, and was not a feature of the exhibition for which she had been built.

She was an exquisite ship, not much larger than the *Oriental,* whose measurements she duplicated with the exception of a foot less draught and 63 more tons register; she was finished with the greatest care, and fitted with large saloons and luxurious cabin arrangements—like a yacht. She was built at Portsmouth in the yards of Samuel Hanscom,

Jr., and, had her owners not fallen short of money shortly before she was completed, she would have carried a select list of passengers to the Exhibition and have been, herself, on exhibition. As it was, Mr. Hanscom found it necessary to turn her over to Governor Goodwin of Portsmouth for disposal and she was launched in midsummer and eventually purchased for $75,000 by Sampson & Tappan of Boston. Everyone, including Mr. Hanscom and the subcontractors, realized a profit beyond that of their original contract, when Sampson & Tappan concluded the deal. The figurehead of the *Nightingale* was a likeness of Jenny Lind, for whom the clipper ship was named.

The singer herself had arrived in America during the early days of the previous September, and it was an odd little old New York into which she stepped the day she came ashore from the Collins steamer *Atlantic*. But the hearts of the people of the early '50's were very large, and there was something childlike and touching about the reception they tendered the lovely singer; just as there was something equally childlike and equally revealing about their character when, two years later, they hissed the acting of Mrs. Forrest, who, quite in keeping with the period, was a success in spite of it.

Looking backward down the years one sees something curiously adolescent in the make-up of a people who could roar, with a very young person's full sense of enjoyment, over a new speed record across the ocean, and crow delightedly over the dewdrop waltzes on a ballroom floor; who could grow equally sentimental over their smelling-salts when Jenny Lind sang *Good Night* or when they gazed at wax flowers under glass; who could cast the same eyes over the sweet lines of a sharp ship and over an exhibition of the Bloomer *Schottische en costume,* and say of both, "the prettiest we have seen"; who could not believe that steam would ever conquer sail, but who thought that the claim that common table salt caused consumption, insanity, and cancer, was a medical discovery "worthy of immortality"; who could read Thackeray's *Pendennis,* Julia Kavanagh's *Women of Christianity,* Hawthorne's *The House of the Seven Gables,* Dickens's *Bleak House,* Melville's *Moby Dick,* Swedenborg's *Heaven and Hell,*

The Upper Ten Thousand of American Society, Susan Warner's *The Wide, Wide World,* and *Queen Mab's Diversions* for making mechanical verses, and love them all in turn.

It was indeed, judging by today's standards, a small world in which the giants walked—that world which knew Irving, Clay, Webster, Garrison, Phillips, Abraham Lincoln, Emerson, Thoreau, and Poe; and, looking backward, one is inclined to agree with their own belief that there, in the fabulous fifties, walked the progenitors of supermen who would in time certainly have been produced, were it possible for men and women to grow, like rivers and mountains, out of centuries—instead of out of childhood. Yet back in that comfortable world when the individual mind was not overtaxed in its attempts to appreciate the creations of too many collective minds, a great and growing nation was captivated by simple things, like sailing ships and singers. Was it because they had some foreshadowing of a mechanized world to come, or was it because, in their childish simplicity, they had not yet learned our legerdemain in blowing bubbles and simultaneously wielding a pin?

Jenny Lind's first concert, on September 11, 1850, at Castle Garden, enchanted the small gathering which had paid over $2,600 to hear her sing, but, before a year had passed, she endeared herself to another group—the seamen—in quite another way. In the July, 1851, number of the *Sailor's Magazine,* under the heading "Miss Jenny Lind," the following appeared:

"We take pleasure in noticing that among the princely benefactions of Miss Lind to different benevolent objects, she has not forgotten the sailor. She appropriated $1000 to the Sailors' Home in New Orleans; $1000 to the Home in Philadelphia; a liberal donation to the Home in Charleston, S. C.; $200 to Rev. O. G. Hedstrom, pastor of the Bethel ship, N. Y., to aid in the distribution of the Swedish Scriptures among her countrymen, and $273.20 to the same pastor last winter, for distribution among the poor Swedes of his flock. May she sing forever."

Three months later, on October 18, 1851, the *Nightingale* left Boston on her maiden voyage. She was bound not for California, but for Aus-

tralia, where gold-digging operations had been begun in February, and where the California scene was being duplicated. Similar reports came back to New York and London, and the newspapers began to give over space to letters such as this, from Hobart Town:

"The great gold discoveries in New South Wales are the all-absorbing subject of conversation here, which is unsettling the minds of all classes—nothing but the 'diggings' is thought of. Only fancy a man picking a hundredweight of pure gold out of one hole; putting it into his gig, driving to the bank, and receiving £4,500 for his morning's work! If this goes on, it must unsettle the whole monetary system of the world. California has produced nothing equal to this. As soon as the news of the auriferous discovery spreads, there will, doubtless, be an enormous number of diggers from all parts of the world. *We* shall suffer here most seriously; indeed, already the prices of provisions have nearly doubled! Everything is finding its way back to New South Wales. The people here are already beginning to look after their *copper,* as likely in time to become the most valuable material. We are nearly through *our* winter, if winter it can be called, with a bright blue sky...."

The world went a little more crazy. Business of every nature in or near Australia was practically at a standstill, policemen deserted the cities, sailors fled from their ships, newspapers dwindled to half their normal size as compositors rushed away with their sheet-iron pans to wash "pay dirt," and on the day before Christmas of that year the population of Adelaide moved *en masse* to the goldmines. The *Nightingale,* under the command of Captain John Fiske, arrived at Melbourne, then a city of about 20,000 inhabitants, 90 days after she left Boston—the first American clipper on the scene. She had loaded in R. W. Cameron's Line for the run, and from thence went to Shanghai, arriving out July 31, 1852; from Shanghai she sailed to Deal with tea, arriving on the 10th of December. Fiske, who was disappointed with the showing of his ship, threw up his command, although, like the wind and the weather, he was not being quite fair to the *Nightingale.*

It was during this passage from China to London that the much-discussed informal race was run by four American and three British clippers. The American ships that can be said to have participated in this contest were: the *Witch of the Wave,* which sailed from Canton on January 5 at the height of the monsoon that blows in that part of the world from northeast during the six months beginning with October and ending with April; the *Surprise,* which sailed from the same port on July 19, in the third month of the summer and opposing southwesterly monsoon; the *Nightingale,* which sailed from Shanghai twelve days later; and the *Challenge,* which did not get away from Canton until August 5, when the southerly winds were becoming stronger and therefore more retarding. The British clippers *Stornoway* and *Chrysolite* took their departure from Canton on the same day—July 9—also in the third month of the summer monsoon. The third and last of the British clippers was the *Challenger,* a ship of 699 tons which had been built that year by Richard Green of London for the express purpose of beating the American *Challenge.* She took her departure from Shanghai on July 27, just four days before the *Nightingale* left that port.

Since this informal contest was made up of a combination of races within a race, and nearly all the ships engaged in it claimed the victory, it is interesting to note the results. The *Witch of the Wave* arrived in London on the 6th of April, making her passage to the Downs in 90 days. She was easily the victor in point of time, but, since she had the enormous advantage of wind and weather, it would probably be unfair to contrast her passage with those of the six less favored clippers.

The *Chrysolite, Stornoway, Surprise, Challenger,* and *Nightingale* sailed in the same month in the order named, and reached their English ports in identical fashion. It is still not clear who won the race, since both 104 and 106 days are claimed for the passage of the *Chrysolite* to Liverpool. The *Surprise* arrived at Deal in 106 days, the *Stornoway* reached the Downs three days after the *Chrysolite* docked at Liverpool, and the *Nightingale* and the *Challenger,* both from Shanghai, put in at Deal, 110 and 113 days respectively. The *Chal-*

lenge, which did not sail from China until August, reached Deal on November 18—106 days out—but did not arrive in London until the 22nd. If the ports of arrival and departure, the weather conditions, and the question of which ship anchored first and where, are all taken into consideration, one can obtain some idea of the squabbling that ensued after this informal race was over. It is problems such as this which made, and still makes, the relationship between American and British clipper-ship enthusiasts so bitter—and so sweet.

In the third volume of his *History of Merchant Shipping,* Mr. W. S. Lindsay, of London, says (page 293), apropos of a "large dinner in the City . . . at which a great number of the large London shipowners were present," that Mr. Richard Green made the following speech in reply to "one by the Secretary of the American Legation," who addressed the gathering "in the flowing style not uncommon with young Transatlantic orators":

"'We have heard,' he said, 'a good deal to-night about the dismal prospects of British shipping, and we hear, too, from another quarter, a great deal about the British Lion and the American Eagle, and the way in which they are going to lie down together. Now, I don't know anything about all that, but this I do know, that we, the British shipowners, have at least set down to play a fair and open game with the Americans, and by jove we will trump them!'"

Mr. Lindsay goes on to say that "he *did* 'trump them,' for shortly afterwards he built a ship called the *Challenger* to match their *Challenge,* which thoroughly eclipsed her." Since Mr. Lindsay himself owned the *Challenger,* one can enjoy his enthusiasm without, however, relying too greatly on his words. Even if the ships had started from China on equal terms, the American ship reached Deal one day earlier; but the fact that she was waiting at Gravesend to enter the docks when the smaller vessel arrived and entered in at London would give her a margin of victory.

There was another pair of owners whose enthusiasm for their clipper was not dulled by the results of the race. These were Mr. Sampson and

Mr. Tappan of Boston, who were willing to wager a good £10,000 against the chance that a clipper in either country could race to China and back and beat their *Nightingale*. The wager was never taken.

The following two years the *Nightingale* certainly justified her owners' faith in her. She sailed from Portsmouth, England, on February 10, 1853, and passed Anjier on the 23rd of April in the unprecedented time of 72 days. After loading tea in China she took her departure from Woosung on the 8th of August, and reached Deal the 28th of the ensuing November; and in 1854 she took the mails from New York to Melbourne in the then record time of 75 days from pilot to pilot—a splendid passage.

In 1855, still commanded by Captain Mather, she again distinguished herself by making another fine passage in the China trade. On this run, she left Shanghai on the 8th of February, just about the time the northeast monsoon was getting ready to break up, made Anjier on the 5th of March, and picked up her pilot at Beachy Head on May 11—91 days out. In 1858 she made a California trip, Boston to San Francisco, in 148 days. Shortly afterwards she was sold to a firm in Salem and sent to Rio. At this point she passed to a Brazilian owner and was utilized as a slaver. It was a disgraceful, dirty trade for any lovely clipper, but the purchase was none the less complimentary since slavers were necessarily exceptionally speedy vessels.

In the year 1861 after having taken aboard nine hundred and sixty-six slaves at Kabenda Bay, near a spot once called the paradise of the African coast where the natives were known for their skill as carpenters and tailors, the *Nightingale* was captured by the U. S. S. *Saratoga* and taken home again, this time as a prize. Her commander during her slave-running career was an American named Bowen, who turned up some time later as the commander of the last-known slaver captured—a fishing-schooner, appallingly crowded with slaves.

The *Nightingale* went home, and when the Civil War broke out she was fitted out as an armed cruiser, survived the war, and at the end of it sailed again in the California and China trade. Some time later she was sold to Norway, and in 1893 was abandoned at sea.

CLIPPER SHIP

NIGHTINGALE

1851

BUILT AT PORTSMOUTH, N.H.

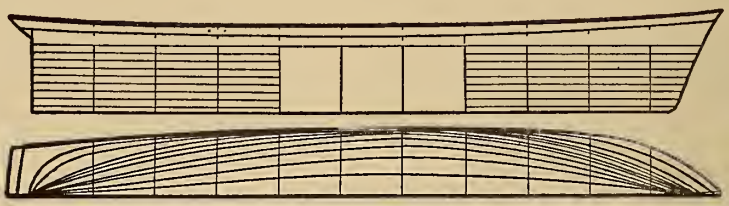
BY

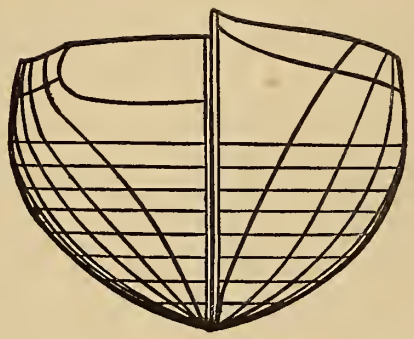
SAMUEL HANSCOM, Jr.

drawn from lines in

the

Monthly Nautical Magazine





length on deck 185 feet

beam 36 feet

depth of hold 20 feet

tonnage 1,066

deadrise at half floor:
36 inches

upper lines 1/3 scale of lower lines.

California Clippers
1851-2

THE clipper ships *Challenge, Typhoon,* and *Raven* were the last vessels built in 1851 to reach California before the year was over, and, with the failure of these three to better, or equal, the passage of the *Flying Cloud,* opportunities for hanging up new records to the Golden Gate were, for that year, at an end. In a summary of passages for 1851, that of the *Flying Cloud* flashes brilliantly against a background of duller runs which, taken separately and under varying conditions of weather, were, for sailing vessels, astonishingly swift. Yet, with one other exception only, none of the more than thirty clippers racing westward that year completed the passage in less than one hundred days, and but eight broke into the magic 110-day circle.

The best passages of the year—arranged for comparisons of size, date, and port of departure—were as follows:

Ship	*Tons*	*Date and Port of Departure*	*Days*
Flying Cloud	1,782	Boston —June —1851	89⅕
Surprise	1,261	Boston —December —1850	96¼
Witchcraft	1,310	New York—April —1851	103
N. B. Palmer	1,399	New York—May —1851	106
Raven	712	New York—August —1851	106
Seaman	546	New York—November—1850	107
Typhoon	1,611	Boston —August —1851	108
Challenge	2,006	New York—July —1851	109

There were other races and records that year, attended by a great deal of excitement and placing of bets. A strong rivalry had grown

up between the eleven-year-old Cunard Steamship Company and the two-year-old Collins Line, and, as the quality of performance in the shipping world of those days was judged by the brevity of passage, the ships of each company were determined to outrace those of the other across the Atlantic, and so establish their owners' right to the supremacy of that broad ocean.

Good fortune, in that year, favored the eventually ill-fated Collins Line. In May it was blessed with a record to its credit: the passage, of the flat-bottomed, beautifully modeled *Pacific,* made in 9 days 21 hours 16 minutes from New York to Liverpool; and, at the close of the year, the Line showed an average passage that was slightly shorter than that of the Cunarders.* These small encouragements to its steam shipping caused America to feel firmly that England was again vanquished at sea, thus saving the reputation of the young country, whose disappointment—in the event of failure—would have been, according to Mr. Bayard of the American Senate, "more deeply felt from the fact that England had already been vanquished by our sailing ships, and gracefully yielded to us the palm of victory, since more brilliantly illuminated by the yacht *America,* and the clipper ship *Witch of the Wave.*"

In the meantime, the fast sailing ships, which were destined like the Collins Line itself to lose the race against time, continued, in their brief period of recaptured summer, to attract attention to themselves by means of shorter and more smartly made passages. Aside from the California records for 1851, there was the fine 13½-day

* The average passages made by the steamers of the Collins Line for 1851 were: from Liverpool to New York—11 days 8 hours 22½ minutes; from New York to Liverpool—10 days 23 hours. The average passages of the Cunarders were: from Liverpool to New York—11 days 23 hours 30 minutes; from New York to Liverpool—10 days 13 hours 17 minutes. When the race was carried into 1852 the Collins Liners averaged: from Liverpool to New York—11 days 21 hours 52 minutes; from New York to Liverpool—11 days 1 hour 22 minutes. The Cunard averages were: from Liverpool to New York—12 days 13 hours 52 minutes; from New York to Liverpool—10 days 21 hours 44 minutes. In 1853 the statement was made that the Atlantic passage was to be made in six days, and the newspapers complacently announced that "the steamer is building that is to do it." Shortly after, during the same year, the New York *Mirror* and the London *Daily Advertiser* took a peek into the future and prophesied that "before long we shall have steamers crossing from Nova Scotia to Ireland in about three and a half days!"

Northern Light and Contest

passage made by the *Typhoon* from Portsmouth, New Hampshire, to Liverpool, during the month of May, and, among the intermediate passages, there were these record-breakers: the *John Bertram's* 58-day run from San Francisco to Rio; the *Witchcraft's* 62-day run from Rio to San Francisco; the *Southern Cross's* 56-day run from San Francisco to Calcutta; and the double record runs of the little Baltimore-built *Seaman*—one from the Equator to San Francisco in 14 days, and the other from San Francisco to Valparaiso in 35 days. The majority of these passages were never surpassed by a ship under sail.

Among the clippers built in 1851, but launched too late to participate in the races of that year, was the beautiful *Northern Light*—a vessel designed by Pook and built by the Briggs Brothers of South Boston. The brothers Briggs—E. and H. O.—were members of a famous family whose shipbuilding activities paralleled American commercial growth both in the later days of perfected seamanship and booming trade, and in those smaller, narrower days when any New England boy, with a mere handful of other New England boys (and fortified with no better instruments of navigation than a few incorrect maps, a compass, and a sextant, with no better commercial knowledge than could be gained from the curious lore contained in a copy of *Guthrie's Grammar*), set sail in a ketch or sloop, or in a ship not much bigger than a pleasure craft, to establish trade between the United States and the Isles of France or Bourbon, between the new West and the old East of Madras, Calcutta, Bombay, Ceylon, and Sumatra, and to lay down routes—not only across seas but across the pages of history—which the endless crisscrossing of finer, more powerful vessels will never quite eradicate.

It was a James Briggs who built the ship *Columbia,* which in January, 1788, doubled Cape Horn in company with the little *Washington,* collected a cargo of furs on the North Pacific coast, sailed with them alone to Canton, picked up a cargo of tea and arrived home in August, 1790—the first vessel under the American flag to circumnavigate the globe, and the vessel for which, when later commanded by Captain

Robert Gray, the Columbia River was named.* It was Enos Briggs who built the ketch *Eliza,* famed for the fact that the little wooden miniature of her is the earliest known existing example of the lift model, and it was also Enos Briggs who built the 32-gun frigate *Essex* for the American navy after France had broken her treaty of alliance with the United States. "King" Derby of Salem and the shipowning William Gray each paid ten thousand dollars towards the cost of this latter vessel—the people of Salem, by public subscription, paying the balance—and part of her cordage was supplied by Jonathan Haraden of *General Pickering* fame. The *Essex* played a prominent part during the trouble with the Barbary Powers and in the War of 1812. She was eventually cut to pieces in a two-against-one battle with the British men-of-war, *Phoebe* and *Cherub.*

Between 1851 and 1858 E. and H. O. Briggs built at least twenty clippers, three of which, besides the *Northern Light,* were record-holders. In 1851 the *Southern Cross,* built that year, made the previously mentioned 56-day run from San Francisco to Calcutta; in 1856-7 the *John Land,* built in 1853, established the 88-day record from Calcutta to Boston; and in 1859 the *Meteor,* built in 1852, made the unprecedented passage of 15½ days from 50° South Pacific to the Equator.

The *Northern Light*—launched on September 21, 1851—was, however, the most famous of the Briggs-built clippers. She was very sharp on the bottom, having 40 inches dead rise, and measured: length, 171 feet 4 inches; breadth, 36 feet; depth, 21 feet 9 inches; tons 1,021. Her figurehead was a carved angel draped in white and holding aloft a flaming torch. She was owned by James Huckins & Sons, of Boston.

Her first passage was not eventful. She left Boston, under the com-

* The following notice (abridged) appeared in one of the Boston papers in 1850: "In the United States Senate on the 12th Dec., Mr. Winthrop presented the memorial of Mrs. Martha Gray, of this city, the widow of Capt. Robert Gray, the discoverer of the Columbia River. This voyage, though merely mercantile in its design, terminated in its title to a vast territory in the Pacific. In the controversy between this country and Great Britain, which was brought to a close a few years since, no point was more successfully relied on by our American negotiators than the discovery of the Columbia River by Capt. Gray. Mr. Winthrop thought it was not too much to say that the discovery gave us Oregon."

mand of Captain Bailey Loring, on November 20 and reached San Francisco on March 8, 1852, in the fair sailing time of 109 days, thence 15 days to Acapulco, 25 days back to 'Frisco, and 100 days home to Boston.

On October 28, commanded by Captain Freeman Hatch, she again took her departure from Boston and made the run out in 118 days. The day after her arrival at the Golden Gate she was joined by the *Contest* and the *Trade Wind,* the first ship sweeping in with a bare 42-day record run from off the Horn, 100 days from New York, and the second, heavily laden with cargo, 103 days out from the same port.

Fifteen days later—at three P.M. on Saturday, March 12, 1853, to be exact—the *Contest* up-anchored again and made sail for home, followed twenty-four hours later by the *Northern Light,* headed in the same direction. The two ships, in point of size, were fairly evenly matched,* and a race was so certain between the two (and both against the *Trade Wind,* which sailed about the same time) that Captain Hatch bet a suit of clothes on the outcome. Captain Hatch's bet was, however, cautiously placed against the *Trade Wind,* since at that time the *Contest* was generally judged to be the superior ship. But the race developed its own surprise.

Favored by almost identically propelling breezes, the *Northern Light* and the *Contest* each chalked up a splendid 14-day run to the Line, and from thence tore along—the one at first a full day ahead but the other slipping through the water faster and faster, gradually eating up the space and the hours between, until the 20th of April when, off the Horn, the crew aboard the *Contest* peered through the gloom and softly falling snow of that chill day, and saw the faint

* The *Contest* was built at a cost of $80,000 and measured: length on keel, 175 feet 6 inches; length on deck, 180 feet (also given 181 feet 4 inches); length over all, 207 feet; breadth, 36 feet; depth, 21 feet; capacity, 1,500 tons; 24 inches dead rise. She was designed by Daniel Westervelt and launched, October 9, 1852, from the yards of Jacob A. Westervelt for A. A. Low & Brother, New York. Her first commander was Captain William Brewster of Stonington. The *Trade Wind* measured 265x43x25: 2,030 tons. She was built by Jacob Bell and owned by both Booth & Edgar of New York and William Platt & Son of Philadelphia.

tracery, against the distant sky, of the spars and sails of the *Northern Light.* The following day the two ships were together.

From then on, after the two ships parted, the *Northern Light* continued to maintain her advantage over the *Contest,* and when the latter vessel picked up her pilot off the Jersey Highlands, during the late afternoon of May 30, the Boston vessel was already in port, having completed her passage from the Horn in 38 days and arrived home on the night of May 28. The *Northern Light's* run of 76 days 6 hours to Boston was never afterwards equaled, and, because of it, she has won a place in the history of the California trade—along with the *Flying Cloud* and the *Andrew Jackson*—as one of the fastest sailing vessels of all time. Even the *World Almanac* mentions that the record is carved on Captain Hatch's tombstone at Eastham, Cape Cod, Massachusetts: "an achievement won by no mortal before or since."

The *Contest,* however, was not without her record also, which her owners—stating that she had beaten such vessels as the *Telegraph, Whirlwind, Queen of the Seas, Game Cock,* and *Meteor,* on her outward passage—were quick to bring to public attention. Her passage of 180 days (net sailing time) from New York to San Francisco and return had no precedent. The *Trade Wind* made her passage home in 84 days.

In 1853 the *Northern Light* made her San Francisco passage in 122 days, 91 days return; in 1854, still under Captain Hatch, in 124 days, thence to Calcutta and home to Boston direct in 91 days; in 1855, commanded by Captain Seth Doane who had purchased her the previous year for $60,000, she made a run out to Calcutta and returned, in company with the *North Wind,* in 102 days. Her next passage was made from Boston to Manila in the record-beating time of 89 days, and she returned home in 78 days from Anjier, 107 days from Manila. She sailed from Boston on December 11, 1856, bound once more for Manila, and, returning, repeated her 78-day run from Anjier but was eight days longer from her port of departure. Her next group of passages included a round to the East Indies, a passage to 'Frisco, thence to Shanghai, thence to Manila, thence to San Fran-

cisco, and thence to Acapulco and home. Her last passage in the California trade was made in 134 days out from Boston and 106 days back to New York.

Meanwhile the *Contest* pursued her own career, making her passages from July 6, 1853, to the fall of 1859, as follows: New York to San Francisco, arriving October 24—110 days out—in company with the *John Bertram* and the *Atalanta* and a day ahead of the *Wild Ranger,* all of whom she had outdistanced by a good margin on the way; San Francisco to Honolulu, thence to Tahiti, and home from the latter port in 85 days; New York to San Francisco in 126 days, arriving out November 17, 1854, in a damaged condition, having run into heavy seas (which also succeeded in washing three men overboard) off the Horn; New York to Bombay in 90 days, arriving out October 8, 1855; Bombay to Hongkong, thence to Whampoa, and home on August 21, 1856, in 139 days. She then returned to Shanghai, loaded tea at Whampoa for New York, and arrived home in 102 days. She returned again to the China coast and was reported at Shanghai in August, 1859.

On March 1, 1861, the *Contest* sailed from New York for San Francisco but, striking heavy weather in the North Atlantic was forced to jettison part of her cargo and run for shelter, in a leaking condition, to St. Thomas to discharge the remainder. She returned home for repairs and took her departure within two weeks, arriving at the Golden Gate on November 4, 1861. Two months later, on Christmas Day, the *Northern Light,* having crossed to Havre earlier in the year, put out from that port, commanded by Captain Lovell, in ballast, bound for New York. On January 2, 1862, she sank the French brig *Nouveau St. Jacques* in a collision and received damages so severe that she, too, was soon abandoned. The captains and crews of both vessels were picked up by the *Norma* and the *Bremerhaven* and landed at the British ports of Falmouth and Cowes.

The *Contest* was also nearing her end. In February, 1863, she left New York and made a 99-day run to Hongkong, proceeding thence to Yokohama where she loaded for New York. She sailed from the

Japanese port on October 15, 1863, and, running down through the Strait of Sunda, was captured, plundered, and burned by the Confederate cruiser *Alabama* on the evening of November 11. Her owners claimed $158,465.97 for her loss.

Transatlantic Packet and California Clipper
1851

In 1848—three years before the *Staffordshire* was built—the notorious Fox sisters, then living in upper New York State, astonished the social and intellectual world of the day by what appeared to be authentic communication with the spirit of a murdered peddler, who made known his messages, before witnesses, in a series of unusual, hollow-sounding knocks.* And from that time on, the practice of modern spiritualism—with its rappings and tappings, its trance states, and its ghostly manifestations—spread with a gusto and rapidity of acceptance that is not at all surprising in a century that possessed so many faces—one of which was all morbidity and gloom.

Since departed spirits have from time to time shown a remarkable, though usually depressing, interest in current worldly events, it is also not strange that the tables of Boston showed some agitation just prior to the launching of another McKay clipper; though it is an item of some curiosity that the *Staffordshire* rather than any of a score of other vessels should have been singled out by the spirits for a bad end, and that the ship herself should have obliged them by fulfilling their worst predictions.

The career of this fine, big clipper was as clean-cut and brilliant as it was brief. She had been built for Enoch Train & Co.'s White Diamond Line of Liverpool Packets—then sailing twice a month from Boston and once a week, on the dot, from Liverpool—and was ex-

* Gilbert Seldes ,gives an interesting account of the exposé of these sisters in his book *The Stammering Century*.

pected to grace the Line as the largest and handsomest passenger and freight carrier—a fact which is of no small moment since the Train Line, started in a small way, was built up through six years of excellent and dependable service, until it boasted a close rivalry with the better New York and Philadelphia lines of wind-packets, which in turn were fighting the menace of newer and handsomer steamships. This latter fight was, however (according to Mr. W. S. Lindsay, who was an eye-witness to the facts), "not so unequal as might appear, arising from the fact that the current expenses of the clippers were far less than those of the steamers, while their capacity for cargo was far greater. Indeed, for a time, it was questionable whether the clippers did not yield their owners quite as good returns on the capital invested as the steamers." The fight was there, nevertheless, growing keener with each year, and Mr. Lindsay goes on to say that "the wooden clippers, however, had reached perfection (the world having never previously seen a more splendid class of sailing-ships than the 'Yankee liners of that day,') whereas the screw, being still in its infancy, moved onwards with the progress of science, improvements in machinery tending to reduce the current expenses and to increase the capacity of the ship by reducing the consumption of fuel, so that the sailing-ships were obliged to succumb."

Like all the packet lines of those days, the Train Line ran in connection, on the American side of the Atlantic, with a railroad company (the Worcester and Western Railroad in Train's case), by which passengers, circulating through Liverpool, were booked through to various points in the United States and Canada—an arrangement by which newly landed immigrants were protected from the hordes of runners and crimps offering fraudulent inland passage-tickets for sale. Since tiny individual sums of money—generally made up of scrimpings but totaling into millions of dollars—were remitted annually, by settlers in America, to relatives and friends at home for the purpose of enabling families to be together again or to help others to a new start in a new world, this arrangement was in itself a godsend to those who

Staffordshire

were compelled to land in New York almost penniless after their passages were paid and their little outfits purchased.

Compared with the excessive refinements of present-day transatlantic steamers, these earlier wooden liners were humble enough, but the contrast between then and now is probably less striking, so far as immigrants are concerned, than it was between the packet ships of the 1850's and the immigrant carriers of the rush-days immediately after the War of 1812, when it was possible and permissible for any Yankee captain to cram a rotten little hulk—from the orlop deck upward—with hundreds of the tattered victims of European oppression and stupidity: to press them in beyond the outermost limits of decency, cleanliness, or safety, and, upon arriving at Atlantic ports, to bind those white men, white women, and white children into several years of virtual slavery in order that the passage money—sixty, seventy, or eighty dollars—might be refunded to the captain. Before the transatlantic liners, with their regulated sailing dates, came into existence conditions obtained aboard immigrant ships which, set down in bare government reports and statistics, were such as to make even an ordinarily mild-tempered person froth at the mouth—were it not for the fact that these things happened so long ago, and that the rich, red blood of America, traveling along her commercial arteries, is still being used for the purpose of fattening the blood-sucker while it feeds the normally healthy body of trade. While it would be ridiculous to assume that all vessels of the clipper period were noble examples of marine architecture, that all captains were blue-eyed religious men, and that all shipowners had only the best interests of passengers at heart, it is nevertheless true that vital transportation changes were made only when the packet lines were established. Some respect is therefore due the men and ships that were directly responsible for a new order of affairs (long before the law stepped in with strong injunctions for all), even though such changes were brought about purely through money-making motives.

Immediately prior to 1851, passengers traveling by way of Liverpool were provided with the following weekly food rations: 21 quarts

of water, 2½ pounds of biscuit, 1 pound of wheaten flour, 5 pounds of oatmeal, and 2 pounds of rice (all parceled out twice a week), with the privilege of choosing potatoes instead of oatmeal or rice (in the proportion of 5 pounds of potatoes to 1 pound of rice) or (for Scotch and Irish passengers) 2 pounds of oatmeal in lieu of the 2 pounds of rice. After the Act of 1851 was passed, beef and pork, preserved meat, salt fish, and split peas were allowed as substitutes for the usual breadstuffs, so that by the time the *Staffordshire* was launched the Train Line was offering the following weekly provisions to second-cabin and steerage passengers: 2 ounces of tea, 8 ounces of sugar, 8 ounces of molasses, 5 pounds of oatmeal, 2½ pounds of navy bread, 1 pound of wheaten flour, 1 pound of salt pork, 2 pounds of rice, and vinegar, as well as daily allowances of 3 quarts of water, fires, and suitable places for cooking.

It cannot be said that the food allowances were very varied or generous, but legal requirements succeeded in wiping out the old state of affairs that prevailed when passengers, who were expected to provide their own food, boarded ship for America with little more than a bag of potatoes—or perhaps nothing at all. The two greatest causes of suffering and death aboard ship in the 1850's were: the obligation of passengers to cook for themselves, and (particularly where sailing ships were concerned) insufficient ventilation. As for the first condition—aside from normal fire hazards—there were actual cases of starvation caused by the inability of passengers, prostrated by seasickness, to prepare food. As for the second, as late as 1854 the attention of Congress was called to the increasing mortality caused by lack of pure air; and in order to understand this increase one has only to imagine conditions below deck in a calm, and the stench and filth of people who would not or could not keep clean during prolonged storms.

The *Staffordshire,* built for this carrying trade, was a dry, comfortable, three-decked ship of 1,817 tons, 243 feet in length over all, with 41 feet breadth of beam, 29 feet depth of hold, and 20 inches deadrise at half floor. Her figurehead was a white witch, and, because she was named for the Staffordshire potteries, her stern was elaborately

carved and ornamented with a gilt-work scene of this little county in the heart of England, and also with a complementary scene of Train & Co.'s Boston storehouse. She was launched on June 17, 1851.

On her first transatlantic passage she was commanded by Captain Albert H. Brown, veteran of the packet service, who took her from Boston to Liverpool in the fall of 1851 in 14 days and 18 hours; but shortly after her return it was decided to rerig the ship for the California run, and Captain Josiah Richardson, one-time master of the *Staghound,* took command. She then made the one really triumphant passage of her career.

On the 3rd of May, 1852, after some delay which was partly owing to a difficulty in securing cargo, passengers, and crew—because of the dark hints that were clustering thickly about her name—the *Staffordshire* finally set sail from Boston, with 120 passengers, in company with the 903-ton clipper *Shooting Star.* The weather conditions for both ships seem to have been fairly fine all the way, and 101 days later the *Staffordshire* arrived at San Francisco, having smashed the record from 50° South Pacific in a 36-day run. Four days later she was joined at the western port by the smaller *Shooting Star.* From San Francisco Captain Richardson took his ship to Calcutta, and, sailing again on January 25 from Saugor, drove her home again in a swift, remarkable passage of 82 days—the fastest sailing time that had ever been known, up to then, on the Calcutta run.

To this point the *Staffordshire* had sailed in dignity and safety—despite the wind and the devil, the shaking of Boston heads and the tapping of Boston tables; but the fancies (which must have enlivened the hours of the watch below and emphasized those on deck at night) were all too soon to find point and meaning in tragic fact.

Shortly after her fine Calcutta run, Mr. Train decided to put his queen clipper-packet back into the service for which she was originally intended, and in December, 1853, she crossed to Liverpool once more to bring back a cargo of immigrants to America.

The day before Christmas, while nearing Nova Scotia, her steering gear became useless and a few days later she lost her bowsprit. While

giving directions for clearing up the wreckage, Captain Richardson fell a full thirty-five feet from the rigging to the deck, seriously injuring his spine and ankle. He was carried to his cabin, from whence, in spite of bitter pain, he continued to navigate his ship—an heroic enough action which needed no further heroism to prove the mettle of the man; but the *Staffordshire* was not destined to reach Boston or any other port, though, in the bitterly cold hours between midnight of the 29th and morning of the 30th of December, when the ship struck on Blond Rock near Cape Sable, it was still the Captain who issued instructions, from his cabin, for the launching of boats and the saving of women and children. Between 170 and 178 persons perished that night in the sinking of the *Staffordshire.*

* * *

Josiah Richardson was a typical clipper captain—in fact, when he took over the *Stag Hound* he was spoken of as the dean of American shipmasters—and it is a matter for note that, just before the loss of his last command, it had been suggested that he be carried to safety by the last boat leaving for the shore... and that he refused, preferring to share the fate of his vessel.

An act of self-sacrifice such as this, coming as it did near the end of a passage which was to have been, ironically enough, his farewell to the sea, would seem worthy of some comment whenever and wherever American clippers and their masters are mentioned; yet only too often the great heart of a man like Captain Richardson eludes the historian's magnifying glass before he settles it with finality, and for all the world to see, over the infinitesimal misdeeds of lesser men.

California Clippers
1851

When Donald McKay's last clipper ship of 1851 was launched, the year was entering upon its final quarter—shrinking into itself and away from the light of reality, like a waning moon, as it passed slowly and for all time into the mansions of history. Eight months had canted backward into space, heavy with the obliterated events they had looked upon. There was January: the passing of the Fugitive Slave Law; the news of the death of Audubon; and, from abroad, word of the Austrian occupation of Hamburg. February: the occupation of Lübeck; the beginning of gold-digging operations in Australia; and, at home, trouble in Boston over a negro named Shadrach. March, save for the deeding of the Hawaiian Islands to the United States (subsequently returned by Secretary of State Webster) was virtually eventless; but in April, in Boston, there was the dispute over the use of Faneuil Hall, and, from Washington, President Fillmore's warning to citizens to take no part in the proposed expedition of the Spanish official, General Narciso Lopez, against Cuba. Then May: the opening of the Crystal Palace Exhibition in London, and, in Charleston, the meeting of the Southern Rights Association and the passing of a resolution favoring secession from the Union. June was marked by a rebellion in southern China. July was quiet—save for the probable popping of firecrackers which, according to the newspapers of the time, were being imported into the country in deplorable quantities; but, in August, Lopez succeeded in eluding the vigilance

of the United States government, and with 480 men sailed out of New Orleans in the steamer *Pampero.*

The story of Lopez, even then, was an old one; but this promised sequel to his attempts of 1848-9 to free Cuba from Spanish rule gave the people of the United States a new note of breathlessness to add to their former watchful waiting for the explosion of small international bombshells. A few miles from Bahia Honda the *Pampero* ran aground, and, after landing at Playtas, Lopez proceeded into the interior with three hundred men, leaving his chief officer, Colonel W. S. Crittenden, and the remaining men to guard the stores. On the 13th of August, Crittenden and his men were attacked and routed. Attempting to effect an escape they were captured by a Spanish warship, carried to Havana on the 15th, tried and condemned by military court, and shot on the following day. On the 28th Lopez was captured, and, on the first day of the following month, was strangled in Havana. His sympathizers in the United States mourned their hero, but for the moment the government breathed more easily.

On the first of the following month, also, the fame of Donald McKay spanned the American continent from Boston to San Francisco. In the waters off the western city the *Flying Cloud* was celebrating her first record-smashing victory—then less than twenty-four hours old—and in the East the almost faultless *Flying Fish* rose and fell for the first time on the gently breathing waters of Boston Harbor.

The month marched on and, with it, the United States took one more step in an ensuing decade of steps towards war. In Lancaster County, Pennsylvania, on September 11, a house near the village of Christiana was broken into by Edward Gorsuch, his son, some friends, and a United States officer, demanding the return of two supposedly secreted negro slaves. A general free-for-all followed—participated in by nearly two hundred negroes and whites; the slave-owner was killed, his son wounded, and it became suddenly necessary for the President to order officers and marines to the scene of the trouble. Arrests were made and trials followed, but the North scored a victory in that there were no convictions.

Flying Fish and Swordfish

The death of James Fenimore Cooper was announced on the 14th of the month; and, on the same day, somewhere off in the Gaspar Straits an American captain fought for his life as pirates swarmed the decks of the crippled clipper ship *Memnon;* while at home, in New York City, finishing touches were being put on another smart new sailing ship, the *Swordfish,* preparatory to her launching six days later. The month closed with another Vigilance Committee hanging on Carson River, Nevada.

In October the Fugitive Slave Law received another blow—at Syracuse, New York—when Jerry McHenry, fugitive, was rescued from jail by Gerrit Smith, the Reverend Samuel May, and a mob, and shipped to Canada away from the claims of his Missouri owner. This incident passed by without a trial—significantly cutting through law and order.

Then November arrived and, with it, commercial rivalry, good sportsmanship, national and international entanglements all jockeying for first place in the news. In maritime circles, the impending departures of the clipper ships *Flying Fish* and *Swordfish,* for California, promised one of the most exciting deep-sea races of the year and an opportunity for settling, momentarily at least, the always hotly contested question of shipbuilding supremacy.

The two ships—as a study of their subsequent careers will show—were beautifully matched for a race over almost any course, although the *Flying Fish* was somewhat larger than the *Swordfish,* her measurements being: length, 207 feet; breadth, 39 feet 6 inches; depth, 22 feet; tons, 1,505; and dead-rise 25 inches. Her ends were sharper than those of the *Flying Cloud,* but in many respects she showed her sistership to that crack vessel. She was owned by Sampson & Tappan, of Boston—owners also of the *Stag Hound* and the *Nightingale.* Her figurehead, like her name, was apt; it was a replica in green and gold of that aerial-minded fish whose flight is so rapid when its wings are wet.

The *Swordfish,* whose lines are shown at the end of this chapter, was built by William Webb for Barclay & Livingston of New York

City. She was quite sharp, though less so than some of Webb's earlier ships—notably the *Gazelle* and the *Challenge*—and she measured: 169.6x36.6x20: 1,036 tons. She was launched on September 20, 1851, was very heavily sparred, and carried a great spread of canvas.

The *Flying Fish* was commanded by Captain Edward Nickels and the *Swordfish* by Captain David Babcock, brother-in-law of N. B. Palmer. Both men were top-ranking skippers; there were, in fact, few better in their day.

At 11:30 o'clock on the morning of November 6, the *Flying Fish* was towed out of Boston by the tug *Mayflower;* by sunset she was 28 miles east by south of the outer station; and four days later was 1,194 miles from home. The following day, November 11, the *Swordfish* was on her way to diminish the lead of the other vessel, overtake her, and sail into San Francisco with the victory.

The month closed on a semi-belligerent note, with the United States and England nearly becoming involved in another war. Near the harbor of San Juan de Nicaragua, or Greytown, the English warship *Express* opened sudden fire on the *Prometheus,* an American passenger steamer owned by the Atlantic and Pacific Canal Company, the captain of the *Express* asserting that, since the *Prometheus* had attempted to leave the harbor without paying certain port dues, he was fully entitled, in his efforts to protect the Greytown authorities, to sink the ship if necessary. The dues were paid; the British government denounced the action as contrary to existing treaty obligations; and another war, fought in the interests of freedom on the high seas, was narrowly averted. On the 25th, the *Flying Fish* had crossed the Line—nineteen days out—and by noon was in latitude 24′ South. The *Swordfish* did not cross until December.

December was a busy month, but the happy round of human affairs was momentarily halted by the chill news of the inhuman *coup d'état* by which Louis Napoleon, vest-pocket Bonaparte, made himself master of France. While the blood-drunk army, "making its voice heard" according to instructions from the Palace of the Elysée, charged, like hunters greedy and mad for game, upon milling Parisian

mobs, the American people—represented by delegations of various classes and political views—were preparing a rousing, typically ebullient welcome to the famous Magyar chief, Louis Kossuth. At approximately the same time a little ship was skimming across the Equator through the nine-day-old track of the *Flying Fish*—an event of little importance in the affairs of the world at large, but of great importance to the world within the ship.

The latter part of the month was marked by fire at the Capitol in Washington and by the destruction of the forty-million-dollar State Library. In England a news item reported that "it would appear as though the news of the gold discoveries in Australia had penetrated to the wretched inmates of the hulks who have been sentenced to the penalty of transportation, and that they regard themselves as unfairly dealt with because they are not sent out at the public expense to the 'land of promise' where, furnished with the convicts' passport—a 'ticket of leave,' they may apply themselves to the pleasant task of literally 'reaping a golden harvest.' " On the 27th of the month the convicts on board the *Warrior* at Woolwich mutinied, took possession of two decks, and "got hold of pipes and tobacco and commenced smoking." They were subdued, however, and part were transferred to the Millbank Penitentiary and part taken on board the *Wye*. On the 28th of the month, nearly 500 houses were destroyed at Hongkong; on the 30th Turner, the marine painter, was buried; and on the last day Kossuth was presented to the United States President. Suddenly, and irrevocably, a colorful year was over.

On the second day of the new year, the *Swordfish,* 52 days out, was crossing latitude 50° South in the Pacific, and nineteen days later —the day before the *Flying Fish* reached the same point—she flashed over the Line down the final stretch of the run to 'Frisco. The contest was as close and exciting as a race staged for the game of it; from the moment the *Swordfish* nosed ahead she was favored by a winning streak which brought her, on her 89th day out, within 140 miles nearer the Golden Gate than the *Flying Cloud* had been on her passage the year before. Her finish was cyclonic and her passage, 90 days 18 hours,

stands as the fourth best passage of all time. The *Flying Fish,* on her 88th day out, was still 1,000 miles from her destination fuming in the midst of light winds and calms, but finally, at 2 P.M. on the 14th of February, she received her San Francisco pilot and anchored off the bar at 6 P.M. She was in port the following morning—100 days 6 hours out.

From San Francisco the *Flying Fish* made a 51-day passage to Manila, departed from there on May 17, 1852, and arrived at New York 123 days later, having made the passage in 93 days from Anjier. The *Swordfish* made a 48-day passage to Hongkong, then a round trip to Bombay, and on September 25 took her departure from Whampoa, on the wrong side of the monsoon weather. She reached New York 89 days later, 70 days from Anjier.

While the *Swordfish* was still working her way homeward from China, the *Flying Fish* sailed from New York City, October 31, 1852, on her second passage to California. She made a slower run down to the Horn this year, but from 50° South in the Pacific to the Equator gained three days over that of her previous time, and on January 31, 1853, anchored at San Francisco, 92 days 4 hours out. On the run down the Atlantic she had passed the new Hall clipper *John Gilpin,* then on her maiden voyage from New York City. The *John Gilpin* was by no means a dull sailer, as attested by the fact that she regained her lead and piloted the *Fish* to the Horn, but she soon fell in with heavy weather and the *Fish* nosed ahead. Then, astonishingly enough, the *Gilpin* showed a fresh burst of speed and, sprinting along, soon showed her heels to the following *Fish.* Yet in spite of crowded canvas and masterly handling by Captain Justin Doane, she was unable to cut down the time-lead of the other vessel, and, though she entered the port of San Francisco first, her passage was one day and sixteen hours longer.

Two other vessels sailing from New York—one on October 12 and the other on November 14—were slightly less fortunate. The *Trade Wind,* sailing last, made the passage in 103 days but was partly handicapped on the way by having to subdue a fire which had broken out

in the hold. The *Wild Pigeon* had a bitter fight with baffling winds, followed by a week-long gale; and, off the Horn, she walked into another violent blow which held her in a ten-day grip. About this time, at the parallel of 51° South in the Pacific, the *John Gilpin* and the *Flying Fish* were also coming up and, according to Lieutenant Maury, in his fine account of this race in his *Physical Geography of the Sea:* "On the 30th of December the three ships crossed the parallel of 35° South, the *Fish* recognizing the *Pigeon.* The *Pigeon* saw only a 'clipper ship,' for she could not conceive how the ship could possibly be the *Flying Fish,* as that vessel was not to leave New York for some three weeks after she did; the *Gilpin* was only thirty or forty miles off at the same time." The *Wild Pigeon,* thus, did not know that both the *Fish* and the *Gilpin* had passed her until she reached port on the 118th day of her passage.

The race of these four vessels from New York to San Francisco is sometimes referred to as the most celebrated match of the period. Each ship was provided with Maury's wind and current charts, although Captain Nickels of the *Flying Fish* disobeyed his, part of the time—a fact that probably lost him the opportunity of demolishing the record of the *Flying Cloud.*

Twelve days after the *Flying Fish* put in at the western port, the *Swordfish* took her departure for her second run to California, arriving out on May 30 in 107 days. The *Fish,* in the meantime, had completed a 40-day passage to Manila, from which port she sailed again on May 6, 1853, and arrived back in Boston 107 days later, 70 days from Anjier. The following month the *Swordfish* was just leaving San Francisco for China. She dropped her pilot at 2 P.M. on June 16, and 32 days 9 hours later at 11 P.M. anchored off the entrance to Shanghai to await daylight. The passage was a record-breaker. She then went on to Whampoa to load for home and sailed again October 15, soon afterwards striking a typhoon and losing sails, foreyard, and mizzen skysail mast. She was in New York again in 97 days.

The *Flying Fish's* third passage to San Francisco—September 20, 1853, to January 11, 1854—was made in 113 days, light winds through-

out. From Manila to New York she took 109 days, 80 days from Anjier. The *Swordfish's* third passage west was in 110 days, thence 42 days to Hongkong, and, returning, from Manila to New York in 102 days. The total time consumed during her voyage around the world amounted to ten months and twelve days, including 55 days in ports. She logged 39,977 miles at a daily average of 153 miles.

In 1854 the *Flying Fish* sailed again from Boston to California, completing the passage in 113 days. Captain Adams, who was in command (the only time throughout her American career that she was not commanded by Captain Nickels), had light winds most of the passage, with skysails set for 85 days. She twisted off her rudderhead, off the Horn, and temporary steering tackles were rigged to complete the trip. Outside the Golden Gate she ran into three days of thick, delaying fog. Captain Nickels resumed command at San Francisco, sailed her to Manila in 57 days, and thence to Batavia and Padang. She sailed from the latter port on May 20, 1855, and arrived at Boston 86 days later.

The *Swordfish,* under new ownership, having been sold the previous year to Crocker & Warren for $55,000, departed from New York on March 23, 1855, and arrived at San Francisco 120 days later, reporting heavy weather off the Horn. From thence she sailed to Whampoa and home in 71 days.

The *Flying Fish* made her fifth passage to California in 105 days, her sixth in 106 days, and her seventh in 114 days. The average of her seven runs to San Francisco—105 days 15 hours (all her passages made during unfavorable weather periods)—is magnificent, many clippers having rested their claims to fast sailing on single passages of greater length.

After putting into port at the end of her seventh run the *Fish* crossed to Hongkong and then returned for the eighth and final time to San Francisco. She arrived there on June 22, 1858, at the end of a 46-day passage made, for the most part, in sluicing rain and against heavy head winds. Then once more she returned to Hongkong and from thence departed to Foochow for a cargo of tea for New York.

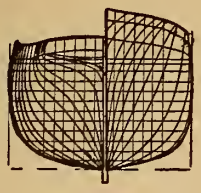
She never reached New York. On November 23, just as she was coming out of the River Min, the wind headed her off and she was forced to tack several times. The third time—obviously failing to gain sufficient headway, since she was never known to be anything but an obedient ship—she missed stays and, there being too little room to bring her about on the opposite tack, the working anchor was dropped. This fouled, however, and the best bower anchor also fouled, and the *Fish* was carried onto a sandbank by the shifting waters. Her knees were broken, her breast hooks displaced, and she sprang a bad leak, but, oddly enough, when she was hauled off again, the displaced parts sprang into position and the leak became scarcely apparent. She was thoroughly examined afterwards, found to be unsound, condemned, and sold to a mercantile firm in Manila. Her purchasers had her rebuilt at Whampoa, and, as *El Bueno Suceso,* she spent a number of years thereafter trading between Manila and Spain. She eventually foundered in the China Sea.

The *Flying Fish* had been lying at Padang, to which port she proceeded from Manila after her fifth voyage to San Francisco, when the *Swordfish* departed from New York, May 7, 1856, for Panama. It was a slow passage out, with six trying days spent in clearing Cape St. Roque, another twenty-seven in rounding the Horn, and a total of 86 used up before she was finally sailing northward in the Pacific. From Panama she sailed to Manila and home again in 101 days. In 1857 she traveled from New York to Hongkong in 102 days, thence to Manila, and from Manila to New York, making the run between the two latter ports in 107 days. The following year she sailed from New York to Hongkong in 98 days, and returned in 104. In 1859 she had a rough passage out to China, half flooded most of the time by seas that washed out the galley, filled the cabin, officers' quarters, and forecastle, and nearly swamped the ship. She carried on, however, tearing along for days at a phenomenal pace—at one time scudding under bare poles at 14 knots an hour—and eventually arrived in port on October 14, 1859, with a deserting crew. She sailed again on December 12, passed Anjier ten days out, reached the Cape in another

31 days, and the Line in 25 days more. She was becalmed on the Equator for five days, but, in spite of that, reached New York on March 2, 1860, in the double record time of 16 days from the Line, 81 days from Shanghai.

Her 1861 passage from China to New York was made in 102 days from Shanghai, after which she was again sent out to San Francisco, from which port she was not destined to return. She had a bad time of it out, losing the first mate and almost losing the crew of the boat that was lowered in an attempt to rescue him. She arrived at the Golden Gate on September 12, 1861, after a run of 136 days; crossed from thence to Hongkong in 56 days; returned in 36½ days; recrossed to China (going first to Foochow) in 47 days, and then to Shanghai.

On July 9, 1862, she took her departure from Shanghai loaded with cotton for Amoy, ran into trouble outside the Marks, and was forced on to the north bank of the Yangtse, where she was completely destroyed. What was left of her was sold at auction on July 26 for 100 taels.



