

During the Quasi-War, citizens in American port cities subscribed moneys to fund the building of warships for the U.S. Navy. The 36-gun frigate *Philadelphia*, depicted here, was one such subscription ship. *Naval Historical Center photograph*

New York, New York; Philadelphia, Pennsylvania; Baltimore, Maryland; and Gosport (Norfolk), Virginia. At each site, a civilian naval constructor was hired to direct the work. Navy captains were appointed as superintendents, one for each of the six frigates. John Barry, last officer of the Continental Navy in active service, received commission number one as first officer in the new United States Navy.

The warships were still being framed when, in early 1796, word came of a negotiated peace with Algiers, at the cost of nearly one million dollars. The act authorizing the six frigates had called for a halt in construction in the event of peace with Algiers, but President Washington urged Congress to extend authorization to complete the six frigates. Congress approved the completion of only three of the frigates, and the frigate *United States* was launched at Philadelphia on 10 May 1797; *Constellation*, at Baltimore on 7 September 1797; and *Constitution*, at Boston on 21 October 1797.

In July 1797, the French government's disdain for American rights as neutral traders prompted Congress to authorize President John Adams to man and employ the three frigates. France had been America's major ally in the War of Independence, and without its assistance the United States may not have won independence. But the new government of Revolutionary France viewed Jay's Treaty, a 1794 commercial agreement between the United States and Great Britain, as a violation of the 1778 treaties between France and the United States. The French increased their seizures of American ships trading with their British enemies and refused to receive a new United States minister when he arrived in Paris

in December 1796. In April of 1798 President Adams informed Congress of the infamous "XYZ Affair," in which French agents demanded a large bribe for the restoration of relations with the United States. Outraged, on 27 April 1798 Congress authorized the president to acquire, arm, and man no more than twelve vessels, of up to twenty-two guns each. Under the terms of this act several vessels were purchased and converted into ships of war.

The obvious need for an executive department responsible solely for, and staffed with persons competent in, naval affairs led Congress to pass a bill establishing the Department of the Navy. President Adams signed the act on 30 April 1798. Benjamin Stoddert, a Maryland merchant who had served as secretary to the Continental Board of War during the American

Revolution, became the first secretary of the navy.

On 28 May 1798 Congress authorized the public vessels of the United States to capture armed French vessels cruising off the American coast, initiating the undeclared Quasi-War with France. On 11 July, the president signed the act that established the United States Marine Corps. On 16 July Congress appropriated funds to build and equip the three remaining frigates begun under the Act of 1794: *Congress*, launched at Portsmouth, on 15 August 1799; *Chesapeake*, at Gosport on 2 December 1799; and *President*, at New York, on 10 April 1800.

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## The Building of USS *Constitution*

Construction of the frigates authorized in 1794 fell to Secretary of War Henry Knox. Appointed to oversee both military and naval matters by President Washington, Knox had been consulting leading American shipbuilders and former officers of the Continental Navy on warship design and construction.

### *Strategic Vision Shapes Design*

Among the secretary's consultants was Joshua Humphreys, a noted Philadelphia shipbuilder who had earned his reputation during the Revolution by skillfully converting merchantmen into warships for the Continental Navy as well as by constructing new men-of-war. In 1793 Humphreys, who had long pondered



the problems of creating an effective American navy, summed up his thoughts in a letter to Knox:

... as our Navy for a considerable time will be inferior in numbers, we are to consider what size ships will be most formidable, and be an overmatch for those of an enemy; such