Clipper Ship

SWORDFISH

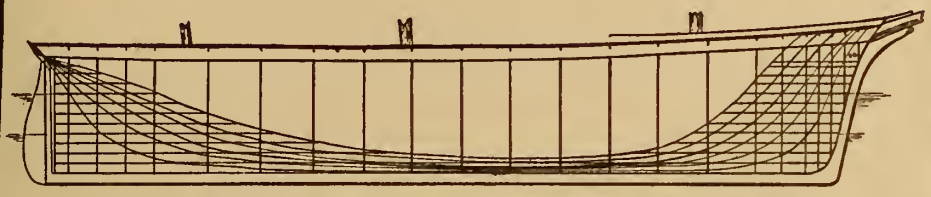
1851

BUILT AT NEW YORK CITY

BY

William H. Webb

DRAWN FROM WEBB'S PLANS

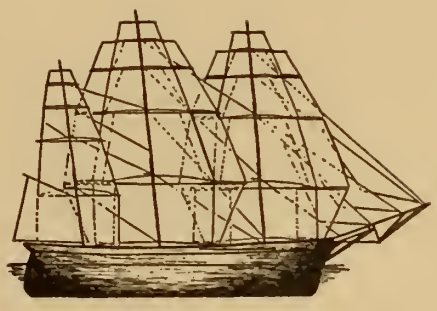


length on deck 170 feet

beam moulded 35 feet 10 inches

depth of hold 20 feet 2 inches

tonnage c.m. 1130 tons



California Clipper
1852

THE twelve months that calendared the events of 1852 witnessed a year of many changes, the majority of which were of the usual emotion-charged, typical-of-the-age variety that shaped themselves and passed, like water, around new figures, new ideas and new names; but a few were turning points—were like those rigid, vitally important finger-posts which point down national and international corridors where question marks hide the view at the end.

As the months moved on they saw Louis Napoleon emerge, an Imperial Eagle, from the self-hatched egg of the Presidency of France; and, in America, they saw the Whig Party receive its death-blow—companioned by the death of Webster—as Franklin Pierce, Democrat, was elected to the Presidency of the United States. They saw idols change faces: Lola Montez was dancing at Castle Garden, the spot once held sacred to Jenny Lind; and Louis Kossuth, now the new hero, was publicly received by the Senate, banqueted by Congress, permitted, by the government, to run up a $4,600 hotel bill, and to borrow over $100,000 from the people. They saw Great Britain laugh at American worship of the Magyar chief, as she had laughed at the worship of the Swedish Nightingale. And, a short time later, they saw Great Britain wonder why the worship of both had ended so soon.

They saw a touch of medievalism: the start of Commodore Matthew Calbraith Perry on the expedition that was to open up Japan; a touch of the twentieth century: the announcement of the invention of color-photography; and a blend of the passing and of the future in the

Sovereign of the Seas

words: streamlined clipper ships. And they saw also, among a host of other particulars, the publication of the sensationally received, war-quickening *Uncle Tom's Cabin;* the increase of the Collins Line subsidy to $858,000 a year; and another discovery of gold—this time in Colorado.

The clipper ships that year, before they reached the peak—in 1853—of their prosperous trade and popularity, were racing as ships had never raced before: rocketing home from California, Australia, London, and the Orient, with the good wishes of the world echoing in every favoring breeze, and their holds filled with promise for the pockets of their owners. Winds, which were speeding other ships from port to port in record-smashing passages, brought a hasty end to the old *Ann McKim,* and, in the China Seas, whirled a typhoon into the path of the *John Bertram,* cracking her double-reefed topsails and stormsails out of the bolt-ropes, smashing her trestle-trees and cross-trees, and hurling two of her men to their death in the waters below. But they sped the *Sea Witch* out on her seventh successful voyage; they brought the *Oriental* home to New York again after an absence that had taken her back and forth, between foreign ports, over 95,000 miles of sea; they were more than kind to American ships in the China-to-England trade; and they carried fourteen clippers into the port of San Francisco in passages of 110 days and under.

While fast sailing ships were thus winging their way through halcyon days, the most tragic event of the year at sea fell to the lot of a steamer. The British owned *Amazon,* a 3,000-ton ship—the largest timber-built merchant steamship that had been constructed up to the time of her launching in June, 1851—took her departure from Southampton early in January with mails for the West Indies, a cargo valued at over twenty thousand pounds sterling, and five hundred bottles of quicksilver for mining operations in Mexico. Two days later she was in flames, and 115 of the 161 persons aboard were burned in their berths, suffocated, or drowned. Excerpts from the account given by Mr. Vincent, a young midshipman who was saved, outline the picture:

"The *Amazon,* on clearing Southampton Water on Friday evening week, encountered in the Channel strong head winds and rain; and on two different occasions, prior to the discovery of the fire, she was obliged to be stopped in her course, on account of what is technically termed 'hot bearings,' in other words, the heating to redness of the axles, and other moving parts of the engines, by the excessive friction of the new machinery.... At 11:20 P.M., January 3rd, she proceeded, still steering in the same course, steaming about 8½ knots per hour, wind and sea increasing from the windward. At 40 minutes A.M. on the 4th smoke was observed coming through the hatchway on the fore-side of the foremast funnel. Immediately afterwards the flames burst through.... The mail-boat, when lowered, was immediately swamped, with about twenty-five people in her, all of whom were lost. The pinnace, when lowered, sheered across the sea before the people in her could unhook the fore-tackle. They were washed out, and the boat remained hanging by the bow.... When the flames had approached the after-companion, two male passengers came up from the saloon, all in flames.... While clearing away the second cutter, a sea struck her and raised her off the cranes and unhooked the bow-tackle. The fore-end immediately fell down, and the people in her, with the exception of two who hung doubled over the thwarts, were precipitated into the sea and drowned....At about the same time I [Mr. Vincent], with the chief steward, one passenger, and two seamen, got into and lowered the dinghy, and were picked up by the life-boat about half an hour afterwards, when we immediately took the small boat in tow, and stood down for the ship.... At the time of leaving some of those who yet lived were kneeling on the deck praying to God for mercy, while others, almost in a state of nudity, were running about screaming with horror.... While lying to, a barque passed astern of us, and was accordingly hailed, and did, I believe, answer, but did nothing of any kind to assist us, but stood down to leeward of the ship, hauled on a wind, and went away....At 5 the magazine exploded, and about half an hour afterwards the funnels went over the side, soon after which the ship went down bodily."

The *Amazon* was owned by the West India Mail Steamship Company (which had lost no fewer than eight very fine steamers between 1841 and 1852) and was built by Messrs. R. & H. Green, of Blackwall;

with engines of 800 horse-power by Messrs. Seward and Capel, of Millbank, Poplar. She was valued at one hundred thousand pounds sterling, but was not insured. Captain William Symons, who went down with the ship, was appointed to the command temporarily, since the *Amazon* was originally intended for Captain Chapman of the *Tay,* then absent from England. Just prior to the sailing of the ill-fated steamer, Captain Symons was presented with a silver speaking trumpet by the United States Mail Steamship Company because he had "recently distinguished himself by great bravery in the Isthmus of Panama, where, by his intrepidity and coolness, he prevented the slaughter of a great number of American passengers by the infuriated natives, and where, under a heavy fire of musketry and cannon, he succeeded in conveying gold dust to the value of 2,000,000 dollars in the boats of the *Medway* on board the United States Mail steamship *Cherokee;* and further, in rescuing passengers under circumstances of imminent danger, and placing them safely on board the steamer."

The loss of the British steamer seems to have made an enormous impression upon the minds of the people at the time, but it failed to dull the enthusiasm for ships. Launches continued to draw people by the thousands, sailing dates were noted, bets were laid, fast passages were demanded, and favorite ships continued to hold a foremost position in topics of conversation and in the press. Over seventy lovely clippers left the stocks in 1852, but there was perhaps no American ship of the time, immediately before or after—save the *Flying Cloud*—that fascinated the public one-half so much as did the McKay clipper *Sovereign of the Seas.*

This ship was launched in midsummer, from new quarters then recently taken over by Donald McKay, and named for the famous old English vessel which had been designed for Charles I by Phineas Pett—Master of Arts of Emanuel College, Cambridge—and built under the supervision of Peter Pett who in 1640 built the first English frigate, which according to Samuel Pepys was modeled after a French ship of the type that Pett had seen in the Thames, but which, according to other authorities, was originated by Peter Pett. Both Phineas

and his son belonged to the famous family whose members—from the time of Henry VIII to William and Mary—had designed and built ships for the British navy.

In choosing the name of the famous old *Sovereign,* Mr. McKay (or George Francis Train) * made a very happy selection. According to Charnock "splendour and magnificence were particularly kept in view" in building the Carolean vessel, and certainly there was no expense spared to make the younger ship the most beautiful merchantman afloat. *Gleason's Pictorial* published the following particulars:

"The dimensions of the *Sovereign of the Seas:* length of keel, 245 feet; ** extreme breadth of beam, 44 feet; breadth at the gunwales, 42 feet; depth, including 8 feet between decks, 23½ feet. Registered capacity, 2421 tons. Her rise of floor at 11 feet from the center of the keel is 20 inches; she has concave water-lines, but her outline on the rail is convex. She has longer and sharper ends than any ship or ocean steamer in the world.*** Her stern is semi-circular in outline, and very snug, and her sheer is carried boldly forward, imparting grace and lightness to the bows. Such is the harmony of her proportions, that,

* The nephew of Enoch Train claims in his *Biography* to have changed the name of the vessel from the *Enoch Train* to the *Sovereign of the Seas.*

** Length on deck, 258 feet; overall from knightheads to taffrail, 265 feet.

*** It will be noted that the McKay vessels, built after the *Stag Hound,* had much less dead-rise than that given by Mr. McKay to his initial clipper. It would seem, therefore, that—since the Boston builder was neither a theorist nor an experimenter, but a man who observed results and acted accordingly—there is little point in arguing over the advantages of the flat-floored ship over the wedge-bottomed ship, or vice versa, *on the California run.* W. S. Lindsay, viewing American shipbuilding progress from British shores, had this to say: "The almost dead flat floor, adopted with the American idea of, as far as practicable, skimming over the surface of the water, rather than forcing a passage through it, is at variance with the form hitherto considered by us most desirable where great speed is required. But we are daily expanding the breadth of the round and rising floors of our ships, and approaching the American form, and, so long as there is sufficient depth to secure stability, some persons consider that vessels with flat floors and fine ends are the best models for speed as well as capacity." Mr. McKay designed his ships to make fast passages to San Francisco, and there is no getting around the fact that they made fast passages. It is true that they were driven, but dull captains have never yet won a contest, nor have "slowcoaches" ever proven to be fast sailers. There have been instances, in fact, where additional machinery and boilers have been added to accelerate the speed of poorly designed steamships, whereas half the power was all that was necessary to bring out the maximum speed of which such ships were ever capable. It is erroneous to say that a ship can be made to go faster than the speed for which she was designed. It is the spars and sails that will go faster—not the ship.

viewed at two or three hundred yards' distance, she does not appear to be larger than many full modelled vessels of a thousand tons. Her frame, all her hooks and pointers, and nearly all her knees, are of selected seasoned white oak; and her deep frames, ceiling, and flanking are of hard southern pine. She is strongly bolted with copper, and is, as a whole, the most substantially built vessel that has yet been produced in America. All her accommodations are on the upper deck, leaving the hold entirely clear for the stowage of cargo. She has two spacious cabins built into a half-poop deck; a large house abaft the foremast for part of her crew, the galley, and other purposes; and a full topgallant forecastle; the space under which is also fitted for the accommodation of her crew. Her masts and yards are very stout, and strongly secured. Her bow terminates with the figure of a sea-god, half man and half fish, with a conch-shell raised to his mouth, as if blowing it. Mr. McKay, of Boston, has won a world-wide celebrity by the building of these fleet clipper ships, which have, thus far, outdistanced everything of the kind in the world."

The *Sovereign of the Seas* was built by Donald McKay on speculation, and was, according to the *Boston Daily Atlas,* "his idea of clipper perfection." This newspaper said, in part:

"So perfectly true are her proportions, that, notwithstanding her vast size, there are many freighting ships of half her register, that loom larger to the eye.

"At four hundred yards' distance, she does not appear to be larger than 7 or 800 tons. She had been inspected by nautical men from all parts of the country, and we believe, has been the object of unqualified admiration. There are doubtless many ships more tastefully ornamented with carving, gilding and other excrescences; but for beauty of model, strength of construction and completeness of equipment aloft, she has no superior. It is but reasonable to presume that, with a fair chance, she will make the quickest voyage ever performed under canvas. We consider her not only an honor to her enterprising builder, but to the country at large. Americans on distant seas may refer to her with national pride, and challenge a comparison from the commercial navies of the world. She is well named the *Sovereign of the Seas.*"

Soon after her launch, the new ship was purchased by Andrew F. Meinke of the firm Funch & Meinke, ship brokers of New York, and

placed under the competent command of Donald McKay's brother, Captain Lauchlan McKay, who was not only a master mariner but (fortunately—as subsequent events proved) a master shipwright as well. He had served his apprenticeship in the yards of Isaac Webb where he learned, side by side with his brother Donald, the art of building a ship; he served four years as carpenter on board the U. S. frigate *Constellation;* in 1839 he published a work on naval architecture; and, in 1846, helped to build the barque *Odd Fellow,* his first command. From thence he progressed to the captaincy of the Donald McKay packet ship *Jenny Lind,* and, at the age of forty-one, was given command of the *Sovereign of the Seas.*

On August 4, 1852, with nearly 3,000 tons of merchandise in her hold, a large crew composed of 105 carefully picked men—four mates, two boatswains, two carpenters, two sailmakers, three stewards, two cooks, eighty able-bodied seamen, and ten boys—and twenty-one passengers, the *Sovereign* sailed out of New York, on her maiden voyage to San Francisco. It was a bad time of the year for a quick passage, but Captain McKay was furnished with Lieutenant Maury's wind and current charts, together with the assurance that, if directions were followed, the run could be made in 83 days to the Pacific Equator, 103 days to San Francisco. The *Sovereign* made the passage within the specified time, but in the following fashion:

25 days from Sandy Hook: Crossed the Line. Head winds all the way. Best sailing time ever made by a sailing ship in August.

Off Falkland Islands: Encountered tremendous seas and strong southwest gales. Carried a press of sail. Beat her way to the Horn through furious snow squalls and icy rains. Men provided with hot tea day and night, and stoves, fired constantly, before which to dry their wet and frozen garments. Ship never once missed stays, but the wind, blowing with almost unconceivable fury, constantly threatened to tear down the rigid sails and the bending masts. No one ill or disabled.

51 days out: Doubled Cape Horn. Four days of calm. Then headwinds, calms and gales by turns.

68 days out: Latitude of Valparaiso. In a heavy gale, the backstays of the main topmast loosened, caused by the settling of the crosstrees, and the gale, at last having found a weak spot in an adversary that obstinately refused to furl her banners, took full advantage of its opportunity to snatch away the maintopmast, foretopsail yard, and mizzen topgallant mast, and to rip every stitch of canvas from the foremast.

80 days out: Ship completely re-rigged—nothing lost, thanks to Captain McKay's superhuman efforts and skill as a carpenter. By sunset of her 69th day out the wreck was completely cleared and the ship was making 12 knots an hour under mainsail, crossjack course, and mizzen topsail. Within the following eleven days—the crew working day and night, and with a will—sails were repaired, masts made and fitted, and the ship was once more back in the same shipshape order as she was the day she departed from Sandy Hook.

83 days out: Crossed Pacific Equator.

103 days out (November 15, 1852): Arrived at San Francisco. Best day's run, 368 miles. Best speed, 17 knots.

The western city, then as clipper-mad as it was gold-crazy, greeted the *Sovereign* with unbounded enthusiasm. The sailors shared a thousand-dollar bonus, gift of the owners, and the majority skipped off to the haunts of the town to spend it. The ship was in port until the 22nd of December, and then departed for Honolulu to load 8,000 barrels of whale oil for New York. There were then but 45 men aboard, a small passenger list, and a light cargo which consisted principally of two live bears, a leopard, and several other wild animals destined for the Crystal Palace Exhibition in New York. On Christmas Day the barometer fell and the rising wind sent the lightly laden ship over on her beam ends, burying her lee rail under water. She traveled fast, but when she reached port the crew traveled faster, so that when she sailed out again —having first been visited by the Hawaiian King and his entourage—she had a new crew of but 34 men before the mast. With "the fore and main topmasts crippled; the fore topmast sprung in two places and the main topmast tender," she nevertheless reached New York in the un-

precedented time of 82 days from Honolulu, having covered 5,142 miles, on part of the journey, at an average rate of 378 miles a day for four consecutive days, and an average of 330 miles a day for eleven consecutive days. On March 18 she made the remarkable run of 421 nautical miles (484.8 statute miles) in 24 hours, tearing along with the wind on the larboard quarter—sometimes smacking the troubled seas into towering fountains of spray, and sometimes swiftly riding with the quiet ease of a breeze-borne feather.

During her nine months' voyage from New York and back again, the *Sovereign's* earnings amounted to $138,000—a small fact which would seem to disprove the assertion that clipper ships were built for speed alone. The sums that made up the total were: $98,000 freight money for the passage from New York to San Francisco; $10,000 for the run from San Francisco to Honolulu; and $30,000 for the voyage home. For the skill which Captain McKay had displayed in refitting his ship at sea on the outward passage, he was presented, by the New York underwriters, with a silver breakfast service of seven pieces. The Boston underwriters gave him a silver pitcher and gave a gold bracelet to Mrs. McKay.

On June 18, 1853, the *Sovereign* sailed from New York to Liverpool with Donald McKay and his wife among the passengers. In spite of the fact that the ship was drawing 22½ feet of water and was badly laden, she led the steamship *Canada* by 325 miles at the end of the first five days, logged a day's run of 340 miles (against the *Canada's* best showing of 306 miles), and reached Liverpool in the unprecedentd sailing-ship time of 13 days 22 hours 50 minutes. The *Canada* had, however, put into port two days before, having had the better of it during the last eight days of the passage.

At Liverpool the *Sovereign* was chartered by James Baines & Co.'s Black Ball Line for a passage to Melbourne, advertising freight rates at £7 per ton to the wharf—with a return of 50s. per ton if she failed to make the passage faster than any steamer on the berth. Within a short time the newspapers broke out with brief notices, such as: "The

Great Britain sailed on the 10th ult. [August] for Melbourne. Bets were taken that the *Sovereign of the Seas* will outsail her, and that the *Great Britain* will not make the passage out under 60 days"; and "The British iron clipper ship *Gauntlet,* of 693 tons, sailed from Gravesend on the 4th ult. [September] for Australia and is to compete with the American clipper *Sovereign of the Seas.*" In America, *Harper's New Monthly Magazine* ran the following notice:

"In British waters it would seem that American craft have lost somewhat of the prestige which the 'America' gave two years ago. An American yacht has been beaten in Southampton waters, and to make matters worse, our steamers have met with such mishaps to machinery, as have again put the Cunarders on the front list. There is nothing to be done, but to put new zeal to the work, and to equip our hulls with the strong engines they make at Glasgow. It is to be observed, however, that while the 'Silvie' was losing ground at Spithead, an American clipper ship, the 'Sovereign of the Seas,' was loading in an English port, under English charter, with the most valuable cargo ever freighted upon a single merchantman, bound for the English ports of Australia."

As a matter of fact the *Sovereign,* sailing from Liverpool on September 7, 1853, under the command of Captain Warner (Captain McKay having returned to Boston to superintend the construction of Donald McKay's *Great Republic*), did outstrip everything that sailed about the same time; although, with a cargo valued at a million dollars and 64 passengers, she arrived at Melbourne at the end of a long passage of 78 days. She was, however, loaded down to 23½ feet and sailed 35 days under skysails. A further handicap was an insufficiently clothed and partly disabled crew. Her two most favorable runs were: 1,275 miles in four consecutive days, and 3,315 miles in twelve consecutive days.

She departed again for London on January 23, 1854, with over four tons of gold-dust aboard and arrived, at the end of 68 days, with a story of a mutiny that started as the result of a quarrel between one of the steerage passengers and a member of the crew and was quelled only after both passengers and officers joined the general mêlée, and,

with flashing knives, guns, and pistols, got the ringleaders in irons and the others under control.

At the end of this voyage the *Sovereign* was purchased by J. C. Godeffroy and Son, of Hamburg, who sent her to Sydney under the command of Captain Müller. She arrived out October 22, 1854, in the slow time of 84 days—having been stripped of her topmasts near the Horn and consequently losing precious time while repairs were being effected.

In spite of the fact that Captain Müller contended that the *Sovereign* made a 24-hour run of 410 miles and at times logged 22 knots (if true, this is better than the *James Baines's* record of 21 knots), her fast-sailing days were numbered, and during the following years, during which she was engaged in more or less general trade under the German flag, she was never again associated with those dashing passages which had once lent a ring of sincerity to her name. From Sydney she went to China, ran aground near Woosung, and was floated off and repaired; and from Shanghai she went to Liverpool with most of her crew down with cholera and only thirteen or fourteen men well enough to get her there.

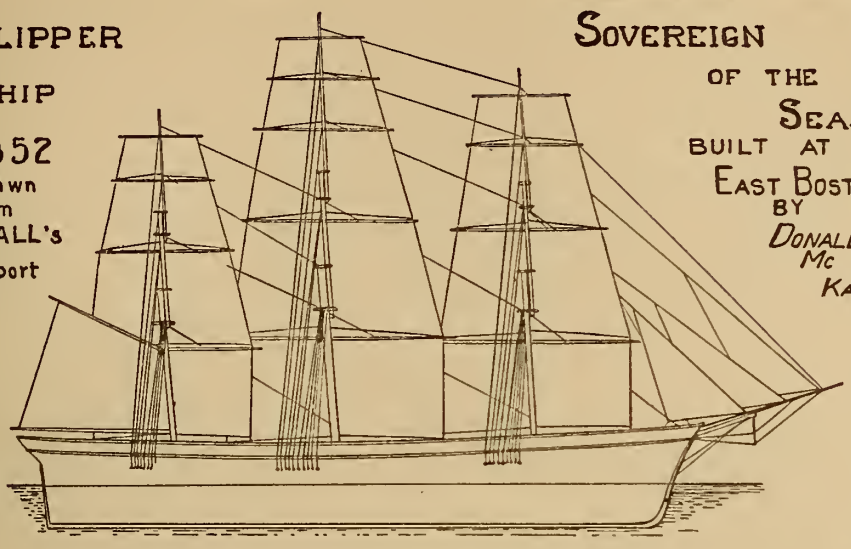
Her subsequent career is somewhat fogged. In 1858 she was reported to have been repaired at a cost of $12,000 and sold to a British firm for $40,000. This report has never been verified but the amounts quoted seem to lend credibility to the story. And then clearly enough, through the fog, comes the news of her end. On August 6, 1859, bound for China from Hamburg, she ran ashore on the Pyramid Shoals in the Straits of Malacca, and what was left of her strength and vigor only helped her to pound out her heart on the treacherous reefs. The American ship *Eloisa* was employed to pick up the pieces.

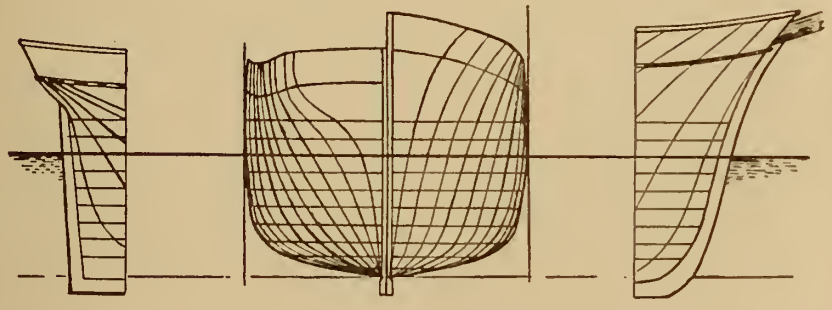
Clipper Ship 1852

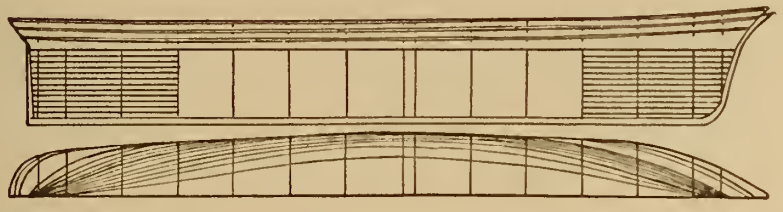
Drawn from Hall's Report

Sovereign of the Seas

Built at East Boston by Donald Mc Kay







Register 2,403 tons
Length on load-line 231 1/2 feet
Beam, moulded 43 1/3 feet
Depth moulded 26 1/4 feet
Coefficient of D 0·52
Coefficient of load-line 0·60
Coefficient of midship section 0·84

California Clipper
1852

THE demand for ships of the clipper mould continued without abatement all through 1852, and, at the end of the twelve months, more than seventy new, lustrous-hulled, taunt-sparred, canvas-clouded ships —the products of yards from Bath to Baltimore—were dotting the lanes and harbors of trade like so many mythological creatures—half-bird, half-fish: the breed still novel enough to excite attention around the world: their rival performances to California not only without parallel in their appeal to the sporting blood of the day, but also strong enough to cause a missionary in the East to write that "with each returning spring we read of the splendid races of the clippers from China, a grand and exhilarating contest over an ocean track from one to the other side of the globe, compared with which the strifes between the youths of rival universities in England and America look like child's play."

Two months after the *Sovereign of the Seas* was launched, Donald McKay put the finishing touches to the *Westward Ho,* and one month later the *Bald Eagle,* destined for Philip Dumaresq, "Prince of Captains," was launched. Duncan McLean wrote, in the Boston *Atlas,* of the latter ship: "In model she differs widely from anything we have inspected. The rise and form of her floor are designed to obtain the greatest possible buoyancy consistent with stability and weatherly qualities.... She is fuller aft than forward, upon the principle that, when passing rapidly through the water, she will be liable to settle aft, hence the fullness of the lines to buoy her up; and also, that the pressure

Westward Ho

of the water, as it closes aft, will actually force her ahead, and leave her without a ripple." Just one month before, in September, William H. Webb—McKay's great rival—launched one of the sharpest vessels ever built at New York. This was the *Flying Dutchman,* whose lines, considered faultless in her day, are reproduced at the end of this chapter.

Webb also built the *Australia* that year; and George Raynes, whose name is probably best known for its association with the famous *Witch of the Wave,* completed the extreme clipper *Tinqua* and the medium clipper *Fleetwood.* The Briggs Brothers modeled a new ship after the *Northern Light,* and named her the *Meteor.* They built the *Winged Arrow* also: a ship so pleasing to her owners that, in the following year, her twin—the *John Land*—was built to order for the same people. Paul Curtis, of Medford, built the clippers *Beverly, Golden West, Queen of the Seas,* and *Golden Fleece.*

From the yards of Jacob Westervelt, where the frames of the *N. B. Palmer* had risen into place the year before, were launched the *Contest* and that rakish little gem *Golden City,* the latter ship one of the few fitted with Cunningham rolling topsails. Samuel Hall built the medium clippers *Flying Childers, John Gilpin,* and the *Gilpin's* sister ship *Polynesia,* whose whole life, up to and including the day in 1862 when her crew maliciously set her afire in San Francisco harbor, was a series of mishaps and misadventures. Jacob Bell, whose *White Squall* in 1850 and *Trade Wind* in 1851 followed in the footsteps of the *Oriental* in keeping his name to the fore among master builders, completed one of those very extreme clipper ships—the *Messenger*—whose actual carrying capacity of dead weight fell more than one hundred tons short of her register, but whose performances made her a favorite ship for twenty-seven years and earned her the right to be termed "a credit to her builder."

Of the seventeen new ships mentioned, thirteen were launched, fitted out, and loaded too late to complete their San Francisco passages within the year. Among these latter vessels was the *Westward Ho:*

a ship of superbly tailored lines built by McKay for Sampson & Tappan, and launched on the 24th of September. She was somewhat beamier than most of the McKay vessels built up to that time, with masts less tall and less rakish, and yards more square. Her ends were very sharp and her lines slightly concave. Practically no ornamentation, save for the figurehead of an Indian warrior mounted on a flowered pedestal, interrupted the gently melting swell of her strong, sure lines. She measured: length on keel, 194 feet; length on deck, 210 feet; length over all, 220 feet; extreme breadth of beam, which was about 12 feet forward of amidships, 40 feet 6 inches; depth of hold, 23 feet 6 inches; dead-rise at half-floor, 20 inches; tons, 1,650. Her first commander was Captain Joseph P. Johnson, although she was originally intended for Captain Edward Nickels of the *Flying Fish.*

She left Boston on October 16 practically in the wake of the *Flying Dutchman,* which had taken her departure from New York the day before.

The two ships were around the Horn and working their way upward in the Pacific (at that time the *Flying Fish* was somewhere in the vicinity tearing along toward her victory over the *John Gilpin, Wild Pigeon,* and *Trade Wind*) when the last few stragglers of the year put into San Francisco harbor and brought to a close the clipper passages of 1852. The following is a list of ships that made the run in 110 days or under:

Ship	*Tons*	*Date and Port of Departure*	*Days*
Swordfish	1,036	New York—November—1851	94
Flying Fish	1,505	Boston —November—1851	101
Staffordshire	1,817	Boston —May —1852	102
Comet	1,836	New York—October —1851	103
Sovereign of the Seas	2,421	New York—August —1852	103
John Bertram	1,080	Boston —December—1851	106
Shooting Star	903	Boston —May —1852	106
Celestial	860	New York—November—1851	108
Courser	1,024	Boston —January —1852	108
Eclipse	1,225	New York—January —1852	108
Sea Witch	908	New York—August —1852	108

Wild Pigeon	996	New York—October —1851	109
Northern Light	1,021	Boston —November—1851	110
White Squall	1,119	New York—April —1852	110

The record passages established during 1852 were: *Eclipse,* New York to Valparaiso, 62 days; *Hurricane,* Rio to San Francisco, 67 days; *Staffordshire,* Saugor to Boston, 82 days; *Challenge,* Hongkong to San Francisco, 33 days; *Grey Eagle,* Rio to the Delaware Capes, 23 days; *Flying Cloud,* San Francisco to meridian of Honolulu, 8½ days; *Challenge,* Anjier to London, 65 days; *Beverly,* Boston to Calcutta pilot, 85 days 16½ hours; and the *Courser* from the Cape of Good Hope to New York, 38 days.

The first ship to arrive at San Francisco in 1853 reporting a passage of less than 112 days was the *Flying Dutchman,* which had succeeded both in beating the *Westward Ho* by two days across the Pacific Line and in gradually increasing her lead for the rest of the way. She arrived on January 27, some hours under 104 days. At the tail end of the month the *Westward Ho* and the *Flying Fish* sailed in, almost together. The former, hove to off the Heads for four days in fogs and calms, reported 107 days on the passage, 103 net sailing days. The latter was fresh from the magnificent passage of 92 days 4 hours, port to anchor.

From San Francisco the *Westward Ho* made a dashing 39-day run to Manila, beating the *Flying Fish* into port by one day. She stayed there for three weeks, then made the slow time of 29 days to Batavia against the monsoon. On her return passage to New York she struck a bad squall off the Cape of Good Hope, losing her jib-boom. She touched at St. Helena, and from thence was 35 days to New York. The passage from Batavia was made in 82 days. In 1853-4 she made her New York to San Francisco passage, commanded by Captain Hussey, in 105 days, thence to Calcutta in 87 days, and 103 days back to Boston.

Toward the end of 1854 she started out on one of the best passages of her career—100 days 18 hours from Boston Light to San Francisco, beating the *Neptune's Car*—out of New York—by 5½ hours on the

way. The victory was hotly contested by both ships (the *Neptune's Car* claiming the match because of her port of departure); so it was decided to continue racing for so long as the two ships remained together. The newspapers took up the story, and it would have been interesting to see the outcome of an around-the-world clipper classic; but a London charter for Captain Patten of the *Car* and another port of call for the *Ho* decided otherwise. On the passage from San Francisco to Hongkong the two fast ships, like a pair of streamlined turtles, virtually crawled all the way, *Neptune's Car* taking 50 days and the *Westward Ho* an additional eleven. The former ship loaded at Foochow for London, while the latter, apparently in disgrace for the whipping she had taken, was engaged to transport a cargo of coolies to the Chincha Islands guano deposits: that trade which served (as much as anything) to muddy Anglo-American dealings with China.

Late in the 1850's the Chinese in California drew up a "Remonstrance" dealing with abuses they had suffered and appealing to the Congress of the United States to come to their aid in rectifying the wrongs of the traffic and also the wrongs they had suffered under provincial state legislation; but little attention seems to have been paid to the document, and the trade continued uncontrolled for many years thereafter. Back in 1854 this passenger-carrying service between Hongkong and California reached such great heights that nearly every available ship was eagerly snapped up for the purpose: $90,000 was paid for Messrs. Jardine, Matheson & Co.'s old receiving hulk *Bomanjee Hormusjee,* and similar exorbitant prices were paid for numerous other vessels, regardless of their seaworthiness. At about the same time Chinese miners, returning to Canton and Macao from California, had wild stories to tell about gold discoveries made by their people, and this induced hundreds of others to sell their little shops and farms, or to borrow money, for the passage. Their woes upon arrival, however, were blessings in disguise compared with those that lay in wait for their less fortunate brethren brought by the thousands to Macao, Amoy, and Swatow by native crimps and sold outright to Spanish,

Portuguese, and South American speculators for shipment to the West Indies and Peru.

It is said that the coolie trade between South America and China began in 1850, but as early as 1847 the Portuguese ship *Dom Pedro* carried 300 coolies to Peru, where they were contracted for, for five years, and placed on a plantation near Callao. The trade increased rapidly and, as demands increased also, the regions, particularly around Amoy, were placarded with invitations for Chinese to engage in sugar-planting or as shepherds and laborers, for from five to eight years. The inducements offered were four dollars a month, two suits of clothes, free medical attendance, fixed allowances of food, land to cultivate for themselves, Sunday as a day of rest, free passage for wives and children, and permission to be released from their contracts in a year if desired. Since there was no truth in the offers and the facts eventually leaked out, volunteers ceased to exist, and the coolies that made up cargoes to the Chinchas and the West Indies were selected from three classes: prisoners taken in clan fights and sold, by their captors, to Chinese and Portuguese buyers at from seven to ten dollars a head; villagers or fishermen kidnaped by half-castes who skulked along the coast in lorchas; and individuals tempted to gamble, and forced to surrender their persons to pay for their losses. They were then placed in barracoons, or "pig-pens" as they were commonly called, and disposed of in batches. Their entire cost, including head-money, working expenses, freight charges and insurance, was about $200 each; and they were sold, upon arrival at their destination, at an average profit of $150 a head. It is stated that close to a million coolies were taken out of China in this fashion. Between the years 1847 and 1870, exclusive of those who died or were destroyed on the outward passage, some 130,000 were shipped to Cuba, 200,000 to Peru, and 50,000 to Australia, Java, the Sandwich Islands, and elsewhere.

Great preparations were made aboard ship to receive a cargo of coolies. Tier on tier of sleeping shelves was erected down the whole length of the two lower decks, the hatchways were covered with iron gratings, a barricade was built on the spar deck for the convenience

of an armed guard, and quantities of rice, pork, and beef were stowed away. The coolies were brought to the ship in sampans and stowed in by the hundreds.

There is no chapter in all sea history so sickening as that of the coolie trade, no scenes so truly horrible as those caused by mutinies on the part of the living cargo or by pirates, who suffered themselves to be taken aboard ship and who attempted to pay back a portion of the Chinese debt of vengeance.

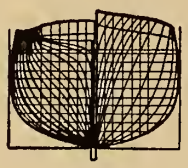
Three fragments of the entire story will serve to pin down the whole. In 1855 the captain of the *Waverly* died of dysentery; and, when the mate attempted to lower the body into a boat for burial at Manila, the Chinese for some reason interfered. The mate shot down one of the men and the crew drove the rest below and battened down the hatches. The following morning, when the hatches were opened again, two hundred and fifty-one coolies were dead of suffocation. Two years later an officer of the *Kate Hooper,* a beautiful clipper ship owned and built in Baltimore, shot down four Chinese and hanged one, after the ship had been set afire in three places. And in 1866 the captain of the *Napoleon Carnavero,* once the beautiful American-owned clipper *White Falcon,* forced his Chinese passengers below, when they became rebellious, and secured the hatches. The coolies, rather than be suffocated, set fire to the ship, but the crew, unable to extinguish the flames, made off in the boats. The hatches were never opened.

On the 4th of January, 1854, Sir Samuel G. Bonham, Governor of Hongkong, took it upon himself to regulate coolie emigration from that port, and, in September, a Proclamation appeared in the *Government Gazette* declaring it illegal for British ships to engage in the coolie trade to the Chincha Islands. In consequence the bulk of shipments were made from Swatow, a port not open to foreign trade at that time and therefore free from constituted authority.

It was to Swatow then that the *Westward Ho* sailed—together with the *Winged Racer,* another clipper owned by Sampson & Tappan, and also in need of cargo—after her slow run from San Francisco to Hongkong. It was stated that Captain Gorham of the *Winged Racer,*

finding his cargo of 700 coolies in a mutinous state, flogged sixty in one morning. When this news leaked back to Boston, it caused a little scandal in that city and elicited the report from Sampson & Tappan that they had written to both the *Westward Ho* and the *Winged Racer* forbidding them to take coolies to the guano islands, and countermanding their order to take coolies on board ship at all. The two ships were loaded, however, and sailed: the *Ho* arriving at Callao on February 4 and the *Racer* on March 19. At this spot their cargoes disembarked for the Chinchas—to begin work under the lash of a negro master, to drop dead of starvation and pain in the ammonia-impregnated air, or to commit suicide, as three hundred and forty-two of them did one day in 1856, by joining hands and quietly walking into the ocean.

The *Westward Ho* shot back to New York for one more passage to San Francisco. Departing from New York on December 16, 1856, and arriving at the Golden Gate on May 26, 1857, she duplicated her 1854 passage of 100 days. Thence she proceeded once more to Callao, commanded on the passage by Captain Jones, and was sold upon arrival to Don Juan de Ugarte of Lima. Under the Peruvian flag, still as the *Westward Ho,* she made a 61-day passage to Hongkong and picked up a cargo of coolies for Havana. Thereafter she operated only between China and Peru. On February 27, 1864, she caught fire while at anchor in the harbor of Callao, and sank at her moorings.



Clipper Ship

FLYING DUTCHMAN

1852

Built at New York

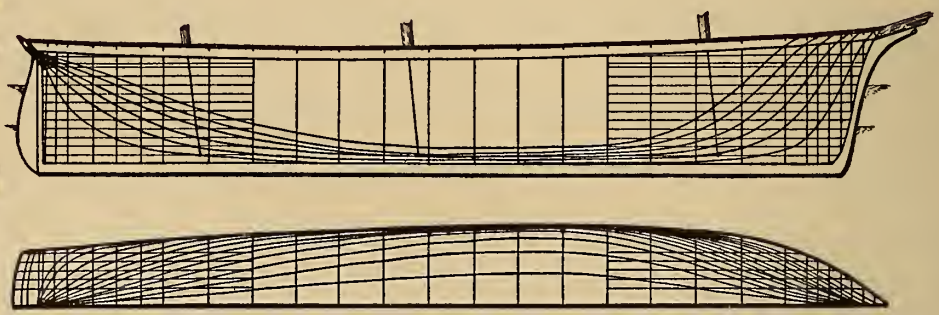
by

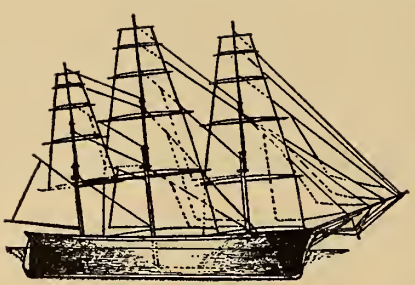
William H. Webb

Drawn from Webb's plan

length on deck 190 feet, beam moulded 37 feet, depth of hold 21 feet 6 inches, tonnage c.m. 1475 tons.

Had two decks with half poop deck cabin extending nearly to main mast





California Clipper
1853

THE *Young America,* next to the last of the extreme clippers built by William H. Webb, was one of nearly 120 fast sailing ships launched during 1853 and flung into the race into which was now creeping, as a new contestant, the shadowy specter of glutted markets: that succubus which the clipper ships themselves had fostered and fed until its vast proportions reached out to greet them from every familiar shore, and which was, in time, to defeat them in the one race they were to lose, paradoxically enough, because of their very speed.

The opening months of the year, however, found the United States in the most prosperous of conditions, with freight rates booming and an unlimited number of persons more than eager to buy shares in any fast sailing ship destined for California. One by one they were launched, and one by one—or even two by two, three by three, and four by four—they took their departure from New York, Boston, and Philadelphia. In January nineteen trim clippers sailed from Atlantic ports for the Golden Gate, followed by seventeen more in February, twelve in March, fourteen in April, and twelve in May; and the crowds at the wharves, to whom "favoring winds" and "fabulous returns" were synonymous phrases, saw nothing more ominous, as the ships payed off and dipped their ensigns in parting, than the dark shadows that lay like bruises across the white expanse of an indolent sail.

No net of words, today, can capture more than a tithe of the butterfly beauty of those ships of 1853. No fewer than eighteen of them were extreme in conception: a breed that was to expend itself in the

great races of the year and to vanish forever on the receding waters of trade. In model, the majority were very sharp-ended, with sides slowly melting from slightly concave below to convex above; with the sheer line lively and rising upward with a spring to from 2 to 4½ feet; with heavy spars, though not always so lofty as formerly; and with—so far as available figures show—the past prejudice in favor of the old, sharp frigate-bottom mellowed down to a preference for a rise in floor of twenty-seven inches or under.

In January, over a seven-day period, six clippers and medium clippers were launched; of these, the first to leave the ways was the *Golden Light,* built at the yards of the Briggs Brothers and destined to be destroyed by lightning and fire ten days after she took her departure from Boston on her maiden voyage to San Francisco. A few days after her launch she was followed by Samuel Hall's *Mystery,* which in turn was followed, almost immediately, by the Baltimore-built *Frigate Bird* and the *Highflyer*—a medium clipper built by Currier & Townsend, at Newburyport, for the New York to Liverpool Red Cross Line of Packets. The fifth ship was Donald McKay's *Empress of the Seas;* and the sixth, the Westervelt-built *Resolute.*

The impudently moulded little *Belle of the West,* built by Shiverick Bros. of East Dennis, Massachusetts, designed by Pook, and always a joyfully welcomed visitor to the Western Coast, went down the ways on March 25; and, the following day, no fewer than six new clippers cleaved Massachusetts waters for the first time. These were: the *Mischief,* built by Hood, and said to have had the sharpest ends ever put on a clipper; the *Queen of Clippers,* built by Robert E. Jackson; Joshua Foster's *West Wind;* McKay's *Star of Empire;* the E. & H. O. Briggs's *John Land;* and the beautifully proportioned *White Swallow,* from the yards of Hayden & Cudworth. Two days later another new Hayden & Cudworth ship, the *Climax,* sailed for California, rigged in a fashion that not only was to become extremely popular later, but that also enabled a ship to carry a greatly reduced crew. She had double topsails, an adaptation of and improvement on the Forbes rig—the invention of Captain Frederick Howes, her commander.

Young America

April saw the launching of two very fine clippers from two Portsmouth yards: the *Wild Duck,* the fifteenth creation of George Raynes of Portsmouth, New Hampshire, and the *Neptune's Car,* by Page & Allen of Portsmouth, Virginia. Donald McKay was again represented —this time by the *Chariot of Fame,* sister ship of the *Star of Empire;* and J. O. Curtis, of Medford, launched the *Wild Ranger.* On the very last day of the month, in New York City, Abraham C. Bell, son of Jacob Bell, launched the *North Wind,* his first complete production; and the workmen at the yards of William H. Webb gathered to knock away the shores from under the keel of the *Young America.*

The *Young America* is frequently referred to as Webb's masterpiece, and the tendency to consider her so is more than justified by her long record of passages made, nearly always, at a more than average high rate of speed; by a powerful endurance that left her life singularly unmarred by the usual tales of smashed spars and damaged steering gear; and by years of service that rivaled in number those of the clipper ships *Game Cock, John Bertram, Sea Serpent, N. B. Palmer, Nightingale,* and many others whose careers extended over a period of thirty years and more.

In model she was both sharp and buoyant, with hollow lines and rounding sides, elliptical and graceful stern, no figurehead, but a billet substituting, and little ornamentation save for some national emblems carved on her trail-boards. She was powerfully constructed at the rather high cost of $140,000, was particularly handsomely furnished inside for passengers, and heavily rigged. She had three decks, and measured: 239 feet 6 inches on the keel; 243 feet over-all; 43 feet 2 inches breadth of beam; 26 feet 9 inches depth of hold; 22 feet draught; 20 inches dead-rise; 1,961 tons register. She was first owned by George B. Daniels of New York City, whose house-flag was crimson bordered with white, with a white D in the center.

Before she loaded for California, a trio of new clippers was launched: the *Bonita,* designed by and for Captain James Huckins and built by E. & H. O. Briggs; the *Water Witch,* built by Fernald & Pettigrew under the superintendence of Captain Benjamin Tay; and the extreme

clipper *Flyaway,* also from Webb's yard. Of these ships the *Bonita* seems to have been the most fortunate in procuring a cargo, since she sailed within eleven days of the *Young America* and in company with the *Wild Ranger*—the latter the only ship launched in April to take her departure for California before the month of July. The *Chariot of Fame,* happily destined to become a favorite packet of the Enoch Train Line, sailed to Liverpool; but the *Neptune's Car*—one of the first clippers to feel the effects of the overstuffing of California markets—was forced to make a round to England on her maiden run. The large 2,361-ton *Queen of Clippers,* launched on the 26th of March and purchased by Zerega & Co. of New York for $135,000, did not get away until June 30, nor does her $65,000 freight list appear quite so favorable as the $86,400 freight list of the *Young America.*

The *Young America* took her departure from New York City on June 10, without having made a match to race the *Sovereign of the Seas* to San Francisco for a $20,000 purse: a little matter of clipper-ship betting over which there seems to have been some irritation—the McKay faction accusing Webb's followers of inserting a challenge in the New York papers (for selfish reasons) to the effect that the *Sovereign* would sail to San Francisco against any ship in the world for the sum of $10,000; and the Webb faction, accepting the article in good faith, believing that the "challenge to the world" was meant to be interpreted as a "challenge to Webb." The *Sovereign of the Seas,* flushed with victory, was recently home from her notable maiden voyage at the time and, in due course, Webb challenged her to a match with the *Young America.* The *Sovereign's* owners, however, denied any knowledge of the bet, and, as will be remembered, their ship was thence routed to Liverpool. But the challenges continued, and in September, 1853, *Gleason's*—in a manner calculated to irritate New Yorkers, the British, Mr. Webb, and a few other builders—concluded an article devoted to the *Sovereign of the Seas* by saying that "Mr. McKay, of Boston, has won a world-wide celebrity by the building of these fleet clipper ships, which have, thus far, distanced everything of the kind in the world. Even the fastest ocean steamers cannot hold

way with them, and the captain of the clipper which we herewith represent, offered an immense sum of money, which he was ready and willing to give security for, that he could sail from Liverpool to Australia quicker than any *steamer* could perform the distance, which was then in the port of Liverpool, nor could any party be found willing to accept the wager."

The *Young America* arrived at San Francisco on September 29, the same day as the fiery little *Belle of the West,* Captain Howes, out of Boston the 21st of May. The *Young America* was commanded by Captain David S. Babcock, formerly of the *Swordfish* and later president of the Pacific Mail Steamship Co.; and carried a complement of seventy-five men, including four officers. Her time of 110 days was not exactly noteworthy for any surprising bursts of speed, but it is significant that she passed seven clippers—five of which had sailed in May—and outsailed four more that cleared from Atlantic ports within eleven days of her own departure. During the long years of her career, she carried cargoes from New York to San Francisco twenty times at an average of 118 days per passage—a remarkable achievement, all things taken into account, including her age at the time some of her best passages were made and the fact that for the last twenty-six years of her life she was fitted with double topsails and carried considerably shortened spars.

From San Francisco she usually went to Honolulu, Hongkong, or Manila; but in 1856, instead of returning to New York as was her custom, she picked up a cargo of coolies in China and took them to Melbourne. From Melbourne she went to Singapore and, continuing, made stops at Rangoon, Mauritius, Falmouth, Bremen, and Liverpool, loading at the last place for Melbourne once more. Two years and one month had passed by since the day she last left New York in 1856, and sixty-three more days were added to that, when she clewed up her sails in Australian waters at the end of a record passage from Liverpool. The month of September, 1858, found her in Singapore once more, ready to sail. On October 5 she passed Anjier and 25 days later

passed the Cape of Good Hope—a record, but not unprecedented. She was back in New York harbor in December.

In 1860 she changed ownership, her purchasers being Abram Bell's Sons, who sold her a few years later to Robert L. Taylor of New York. Before she was put back on the San Francisco run, in 1863-5, she made a long passage to Melbourne, Callao, Liverpool, New York, and back to Liverpool; from Liverpool she went to Glasgow for a cargo of merchandise and live sheep for Oamaru, New Zealand, and arrived out February 2, 1862. In the spring of the year she was at Callao from New Zealand, whence she sailed on August 4 for Antwerp, but was forced to put into Plymouth, England, in distress, having lost her foretopmast and fore and main topgallant masts, and suffering other damages to her spars in a revolving storm. She was at New York on March 21, 1863, 32 days from Flushing, in ballast.

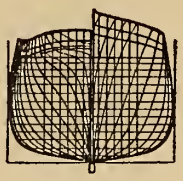
In 1866 she was thoroughly overhauled and repaired at a cost of $40,000, having sprung a leak on her passage to the Golden Gate. Four years later she was sold to George Howes & Co. of New York and San Francisco, and the same year she made the California passage home in the magnificent time of 82 days, pilot to pilot—the record for a cargo-laden ship. The following year she repeated the performance in 86 days—the second record for a cargo-laden ship. She was in fine feather during those years, like an old actress who, having won applause late in life, insists upon repeating the same performance over and over. In 1872, at Liverpool on October 12, she set sail again, crossed the Line 15 days 6 hours from her pilot—another record—rounded the Horn in fairly fast time, and anchored in San Francisco Bay on January 20, 1873—99 days from Liverpool, 96 days from her pilot: a double, never-to-be-beaten record.

The crowning achievement of her career was probably her passage from New York to San Francisco in 1880, made in 102½ days. It was not a world-beater—five clippers had matched it prior to 1860 and twenty-one had surpassed it—but, momentarily at least, it brought back a flood-tide of memories for a few aging people: of a floating parade of bodiless faces and blank-faced forms—guided by a Barnum

of the brain-cells and viewed down the wrong end of the mist-covered telescope of the years: of young Jenny Lind and the charming Kate Hayes, of madcap Lola Montez and triumphant Edwin Forrest; of the Bateman children—girl-marvels—toy-sized Shakespearians; of scores of gamblers hunched around tables of faro, monte, and lansquenet; of shapeless clothes, whirling in the fandango and the samaseuca, with feet as light as those of a shapeless, garotted silhouette swinging against a torch-lit sky; of Kit Carson driving his sheep across the plains; of the Chilano women—superb on horseback; of waves of silent sound that spent themselves in soft fury within the ears: drum-beat of workmen's hammers, shriek of saws, staccato rip and snap of canvas and spars in Cape Horn weather, the tinkle of a dancehall piano, and the monotonous undertone shuffle-shuffle of sand in a miner's basin; the smell of salt and tar; a backdrop of blue sky, and white sails that symbolized news from home and, suddenly clear, spotlighted by the suns of twenty-seven years, the face of a man willing to bet ten thousand dollars on the single run of a ship.

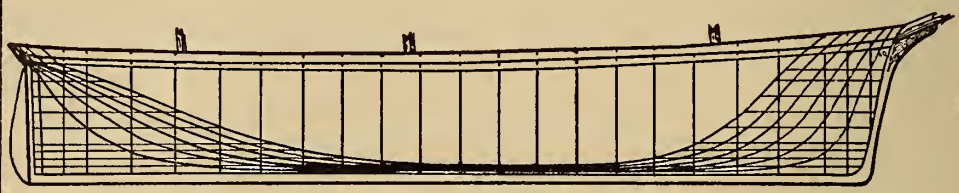
In 1880, for little more than that long-ago proffered wager, the *Young America* herself could have been purchased, and few of her contemporaries, not under alien flags, were left to think of her belated victory. Even then the old *Game Cock,* bedraggled of feather, was being condemned at the Cape of Good Hope; the clipper ship *Archer* was foundering at sea, somewhere between New York and Havre; the *Sovereign of the Seas* was long since gone, and Donald McKay, who might have been interested, lay dying of consumption on his farm in Massachusetts.

In 1882, after a passage the previous year from Antwerp to the Golden Gate, the *Young America* sailed from New York to Portland, Oregon. She arrived out February 5, 1883, and picked up a cargo of wheat, which she took to San Francisco. Sixty-two days after her departure from California she put into Rio, leaking, and, after undergoing repairs, sailed for New York again. Shortly after that she was sold to Austria for $13,500 and, as the *Miroslav,* engaged in transatlantic trade for several years. In 1886 she vanished at sea.



CLIPPER SHIP
YOUNG AMERICA
1852
BUILT at NEW YORK CITY
BY
William H. Webb

DRAWN FROM WEBB'S PLAN



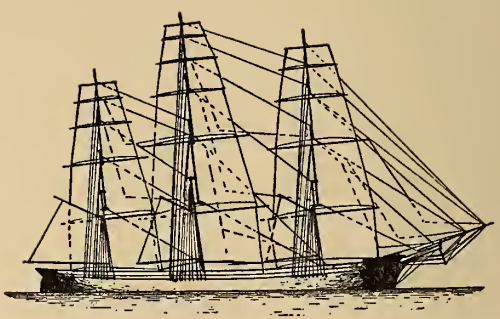
length 236½ feet

beam 42 feet

hold 28½ feet

registered tons 1962

tons c.m. 2500



California Clipper
1853

In June, 1853, a quartette of new clippers was launched for the California trade: the short-lived *Matchless,* from the yards of Isaac Taylor, of Chelsea; the shorter-lived *Whistler,* built by George W. Jackman, Jr., of Newburyport; the *Flying Dragon,* from the yards of Trufant & Drummond, of Bath, Maine; and the *Sweepstakes,* built by Daniel and Aaron Westervelt, sons of the builder of the *N. B. Palmer.*

Of this group, the *Sweepstakes* was by far the largest, handsomest, and most fortunate, although, like the *Matchless* which struck a hurricane and sprang a leak two days out on her maiden voyage, she got off to a very bad start in life, which not only delayed her initial passage but added $20,000 repair and expense cost to the sum already expended upon her by Chambers & Heiser, her owners. She was heavily sparred, with no nonsense about her save for a gold ribbon around her waist; she was built for speed, and looked it. She measured: length, 216 feet 4 inches; over-all, 235 feet; breadth, 41 feet 6 inches; depth, 22 feet; 1,735 tons register. Her master for the first four years of her career was Captain George E. Lane, who later went into steam and subsequently became agent for the Pacific Mail Steamship Company at Hongkong.

The launch of the *Sweepstakes* on the 18th of June did not go smoothly. A large crowd had gathered as usual, but the big ship, instead of gliding rapidly to the waters and making her polite curtsy to the spectators, stopped half in and half out of the water as if not quite certain what to do. The crowd peered forward anxiously and,

to their astonishment, the ship suddenly wheeled over, rammed the stagings of the clipper *Kathay,* then building, and forcibly launched some of the spectators instead. Two large derricks plus some seventy-six hours of difficult labor eventually got her afloat, and she was immediately taken to the Brooklyn Navy Yard for inspection.

While she was undergoing repairs, disturbing news came north of yellow fever in New Orleans: of a city silent and terrified, with public places deserted, deaths occurring at the rate of four and five a day, and negroes, hired at $5 an hour and bribed with liquor, packing coffins on coffins into hastily cut graves. New York City paused for a moment to sympathize and express alarm—clipper ships were on the stocks that were soon to make New Orleans another port of call—and then forgot about it in haste to attend the Crystal Palace Exhibition, opened amid scenes of great splendor on July 14 by President Pierce. On the same day, in the Far East, Commodore Perry was steaming into the harbor of Yeddo and across the pages of history, prepared for his interview with the Commissioners who were to receive him in behalf of the Emperor of Japan.

More clippers were launched in July, and in August a regular avalanche of new ones rushed down to the sea. It was sheer madness, of course: the signs of a coming depression were everywhere to be seen; ships were not sailing out so rapidly; cargoes were harder to get. But orders continued to pour in to the builders, and each new ship in the harbors won her share of comment. The dark green color of the *Fearless,* designed by Pook, was unusual; she looked like a yacht. The *Wizard,* with her Oriental magician figurehead, was Samuel Hall's eighty-fourth production, built on his own account and considered his masterpiece. There were two *Morning Lights*—one the first production of Tobey & Littlefield, of Portsmouth; the other built by William Cramp near Philadelphia. The 1,375-ton *Pampero,* from the yards of Charles Mallory, was the largest ship built at Mystic up to that time. The *Dashing Wave,* built by Fernald & Pettigrew, had a square stern that distinguished her from other sharp ships. The *Kathay* proved stubborn at her launching, and it took eighty hours to get her off the

Sweepstakes

stocks. And so on—until a dozen new ships took to the water, and September rolled around with six or seven more.

A banquet was given aboard the *Sweepstakes* shortly before she sailed and *Harper's New Monthly Magazine,* after a paragraph about the new Prescott House, commented as follows:

"Altogether kindred with these hotel palaces are the ocean palaces—the noble fleet of clippers and steamers which sail from our port. The latest, and therefore presumably the finest, of these clippers which has chanced to come under our personal inspection is the good ship *Sweepstakes,* bound for our Golden Empire on the Pacific coast. What impressed us most, beyond even her graceful model and trim rigging, beyond her stanch timbers and elegant cabins, was the comfortable and airy quarters provided for the crew, replacing the old forecastle, whose middle-passage horrors have tasked the pens of our nautical writers, from Dana to Melville. We are glad to see our merchant princes acting on the belief, that to secure good sailors, even at some additional expense of wages and accommodations, is better than to have a crew who can be kept to duty only by constant fear of the ropes-end and handspike. 'Here's hoping that the ship's all right, with a good captain and crew, and that she may have a fair wind, and no accident,' said a visitor on board. 'The ship is all right,' responded one of her owners, with modest confidence, 'and the captain is all right, and the crew shall be all right. It is our business to see to that; and we have done it. You needn't ask for anything but a fair wind and no accident.' Was not this spoken in the very spirit of Cromwell's 'Trust in the Lord, and keep your powder dry'?"

The *Sweepstakes* was out of New York on September 3, with a $55,000 freight list, and riding deep in the water under a prosaic deck-load of heavy boilers. While she was at sea, struggling with head winds and delayed by light airs and calms, on the first leg of her passage, her builders were engaged in Americanizing the British steamer *Dee:* putting on timbers from the wheelhouses to the bow to increase her length about thirty feet, and making her forepart sharp and clipper-like. As autumn moved on, however, such small crowing-points began to recede in importance as the world gave itself over to unassumed

fear. The death toll was mounting with amazing rapidity. Before the end of summer, yellow fever had wiped out 6,442 people in New Orleans, at the rate of 250 a day, and word traveled northward that the pestilence was sweeping on toward Mobile. The ship *Isaac Wright,* at Boston from England, brought news of the cholera epidemic then sweeping throughout Holland, northern England, Liverpool, Ireland, and Russia.

As for the passage of the *Sweepstakes,* it was attended by neither great fortune nor misfortune. On her forty-fourth day out she crossed the Line, and five days later had a slight collision with the Danish brig *Gallentine,* with damage to neither. Seventy-five days out she passed through the Straits of Le Maire, and twenty-five days later was at San Francisco. Her passage of 125 days was merely fair—but it was better by two days than those of three ships that had sailed within the following nine days of her. Thence she went to Hongkong and home in 110 days.

In 1854-5 her passage to the western El Dorado was made in 117 days, followed by a passage to Shanghai and to London. But in 1856—February 20 to March 25—she was in grand sailing shape, as evidenced by her passage of 95 days to San Francisco, anchor to anchor. It was the second best passage of the year, surpassed only by the *Great Republic.* From San Francisco she went to Shanghai and home.

Her fourth long voyage from New York, made from May 9 to July 22, 1857, was a record-smashing run of 74 days to Bombay—the fastest on record—and home again in the fine sailing time of 80 days. Then followed another passage out to San Francisco—this time in 105 days—thence to Manila and home, arriving on June 12, 1860. This was her last passage on the California run. On September 8, 1860, she set out for Melbourne and, for the following two years, carried cargoes from that port to Hongkong, thence to Manila, back to Melbourne again, and thence to East Australia and to Adelaide.

On February 4, 1862, she set out from Adelaide, in ballast, for Batavia on what was destined to be her last voyage, completed only at the price of her life. For ten hours she was ashore on the Strait of

Sunda, receiving injuries that were to cripple her beyond reasonable repair and, when she finally limped into Batavia, her commander, Captain Magill, put her up for sale. She went, on May 13, to a buyer for 15,000 florins, and in this fashion her accounts with the sea and the world of ships were brought, prematurely, to a close.

California Clipper
1853

JUST as 1853, during that quarter-century that Captain Clark has termed "The Clipper Ship Era," surpassed all other years in the number of sharp ships launched, and in the quality of their performance, so did the creation of the *Great Republic* stand for the summit of achievement in the world of sailing ships. She was, from the standpoint of size, handsome appearance, and money lavished upon her, exactly what Donald McKay had originally intended to name her: the King of Clippers.

If there were ever a doubt in one's mind about the important part these remarkable ships played in the lives of the people of the middle nineteenth century, one has only to read contemporary accounts, and thus view the ships through the eyes of the people who knew them and who cannot therefore be blamed for having been confused by the perfumed graveyard sentiments that attach to things that are beyond recall. Today, history books dismiss the clippers with a line or two; but in their day—in many of the illustrated papers, at least—political notes, hangings, murders, war news from abroad, and social activities were bunched into a single paragraph, while whole columns were given over to accounts of such ships as the *Great Republic.*

In October, 1853, *Gleason's* said of her launch:

"This triumph of marine architecture was launched from Mr. McKay's ship-yard in East Boston, at precisely twelve o'clock, on Tuesday the 4th inst. The ceremony of introducing the noble fabric

Great Republic

to her destined home occurred in the presence of an immense crowd of spectators, and she passed to her mission on the deep amid the crash of cannon and the cheers of the people. Visitors were in town from the back country, and from along the coast, to witness the launch, particularly from Cape Cod, delegations from which arrived by the morning trains. The wharves on both sides the stream, where a view was attainable, were thronged with people. Men, women and children vied in interest to get a look; and boys and men clung like spiders to the rigging of the ships, and the sides and roofs of stores and houses, to get a glance at the magnificent vessel. Captain Alden Gifford christened her in pure Cochituate water, the GREAT REPUBLIC, as she left her cradle and took to her watery bed. The Great Republic is one of the most beautiful crafts that ever floated. She is 325 feet long, 53 feet wide, her depth 37 feet, and her capacity 4000 tons—the largest merchant ship, probably, that ever tasted salt water. The Great Republic thus stands in the front of the ships as the great republic she was named for does in the front of the nations, and we hope her prosperity may be in an equal degree with that of her great namesake."

A detailed description of the ship herself appeared in the same publication one week later:

"Last week we gave a representation of the launch of this leviathan, and in the present number we present to our readers, on page 281, a large and accurate engraving of this seventh wonder of the world, fully rigged, the largest, sharpest and most magnificent ship that has ever been produced by any age or nation. She is 325 feet long, has 53 feet extreme breadth of beam, and 38 feet depth of hold, with four complete decks fore and aft, and she will stow over 6000 tons of cargo. She is much sharper than any ship or ocean steamer, and is designed to outsail everything upon the 'world of waters.' Her forefoot, instead of being angular, like that of other ships, rises from a straight line, and forms the arc of a circle; and the rise and surface of her floor are models of excellence for buoyancy and speed. Notwithstanding her vast capacity when fully laden she will only draw 24 feet of water; * consequently her displacement, in proportion to her size, will be one-third less than that of a ship of 1800 tons. She is built of white oak and hard pine, and is coppered up to twenty-five feet, and copper fas-

* Her correct draft was 25½ feet. Registered tons, 4,555. Sail area, 15,653 yards.

tened. Her frame is all of white oak, and of this wood there are 2056 tons used in her construction; 1,500,000 feet of hard pine, 326 tons of iron, 56 tons of copper, exclusive of sheathing, and she has 1658 knees. Her entire frame, all of her keelsons, waterways, and thick work are coaked, and her frame is also diagonally cross braced with iron, and bolted through it, and most of her ceiling is double, and 21 inches in thickness. In a word, she is the largest and strongest ship ever built.

"This noble craft has material enough to build two such ships as the Pennsylvania, the largest three-decker belonging to the United States Navy. Her lines are slightly concave forward and aft up to the load displacement line, but above these they are convex, to correspond with her outline on the rail. For a head she has the American eagle emerging from below the bowsprit; and her stern, which is semi-circular in outline, is spanned by another eagle, 36 feet between the tips of his wings. Instead of bulwarks, her upper deck is protected by a rail on turned stanchions, which looks fine. She has four masts, the after one fore-and-aft rigged, and named the spanker mast, and the others, the fore, main and mizzen mast, as usual. She has Forbes's rig, and consequently has double topsails, and will spread over 15,000 yards of canvas in a single suit of sails. The fore and mainmasts are 131 feet in length and four feet in diameter; and her main yard is 120 feet square and 28 inches in diameter, and the others in proportion. All her accommodations are on the upper between decks below the spar deck, and she has two spacious cabins aft, and excellent quarters for her crew forward.

"Among the many details of the equipment of this splendid vessel, are a fire engine, four hold pumps, a new capstan of her captain's invention for purchasing the anchor, one of Allyn's patent capstans, and a steam engine of twelve horse power, designed for taking in and discharging cargo, pumping ship, hoisting topsails, or doing any other heavy work. She has Crane's self-acting chain stoppers, four bower anchors with chains of two and one half inch, and 120 fathoms in length, and she has eight boats, two of them longer than some of the vessels which have doubled Cape Horn since gold was discovered in California. We might fill our paper with details of this wonderful ship, and still the story of her greatness would be but half told. Suffice it, therefore, to say that this mighty fabric of mechanical genius is not

the work of a company or of a wealthy mercantile firm, but of a mechanic, and that mechanic is Donald McKay, a name already famous on every sea for all that is fleet and beautiful, but which now stands alone as the greatest naval architect in the world.

"Every time we look at the Great Republic, or that we inspect her in detail, we become more vividly impressed with the greatness of the comprehensive mind that first designed her, and the matchless skill that produced her. She is original and beautiful beyond compare, and will be the pride of America wherever she throws the Stars and Stripes to the breeze. Captain Lauchlan McKay, brother of her builder and owner, and formerly of the Sovereign of the Seas, commands her. To say that he is worthy of the ship is the highest praise that can be awarded him. She will carry a crew of 100 men and 30 boys, and will load in New York, either for California or Australia. Good luck attend her, for she is the best and most beautiful ship in the world!"

The *Great Republic* was, so far as can be judged from the material which exists regarding her—and there is an unusual amount of it, including a 24-page pamphlet written by "a Sailor"—indeed a beautiful ship. From other facts, culled here and there, one can recapture much of her appearance as she was originally built, just as, in autumn leaves saved from a bonfire, there remains, always, something suggestive of the grandeur of October. On the spar deck were five houses widely spaced and painted white to correspond with her snowy rail. Her richly appointed after-cabin was wainscoted with mahogany; the furniture was of mahogany, velvet covered, and the tables had marble tops. Sofas were recessed into the walls, which in turn were paneled and hung with paintings and mirrors, and the whole interior was illuminated by light that entered through stained glass. Her crew had excellent accommodations, also, and access to a very fine library.

An idea of the *Great Republic's* size is suggested by the fact that her main rigging and maintopmast rigging were of rope eight inches thick, while the rigging of her fore and mainmasts and the maintopmast backstays were as big around as the calf of a man's leg. It is not known how much she cost Mr. McKay, but, soon after her launch, one of the newspapers stated that he had refused an offer of $300,000

for her. Her running expenses were estimated at $10,000 a month—very high, and she was insured for $150,000.

Before she was taken in charge by the steam tug *R. B. Forbes* to be escorted to New York to load for Liverpool, the public was admitted on board, at a small fee, for purposes of inspection; the proceeds were turned over to the Seamen's Aid Society of Boston. The amount collected was small—$1,000—but it is impossible to estimate the number of people who contributed towards it, since the inspection fee was so trifling.

In the meantime, headline news that was to have a direct bearing on clipper-ship destiny, aside from its major significance, spread its black banners to the world. Following upon a series of events: the revolt, early in 1853, of the Greek Catholics of Montenegro against their Moslem masters; the rapine and bloodshed of the Moslem army under Omar Pasha in the ensuing attempt to subdue the revolt; the diplomatic action of the government in Vienna in bringing an end to the Montenegrin quarrel; the interference of Napoleon III of France with his loud-voiced demands for rights for Roman Catholics, equal to those of the Greek Catholics, to make pilgrimages to the holy places; the attempt of Prince Menshikov to bully Sultan Abdul Medjid into acceptance of a Russian protectorate over all Greek Christians, and the Sultan's refusal—following upon all these events, Nicholas I of Russia, with a self-deceiving eye on the strength of England, a scornful one on France, and a boot raised to kick the Turk out of Europe, prepared himself to carry out an old desire of Peter the Great's and of Catherine's. He sent 80,000 Russians across the Pruth into Moldavia and Wallachia to wait until the Porte answered the demands that he had made through the mouth of Menshikov. On October 4, the day the Boston crowds gathered to witness the launch of the *Great Republic,* Nicholas received his answer, and the answer was—war.

One month later, Omar Pasha, with his Turks, defeated a Russian army at Oltenitza on the Danube, and, on the 27th of November, England and France—somewhat cheered by this blow to an ominous power—signed a treaty to help the Porte, in the event that Russia

still cared to continue the fight, and dispatched fleets to the Bosphorus. The month closed with a rain of Russian shell over a Turkish squadron in the harbor of Sinope, followed by a feeble defense with old-fashioned solid shot and the total destruction of the squadron. "This," said England, "was a massacre"; but the whole world recognized it for something worse: impending European battle.

In December the *Great Republic,* unaware that she and many of her sister ships would one day have their part to play in the Crimean War, lay at New York City with a $300,000 cargo of provisions deep in her hold, preparing for her departure, within a few days, to Liverpool. She was unaware, also, that she herself was close to destruction.

On the night of December 26-7 fire broke out in the Novelty Baking Company on Front Street and, within a short while, the rigging of the *Great Republic,* lying at her wharf near by, was a network of flame. Other ships caught fire. At pier 27 the mate of the *White Squall* hacked furiously at the moorings of that ship, also afire; the ship *Joseph Walker* was aflame, and, aboard the *Great Republic,* the crew chopped away at the masts in an attempt to free her of the red rain pouring onto the decks from overhead. Daylight brought its depressing aftermath of charred timbers and gaps where buildings had once stood. The beautiful *White Squall* lay grounded at the foot of Hudson Street, burnt to the water's edge, and the *Great Republic,* showing only the shell of her bow above the water, clipped of her tapering spars and shorn of her upperworks, was a scuttled, smoldering ruin.

Donald McKay came down from Boston to see his ship and to turn her over to the underwriters, after which she was pumped clear of water and rebuilt at Greenpoint, Long Island, by Sneedon & Whitlock, under the superintendence of Captain N. B. Palmer. At the end of a year, owned by A. A. Low & Brother, she was ready for sea again —but she was not the same ship. Her spars were considerably shorter, her upper deck was gone, and her stowage capacity was approximately 2,000 tons less than it had originally been. She was fitted with Howes rig, her depth of hold was reduced to 29⅙ feet, her breadth of beam

to 48⅓ feet, and her registered tonnage to 3,356. A billet scroll replaced her eagle figurehead. How great a speed she might have shown, as Donald McKay had built her, was a secret that reposed in the smoke and flame of that night after Christmas in 1853.

On February 24, 1855, commanded by Captain Joseph Limeburner and manned by a crew of fifty, the *Great Republic* took her departure for Liverpool, making her passage, according to her captain, "land to land in 12 days." * She reached Liverpool in 19 days, but, owing to her great draft, was obliged to go to Long Reach to discharge her cargo, and later, when she went to London, was obliged to lie in the Thames, since no dock could accommodate her. W. S. Lindsay, in commenting upon the *Great Republic* at this time, says: "She brought 3,000 tons of guano as 'ballast' from New York to London, and made the passage to the Scilly Islands in thirteen days, beating up the English Channel thence against an easterly gale in three days to the Downs. But, on her arrival in London, where she was consigned to the care of my firm, I found that she was much too large to be employed, profitably, in any of the ordinary channels of commerce; and, had not the French Government, then in want of transports for the Crimean War, been induced by the large space she offered for the conveyance of their troops, to engage her for this purpose, she must have remained long after her arrival unemployed."

The *Great Republic* served as a transport until the end of the war, returning to New York, late in 1856, where she loaded for California. On December 7 she was outside the lightship at 3 P.M., crossed the Atlantic Equator 15 days 18 hours out—record-smashing time—and completed the passage less than seventy-seven days later. Her time of 92 days from New York was the fastest California passage of the year and was better, by nine days, than that of any other clipper, including the *Westward Ho,* which sailed within twenty-one days of her.

Fifty-four days after taking her departure from San Francisco, the *Great Republic* was at the guano chutes of the Chincha Islands, where her hold was filled with 4,500 tons of fertilizer for the London market.

* See log, Appendix IV.

After that she had a bad time of it: shipped a sea off the Falklands that first smashed in her deck and then found its way into the cargo and thence into the food. The crew nearly starved, and it became necessary to put in at the Falklands and to dispatch a schooner to Montevideo for provisions, and for materials with which to make badly needed repairs. On January 11, 1858, she arrived at London.

Her passages during the following two years were more or less routine. In 1858 she was beaten by the *Talisman* on her journey westward, and in 1859 by the *Ocean Telegraph*. In 1861 she was at San Francisco in 104 days from New York; but later in the same year, upon her arrival at New York from Liverpool, she was seized by the surveyor of the port of New York as rebel property. A. A. Low & Brother, who then owned but three-eighths of her, purchased the other five-eighths from Virginia and South Carolina shareholders, and shortly afterwards chartered her to the U. S. Government for transport purposes. She first went to Port Royal with troops (being one of nearly forty transports sent down in the fall of the year), and then, in February, 1862, to Ship Island where the troops of General Benjamin F. Butler were stationed prior to the siege of New Orleans.

From November, 1862, to 1865 she was back on the California run, after which she was laid up for a year or more, and then purchased by a firm in Nova Scotia. During their ownership she made one good run of 14 days from St. Johns to Liverpool. In 1869 she was purchased for £3,500 by the Merchants Trading Company of Liverpool and renamed the *Denmark*. On March 2, 1872, on her way from Rio to pick up a cargo of lumber for Great Britain, she ran into a gale, sprang a leak, and was abandoned somewhere off Bermuda. Her portrait, painted in 1882 by François Roux, the painter-bookseller of Marseilles, hangs today in the Musée de Marine du Louvre.

CLIPPER SHIP

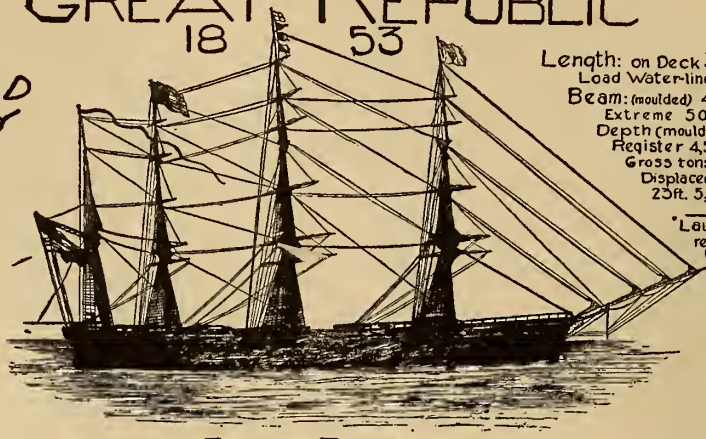
GREAT REPUBLIC

18 53

Built By
DONALD McKAY
At East Boston
Plans Drawn from Hall's Report

Length: on Deck 325¼ ft.
Load Water-line 314 ft.
Beam: (moulded) 49¼ ft.
Extreme 50½ ft.
Depth (moulded) 32 ft.
Register 4,555 tons
Gross tons 3,923
Displacement at 23 ft. 5,273 Gross tons

"Launching" redrawn from Gleason's



FULLY RIGGED

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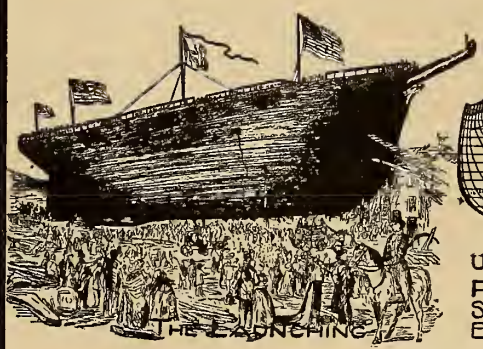
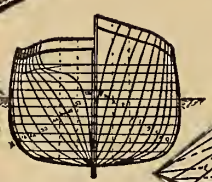


THE LAUNCHING



Upper Hull Plans ·7 Scale of Body Plan

SAIL PLAN

Clipper Packet
1853

THE *Dreadnought* was a mere pygmy compared with the *Great Republic*—whose launching preceded hers by two days—and her lines, compared with those of the crack sailing vessels of her day, were much more "packet" than "clipper." She was, however, commanded by the valiant Sam Samuels of Philadelphia, who ran away to sea at the age of eleven, became a captain before he became of age, learned to be a wild, driving packetmaster, whose fame was almost equal on both sides of the Atlantic, and who lived to write a fine-flavored, half-didactic, half-romantic book, crowded with his own adventures on land and sea. To Captain Samuels—a great believer in publicity—really belongs the credit for saving the *Dreadnought* from the fate of many other good ships: a few lines under sailing dates and a final couplet under the heading "Lost at Sea."

By the time the *Dreadnought* was launched the old sailing packets had lost most of their former prestige on the transatlantic route, nor did they ever improve sufficiently in design and passenger comfort to regain the luxury trade captured by the more fashionable steamships. In 1836, when M'Culloch wrote that "it may be doubted, indeed, seeing how well the intercourse is maintained by the sailing packet, whether the introduction of steam packets would be of material service," cabin passengers were paying thirty-five guineas to New York from London and Liverpool, and $140 to London and Liverpool from New York; whereas, in 1853, the steamship charges were thirty pounds sterling from England, and $120 from America. And freight rates,

because of the rivalry between the Collins Line and the Cunarders, had dropped from £7.10s to £4 per ton via the mail ships. The passage by steamer was faster, more certain, and more comfortable—in spite of all the rolling and noise of the screw—and the choice of food on a subsidized ship was not to be compared with the meager best a self-supporting sailing ship could offer. According to Captain Mackinnon, R.N., who traveled to America and home again in 1852 and who wrote an article for *Harper's New Monthly Magazine* extolling the delights of steamship travel, a typical bill of fare on board the Collins Liner *Baltic* offered such an array as the following: "Green Turtle Soup and Potage aux choux; Hams, Tongues, Corned Beef, Turkeys with Oyster Sauce, Fowls with Parsley Sauce, and Leg of Mutton with Caper Sauce; Cod-fish, stuffed and baked, or Boiled Bass with Hollander Sauce; Beef, Veal, Mutton, Lamb, Geese with Champagne Sauce, Ducks, Pigs, Turkeys and Fowls; Macaroni au gratin, Filet de Pigeon au Cronstaugh, Croquette de Poisson à la Richelieu, Salmi de Canard Sauvage, Poulets, piqué, Sauce Tomato, Cotelette de Veau à la St. Gara, Fricandeau de Tortue aux petits Pois, D'Oyers en cassi and Epigram d'Agneau, Sauce Truppe; Green Corn and Green Peas; Potato Salad and Plain Salad; Baked Vermicelli Pudding, Apple Fritters with Hard Sauce; Almond Cup Custards, Red Currant Tartlets, Apple Tarts, Open Puffs, Cranberry Tarts and Coventry Puffs; Fruits, Nuts, Olives, Cakes, etc.; and Coffee or Frozen Lemonade." And that was eighty-four years ago, twelve years after the Cunard Line was established and but three years after the Collins Line had entered into competition.

As steamships improved their services, just so did the wind packets retrograde, until finally they carried their last cheap burdens and admitted defeat. It speaks well for the *Dreadnought,* however, that, launched as late as she was, she became a very famous ship; and, that, in spite of being smashed into storms—which would have wrecked less hardy vessels—by the redoubtable Captain Samuels, and never but once under less than double-reefed topsails, this "wild boat of the Atlantic" maintained a fairly high average of speed, spent a full and

Dreadnought

profitable life, and survived all the other clippers and packets sailing in the Red Cross fleet. She was built by Currier & Townsend of Newburyport, and measured: keel, 200 feet; deck, 212 feet; extreme beam, 41 feet 6 inches; depth of hold, 26 feet 6 inches; tons register, 1,413; cargo-carrying capacity, 2,000 tons. She was owned by David Ogden, E. Morgan, Francis B. Cutting, and others, whose Red Cross Line of New York to Liverpool packets included the ships *Racer, Highflyer, Driver, Andrew Foster,* and *Victory*. Her house flag was a red cross on a white field, and she wore a broad red cross on the white expanse of her fore topsail. In appearance she was handsome, somewhat full-built, and very powerfully rigged.

From the beginning of her first voyage, December 6, 1853, to the summer of 1864, when she was put on the berth for San Francisco, the *Dreadnought* made 31 round trips between New York and Liverpool. Arriving home in February, 1854, after her first round she completed the shortest run to the westward she ever made: 19 days. This passage, sailed under the most distressing weather conditions, is only four days over the record run made by the *Andrew Jackson* in 1860. Her best-known runs to the eastward were: from Sandy Hook, 6:30 P.M. November 20, 1854, to the Mersey, 10 P.M. December 4, in 13 days 11 hours 15 minutes, Mean Time, exclusive of eight hours detained by the tide at the bar; and from Sandy Hook, February 27, 1859, to the Northwest Lightship, Liverpool, in 13 days 8 hours, Mean Time. The all-time record run over this course is that of the *Red Jacket* made in 1854 from dock to dock in 13 days 1 hour 25 minutes, elapsed time. There is also another extremely fast passage, of 9 days 17 hours from Sandy Hook to Cape Clear, credited to the *Dreadnought,* but on this passage it appears that she cleared and sailed on June 16, 1859, arrived off Cape Clear on the 27th, and reached Liverpool on July 2. The *Illustrated London News* gave her a few lines on the back page of its Saturday, July 9, 1859 issue, crediting her with a run of 9 days to Cape Clear, but the fact that this run does not seem to be mentioned elsewhere is as remarkable as the passage would have been had it been made. There is, of course, always

the possibility that the *Dreadnought* did not sail on June 16—as there is also the possibility that the *Illustrated London News* was guilty of a typographical or other error.

On one of her passages in January, 1863, the *Dreadnought* fell in with an Atlantic gale that nearly finished her career and that of her master. Five days out of Liverpool, in weather that was so bad that even Sam Samuels was forced to order reefs in the maintopsail, the ship was hove to on the wrong tack by a dangerously bad piece of seamanship on the part of the man at the wheel, while she was directly in the path of a hurrying wall of water. Within a short space of time the wall loomed over the ship and then, changing shape, descended with a roar of angry satisfaction, flattened itself out into a taut-bellied creature with a multitude of liquid arms that tore at the hatches, pried into the cabins, flailed at the captain, killed the carpenter, and eventually departed with the rudder. As the ship lay in the trough of the sea, afterwards, the waves made a clean breach over her, and inside, in the cabin, the captain lay desperately injured.

Any other ship but the *Dreadnought* would have been finished and many another captain than Captain Samuels would have abandoned her. As it was impossible to get the bow of the vessel turned toward Fayal, and an attempt to ship a jury rudder failed, Captain Samuels issued instructions to sail her backwards toward Fayal. A few days later another attempt to ship a jury rudder proved successful and the *Dreadnought* reached a harbor once more. After her return to New York, Captain Samuels went into steam, eventually became Superintendent of the Pacific Mail Steamship Company, and died in 1908.

The *Dreadnought* was repaired, and sailed for Liverpool in the summer of 1863, and again in December. On her return from the last eastward passage she was struck once more by a heavy sea which killed her commander, Captain Lytle, and carried away her rudder. Mr. Rockwell, her mate, brought her home to New York, after which she made a passage of 134 days to San Francisco, thence 13 days to Honolulu, under the command of Captain Cushing. In 1866 her passage to San Francisco was made in 127 days, and in 1867 in 149 days,

thence to Queenstown in 121 days, thence to Liverpool where she loaded for California.

She sailed from Liverpool on April 28, 1869, commanded by Captain P. N. Mayhew, and 29 days out, on July 4, got among the breakers off Cape Penas, near Tierra del Fuego. This time she was abandoned by her captain and crew, who were picked up, fourteen days later, by the Norwegian barque *General Birch* and taken to Chile.

California Clipper
1853

In addition to the *Great Republic* and *Dreadnought,* seven other clipper ships were launched during the month of October, 1853. Three went down the ways the same day as the huge McKay ship: Tobey & Littlefield's *Morning Star,* James O. Curtis's *Eagle Wing,* and the *Lookout,* built by Chase & Davis of Rhode Island. The others, which followed later in the month, were: the almost faultless *David Brown,* built by Roosevelt & Joyce, successors to Jacob Bell; the lightning-fast *Panama,* built by Thomas Collyer, and third ship of the same name owned by N. L. & G. Griswold; the *Romance of the Seas,* designed by George B. Upton, built by Donald McKay and sometimes considered his masterpiece; and the *David Crockett,* launched on October 18 from the yards of Greenman & Company of Mystic, Connecticut. Of these, the *Morning Star* and the *David Crockett* survived the others from at least twelve to twenty-seven years, and when the *Morning Star* was lost in 1890 the *Crockett* was just beginning a new career as a barge.

In appearance the *Crockett* was rather rugged—not so handsome as most of the clippers were. Her name was probably very suitable for her, as was her figurehead of a frontiersman done "to the life." She was built for the account of Handy & Everett of New York, and measured: length, 215 feet 10 inches; breadth, 40 feet 6 inches; depth of hold, 27 inches; cargo-carrying capacity, 2,800 tons; register, 1,697 tons. She cost $93,000 and was immediately put on the transatlantic route to operate as a packet between New York and Liverpool.

David Crockett

November saw the launching of six more clippers, but only two of these—John Taylor's *Aurora* and Trufant & Drummond's *Viking* —were immediately added to the California fleet. Metcalf & Norris's *Flying Scud,* George Thomas's *Red Jacket,* and Horace Merriam's *Live Yankee* were sent to England on their maiden passages; while the Dunham-built *Nonpareil*—a splendid ship—lay for weeks at Grand Junction Wharf, East Boston, awaiting a purchaser. She was eventually put on the berth for New Orleans. Other ships launched late in the year also felt the slump in the California market and were obliged to look elsewhere for employment. The *Elizabeth Kimball* took a cargo of ice and apples out to Calcutta. The *Gauntlet* made her maiden voyage from Bath, Maine, to Mobile, thence to Liverpool; the *Electric* went to Havre; and a number of others made their first run a trip to England and return.

In December but nine clippers took their departure for California as against fifteen in December of the previous year and nineteen in January, 1853. On the whole the year had been brisk and prosperous, the beautiful clippers were still amazingly popular, and their fast passages were considered the answer to all economic ills of the future. California continued to produce large quantities of gold, and the general belief was that, in spite of any temporary slump—which was to be expected—the Golden West would continue to be a perennial market for gold-gathering Eastern shippers. But the California fleet was being increased beyond the bounds of reason—more clippers were building, orders were pouring in to the hands of the builders, the names of new owners and new shipwrights were constantly coming to the fore, and so a few more clippers were added to the fleet in December, and the coming year was to witness the launch of seventy more.

In December world-wide interest centered in news of the Crimea. Gossip and facts were pelted about: it was said that Rachel, the great tragedienne, impoverished by gambling, was considering retrieving her fortune by accepting a £16,000 a year offer from Nicholas to come to Russia to entertain the people of St. Petersburg; Napoleon III said that he hoped the disagreement between Russia and Turkey would

be settled amicably but, if not, the French army was ready; recruiting began in Poland; the Caucasian Provinces threatened to revolt; rioting was reported between the Russian troops and the Wallachian ministry; the Polish Revolutionary Committee, in London, met and exhorted England to go into the war; England replied that she wanted war—to save her possessions in India; meetings were held at Glasgow and Manchester demanding war; Kossuth wrote a letter—if Russia succeeded in her attempts, England would lose her position as a first-rate power; Mazzini wrote a letter; and women, who from time immemorial have been suspected of wearing their hearts on their sleeves when they were parading current events, reflected the trend of current thought by donning turbans, loose pantaloons, and other oddments à la Orientale.

The American press said, "Nicholas is an idiot" and turned to brood over its own country's affairs and to count up its losses at the end of a winter season. In February the clipper *Golden Light* had been struck by lightning, had caught fire and been abandoned; the clipper *Charles Mallory* ran ashore on the coast of Brazil during the summer months and was left to break up; and four seamen of the clipper ship *Defiance,* at the Chincha Islands in August, were put in irons by the Peruvian authorities for shooting a pelican. Captain McCerran offered to pay the fine of one dollar, but it was refused and the men were kept in irons and chained to the deck of the ship. Following this, a deputation of American shipmasters called on the commandant of the port, who refused to meet them, and they were attacked by a force of sixty men, who inflicted severe injuries on several. On August 17, the *Defiance* fired a salute as she was about to leave port. This also seemed to be against the law, and the captain was fined, and paid, twenty-five dollars for discharging the gun. This in turn was followed by a brutal attack on all on board, occasioned by some remark of Captain McCerran's, and he himself was placed in irons and the *Defiance* seized by the Peruvian authorities. In the fall of the year, the *Eclipse,* caught in a hurricane between San Blas and Manzanilla, Mexico, was blown ashore and went to pieces; and

shortly afterward the *Dauntless,* out of Boston for Valparaiso, vanished at sea.

The most tragic disasters to American ships, however, happened from Christmas day to the end of December, the worst being the wreck of the new steamer *San Francisco,* out of New York on December 22 with 700 persons aboard, including Companies A, B, D, G, H, J, K, and L of the Third Regiment of the United States Artillery, the non-commissioned staff and band of the regiment, passengers, ship's officers and crew, and cabin and steerage waiters. On the evening of the 24th the ship broached-to twice in a heavy gale. The second time, the fore staysail, fore spencer, and foresail were blown away, after which the piston-rod of the air-pump broke, the engine stopped, and the spanker blew away. From then on the sea had its way with her, ripping up planking, pulling down masts, opening seams and the paddle-box, taking away, first, the funnels and the saloon, and then, in one long scream—like a child in a tantrum scooping his new Christmas soldiers into a box—about one hundred and fifty of the troops. Captain Eben Linnell, not many miles away in the clipper ship *Eagle Wing,* noted in his log book: "... in 31 years at sea have never seen a typhoon or hurricane so severe."

The troops were carried away between nine and ten o'clock on Christmas morning, after which the sea, having gained entry to the steamer, proceeded, like a liquid beast, to chase chilled and terrified passengers about and to carry things away. About noon, rescue hove in sight in the guise of the brig *Napoleon* of Portland, and her captain shouted across the icy winds that, until the seas abated, he would stand by. All night the passengers of the steamer sent up thanks to God, and forgot their terror in the bright promise of morning. When morning came, the passengers of the *San Francisco* scanned the becalmed waters for a sight of the friendly sail, but the brig *Napoleon* of Portland was gone.

For a few more days the steamer drifted northward towards Boston when, near the noon hour of another day, the brig *Maria Freeman*

of Nova Scotia hove in sight. She, too, promised to stand by during the night, but when morning came she, too, was gone.

The following morning the barque *Kilby,* Captain Low, from New Orleans drew alongside. Again the promise to remain during the night was given, and the next morning, to the amazement of the people in the steamer, she was still standing by. Several boatloads of passengers were taken into the barque, and then she, too, departed. More days followed and illness and death were added to the fear and discomfort of those remaining on board the drifting *San Francisco.* Gradually they despaired of ever seeing another sail. But on the morning of December 31—a day and a night after the *Staffordshire* had struck crushingly against Blond Rock—the *Three Bells,* of Glasgow, discovered their plight. Three days later the two ships were joined by another, the *Antarctic,* three days out from New York. The *Antarctic* had boats—which both the *Three Bells* and the *San Francisco* badly needed—and soon the work of loading the Glasgow ship with passengers began, and the remainder—about 140—were taken aboard the *Antarctic.*

The last day of the year the clipper ship *Flying Arrow* arrived at San Francisco, reporting a passage of 143 days. It was the last passage of nearly 150 that had been made westward during the year, and no fewer than twenty had made passages of 110 days or under. The flyers of the year were as follows: *Flying Fish,* 92⅙ days; *John Gilpin,* 93⅝ days; *Contest,* 100 days; *Oriental,* 101 days; *Trade Wind,* 103 days; *Golden Gate, Flying Dutchman, Phantom,* 104 days each; *Flying Cloud, Hornet, Flying Dutchman* (second arrival), 106 days each; *Westward Ho, Swordfish,* 107 days each; *Winged Racer,* 108 days; *Sea Serpent, Bald Eagle,* 109 days each; *Young America, Invincible, Witchcraft,* and *Contest,* 110 days each.

Other records established during the year were: *Phantom,* 23 days from Boston to latitude of Rio; *Comet,* 11½ days from San Francisco to Pacific Equator; *Northern Light,* all-time record of 76 days 6 hours from San Francisco to Boston; same passage, 38 days from San Francisco to the Horn; *Nightingale,* 72 days from Portsmouth, England, to

Anjier; *Contest,* 180 days net sailing round trip between New York and San Francisco; *Flying Dutchman,* 6 months 24 days round trip between New York and San Francisco, including detention in port; *Witch of the Wave,* 37 days from Saugor to past the Cape of Good Hope; same passage, 81 days from Saugor to Boston; barque *Wildfire,* 14 days from Boston to Gilbraltar; *Caroline,* 16 days from Charleston to Liverpool; *Swordfish,* 32 days 9 hours, San Francisco to Shanghai; *Warner,* 67 days from Valparaiso to New York; barque *Nimrod,* 36 days from Rio to Port Phillip; *Telegraph,* 58 days from Valparaiso to Boston; *Phantom,* 32 days, in distress, from Callao to Rio; and *Hornet,* 33 days from San Francisco to Callao.

The *David Crockett,* in the meantime, was introducing herself to the transatlantic trade, in which she remained, with the exception of an 85-day passage from Liverpool to Aden, until early in 1857. Her best two passages during the period were: 19 days from New York to Liverpool, and 25 days from Liverpool to New York.

From 1857 to 1883 she made twenty-five passages between New York and San Francisco at an average, per passage, of a little less than 119 days. Her longest passage was 157 days, made in 1882; her shortest, 103 days, made in 1871. Fifteen passages between San Francisco and New York were made at an average, per passage, of 100 days. The longest was 116 days, in 1880; the shortest, 93 days, in 1883. Other return passages were made to Liverpool with grain, and she made one to Hampton Roads, by way of Callao, with guano. Another passage was made to Liverpool, by way of Callao, with guano; another, via the same route, was made to Cork; and still another to Philadelphia. With the exception of a short period in 1869, when she was being thoroughly overhauled, the *Crockett* was employed constantly during the years to 1890, and proved to be an excessively profitable investment for her various owners.

Early in her career, probably about the time she was taken off the transatlantic run, she was sold to Lawrence Giles & Co. of New York, who in turn sold her to George Howes & Company, who were succeeded by John Rosenfeld. In 1880 she was sold to Thomas Dunham's

Nephew & Co., and shortly afterwards, when S. W. Carey purchased her, she was rerigged as a barque and put back on the transatlantic route. In 1890 she was purchased by Peter Wright & Son of Philadelphia and was converted into a barge.

California Clipper
1854

On January 4, 1854—the same day that the French and English fleets entered the Black Sea, during that brief prelude to what England referred to afterwards as her "unfortunate war"—Stephen A. Douglas, with one hand stretched out towards the presidency of the United States and the other engaged in stirring up a mess of trouble, again brought into the limelight the "bad penny" bill for the organization of the Territory of Nebraska; and the old slave question, which resolved itself into whether a Southern gentleman was to be allowed (according to Badger of the South) to take his old mammy with him into the new Territory, or whether he intended (according to Wade of the North) to sell her when he got her there—this question rolled a little farther, like a booted barrel of dynamite, towards its ultimate flaming conclusion.

Douglas's eloquence, which rose to its persuasive heights in a midnight-to-daybreak speech on March 3-4, was finally effectual in getting the Missouri Compromise (which prohibited slavery in the Nebraska Territory) set aside, and the Kansas-Nebraska Bill (which allowed the settler to make his own choice) accepted. The South could scarcely express its pleasure. But opinion in the North hardened, Douglas was hanged in effigy at several places, and, when Anthony Burns, runaway negro slave, was arrested at Boston and remanded to the United States court for examination in May, Richard Henry Dana, Jr., offered his professional services, and Wendell Phillips and Theodore Parker harangued a sympathetic and excited crowd at Faneuil Hall. Burns

was eventually put aboard a United States revenue cutter and taken to Virginia, but his owner had spent $40,000 to procure his return.

In February, the New York to Mobile mail steamer *Black Warrior* was seized at Havana, on the pretext that the captain was exceeding his rights in specifying his cargo of cotton as ballast (although it was customary at the time to enter any cargo in transit as ballast) and, as a result, the United States demanded that Spain pay $300,000 indemnity. Thus was raised the question of war with Spain—which Great Britain said was merely the South looking for a pretext to seize Cuba so that more slave states could be made. During the summer Spain was in the throes of a revolution, and the United States toyed with the idea of purchasing Cuba, and, in the fall of the year, Soule, Mason, and Buchanan met and signed the disgraceful Ostend Manifesto: "... does Cuba, in the possession of Spain, seriously endanger our internal peace and the existence of our cherished Union? ... then, by every law, human and divine, we shall be justified in wresting it from Spain, if we possess the power...."

In March, war was officially declared against Russia by England and France, and the stage was set at last for the flashing deeds of Cossack, Turk, Redcoat, Highlander, and Zouave, in the scarlet spotlight of Sebastopol. America was signing treaties: one, in March, with Japan, by which new ports were opened to American commerce, and another, in June, with Canada, whereby American fishermen gained permission to fish in the harbors and creeks of Canada, Prince Edward Island, Nova Scotia, and New Brunswick, and numerous articles of Canadian farm produce, timber, tallow, and such were admitted to the United States duty-free.

Summer, in the United States, was marked by sluggish trade conditions; raids, by women, upon saloons; and rioting of all sorts instigated by the political skullduggery of the Know-Nothing Party. Then on July 6, at Jackson, Michigan, the Republican Party was formed, definite principles were adopted to deal with the slave problem, and the handwriting was, indeed, on the wall.

Autumn brought a panic, following upon the summer's sluggish

Sunny South

trade conditions; Wall Street was upset; banks suspended payment, and the South and West found themselves in the most distressing of financial conditions.

In the meantime, the ships sailed, while the politicians fought over the question of slavery, while the world rang with the news of the Crimea, and the words Silistria, Guirgevo, the Alma, Balaklava, and Inkerman became as familiar to the ears as London, Paris, and New York. Fast passage followed upon fast passage and record piled upon record, but the wonderful performance of the ships of 1854 was akin to that of a cast of players whose words and gestures are tipped with fire, after the box-office is closed, the cash-drawer empty, and the house filled with paper. The *Flying Cloud,* in 89 days 8 hours, smashed her own record on the California run; the *Romance of the Seas* made the same passage in 96 days, the *Witchcraft* in 98, the *David Brown* in 99, the *Polynesia* and the *Eagle* in 104 each, the *Westward Ho* in 105, the *San Francisco,* the *Archer,* and the *Herald of the Morning* in 106 each, the *Samuel Russell* in 107, the *Pampero* and the *Golden City* in 108 each, and the *Ringleader,* the *Matchless,* the *Stag Hound,* the *Flyaway,* and the *Cleopatra* in 110.

In January the *Red Jacket* set the pace by a 13 day 1 hour 25 minute run from New York to Liverpool, and the *Messenger* smashed all existing records in an 82-day passage from San Francisco to Philadelphia. In February the *Spitfire* winged her way from Rio to San Francisco in the fast sailing time of 65 days, and the *Comet* hung up a record of 35½ days from San Francisco to the Horn. In March the *Comet* was at New York from the Equator in 15 days with the all-time record run of 76 days from San Francisco behind her; in April the *Golden City* made the unbeaten passage of 36 days from San Francisco to Woosung, and the *Telegraph* claimed for all time the fast run of 34 days from Valparaiso to San Francisco. In May the *Bald Eagle* sped from San Francisco to New York in 78 days. In June the *Flying Cloud* completed her record voyage of 126 days from New York to China via San Francisco. In July the *N. B. Palmer* was at New York in 82 days from Honolulu—the record; the *Typhoon* was

at Calcutta from the Lizard (England) in 80 days—the record; and the *Eagle* was at New York from Montevideo in 36 days—the record. The 84-day passage of the *Comet* from Liverpool to Hongkong, in September, was another record, and the run of the *James Baines* from Boston to Liverpool in 12 days 6 hours was never afterwards beaten. In October the *Lightning* flew from Melbourne to Liverpool in 63 days, pilot to pilot; the *David Brown* streaked in 69 days from Anjier to London; and the *Wizard* made the unbeaten run of 78 days from New York to Singapore. In November the *Hurricane* completed the record runs of the year by hanging up a new one—6 days 12 hours from Hongkong to Singapore.

During the year the clipper fleet was increased by some seventy new ships, including the last extreme clippers ever built in America, and was depleted by at least fifteen. The *San Francisco,* completing her maiden passage to the Golden Gate on the 8th of February, in the fine sailing time of 106 days, missed stays on entering and went on the rocks at Rialto Cove. A horde of plunderers descended upon the ship and stayed until driven away by a storm. The remains were sold, for $12,000, to Captain Robert Waterman. Seventeen days later the *Oriental* went on the rocks of the River Min with a cargo valued at $175,000; and in April the *Golden Fleece,* taking her departure from San Francisco for Manila, missed stays outside the Golden Gate, smashed on the rocks, and was sold for less than thirty-two hundred dollars. The *Pride of the Sea* was burnt off Bournemouth with a cargo of cotton, and the *Black Hawk* foundered, the *Trade Wind* was lost in collision with the ship *Olympia* of Boston, the *Gazelle* was dismasted and condemned, the *Living Age* was wrecked on Pratas Shoal, the *Sovereign of the Seas* was sold to Hamburg, and the *Mystery, Pride of America, Blue Jacket, Fatherland, Architect,* and *Pride of the Ocean* were sold to Great Britain.

Among the new vessels launched during the year was the *Sunny South,* a ship whose principal claim to fame rests upon the fact that she was built by George Steers, designer of the yacht *America.* Steers, who was the son of Henry Steers—an English shipbuilder who emi-

grated to the United States—was born in 1820. As a very young man he designed a number of fast boats and schooners, and, later, was responsible for the design of a group of steamers, including the U. S. steam frigate *Niagara.* He also superintended the construction of the transatlantic steamship *Arctic*—the pride of the Collins Line—which collided with the French steamer *Vesta* in September, 1854, and went down with 400 passengers including the son, daughter, and wife of E. K. Collins.

The *Sunny South,* built primarily for the China trade, was not a large ship (she was slightly smaller than the *Rainbow*), and although she was a saucy-looking craft and had many admirers, it is to be regretted that Steers built her instead of the 2,500-ton clipper, modeled after the yacht *America,* which he had said he intended to build. As early as December of the preceding year the newspapers stated definitely that "Mr. Steers, the builder of the yacht *America,* has constructed a model of a ship of 2,500 tons, for the California and New York trade, of which he is to be the owner himself, in part or exclusively, and which he undertakes will sail twenty-two miles an hour, beating any steamer that has ever yet floated. He will sail her against any ship in the world for $10,000."

The *Sunny South* was, however, a ship of but 703 tons, measuring: length on the keel, 144 feet 8 inches; length over-all, 164 feet; breadth, 31 feet 4 inches; depth, 16 feet 6 inches; dead-rise, 28 inches. Her figurehead was a dragon covered with scales, and she cost $70,000. Her first owner was Napier, Johnson & Company of New York, and Captain Michael Gregory was her first commander.

On the 21st of November she cleared at the New York Custom House and had the long passage of 143 days, including detention at Rio, to the Golden Gate—a passage slightly better than the average of seven other clippers that had sailed within a few days of her. From San Francisco she made a 51-day crossing to Hongkong, with a cargo consisting of 200 bags of potatoes and 94 boxes containing the dead bodies of Chinese sent home for burial.

Before she returned home again, another year rolled by. A railway

train for the first time crossed the Isthmus of Panama (a significant item for fast sailing ships); the first Atlantic cable—between Breton, N. S., and Newfoundland—was laid; Nicholas I of Russia was dead and his people had evacuated the south side of Sebastopol; the Know-Nothings had met at Philadelphia to adopt a political platform, and the slave question in Kansas had reached the point of miniature warfare. Forty-two medium clippers, including the *Andrew Jackson* *—a ship destined to smash the record of the *Flying Cloud*—and the beautiful Baltimore-built *Mary Whitridge,* were added to the American merchant marine. And the records of 1855 were over.

The fastest passages to San Francisco during the year were made by the *Herald of the Morning* and the *Westward Ho:* the former in 100 days 6 hours, anchor to anchor, from New York; the latter in 100 days 18 hours from Boston Light. The clipper ship *Boston Light* made the passage in 103 days, the *Governor Morton* in 104, the *Flying Fish* in 107, the *Golden Eagle* and *Don Quixote* in 108 each, and the *Red Rover* in 110. Other fast passages included that of the *John Bertram* from Manila to Boston in 90 days, that of the *Panama* from Shanghai to New York in 85 days (67 days from Anjier), and that of the *Nor'Wester* from Boston to Calcutta in 86 days 21½ hours. Records established were: *James Baines,* 63 days from Liverpool to Melbourne; *Golden Gate,* 86 days from Shanghai to England; *Sierra Nevada,* 15 days from Hampton Roads to Liverpool; *Defiance,* 52 days from Chincha Islands to Hampton Roads; *Sparkling Wave,* 61 days from Montevideo to San Francisco; *Whistler,* 21 days from Anjier to Melbourne; *Fearless,* 86 days from Manila to Boston; *Nightingale,* 91 days from Shanghai to London; *Rover's Bride,* 31 days from Sydney to Valparaiso; *Ocean Telegraph,* 58 days from Callao to New York; *Mary Whitridge,* 12 days from Baltimore to the English Channel; *Eagle Wing,* 83 days 12 hours from London to Hongkong; *Hurricane,* 84 days 12 hours from England to Calcutta; and the *Red Jacket,* 44 days from the Equator to Melbourne.

The *John Bertram* and the *Seaman's Bride* were both sold to Ham-

* Lines shown at the end of this chapter.

burg that year, and the *Amphitrite, Young Brander,* and *Red Jacket* were sold to England. The little *Seaman,* a ship of but 546 tons, was struck by lightning and burned at sea on her way from New Orleans to Marseilles. The *Tinqua* struck on a shoal and went down with her bottom stove in off Cape Hatteras. The *Cleopatra,* loaded with guano, was fatally damaged when she tore across a submerged wreck on her way to New York. The *Climax* sprang a leak off Callao, foundered, and was sold as she lay. The *Highflyer,* with all hands, disappeared at sea. The *Whistler,* four days out of Port Phillip for Singapore, went ashore at King's Island. The *Lightfoot* was wrecked at Saugor, and the *Water Witch* at Ypala.

The *Sunny South* arrived home in January, 1856, and in March was deflected to the South American run. Twenty-nine days after she sailed, the Peace of Paris was signed and the Crimean War was ended, but the Sepoy Mutiny towards the close of the year was to call many of the clippers back into transport service. Another war was also coming to a close in the world of shipping; and yet another war—between men—was moving closer, day by day, to its beginning.

In the war between ships, between sail and steam, between speed and the humdrum cargo-carrier, the American ships of 1856 piled record upon record in a barricade against defeat. But whereas records had once been equivalent to moneyed protection, million-dollar cargoes, and eighty-thousand-dollar freight rates, they were, in too short a time, to become no more than what the eye could see in them: a few scraps of paper written in an illegible hand, so many tickets to the guano chutes, the coolie ports, and the slave trade. If they were, also, last desperate bids for the richer fields of commerce, America was no longer greatly interested. She was fast turning her eyes inward, away from the sea.

Fourteen clipper ships completed the passage to San Francisco in less than 110 days, during 1856. They were: the *Sweepstakes,* 95 days; *Antelope,* 97 days; *Electric Spark, Reporter,* and *Flyaway,* 106 days each; and *Tornado, Red Rover, Don Quixote,* and *Mary L. Sutton,* 110 days each. Records established included: *Kathay,* Anjier to Cape

of Good Hope, 25 days; *Flying Scud,* New York to Marseilles, 19 days 20 hours; *Comet,* the Equator to San Francisco, 12 days; *Eagle Wing,* Woosung to New York, 84 days; *Mandarin,* New York to Melbourne, 70 days; *Hurricane,* Calcutta to England, 79 days; *Golden West,* coast of Japan to San Francisco, 20 days; *Carrier Dove,* Melbourne to Valparaiso, 32 days; *Great Republic,* New York to the Equator, 15 days 19 hours; and *Onward,* San Francisco to Singapore, 43 days.

The *Sunny South,* whose builder, George Steers, died in 1856, plied back and forth between Brazilian ports and New York until 1859, after which she was purchased at Havana for $18,000, renamed the *Emanuela,* and employed in the African slave trade. On August 10, 1860, she was captured in the Mozambique Channel by the British screw sloop-of-war *Brisk*. She had 800 slaves aboard.

MEDIUM CLIPPER SHIP

ANDREW JACKSON.

LAUNCHED IN MARCH, 1855 UNDER THE NAME-BELLE HOXIE-

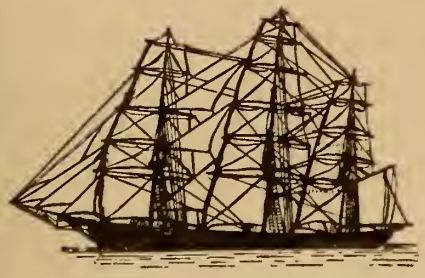
BUILT AT

MYSTIC, CONN.

BY

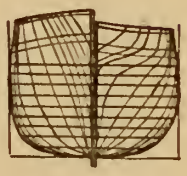
IRONS & GRINNELL

OWNED BY JOHN H. BROWER & CO, NEW YORK



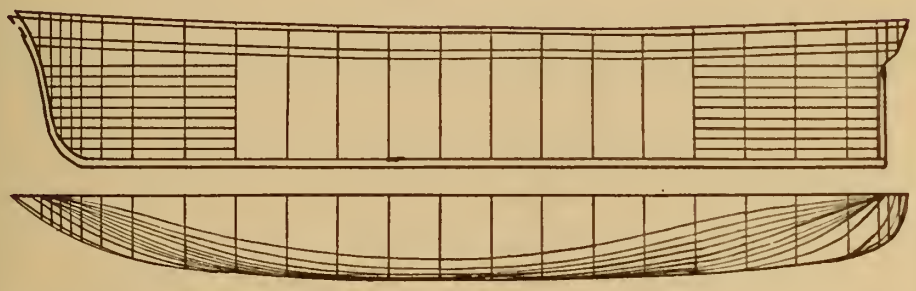
WRECKED:

December 4, 1868
in
GASPAR STRAITS
Then owned in GLASGOW



DIMENSIONS:

Length	220 feet
Breadth	41·2 feet
Depth	22·3 feet
Tons	1679



RECORD PASSAGES:

Sandy Hook to San Francisco pilot 89 days 4 hours.

Liverpool to Sandy Hook 15 days..

California Clipper
1857

The clipper-ship period in America, which had its inception in the silken trade of the East and was brought to its culmination in the golden trade of the West, ended—so far as shipbuilders were concerned—in the doldrums of 1857.

The panic of that year has been attributed to various causes, and the close of the clipper-ship era has been attributed to various others, but since the boom days of the 1850's and the boom days of the clipper ships stretched across nearly a decade—not in parallel lines, but as threads closely interwoven—it seems logical to assume that the causes that terminated the one were those that terminated the other.

When gold was discovered in California, a steady procession of ships, augmented year after year by the fast sailing clippers, sailed out of Atlantic ports, their decks black with prospective miners and settlers; and the same ships returned home with the results of the labors of those people—in other words, with gold. The gold, which was received at first in Eastern cities with wild rejoicing, was received, as it commenced to flow more rapidly and in a widening stream, with some misgivings as well, and the fear was expressed, especially among creditors and the class that lived on fixed annuities, that the discoveries of such large amounts would result in the depreciation of the metal. In overcautious Holland gold ceased to be accepted as legal tender, and silver was made the only means of payment; but, elsewhere, the fear was translated into an anticipated skyrocketing of prices, followed by a frantic production of commodities, increased migration to the sources

Twilight

of the gold, mounting wages and scarcity of labor, accelerated buying and selling, the building of new ships and railroads, inordinate speculation in land and western properties, gambling of all sorts and pleasure-seeking, and the shipping of vast quantities of goods back and forth across the Atlantic and to California and Australia. The construction of railroads set up a need for European railroad iron and for foreign capital, in exchange for stocks and bonds and raw materials. The transportation of guano rose from 100,000 tons in 1849 to a yearly average of 200,000 tons between the years 1852 and 1857, and when the Crimean War broke out, followed by the Sepoy Mutiny, American pork, whiskey, gold, and ships were in particular demand and buying and selling across the Atlantic was further enlivened.

In the ten years between 1850 and 1860 imports into the United States rose to nearly two billion dollars over the importations of the previous ten years (the one item of silks rose from $13,731,000 in 1850 to $30,636,000 in 1854) and the foreign commercial debt rose from $166,000,000 in 1847 to $393,500,000 in 1857. Shipbuilding, during the boom period, increased as follows:

	Tons Built	*Tons Sold Abroad*
1851	298,203	15,247
1853	425,571	10,035
1855	583,449	65,887

In 1857 expansion of all sorts came to an abrupt halt. Expenditure ceased, railroad building stopped, loans were called in and stocks were sold in an attempt to repay borrowed capital, stocks themselves dropped in value, European harvests were good and the prices of American produce therefore fell, freight rates dropped to $10 a ton, the Canadian reciprocity treaty reacted unfavorably and complaints were made that the influx of Canadian produce was ruining certain American markets, the Louisiana sugar crop failed and importations of sugar were made to the tune of fifty-five million dollars, banks that had run wild in the issuance of paper money began to fall, and, soon, business after business tumbled after.

Some six hundred millions of dollars' worth of gold had been taken out of the mines of California and exchanged for goods, of which a large portion was European: the result was nil. Seven hundred and twenty millions of dollars had been spent in railroads, and another five hundred millions in land operations: the result was the opening up of the West and the supply of new fields for the pitched battles of politicians. Wages had been high, expenditures great, and business brisk: the result was the accumulation of capital in individual hands, unemployment when the stimulus to reinvestments ceased, panic for the masses, and—Civil War.

Shipbuilding during 1857 dropped to 278,803 tons, of which 52,649 tons were sold abroad; but most of the ships were either built in fulfillment of orders that had been placed the year before, or were begun before the tocsin warned of the onward-sweeping state of affairs. The new clippers of the year—the last true clippers that were ever built in America—can be counted on the fingers of one hand, yet even the launching of these—in the face of the fact that dozens of the famous old flyers either were being robbed of their tall masts in the interests of economy or were lying idly by, waiting for cargoes that never came—had something of the stubborn, time-defying quality that characterized the passages of those ships of the year which were fortunate enough to be sent, cargo-laden, on their light-heeled way into the blue. Of the clipper ships that did go to California that year, no fewer than ten made passages of 110 days and under. The *Great Republic,* still under Captain Limeburner, rounded the Horn with skysails set, on her 92-day passage to San Francisco; the *Westward Ho* and the *Morning Star* made the passage in 101 days each; the ships *Andrew Jackson, Flying Dutchman, John Land,* and *Flying Dragon* were 102 days each; the *Flying Fish* was 106 days; the *Stag Hound* 108 days, and the *Reporter* an even 110. Records were made on other courses: the *Sweepstakes* was 74 days from New York to Bombay, the *Flying Mist* 51 days from Chile to Chesapeake Bay, the *Edwin Forrest* 64 days from Chincha Islands to Hampton Roads, and the *Kathay* 6 days from

Hongkong to Bangkok. Over 82,489 tons of shipping were lost at sea during the year, but less than 2,000 tons represented clippers.

The *Twilight,* last of the taunt-sparred clippers of America, was launched from the yards of Charles Mallory at Mystic, Connecticut, October 6, 1857. She is said to have been very beautiful, with gently swelling convex lines, a fine run, handsome stern, and the figurehead of a woman in white holding a star in one hand and a torch in the other. She was built for Gates & Co. of Mystic, and measured: length over-all, 215 feet; beam, 40 feet 4 inches; depth of hold, 22 feet 7 inches; tons register, 1,482; tons capacity, 2,500; dead-rise, 29 inches.

Her career—twenty years pegged out partly in the dark days when American maritime news was shunted to the least important columns of the newspapers, and partly under foreign flags—can be summed up briefly. Until she was sold at Mystic in 1863, she was under the command of Captain Gurdon Gates who had supervised her construction, and made four passages to San Francisco: the first in 100 days 2 hours (the best passage of 1858 on the Cape Horn route), the second in 114 days in 1859, the third in 109 days in 1861, and the fourth in 137 days in 1862. She was thoroughly overhauled at the end of the fourth passage, sold, and placed under the command of Captain Joseph Warren, who took her out to San Francisco twice thereafter. At the end of the second passage he sold to her Peru. From then on she knocked about in the guano and coolie trade for a number of years, changing her owners in rapid succession. At one time, when she was part of the fleet owned by the Maritima Company of Peru and was known as the *Compania Maritima del Peru, No. 1,* she had, as a sister ship in the same fleet, the extreme clipper ship, *Telegraph,* then known as the *Compania Maritima del Peru, No. 2.* At another time she sailed under the name *Dom Pedro 1st* and her owners were Portuguese, and at still another time, when she was owned at Costa Rica, she possessed the name *Hermann.* Under this last name, she was sold at auction at San Francisco in 1877, and shortly thereafter was broken up and burned.

* * *

In the meantime the guns of the Civil War, like needles of hell, stitched with red the brown roads and green fields of the American countryside, but, after the initial blow to business, the wild-cat bank failures, the rise in prices and the hardship of becoming used to certain food adulterations, wave after wave of speculation and greed for money washed over the land, and out of the blood in the roads and fields there grew a bumper crop of greenbacks, shinplasters, and postal currency. Fortunes were made out of the military trade as factories hummed and turned out "shoddy" to clothe the army, and pocketbooks swelled to new dimensions as they stuffed themselves with the prices paid by the government for honest wool and leather. When the dull harvests of Britain brought about the downfall of "King Cotton" and created, instead, a demand for northern agricultural products, the South was forced to pay extortionate prices for bare necessities—$300 for a barrel of flour, $150 for a pair of shoes—to wear homespun clothing, and to sleep under blankets made from the moss of the seaboard. But the smuggler and the embargo-runner became affluent, and the manufacturers of reapers, horse-rakes, and mowers harvested the dollars as they sold their products to replace the brawn that marched from the farms to the fields of battle. The Homestead Act attracted new settlers to the country and more money was made from the pittances these people brought with them; the discovery of the rich Comstock Lode reproduced in Colorado the old California scenes of drunkenness, crime and profligacy; abundant yields of coal, iron-ore, copper, salt, and oil created further fortunes; high prices for whiskey and quantity consumption of beer helped the breweries; the meat-packing business, brought to its feet by the closing of the Mississippi, forged its way into the ranks of the big-time industries; buildings rose in the North as they fell in the South, railroads were extended, and many cities, for the first time, became familiar with street-cars; small time, corrupt politicians, bribe-takers, and bounty-jumpers rolled in wealth; men gambled and women shopped; Tom Thumb's wedding at Grace Church was translated into a leading social event; and the racetracks,

theaters, operas, minstrel shows, Barnum's Museum, and Amberg's Menagerie were thronged with people.

The New York *Evening Post* asked, "Are there no enterprises open to these men of fortune which would benefit the country as well as themselves?" And the *London Times* said, "There is something saddening, indeed revolting, in the high glee, real or affected, with which the people look upon what ought to be, at any rate, a grievous national calamity." In the long run, however, England herself made the greatest gains. When the war was over, she was once more the undisputed mistress of all the liquid highways upon which had once been written the terms of American prosperity.

During the period from 1860 to 1864 America imported nearly a billion and a half dollars' worth of goods, of which a large portion represented luxury products, and exported an amount valued at nearly three hundred millions under the import figure; though only a small amount of the merchandise represented in the transactions was carried in American vessels.

In 1858—shortly before Scott Russell and Isambard Kingdom Brunel launched Britain's 30,000-ton steam-vessel *Great Eastern* and a year before England created Samuel Cunard a baronet in reward for his services—Southern opposition and the stubborn belief on the part of a few Northerners that steam would never wholly supplant sail, succeeded in bringing about the termination of the subsidy grant enjoyed by the Collins Line; and in April the last of the Collins ships went under the auctioneer's hammer to bidders in England. During the war, America had no steamships on the transatlantic route, and, in the space of five years, nearly 5,000 vessels of all types went out of commission. The *Alabama, Florida, Georgia,* and other Confederate privateers caught and burned 284 vessels, including the clipper ships *Southern Cross, Contest, Jacob Bell, Winged Racer, Golden Eagle, Anglo-Saxon, Dictator, B. F. Hoxie, Red Gauntlet,* and *Morning Light,* and shipowners were frightened into transferring nearly a thousand other vessels, many of them clippers, to foreign flags.

When shipbuilding was resumed in the United States, in the midst

of distressing conditions after the war, horse-racing and baseball—the latter sport introduced at several colleges during wartime—had already replaced the great sailing-ship interest of the 1850's; and money, for investment purposes, was attracted to the coasting trade rather than to the sea. Iron was accepted as a definite improvement over wood for shipbuilding purposes; but, because of American tariff charges, the United States was at a disadvantage compared with Great Britain, and the Navigation Laws prevented her from buying ships in countries where labor and materials were cheaper. Wooden shipbuilding, in large part, moved to the Lakes, where ship plank that cost $60 at Boston could be had for $20 and spars that were $100 could be purchased for $40.

America never afterwards regained that sea-mastery which had been hers for that brief period of her entire career when her packets and clipper ships were the idols of the seas. The packets were driven from the transatlantic route by the steamer, and though the model of the clipper ship, formed for speed, solved a few problems in fast sailing that had tortured the minds of naval architects for years, it was discarded after it had ceased to have a legitimate use. Steamships, railroads, and canals cut through the gordian knot of Time. The clipper ships, with all their tall spars, their outstretched wings, their amazing beauty, had only defied it.

* * *

After the *Twilight* was destroyed in 1877, no fewer than forty-four American clippers were still employed, and in the 1890's the *Sea Serpent, Malay, Rattler, Competitor, Dashing Wave, David Crockett, Herald of the Morning, Brewster, Mary Whitridge, Expounder, N. B. Palmer, Nightingale, Syren,* and *Wild Pigeon* were still in existence. One by one they disappeared from the shipping lists, until in 1920 only the barge *Dashing Wave* and the *Syren* were left. That year the former vessel went ashore at Seymour Narrows while on her way with a load of cannery supplies for the Alaskan plant of Libby, McNeil & Libby. The *Syren*—her rig changed to that of a barque and her name

to *Margarida*—was still in existence at that time. She had been built in 1851 by John Taylor, of Medford, and her long life is one more refutation of the statement that Americans were not careful builders.

When she passed, something more than the last physical evidence of American clipper-ship building went with her. There passed also the last symbol of the day when America was a young sea-going nation, forward-looking, and—above all—ready to *build,* while the graybeards were nodding their heads over the sailing qualities of a few lines scrawled upon paper.

Australian Clipper
1853

THE discovery of gold in California, and its aftermath, was part and parcel of the American scene—mad, unpredictable. But when Edward Hammond Hargreaves, acting upon the advice of James Marshall, departed from California to dig for gold in Australia—and found it in February, 1851, at Summerhill Creek in the Macquarie plains—England, having had no time to anticipate the strike and justly worried over the future of the rich Australian crops, did not approve. However, when the inevitable stimulus to her shipping came and the gold began to arrive in London and Liverpool, she permitted herself to smile over the stories of gentlemen sheep-farmers, who were unable to get men to shear their sheep save for the price of all the wool and who were, in turn, offered fifteen shillings a day to cook for the shearers; and she rejoiced, via the *Illustrated London News,* that "the full tide of emigration, which has of late been diverted by the gold discoveries from the United States, and even California, has, by setting in for our own settlements in the Pacific, given a wonderful impetus to the Australian trade, which has become of a profitable character to the shipowner, and by which so much employment is now given to the ship-builders, ship-carpenters, ship-smiths, block and rope-makers, sail-makers, ship store-dealers, coopers, and the various other trades employed in promoting the vast human traffic now carried on to Australia."

In one other particular, in addition to the difference in the reception of the news of the discovery, did English gold and American gold offer a striking contrast. James Marshall, hounded from home to home by

Red Jacket

squatters and diggers, and his name used for a dozen fraudulent schemes, died in poverty and nearly insane. Hargreaves, almost immediately after his first lucky strike, was made head of the Sydney branch of the British Australian Mining Company—established for the purpose of working the most eligible portions of the goldfields; he became immensely wealthy, and was honored by both England and Australia as a prime benefactor of the British Empire.

Licenses to dig for gold were issued in September, 1851, and in the following month the first vessel to carry Australian gold to the British Isles took her departure from Sydney with £80,000 worth of the metal, and a letter, dated 11th November, in her mail bag, saying:

"Operations at the gold mines continue to be carried on with great spirit and general success, notwithstanding occasional drawbacks. £20,000 worth of gold finds its way weekly into town by the government escort, and thence on board ship, with the utmost regularity. New diggings are being discovered every day. The largest specimen I have handled weighed 82 ounces, and the allowance for quartz did not exceed 2 ounces, leaving 80 ounces of solid gold in a lump 6 inches long by 3 inches broad, and 1½ inches thick. Come over and help us, some of you starving people of the old country!"

The little vessel was the 478-ton clipper-built barque *Phoenician,* one of the Sydney packets belonging to the fleet owned by Marshall & Eridge, and built by Messrs. Walter Hood and Co., of Aberdeen. Her measurements were: length of cut keel, 122 feet; rake of stem, 25 feet; rake on sternpost, 7 feet; extreme breadth, 27 feet 5 inches; depth of hold, 19 feet 1 inch; capacity, 780 tons deadweight. Her passages—which cut, with the sweet cleanliness of speed, through the long 120-day voyages of the dirty, badly ventilated, immigrant "coffin ships"—were made as follows: London to Sydney, 90 days in 1849, 96 days in 1850, 90 days in 1851; Sydney to London, 88 days in 1850, 103 days in 1851, 83 days in 1852. The round voyage in 1852 was made in seven and a half months. Her passage of 83 days home in 1852 was considered the record until broken, later in the year, by the 78-day run made by the *Eagle* from Sydney to the Downs.

The passages of the little Hood-built clipper-barque brought forth the statement from a correspondent to the *Times* that "when the facts are duly considered, it will no longer be contended that the American clippers have any just claim to be considered the fastest sailers, or as worthy of a preference over British ships like the Phoenician." But, unfortunately for British pride and fortunately for British incentive, shipbuilding in the Isles did not keep pace with the exodus from the Isles—augmented by such arrangements as the sale of Crown lands in Australia for the purpose of paying the passages of desirable immigrants—and the better-known Lines, such as James Baines's Black Ball Line and the White Star Line of Messrs. Pilkington, Wilson & Chambers, were compelled to charter American-built vessels to tempt the luxury overflow.

Among the American ships chartered by the latter Line were the *Blue Jacket, Chariot of Fame,* and the *Red Jacket,* all three of which had notable careers. The *Blue Jacket,* the last of the trio built, was a product of the yards of Robert E. Jackson of East Boston. She was 1,790 tons, with magnificent appointments, and a speed that took her, on the Boston-Liverpool run, from land to land in 12 days 10 hours, and enabled her to beat the initial passages of the fast-sailing clippers *Red Jacket, Lightning, Donald McKay, Champion of the Seas,* and *Sovereign of the Seas* on the Liverpool-to-Melbourne route. The *Chariot of Fame,* a 2,050-ton clipper built by Donald McKay, was originally an Enoch Train & Co. White Diamond packet, but after her purchase by the White Star Line she made the best passage of her career—66 days from Liverpool to Melbourne.

The *Red Jacket,* modeled by Pook and built by George Thomas at Rockland, Maine, was a vessel of very lovely rounding lines, with sharp ends and a long flat floor. She was originally owned by Seccomb & Taylor—also the original owners of the *Blue Jacket*—and measured: length, 251 feet 2 inches; breadth, 44 feet; depth of hold, 31 feet; tons register, 2,305. The *Blue Jacket's* figurehead, washed up on Australian shores several years after she caught fire and was abandoned off the Falklands in 1869, was that of a sailor; the *Red Jacket's* was

a full-length wooden carving of the Indian chief Sagoyewatha, who, because of his friendliness toward Britain during the American War of Independence, had been given a red coat by a British officer.

The maiden passage of the *Red Jacket* is one of the most famous in the annals of American-built clipper ships: the all-time, record-smashing run, made in wintry weather and once crowding 413 miles into a single day, from New York to Liverpool, dock to dock, in 13 days 1 hour 25 minutes. The dates were January 10 to January 23, 1854. Captain Asa Eldridge was in command. Exactly two years, to the day, after the *Red Jacket* arrived at Liverpool, Captain Eldridge sailed from the same port in command of the Collins steamship *Pacific*. Somewhere on the passage westward the ship was lost; and the fate of her captain, her crew, her passengers, and her two-million-dollar cargo remains one of the unsolved mysteries of the sea.

At Liverpool, the *Red Jacket* was coppered for the first time and was chartered by the White Star Line for a passage thence to Melbourne—a passage which she made, commanded by Captain Samuel Reid, in 69 days 11 hours 25 minutes, including the swift and unequaled run of 19 days from the meridian of the Cape to her destination. She was twelve days in port, loaded 45,000 ounces of gold, and out again. Twenty days later, covered with ice, she was dodging icebergs off the Horn, and 73 days after her departure from Melbourne was at Liverpool, where she was purchased, for £30,000, by the White Star Line. During the remaining years of the 'fifties she continued in the Australia-to-England trade, making one passage, under Captain Milward, of 86 days from Melbourne in 1855, and another, under Captain Kirkby, of 80 days. On this last passage she took her departure from Melbourne on the 10th of September, 1859, and was at Pernambuco 30 days later. On Tuesday, November 29, she was in the Mersey with a cargo of 40,000 ounces of gold. Some time during the late 'sixties, after nearly a decade of passages to Calcutta and elsewhere, she was sold to engage in carrying timber from Quebec to London, and in the 'eighties was shunted off to the Cape Verde Islands to enter into service as a coal hulk.

In 1867 the White Star Line was taken over by Messrs. Ismay, Imrie & Co. and the wooden sailing ships were succeeded by a number of fast iron vessels. In 1871 the scarlet burgee with its white five-pointed star was placed over the steamships *Oceanic, Baltic, Republic, Atlantic,* and *Adriatic,* and White Star ships, for the first time, became familiar sights on the North Atlantic.

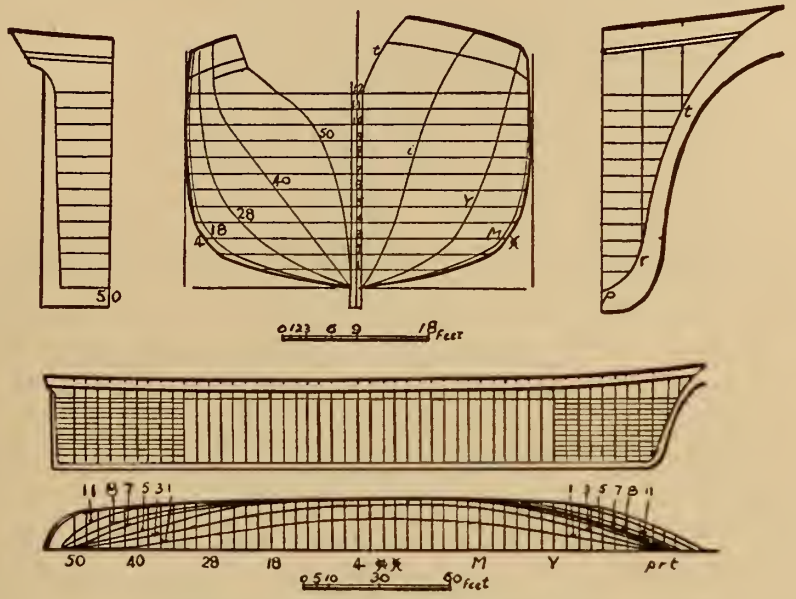
In spite of the fact that the White Star house flag was borrowed from a fleet of graceful, swiftly traveling clippers, this line was one of the first to deal a death-blow to many of the old sailing-ship traditions. When the *Oceanic* was built, her main saloon was placed in the middle length of the ship rather than in the customary after-end, and, in 1889, when the mercantile cruisers *Majestic* and *Teutonic* were added to the fleet, the world was treated to its first sight of ocean-going liners without sails, and passengers were treated to the new sensation of crossing the Atlantic propelled by steam-power alone.

Clipper Ship
Built by George Thomas
Register 2,006 tons
Length between
perpendiculars 251¾ feet

RED JACKET

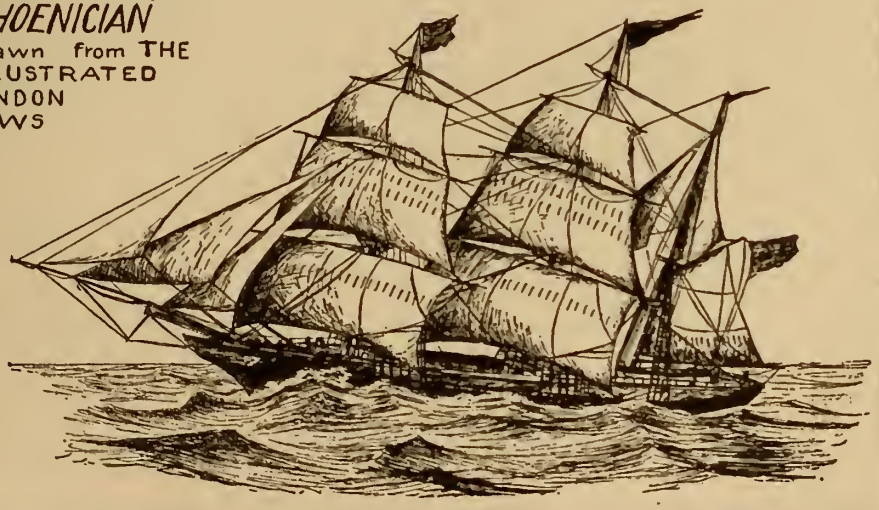
Designed by Pook
Drawn from Hall's Report

1853
Rockland, Maine
Displacement 3,001 tons gross
Beam moulded 42½ feet
Depth moulded 26 feet



Lower plans ·3 of upper plans

Clipper Barque
PHOENICIAN
drawn from THE ILLUSTRATED LONDON NEWS



Australian Clipper
1854

One of the first fairly large ship-rigged clippers to engage in the Australian trade was a Canadian-built vessel, constructed by James Smith at Marsh Creek, New Brunswick, in 1850. This was the *Marco Polo,* the pioneer liner of the famous Black Ball Fleet owned by James Baines of Liverpool. Baines, an impetuous little red-haired man, the son of a confectioner, saw the *Marco Polo* shortly after her first Atlantic crossing, from Memphis to Liverpool, in 1851. He admired her lines, which, above water, gave little indication of the potential speed which her clipperly underwater body possessed, and offered all the money he had for her (together with some he had borrowed) and, surprisingly enough, secured her for a figure that was ridiculously low. She was then refitted, placed under the command of Captain James Nicol Forbes—a pious, hard-hitting, damn-your-eyes Scotsman—and sent out, loaded with passengers and the mails, to Australia.

In appearance the *Polo* was very packet-like, with the false gun-ports that gave so many of those ships a dashing, man-of-war air. She lacked the graceful sheer that characterized the clippers of the United States, but her ends were very sharp, and her sailing qualities were sufficient to gain for James Baines an instant reputation for being one of the shrewdest judges of a ship in the British Isles. She had three decks, and her measurements—185 x 38 x 30, 1,625 tons—contrast interestingly with those of the American clippers *Nightingale* and *Westward Ho.* The first, also a ship of 185 feet in length, was 559 tons

Lightning

smaller; the second, of practically the same tonnage, was 25 feet longer; but the *Polo* was nearly 10 feet deeper in the hold.

On July 4, 1851, the *Marco Polo* took her departure from Liverpool and was soon flying down to Melbourne to make a full-fledged shipowner out of the Liverpool boy who had been so attracted to her, and to bring home the beginning of the riches and reputation that were to preface a meteoric rise to fame. She made the trip out in the then unparalleled time of 68 days—ten days less than the 1853 passage of the *Sovereign of the Seas,* and only five days over the all-time record-run on the Liverpool-to-Melbourne route. Her passage home in 74 days, although lowered by a good margin later, seemed at the time almost astonishingly fast. On the outward passage she had beaten the *Australian* (the first steamship to carry the mails from England to Melbourne) by seven days, and, after her return, and another departure, and another six months' run around the globe, she had established her owner's reputation so securely that funds were never afterwards lacking for any shipping venture in which James Baines wished to engage.

In the years 1853 and 1854 Baines made two more brilliant moves. The first was to place an order with Donald McKay for four ships to be built expressly for him, and the second was to purchase two new ships that Donald McKay had built to operate for himself. These moves, which because of their magnitude were looked upon, at the time, as somewhat mad, were extremely shrewd—partly because traffic between England and Australia did not abate for years, and partly because the dismal failure of the steamships of the Australian Royal Mail Steam Company (a company founded in 1852 on large grants of public money) to make the desired speed on the long route to Australia left the field entirely clear to the rivalries of sailing vessels. Since speed to Australia was as important as it was to California in the 1850's, the fact that Baines chose to place his orders where he did speaks volumes for Donald McKay.

The first clipper built in the East Boston yards to the order of James Baines & Co. was the superbly designed *Lightning,* a ship whose dimen-

sions were said to be greater than those of any merchant sailing vessel owned in Liverpool at the time. She was 2,084 tons register and measured: length, 243 feet; breadth, 42 feet 8 inches; depth, 23 feet. Her dead-rise, eleven feet from the keel, was 20 inches; sheer, 4½ feet. She had two decks with a height of 7½ feet between, and a poop deck which was later built over to form a third deck. Her ends were very sharp, probably the sharpest ever put on an American clipper; the sea washed fully sixteen inches into the deepest portion of her hollow bow, and from thence rounded away gradually to permit the passage of her midship body, and closed in again with ease against the diminishing roundness of her stern. Below, she was very much cut away in the neighborhood of her forefoot and heel, so that she practically rested upon her midship body in the water, and pivoted around, without gripping, when being turned about from one tack to the other. Save for a note of giltwork about the stern, and at the stem the figure of a young woman in white holding a symbolic thunderbolt, she was devoid of all ornament, and depended, for attention, upon the simple beauty of her own powerful lines.

A little over a month after her launching on January 3, 1854, the Boston *Atlas* gave a minute account of the ship, including the following description of the arrangement of her houses and interior:

"The whole height of her bulwarks is 7 feet, and she has a full top-gallant forecastle, which extends to the fore rigging, and its deck is connected with the top of a house, which is continued aft, and is 48 feet long, and 19 wide at the after end. The top of the house is connected with the poop by two gangways, so that the men can pass forward and aft, without descending into the waist. She has a full poop deck 90 feet long, the outline of which is protected by a mahogany rail, on turned stanchions of the same wood.

"There is a spacious house over the wheel, designed, in part, for a smoking room, and it also protects a staircase on the starboard side, which leads to the captain's stateroom and after cabin. The after cabin is 34 feet long, 12 wide, and 7 high, and is wainscotted with mahogany, enamel, polished ash and other fancy woods, relieved with rosewood pillars, pâpier maché cornices, and flowered gilding. It has 4 state-

rooms, 2 sofa recesses, and other apartments, a splendid sofa aft, rich carpeting, a circular marble table in each recess, and a mahogany extension table amidships. All the staterooms are furnished differently, for the sake of variety, we suppose, and their furniture is of the choicest kind, arranged with consummate skill. Every stateroom has a square window in the side, and a perforated ventilator between the beams, so that, for light and air, all has been done that could be desired. There are 4 stern windows, and a large oblong square light in the after cabin, and similar skylights over the dining saloon, which is connected with the after cabin. The skylights are set in mahogany frames, and nearly all the windows are of stained glass. In the recesses and partitions of the after cabin, there are plate glass mirrors, which give reflected views of every part of the cabin. A more beautiful cabin or one more richly furnished we have never seen.

"The dining saloon, which leads from it, is also wainscotted, is painted pure white, like enamel, and is tastefully relieved with gilded mouldings and flower work. It is 48 feet long, 13 feet wide aft, and 14 forward, and has a large mahogany table its whole length, with settees along the sides. It has spacious staterooms and other apartments on each side, its whole length, and these rooms are admirably designed for the accommodation of families. In richness of furniture, light, and ventilation, they are equal to those in the after cabin. At the forward partition there is a costly sideboard of marble, and rising from it is a large mirror. Another mirror and sofa ornaments the after part, so that the saloon is reflected from both sides.

"The chief officer's stateroom is on the starboard side, forward, and the pantry opposite, and between these are two doors, which lead to the quarter deck. The front of the poop deck projects about 5 feet, and shelters the entrance to the saloon.

"The accommodations for her second class passengers are in the house before the main hatchway, which has an entrance amidships, aft. It is 36 feet long and has a passage amidships, 5 feet wide, which leads to 6 staterooms on each side, and these rooms are well lighted and well ventilated, and tastefully furnished. The forward part of this house contains the galley, and before it, on each side, are staircases which lead to the between decks. Her crew's accommodations are under the topgallant forecastle, and are neatly fitted up.

"The between decks are designed for the accommodation of passengers, and have 10 plate glass ports on each side, skylights and venti-

lators along the sides of the house above, so that they are well supplied with light and ventilation, and will be fitted up in superior style, when the ship arrives in Liverpool.*

"As the top of the house projects 3 feet on each side, a water proof awning will be spread from it to the rails, so as to shelter the waist, that the passengers may always have an opportunity of coming on deck without exposure to wet weather.

"Her accommodations forward and aft are upon a liberal scale, and are most admirably designed for health, comfort and safety."

The *Lightning* loaded in Enoch Train's Line for Liverpool, and on February 18, 1854, took her departure from Boston, with "Bully" Forbes as commander and Lauchlan McKay as a passenger. Her passage from Boston Light to Rock Light, Liverpool, was made in 13 days 20 hours, and, although this run was some hours longer than the record passage of the *Red Jacket* made in January, the *Lightning's* best 24-hour run of 436 miles smashed all existing records for fast traveling by sail, and continued to be the record for a quarter of a century before it was equaled by steam. This run, which was recorded on her eleventh day out, during which time a gale carried away her jib and foretopsail, was 23 miles faster than the fastest day's run logged by the *Red Jacket* on her first ocean crossing, and fifteen miles faster than that of the *Sovereign of the Seas* on her memorable run of March 18, 1853.

The *Lightning* began her Australian voyages on May 14, 1854, and continued sailing between Liverpool and Melbourne, without cessation, until the fall of 1857. Her passages during these three years were as follows:

Year	*Liverpool to Melbourne*	*Melbourne to Liverpool*
1854	77 days (best day 348 miles)	64 days 3 hours (best day 412 miles)
1854–5	73 days (best day 390 miles)	79 days

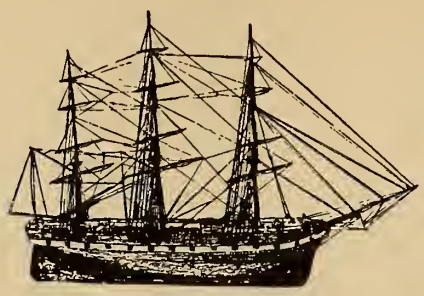
* The *Lightning* cost £30,000 to build. The sum of £2,000 was spent on additional fittings when she arrived at Liverpool, where she was also coppered.

1855–6	81 days	63 days
1856	68 days 10 hours	84 days (Port Phillip Heads to Point Lynas)
1857	69 days 6 hours (to Port Phillip Heads)	82 days (from Port Phillip Heads)

When the *Lightning* returned from Melbourne on October 23 at the close of her first passage out, Captain Forbes left her to take command of the new British-built clipper *Schomberg,* and Captain Anthony Enright, formerly of the tea-clipper *Chrysolite,* succeeded to his command. The *Schomberg,* a large vessel of 2,600 tons, built with the intention of defeating American clippers, was lost 81 days out on her maiden voyage. Her captain, crew, and passengers were saved.

Since the first two runs of the *Lightning* to and from Melbourne were fast but were not necessarily world-beaters (with the exception of the run home in 1854), the sides of her hollow bow were filled with oak sheathing before the occasion of her third outward passage. The idea was to improve her sailing qualities. The filling on one side washed away on the outward passage, and at the end of the voyage the filling on the other side was removed. On the passage home, favored by the best sailing conditions of her career, she established the all-time record run of 63 days from Melbourne to Liverpool, and thereafter no further attempts were made to alter her lines. In August, 1857, having been chartered by the British Government to transport troops to India during the Sepoy Mutiny, she took her departure from Portsmouth and made the remarkably fast passage of 87 days to Sand Heads. When she returned to England she was placed once more on the Australian route, where she remained until the close of her career.

On October 31, 1869, she caught fire at the wharf at Geelong, Melbourne Harbour, and it was necessary to tow her into the stream and scuttle her. She was owned, then, by Thomas Harrison, of Liverpool, who had purchased her in 1867. Her last commander was Captain Henry Jones.

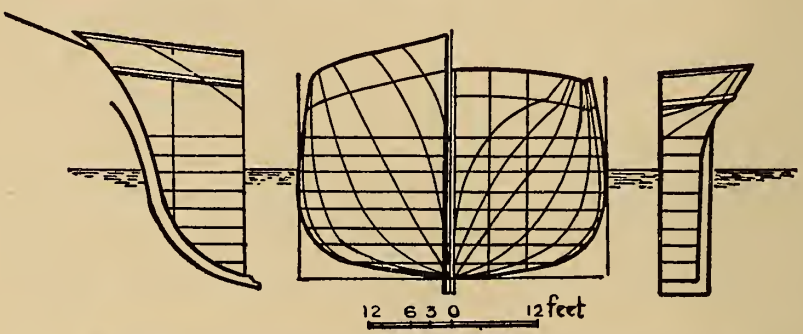


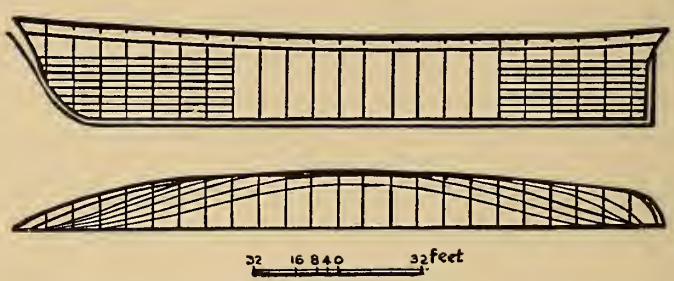
MARCO POLO
Drawn from Photograph of Model
In The Public Museums Liverpool

CLIPPER SHIP

LIGHTNING

1854
Built at
EAST BOSTON
by
DONALD McKAY.
drawn from
HALL'S
Report





Register, tons 2,084	Gross tons 2,367
Length 243 feet	Length on load-line 228 ft.
Beam moulded 42⅔ feet	Depth moulded 25 ft.

JAMES BAINES and *CHAMPION OF THE SEAS*

Australian Clippers
1854

THE *Lightning* had but recently completed her maiden crossing to England and was loading for Australia, when the second of the McKay clippers destined for James Baines & Co. slid down the ways to a tumult of shouting and closed with the sea in a fountain of liquid light. In less than ninety days after, the third of the group made her initial splash and, six months later, the last and largest of the quartette was launched.

These new ships—the *Lightning,* the *Champion of the Seas,* the *James Baines,* and the *Donald McKay*—with their sleek black sides, immaculate decks, and bright blue waterways, formed one of the handsomest fleets of merchant vessels in the world in their time, and it is no wonder that, when they arrived one by one at Liverpool, each vessel larger and more stately than her predecessor, British eyes marveled at their beauty, and that, finally, the fame of these celebrities within the Empire should have mounted upward until it reached even the royal ears of the Queen.

The *Champion of the Seas,* launched on April 19, 1854, was some 360 tons larger than the *Lightning,* and, although she was similar in appearance to the smaller vessel, her ends were shorter and her bows more convex—two facts which must have tended to mar her sailing qualities, since she was never noted for exceptional speed. Whatever she lacked in swiftness, however, she made up in comfort and spaciousness, and as an emigrant vessel she was always a popular member of the fleet. Her figurehead was that of a Sunday sailor, with his hat

in his right hand and his left hand extended. Another figure of a sailor boy, painted in realistic colors, supported the binnacle in his hands. The stern, semi-elliptical in form, was ornamented with the arms of Australia. She measured: length of keel, 238 feet; length between perpendiculars, 252 feet; breadth, 45 feet 6 inches; depth, 29 feet 2 inches; tons register, 2,447 (American), 1,947 (British); dead-rise, 18 inches; and small sheer of 4½ feet. Her first commander was Captain Alexander Newlands, who crossed from England to supervise her construction and equipment.

The *Champion* was towed from Boston to New York and sailed from the latter city on June 16, arriving at Liverpool—after a weary crossing of 29 days with light winds all the way—on the 15th of July. Ten days later the superbly designed *James Baines* was launched and, before the *Champion* had taken her departure for Australia, the *Baines* was at Liverpool. She was a handsome vessel, with a figurehead carving of Mr. Baines, and a round, beautiful stern, ornamented with a bas-relief globe between the arms of England and of America. Her spacious accommodations for passengers, and the fine woods, gilt, and stained glass used in her interior decorations, contrasted strangely—as did those of all the Black Ball clippers—with the corresponding features of the usual immigrant vessels on the Liverpool-to-Melbourne route. These latter vessels, making their outward passages in from three to four months and coming home in approximately the same time, were exceedingly plain. The sleeping accommodations for all single women were aft, of all married people amidships, and of all single men forward. The dining-halls were furnished simply with long benches and tables, and were divided into classes or schools—Scotch, English, and Irish. The arrangements of the *Baines,* on the other hand, included a large house abaft the foremast, containing galleys, staterooms, storerooms, ice-room, and staircase to the deck below; on the poop deck the ladies' cabin, usually of beautiful appointments, dining-room, bathroom, smoking-room, and other compartments; twenty-four gentlemen's sleeping apartments on the main deck, opening off a large general cabin; and accommodations for second-class

James Baines and *Champion of the Seas*

passengers, on the main deck and on the deck below, ventilated amidships by trunk skylights, and amply lighted. The height of each of her between-decks was 7½ feet. She was very heavily sparred and originally spread about 13,000 yards of canvas in a single suit of sails. When she took her departure from Boston she carried a skysail on the mainmast only, but in 1857 she was reported with skysails on all three masts, in addition to a main moonsail and skysail studdingsails—thus increasing her number of sails to thirty-four. Her measurements were: 266 feet over-all; 49 feet 9 inches breadth of beam; 29 feet depth of hold. Tons register: American, 2,515; British, 2,275. Dead-rise, 18 inches.

While the *Baines* was at Liverpool being coppered and having additional furnishings added to her lower decks, the *Champion* set sail for Melbourne. On Christmas Day, 1854, she entered that port in company with the clipper ship *Swallow*. Her passage of 75 days was two days shorter than the initial Australian run of the *Lightning,* but on the whole it was disappointing. The *Swallow* had made the passage in 73 days 18 hours from Gravesend, and, temporarily, the sailing qualities of the McKay clippers were in eclipse. Or they were, at least, until the *James Baines* came romping in, commanded by Captain Charles McDonnell, with 1,400 tons of cargo and 700 passengers, in the record-smashing time of 63 days—land to land, 58 days.

Captain McDonnell, who had succeeded to the command of the *Marco Polo* after Captain Forbes took the *Lightning,* had, during his days as first officer aboard the *Polo,* proven an apt pupil. He took the *Baines* home in 69½ days, following upon the *Champion's* return in 84 days, and on June 18, 1856, on another passage to Melbourne, reported his ship "taking out 21 knots"—the highest known rate of speed ever logged by a sailing vessel.

Meanwhile, the *Donald McKay,* launched in January, 1855, was added to the Black Ball fleet, and the gold-ships *Commodore Perry* and *Great Tasmania* were purchased by Baines while they lay on the stocks. All of these ships were quite large. The *Donald McKay,* a ship of 2,594 tons, is said to have had more dead-weight carrying

capacity than the *Great Republic,* having been designed with more spread of floor and fuller ends. She was fitted with Howes double-topsails and had nearly upright masts. During her years of service she was a popular cargo- and passenger-carrier, but never proved to be exceptionally fast.

All these Black Ball ships, with the exception of the *McKay,* were chartered by the British Government to transport troops to India during the Sepoy Mutiny, and it was while the *James Baines* and *Champion of the Seas* lay at Portsmouth that Queen Victoria—having had her curiosity aroused about the ships by enthusiastic comments in the public journals and reports from the authorities—visited them in company with the Prince Consort, the Princess Royal, and Prince Alfred.

On August 8, 1857, the *Champion* and the *Baines,* each with about 1,000 men aboard, sailed from Portsmouth, followed (on the 25th) by the *Lightning* with about 650 men and officers of the 7th Hussars, to join in the race in which all the transport ships (sailing ships, full-powered screw steamers, and auxiliary steamers) were competing. The *Lightning* arrived out on the 87th day in company with the *Champion,* 101 days on the passage, and the *Baines* arrived two days later. With the exception of the McKay ships, the average passage of the sailing transports was 120 days. The average passage of the full-powered screw steamers was 83 days, and that of the auxiliaries 93¾.

Upon their arrival home, the McKay ships, with the exception of the *James Baines* and *Great Tasmania,* resumed their places in the Black Ball service. The *Baines,* at Liverpool on April 16, 1858, at the termination of a fast passage of 77 days from Sand Heads, began to discharge her Indian cargo at the Huskisson Docks. All seemed well until the 22nd, when a thin column of smoke was seen to curl upward from the main hatch, followed by so great a blaze that it was necessary to scuttle her immediately. Her wreck was sold at auction for £1,080, and she was later converted into a landing stage for steamer passengers at Liverpool. Fire, which was the nemesis of the McKay ships, and which was to overtake the *Commodore Perry* also, destroyed the third

clipper of nine that were thus lost when it burned the *James Baines* to the water's edge.

The arrival home, in 1860, of the *Great Tasmania* was enveloped in equally tragic circumstances; one that was in bitter contrast to the gala day when Queen Victoria stepped aboard the flag-dressed *Champion* and *Baines* and, after a round of the decks, made a personal examination of the dry and meat provisions supplied for her troops. Charles Dickens, in *The Uncommercial Traveller,* has sketched his impressions of "The Great Tasmania's Cargo"; the *Illustrated London News* also describes it:

"The *Great Tasmania* arrived at Liverpool on Thursday week [March 15, 1860] with discharged soldiers from India. Out of 1000 embarked, sixty died during the passage from dysentery and scurvy, and 100 were landed in such a state that they were obliged to be taken in cars to the workhouse, when it was found that one of the poor fellows had died on the way. The men complain loudly of bad treatment, and attribute their condition to the want of hammocks and proper provisions. Four more men have since died. The ship is one of the Black Ball line clippers, belonging to Messrs. Baines. It has been stated that a searching investigation will be instituted by the Indian authorities. An inquest on the unhappy victims has been opened at Liverpool. The disclosures were of a most painful nature, and proved, somewhere, there must have been the grossest dereliction of duty. Four days after the vessel left Calcutta the beef was found to be in a putrid state, smelling so offensively when cooked that it had to be thrown overboard; the beer was sour and undrinkable; the vinegar and lime-juice—important preservatives against scurvy—were diluted and adulterated; the preserved vegetables were sodden and pulpy, and emitted a disgusting odor; the suet stank; the water was black and rusty; and the biscuit was so utterly unfit for human food, being not only mouldy and maggoty, that 36,000 lbs. were condemned, the greater portion being thrown into the sea, while that which was retained was kept only to serve as ballast. The *Great Tasmania's* stores have been examined since her arrival in the Mersey, and two naval officers and other competent witnesses declared the bread and beef, in particular, to be extremely bad. The hospital stores were deficient, and, notwithstanding that the ship had on board about one thousand men, the hospital

contained only thirty-six beds. Ten per cent of the men, it appears, were ill when they left India; but, said Dr. Gee, 'had proper food been supplied to them, they would not have been so bad as they were at present; bad food, bad accommodation, and deficient ventilation were the principal causes of diseases and death on board.' "

The *Great Tasmania* was eventually renamed the *Japan* and passed to new owners. Two days before her arrival at Liverpool with her cargo of troops, twenty-five guineas per cent were paid at Lloyd's to effect fresh insurance on her sister ship, the *Commodore Perry,* then long overdue from Australia. On the following day, March 14, the *Perry* herself arrived at Portsmouth, 118 days from Melbourne, with a cargo of gold valued at £58,000 and 5,601 bales of wool.

It was at this time, also, that reports began to be received in London of troublesome conditions in Australia—of mercantile panic, overstocked warehouses, an unwillingness on the part of banks to advance money, and the failure of many business houses. In time, of course, these conditions righted themselves, but the big boom from 1850 to 1858, which had increased the population and swelled the import figures, was definitely at an end. The days of mad, fat living were over. Miners no longer swallowed sandwiches of bread, butter, and five-pound notes or hired chaise carts to load their gold. But the cry of the newspapers of 1851 and 1852 "that the flocks and herds are left untended, that all the available population has drafted itself off to the mines, that the sheep remain unshorn, that an amount of property in wool alone worth far more than all the gold yet obtained has been lost to the colonies, and that, unless a large supply of men, women and children be immediately sent out, and followed at regular intervals by other supplies as large and continuous, the noblest colony ever possessed by any empire, and one of the noblest countries in the world, will be totally ruined, notwithstanding its gold"—this cry, with its attendant cry, "What hope is there that we shall have labour —good, wholesome, reasonable-priced labour—here?" was responded to through the medium of the glittering metal which the criers pro-

fessed to despise. When the gold excitement died down, the miners returned from the mines, the flocks were tended, the sheep were shorn, the fields were ploughed, and the large, fast ships that once raced homeward with the metal of Ballarat and Bendigo became carriers of staples—of wool, grain, hides, copper, tallow, and gums—until, like the mines that brought them into existence, they too were worked out and their day of excitement and adulation was over.

In February, 1860, the *Donald McKay* was chartered by the British Government to convey about 1,000 troops, with their wives and children, from Cork to Mauritius, and to bring back soldiers to Portsmouth. When she returned, she resumed her place in the Black Ball fleet together with her old companions, the *Lightning, James Baines,* and *Commodore Perry,* and later—when a number of American vessels were purchased by the Line during the Civil War—with the *Ocean Telegraph* (renamed *Light Brigade*), *Black Warrior* (renamed *City of Melbourne*), *Morning Light* (renamed *Queen of the South*), *Red Rover* (renamed *Young Australia*), and *Flying Childers* (renamed *Golden South*). During the late 1860's the Black Ball Line of sailing ships was disbanded—James Baines having decided to go into steam—and all of these vessels passed into other hands. Three of the four McKay ships—the *Lightning, Champion of the Seas,* and *Donald McKay*—were sold to Thomas J. Harrison & Co. of Liverpool, and were thereafter employed in general trade. The *Commodore Perry* was purchased elsewhere, and in 1869—the same year the *Lightning* was destroyed by fire at Melbourne Harbour—was burned at Bombay. The *Champion,* leaky and unfit for service, was sold at Liverpool in 1873, and foundered off the Horn in 1876 on her way from the Chincha Islands with guano for Ireland. The *Donald McKay* was resold in 1874, and the following year carried the Connaught Rangers to Bombay. In 1879 she passed into German hands, and was eventually shunted off to Madeira to serve as a coal hulk.

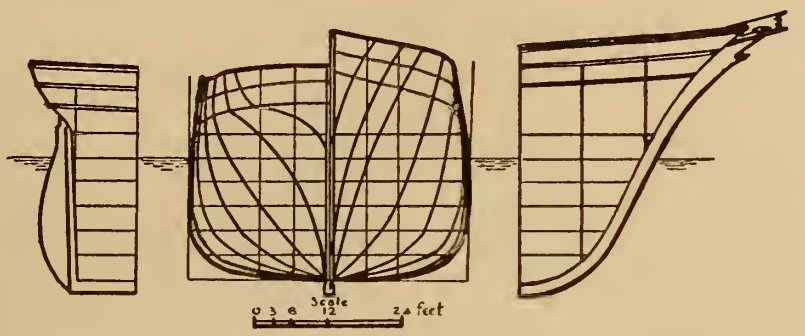
* * *

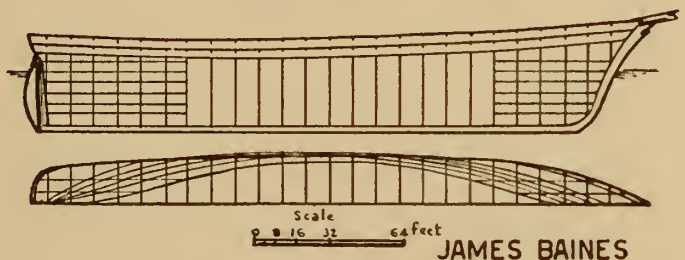
The palmy days of the large, fast gold-carriers ended as the 1860's melted into the 1870's, and their places were taken by the dainty, British-built hardwood vessels, which in turn—as the 1870's melted into the 1880's—were driven from the familiar harbors of Australia by the magnificent wool clippers of iron and steel.

Today, the big grain-carrying windjammers still keep alive the clipper-ship racing traditions as they plough the old sailing grounds yearly to and from the sun-flooded ports of Australia. On this route, at least—or until these ships and barques are built no more, or until the last are broken like glass on the rocks or lie imprisoned at their chains in some forgotten harbor—the closing sentence of sail cannot yet be written.

JAMES BAINES
and
CHAMPION OF THE SEAS
1854

BUILT AT EAST BOSTON BY DONALD MCKAY





JAMES BAINES
drawn from Hall's report

CHAMPION OF THE SEAS

	CHAMPION OF THE SEAS	JAMES BAINES
U.S. register, tons	2,447	2,515
British register, tons	1,947	2,275
register, length, feet	252	266
beam, moulded, feet	45½	45
depth, moulded, feet	29½	30
dead rise, inches	18	18

British Tea Clipper
1850

JOHN FINCHAM, master shipwright of Her Majesty's dockyard at Portsmouth during the reign of Queen Victoria, remarked that "most of the improvements in the British navy have been made only after experience has demonstrated their necessity." History, in furnishing proof of the statement, further embellishes it by detailing that the "experience" that made British improvements necessary was usually that of some other nation, and that the stubborn resistance to change, which characterized the attitude of shipbuilder, shipowner, and the Admiralty up to and including the early nineteenth century, and nullified the results of constant experimentation on the part of naval architects at home, yielded ground only when the outside world exerted pressure and Britain's sea-mastery was endangered.

This does not mean that Great Britain was satisfied with her navy, or that she was not aware, before others, of certain means by which improvements could be effected. As has been said, her naval architects were constantly engaged in making extensive investigation into prevailing conditions of ship design, and every new outside theory, from those advanced by Father Pardies in 1673 to those of the Swedish Admiral Chapman in the eighteenth and nineteenth centuries, was carefully tested. But there was frequently a want of union between proposed improvements and their practical application. Great Britain had Laws which were sacred, and the Laws precluded change; so, in appearance, she was willing to leave to her rivals the pioneer work of translating theories into successful actualities, while she remained,

Stornoway

so it seemed, smug and sluggish. Meanwhile she watched and waited, and, when changing conditions pressed her into activity, rarely failed to pull purely British improvements out of her own generously stocked warehouse, and to match "disgraceful foreign cupidity" with solid British enterprise.

The devious route by which American shipbuilders (if they were uninfluenced by European thought) arrived at their peculiar design of the fast-boat model has never been satisfactorily traced; but it is contrastingly clear that England and the Continent were not unaware of the theories which made those vessels possible. Sir Walter Ralegh, in his *Discourse on the Royal Navy and Sea Service,* advised that to make a ship sail well "is to give her a long run forward, and so afterward, done by art and just proportion," and that "the hindrance to stay well is the extreme length of a ship, especially if she be floaty, and want of sharpnesse of way forwards." He also scouted the use of excessive top-hamper: "The high charging of ships it is that brings them all ill qualities; makes them extreme leeward, makes them sinck deep in the water, makes them labour, and makes them overset. Men may not expect the ease of many cabbins, and safety at once in sea service. Two decks and a half is sufficient to yield shelter and lodging for men and marryners, and no more charging at all higher but only one low cabbin for the master. But our marryners will say that a ship will bear more charging aloft for cabbins; and that is true if none but ordinary marryners were to serve in them, who are able to endure, and are used to, the tumbling and rowling of ships from side to side, when the sea is never so little growne; but men of better sort and better breeding, would be glad to find more steadinesse, and less tottering cadge work."

That the narrow bow was tested carefully is shown by its consideration in such a popular work as Falconer's *Universal Dictionary of the Marine* (published in 1769 and enlarged by William Burney in 1815): "It has been shown by a variety of experiments, that a ship with a narrow bow is much better calculated for sailing swiftly, than

one with a broad bow; but is not so well fitted for a high sea, into which she always *pitches* or plunges her forepart very deep, for want of sufficient breadth to repel the volume of water, which so easily divides in her fall. The former of these is called by seamen a *lean,* and the latter a *bluff* bow."

One of the most interesting of the experimental vessels built in England, prior to the clipper period, was the *Transit,* a four-poster designed by Richard Hall Gower, an officer in the East India Company who, at the age of twenty, invented one of the earliest anticipations of the Patent Log. Gower later invented numerous valuable naval appliances, and became widely known as one of the ablest yacht designers of his day.

As will be seen by her lines, shown at the end of this chapter, the *Transit* possessed many clipperly characteristics: the concave bow, the even keel, the foremast stepped well back, and the greatest breadth of beam located centrally rather than far forward of amidships. She was practically wall-sided and lacked the graceful tumble-home of the *Rainbow,* as well as the *Rainbow's* sheer-line, but a comparison between the two plans cannot fail to be interesting. The *Transit* was launched in 1800—forty-five years before the Griffiths vessel—in the waters of Chichester Harbour, Itchenor, Sussex. Fincham says of her:

"She was a vessel of peculiar construction, and was intended for the packet service. In her first trials she showed superior qualities as a sailer and sea-boat; and having attracted the attention of the royal squadron in July, 1801, and previously, that of earl Spencer, when he was first lord of the admiralty, and having subsequently established her character as a fast sailer, the earl St. Vincent, now first lord of the admiralty, ordered her to be tried against the *Osprey,* a fast sailing sloop of war, of 383 tons, commanded by commander Irwin, in July, 1801; and it appears by official returns, that the *Transit* had great advantage, both close-hauled and large; that in blowing weather she was much easier and drier than the *Osprey;* and that when pressed under trial, her greatest angle of heeling was about ten degrees. Although this vessel had displayed great superiority in sailing, as well

as in other essential properties, yet she was allowed to take on board a cargo, and to sail with a convoy of merchant vessels: in this service her good qualities as a sailer were still displayed and noticed, particularly by captain Paget, of the *Hydra;* and it appears that they were not less conspicuous in subsequent voyages which she made as a trading vessel. She was fitted with bulkheads at certain distances from the head and stern, with a view to give transverse strength, and also to keep the weights away from the extremities.

"From her acknowledged good qualities, the late lord Vernon had a yacht built on the reduced lines of the *Transit;* and this vessel is said to have possessed weatherly qualities, and to have sailed well; but it is said she was not stiff under canvas.

"The rig of the *Transit* was not less peculiar than the form of her hull: she had four masts, each receiving support from another, and her sails were so cut as to be well adapted to sail close-hauled."

The dimensions of the *Transit* were: length on deck, 98 feet; extreme breadth, 22 feet; breadth on the water line, 19 feet; load draught of water forward and aft, 11 feet 6 inches.

With the exception of the yacht which was built for Lord Vernon, the *Transit* seems to have had no imitators and to have exerted no influence. This does not seem surprising, however, since the fine bow was considered unsuitable for a ship of war, because of the necessity of warships to carry heavy guns in the forepart; and the merchantmen of the period, protected by England's Navigation Laws, were concerned with neither speed nor originality. Shipbuilders, also, in the words of Fincham "came to have opinions in accordance with what they practiced," and we find Isaac Blackburn, a builder of Plymouth (in discussing the theory that "a ship with a long tapering forebody and sharp bow will invariably go much faster than one with a short taper and bluff bow"), writing in 1836 that "it is found by experience, that great touchstone of truth, that too great a fullness in the bow of a ship increases resistance considerably at the velocities they usually sail at; and that a small curve meets with less resistance than a fuller curve. It is also found, that a small curve meets with less resistance than a straight line; and that a straight line meets with less

resistance than a hollow line . . . and again, if the bow is very sharp, and the stem below nearly upright, and there is a large gripe, the foremast will, in consequence of such circumstances, require to be placed further forward: for, although the ship might pitch violently, from the foremast being placed so far forward, and from her having so little fullness at the bow to support her when plunging; yet, her sails must necessarily be sufficiently forward to assist in counteracting her griping."

Until the arrival of the *Oriental* in England, shipowners were content to leave the design of their ships entirely to the shipbuilders, and shipbuilders, for the most part, entertained ideas similar to those of Mr. Blackburn, if not much more conservative. But, with the abrogation of the Navigation Laws and the startling appearance of the *Oriental,* Britain, although thrown upon her beam-ends by this apparition-like beginning of a commercial attack upon her sea-power, wasted little time in marshaling her forces for a counter-attack. In time it became a very wonderful warfare; instead of matching bloodshed against bloodshed, it matched beautv against beauty, and speed against speed.

The *Oriental's* lines were taken off by Admiralty surveyors while she was in dock; and Jardine, Matheson & Co. placed an order with Alexander Hall & Co., of Aberdeen, for a ship to be designed and built to compete with American clippers in the tea trade. The resulting ship, the *Stornoway,* was not a slavish copy of the American model, but was built rather along the lines of the schooner-rigged opium clipper *Torrington,* which the Aberdeen firm had devised for Jardine, Matheson to compete with opium clippers sent out from America. Hall is credited with having first sponsored the Aberdeen bow—an approximation of the clipper bow—as far back as the late 1830's or early 1840's, and to have employed it on the little schooner *Scottish Maid,* which was built to compete with a paddle-steamer running between Aberdeen and London.*

* It may be of interest to note that steamers that were built about this time for the

Another vessel built by Alexander Hall, previous to the building of the *Stornoway,* was the little *John Bunyan,* one of the fastest vessels sailing out of England to China before the advent of the *Oriental.* Her registered tonnage was 525, old measurement, and 446, new measurement, but she usually carried 716 tons of tea. Her passages, listed between 1849 and 1851, were as follows:

Year	*London to Anjier*	*Shanghai to London*
1849	78 days	109 days
1850	.....	99 days
1851	79 days	110 days

Her passage from London to Shanghai in 1852 was made in 106 days against the monsoon.

Although the *Oriental* did not lower the *John Bunyan's* 1850 record-passage home by any great margin, her passage was particularly striking as having been made against the contrary monsoon. In spite of this, however, the *Bunyan's* passage stands out as one of the very fastest of the period, since only two other American ships (the *Wisconsin* and the *White Squall*) equaled it, and, with the exception of the *Oriental,* no other surpassed it until the *Witch of the Wave* broke all existing records with her 90-day passage in the spring of 1852. The *Bunyan* was only about one-half the *Oriental's* size.

The *Stornoway* was launched in the fall of 1850, and was named for Stornoway, the capital of Lewis, one of the Hebrides Isles: an odd name which was originally Stronbhaigh, Celtic for "nose of the bay." Almost the whole of the island of Lewis was owned by Sir James Matheson, Member of Parliament for Ross-shire and partner

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purpose of making short passages were frequently given rather sharp or elongated bows. In these instances, the bows were fined out with the specific intention of overcoming a tendency on their part to rise out of the water when the paddle wheels were in motion, particularly when the center of gravity was abaft the shaft of the paddle wheel. When the vessel showed increased speed after the bows were altered, it was attributed to the altered position of the wheels, rather than to the sharpness of the bows. Steamships were also made longer in proportion to breadth before sailing ships were so designed, but there seems to be no instance where the very rapid development of steamship design served to influence or improve the sailing ship.

of Jardine, Matheson & Co., and it was there that he built the beautiful Gothic and Elizabethan castle, designed by James Wilson of Edinburgh, to which he retired after the close of his career in the China trade. During the potato-crop famine in Great Britain, Sir James was particularly active in mitigating the poverty and distress of his people by inaugurating an extensive works program (Lewis had a population of 19,694), which called for the building of new roads and bridges, the draining and fencing in of large tracts of moorlands, the tearing down of old cottages and the erection of new ones for the laborers, and the introduction of a new system of agriculture. He maintained weekly steamship communication between Stornoway and Glasgow at his own expense, and was responsible for the annual cattle fairs at Stornoway, the horticultural and agricultural exhibitions, and the distribution of prizes to competitors. The record of his benevolences, including passage money expended to transport a thousand of his people to better farms in Canada, is endless; and it is said that the town of Stornoway, once a small hamlet of a dozen houses, had so increased in size during his ownership of Lewis that it boasted, in 1851, a branch of the National Bank of Scotland, assembly rooms and three very fine inns; several churches; gas-works, gaol, and court-house; a patent slip to take care of the large number of vessels wrecked yearly on the coast; and a population of 8,038.

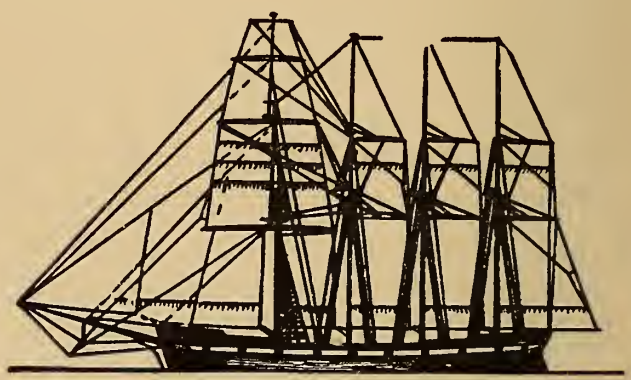
Such was the principal owner of England's first clipper, and the town for which she was named. In appearance, the vessel herself was a handsome, narrow little ship of 506 tons, measuring 157 feet 8 inches in length, 25 feet 8 inches in breadth, and 17 feet 8 inches in depth. She was very wet, with a tendency to put her nose under the water. Her first commander was Captain Richard Robertson, formerly of the *John o'Gaunt,* and her first passage to Hongkong was made in the fast sailing time of 102 days. She came home in 103 days.

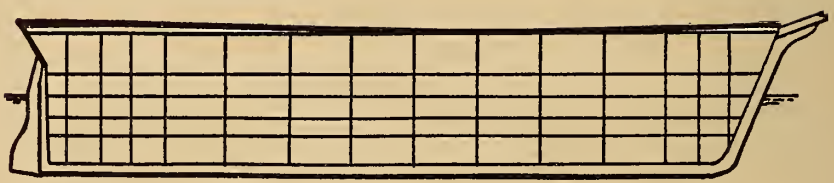
During her entire history in the China trade, she proved fast, but not remarkably so, and most of her passages have been dimmed by

the brilliant performances of later and more successful clippers. At some time during the late 50's or early 60's she was sold to the James Baines Black Ball Line, but her subsequent career is shrouded in mystery.

TRANSIT
18 00
built at Itchenor
designed by
Richard Hall Gower
drawn from Fincham's plan

length on deck 98 feet - breadth extreme 22ft, on water line 19 feet
load draught of water afore 11½ feet - load draught abaft 11½ feet





CHRYSOLITE

British Tea Clipper
1851

It is fairly certain that, long before the *Oriental* sailed up the Thames, Great Britain held in her hands, like the pieces of a picture puzzle, all the individual principles of clipper ship design. But today it would be extremely difficult to determine whether the actual vessel —the *Oriental,* the embodiment of a dozen disputed theories—influenced British shipbuilders, or whether she served merely as a guide to the proper placing of the component parts of that picture puzzle.

The *Stornoway* was British in design from stem to stern, but so much cannot be said for the *Chrysolite,* the second tea clipper built by Alexander Hall, of Aberdeen. The published measurements of this vessel were: length on upper deck, 149 feet 3 inches; extreme breadth, 29 feet; depth of hold, 17 feet 2 inches. The length of her main deck was 138 feet 6 inches; length over-all, 156 feet; length of keel, 130 feet; tonnage, 440 new, 570 old measurement.

If the principal dimensions of the *Oriental* (185 x 36 x 21) are divided by 1.239, the results will be the corresponding figures for the length on deck, extreme breadth, and depth of hold of the *Chrysolite.* Since these proportions differ radically from those given to the narrow-beamed *Stornoway* and other earlier vessels, it seems very probable that there was a play of American ideas here. Two years later, when Hall built the *Cairngorm* for Jardine, Matheson & Co., the dimensions which he gave her (185 x 36.6 x 21) were almost identical with those of the *Oriental,* and, curiously enough, this ship is said to have been the first British-built clipper to rival the American cracks. Nev-

ertheless, few builders adhered to these proportions, and Great Britain gradually evolved her own exquisite model—not comparable in size, shape, or construction to any of her American rivals in the China trade.

The *Chrysolite,* built for the Liverpool firm of Taylor & Potter, was launched early in 1851, and took her departure for China in the month of April. Her commander was the Austrian-born Captain Anthony Enright, who later succeeded "Bully" Forbes to the command of the *Lightning*. Although she carried no sails above royals and was a mere doll of a ship in comparison with the larger, more powerful California clippers, she streaked down the Atlantic and was in a fair way to break records when she struck a gale in the Indian Ocean, running her easting down. She shipped a series of granite-heavy seas over her stern, and Captain Enright was forced to give the order to heave-to, while he patched up injuries sustained by five or six members of his crew. Short-handed, she passed Anjier 80 days out, and arrived at Hongkong, in July, in the smart sailing time of 102 days from home.

In those days the China trade (aside from the coolie traffic) offered one of the most exciting and happiest of lives for a ship. The passage, both outward and home, was always double-edged with the dangers of reef and weather, but the cargoes were clean—the fragrance of China tea will always cling to the memory of the clipper ships—and the sporting appeal of the great races between China and England gave to the hard labor involved in carrying canvas a zest that was not quite instinct with the sailor.

At the end of a long Eastern passage, China herself offered something of novelty and thrill. The waters around the indented coast, with their boat population, were a delight to the eye—a theater of sound and motion, of flickering colors and gesturing shapes that moved and mimicked and repeated themselves both in and on the waters. On shore, where it seemed as if the sea and rivers had moved away and beached part of their burden for a backdrop, the odd, festive atmosphere tempted more than one British and American tarpaulin to purchase a silken gown for himself and to parade the streets

Chrysolite

of the Treaty Ports, in holiday masquerade, before he wound up in a brawl or succumbed to inevitable saturation.

In the early 1850's, the principal ports of call were Canton, Woosung, Shanghai, and Hongkong. Of these, the latter port was the capital of all European thought and social life in the East, although, when China ceded the island to England at the close of the Opium War, it was nothing more than a barren, if picturesque, rock, and the site of Victoria—or Petticoat-string Path, as the Chinese villagers and fishermen preferred it—was but a narrow roadway winding among the cliffs. The two roadsteads—Kowloong Bay and the outer harbor—gave excellent accommodation to ships, however, and it was not long before the European population, attracted to the island for purposes of trade, centered their establishments around the house of Jardine, Matheson & Co. at East Point, and eventually spread themselves out into one of the most important depots of trade in the Eastern seas. Hongkong became a little Britain, with banks, government houses, schools, churches, hotels, newspaper offices, an ice house supplied with ice by the Tudor Ice Company of New England, a naval yard, barracks, steamship companies, docks, libraries, and clubs. Amusement was supplied in the form of amateur theatricals, racing, cricket, boating, and an annual Regatta held during one week in November. Gardening was taken up with a great deal of spirit, trees and shrubs were imported from various parts of the world, flowers were planted—camellias, azaleas, roses, and orchids (the gardens of Messrs. Dent and Co. were famous for their Orchid Walks)—until, within only a few years after the island had changed ownership, the rock had been metamorphosed into a nine-mile garden of fragrant bloom. The only product for exportation, indigenous to Hongkong, was granite. The island served chiefly as a clearing-house for the export products of other ports—for opium, sugar, flour, cotton, rice, tea, woolen goods, silks, and oil—and was a popular place for rounding out a cargo before a ship sailed for home.

Canton, the most noted emporium of the Celestial Empire, was an important port of call for European navigators as early as the

sixteenth century, and—because of its unparalleled facilities for navigation and the heavy demands for the products of the Province of Kwangtung, for which it provided the outlet—it remained so until the popularity of other ports robbed it of its preëminence. Vessels, trading to Canton, ascended the Chu-Kiang or Pearl River only so far as the picturesque but noisy anchorage at Whampoa. At this point they unloaded their wares into native boats and waited for their return cargoes—composed principally of tea, silk, cassia, matting, firecrackers, sugar, and palmleaf fans—to come down the river. At one time New York imported from five to six million palmleaf fans a year, but vessels bound for England loaded with silks and tea, and it was the traffic in the latter commodity alone that sent the clipper ships racing against time and one another.

There were several reasons for the races. The young shoots of the tea plant were picked four times a year: the first in April for pekoe and young hyson, the second in May, the third in July, and the fourth in August or September. Although a six months' interval usually elapsed before the product was ready for its final treatment and sale, each succeeding gathering yielded a product less valuable and less fragrant; consequently there was always a scramble for the new teas when they were ready for the market. And the new teas generally went, together with the highest freight rates, to the ships with the best reputations for speed, while slower vessels frequently had to put up with the stock of a former season. The race home was necessary because the belief was prevalent in England that a long passage spoiled the tea, and, up until 1867, a premium was paid to the first ship to reach London or Liverpool. The fame of more than one swift clipper was written in the dregs and possibly imaginary flavor of a cup of tea, but the advertising value was well worth the payment of the premium.

* * *

The *Chrysolite* took her departure from Whampoa on the 19th of August, a few days after the American clipper *Memnon,* Captain

Gordon, sailed from the same port for London. The two ships were in company near the Island of Banca, after which both took the short cut through Macclesfield's Strait—the passage between Banca and Pulo Leat. The *Memnon*—near the spot where the British clipper *Lammermuir* was lost several years later—stove in her bottom on a coral reef in a squall, was abandoned, and stripped by pirates. The *Chrysolite,* being ahead and unaware of the tragedy of the *Memnon,* continued the race and reached Liverpool on December 1. Her passage of 104 days from Whampoa—one of the best three made by either a British or an American clipper during the year—was greeted with rejoicing in England. The *Illustrated London News* devoted several columns to an account of her passage. The following remarks were included:

"The latter ship [*Memnon*] sailed from Whampoa three days before the *Chrysolite;* notwithstanding which the latter came up with the *Memnon* on the 21st day, tried with her for fifteen hours in a dead beat to windward through the Gaspar Straits, beat her completely, and left her 9½ miles astern, having had a good fresh breeze all the time. After this the *Chrysolite* fell in with H.M. frigate *Havannah,* of 20 guns, a very fine and fast sailing vessel, of 1000 tons: the two were in company for fifteen days, and the frigate could not leave her; in fact, the *Chrysolite* kept her astern from two to five miles, as her log proves, although the frigate crowded every stitch of canvas she could set, thus proving her admirable sailing qualities; while the officers of the *Havannah* acknowledged that she was the only ship they had ever fallen in with during their commission that had been able to hold with them. The two vessels parted company about 700 miles from the Azores—the frigate for Portsmouth, the *Chrysolite* for Liverpool. Her official character, as given by her captain, proves her a most superior ship; and her whole performance shows that, whenever it comes to a fair field and real work, she is well able to cope with and lead the fastest of the 'boasted American clippers.'

"The following were some of her best days' sailings, 24 hours:

235 knots	172 knots	236 knots	200 knots
264	225	230	212
260	289	320	268
180	290	260	. . .

Rate of sailing by the wind, 9½, 10, and 10½ knots; going free for all sail, 11½, 12½, and 13½ for many days together, and has gone for a limited period 14 knots. She is very easy and buoyant in all weathers, running before heavy gales, or hove to; behaves remarkably well under all circumstances, and has passed every ship with which she has yet fallen in."

Between 1852 and 1859, a number of new vessels were built in England for the China trade, including W. S. Lindsay's *Challenger,* the long and narrow *Lord of the Isles*—which had a tendency to snake through the water to the peril of all who happened to be on deck, especially in the vicinity of the jib-boom, the *Cairngorm, Crest of the Wave, Norma, Flying Dragon, Formosa, Fiery Cross, Lammermuir, Northfleet, Robin Hood, Friar Tuck, Ziba,* and *Spirit of the Age.* Of these, the *Lord of the Isles* was unique in that she was built of iron. She was built by John Scott & Co. of Greenock and was very fast—one of her passages being the marvelous run of 87 days from Shanghai to London in 1855, against the monsoon; but, owing to a belief that an iron ship sweated her cargoes, she was never popular in the tea trade. In August, 1862, she was near the island of Hainan with a full load of gunpowder, when she caught fire and was abandoned by her crew, part of which was picked up by the gunboat *Snake.* Captain Davie, her commander, and six French priests, passengers, also reached land in safety.

During these years, while lean ships laced blue seas with patterns of white as they hurried homeward with cargoes of tea, trade conditions at the Treaty Ports labored between increased size and the ignominy of being snuffed out altogether. In 1853, an American firm made contacts, through native agents at Foochow, with the tea districts of the interior Province of Fuhkien, and extensive shipments, for the first time, were made from thence to New York. It was a

significant step, since Foochow later became one of the most favored ports of call for the tea clippers and was the starting point for many of the grand races of the 1860's. The same year nearly seventy cases of piracy were reported in the vicinity of Hongkong; and the prosperity of the rising settlement of Shanghai was threatened by bands of insurgents invading nearby territories. In 1854 the French Admiral, Laguerre, attacked the rebels who had successfully invaded Shanghai the previous September, but his party was driven back, and the rebels remained in possession of the city—to the general confusion of business.

Down the coast at Hongkong on the 14th of January of the same year, the American squadron—the ships *Susquehanna, Powhatan, Mississippi, Vandalia, Southampton, Supply,* and *Lexington*—were making last-minute preparations before sailing to Japan, under the command of Commodore Perry. In April, the *Susquehanna* was back again with news of successful negotiations for a Commercial Treaty between the United States and Japan, and on the 14th of August the American ship *Lady Pierce,* fitted up by Mr. Silas E. Burrows for a yachting cruise to Japan, returned from a peace expedition to that country. Exactly one month later Commodore Perry himself was being presented with a service of plate by the American communities at Hongkong and Canton, prior to his departure overland for America. On the 1st of November the discovery ship *Enterprise* arrived at Hongkong from the Arctic; on the 21st of December several hundred Chinese rebels were captured by the police; and, a little later in the month, the Crimean War raised an echo on the island, when subscriptions were taken up for the families of the soldiers and sailors who had perished in that conflict. That year the public journals commented upon the extraordinarily fast passage of 106 days made by a vessel (unnamed) from Whampoa to London.

The following year the rebels were driven out of Shanghai, and trade took an upward slant: 434 foreign vessels arrived for tea and silks, and 437 took their departure. Hongkong had a bad fire that year and, in September, a storm caused most of the vessels in the harbor to drift, damaged the wharves, and destroyed a number of

lorchas. H.M.'s brig *Bittern* killed 1,200 men and destroyed twenty-three junks in an encounter with pirates at Shei-foo; and, in October, the U. S. Consul, Mr. Keenan, had a dust-up with the local authorities over the rights and jurisdiction held by the latter over the persons of American subjects on board American vessels in the harbor, and, although this matter was satisfactorily settled, Mr. Keenan was bailed, in the following month, to make his appearance at the Supreme Court on the charge of having rescued an American prisoner from the civil authorities, with assault and battery. The year closed with an attack by robbers on the premises of Messrs. Wardley & Co.; and the following year opened with an attack on shops at East Point, during which Messrs. Jardine, Matheson & Co.'s guard was wounded and property to the value of $1,000 was carried off.

In 1856 the Chinese authorities arrested some Chinese seamen on board the British lorcha *Arrow*. When the fleet under Sir Michael Seymour attempted to avenge the insult to the British flag, hostilities broke out at Canton, and the Factories (foreign residences) at Canton were pillaged and burned by native mobs. Matters were further complicated when warships belonging to the United States were fired upon by the Chinese, as the ships passed the once famous Barrier Forts. The United States vessels returned the fire, and the forts were completely demolished. Twelve months after the Factories were burned, an expedition under the command of Sir Charles Straubenzee was dispatched from England, and the city of Canton was taken by escalade on the 29th of December, 1857, and for the first time was completely opened out to European invasion. In the meantime, merchant ships had taken themselves to other ports and Canton did not resume her important position in the scheme of trade.

In 1858 American clippers were noticeably absent from China, but nearly 318 British vessels of all types, representing a gross capacity of 124,302 tons, arrived at Shanghai for cargoes, leaving the neighborhoods of Canton and Hongkong, where the year was very terrible, almost deserted.

Piracies of all sorts—including the capture of the *Wing-sunn* pas-

sage boat, which plied between Macao and Hongkong—and incendiary fires marked the period; and Hongkong, because of a proclamation issued at Canton by the Braves of the Kwangtung Province ordering all Chinese in foreign employ to return to their homes, was thrown into dismay by the exodus of servants from the island, and by the stoppage of supplies from the mainland. By 1859 practically all the tea ships were calling at Foochow or Shanghai for their cargoes, and another day, made interesting by the advent of a new type of British clipper, dawned over the tea trade. When the 1860's were in full swing, the reign of the *Chrysolite* and her companion ships of the 1850's was definitely over.

British Tea Clippers
1863-5

DURING 1860 two or three American clippers, including the *Flying Cloud,* loaded at China ports with the London teas, but after that year the representatives of the Stars and Stripes were conspicuously absent from the races, and the field was left almost entirely free for the competitive sailings of the long, narrow, beautiful new British clippers, built between 1859 and 1863, of the *Falcon, Min, Serica, Flying Spur,* second *Fiery Cross,* and *Belted Will* class. But since the Yankee clippers left a generous sprinkling of fast passages behind them when they departed—such as the 65-day run of the *Challenge* from Anjier to the Downs, the 72-day run of the *Nightingale* from Portsmouth to Anjier, the 84-day run of the *Comet* from Liverpool to Hongkong, and the 86-day run of the *Golden Gate* from Shanghai to Beachy Head—the question of their construction, in comparison with British ships designed specifically for the tea trade, will always remain a provocative one.

Much has been said pro and con about the superiority of American ships, in matters of speed, over those of British build, and vice versa; but in the China trade, where the size of the more powerfully rigged American ships might have been a handicap, the results in passages, with very few exceptions, speak as well for one type as they do for the other. American ships, as a class, reached the highest pitch of fast-passage making between the years 1850 and 1861. If, then, the finest passages that American ships made between China and England are selected for comparison with an equal number of the finest pas-

Taeping and *Ariel*

sages made by British ships over the same route, between 1868 and 1873 (the years when Great Britain may be said to have reached the pitch of fast-passage making), a fair basis for deciding the superiority of one type of ship over the other may be arrived at. The results are as follows:

American, 1850-61. Average 55 best passages China to England, 109 days 17 hours.
British, 1868-73. Average 55 best passages China to England, 110 days 18 hours.

The slight margin in favor of American ships over this course is, however, almost completely wiped out by the fact that Yankee clippers made but six passages under 100 days during the decade they raced to England with tea; while British clippers, over a period of five years, made eight passages under 100 days. The averages are as follows:

American, 1850-61. Average 6 runs under 100 days to England, 95 days 12 hours.
British, 1868-73. Average 8 runs under 100 days to England, 95 days 3 hours.

It is true that American clippers were designed specifically for the California trade and that British clippers were designed specifically for the tea trade, but most British ships were built as tight as a bottle, and, whatever handicaps American clippers had in any trade, they boasted one great advantage which undoubtedly aided them in their famous bursts of speed: that of pliability. A British shipbuilder writing in the early 1830's, and agitating for flexibility in the construction of ships, called attention to this characteristic of American shipbuilding; but it was not until many years later, when Great Britain was building the last of her famous clippers, that much attention was paid to the subject in that country. He said:

"When a ship is so firmly put together as to become inflexible, the

midship bend must always be deeper immersed whenever the after-body subsides, as illustrated in the immediately preceding article,* because the one part cannot move without the other, she is bound fast, and becomes unyielding to the partial pressure attending the operations of her natural element. But if a ship was put together in such a manner as to be pliable, and to bend or yield a little in midships, so as to allow the after-body of its own accord to subside, without depressing and enlarging the midship bend, she would then escape the additional resistance, and of course go faster. The advantage emanating from pliability of construction, by enabling the after-body to subside, without depressing the midship bend, becomes therefore of material import, and claims more especially the attention of the practical ship-builder, in the putting of a ship together. It is in a very paramount degree, owing to want of pliability, that so many failures and disappointments occur in the sailing of ships, as before alluded to; and why the fairest expectations of the ship-builder are so often defeated. Experience and observation has induced a common opinion, that pliability in the construction facilitates the sailing of ships; but it has rarely been attended to by the practical builder in the construction of ships, as its importance demands; nor has its operation in accelerating the velocity of a ship been rightly comprehended.

"The advantage and expediency in pliability, is very evident in a scientific point of view; and, experience has amply proved it, as occurring from the different manner in which ships have been constructed; this has been witnessed in many that have been built in America, and in other parts of the world, in which instances the advantage of pliability of construction has accidentally manifested itself by their being badly built, and flimsily put together. When it has happened also to have been fortuitously thought of and resorted to in cases of emergency, its importance has frequently been experienced. Instances have been known when vessels have been pursued by an enemy, and extraordinary efforts required to be made in order to expedite their sailing, that the sides of the vessels have been cut down, (the planks in the upperworks sawn through) in midships, whereby their speed has been

* "The after-body has, when the ship is going forward, a tendency to forsake the support of the water under it, in consequence of the ship moving in a level direction, and the support of the after-body lying in a slanting or sloping direction. By thus forsaking the water, the after-body is liable to dip, or subside, owing to the loss of its support: or, as mariners term it, to sink after her tail. . . ."

so much accelerated, as to have enabled them to effect their escape. The reason of this is obvious, the vessels have thereby acquired pliability; and (though certainly a dangerous expedient,) a more effectual recourse to obtain pliability in midships, and to enable the after-body to subside, could not have been resorted to."

Certainly the privateers of America, in early days, were often flung together and were quite swift; but it does not necessarily follow that the later American cracks were of faulty construction because they were fast, since strong, supple woods, introduced into those parts most liable to strain, provided not only the desirable "give," but also strength and durability. There were also what might be called "tricks of the trade," utilized for the purpose of giving a ship a certain amount of resiliency, and, in other cases, for improving the trim of a ship. These consisted, for the most part, in eliminating all superfluous fastenings, making the masts to rake "just so," removing weights from one position to a better one, and stowing the anchor as far aft as circumstances would permit; using "springy" ballast (renewed as often as possible) in the form of fresh, clean, loose stone or, better yet, using casks, bottles, or tanks partly filled with water or other liquid for ballast; loosening the sheets on the fore and main courses so that the sails would ride slightly forward from the perpendicular, setting the shrouds up freshly (this has been known to make half a knot's difference in the speed of a ship), suspending a weight on the mainstay to relieve it from tautness (during earlier days, when ships sometimes outsailed their convoys, old sailors were known to put a stopper on the mainstay and confine it to the deck, in order to slow down a ship to save themselves the trouble of taking in sail), and slackening the backstays ever so little.

It may be supposed that whatever sailing tricks there were, American skippers used them; but, after the spars of the Yankee clippers were cut down and they disappeared from the tea races, Great Britain, far from falling into her old slack ways of the non-competitive period, continued to make great headway, and dealt herself a few aces from the pack of shipbuilding progress. One of these was the introduction

of the system of composite construction, which consisted in giving a ship iron frames and a wooden skin. Aside from being an extremely advantageous method of construction—since it combined the strength, lightness, cheapness, and minimum space requirements of iron with the durability and minimum of friction presented by copper sheathing on a wooden bottom—it was a welcome one to shipbuilders, who were beginning to worry over the cost and scarcity of timber, but who clung to the conservative belief that wooden ships were superior to those of iron. There were several methods of composite construction in use, the most popular being that patented by John Jordan of Liverpool. The first composite vessels constructed according to his system were the schooner *Excelsior* (1850) and the barque *Marion Macintyre* (1851), built by L. H. Macintyre & Co. John Jordan's father was a partner in this firm. The first seagoing vessel of composite construction was the *Tubal Cain,* built by the same firm. Jordan is generally credited with having originated the system, but his method was anticipated as early as 1839 by that of a Mr. Watson, of Dublin.

In 1863 several composite tea clippers were brought out, which proved so successful that thereafter all the tea clippers were of composite construction. One of the first of these, the *Taeping,* was a lovely little ship designed by William Steele and built by Robert Steele, of Greenock, who in 1826 had built the *United Kingdom,* the first of the Leviathan-class of steamers. The *Taeping* was launched on the 24th of December, and measured: length, 183 feet 7 inches; breadth, 31 feet 1 inch; depth, 19 feet 9 inches; tons, 767. Her owner, Captain Rodger, was formerly commander of the *Kate Carnie,* one of the early British clippers and the first clipper launched from the Steele yards. Her first commander was Captain M'Kinnon, one of the most daring skippers in the tea trade.

The *Taeping* was soon followed by others of composite build, including the *Eliza Shaw, Yang-tze,* and *Black Prince* in 1863, and the *Ariel, Ada, Sir Lancelot,* and *Taitsing* in 1865. All these were exquisite little ships with long, narrow lines and small deck houses;

India-teak decks, rails, bulwarks, hatch-coamings, and skylights; and a dazzling array of brightly polished brasswork.

The *Ariel,* probably the fastest of this group, was also a creation of the brothers Steele, and like all their productions presented a charming appearance to the eye—an appearance which was greatly enhanced by a delicate, fine-lined stern, which proved, however, to be excessively dangerous in a following sea. The Steele ships had a tendency to sit down, or squat, in the water. Her masts and spars were painted flesh-color, and the white panels of her bulwarks and midship house were white, edged with green and stenciled faint rose-color. She had iron masts and was the first British clipper to carry double topsails—a fashion which was soon adopted by nearly all the vessels, with the exception of those owned by Captain Rodger. She was launched in the autumn of 1865, owned by Shaw, Maxton & Co. (Shaw was former commander of the clippers *Lord of the Isles* and *Falcon*) and measured: length, 197 feet 4 inches; breadth, 33 feet 9 inches; depth, 21 feet; tons, 852. Her first commander was Captain Keay, formerly of the clipper *Ellen Rodger.*

The *Taeping's* passages, summed up, were as follows: 1865, Foochow to the Downs, 101 days (fastest passage of the year); 1866, China to England, 99 days; 1868, Foochow to London, 102 days; 1869, China to London, 107 days and out to Shanghai in 102 days; 1870, from Whampoa in 116 days, thence out to Shanghai again, from which port she departed on February 25, arriving at Bangkok on March 11.

The *Ariel's* passages, summed up, were as follows: 1866, China to England, 99 days. Was 25 days from Anjier to the Cape and 13 days between the Tropics. 1867, Foochow to England, 102 days, first arrival; 1868, Foochow to London, 97 days, first arrival; 1869, Foochow to London, 104 days, out to Shanghai in 108 days; 1870, struck a gale on her way to Yokohama necessitating repairs, missed the races, and took a cargo to New York; 1871, New York to London in 28 days, home from Shanghai that year in 113 days. Her best day's run was 340 knots.

The *Taeping* and the *Ariel* figured conspicuously in the tea races (covered in succeeding chapters) until 1872, when both were lost: the first on Ladd's Reef, while bound from Amoy to New York, and the second somewhere out in the blue, while on her way from London to China. Her commander at the time was a Captain Cachenaille.

British Tea Clippers
1865-7

ALTHOUGH the races of the British tea clippers to 1866 had not been without interest and there was a spotting of fine passages, it was not until the composite clippers were sent out to China that British ships began to show a beautiful average of performances, both singly and in groups. In no race is the standard of excellence reached by British builders so well illustrated as in the famous close race of 1866, which started from Foochow—the city that eclipsed all others in general, and Shanghai in particular, as the port of call for tea.

During the years 1860 to 1864, Shanghai had been excessively prosperous and trade was somewhat concentrated at that spot, partly owing to the opening of the navigation of the Yangtse under the Treaty of T'ientsing, and partly because the irruption of the T'aiping hosts from Nanking had impelled scores of the inhabitants of other cities to take to their heels and their money-bags and to seek refuge in Shanghai. The city mushroomed up with a speed only a little less amazing than that which marked the rise of San Francisco and of Melbourne, and the usual wild speculation (principally in real estate, cotton, and teas) and the logical aftermath followed. When the T'aiping rebels were driven back, the refugees returned to their homes, and the majority of the speculations ended in disaster. A writer in the *Shanghai Daily News* presents this picture of the city in 1866:

"It has been suggested that a calculation of the amount of capital sunk in the various unremunerative speculations which may be seen in

the course of any afternoon's pull on the river or stroll through the settlement, would be interesting.... Beginning at the lower reach, the premises of the Shanghai Brick and Saw Mill Company invite attention, and an item of Tls. 100,000 would be entered by the calculator under the head of dead loss, with memorandum in the column of 'remarks,' that an effort was being made by a new company who had purchased the premises for Tls. 18,000 to work them with better success. Bewildered while passing up the river, by successive ranges of empty or half empty go-downs, he would vaguely set down a million or two as the number of lost taels represented. At the time these go-downs were erected, the river contained 270 ships instead of 27, and the demand for warehouse accommodation largely exceeded the supply. Cool consideration might have suggested the impossibility that this could last; that supply so enormous must cause a glut to be followed by reaction. But no such reflection was acted on; the demand for storage existed and the erection of warehouses offered an apparently profitable opportunity of investment. Go-downs and wharves were constructed in an excess corresponding with the excessive arrivals of goods; and now that the arrivals have ceased, the go-downs are empty and the wharves idle."

The results of tea speculations during the years of Shanghai's plenty, and the enormous size of the shipments ventured upon by the speculators, only served to stimulate shipments from Foochow; and these continued to increase, proportionately, as shipments from other ports decreased. In 1861 (about the time Foochow began to receive marked attention) fifty-six million pounds of tea were exported from this port, two-thirds of which (principally Congou and Souchong) went to Great Britain, and the other third to the United States (principally Oolong), Australia, and elsewhere. In 1865 the figure had grown to sixty-five million pounds, valued at 19,717,882 Mexican dollars.

The city of Foochow itself, distant from Hongkong about 520 miles by steamer and from Shanghai by about 410 miles, served, with Amoy, as the outlet for the products of the Province of Fukien; such products consisting, for the most part, of black (or Bohea) teas, grains, bamboo, ginger, deer's horns, beeswax, sugar, medicines, paper, cloth,

Sir Lancelot and Leander

and timber. Built in the form of an Ace of Clubs, and charmingly and aloofly situated on the River Min, Foochow in those days was one of the loveliest among the open ports of China. The Chinese section of the city confined itself within the petals of the Club beyond the paddy-fields and tea pavilion, but the residences of the European community were built on the hilly south bank of the river, adjacent to the Bridge of Ten Thousand Ages, which connected the city with the little island called Chung Chow. The hongs of the merchants were scattered nonchalantly amongst dense foliage, with practically every well-known mercantile name in China represented: Jardine, Matheson & Co., Lindsay & Co., Siemssen & Co., Dent & Co., Augustine Heard & Co., Russell & Co., Gibb, Livingston & Co., Adamson & Co., Olyphant & Co., Hedge & Co., Birley & Co., Foster & Co., Gilman & Co., Fussell & Co., and Holiday, Wise & Co. As with Canton, large merchant ships were obliged to anchor ten miles below the city so that in this respect Foochow was similar to the city on the Pearl, if less clean. A staff of European pilots conducted the navigation of foreign vessels to and from the Min, at a charge, in 1866, of three Mexican dollars per foot of draft from the White Dogs to Sharp Peak Island, and of one dollar and a half per foot thence to the Pagoda Island Anchorage. The dock at the island was owned and managed by Europeans, whose charges were one Mexican dollar per ton for the day of entrance and the two following days, and sixteen cents per ton per day thereafter.

Late in the month of May, 1866, eleven clippers lay at the Pagoda Anchorage loading their matted chests of tea, in preparation for the race home. Six of these—the *Ada, Black Prince, Chinaman, Flying Spur, Falcon,* and *Coulnakyle*—were older, less favorite ships and received only secondary attention from either shippers or bettors; but the others were the pick of the fleet, being either mysterious new entries or top passage-makers of the previous year. The *Ariel,* which, with the *Taitsing,* was one of the new composite vessels out to China for the first time, completed loading first, unmoored first, and dropped down the river to anchor until morning. Toward dawn, the *Fiery*

Cross—one of the best passage-makers out the previous year (88 days to Hongkong, pilot to pilot) and first vessel home in the race of that year—finished second. The *Taeping* and the *Serica* (the first vessel the best passage-maker of the previous year, and the latter vessel runner-up for honors with the *Fiery Cross*) finished loading together, and the *Taitsing* finished the following day.

The *Ariel,* although first to load, was not the first to leave China behind her. Both she and her tugboat were caught in the swirling waters of the Min and, while they churned about having a bad time of it, the *Fiery Cross* went sliding by with a cheer on her way to the open sea. Fourteen hours afterwards, the *Ariel, Taeping,* and *Serica* —all together, by that time—prepared to drop their pilots, when the *Ariel's* pilot boat overturned, causing another delay, and the *Taeping* and *Serica* shot out ahead. Such was the start. The *Taitsing* followed at their heels a day later, and, from that moment on, all five went zigzagging down the map at headlong speed, meeting each other in calms, on the passage to England, and losing each other again as the winds grew keen.

They finished in whirlwind fashion, giving an excellent illustration of the even results achieved when sailing ships were designed on a purely scientific basis, as they were at that time. The *Taeping* and the *Ariel,* being composite ships of the newer type, well commanded, and favored in calms, should have won the race. Which they did. They arrived off the Lizard on the same date, nearly abeam, and took their pilots practically together. Both ships were 99 days out from Foochow, but the *Ariel* was ten minutes ahead at the Downs, which threw the race in her favor, until the *Taeping* docked twenty minutes ahead and claimed the victory. The argument as to which ship won the race was settled by sharing the premium.

The times of the other ships from their pilot at Foochow to the Downs were: *Serica,* 99 days; *Fiery Cross,* 101 days; and *Taitsing,* 101 days.

Another pair of very smart composite-built clippers, the *Sir Lancelot* and the *Leander,* were launched, one just before and one just after

the close race of 1866. The first vessel went down the ways on July 27, 1865, but an incompetent commander robbed her of the opportunity to compete in that race, which is something of a pity since she was almost the twin of the *Ariel*. Mr. W. S. Lindsay, who considered her and the *Thermopylae* "the fastest sailing ships that ever traversed the ocean," gives this biography of her:

"She was built by Mr. Steele of Greenock for her owner, Mr. James MacCunn, of that place, and was commanded by Captain Richard Robinson, a native of Maryport, who was brought up in the service of Messrs. Broklebank, of Liverpool, and who had, previously to being placed in command of the *Sir Lancelot,* made very fast passages in the *Fiery Cross*. She is 886 tons register; and her dimensions are—length, 197 feet 6 inches; breadth, 33 feet 7 inches, and depth, 21 feet. This celebrated sailing ship, in her racing days, spread, when under full sail, 45,000 square or superficial feet of canvas. She was manned by 30 hands all told, and delivered 1430 tons of tea (of 50 cubic feet to the ton) and her draught of water, when thus laden, was 18 feet 7 inches forward, and 18 feet 9 inches aft. In addition to about 200 tons of shingle ballast, there was 100 tons of iron kentledge (specially cast for this purpose), stowed in the limbers—that is between the ceiling and the outer skin. This was fitted to the vacant spaces and distributed along the keelson, tapering towards the foremast and mizzen-mast. It gave the ship great stability, and compensated for the immense height of her masts, which, without the kentledge, would have made the ship too tender. In the opinion of her owner, it contributed greatly to the ship's success. I may add that the bottom, which consists of teak, was carefully planed before the metal was put on, and was quite as smooth as the bottom of a yacht."

Her hull was painted pale sea-green and her figurehead was a knight in armor, with plumed helmet and right hand on sword. She sailed to China on her maiden passage, under the command of a Captain MacDougal, and, after an intermediate passage from Bangkok to Hongkong, was chartered at Hanchow by Jardine, Matheson & Co. to load teas at £7 a ton. Unfortunately, it was one of the off years at the port—one in which defective towage and the intricacies of

navigation resulted in numerous wrecks and losses so serious as to cripple the port as a shipping place for tea; and the *Sir Lancelot* was one of the vessels damaged in a collision. The other MacCunn clipper, the *Guinevere,* was lost that year. She took her departure from Hankow on June 3, with the first tea shipment of the season (a valuable cargo of some 9,000 chests) and was totally wrecked fifty miles down the stream. Her loss was immediately followed by the stranding of several other vessels, with the result that insurance rates, on vessels descending the Yangtse, soared to an almost prohibitive height. It is therefore not so surprising that Captain MacDougal of the *Sir Lancelot* and Captain McLean of the *Guinevere,* who took passage home in the *Sir Lancelot,* should have brought the MacCunn clipper home in the slow time of 122 days, and in the most completely unnerved and incompetent manner. At the end of the passage the *Sir Lancelot* was handed over to Captain Robinson, of the *Fiery Cross.* She again lost her opportunity to sail early in the 1867 race, having been dismasted, but her 99-day passage was the fastest of the year. Subsequent passages made by the *Sir Lancelot* were: England to China, 98, 115, and 100 days; China to England, 98, 90, 102, 122, 127, 124, 128 days. In 1871 she made her passage from China to New York, and in 1874 went to Sydney in 84 days. In 1875 she went from Shanghai to New York in less than 100 days; in 1876, went to Otago from London, thence to Shanghai, thence to Yokohama, where she loaded for St.-Nazaire. Made the passage from Japan to Plymouth in 127 days. In 1877 she went from Shanghai to New York in 95 days; in 1881 she went to Portland, Oregon, to load grain. The following year she went from Astoria, April 3, to the Downs, August 21; loaded for Hull, left Shields, October 4, was at Beachy Head on October 6, and at Anjier on December 27. Thence she went to Calcutta, departed from the Hooghly on April 20, 1883, and arrived at Rouen on September 2, 1883. From Rouen she went to the Clyde and loaded for Mauritius. For several years thereafter she was employed as a country trader.

Like the *Sir Lancelot,* the *Leander* had an incompetent commander

on her first passage to China. She was a beautiful ship of 883 tons, built by Laurie & Co., of Glasgow, for Joseph Somes, and designed by Bernard Weymouth, Secretary of Lloyd's Register. She measured: length, 210 feet; breadth, 35 feet 2 inches; depth of hold, 20 feet 8 inches. She was launched in 1867 and competed, with the *Sir Lancelot* and some dozen older and newer flyers, in the China races for as long as they lasted, and was gainfully employed for many years thereafter. Her passages were: 1868, to Shanghai in 96 days, home in 109 days; 1869, Foochow to London, 103 days, out again to Shanghai in 106 days; 1870, from Foochow to London, 103 days. In 1872, in a passage from London to Australia, she had two men washed overboard in a heavy sea, the helmsman's thigh being broken and the wheel split in half. She made the passage from the Start to Sydney in 92 days, but in 1874 made the passage from the Isle of Wight to Sydney in 74 days. In 1877 she loaded tea and silk at Woosung for New York, arriving out in 99 days, and in 1879 she made her China passage to London in 128 days. In 1880 she ran ashore near Port Phillip and was nearly lost, but was refloated; in 1881 she ran from Foochow to London in 104 days, and in 1882 in 119. She was still in the China trade in 1886, one of the very few clippers so occupied at that late date.

The *Sir Lancelot* was sold that year to Messrs. Visram, Ibrahim of Bombay, and, under the command of Captain Brebner, author of a handbook for the Indian Ocean, traded in and about Bombay, Calcutta, and Mauritius; kept in beautiful condition, she was known familiarly up and down the coast as the "Yacht of the Indian Ocean." In 1895, she was sold to Persian owners, and given in charge of an Arab commander. In the autumn of the same year, laden with salt from the Red Sea, she foundered in a cyclone near Sand Heads at the mouth of the Hooghly.

The *Leander* was owned in the 'nineties by R. Anderson, of London, but was sold to Muscat Arabs around 1892-3. She came to her end in the same way, and about the same time, as the *Sir Lancelot.* She, too, was laden with salt and bound from Muscat to Calcutta.

Clipper Ship

LEANDER

18 67

built at

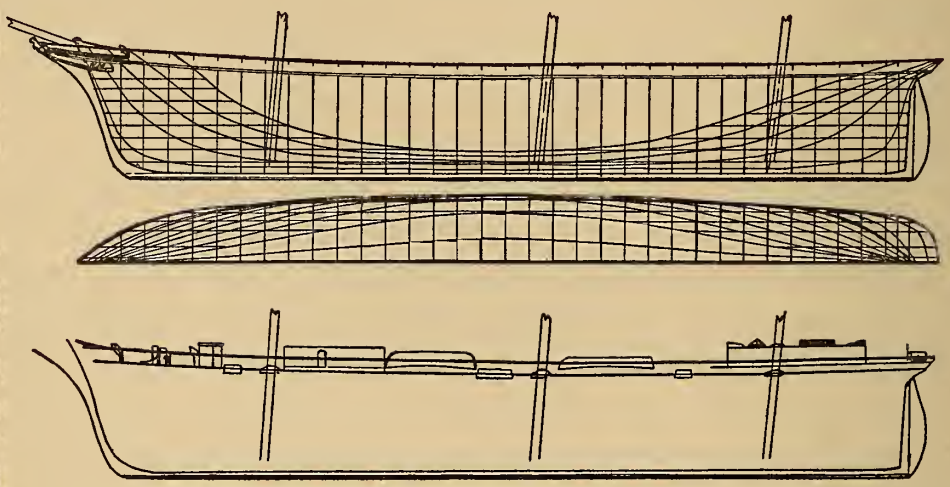
GLASGOW

by

LAURIE & CO.

tons 883 length 210 feet

depth 20⅔ feet breadth 35⅛ feet



British Tea Clippers
1866-7

THE race of 1866 was little more than a month gone by when another clipper was launched from the Steele yard at Greenock for the owners of the *Ariel*. This ship was the *Titania,* and, as with the *Ariel,* the daintiness of her appearance did not belie the name which Shaw, Maxton & Co. had given her.

These Steele clippers, which included such able vessels as the *Kate Carnie, Ellen Rodger, Falcon, Min, Guinevere, Serica, Taeping, Ariel, Sir Lancelot, Chinaman, Titania, Lahloo, Wylo,* and *Kaisow,* were among the loveliest, most perfectly proportioned, and wettest ships the world has ever seen. They were extremely sensitive, but, properly handled, rarely failed to maintain the splendid average of passages for which they were noted; in fact, it was only on rare occasions that a Steele clipper did not either make the fastest passage of the year or lead the tea fleet to London. The *Titania,* when finally she was skippered by a captain who understood her idiosyncrasies, did not fail to keep up the Steele reputation, and even—on one or two occasions—to gain for herself a name that was envied by all but the *Sir Lancelot* and the *Thermopylae.* She was launched on November 26, 1866, and measured: length, 200 feet; breadth, 36 feet; depth, 21 feet; tons, 879. Her masts, like those of the *Ariel,* were of iron.

The *Titania's* first commander was the cautious Captain Robert Deas, former master of the ship *Ganges.* As soon as she was ready for sea she took her departure for China, to compete in the 1867 race, but a temperamental passage outward—during which she lost her

foremast, jib-boom, main topmast, and mizzen topgallant mast while on her beam ends in a squall north of the Cape Verde Islands, fractured her mainmast somewhere between the Cape Verdes and the meridian of the Cape, and nearly collided with the *Ariel* in a monsoon in the China seas on the 29th of June—lost her whatever opportunities she might have had, under Captain Deas, to lead the tea fleet to London. The *Ariel,* under the wise and able command of Captain Keay, raced on to England, where she arrived 102 days later—first clipper in with the season's teas; while the *Titania* made her way to Shanghai to receive new main and mizzen masts. With these, and the new wooden foremast that was built for her at Rio on the outward passage, she reached London again before the close of the year.

In the meantime Shaw & Maxton's old rival, Captain Rodger, had a companion ship built, by the Steeles, for his *Taeping.* This vessel, the *Lahloo,* was launched on July 23, 1867, and measured: length, 191 feet 6 inches; breadth, 32 feet 9 inches; depth, 19 feet 9 inches; tons, 799. She resembled the *Taeping* in most respects, and, like that ship, carried single topsails and skysail yard at the main. Her first commander was Captain John Smith, formerly of the *Wild Deer* and the *Min.*

In the race of 1868, the *Lahloo* was featured among the five cracks that sailed from Foochow in May; but the *Titania,* with a new set of iron spars, though still under Captain Deas, was one of the vessels that loaded at Shanghai and did not get away until June. The times of a dozen first- and second-flight ships for that year were given in *Naval Science* (1873) as follows: *Ariel,* from Foochow May 28, 97 days; *Spindrift,* from Foochow May 29, 97 days; *Sir Lancelot,* from Foochow May 28, 98 days; *Lahloo,* from Foochow May 30, 100 days; *Taeping,* from Foochow May 28, 102 days; *Undine,* from Whampoa May 30, 104 days; *Serica,* from Foochow June 1, 113 days; *Fiery Cross,* from Foochow June 2, 121 days; *Yang-tze,* from Foochow June 7, 122 days; *Titania,* from Shanghai June 13, 126 days; *Forward Ho,* from Shanghai June 11, 128 days; *Challenger,* from Shanghai July 10, 131 days.

Titania and Lahloo

The *Lahloo* remained in the China trade until 1872, making her homeward passages in 102, 97, and 111 days. In 1869 her outward passage of 98 days to Shanghai was the best of the year, just as her 97 days homeward (included above) was the best time made by a returning clipper. In 1872 she arrived at Shanghai, having made her passage by the long route around Australia, in 128 days, arriving out April 23. She took her departure again on June 20, and on July 31 was completely wrecked on Sandalwood Island in the Timor Sea.

The *Titania* had a much more fortunate career and was one of the longest-lived of the Steele clippers. After her return to London at the close of the race of 1868, she was placed under the command of Captain Burgoyne, who immediately put her through her paces by taking her out to Shanghai in 98 days. She returned in 110 days, and thereafter made the following passages between 1870 and 1882: Hankow to London, 116 days; Hongkong to Saigon, 6 days; Foochow to London, 93 days; London to Shanghai, 108 days; Whampoa to London, 116 days; the Lizard to Hobson's Bay, under reduced spars and commanded by Captain Hunt, 83 days; Newcastle to Shanghai, 43 days; Shanghai to London, 138 days; St. Alban's Head to Adelaide, 86 days; Sydney, July 2, 1875, to Shanghai, August 27, under command of Captain England, arriving out under jury masts and needing repairs to the amount of $23,000; Hongkong to Deal, 100 days. In 1875 and 1877 she missed the racing season, and in 1876 went to New York. In 1878 she arrived home from Shanghai in 100 days; but freight rates had dropped to 30s. per ton of 50 cubic feet that year, and the following year she went to Manila to load jute, which she took to New York in a passage of 112 days. She arrived at the latter port in company with the *Wylo,* 112 days from Yokohama. In 1881 she went ashore near Maleron but was refloated, repaired, and loaded at Manila for Gravesend, completing the passage between the two points in 106 days. The following year she made a passage from Dover to Brisbane in 89 days.

Some time between 1882 and 1886 she was purchased by the Hudson's Bay Company and placed, under the command of Captain

"Dandy" Dunn of the lavender kid gloves, on the Cape Horn route to Vancouver. In 1891 Captain Dunn retired and Mr. Selby, first mate of the *Cutty Sark,* was placed in command.

In 1893 she was sold to the Italian firm of P. Pollio & Co., and at one time is said to have been the property of Madame Maresca of Castellammare. During these latter years of her life, until she was broken up at Marseilles in March, 1910, she traded from Naples and Marseilles to Rio, Reunion, and Mauritius.

British Tea Clipper
1868

EVERY year there was a certain undercurrent of excitement among skippers and maritime-minded gamblers in China, when new and untried clippers put in their appearance and the favorite of the previous year was threatened with the loss of her blue ribbon. But perhaps in no other year, when the races were in full swing, did any one tea ship carry such supremacy-stealing threats in her lines and her log book as did the *Thermopylae,* when she arrived at Foochow in 1869 for tea.

In appearance she was quite a handsome vessel, but, being rather more powerfully built than the popular Clyde clippers from the yard of Steele, possessed little of that fragility and jewel-like daintiness which earned for those ships the right to be known as the darlings, the yachts, the little ladies of the sea. Like those vessels, however, she was as wet as a fish in heavy weather. She was flat-floored, or nearly so, and, aided by a rocker false-keel, had the saving grace of being weatherly; she was, as well, easy to handle, fast in average breezes, and a pace-maker in even the glassiest of seas. She was designed by Bernard Weymouth, designer of the *Leander,* and built by Walter Hood, of Aberdeen, for George Thompson, owner of the Aberdeen White Star Line. Her hull was painted the White Star Line's particular shade of green (Aberdeen green) from the copper up; her blocks, lower masts, bowsprit and yardarms were white; her figurehead of Leonidas was also white; and she was ornamented with a gold stripe and delicate tracery of gold work at bow and stern. She

carried no sails above royals, but had very square yards and an enormous spread of cloth. She was composite-built, and measured: length, 212 feet; breadth, 36 feet; depth, 20 feet 9 inches; tons, 948. She was launched on August 19, 1868, and in less than three months was ready for sea and took her departure, under the command of Captain Kemball, formerly of the *Yang-tze,* for Melbourne to load coal for China.

She took her departure from Gravesend at 5:30 P.M. on November 5, 1868, and at 6 P.M. on the 8th was 20 miles south of the Lizard. On the 12th she lost Peter Johnson, one of the seamen, overboard and hove-to for an hour in a vain attempt to rescue him. From then on until 7 P.M. January 9, 1869, she had an easy run of it, anchoring in Port Phillip Harbour exactly 63 days, 1 hour and 30 minutes from Gravesend. It was this passage (rubbing some of the luster from the *James Baines's* record-smashing run, in 1855, from Liverpool to Hobson's Bay) which, added to another record run of 28 days, pilot to pilot, from Newcastle to Shanghai, caused all the consternation in China when she arrived out in 1869. Her best days' runs to Melbourne were 330 and 326 miles, and, on the passage to China, she had passed the *Golden,* the latter from Sydney to Shanghai in 59 days.

From Shanghai the *Thermopylae* sailed to Foochow with a gilded cock at her maintruck—a bit of ostentation which was resented by the crews of all the other clippers and was stolen by a sailor believed to have been from the *Taeping.* Eight of the old favorites, mostly back from Bangkok (where the Crown Prince was fond of reading Bowditch), Yokohama, and other intermediate ports, were at Foochow at that time, and, together with the *Thermopylae,* they loaded tea, sailed, and arrived home in the following fashion: *Ariel,* 30th June to 12th October, 104 days; *Leander,* 1st July to 12th October, 103 days; *Lahloo,* 2nd July to 12th October, 102 days; *Thermopylae,* 3rd July to 2nd October, 91 days; *Spindrift,* 4th July to 18th October, 106 days; *Taeping,* 9th July to 24th October, 107 days; *Sir Lancelot,* 17th July to 14th October, 89 days; *Serica,* 27th July to 14th November, 110 days; *Falcon,* 28th July to 15th November, 110 days.

Thermopylae

The clippers that sailed from Shanghai made the following passages: *Undine,* 2nd April to 2nd August, 122 days; *Forward Ho,* 10th June to 2nd October, 114 days; *Titania,* 16th June to 22nd September, 98 days; *Taitsing,* 21st June to 14th October, 115 days; *Challenger,* 6th August to 1st January (1870), 148 days.

The *Thermopylae,* having weighed anchor at the Pagoda Anchorage at 5 A.M on July 3 and taken her Dungeness pilot at 5 P.M. on October 1, was the first of the tea fleet to arrive at London. She had passed Anjier light, bearing S.S.W. eight miles, at 6 P.M., July 28, on the 25th day from her anchorage; had spoken the *Leander* on August 2 and kept her in sight for the two days following; had sighted the steamer *Achilles* coming up on August 17, but by sunset, in a rising breeze, left her out of sight astern; had rounded the Cape of Good Hope on August 21, 49 days out; had sighted the Lizard on September 30; and on October 1 was at Beachy Head. But the *Sir Lancelot,* sailing 14 days later, made the fastest passage of the fleet. Highlights from her log are interesting:

Up anchor at Foochow and left the anchorage 7 A.M.	17th July
White Dogs bore N.N.E. 15 miles	18th July
Anjier Light bore E.S.E. 10 miles	7th August—21 days out
Land about Buffalo River (Cape)	28th August—42 days out
Signaled St. Helena	11th September—56 days out
Sighted Lizard	10th October—84 days out
Passed Deal	13th October—88 days out
Berthed in West India Dock	14th October—89 days out

Mr. MacCunn, owner of the *Sir Lancelot,* who provided Mr. W. S. Lindsay with the above facts taken from her log, added: "The greatest day's work of the *Sir Lancelot* was crossing from Anjier to the Cape, when she made, by observation, 354 miles in 24 hours. For 7 days (consecutive) she averaged on the same track, with a beam wind, slightly over 300 miles per day; but I think the most remarkable feature in the sailing of this ship was the maintenance of a comparative

high speed in light winds, and the great power she had to beat dead to windward against a strong breeze." The *Thermopylae's* best day was 318 miles.

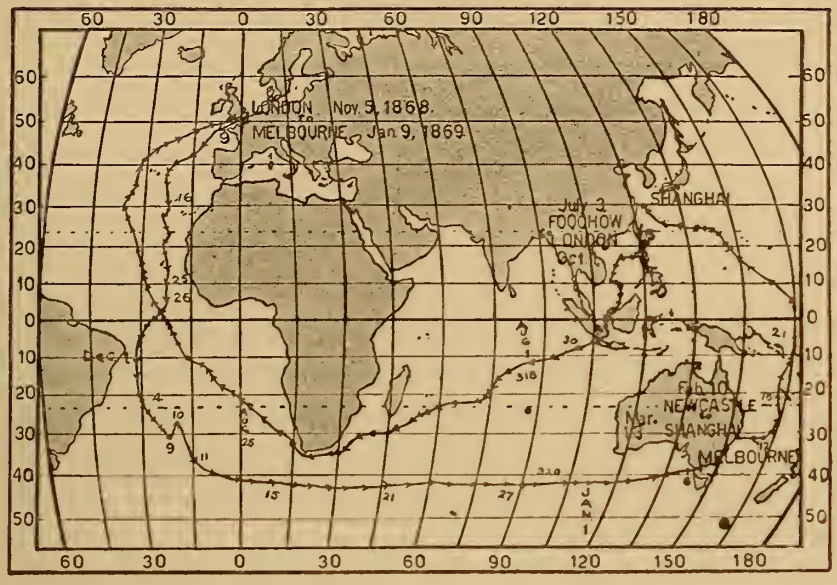
The following year the *Thermopylae* made her Australian passage in 20 days from the Downs to the Line and 60 days 10 hours 15 minutes from the Lizard to her anchor at Hobson's Bay, but she never again came so near to making history in the tea fleet as she did in 1869. From 1870 to 1881, when she made her last tea passage, her times were: 106 days from Foochow in 1870; 106, 115, 101, and 104 days from Shanghai from 1871 to 1875; 115 days each from Foochow in 1875 and 1876; 102 and 110 days from Shanghai in 1877 and 1878; and 107 days in 1881-2. Her passages to Australia from England, from 1872 to 1885, were: Lizard to Hobson's Bay, 67 and 70 days in 1872 and 1873; London Docks to Hobson's Bay, 72 days in 1874; Lizard to Melbourne, 64 days in 1875; London to Melbourne, 68 and 80 days in 1876 and 1877; Lizard to Melbourne, 74 days in 1878; Channel to Port Jackson, 86 days in 1881; Lizard to Port Jackson, 73 days in 1882; and Start to Port Phillip, 78 days in 1885.

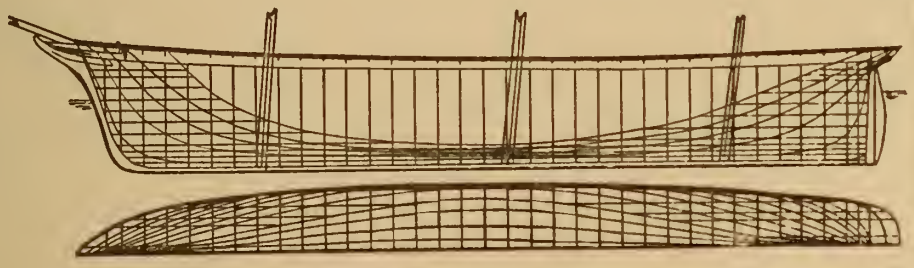
By 1879 tea cargoes for sailing ships were becoming excessively scarce, and the *Thermopylae* did not go out to China, but loaded wool for home both that and the following year, making her passages from Sydney in 81 and 90 days. In 1882 she became a regular member of the wool fleet, averaging 83 days 18 hours per passage to London, from that year to 1890, when she was sold by the Aberdeen White Star Line to Mr. Reford of Montreal, President of the Rice Milling Company. She continued her career as a rice trader, sailing between Rangoon and Vancouver, until 1895, when she was sold again—this time to the Portuguese Government to be used as a training ship. She was renamed the *Pedro Nuñes*. In 1907 it was decided that she was no longer of use to the government, and on October 13th she was towed out of the Tagus and torpedoed. She was 39 years old at the time.

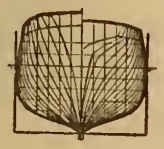
Passages of the Clipper Ship

THERMOPYLAE

1868 - 1869







Clipper Ship

THERMOPYLAE

1868

Built at ABERDEEN by Walter Hood

length	212 feet	breadth	36 feet
depth	20¾ feet	tons	948

British Tea Clipper
1869

THE year 1869 brought about the realization of two dreams: the one, after centuries of promise, becoming reality, with an international significance in the accomplishment of a permanent, practical waterway between the Mediterranean and the Red Sea; and the other—a small, private dream only—becoming reality without such significance, but, in its accomplishment, blessed too with the power to wash away time, to stave off the decaying tides that harass those things which have been dreamed by man, made by man, and remembered by him only to the extent of their usefulness, and to strike straight across the years on the heartstrings of sentiment to a resting place in the treasure house of Britain's dearest and most charming possessions.

To the clipper-ship enthusiast these two realized dreams—the formal opening of the Suez Canal and the launching of the *Cutty Sark*—will always be closely interwoven, partly because both occurred in the same month of the same year, and partly because the Suez Canal slashed like a destroying blade through everything represented by the *Cutty Sark* and the clipper ships of which she was one of the last. The Canal, begun in 1859 by the diplomatist-engineer, Ferdinand de Lesseps, was opened to the ships of all nations on the 16th of November, 1869, by the Empress Eugénie of France, in the presence of some of the most distinguished men and women of the day. Seven days later, in Scotland, a bottle of wine was smashed over the *Cutty Sark's* bow, and she was christened by Mrs. Moodie, the wife of her first commander; the cheers that attended her progress down the ways

came largely from the throats of the carpenters who had built her, and of the people of Dumbarton who had watched her grow into the sonsie Scotch beauty that she was.

The *Cutty Sark's* owner, John Willis—or Old White Hat, as he was called in London—was the "Son" of the firm John Willis & Son, and owner of a number of clippers, including the *Lammermuir* and the *Whiteadder* in the 'fifties and 'sixties, and of the *Hallowe'en* and the *Blackadder* in the 'seventies. He also owned *The Tweed,* which was originally a paddle-wheeler named the *Punjaub* built in Bombay in 1854 by the Parsees for the East India Marine. *The Tweed* was built of Malabar teak and is said to have been modeled on the lines of a fast French frigate. After Captain Willis had her converted into a sailing ship, she proved to be a noteworthy passage-maker, and served as the inspiration for the lines of the *Hallowe'en* and the *Blackadder,* both fast ships built entirely of iron. It is said also that Hercules Linton (of Scott & Linton, builders of the *Cutty Sark*) derived his design for the *Cutty's* very sharp bow from *The Tweed,* but this statement has since been scouted as largely conjectural: the design of the *Cutty* is simply good, uninfluenced clipper-ship design with no more and no less of the frigate about her than any other such ship of the period had. Her angular forefoot, said to have been borrowed from *The Tweed,* was not an uncommon feature of the clipper —Webb's *Challenge* and *Young America* possessed it, as did the *Rainbow* and others—and it was always well realized that an angular forefoot gave the gripe necessary for a ship to eat her way to windward. In spite of this forefoot—which usually tended to make a vessel unhandy in stays—the *Cutty Sark* had the reputation for "coming about" with ease and alacrity, though the reason for this can probably be found in the position of her masts. She was masted beautifully; in fact, in this respect, her sheer plan offers one of the prettiest pictures of precise masting to be found anywhere among the plans of sailing ships.

At the time Captain Willis commissioned Scott & Linton, of the Woodyard, Dumbarton, to build a ship—at the very low price of £17

a ton—"to beat the *Thermopylae,*" the partnership was in its infancy. After throwing all their resources into good sound materials for the hull of the *Cutty*—their first ship—they found themselves, about two months from the launching date, unable to continue. Jock Willis refused to help them out financially, and the creditors took over the contract, engaging Denny Bros., also of Dumbarton, to finish the work. Since the Dennys have been accused of allowing certain defects to creep into their finishing touches on the *Cutty*—specifically in the ironwork aloft—a biographical note of this talented family may not be amiss. According to Mr. W. S. Lindsay:

"William Denny, the builder of the *Rob Roy,* as also of the *Marjory,** was born in Dumbarton in 1789, where his forefathers for some generations had been 'wee lairds' [yeomen] farming their own land. After serving his apprenticeship as a joiner and ship-carpenter, and acting as manager of a small shipbuilding yard on the River Leven, Dumbarton, he commenced business on his own account at that place, and was the first to lay down in his yard Morton's patent slips, where he built various sailing ships for the East and West India trades. He died in December, 1833. Three of his sons, also, William, Alexander, and Peter, commenced business at that place as iron shipbuilders in 1844, on a small piece of ground, removing in 1847 to a larger yard, where they continued the business of iron shipbuilders under the firm of William Denny and Brothers, by which it is still known. In 1851, two other brothers, James and Archibald, having then joined them, they (there were seven brothers, all shipbuilders) commenced the business of forging, so that all the branches of work connected with steam shipbuilding might be done on the spot. William was a man of remarkable genius and talent, and attained so high a reputation as a marine architect that he and his brother Alexander planned most of the steamers built on the Clyde from 1839 to

* The *Rob Roy,* a vessel of 90 tons with 30 horse-power engines, was the first steamer to engage in Channel service. She was employed for two years, without requiring repairs, to carry mails and passengers, between Greenock and Belfast. As the *Duc d'Orléans* she ran, subsequently, as a packet between Calais and Dover. Her engines were by Napier and she was launched in 1818. The *Marjory,* also one of David Napier's steamers, was launched late in 1814, and was one of the first steam vessels to ply on the Thames.

1844. He died in 1854, and the only brother now left is the youngest, Mr. Peter Denny, who, with his son and Mr. Walter Brock, carries on this well-known and extensive business, which, in the years 1873 and 1874, built and fitted with engines 37,000 tons of iron screw-ships. Since 1844 the town of Dumbarton has risen, almost entirely through their exertions, from a population of 4000 to 12,000 inhabitants. But, beyond his fame as an iron ship-builder, Mr. Peter Denny is known in public life, having been appointed a member of the Royal Commission in 1872 of which the Duke of Somerset was Chairman, to inquire into the cause of loss of life and property at sea."

It seems highly improbable that the Dennys would have hastened, or scamped, their work on the *Cutty,* within the limits of the finances and time allotted for her completion, and that the cause for whatever defects she may have had aloft must be sought for elsewhere. She was rigged, at Greenock, between December 21, 1869, and January 13, 1870.

The *Cutty Sark* was, like most of her rivals, of composite construction, and most of the woodwork about her was of the long-lasting teak of which Captain Willis was so fond. At a few points other woods were employed: her keel was of American rock elm as was the outside planking of her bottom, and her between-deck (three inches thick) and hatches were of pine. She was given a generous amount of brasswork trimming about the decks, her hull was black with a gold line at the height of her main deck, and she was sheathed with yellow metal. Her upper masts and yards were of Oregon pine, painted black; but her lower masts, lower yards, and bowsprit were of iron. These latter spars were painted white, as were also her doublings, mastheads, jib-boom end, martingale boom, spanker gaff and boom, and spencer gaff. All her standing rigging, with the exception of that of the bowsprit and jib-boom martingales, was of wire; her hearts, bulls' eyes, and dead-eyes were of lignum vitæ, and her running-gear blocks had ball-bearing sheaves. Her shrouds were carried inside the bulwarks—an unusual feature at that time. Her measurements, with the exception of tonnage, are practically those of the *Thermopylae:*

length, 212 feet 5 inches; breadth, 36 feet; depth moulded, 22 feet 5 inches; tons net, 921. Her sail plan was designed by John Rennie.

Since the *Cutty Sark* received her name—with a sparkling show of originality and wit on the part of her owner—from the cutty sark (wee shirt or short chemise) worn by the witch Nannie in Robert Burns's *Tam o'Shanter,* her white figurehead was appropriately that of Nannie; and, around the trail-boards, the other participants in the witches' revel (which Tam, with a few drinks under his belt, spied upon one dark and stormy night while riding home from market on his old gray mare Maggie) capered in such undraped glee that the sensitive century demanded their removal and the substitution of innocuous gilt scrollwork. Other bits of Hellyer's carving were lost to posterity when Nannie's head and her outstretched arm (in the hand of which it was the custom to place the gray mare's tail when the *Cutty* was nearing port) were washed away, in the roaring forties, when the ship was commanded by Captain Woodget. The new head and arm were not well modeled.

Until she was sold to the Portuguese in 1895, the *Cutty Sark's* career was divided into two major divisions, the dividing line—between the nine years she carried general cargo to Australia, coal to China, and tea to London, and the twelve years she was engaged in the wool trade—being the fantastic interlude from 1880 to the spring of 1882.

She was not conspicuously successful in the China trade. The following are her outward passages from February 16, 1870—the day she sailed on her maiden passage under Captain Moodie—to her passage in 1879, when she, in company with every other sailing ship, failed to get a cargo of tea when the market opened, and came to the bitter realization that the tea trade, so far as sailing ships were concerned, was definitely over: 104, 99, and 108 days direct to Shanghai; 69 days from the Start to Port Phillip, 41 to Shanghai; 79 days to Sydney, 54 days to Shanghai; 73 days from the Start to Sydney, 48 to Shanghai; 75 days from the Lizard to Sydney (log recording 370 miles several times during passage), 49 days to Shanghai; and, in 1876-7,

81 days from London to Sydney, 47 to Shanghai. In November, 1877, she cleared from London for Sydney but was forced to turn back to escape an approaching storm, which caught up with her, however, in the Downs, where she, with a host of shipping, had run for shelter. During the night, when the storm broke, her cables parted and she drifted about crazily, fouling one vessel and then another, until she was rescued by the tugs *Macgregor* and *Benachie* and towed to a safe anchorage off Greenhithe. The tugs entered a lawsuit against her for £8,000 salvage money, but received only £3,000. And a bit of skullduggery on the part of her carpenter—in destroying certain evidence—saved her from paying damages to one of the vessels she had fouled on the night of November 11. The *Cutty* herself sustained minor injuries, but her cargo, valued at £85,000, was unharmed.

On December 22 she left the Docks—the same day the *Thermopylae* left Deal. The green clipper gained a good eight days on the passage to the Line, but from the Line the *Cutty* worked ahead and made up the difference in time with a margin over. She arrived at Sydney 72 days out, and the *Thermopylae* arrived at Melbourne 74 days out. The *Cutty* sailed from Sydney on March 13, 1878, and arrived at Shanghai in 40 days, thence to Sydney again and back to Shanghai in 52 days. On the last transpacific run she beat the clipper *Hallowe'en* by seven days.

Her homeward passages were made in 112, 110, 122 (with a jury rudder), 117, 118 (Woosung pilot to Deal), 122 (Woosung to Deal), 109, and 127 days. At the end of her passage in 1872—which began as a race with the *Thermopylae* (both vessels gaining Anjier in 28 days) but failed to continue as an even match when the *Cutty* lost her rudder in the Indian Ocean—Captain Moodie resigned his command to go into steam, and was succeeded by Captain F. W. Moore, Captain Willis's superintendent. After one round in the *Cutty,* Captain Moore resumed his duties with Willis, and he was succeeded by Captain Tiptaft. After her 40-day passage from Sydney to Shanghai in March-April, 1878, the *Cutty* was withdrawn from her loading berth (because of low freight rates then prevailing) and sent to Naga-

saki with a cargo of coal. Her outward passage was made in 7 days and she returned, to Woosung, in 3. At the end of this passage Captain Tiptaft died and was succeeded by Captain Wallace, who took her light from Shanghai to Sydney in 51 days. In 1879 there was not the slightest hope of getting a tea cargo at even the lowest price (steamships were racing to Suez then), and the *Cutty Sark* sailed to Manila where she picked up a cargo of jute for New York. She sailed from Manila on September 23 and arrived at New York on January 12, 1880, in 111 days. From Sandy Hook to the Thames ate up another 19 sailing days, and after her arrival home (March 19, 1880) nine and a half feet were cut from her lower masts and her other spars were reduced in proportion.

On June 7, 1880—having picked up a cargo of coal at Penarth for the American fleet in the Pacific, and from thence being driven to seek shelter in the Severn to ride out a gale—she took her departure from Lundy Island to begin the mad, nightmare passage of her career. From the very beginning the crew was unsettled and irritable, and, save for the pleasant interlude when the *Cutty* met the *Titania* and raced that dainty sea-sprite part of the way, there was bad blood between one man and another. The undercurrent of hate, which accompanied the *Cutty's* journeying to Anjier, finally swept the mate and John Francis, a colored seaman, together and, under the steamy skies in the unbearable calms of the doldrums, the two fought and the negro was killed. The *Cutty* reached Anjier in the fine sailing time of 69 days from Lundy and, while the vessel waited for orders to proceed, the mate, aided by Captain Wallace, was smuggled aboard the American ship *Colorado*.* When the mate's absence was discovered, the crew demanded an accounting and, four days after the vessel left Anjier, Captain Wallace quietly walked to the taffrail and stepped overboard.

It was back to Anjier then, and the *Cutty* was taken from thence

* The manner in which Sydney Smith, the mate, disappeared from the *Cutty Sark* remained a mystery for some time. Joseph Conrad suggests an imaginary solution in *The Secret Sharer*.

to Singapore in the charge of a Dutch pilot. At Singapore that curious mixture of piety, drunkenness, and cruelty, that supreme navigator and coward—Captain Bruce—came aboard, and from then on the *Cutty's* career was a fantastic meandering from port to port. From Singapore she went to Calcutta where she picked up an atheistic new mate and a cargo of jute, castor-oil, tea, and the mails for Australia. On the passage out her after bulkhead filled with water from a small leak, and her captain cowered until the bulkhead was pumped dry and the trouble was over; at Williamstown a foremast hand was drowned; from Sydney Heads to Shanghai was a 46-day drinking bout for the captain and the mate; and at American Town nearly all hands were down with cholera. After the vessel was out of quarantine she was ordered to Zebu for a cargo of jute for New York. She spent the latter part of October, all of November, and six days in December at Zebu, and thence made a fine 28-day run to Anjier. In the midst of another drinking bout at Anjier the ship was ordered to be got under weigh and another train of events ensued: the mate and the captain quarreled and the mate locked himself in his cabin until the southeast trades were reached, another man was lost overboard, and the captain proceeded to give the apprentices excellent instructions in navigation while, at the same time, provisions were running short. No attempt was made to replenish food supplies at either the Cape or St. Helena, and, after the latter port was left astern, the captain of the *Cutty* began to cadge provisions from passing ships—a matter which would have shocked old Jock Willis, in spite of his reputation for thrift. Early in April the vessel neared New York and, after hanging about the harbor for days, finally picked up a pilot and was towed, on the 10th of the month, to a berth near Brooklyn Bridge. Her time was 125 days from Zebu, and 1 year 10 months and 3 days from the day in June, 1880, when she had taken her departure from Lundy.

Captain Bruce and the first mate were discharged, and Captain E. Moore, then at New York with the *Blackadder,* was transferred to the *Cutty Sark*. The ship remained under his command until 1885, when she was given to that charming sea-dog, Captain Woodget—

identifiable by his tam o'shanter, his umbrella, his camera, and his beautiful sable collies.

The *Cutty's* first passage under Captain Moore was a long one to Anjier, thence to Samarang, thence to Madras (half the crew down with fever), thence to Bimlipatam, thence to Coconado. At Coconado she picked up a cargo of jaggery which eventually turned to molasses —or "long-tailed sugar," as a sailor would say—and it was necessary to man the pumps. She arrived off the Lizard May 31, 1883, and was at her London dock—home once more after an absence of over three years—on June 2. Her following two passages, commanded by Captain Moore, were made in 79 days each from the Lizard to Newcastle; home with wool in 82 and 80 days.

At the termination of her second passage from Newcastle, Captain Moore was transferred to *The Tweed* and Captain Woodget, formerly of the *Coldstream,* assumed command. On the 19th of June, 1885, at the end of her first passage under Captain Woodget, she was at Port Jackson, 77 days from the Start. On her homeward passage she had her long-awaited opportunity to race the *Thermopylae* and, to old Jock Willis's intense satisfaction, she beat the green clipper by seven days. The occasion for which the old man had waited fifteen years did not go unnoticed. The *Cutty Sark* received a gift in honor of the victory: a golden shirt to wear atop her maintruck to match the *Thermopylae's* golden cock. A party was held on board, February 17, 1886—the day the *Cutty* was to sail to China "to lower the *Sir Lancelot's* old record"—and the old man presented the gift in person.

The *Cutty Sark* made her passage to Shanghai in 124 days, but the opportunity to show up the *Sir Lancelot* never came. After waiting three and a half months for a cargo for home, she was forced to up-anchor and sail for Sydney in ballast for a cargo of wool. She arrived out in 58 days and reached home in 72. Her other passages, from 1887 to 1895, under Captain Woodget, were: days out—89, 76, 78, 75, 79, 83, 80, and 79; days home—69, 86, 75, 93, 83, 98 (to Antwerp), 87, and 84.

Upon the *Cutty's* return in 1895 Captain Woodget was transferred

to the *Coldinghame* and the ship was sold in July, to Ferreira & Co. of Lisbon, for £2,100. From then on—officially known as the *Ferreira,* but unofficially as the *Pequiña Camisola*—she tramped between Oporto and the Portuguese colonies; and Britain thought no more about her until she appeared, rather unexpectedly, at Cardiff in 1905, and then again in the Mersey in June, 1914—the month the world was ringing with the news of the assassination of the Archduke Francis of Austria and his wife at Sarajevo. In February, 1915, the German official submarine blockade of Great Britain began, and the same month the *Cutty* appeared off Point Lynas. In April, 1916, she loaded coal at Delagoa Bay, and 21 days later was towed, in a helpless condition, to Table Bay, by the Blue Funnel steamer *Indraghiri.* At Capetown she was re-rigged as a barquentine and at long last was out to sea again in 1918. In 1919 she was at Havre and in June once more in the Thames, where she appeared again in 1921—50 days from Pensacola. Then she was sold again to another Portuguese owner and became the *Maria di Ampero;* but in September, 1922, she was brought back to the British flag by Captain Dowman—an old British sentimentalist, who might have been influenced by the tremendous excitement created by her occasional appearances in British waters, but who was probably more influenced by the fact that he had kept alive too long his memories as a sailor. Whatever his reasons were (and those of Mrs. Dowman—she wanted the ship as much as he), the price paid was £3,750, and a great deal more was expended later to bring her back to her original beauty and to fit her out and maintain her as a training ship for boys for the Royal Navy and the Merchant Service. It is a matter for permanent regret that America had no such sentimentalists in 1920 to rescue the 67-year-old *Dashing Wave* or the 69-year-old *Syren* from their ignominious ends.

If the *Cutty Sark* celebrates two more birthdays, as she no doubt will, the palm must therefore go to a British clipper for winning the last race, and the longest.

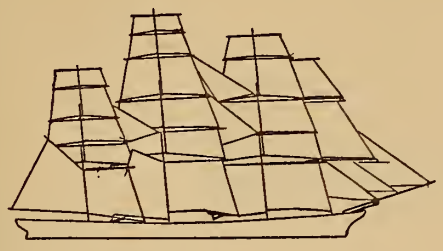
* * *

Today the *Cutty Sark* lies on the waters of Falmouth Harbour, rising and falling like a quaint jewel on the breast of England; and the time has come to roar out once more—as Tam roared out to Nannie as she "lap and flang," and as old Jock Willis roared out to his ship when the little gold shirt of victory was pinned atop her main-truck:

"Weel done, Cutty Sark!"

* * *

And so the clipper ships pass, gesturing for attention across the years and, once more, across the pages of a book. In the cold light of twentieth-century reasoning, the nineteenth-century sunshine remains undimmed upon their sails, and, in the shadows of adverse argument, their hulls—already dark—only deepen further into a faultless, deathless beauty for that strange creature whose heart looks through his eyes when he sees a ship.

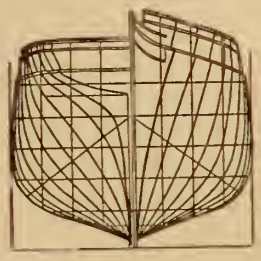


CLIPPER SHIP

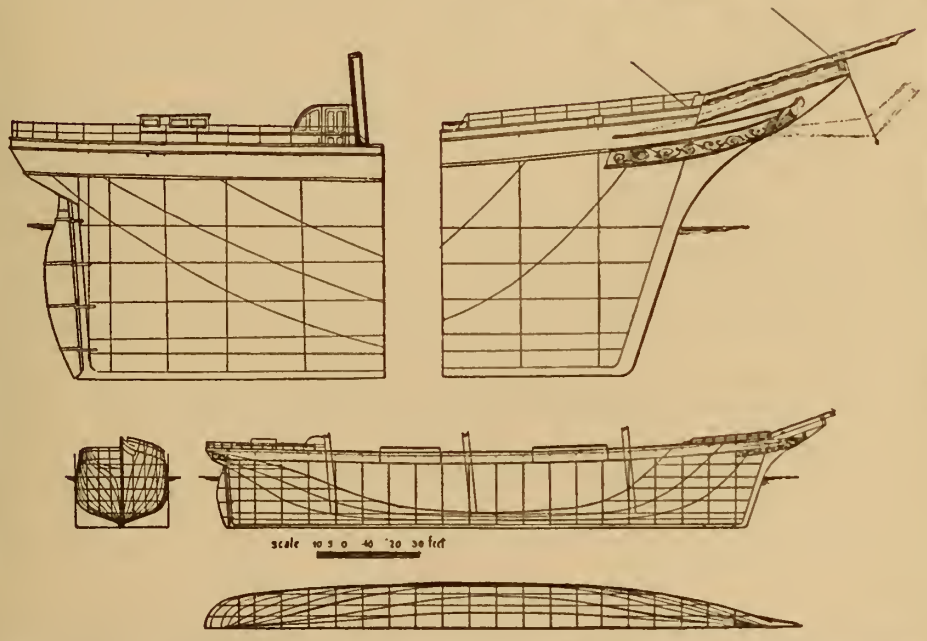
CUTTY SARK

18 69

built at DUMBARTON
by
SCOTT & LINTON
drawn from Lloyd's plans



length 212 5/12 feet – length of keel 203 1/3 feet
extreme breadth 36ft. – breadth moulded 35 ft.
depth of hold 31 feet – depth moulded 22 5/12 ft.
tons gross 962·9 – tons net 961·39



APPENDIX I

Some Technical Observations

THE average writer of deep-sea literature assumes on the part of the reader a knowledge of maritime technical details approximating that of the naval architect, the builder, and the seaman; and for this reason dispenses with imparting certain necessary technical knowledge without which the casual reader not only is lost in a maze of words and ideas, but cannot interpret *for himself* the material laid before him, and is deafened to practically all the delicate overtones and undertones that add so materially to the fascinating story of the sea—and of ships. On the other hand, if the casual reader is imbued with the desire to become less "casual" and more "reader," he must search for the right technical books to read, and, unfortunately, these are, as far as the old wooden ships are concerned, becoming scarcer as the years go by; and, when they can be procured, are sometimes almost prohibitive in price. Lack of space naturally forbids incorporating in these pages the exceedingly intricate details of the science of naval architecture, of shipbuilding, and of seamanship, but it is hoped that the following capsules of information will supply rudiments of the subject even beyond the needs of the more-than-casual reader.

The true understanding of ships falls into five principal divisions: *One* requires a familiarity with the names of the parts of a ship; *Two* requires an understanding of the naval architect's plans; *Three* requires an elementary knowledge, at least, of the science of naval architecture; *Four* requires a clearing up of some of the mystery surrounding the building of a ship; and *Five* requires some acquaintance with sea-

manship, or the art of working a ship. These subjects will be dealt with in turn.

Parts of the Hull

(*See Clipper Ship Plan, Pages* 360-1)

These fall into three major divisions, or sets of divisions, the units of each bearing a family likeness one to another. They are: (a) stem, forefoot, keel, heel, sternpost; (b) bow, midship section, stern; and (c) entrance, floor, run.

(a) The *keel* is the principal piece of timber in the entire ship, and is usually the first to be laid on the blocks in building. It extends longitudinally along the very bottom of the ship from the stem to the sternpost, or, in other words, from one end of the ship to the other. The *stem* is another piece of timber, which is scarfed into the keel at the forward part (thus forming a continuation of the keel) and curves upward almost vertically to form the extreme front, or cutwater, of the hull. The place of union between stem and keel is called the *forefoot,* and this forefoot—since ships are usually launched stern-first into the water—is the very last part of the hull to leave the stocks. The *sternpost,* from which the rudder is hung, is the upward continuation of the keel at the after part. The place of union between the two is called the *heel.* In examining plans, it is important not to confuse the shape of the stem with the bow proper, or the sternpost with the stern.

(b) The *bow* is all the forward part of the ship, where the planks of the hull arch inward and terminate at the stem. The *midship section* (not to be confused with the "middle" of the ship or "amidships") is a technical term applied to the hull at its point of greatest breadth; it is, in other words, the most rotund portion of the ship, its very middle being called the *dead-flat.* In plans, the dead-flat is distinguished by the character ⊠; the timbers before the dead-flat are marked A, B, C, etc., on the plans, while those abaft it are marked 1, 2, 3, etc. The word *stern* is applied to the posterior of the ship, as *bow* is to the forward part.

(c) The *entrance* is the forepart of the hull under the load water-line. The *floor* is practically the bottom of the ship, and is all that part, extending outward on each side of the keel, which is more nearly horizontal than perpendicular. The *run* is the narrowing of the ship's floor toward the sternpost, where it becomes no broader than the post itself.

Reading of Plans

If one wishes to visualize a ship at sea, in all its beauty under sail and in various conditions of wind and weather, one must go to the painting or the print; but if one wants to know the details of the shape of a ship both above and below the water, and at several angles, it is absolutely necessary to seek such information from the naval architect's plans. The former convey something of the poetry and romance of the subject robbed of the pettiness and fuss of detail, but the latter are all detail—they show, in fact, the anatomy of the ship.

The plans, of which there are three—half-breadth plan, sheer plan, and body plan—are more easily studied collectively than individually. They contain, among them, all the outlines of a ship's hull, and from them can be obtained all the necessary dimensions for constructing a scale-model or a full-sized ship.

The significance of the plans can probably be understood better by dividing a hull into portions than by attempting to reconstruct it. Take, for instance, a small wooden model of the hull of a ship—say, one similar to the *Stag Hound*. Saw the model lengthwise into two halves, and mark off athwartships (the way the seats of a boat go) any number of lines all stationed the same distance apart. (In this case, the *Stag Hound* would be marked into ninety equal parts.) Find the line that marks the exact center of the point of widest beam, and indicate this point with the dead-flat symbol. Then, moving from left to right (or from the dead-flat symbol toward the bow), mark these lines from A to Z—omitting I, so that it will not be confused with the numeral "1"—and, from then on, in order to continue alphabetically,

from a to v—again omitting i. Now, from right to left, or from the dead-flat symbol to the stern, mark the lines from 1 to 42. Following this, erase all the lines except those marked 38, 36, 32, 28, 24, 20, 16, 8, 4, dead-flat, D, H, M, Q, u, y, c, g, l, and n. These are called *station lines,* and will be found in the foregoing order on the *half-breadth plan* of the *Stag Hound,* page 85.

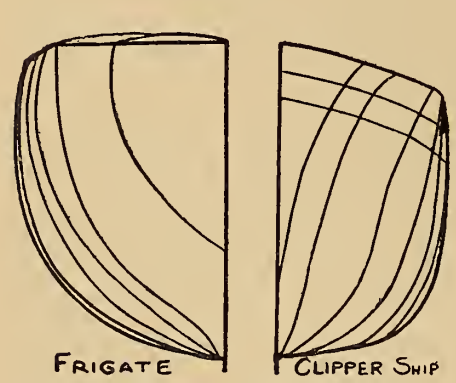
Now take the half-model and saw it through the lines marked n, g, y, Q, H, dead-flat; and also through the lines marked 8, 16, 24, 32, and 38. The outline of each sawed-off portion will correspond exactly to the outline identified by the same letter or numeral on the *body plan* of the *Stag Hound.* It will be seen, therefore, that the body plan is simply a telescoped version of a hull as seen, on one side, from the bow to the midship section, and, on the other side, from the midship section to the stern. The upward curving lines on the body plan actually represent those patterns, or moulds, which control the shapes of all the ribs and intermediate ribs of the ship, and therefore control the shape of the ship itself. It is to the body plans one must look when comparing the shapes of bows and sterns.

The *sheer plan* represents the cut-surface of the half-model. If, instead of having sawed the half-model crosswise, one had marked the cut-surface with a series of horizontal lines—to indicate the various waterlines of the ship—and had then sawed through these waterlines, the shapes of the sawed-off portions would fit into the curving lines on the half-breadth plan. The model-maker, who builds models according to the "bread and butter" system, actually does saw out thick pieces of wood to fit the various curving shapes of the half-breadth plan. These pieces, piled one on top of the other and shaped, constitute a miniature hull of a ship before it is planked. It can be seen, therefore, that the half-breadth plan is simply another telescoped view of the ship—as seen from above.

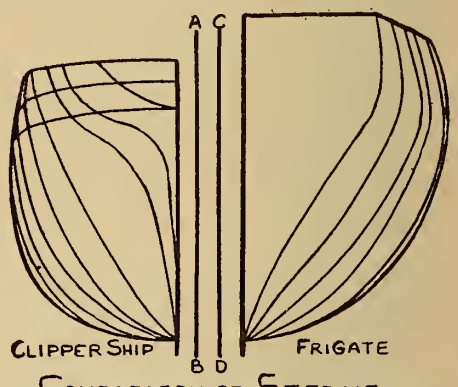
It will be noticed, on some of the plans—the *Rainbow,* for instance —that the half-breadth plan is spaced off, also, by lines running fore and aft. If one were to saw downward through these, the sawed-off portions would fit into the curving lines (called *buttock lines*) on the

sheer plan. This is again the telescoped version, as seen from the side. The sheer plan also shows the shapes of the stem, sternpost, and, occasionally, of the rudder, and the gunports, if any. The topmost line running from the bow to the stern is spoken of as the *sheer line* of the vessel, and the curve of this graceful line is frequently responsible for much of the beauty of the ship.

Summary of Lines. The vertical lines on the sheer plan, and the lines running across the beam of the half-breadth plan, are the *curved* lines of the body plan. The horizontal lines on the body plan, and the horizontal lines on the sheer plan, are the *curved* lines on the half-breadth plan. The fore-and-aft lines on the half-breadth plan, and the vertical lines on the body plan, are the *curved* lines on the sheer plan. In this way the three plans work with, and complement, one another.



COMPARISON OF BOWS



COMPARISON OF STERNS
LINE A-B COMPARATIVE HEIGHT OF CLIPPER BOW
LINE C-D COMPARATIVE HEIGHT OF FRIGATE BOW

Comparison between Body Plan of a Clipper and That of a Frigate. Note the knifelike (concave) bow of the clipper, and compare it with the rounded (convex) one of the frigate, and note also that the bows of each are of equal height. Compare this plan with the stern view of the same ships, and note that the clipper stern is much lower than either its own bow or the stern of the frigate. The graceful, sheer line of the clipper is responsible for the difference in heights.

Rudiments of the Science of Naval Architecture

How a Ship is Made to Swim and Carry Her Weights. According to the Archimedean law of displacement, a body (a) placed under water displaces as much water as its own *bulk,* and (b) floats when it weighs less than the weight of the water it displaces. A lump of lead when placed in water will sink; the same lump, thinned out in the form of a box, will float; yet the weight of the lead in each instance is the same, although the amount of water displaced will differ. The depth of the box *in* the water and its height *out of* the water are both determined by the balance maintained between the weight of the box and its bulk.

The depth at which such a box sits in the water is called *light displacement;* the depth at which it sits, when filled with the greatest amount of weight it can safely carry, is called *load displacement.* Hence the terms *light line of ship* and *load waterline.* If the box, or vessel, is not intended to sit in the water on an *even keel,* it is said to be *trimmed by the stern,* or to have *drag* (see sheer plan of the *Ann McKim*) or, if required to be deeper at the forepart, to be *trimmed by the head.*

After having determined the specific type and size of ship desired, the designer takes into consideration three measurements: (1) the weight of the hull plus all fixed weights (spars and other stationary equipment), (2) the draft, and (3) trim. From these, he calculates geometrically the bulk of the *immersed* body. If the cubic feet of this measurement displaces water to the same weight of the hull (plus fixed weights) he knows that he has arrived at the correct light displacement to give the ship. The same geometrical calculations are made for the immersed body, when laden with cargo as well, and the true *load waterline* is thus determined. The rule is that 1 ton weight displaces 35 cubic feet of salt water. Therefore a body with 35 cubic feet of bulk under water will float one ton; 70 cubic feet of immersed

section will float 2 tons, and so on. The *bulk,* not the shape, of a vessel has everything to do with her power to swim and carry a load.

Buoyancy. A ship is made to swim and carry her weights without sinking, because the upward pressure, exerted by the water under the ship, will counteract the downward pressure made by the ship herself. The more underwater bottom given to the ship, the more buoyant will she be. A ship will always sit in the water just as much as is required to float her, and no more. The low draft of a big flat-bottomed boat is no mystery when it is understood that sea-water exerts an upward pressure of 64 pounds on each square foot of bulk 1 foot under water, of 128 pounds on each square foot of bulk 2 feet under water, and so on. A ship is buoyant, therefore, in exact proportion to the size of her underwater body.

Stability. Since a body that is all buoyancy has a tendency to overturn, another factor is needed to provide stability. This factor is imparted by that portion of the ship which is *between wind and water,* i.e., the part that is out of water on one side when the ship rolls to the other, and under the water on the side towards which she is rolling. As the ship rolls, these parts on each side—called *shoulders*—are constantly changing position in and out of the water. As the water exerts its upward pressure against the descending shoulder, the ship rights, rolls, rights, and rolls again, but, if the shoulders are large enough, she does not turn over.

To give a ship the necessary stability, her height out of water must be properly calculated, and it is the problem of the naval architect to make this height great enough to counteract bottom buoyancy—or the "upsetting" part of the ship—but small enough to reduce top-heaviness to the slightest degree.

A merchant ship may safely careen as much as 14° in and 14° out of the water, bringing as much as an eighth of her beam under water. If more stability is required than the naval architect has given her, however, it can be secured by the lading of heavy weights under water, or, in extreme cases, by putting ballast low down in the ship to help keep the underwater body down, and to enable the ship to

carry her topweights (sails, spars, etc.) without heeling or upsetting.

A *crank,* or topheavy, ship is one that rolls drunkenly even in calm water. She is better, however, than a *stiff* ship, which rolls very little, has difficulty righting herself when she does roll, and is always in danger of having her masts jerked out in a heavy sea.

Effect of Bow and Stern on Stability. If the two ends of a ship are made very fine in proportion to the middle body, they contribute nothing to the stability of the ship, and the work of buoying up the entire structure with its weights is thrown entirely upon the middle body. If a ship has a hollow bow, any increase of stability, over that given to the middle section, should be looked for in the stern. In this part, it is preferable near the surface of the water, so that whatever fine lines the stern may have are retained under the water. A roomy stern and a fine bow are both advantageous, but fineness of run near the surface of the water not only contributes nothing to speed, but detracts from the power and cargo-carrying capacity of the ship. Fineness of stern is, however, of steering value to a vessel constructed on the "cod's head and mackerel tail" principle, but, in that case, the increased roominess and buoyancy is to be found in the bow. (See the chapter devoted to the *Rainbow.*)

When the middle body of a vessel is too fine in proportion to her ends, the center may curve upward because of the excess pressure of water under it, and the ends drop. Such a ship is said to *hog.* She *sags* when the ends are too fine for the middle.

How a Ship is Made Dry and Easy. Although a bow which offers the least resistance to passage through the water makes for greater speed, it stands to reason that the finer such a bow is at the waterline, the greater will be the difficulty of the forward part in rising out of the water; and it also stands to reason that the fewer the weights placed in the forepart the greater will be the buoyancy imparted to that section. Correct trimming will accomplish the latter, and any tendency on the part of the bow to plunge, because of its fineness, will be materially lessened if the top of the bow flares outward—always provided that solid water is not taken aboard, in which case such bows

are dangerous. The McKay ships are examples of the flare bow successfully adapted.

Weatherliness. Weatherliness in a ship means the ability to go headway across the wind and against the wind. The opposite is *leewardliness.* A leewardly ship is one which has an inclination to be blown broadside in the direction towards which the wind is blowing, instead of traveling lengthwise through the sea, even when the seaman has laid her head in the proper direction and has trimmed her sails to the proper angle.

Weatherliness, then, is most desirable in a ship, and, in order to make her weatherly it is the duty of the naval architect to give her as much of the antidote to leewardliness as is possible—the antidote being a large longitudinal section or, in other words, excess length beyond breadth, while he preserves, at the same time, her average depth below the water. Since a "round" ship is most leewardly, a sharp ship—from five to six times as long as she is broad—with proportionate depth, is most weatherly. In instances where the natural draft of a ship is insufficient for purposes of weatherliness, deadwood is sometimes added (1) in the shape of a false keel, (2) to the stern and cutwater, and (3) in the run before the rudder. However, any excess of deadwood—while permissible in a yacht, an opium clipper, or a racing vessel—is not altogether desirable in a cargo-carrier, except where deadwood must be used as a last measure to attain weatherliness.

The following is a comparison between the weatherly qualities of two types of ships, each with the sails set at an angle of 45° and the wind abeam. No. 1 is a full-built ship with the cross section to the longitudinal section as 1 is to 6. No. 2 is a sharper ship with the cross section to the longitudinal section as 1 is to 8. Thirty-six square feet of sail area is allowed for each square foot of cross section, and the effective force of the wind per square foot of sail is, in this instance, .2 lbs. leeward and .2 lbs. ahead.

No. 1 vessel: Drifting force to leeward per foot of longitudinal section —1.2 lbs.

No. 2 vessel: Drifting force to leeward per foot of longitudinal section —0.9 lbs.

No. 1 vessel: Driving force ahead per foot of cross section—7.2 lbs.
No. 2 vessel: Driving force ahead per foot of cross section—9.6 lbs.

No. 1 vessel: Drift to leeward—0.8 miles. Speed ahead—4.5 miles
No. 2 vessel: Drift to leeward—0.6 miles. Speed ahead—6.0 miles

As the force of the wind is increased, the drifting and the driving forces increase in exact ratio, but the drift to leeward and the speed ahead decrease slightly in proportion.

How a Ship is Made Handy and Easy to Steer. Handiness and ease in steering depend upon four necessary attributes: (1) balance of sail, (2) balance of body, (3) balance of sail with body, and (4) proportion of rudder.

Granting that both ship and sail are correctly trimmed (which is the seaman's duty), and that good balance is maintained, so that the master, and not the wind, determines the direction in which the ship is driven, a further aid—or detriment—to control is to be found in the type and proportion of the rudder, as well as in the cutwater, forefoot, and heel of the vessel.

There is some difference of opinion regarding the best shape to give the rudder, but the one which seems to approach more nearly to the ideal is that which has its greatest breadth near its center and is rounded off at the top and heel. Power is given to the rudder by scaling its breadth to the length of the ship, in something approximating the following proportions: for every 100 feet of the ship's length allow 2 feet of breadth plus 1 foot for the rudder. A ship 100 feet in length would therefore have a rudder 3 feet in breadth; a ship 200 feet in length would have a rudder 5 feet in breadth, and so on.

Diminished cutwater and rounded-off forefoot and heel help materially in making a ship handy to turn, since much forefoot and heel, especially, cause resistance when turning, as they tend to grip the water. The *Cutty Sark* is an example of the exception to this rule.

Balance of Body and Balance of Sail. When a ship shows a tendency to fall off from the wind (leewardliness) and must carry a lee or slack helm, or to fly into the wind (ardency) and must carry a weather helm, such defects must be looked for in lack of balance between body and sail. In such case the commander may remedy the trouble in his own vessel by shifting weights forward and aft until he finds the trim which will enable him to carry the proper sail, and he may also study carefully the quantity of sail to adjust in various degrees of wind, so as to measure his balance.

When ship and sail balance one another, it denotes that the center of effort (sail) and the center of lateral resistance (body) meet exactly in the same point along the length of the ship. If the ship is ardent, the commander may alter her trim so that she need carry but little weather helm, but in cases of severe lack of balance the remedies resorted to would be: raking the masts either a little forward or aft, adding deadwood forward or abaft, adding a tapering false keel, or changing the position of the masts altogether. Any ship is improved in speed as her balance is improved, and a skillful commander can often make a ship fast by trim alone. This was probably the secret of men like Robert Waterman.

Taking the center of the length of a ship as the balance point, the following are the rules for trim:

1. The center of balance shifts to the stern when the vessel is trimmed by the stern: 1″ of trim to 1′ of draft shifts the center of balance aft by 1/144th part of the ship's length.
2. Raking the sternpost shifts the center of balance forward ¼ of the rake.
3. Rounding the stem shifts the center of balance aft by about 1/10th of the draft at the stem.
4. The center of balance will shift forward, in a ship with a full bow and waterline, the moment she has speed. To correct this she is either trimmed by the stern or made to carry more sail forward.
5. Trimming a vessel by the stern will shift the center of resistance of the body of the ship aft; trimming her by the head will shift it forward.

Proportion and Distribution of Sail. It has been estimated that a fast ship can carry 36 feet of sail for each square foot of area of midship section in a ten-knot breeze, but that more than this has a tendency to detract from, rather than add to, speed; since the ship, in all probability, would go slower from being pressed over too far. In light winds, however, fast ships are capable of carrying a great quantity of light sail—far beyond their proportion of working sail, and in side winds a ship should be sufficiently weatherly to carry sail that is not less than six times the area of the vessel's immersed longitudinal section.

A vessel with one sail is considered to be the most effective sailer of any, but, owing to the need of making sail easy to handle, such sail is necessarily divided into a greater number of units as the size of the vessel increases. Hall says, in his *Report,* that "a great many improved appliances were invented for use on the clipper ships, among them the idea of double topsails. Captain R. B. Forbes, of Boston, was the first to divide the enormously large and high old-fashioned topsail and make the lower topsail yard stationary at the cap of the lower mast-head. He made the mast-heads long, to suit the rig. The upper topsail yard kept the place occupied by the original yard, and was raised and lowered in the same manner. This idea was not original with Captain Forbes, for he saw topsail schooners as long ago as 1819 with topsails hoisted on the head of the lower mast and a square sail above on a pole mast; but he was the first to revive the old idea and apply it, in 1841, first to schooners and afterwards to ships, to obviate the extreme size to which topsails had grown. Captain Forbes also invented the idea of topmasts fidded abaft the lower mast-head, in order to house them without interfering with the lower yards. This idea did not become popular, but double topsails did after 1850, and are now a common rig throughout the world."

Placing of Masts. The positions of the various masts can be seen, usually, on the naval architect's plan. There seems to have been no general rule for placing the masts in a clipper, but ordinarily, if the load waterline were divided into ten equal parts, the foremast would

be placed slightly abaft two of these parts (measured from the bow), the mainmast (usually stepped abaft the center of the ship) would be three parts abaft the foremast, and the mizzenmast would be stepped slightly more abaft the mainmast than the foremast was stepped from the bow.

Robert Kipping, in his *Treatise on Masting and Rigging,* says, regarding raking the masts, that "when a sharp-bowed vessel has her masts to rake, it frequently eases her in pitching, but never adds to her sailing, the wind having less power on her sails; it is, however, necessary that a ship's main and mizzen-masts should rake more than the fore-mast; for, by separating them in this way, the wind acts with more power on all the sails, when close-hauled, which otherwise would not be effected, and be of little or no advantage to the ship."

There seems, also, to have been no general rule for the size of the masts or yards, but, in instances where the mainmast is given, the following proportions appear to have been used:

Main topmast: .567 times the length of the mainmast.
Main topgallant mast: .31 to .32 times the length of the mainmast.
Main royal mast: Frequently exactly .206 times the length of the mainmast; otherwise .19 to .21 times the length of the mainmast.
Main skysail mast: Frequently exactly .16 times the length of the mainmast; otherwise, but rarely, ranging from .14 to .19 times the length of the mainmast.
Foremast: .93 (average) to .96 (heavily sparred) times the length of the mainmast.
Foretopmast: Usually .93 times the length of the main topmast.
Fore topgallant mast: .92 to .93 times the length of the main topgallant mast. In many instances the fore topgallant mast and the main topgallant mast were the same length.
Fore royal mast: .84 to .93 times the length of the main royal mast. In a few extremes this measurement was as low as .67 times the length of the main royal mast.
Fore skysail mast: .85 to .91 times the length of the main skysail mast. Many clipper ships did not carry skysails on the foremast.
Mizzen mast: .82 to .88 times the length of the mainmast.

Mizzen topmast: .78 to .82 times the length of the main topmast.
Mizzen topgallant mast: Generally .77 to .79 times the length of the main topgallant mast.
Mizzen royal mast: .80 to .83 times the length of the main royal mast.
Mizzen skysail mast: .73 (frequently) to .80 times the length of the main skysail mast.

When the heights of the masts have been determined, the size of the yards can be judged, approximately, by referring to the table in Appendix II, where the mast and spar dimensions of a number of principal clippers are given.

The following dimensions appear to have been used for:

Diameter of Masts:
Main and fore masts: 1″ to 1¾″ to every 3′ in length.
Mizzen mast: 4/5 to 6/7 times the diameter of the mainmast.
Main and fore topmasts: 1″ to 1¼″ to every 3′ in length.
Mizzen topmast: 7/10 to 4/5 times the diameter of the main topmast.
Topgallant masts: 1″ to 1¾″ to every 3′ in length.
Royal masts: 2/3 to 7/8 times the diameter of the topgallant masts.
Skysail masts: ½″ to 2/3″ to every 1′ in length.
Bowsprit: .81 to .95 times the diameter of the mainmast.

Diameter of Yards:
Main and fore yards, at the slings or middle: ½″ to every 3′ in length.
Topsail yards: 5/8″ to 7/8″ to every 3′ in length.
Topgallant yards: 6/10″ to 5/8″ to every 3′ in length.
Royal yards: Approximately 2/3 the diameter of their topsail yards.
Skysail yards: 1/5″ to ¼″ to every 1′ in length.
Studdingsail yards: 1″ to every 5′ in length.

Diameter of Booms:
Studdingsail booms: 1″ to every 5′ in length.
Spanker or driver boom: Slightly less than the foretopsail yard.
Gaff: Slightly less than the boom.

* * *

Models: Their Use and Origin

Although the ship model is as old as the record of the ship itself—the oldest in existence probably being the Badarian one unearthed at Fayoum and assigned to a period ten thousand years before the birth of Christ—it seems that it was in America that the model was first adapted to the purposes of shipbuilding. Model-making in England, from the point of view of the collector, reached its prime in the eighteenth century, but some very fine ones also resulted, from the order, published by the Admiralty in 1649, for models showing the designs of ordered men-of-war; and the famous Cuckfield Park Collection is said to have been started by Samuel Pepys at the turn of the seventeenth century.

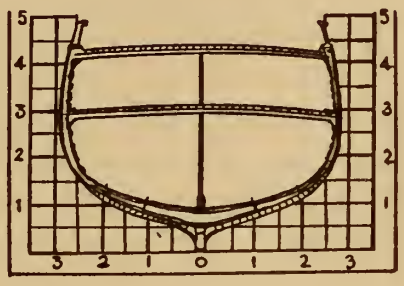
European models were, however, of a skeleton type—almost miniature ships, in fact—and are not to be confused with the more practical American waterline, or "lift," model, which was the result of discovery made by accident in 1790, when a solid block—from which ordinary American ship-building models were then cut—was pieced longitudinally for the purpose of giving an intended model the required depth. The model of the ketch *Eliza*—now preserved in the Peabody Museum, Salem—is the earliest known lift model in existence. The fast-sailing *Eliza* herself was built by Enos Briggs of Salem, and was launched in June of 1794 or 1795. Orlando Merrill, who probably perfected the waterline model—the parts of which are doweled together so that it may be taken apart and the sheer, body, and half-breadth plans transferred to paper—is generally credited with having invented it, although the lift model for his sloop-of-war *Wasp* seems to postdate that of the *Eliza.*

Aside from serving as a guide, in days when shipbuilders and designers trusted to the eye alone when designing a vessel, the model has been usefully employed for the purpose of computing the center of gravity and displacement of a large vessel, and for various experimentation. Models were used for the latter purpose extensively after the

introduction of mechanical means for propelling the ship, or the miniature of it.

Contemporary clipper-ship models are very rarely reliable indicators of the design of the ships they are supposed to represent, since many artful dodges were resorted to, by the builders, for the purpose of confusing rival builders, and the lines of the ship nearly always underwent marked changes from those of the model when they were finally laid down on the mould-loft floor.

* * *



TAKING OFF THE LINES OF A MODEL

The drawing illustrates the method used for taking off one section of a model. Two flat rulers, marked off in numeral inches, are used: one is placed dead against the keel and the other is arranged perpendicular to the first. It is necessary that they form a perfect angle, and are so tested by means of a spirit-level and a square. The distances from the sides of the ship to the ruler are taken at every inch or two inches along the ruler, horizontally and perpendicularly, and the various points are recorded on squared paper. (The same method is used for taking off the lines of a ship in drydock, except that a scale of feet is then used.)

The same routine is followed for taking off all sections.

* * *

The Art of Shipbuilding

Selection of Timber. This was the initial duty, and perhaps one of the most important of all the duties, of the builder of wooden ships, since the quality of his work and the life, apart from accidents, of the ships themselves depended mainly upon the materials from which they were constructed. It was necessary that timbers selected for shipbuilding be free from blemishes and wounds, from cracks, compression of fibers, and all hollow, foxy, or druxy places, such as indicate the commencement of decay. The builder needed to show great skill in differentiating between the good and the bad qualities of timber and in making his selections.

Since it is the sap which tends to decompose and decay timber, the best period for felling trees is at their age of maturity, when the proportion of sap-wood is less and the heart-wood is more strong and lasting. The period for oak is from 60 to 200 years; of ash, elm, and larch, from 50 to 100 years; and of fir, from 70 to 100 years.

Among the superior timbers (classed as twelve years) for shipbuilding, are the following:

1. Teak. As strong as oak but more buoyant. Oily. Not injurious to iron. Ships built of Malabar teak have been known to endure for from 80 to 100 years.
2. Live-oak. Widely used in America.
3. English oak (usually preferred to all other oaks), African oak, and the oaks of Continental Europe.

Lloyd's description of first-class ships for the period designates English, African or live-oak, or teak, for the whole of the timbering; English or African oak, East Indian teak, or red cedar, for the outside plank above the light-watermark; white oak, elm, or beech below the light-water-mark (not wrought higher than the first futtock heads); English or African oak, or teak, for clamps, spirketings, shelf-pieces, and ceiling; and treenails of English or African oak or locust, but specifically not of Baltic or American oak.

Timbers in the second class, with a ten-year rating, include mahogany, ash, and Cuba sabicu.

Timbers in the third class, widely used in America, include white oak, spruce pine, hackmatack (red American larch or tamarack), sweet chestnut, elm, yellow pine, and many others. Fir is also included in this class.

Hall says, regarding the timber used for the building of American ships around the period of the clipper ships: "Changes also took place in the kinds of timber used for building ships, as about 1835 the supply of oak timber began to grow scant in New England. Two hundred years of occupation and settlement, with the pursuit of ship-building and other industries, having nearly cleared the primitive forests from such parts of the country as were accessible from water-courses, southern timber was now finding its way plentifully to the northern markets, and between 1830 and 1840 was introduced to the ship-yards. The peninsulas of Delaware, Maryland, and Virginia were overgrown with splendid forests of towering white oak, and the getting out of the timber for the frames of vessels in that region soon became a regular industry. A complete set of patterns, or moulds as they are called, having been made for the timbers of the vessel, they were turned over to contractors, who went into the woods in the winter time with a party of men armed with axes. The party encamped in rough board or log huts, and remained until the trees had been felled and the complete frame of the ship hewn from them. Each piece was then marked, and the whole was hauled to the nearest water-course before the snow disappeared in the spring and put aboard a coasting schooner and sent north. This industry of getting out frames on these peninsulas is still a marked feature of shipbuilding as now pursued on the north Atlantic coast, nearly all the frames of the large New England ships being now obtained from the region named.

"Southern pitch-pine timber was also introduced, the sticks of which could be obtained of such great lengths that they strengthened the ship. This timber was first used for beams and decking and the various longitudinal ties, such as water-ways, clamps, keelsons, etc.; but as soon as

the insurance companies were induced to approve of pitch-pine its use also became general for the ceiling and planking of ships, its great length making it desirable for both purposes. Pitch-pine remains the favorite wood for all the parts of a vessel of over 100 tons except the stem, keel, stern-post, and frames, for which oak, hard wood, and hackmatack are preferred. For the masts and spars preference is given to white pine and spruce, but a great many lower masts are made of strips of oak or maple and yellow pine, doweled, bolted, and hooped over with iron. Topmasts and bowsprits are frequently made of pitch-pine sticks.

"There was a difference in the cost of ships in this period in favor of American owners. In 1825 a 300-ton ship cost from $75 to $80 per ton in the United States, from $90 to $100 per ton in Canada, and from $100 to $110 per ton in England. In 1847 a large ship, first class in every respect, cost from $75 to $80 per ton here, against $87 to $90 in England."

American clippers, like the *Stag Hound,* had their keels of rock maple and white oak, copper-bolted; top timbers of hackmatack; frame and bulwark stanchions of white oak, between-deck stanchions of oak; and deck plankings of white pine; and some, like the *Flying Cloud,* sold for less than $51 per registered ton.

The usual procedure, after the timbers were felled, was to square them, by sawing off four slabs from each log, in order to give air access to the wood; and afterwards they were seasoned, naturally, as far as possible, within the limited time allowed before using them. Natural seasoning consisted in steeping the timbers in water to remove the sap, and exposing them to air in a dry place, during which time they would lose from 6 to 40% of their weight and shrink from 2 to 8%. Dry rot was guarded against by saturating the timber with solutions of metallic salts and copperas, corrosive sublimate, or chloride of zinc. Donald McKay seasoned his ships by filling tunnels in the keelson with salt pickle (a method invented by Captain R. B. Forbes), but on the whole American shipbuilders were more careless about seasoning the timbers for their ships than were the English.

Laying Down. After the pieces of timber for a particular ship were selected and collected in the shipyard, the lines of the architect's plans, the building draught or calculation draught, or of the waterline model, were transferred (scaling them to the exact size of the ship) to the mould-loft floor. Permanent lines were marked on the floor with a scriber, and temporary ones with chalk. Moulds, or patterns (which were, in actuality, skeleton frameworks made of battens, or narrow strips of wood, with just enough stiffness to preserve the correct outlines), were then made from the lines laid down on the floor.

In addition, it was necessary for the builder to make an exact outline, on the floor, of the planking, or *skin,* of the ship, showing the lines of the planks (these lines were called *ribband lines*) and the way in which the planks would lie most easily over the underneath framework, and keep most firmly in place. The bevelings or angles of the timbers were also marked on flat boards to serve as guides. These were called *beveling boards.*

After the moulds were completed, the process of conversion began.

Conversion. This consisted in cutting the logs of timber into pieces nearly of the shape required for building. Long, straight logs were selected for keels, keelsons, etc.; short, straight logs for beams, sternposts, etc.; curved pieces for stems, futtocks, transoms, etc.; crooked pieces for hooks and knees; and small pieces for chocks, carlings, etc. The idea in selection was to waste as little timber as possible. When crooked pieces were scarce, other pieces were softened by steaming, and bent artificially.

Nearly all the work of conversion was done with a saw. Hall speaks of the changes, especially in this part of the work of building ships, that went on in the yards of the clipper-builders: "The construction of great ships led to some changes in the manner in which mechanical labor was performed at the shipyard. The old fashion was for the shipcarpenter to be a man of all trades. He would aid in hewing out the frames and setting them up; would line out his streak of planking on the timbers of the ship, dub off the surface of the frames so that the

plank might fit truly, put on the plank, bore the holes for the treenails and bolts, fasten the plank, and perhaps even calk the seam; but when business became active this plan would not do, and the work was divided, the separate parts being allotted to different gangs of men, and carpentry, calking, fastening, joining, painting, etc., all became different trades—a system under which time was saved and better work secured. Various devices were introduced to save labor. Previously all the frame timbers were hewed out of the rough log or the flitch plank with broad-axes in the hands of the men, and timbers that needed to be cut lengthwise were sawed through by two men by hand; but Donald McKay set up in his yard in East Boston a steam saw-mill to perform both of these operations. The saw was hung in such manner that it could be tilted first one way and then another while in motion, and thus all the frames could be sawed out to the proper bevel by three men as fast as twelve men could put them together and set them up. All the heavy sawing being done by steam, the work of the yard was immensely facilitated, and a frame could be got out and put together in less than one-third the time it formerly took. Another improvement was effected by setting up a derrick in the yard to lift the heavy timbers and beams to their places in the ship. That work had previously been done entirely by manual labor, and in building a vessel the master carpenter always required a force large enough at any rate to pick up a large keelson piece or a beam and carry it on their shoulders to its home on the vessel. The heavy ceiling and planking had to be carried from the steam-box to the vessel in the same way. There was an immense loss of time in this clumsy and laborious way of doing business, as all hands had to be called off from the work from time to time, often as much as once an hour, to spend twenty minutes or more in carrying about a huge plank or stick of timber. To change this teams of oxen and horses were brought to drag the pieces about and large derricks were set up, worked by other teams, to lift them to their place. Various other devices were adopted from time to time by smart builders. Treenails*

* "Treenails" were just what the name implies: wooden nails, or pegs. They were made of oak, teak, or locust. Before they were used they were softened by steaming,

were formerly made by hand in the shed on rainy days, and were chopped out of sticks of wood with axes; but a treenail lathe machine was invented to do this work. A machine worked by a hand lever was also invented to cut the long, round bars of iron into suitable lengths for bolts. These bolts had previously been cut by hand with a hammer and cold-chisel. The auger was also improved; and the saving of labor by these various improvements was worth thousands of dollars to the builder of a large vessel, and aided greatly to cheapen the cost of a ship. These improvements were adopted chiefly in the cities of Baltimore, Philadelphia, New York, and Boston, the country towns still adhering to the old-fashioned way of doing things. It was long before Bath, Maine, bought even a bevel saw, and the first that went there was the one previously used by Donald McKay, which was sold after he had built his last ship in 1869. To this day [1882] the bevel saw, derrick, and bolt-cutter are unknown in the majority of ship-yards of the Atlantic coast outside of the five cities named."

After the timbers for a particular ship had been properly sorted they were then formed and trimmed by: 1, *siding* them (giving them their correct breadths), 2, *moulding* them (giving them their correct outlines according to the moulds sent down from the mould-loft); and 3, *beveling* them, when required. This completed the process of conversion.

Laying the Keel. The Stem and Sternpost. The keel, generally composed of rock maple and white oak in America, of elm in England, and frequently consisting of as many as ten separate pieces of timber, was always the first part of the ship to be laid. It was placed on a row of temporary building blocks—each of these also composed of separate pieces of timber, one above the other, arranged for ease in removing before the launch—laid lengthwise on a sloping piece of ground, called a slip, by the water's edge. Generally a false keel was also laid below the true keel, partly to increase the weatherliness of the ship and

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forced in at the larger, and out of the smaller, end of a tapering tube, in order to reduce them to about two-thirds their original diameter. When moistened they would swell up again and fit tightly.

partly to give her a firmer hold on the water. The false keel was always fastened in such a way that it could be easily knocked off without damaging the keel, in case the vessel ran aground.

The stem, usually of the same material as the keel, with two other inside pieces similarly shaped, called the *apron* and the *stemson*—used for backing and strengthening the stem—were then treenailed and doweled together, and secured very carefully and accurately to the keel by a "knee." Then the sternpost, usually of oak, and backed by an inner post, was mortised into the keel. The stem itself was usually composed of three vertical pieces scarfed together, one atop the other; the whole mass increased in size as it went upward to give a good bed for the bowsprit to rest on. Deadwood was fixed into the space between the bottom of the apron and stemson, and also at the stern, to fill up the spaces, between the timbers and planking of the ship, too limited for framing.

The Frames or Ribs of the Ship. The frames, which are the parts of the ship shown by the curved lines on the body plan, were generally assembled on the ground and then lifted into place along the keel. The keel was practically the backbone of the ship, the frames being the ribs; and in this manner the frames, placed on their station lines on the keel, should be visualized.

Each frame was built of two layers of pieces of timber, side by side, and breaking joint with each other, so that each joint would be opposite the middle of its corresponding timber in the other layer. The names of these pieces of timber are: *floors* or *floor timbers, cross timbers, half-floors, first futtocks, second, third, fourth* and *fifth futtocks, lengthening pieces,* and *long* and *short top timbers.* If the frames were not assembled on the ground, the long and short armed floors were let into the keel at right angles, and, to those timbers, the curved ones called futtocks and the long and short top timbers were attached one above the other in the shape of one huge rib. Because of the fine angle that would necessarily result if the frames nearest the bow and stern were set square to the line of the keel, these sets of timbers were *canted,*

or turned around partially, so that their outside faces would correspond with the desired outline at those parts.

The *keelson,* a stout timber running the full length of the ship from stem to stern, was next laid down parallel to the keel and above it. Its purpose, as a sort of internal keel, was to strengthen the outside of the ship and to hold down the floor timbers. The keelson was, to the stemson and inner sternpost, what the keel was to the stem and sternpost. Other timbers, called side or sister keelsons, were worked abreast the mainmast and about six feet from the middle line of the ship, in order to strengthen the vessel in the vicinity of the mainmast. The step to receive the mainmast rested, in part, on these keelsons.

Following this work, the spaces, between the ribs below the waterline, were filled with timber, to form a solid shell, and were caulked watertight. The entire frame was trussed or braced with iron and was then ready for the interior planking, or *ceiling,* which started from the keelson and extended up the sides. The deck beams were fastened, with strong wooden or iron knees, on projecting pieces called shelves, and strengthened by posts which rose from the keelson. Close to the keelson a gutter was left, accessible to the pumps, to catch any leakage of water. *Breast hooks* of wood or iron, fitting the shape of the bow, and *crutches* at the stern were further added to strengthen the frame, and to unite the two sides.

The Planking or Skin of the Ship. The planking, both external and internal, was of various thicknesses. A range of planking, the parts of which abutted against each other, was called a *strake* and generally extended the whole length of the ship. A thick strake, or a combination of strakes, was generally worked wherever it was supposed that the frames required additional support. The lowest strake, the edge of which fitted into the *rabbet* (or groove) of the keel, was called the *garboard strake.* The principal strakes of *thickstuff* (timber four to twelve inches thick) wrought on the outside of the ship, under the main breadth, were called *wales;* and the upper strakes of planks were called *sheer strakes.* Treenail fastenings (these eventually went out of fashion) were usually used for attaching the planking to the timbers of the

frame. The inner and outer plankings of the ship were fastened permanently at one and the same time, in one operation.

Decks. The decks, usually of yellow pine, were framed to leave hatch- and ladderways, mast holes, etc., and were laid with care to insure their being watertight.

In a three-decked merchant ship the lowest was called the *lower deck;* the next above, the *middle deck;* then the *main deck;* and finally the *spar* or *upper deck.* Detached buildings on the spar deck were called *deck houses.*

In a two-decked ship there were: lower deck, main deck, and spar deck.

The *orlop deck,* below the lower deck, was but partially planked; sometimes orlop beams only were used, to add strength.

Decks were made slightly convex, or rounded up, for the sake of dryness.

Framing the Decks. This included providing the following:

1. *Coamings* for the mast holes, ladderways and hatchways. Coamings were raised borders which prevented water from flowing down into the ship from the deck. Hatchways and ladderways gave access to the decks below.
2. *Companions* or *booby-hatches* (coverings) for the ladderways.
3. *Hawse-holes* for the cables. Hawse-holes were lined with cast-iron hawse-pipe and equipped with *bucklers* which helped to prevent water from working into the ship.
4. *Scuppers,* lined with lead, mixed metal, or galvanized iron. Scuppers were holes which allowed water to escape from the deck to the sea.
5. A *manger-board,* or plank, abaft the hawse-holes on the working deck to prevent water from the hawse-holes from flooding the deck. *Manger scuppers* to discharge the water collected by the manger-board were also provided.
6. *Scuttles,* or openings closed by heavy glass in metal frames, to provide light and air for the decks below.

7. *Channels* (originally chain-wales), or flat ledges of wood or iron projecting outward from the ship's side, to spread the rigging. The average length of each channel, fore and aft, was about one-half that of its corresponding lower mast from spar deck to cap.

The merchant ships sometimes had *bulwarks* (or a boarding running around the side of the ship like a built-up rail) topped by a flat piece (hand-rail) called the *gunwale,* with railings at the forecastle and poop. A railing, or balustrade, athwartships at the break of the poop or forecastle was called a *breast-work.* The upper edge of a ship's stern, usually ornamented with carved work, was called the *taffrail.* This word was a corruption of the Dutch word *tafferel* meaning "picture"—a relic of the days when the stern of the ship was ornamented with an elaborate decoration.

General Fittings of the Hull. These included:

1. *Rudder.* Usually made of oak or elm, sheathed with copper. It consisted of an assemblage of up-and-down pieces, coaked and bolted together. The upper part of the main piece, called the *rudder head,* was cylindrical in shape; it passed into the interior of the ship through the *rudder port,* or hole, in the *counter.* (The counter is the name given to that part of the ship which overhangs the sternpost.) The rudder was hung into the gudgeons of the sternpost by means of pintles, or hooks, in the foremost piece; the principle, since the rudder swung back and forth on the pintles, being practically the same as the fitting together of any two parts of a hinge. The rudder was shipped before or after launching. A sole piece, corresponding to the false keel of the ship, was usually fitted to the heel of the rudder.
2. *Wheel, Wheel Ropes, Tiller.* The rudder head passed into the interior of the ship, and was mortised to receive the tiller, the ropes of which ran through blocks to the barrel of the wheel; the wheel, when turned, tautened one rope as it slackened the other, and thus, by way of the tiller, controlled the rudder. From

2½ to 4½ turns of the wheel were required to put the helm hard over either way.

3. *Anchor Fittings and Capstan.* Anchors, when not in use, were projected clear of the bows of the ship (until taken inboard) by *catheads,* which in turn were supported on knees. There was a cathead on each side of the bow.

   The *capstan* was a mechanical arrangement. It was usually double to enable two sets of hands to work it at once, and was used for tightening sheets, lines, and braces, and for heavy types of hauling. A rope, passed around the middle of the capstan, was coiled when the capstan was rotated by means of bars—usually twelve in number—inserted into holes in the capstan's rim.

   The *windlass* was a capstan with the barrel worked horizontally.

4. *Pumps.* These, when used for discharging water from the ship's hold, stood in compartments called *pump wells,* extending from the ship's bottom to as high as the upper deck. The water was discharged into the sea through *pump dales.*

5. *Ventilators.* Made of metal with bell-mouthed hoods, some with rotary tops. Fresh air was drawn into the lower decks through the ventilators, and foul air passed out through a tube on the opposite side of the deck.

6. *Boats.* These were generally built of oak with cedar or pine planking. There were three types used: (1) These were carvel-built with frames that generally consisted of a floor and two futtocks. The floors were scored down over the keel, and bolted to it. The frames were sided, moulded, and trimmed, as in a ship. Planking was laid on fore and aft, with the seams *flush.* (2) These were clinker-built. They were very light in weight for their size, and the planking was not laid with the seams flush, but with each strake overlapping the upper edge of the strake below. They were not built on frames, but on temporary transverse moulds. (3) These were diagonally built, with the skin of two layers of

planking and the seams flush. They were built, like the clinker-built boats, on temporary transverse moulds.

Caulking. The caulking on a wooden ship was first performed upon the treenails, then on the planking.

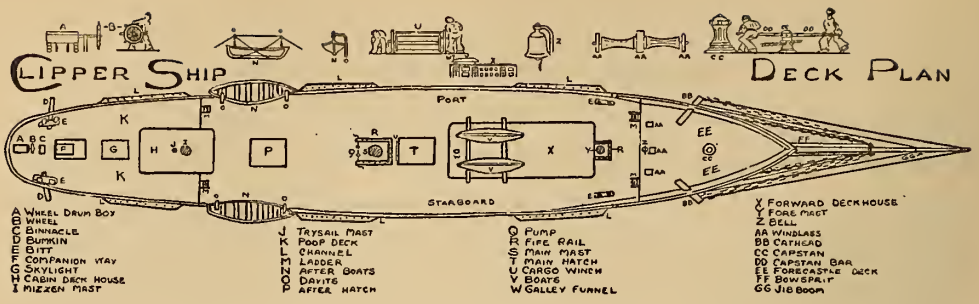
The seams of the planking were opened about 1/20 of the thickness of the plank, and threads of oakum (junk picked to pieces) were forced in by means of a *caulking iron.* This was an iron wedge driven by a *beetle,* or mallet. White oakum was usually forced into the seams first, and then black oakum was forced in. The oakum was further compressed into the seams by means of a *horsing iron,* the process being called *horsing up.* The seams were then payed with melted pitch, or a solution of caoutchouc, shellac, and naphtha.

Coppering. The bottom of the ship was first payed over with pitch or tar, then sheathed with copper and fastened with mixed metal nails. The copper sheets were put on in strakes running fore-and-aft, the after end of one strake overlapping the fore edge of the other, and the lower edge of one overlapping the top of the one below. Coppering was sometimes done after launching.

Painting. The sides above the copper generally received from three to four coats of paint. The clippers were painted black, sometimes with a ribbon of white, crimson, or gold about the waist. Decks and ladders were scrubbed and holystoned.

Launching. This was the legal delivery of the ship to her owner.

* * *



The deck arrangements of some of the clippers differed in detail from the above plan (the *Lightning,* for instance, carried her boats inboard on the poop deck) but the arrangement of essentials was practically the same for all ships.

The deck was divided into three parts: the *poop deck* (K) from which small ladders, about three feet high (M) led downward to the *main deck,* and upward to the *forecastle deck* (EE).

A and B, on the poop deck, indicate the steering apparatus: the wheel, generally of mahogany strongly framed and bound with brass; and the wheel box, enclosing a wooden drum around which the ropes leading to the tiller were coiled. The binnacle (C) was a small box for the compass. It was one of the duties of the helmsman, at the wheel, to strike a small bell atop the binnacle to mark each half-hour of the day and night. These strokes were in turn answered by the lookout man, who struck the great forward bell, at Z. Starting with one bell for twelve-thirty o'clock, two bells for one o'clock, three bells for one-thirty o'clock, and four bells for two o'clock, the bells signaled the hours until eight were struck and the watch was changed. Another watch then went on duty, and the procedure was repeated. The day aboard ship commenced at noon and was divided into the following watches, or spaces of time: Afternoon Watch, noon to 4 P.M.; First Dog Watch, 4 P.M. to 6 P.M.; Second Dog Watch, 6 P.M. to 8 P.M.; First Watch, 8 P.M to midnight; Middle Watch, 12 A.M to 4 A.M.; Morning Watch, 4 A.M. to 8 A.M.; Forenoon Watch, 8 A.M. to noon.

At D and E are the bumkins and bitts on both the port (left side looking forward) and the starboard sides of the ship. The bumkins (originally boomkins) were short wooden projections, or booms, to which the braces, which controlled the main yardarm, were hooked. (The manner in which these braces led to the bumkins is shown by the dotted lines marked 120 on the Hull and Rigging Plan.) Bitts were used for securing mooring ropes when the vessel was in harbor. Sea terms, derived from this word, are: *to bitt the cable* (put it around the bitts, in order to fasten it, or slacken it gradually in order to *veer away*), *bitter* (which means the turn of the cable that is around the bitts), and *to the bitter end* (which means "to the end of the cable" or "to that part of the cable which remains within the ship when she rides at anchor").

The letter F indicates the companionway at the entrance from the poop to the cabin (H). The skylight (G), together with recessed windows in the cabin's sides, was the means by which daylight entered the quarters of the officers and passengers below. The interior of the clippers was usually painted white or pearl-color; panels were of mahogany and other ornamental woods, and decorations were in gilt and enamel. The captain's stateroom (overlooking the starboard side of the ship), the pantry, and officers' quarters (overlooking the port side) were in the forward end of this deckhouse. A doorway gave entry to the main deck. The outside of the cabins was painted pure white; with skylight frames, companions, and cornices of Spanish mahogany or India teak fitted with highly polished brass. Note the channels at L, for spreading the standing rigging clear of the bulwarks. (See Hull and Rigging Plan for the illustration of their use.)

At N on either side of the main deck are the after-boats, swung from davits (O). The starboard boat is square-sterned, while the other is of the whale-boat type. P indicates the after hatch, on which is fastened a booby-hatch with doors leading to the between decks. There are more channels at either side at L.

Amidships at Q are stationed the pumps for keeping the bilges (that

part of the floor of a ship, originally written "bulges," on each side of the keel) clear of water, while immediately after, around the mainmast at S, is the main fife rail (R) into which were fitted the belaying pins to which part of the running rigging was fastened. The remainder of the running rigging was belayed to pins in the forward fife rail at Y, and to pin rails at the mizzen mast, on the inner side of the bulwarks near the channels, and at the stern. These pin rails were of mahogany or teak; the belaying pins were sometimes tipped with brass.

The main hatch (T) would have had tarpaulin coverings fastened down firmly, by means of cleats, to the coamings at the sides. This hatch was the means of entry to the cargo. The winch indicated at U was used for hoisting heavy boxes, bales, and bundles to the deck. (A detail of the winch is shown at the upper edge of the plan.)

Abaft the foremast (Y) is the deckhouse (X), where were located the crew's quarters, store rooms, and galley (sometimes called the cook room, and sometimes the caboose). The galley funnel projects at W, and atop the house are the forward boats. The sides of the house would have been paneled with mahogany, with recessed windows, paneled doors, and a halved galley door. There is another pair of bitts (E) on this deck, and channels at L.

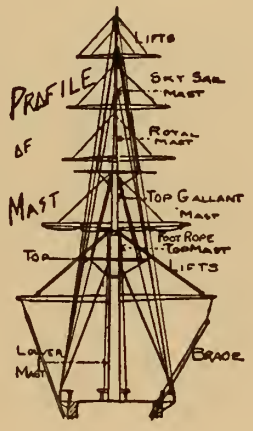
The position for the ship's large ornamental bell (bearing the ship's name) is shown at Z, and across the three points marked AA is indicated the position for the windlass, which was used for winding up the anchor cables. BB indicates the position of the catheads. Cats' heads were sometimes carved upon these horizontal pieces of timber. The *cat* aboard ship was a strong tackle used for drawing up the anchor to the catheads.

CC marks the place for the capstan, although there were usually several of these aboard. FF marks the position of the bowsprit extending beyond the forecastle deck (EE) and over the figurehead. The jib-boom (GG) is shown extending beyond the bowsprit. Older ships had also a flying jib-boom, which was a still more forward extension. The jib-boom carried the jib staysails forward beyond the stem.

The small packet deck plan shows the arrangement of the deck furnishings of a fairly late packet. Note the "cod's head and mackerel tail" outline.

Masting and Rigging

Masts. A full-rigged ship had three masts—*fore, main,* and *mizzen*—with square sails on all three. Each individual mast was further divided into three parts, namely: the *lower mast,* the *topmast,* and a three-in-one mast which included the *topgallant, royal* and *skysail masts* in a single unit. Over all these was another short mast, called the *pole,* atop which was the *truck,* the latter a flattish piece generally gilded and pierced with two holes for the signal ropes, or halliards.



1. *Lower Mast.* The lower masts were always *stepped,* the steps being blocks of stout timber surrounding the heel of the mast and fitted into a recess cut into the keelson, with the exception of the mizzen-mast which was stepped on the beams of the lower deck. All that part of the mast below deck level was known as the *housing,* and at that point, as well as for a slight distance above

the deck level, the mast itself was octagonal in shape. As it rose through the deck, a wedge was driven in at each one of its eight sides, to keep it firmly in position. A lower mast always paralleled, for a space, the one above it; and this space, where the two masts paralleled, was called the *doubling*. (The name itself and a glance at the Hull and Rigging Plan will illustrate the meaning.) That part of the individual mast which doubled the lower part of the one above was called the *head,* and the top of the head was the *cap*. The part between the head and the mast proper was called the *hounds*: identifiable in old-time ships as the part of the mast head which gradually projected on the right or left side, beyond the cylindrical or conical surface. The sides of the mast at the hounds of the clippers were cut flat, and solid blocks of oak, called *cheeks,* were bolted on; they were flat on top to provide a place for two strong bars of oak timber, called *trestle trees,* to which were bolted other pieces of timber, called *cross trees*. These, in turn, supported a sort of crescent-shaped platform called the *top,* the principal purpose of which was to extend the topmast shrouds, so as to form a greater angle with the mast, and to give additional support to the latter. The tops were also used as landing places for men climbing up into the rigging. It will be noted that seamen always climbed up on the outside of the tops. On top of the very head of each lower mast (also of each topmast) will be seen a strong, thick block of wood, which was called, aptly enough, a *cap*. This cap was connected to the top of the lower mast by a square tenon, and it had a hole through the forward end through which the foot of the topmast was slipped.

2. *Topmast.* Topmasts were not stepped, but *fidded,* and they were kept in position partly by the cap of the lower mast, partly by the trestle trees, and partly by a block of wood placed through a hole in the heel and resting on the trestle trees, called the *fid*. The topmasts had no cheeks, and the topmast cross trees formed a light frame of four pieces of timber placed across its head, and

its trestle trees rested on its hounds, above which it was bolted to the mast. The topmasts had *spreaders* for extending the shrouds of the upper masts, but no platforms.

There was also a *top block* at the heel of the topmast, through which a *top rope* employed to fix the mast in its place or lower it in very bad weather, was rove.

3. *Topgallant, Royal,* and *Skysail Masts.* This spar was arranged the same as the topmast.

Yards. The term *yard* is applied to all those spars which are suspended across the masts of a sailing ship, with rigging, and to which sails are attached. On the mizzen mast these were called (starting from the bottom): crossjack yard,* mizzen topsail yard, mizzen topgallant yard, mizzen royal yard, and mizzen skysail yard. On the main mast they were called: main lower yard, main topsail yard, main topgallant yard, main royal yard, and main skysail yard. And on the foremost they were: fore lower yard, fore topsail yard, fore topgallant yard, fore royal yard, and fore skysail yard. There were upper and lower topsail yards in the later ships, as well as upper and lower topgallant yards.

Yard arms are the two ends of a yard. The word "gallant" is a corruption of the word "garland," while the word "royal" is applied to the topmost feature of a series. Royal yards, royal sails, etc., probably owe their identifying name to the fact that at one time the topmast was used only as a staff to take the standard.

Spanker Boom and Gaff. There were two additional spars on the after side of the mizzen mast: the lower was called the *spanker boom;* and the upper, the *spanker gaff.* These spars served to spread the big fore-and-aft sail called the spanker or driver.

Spencer Gaff. A very few ships carried a small sail, similar to the spanker, on the after side of the mainmast. The sail was called the spencer, and the spar, to spread it, the spencer gaff.

Bowsprit. The bowsprit inclined over the bow of the ship. The angle it made with the waterline was called the "steeve."

* The crossjack sail was seldom used on any but merchant ships.

Jib-boom. A prolongation of the bowsprit, mounted on top of the bowsprit and, for a space, parallel with the other.

Studdingsail Yards and Booms. These were used to lengthen the yards, so that additional sails (studdingsails) could be carried.

Rigging and Tackles

Rigging was a general name given to all ropes used to support the spars, to extend or reduce sails, or to arrange them. Tackle-work consisted of blocks and fixtures through which the rigging was rove. *Blocks.* A block consisted of three or four parts: (1) shell or outside (wood or iron) part, (2) sheave, or wheel, through which the rope ran, (3) pin, or axle, on which the sheave turned, and (4) strap, or part by which the block was made fast to any particular station. Mortised blocks were made of a single block of wood, mortised out to receive a sheave. Blocks that had no sheaves were called by various names and had various shapes: hearts, bull's eyes, dead-eyes (originally dead men's eyes), etc.

Tackles. These had various names, according to their places of service: reef tackles were provided for the courses and upper topsails; the spanker gaff was prevented from swinging about by tackles called *vangs;* yard arm tackles were used for hoisting articles on board, etc. *Standing Rigging.* All parts of the standing rigging, confined to the middle line of the ship, were called stays; all those that spread out sideways were called *shrouds;* and those that belonged to the bowsprit were variously named, as can be seen in the Hull and Rigging Plan.

1. *Shrouds.* All the masts had shrouds, on both port and starboard sides, which served to keep them steadied and secure, and at the same time provided, by means of cross lines called *ratlines,* ladders for the men to crawl up on when it was necessary for them to go aloft. The middle of each shroud passed around the head of the mast, and the bottom end came down to the *tops* (topmast and topgallant shrouds) or to the *channels,* where they were

made fast to dead-eyes. Small ropes, called *lanyards,* were rove through the shroud dead-eyes, as well as through the dead-eyes secured to timbers below the channels (futtock dead-eyes), and were then drawn tight by a tackle.

Futtock shrouds were short ropes passing obliquely under the *tops* to hold the shrouds of the topmast.

2. *Stays.* Stays were strong ropes which ran diagonally downward from the masts, and forward, to prevent the mast from falling backward.
3. *Preventer Stays.* These ran parallel with the mainstays, and above them, and also served as supports. The topmasts and topgallant masts had backstays also, which ran from the mastheads to the bulwarks. The royal and skysail yards had backstays only.

Running Rigging. This was the general name given to all the lines needed for the purpose of moving the yards and handling the sails. *Halliards* were used for hoisting the yards; *braces,* for turning them; and *lifts,* for tilting them. When the lengths of the braces controlling any one yard were equal, that yard was said to be *squared.*

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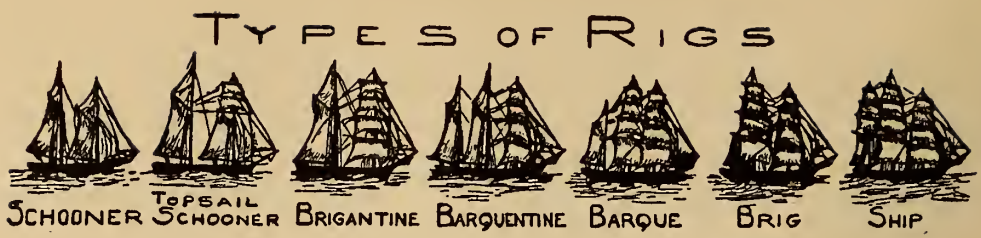


The Sails

The sails of vessels are of two types: square or fore-and-aft; and there are a number of ways in which the two types can be disposed on two or three masts. Several of these are shown in the above drawing, and it will be noted that, of the seven types shown, the *ship* is the only one that carries square-sails on all masts. To be technically correct, the word "ship" should be applied only to a sailing vessel so rigged.

A sail is always *bent* to a yard, and takes its name from the yard to which it is bent. Square sails can be placed at right angles to the direction of the keel of the ship—as when going *before the wind;* or, by means of braces, they can be set obliquely to the keel when the wind is from the side—as when set "on a wind" or "by the wind." All fore-and-aft sails are set on gaffs or stays; they are set, approximately, in a vertical plane passing through the keel, although they, too, can be set with a certain degree of obliquity by easing off the sheet, or lower corner of the sail.

The upper part of a sail is called the *head;* the lower part, the *foot.* The sides, in general, are called *leeches,* although the weather side (side edge where a wind enters) of a fore-and-aft sail is specifically called the *luff,* and the other edge is called the *after-leech.* The corners of sails are called *clews,* but the top triangular corner of a jib is called the *head.* The *weather clew* of a fore and-aft sail, or of a course, while set, is the *tack.* The sails of a clipper ship were made of cotton canvas, and all of them, both square and fore-and-aft, were edged with a rope, known as a *bolt rope.*

Running Gear, etc., for Square Sails. A square sail was attached to its yard by short lengths of rope yarn, called *rovings,* which were made fast to an iron rod, running nearly the whole length of the yard, called a *jackstay.* The upper corners, or clews, were fastened to the yard by small ropes called *ear-rings.* One end of each ear-ring was fastened to a loop, or *cringle,* fixed in that part of the sail, and the other end was passed six or seven times around the yard-arm and through the cringle. (Every reef on a yard had its respective ear-ring, which was passed in the same manner.)

Sheets. These were ropes, or chains, fastened to the two lower ends

of the sail, serving to spread the sail and keep it taut. The expression "flowing sheets" was applied to the position of the sheets of the principal sails when they were loosened so as to receive the wind more obliquely than when the ship was sailing before the wind, but more perpendicularly than when she was *close-hauled,* or endeavoring to go as nearly as possible in the direction from which the wind was blowing.

Clew-garnets. Ropes by which the clews of the lower square sails were drawn up.

Clewlines. Ropes by which the clews of the upper sails were drawn up to the yard. Clewlines were divided into: (1) *buntlines,* which drew upon the center, or *bunt,* of the sail; (2) *leech lines,* which controlled the *leeches,* or sides, of the sail; and (3) *between lines,* which controlled the parts between the bunt and the leeches. When a sail was hauled up to its yard, it was said to be *clewed up to its yard.*

Bowlines. Ropes fastened near the middle of the leech by three or four subordinate parts called *bridles.* Used especially, although infrequently, when it was necessary to keep the principal sails from shivering.

Reef lines. Short ropes, which passed through eyelet holes in the reef bands and served to shorten sail. The part of the sail to be reefed was drawn up by the *reef tackle.* Footropes, or *horses* as they were called, extended along the yards (also along the bowsprit) and served for the men to stand on when reefing or furling sail.

Gaskets. These were cords used to furl, or tie up, the sail firmly to its yard. The gaskets at the middle were called *bunt gaskets;* next, *quarter gaskets;* and, at the extremities, *yard arm gaskets.*

Brails. This was a general name given to all the ropes employed for the purpose of hauling up sails, when it was desired to furl them. The process was called *brailing them up.*

To Set a Main Course or Fore Course. Before the sail was loosed, the double block of a tackle was made fast to the weather clew, and the single block was hooked low down upon the chess-tree (a piece of wood, one on each side of the ship), and the fall (loose of the tackle)

was led aft. Then the tack and fall were manned at the same time. When the sail was loosed, instructions were given to: ease away the weather clew-garnet, let go the buntlines and leech lines, bowse down upon the tackle, and take in the main tack. Then: haul aft the sheet, brace up the yard, and haul the main bowline.

To Set a Topsail. Instructions were to: man the lee sheet, and, the sail loosed, ease down the buntlines and lee clewline; haul home the lee sheet; then to: haul home the weather sheet, hoist the sail, and brace up as required.

Reefing. Instructions were to: top up the boom, ease down the peak and throat halliards, haul down the reef cringle to the boom by the reef tackle; and then to: lash the tack and tie the points without rolling the slack canvas.

Second and third reefs were taken in as the wind increased.

To Take in a Course. Instructions were to: man the weather clew-garnet, ease off the tack and bowline, and run it up. Then to: man the lee clew-garnet, buntlines, leech lines, and weather braces. All ready, to: ease away the sheet, haul up the clew-garnet, buntlines and leech lines, and round in the weather brace till the yard pointed to the wind. Then to: haul tight the trusses, braces, lifts, and rolling tackle, and let hands furl the sail.

To Take in a Topsail. In one of the methods for doing this, instructions were to: man both the clewlines, buntlines and weather brace, at the same time; thus, when the lee sheet was eased off, the weather brace was hauled in with ease and the yard laid to the wind. When the lee clewline was half up, instructions were to: ease off the weather sheet and run up the weather clewline; then to: haul tight the lee brace, bowse tight the rolling tackle, and furl the sail.

Furling Sail. It was always necessary to take in sail when the weather was at its worst, and the work was extremely dangerous. The part of the work which could be done on deck merely bunched the sail, so that it was necessary for the men to go up into the rigging and out on the yards to gather up the canvas and punch it into shape before

tying it to the yards by means of the gaskets. Only square sails were *furled*. Fore-and-aft sails were *stowed*.

Running Gear for Staysails. A fore-and-aft sail had only three ropes: *halliards* for drawing them up; *downhauls* to pull them down, when shortening sail; and *sheets* for stretching the lower corner to the right or left. The spanker had *outhalls* at the end of the boom and of the gaff. It had also a series of *brails,* or ropes, which passed through pulleys and fastened to the aftermost leech of the sail, to truss it up when required. A sheet was attached to each side of the spanker boom.

Extra Sails Set in Fair Weather. There were a number of these, and all except the studdingsails were used from time to time according to the whims of the various captains. They included:

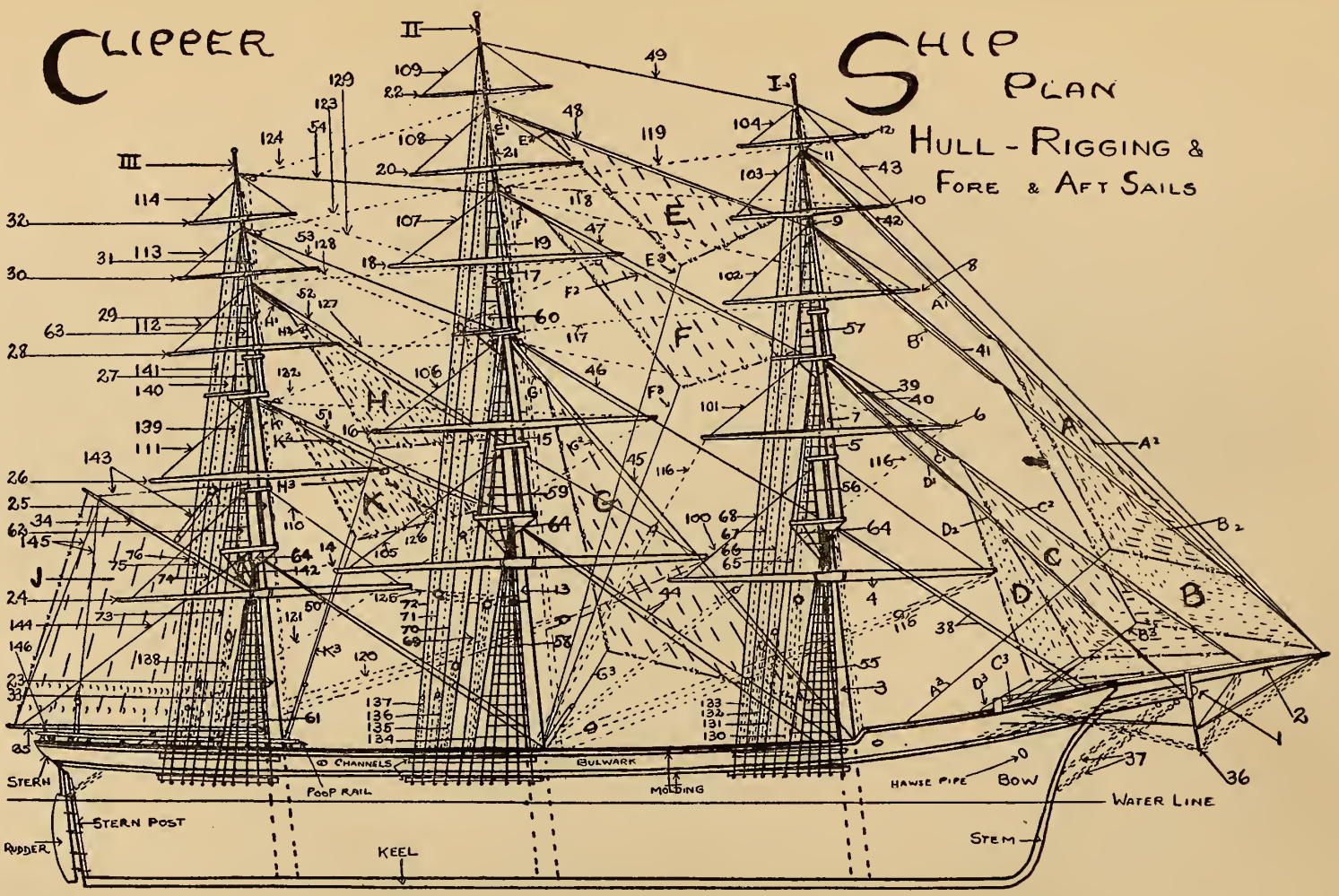
1. *Studdingsails.* Set in addition to "all plain sail" in light and normal winds. The booms for these sails slid in and out of iron rings along the tops of the regular yards, and their own yards were suspended from their own booms. The studdingsail yards were brought down on deck when the studdingsails were brought down. (The studdingsails are shown on the Square Sail Plan.)
2. *Water Sails.* These were small sails spread under the lower studding sail booms or the driver boom, by some captains, in a fair wind and calm sea. They were seldom used, however, as it was thought that they tended to take the wind out of the fore studdingsails.
3. *Ringtails.* The ringtail was used only in light, favorable winds. The head of a long, narrow one was sometimes bent to a yard which was hauled up to the after end of the spanker gaff, and the tack was extended aft by a boom lashed to the spanker boom. In former days, on the types of ships that could accommodate it, the ringtail was a small quadrangular sail extended on a little mast perched on top of the taffrail. The lower part was stretched out by a boom and extended horizontally from the stern.

4. *Jimmie Greens.* A quadrilateral sail, spread under the jib-boom, the head of which was lashed to a light yard.
5. *Moonrakers.* Triangular masthead sails, the upper angle of which was lashed, below the masthead cap and the outer clew, to the yard arms below.
6. *Bonnets.* Extra pieces of sail lashed to the foot of a course.
7. *Skyscrapers.* Triangular sails set above the royal topgallants.

* * *

CLIPPER SHIP PLAN

HULL - RIGGING & FORE & AFT SAILS



Fore-and-Aft Sails

A. Flying jib
B. Outer jib
C. Inner jib
D. Fore topmast staysail
E. Main royal staysail
F. Main topgallant staysail
G. Main topmast staysail
H. Mizzen topgallant staysail
J. Spanker or Driver
note reef points on lower part of sail
K. Mizzen topmast staysail

15. Main topmast
16. Main topyard
17. Main topgallant mast
18. Main topgallant yard
19. Main royal mast
20. Main royal yard
21. Main skysail mast
22. Main skysail yard

On the Mizzen Mast

23. Mizzen lower mast

Leading from the Foremast

Note: The following standing-rigging extends from each side of the various masts, but, for convenience, that which shows on the weather side only is shown.

55. Shrouds
56. Fore topmast rigging
57. Fore topgallant rigging

107. Main topgallant lifts
108. Main royal lifts
109. Main skysail lifts

From Mizzen Mast to Yards

110. Cross-jack lifts
111. Mizzen top lifts
112. Mizzen topgallant lifts
113. Mizzen royal lifts
114. Mizzen skysail lifts

RIGGING FOR HANDLING FORE-AND-AFT SAILS

A 1. Flying jib halliard
B 1. Outer jib halliard
C 1. Inner jib halliard
D 1. Fore top staysail halliard
E 1. Main royal staysail halliard
F 1. Main topgallant staysail halliard
G 1. Main topmast staysail halliard
H 1. Mizzen topgallant staysail halliard
K 1. Mizzen topmast staysail halliard

Downhauls are indicated from A 2 *to* K 2, *and are named according to the sail to which they are related,* i.e., A 2. *Flying jib downhaul, etc. Sheets are indicated in the same way from* A 3 *to* K C, i.e., *Flying jib sheets, etc. All halliards are belayed to pins.*

Rigging and Spars

I. Foremast
II. Main mast
III. Mizzen mast
1. Bowsprit
2. Jib boom

On the Foremast

3. Fore lower mast
4. Fore yard
5. Fore topmast
6. Fore topyard
7. Fore topgallant mast
8. Fore topgallant yard
9. Fore royal mast
10. Fore royal yard
11. Fore skysail mast
12. Fore skysail yard

On the Main mast

13. Main lower mast
14. Main yard
this number is indicated at the tip of the yard near the mizzen mast
24. Cross-jack yard
25. Mizzen topmast
26. Mizzen topyard
27. Mizzen topgallant mast
28. Mizzen topgallant yard
29. Mizzen royal mast
30. Mizzen royal yard
31. Mizzen skysail mast
32. Mizzen skysail yard
33. Trysail mast
34. Spanker gaff
35. Spanker boom

Below Bowsprit

36. Martingale boom
this was sometimes called the Dolphin Striker, and was a short spar used for keeping the jib-boom securely in place

STANDING RIGGING

Between Jib-boom and Bowsprit

37. Bobstays
38. Forestays
39. Fore topmast stay
40. Inner jib stay
41. Outer jib stay or fore topgallant stay
42. Flying jib stay
43. Fore skysail stay

Between the Foremast and Mainmast

44. Main stay
45. Main topmast preventer stay
46. Main topmast stay
47. Main topgallant stay
48. Main royal stay
49. Main skysail stay

Between Mainmast and Mizzen

50. Mizzen stay
51. Mizzen topmast stay
52. Mizzen topgallant stay
53. Mizzen royal stay
54. Mizzen skysail stay

Leading from the Mainmast

58. Main shrouds
59. Main topmast rigging
60. Main topgallant rigging

Leading from the Mizzen Mast

61. Mizzen shrouds
62. Mizzen topmast rigging
63. Mizzen topgallant rigging

Leading from All Masts

64. Futtock shrouds

Abaft Foremast

65. Fore topmast backstay
66. Fore topgallant backstay
67. Fore toproyal backstay
68. Fore skysail backstay

Abaft Mainmast

69. Main topmast backstay
70. Main topgallant backstay
71. Main royal backstay
72. Main skysail backstay

Abaft Mizzen Mast

73. Mizzen topmast backstay
74. Mizzen topgallant backstay
75. Mizzen royal backstay
76. Mizzen skysail backstay

RUNNING RIGGING

Note: Numbers are shown on sail plan on one side of lifts only.

From Foremast to Yards

100. Fore lifts
101. Fore top lifts
102. Fore topgallant lifts
103. Fore royal lifts
104. Fore skysail lifts

From Mainmast to Yards

105. Main lifts
106. Main top lifts

From Yards on Foremast

Note: Braces and halliards are shown in dotted lines on the weather side only, with the exception of the foretopsail braces.

115. Fore braces
116. Fore top braces
117. Fore topgallant braces
118. Fore royal braces
119. Fore skysail braces

From Yards on Mainmast

120. Main braces
121. Main top braces
122. Main topgallant braces
123. Main royal braces
124. Main skysail braces

From Yards on Mizzen Mast

125. Cross-jack braces
126. Mizzen top braces
127. Mizzen topgallant braces
128. Mizzen royal braces
129. Mizzen skysail braces

Abaft Foremast

130. Fore top halliards
131. Fore topgallant halliards
132. Fore royal halliards
133. Fore skysail halliards

Abaft Mainmast

134. Main top halliards
135. Main topgallant halliards
136. Main royal halliards
137. Main skysail halliards

Abaft Mizzenmast

138. Mizzen top halliards
139. Mizzen topgallant halliards
140. Mizzen royal halliards
141. Mizzen skysail halliards

From Mizzen to Spanker

142. Throat halliards
143. Peak halliards
144. Spanker boom topping lifts
145. Spanker vang pendants and falls
146. Spanker boom sheet

SAILS COMMONLY SET BY THE WIND

BEAUFORT NOTATION FORMULA	WEATHER	SEA.	SAILS SET	VELOCITY OF WIND M.P.H.	PRESSURE IN SAILS LB. PER SQ. FOOT	NAME AND SPEED
0	CALM	CALM		0 To 2		
1	LIGHT AIR	VERY SMOOTH	Courses	3 To 10	0·25	Wind just sufficient for Steerage way to 4 m.p.h.
2	LIGHT BREEZE	SMOOTH	Topsails T'Gallant Sails Royals Spanker Jib Flying Jib and All Light Sails	11 12 13 14 15	0·36 0·49	Ship would sail from 4 to 6 miles per hour
3	GENTLE BREEZE	SLIGHT		16 17 18 19 20	0·64 0·84 1 to 1·05	Ship would sail from: 6 to 8 miles per hour 7 to 9½ miles per hour 8 to 10 miles per hour T'Gallant Breeze
4	MODERATE BREEZE	MODERATE		21 22 23 24 25	1·21 1·44	Ship would sail from: 9 to 11½ miles per hour 10 to 13 miles per hour Fresh T'Gallant Breeze
5	FRESH BREEZE	RATHER ROUGH	Full and by, Royals in a seaway to Royals and Flying Jibs taken in; to two reefs in the Topsails	26 27 28 29 30	1·69 1·96 to 2·00 2·25	Whole Topsail Breeze
6	STRONG BREEZE	ROUGH	Full and by, single reef and T'Gallant's Much sea – two reefs in the Topsails to taking in T'Gallants	31 32 33 34 35 36	2·56 to 2·67 2·69 3·24 3·53	Reefed Topsails Close reefed Topsails
7	MODERATE GALE	HIGH	Full and by, double reef and Jib; to treble reefed Topsails, reefed Spanker and Jib.	37 38 39 40 41 42 43 44	3·61 4·00 4·22 4·41 4·62 4·84	

SAILS COMMONLY SET BY THE WIND

BEAUFORT NOTATION FORMULA	WEATHER	SEA	SAILS SET	VELOCITY OF WIND M.P.H.	PRESSURE ON SAILS LB. PER SQ. FOOT	NAME
8	FRESH GALE	VERY HIGH	Full and by, triple reef to close reefed Topsails, reefed Courses; to taking in Spanker, Jib, Fore and Mizzen Topsails.	45 46 47 48 49 50 51 52	5.08 to 5.24 5.29 5.52 5.76 6.00 6.25 6.50 6.76	Scudding Sails
9	STRONG GALE	SQUALLS	Close reefed Fore and Main; reefed Foresail and Fore Staysail, close hauled; to reefed Courses, close reefed Main Topsail, Fore Staysail, Mizzen Trysail, To taking in Mainsail.	53 54 55 56 57 58 59 60	7.02 7.29 7.56 to 7.67 7.84 8.12 8.41 8.70 9.00	Half Storm
10	WHOLE GALE	FRESH	Close reefed Main Topsail and reefed Foresail and Fore Staysail; to close reefed Main Topsail, Storm Staysails or close-reefed Main Topsail only.	61 62 63 64 65 66 67 68 69	10.66	Whole Storm
11	STORM		Storm Staysails To Bare Poles	70 to 80		
12	HURRICANE		Bare Poles	over 80		

APPENDIX II
Dimensions of Masts and Spars

D Indicates Diameter In Inches L Indicates Length in Feet M Indicates Mast-heads or Yard-arms in Feet – Poles '0'

NAME OF SHIP / MASTS	FORE			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M
Sea Witch															
Surprise															
Stag Hound	32½	82	13	16	46	9	10	25		9	17		8	13	⑦
Game Cock															
John Bertram		76½													
Witch of the Wave		84			47			26			16			11	
Flying Cloud	35	82			46			25			17			13	
Challenge	34	93	16½	17⅜	52	8¾	12¼	34½		8¼	22½		6½	17	⑤
Nightingale		72			42			22			14			10	
Flying Fish		82			46			24			16			12	
Sovereign of the Seas	41	89½	16	19	50	10	14	27½		11½	18	⑩			
Westward Ho		82			46			24			16			12	
Great Republic	44	130	36	24	76	12	18	28		15	22		11	19	⑫
" " rebuilt		113													
Lightning	37	86	15	18½	46	10½	12½	23		10½	15	⑦			
James Baines	40	63½	17	20	47	10	15	29		13	17	⑨			
Champion of the Seas	40	65	17	20	47	10	15	26		13	17	⑧			
Cutty Sark ✲		61½	14	18	48	9	12	26		10	17½				

NAME OF SHIP / MASTS	MAIN			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M
Sea Witch	33	83¾													
		84													
Surprise					49			28						17	
Stag Hound	33	88	14	17½	51	9½	12	28		11	19		10	15	⑨
Game Cock		88			49			27			18			14	
John Bertram		81													
Witch of the Wave		90			50			28			18			12	
Flying Cloud	36	88			51			28			19			14½	
Challenge	36	97	17	18½	54	9	13	36		8½	24		7	19½	⑤
Nightingale		77			45			24			15			11	
Flying Fish		88			49			27			18			14	
Sovereign of the Seas	42	92½	17	19½	54	11	14½	30		12	20		10	14	⑧
Westward Ho		88			49			27			18			14	
Great Republic	44	131	36	24	76	12	18	28		15	22		11	19	⑫
" " rebuilt		114													
Lightning	38	90	16	19½	50	11	14½	23		11½	15		8½	13	⑧
James Baines	42	71	17	21	50	10	16	29		14	17		10	11	⑨
Champion of the Seas	42	71	17	20	50	10	15	27		13	17	⑫			
Cutty Sark ✲		64½	14	18	48	9	12	26		10	15		9½	14½	

NAME OF SHIP / MASTS	MIZZEN			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M
Sea Witch															
Surprise															
Stag Hound	26	78	12	12½	40	8	9	22		8	16		7	11	⑥
Game Cock															
John Bertram		67													
Witch of the Wave		79			41			22			14			9½	
Flying Cloud	26	78			40			22			14			10	
Challenge	29	84½	13	14½	42½	7½	9½	28½		6½	19		5½	15	④
Nightingale		63			35			19			10			9	
Flying Fish		78			38½			21			14			10	
Sovereign of the Seas	34	82½	14	16	43	9	11	24		9½	17	⑧			
Westward Ho		78			38½			21			14			10	
Great Republic	40	122	33	22	69	10	16	22		10	19		8	15	8
Lightning	30	79	13	15½	40	8	11½	18		8½	13	⑥			
James Baines	36	61	14	16	42	8½	12	26		10	15	⑧			
Champion of the Seas	36	61	14	16	42	9	12	24		10	15	⑧			
Cutty Sark ✲		55½	11	17	38	7	11	19½		9½	13½				

✲ Height of lower masts deck to cap.

Rake of Masts per foot in ins.			Masts Stepped in Feet center of masts			Sail Area yards
FORE	MAIN	MIZN	fore abaft stem	main abaft fore	mizen abaft main	
5/8	3/4	1	36	59	53	9,500
1-1/4	1-1/4	1-1/4	50	67	56	8,000
1-1/4	1-1/2	1-3/4				
1-1/4	1-1/4	1-1/4	45	67	53	
1-1/4	1-1/4	1-1/2				12,700
1-1/4	1-1/2	1-3/4				
3/4	7/8	1-1/8				11,000 to 12,000
3/4	7/8	1-1/8				
						15,653
1/2	5/8	1-	74	63		12,500

Great Republic: spanker D 26 L 110 M 14; topmast L 40 divided 8½ 15 & 10 above cap for Gaff; Gaff; T'Gallant

NAME OF SHIP / YARDS	FORE			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	O	L	M	O	L	M	O	L	M	O	L	M	O	L	M
Stag Hound	20	72	4½	15	57	5	10	42	3	7	32	2	6½	24½	1½
Game Cock															
Witch of the Wave		71			57			43			34			29	
Flying Cloud	20	70			55			44½			32			22	
Challenge	22½	84	4½	15½	66	6½	10¾	44	2½	6¾	33	1½	5½	22	1½
Nightingale		68			53			30			24½			21½	
Flying Fish		70			55			41			32			22	
Sovereign of the Seas	22	80	5	17½	63	5½	14	47	3½	8	37	2½			
Westward Ho		75			60			45			36			29	
Great Republic	26	110	6	24 Lig	90	5 Low 4 Upper	15	62	4	12	51	3½	9	40	3
" " rebuilt		90			76										
Lightning	23	87	4	18½	72	6	13	52	4	9½	40	1½			
James Baines	24½	90	5	19	69	5½	13½	49	4	9	36	3			
Champion of the Seas	24½	88	5	19½	69	5½	13½	51	4	9	37	2			
Cutty Sark	23	78	3	17	64		16	48		14	38				
		upper		18	68 → lower										

NAME OF SHIP / YARDS	MAIN			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	O	L	M	O	L	M	O	L	M	O	L	M	O	L	M
Stag Hound	22	86	4½	17	68	5	15	53	3½	10½	42	2½	7	32	1½
Game Cock		80			64			49			39			31	
Witch of the Wave		81			63			48			38			30	
Flying Cloud	22	82			64			50			37			24	
Challenge	24	90	5	17	71	7	11½	47	3	7¼	35	1½	6½	23	1½
Nightingale		71			57			42			32			25	
Flying Fish		80			64			49			39			31	
Sovereign of the Seas	24	90	5	19½	70	5½	15	53¼	4	11	42	3	9	35	2
Westward Ho		80			64			48			39			31	
Great Republic	28	120	6	24 Lig	92	5 Low 4 Upper	15	62	4	12	51	3½	9	40	3
" " rebuilt		100			76										
Lightning	24	95	4	19	72	6	14	52	4	10	40	2½	7	32	1
James Baines	26	100	5	21	75	5½	14	54	4	11	40	3	8	30	1½
Champion of the Seas	24½	95	5	19½	74	5½	13½	51	4	9	42	3			
Cutty Sark	23	78	3	17	64		16	48		14	38			34	
				18	68										

NAME OF SHIP / MASTS	CROSS JACK			TOP			TOPGALLANT			ROYAL			SKYSAIL		
	D	L	M	D	L	M	D	L	M	D	L	M	D	L	M
Stag Hound	16	60	4	11½	48	4½	10	36	2½	7	27	1⅓	6	22	1
Witch of the Wave		61			44			37			30			24	
Flying Cloud	16	56			45			33			25			20	
Challenge	17½	70	3½	13½	54½	4⅔	8½	36½	2	6	27	1⅓	5	18	1
Nightingale		54			42			31½			25			21	
Flying Fish		59			44			34			26			21	
Sovereign of the Seas	20	70	4	15	56	4½	11	43	3	7	32	2			
Westward Ho		57			46			34			26			20⅓	
Great Republic	24	90	5	19 Lig 15	78	4½ Low 2 Upper	12	51	3½	9	40	3	6	29	2
Lightning	19	72	5	15	52	4	10	40	1½	7	32	1			
James Baines	21	74	4½	16	57½	5	10	42	3½	8	30	2			
Champion of the Seas	20	74	4½	15	57½	5	9½	42	3½	7	30	2			
Cutty Sark	19	60		13½	48		12	39		10½	33				
		upper		14	54 → lower										

	Spanker BOOM			Gaff			Bowsprit outboard		Jibboom beyond Cap		Flying Jib beyond Jibboom		Steve of Bowsprit in inches
	D	L	M	D	L	M	D	L	D	L	D	L	M
Stag Hound	13	60	2½		44	5	28½	24	16½	18		15	5	4·1/2
Witch of the Wave		50			38			28		35				
Flying Cloud		55			40		28	20		16		29	5	
Challenge	13	60	3½	9	40	6½	30	30	17	20		15	5	[13 & 3 ft. Jibaboom]
Nightingale		21												
Flying Fish		21												
Sovereign of the Seas		61	2		45	5	34	20		15		12	7	4
Westward Ho														
Great Republic		40	2		34	8	44	30	23	18		14	6	
Lightning		50			38	6	34	20		19		15+14	ft. Tinner	
James Baines		58			44			20		15		14	6	
Champion of the Seas		58½			42		40	22	21	16		15	6	
Cutty Sark	12	52		11⅓	34		←			68	→			

From U. S. Nautical Magazine and Naval Journal

APPENDIX III

ABSTRACT OF LOG OF CLIPPER SHIP SURPRISE

Charles A. Ranlett, MASTER

SHANGHAE TO NEW YORK
4TH. VOYAGE

1857

DATE	DAYS OUT	LAT.	LON.	LOG DIST.	DISTANCE SAILED	BAROMETER	TEMPERATURE AIR	TEMPERATURE WATER	WINDS 1ST PART	WINDS 2ND PART	WINDS 3RD PART	REMARKS
JAN. 2	1	28 16	122 44	222	222	30.3			NW	N	NNE	*Left the River at 2PM, discharged James Potter off light-ship. Strong wind. Winds near Saddle Islands at 10P.M. Strong breeze and rough sea.*
" 3	2	25 45	119 55	223	445	30.3			NW	NNE	NE	*Strong NE. Wind and rough sea. Double reefs. Clear.*
" 4	3	22 31	117 40	243	688	30.2	Not taken in Chinese Sea.	Not taken in Chinese Sea.	NE	NE	NE	*Strong N.E. Trade Winds.*
" 5	4	20 29	114 3	244	932	30-			NE	NE	NE	*Cloudy and moderate. Trade winds.*
" 6	5	16 2	113 24	267	1,199	30-			NNE	NNE	NNE	*Good breeze and cloudy.*
" 7	6	12 55	112 18	203	1,407	30.1			NNE	NNE	NNE	*In the night, clear weather. Daytime cloudy. Tolerably good breeze.*
" 8	7	9 48	110 4	234	1,641	29.3			NNE	NE to NNE	N	*Stiff breeze.*
" 9	8	6 50	108 28	202	1,843	30-			N	N	NNE	*First part light breeze. Last part, moderating. Going only six miles.*
" 10	9	6 15	127 29	110	1,953	30-			NNE	NNE	NNE	*Light and steady breeze. Sea very smooth and fair.*
" 11	10	2 50	166 59	160	2,113	30-			NNE	NNE	NNE	*Light breeze throughout.*
" 12	11	6 10	107 7	260	2,273	30-			N	N	N	*Light breeze, ship making 7 miles an hour. Passed St. Barbs and other islands, and crossed the line at 1P.M.*
" 13	12	3 9	106 59	160	2,113	30-			NNE	N	NNW	*Moderate, and light winds.*
" 14	13	5 50	115 55	190	2,663	30-			NNE	NW to WNW	N	*In the Straits of Sundu. Wind very high.*
" 15	14	6 27	104 41	80	2,743				Variable	and	Squally	*Light Winds. Variable and squally.*
" 16	15	8 44	103 24	146	2,889				NW by W	WSW	to SW	*Light winds and squally. Some rain. We are out past Java Head, and fairly in the Indian Ocean.*
" 17	16	10 58	101 34	121	3,010	30-	81	78	S	SSE	Variable	*Fresh breeze first part. Middle and last part calm and variable winds. Breezes small.*
" 18	17	11 56	100 16	180	3,190	29.9	81	82	SSE	S	SSW	*Tolerable breeze from northward. Some squalls. Get along a little faster.*
" 19	18	12 37	98 4	116	3,306	29.9	80	80	Variable	and Squally	S Westerly	*Light winds commence. Get along slowly.*
" 20	19	12 55	97 30	41	3,347	29.9	80	80	Calm	Squalls and	Variable	*Long spells of calms, and very hard spells of light airs.*
" 21	20	13 49	95 55	119	3,466	29.9	77	79	S	SSE	S to ESE	*Light breezes, light squalls, but fair. Made a little more distance.*
" 22	21	15 42	92 2	252	3,718	29.8			SSE	SE	SE	*Good fresh S.E. trade wind. Made 252 miles.*

DATE	DAYS OUT	LAT.	LON.	LOG DIST.	OBSTAINED SAILED	BAROMETER	TEMPERATURE AIR	TEMPERATURE WATER	WINDS 1ST PART	WINDS 2ND PART	WINDS 3RD PART	REMARKS
JAN. 23	22	17 14	87 53	255	3,975	29·88	80	79	E S E	S E	S E	Good fresh trade winds.
" 24	23	18 56	84 29	220	4,195	29·88	80	79	E S E	E	E	Fresh breezes past 4 hours. Night light, and lightning at midnight.
" 25	24	20 6	81 25	194	4,387	29·87	79	79	E	E by N	E N E	Light trade wind, and fine weather.
" 26	25	20 33	78 50	160	4,547	29·87	77	79	E by N	E N E	E by N	Light trade wind, and fine weather.
" 27	26	21 1	76 6	164	4,711	29·8			E	E	E by N, E by S	Light trade wind, and fine weather.
" 28	27	21 36	73 25	162	4,873	29·87	79	79	E S E	E ½ N	E by N, E by S	Light trade wind, and fine weather.
" 29	28	22 29	70 50	173	5,046	29·88	80	79	E S E	E	E	Light trade, a little more wind, fine weather.
" 30	29	22 45	66 42	234	5,280	29·87	79	79	E S E	S E by E	S E by E	Good fresh breeze, ship goes 10 miles per hour.
" 31	30	28 57	62 36	257	5,537	29·40			E N E	E N E	E N E	Strong breeze.
FEB. 1	31	26 7	59 45	240	5,777	29·70			E N E	N E	N E	Had a hurricane from midnight, Jan 31, to Feb 1, at noon.
" 2	32	26 18	59 10	33	5,810	29·75			N N W	Calm	Calm and S S W	Gale over.
" 3	33	27 5	56 00	203	6,013	30·	74	75	S S E	S E	S E	Calm all yesterday, good breeze to-day. Off the islands Mauritius and Bourbon.
" 4	34	28 1	59 38	232	6,245	30·	74	75	S E by E	E S E	E to E S E	Cloudy.
" 5	35	28 51	49 7	261	6,506	30·	74	75	E S E	E S E	E S E	Strong trade winds, cloudy weather, very rough sea.
" 6	36	30 10	42 37	250	6,756	30·			E S E	E by S	E S E	Good fresh breeze and rough sea.
" 7	37	30 50	39 33	170	6,926	29·9			E	E	Variable	Cloudy and moderate.
" 8	38	30 36	35 56	190	7,116	30·	71	74	S W	S W by S	S W by W	Breeze sprang up at 1 P.M., continues fresh.
" 9	39	30 38	34 9	114	7,231	30·	72	76	S W	Sand calm	S W	Good breeze, moderating middle part.
" 10	40	31 50	42 17	123	7,354	30·	72	74	S E	S E	E to E S E	Light Winds, fine weather, and smooth sea.
" 11	41	33 36	29 19	191	7,545	30·	72	76	E N E	E N E	E N E to N E	Moderate breeze and clear weather. Point Natal coast of Africa, Cape Good Hope, bears north.
" 12	42	34 28	27 6	143	7,688	30·	18	72	E N E	E N E & Calm	Calm	Cloudy and Clear alternately. Strong tide, water colder.
" 13	43	34 39	25 23	76	7,764	30·	18	72	74	Calm and	N E	E and Calm
" 14	44	33 31	21 4	221	7,985	30·	20	70	69	Calm & S S W	S S E	S E
" 15	45	33 4	14 55	296	8,279	30·	18	68	68	S E	S E	S E by S
" 16	46	34 3	10 9	242	8,521	30·	18	66	66	S E by S	S S E	S S E
" 17	47	32 42	5 56	240	8,761	30·	10			S S E	S E & S S W	S S E
" 18	48	32 1	2 12	188	8,949	30				S S E	S E & S S E	S E & S S E
" 19	49	30 40	W 30	165	9,114	30		67	70	E N E	E N E	N E to N
" 20	50	29 48	3 23	175	9,289	30		71	70	N E	N E & Calm	N E to N
" 21	51	28 38	4 41	82	9,371	30		73	73	Calm S W	S S E	S S E & S E
" 22	52	27 56	54	150	9,521	30		74	74	S E	S S E to E	E & E N E
" 23	53	25 21	10 6	210	9,731	30		75	76	E S E	E N E	E N E
" 24	54	23 48	13 20	200	9,931	30		74	77	E N E	N E to	E N E
" 25	55	22 3	15 12	147	10,078	30		77	78	E N E	E N E to S E	N E to S E
" 26	56	20 44	16 57	180	10,258	30		77	78	N N E to N E	N E	E to N E
" 27	57	19 1	19 28	190	10,448	30		77	76	E	E S E to S E	S E to E S E
" 28	58	17 25	21 12	164	10,612	30		78	77	E to S E	E to S E	E to S E
MAR. 1	59	15 46	22 54	142	10,754	30		79	78	E S E to S S E	S S E to E	E S E to E N E

Very light wind.
Fine pleasant weather throughout.
Finished painting on deck.

ABSTRACT OF LOG SHIP *SURPRISE* FROM SHANGHAE TO NEW YORK 1857 -3-

DATE	DAYS OUT	LAT.		LON.		LOG DIST.	DISTANCE SAILED	BAROMETER	TEMPERATURE AIR	TEMPERATURE WATER	WINDS 1ST PART	WINDS 2ND PART	WINDS 3RD PART	REMARKS
MAR. 2	60	12	55	25	12	223	10,977	30-	78	78	E	E	E	*Good breeze, and very fine weather. Crew painting aboard ship.*
" 3	61	9	50	27	25	235	11,212	29-9	79	79	ESE	ESE	ESE	*Good breeze and fine weather.*
" 4	62	7	00	29	87	215	11,427	29-8			ESE	ESE	ESE	*Fine weather, wind steady.*
" 5	63	4	8	31	37	206	11,633	29[illegible]			ESE	ESE	SE	*Fresh, moderate breeze.*
" 6	64	1	24	34	15	228	11,861	29[illegible]	82	80	SE	SE to SSE	SSE to NE	*Moderate breeze.*
" 7	65		50	36	21	190	12,051	29-8	76	73	SE to NE	NNE	NE	*S.E. trade-winds left us at 1 P.M. and N.E. trades came up in a squally. Blew hard all night, and rain plenty.*
" 8	66	3	44	39	19	268	12308	29[illegible]	79	79	NE	ENE to NE	ENE to SE	*Good fresh N.E. trade winds. Rough sea.*
" 9	67	6	16	42	51	268	12,576	29[illegible]	79	79	NNE	NNE	NE by N	*Strong trade winds. Copper getting very bad, and rolling up.*
" 10	68	9	6	45	43	240	12,816	29[illegible]	78	77	NE	NE	NE	*Strong trade winds. Our head is gone, and copper getting bad.*
" 11	69	11	52	49	16	275	13,091	30-	77	76	NE	NE	NE	*Strong trade winds. The figure-head entirely carried away.*
" 12	70	14	36	53	9	270	13,361	30-1	76	76	NE to ENE	NE to ENE	NE to ENE	*Strong trade winds, and squally. Rough sea. Ship rolls heavily.*
" 13	71	17	30	56	25	276	13,637	30-	76	76	NE to ENE	NE to ENE	NE to ENE	*Strong N.E. trade winds. Squally, with severe rain. Rough sea.*
" 14	72	20	32	59	56	276	13,907	30-3	76	74	NE	NE	NE	*Continues a good strong breeze and squally.*
" 15	73	23	49	62	15	246	14,153	29-3	76	74	ENE	ENE	E & ESE	*Fresh N.E. trades. Less wind.*
" 16	74	26	26	64	35	205	14,358	30-	74	73	ESE	SE	SE	*Light wind, smooth sea and fine weather.*
" 17	75	28	31	66	26	160	14,818	30-	73	70	SE	SSE	SSE	*We have lost the Trades, but have a good breeze and the ship gets along finely.*
" 18	76	29	45	67	17	86	14,604	30-1	72	71	SSW	Calm	ENE	*Squally and calm.*
" 19	77	31	38	69	18	162	14,766	30-	70	68	ENE	ESE	S	*Light fair wind.*
" 20	78	34	13	70	6	183	14,949	29[illegible]	89	64	SSW	WNW	WNW	*Strong gale part of this day.*
" 21	79	36	26	70	7	120	15,069	30-		69	WNW	WNW	NW by W	*Strong wind. Middle and last part, dying away.*
" 22	80	37	37	70	47	98	15,178	30-3	84	59	NW	NW	NW by W	*Gales of wind.*
" 23	81	38	9	72	37	92	15,270	30-3	48	49	NW	N	NNE to E	*Latter part moderate.*
" 24	82	39	32	74	08	129	15,399	29[illegible]			S by E	WSW	Calm	*Put in for Sandy Hook, and lay to for daylight. Pilot came aboard 5 A.M. of the 25th.*

APPENDIX IV

ABSTRACT of LOG
Clipper Ship
GREAT REPUBLIC

from New York
To London

1855

DATE	LAT.	LON.	DIST.	DIST.	DAYS	FIRST PT.	MIDDLE	LATTER	COURSE
FEB. 25	40.06	68.48	232		1	W.N.W	N.W.	W.N.W.	E. ½ S.
26	41.06	64.09	210	442	2	W.N.W	N.W.	N.W.	E. by N.
27	42.23	60.08	194	636	3	N.N.W	N.	N. by E.	E.N.E.
28	43.11	54.33	254	890	4	N.E.	E.	N.W.	E. by N.
MAR. 1	45.23	48.26	296	1186	5	N.N.W	N.	N.W.	E.N.E.
2	48.29	43.09	287	1473	6	N.W.	W.N.W.	W.	N E. by E.
3	50.36	36.40	287	1760	7	W. by N	N.W.	W.N.W	N E by E.
4	50.58	29.47	265	2025	8	N.W.	N.	N.N.W	E. ½ N.
5	52.12	26.21	150	2175	9	N.	E.	S.E.	E.N.E.
6	52.35	22.51	130	2305	10	S.E	S.E.E.	S.	E. by N.
7	50.38	15.06	342	2647	11	W	N.W.	N.W.	E. S.E.
8	50.11	12.19	141	2788	12	N.W.	N.	N.N.E.	E. ½ S.
9	49.54	9.23	135	2923	13	S.E.	S.W.	W.	E. ½ S.
10	50.03	3.42	223	3146	14	W.	N.	N.N.E.	E. ½ N.
11	50.27	1.28	95	3241	15	N.E.	Calm	Calm	E. by S.

On the 12th anchored in the Downs at 3 pm, having sailed 3241 miles We had no observation of the sun for a latitude until March 8. We made the land 12 days from New York. The passage has been a rough one indeed. We made 342 miles in 22 hours and then had to bring the ship to, on account of thick weather and proximity to land. The ship behaves nobly, and can easily make 400 miles in 24 hours. We were 13 days to Scilly, since that time light winds and calms. We laid by all of the day Sunday, 11th inst., about 12 miles from Isle of Wight; weather thick and foggy. The ship is light and strong and the best ship at sea I was ever in. You would hardly know that you were at sea in a heavy sea; she moves along easily, making no fuss, in fact, splendidly, and steers like a boat in a pond; a boy can steer her easily.

Capt. J. Limeburner.

The Great Republic, which arrived at Gravesend 15th, would probably lie off Bosherville for some days, waiting the Spring tides, when she would go higher up the river and discharge into lighters, as none of the entrances of the docks are wide enough to admit her.

from THE MONTHLY NAUTICAL MAGAZINE

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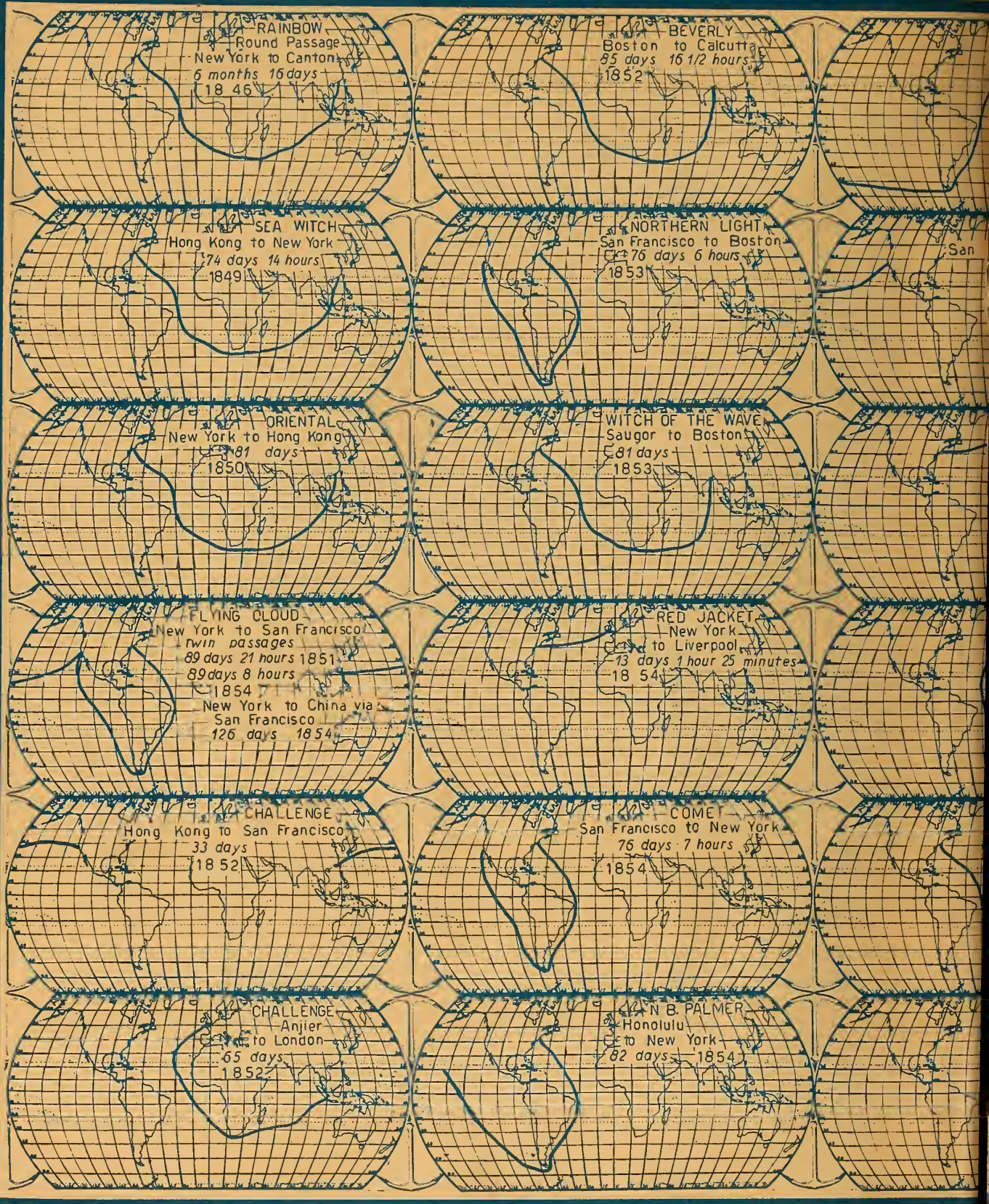
LA GRANGE.

CLIPPER SHIPS OF AMERICA
~~AND GREAT BRITAIN.~~


RAINBOW
Round Passage
New York to Canton
6 months 16 days
1846
BEVERLY
Boston to Calcutta
85 days 16 1/2 hours
1852
SEA WITCH
Hong Kong to New York
74 days 14 hours
1849
NORTHERN LIGHT
San Francisco to Boston
76 days 6 hours
1853
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ORIENTAL
New York to Hong Kong
81 days
1850
WITCH OF THE WAVE
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FLYING CLOUD
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1854
New York to China via
San Francisco
126 days 1854
RED JACKET
New York
to Liverpool
13 days 1 hour 25 minutes
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CHALLENGE
Hong Kong to San Francisco
33 days
1852
COMET
San Francisco to New York
76 days 7 hours
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N. B. PALMER
Honolulu
to New York
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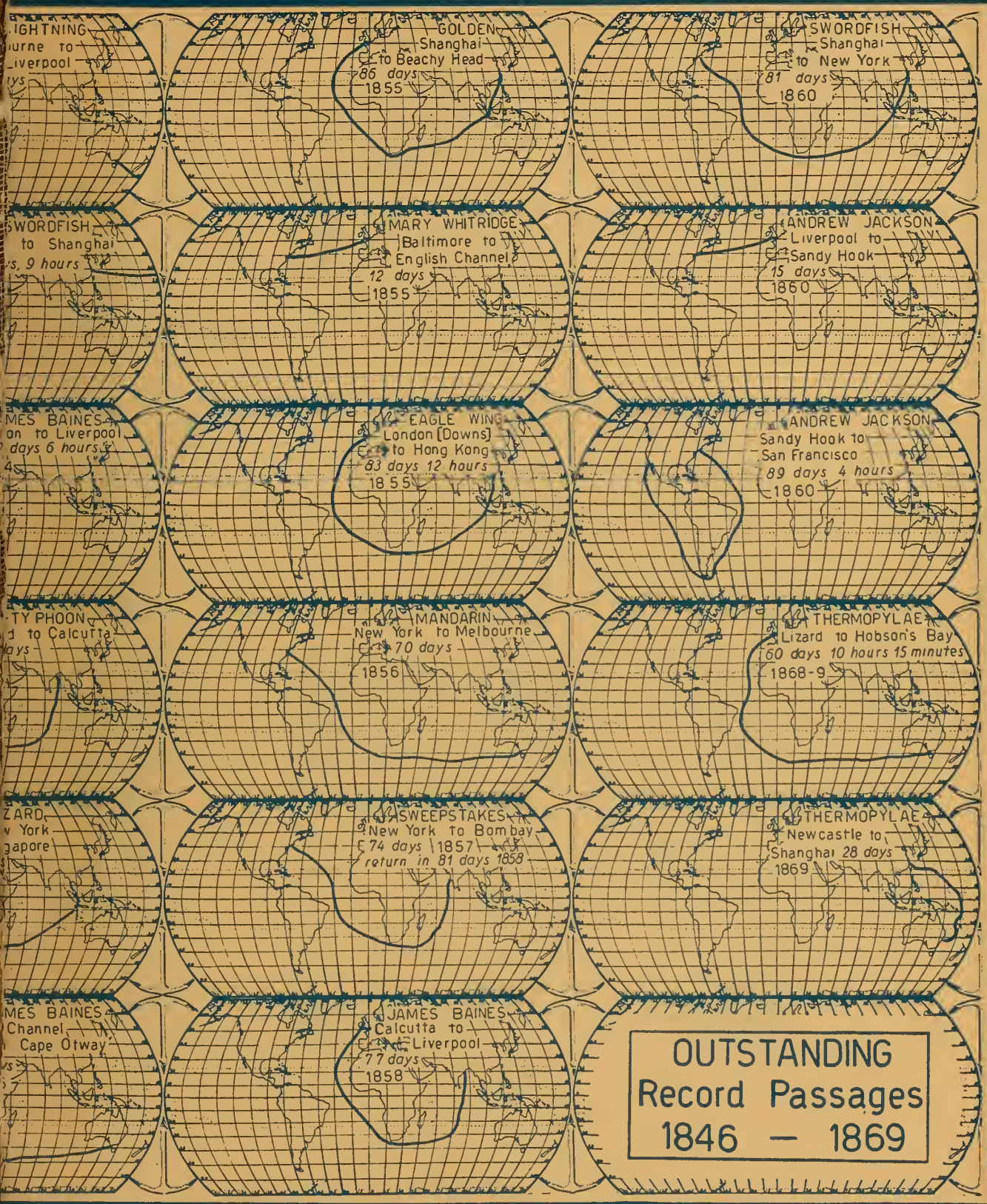
IGHTNING
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86 days
1855
SWORDFISH
Shanghai
to New York
81 days
1860
WORDFISH
to Shanghai
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MARY WHITRIDGE
Baltimore to
English Channel
12 days
1855
ANDREW JACKSON
Liverpool to
Sandy Hook
15 days
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MES BAINES
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days 6 hours
4
EAGLE WING
London (Downs)
to Hong Kong
83 days 12 hours
1855
ANDREW JACKSON
Sandy Hook to
San Francisco
89 days 4 hours
1860
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MANDARIN
New York to Melbourne
70 days
1856
THERMOPYLAE
Lizard to Hobson's Bay
60 days 10 hours 15 minutes
1868-9
ZARD
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SWEEPSTAKES
New York to Bombay
74 days 1857
return in 81 days 1858
THERMOPYLAE
Newcastle to
Shanghai 28 days
1869
MES BAINES
Channel
Cape Otway
JAMES BAINES
Calcutta to
Liverpool
77 days
1858
OUTSTANDING
Record Passages
1846 — 1869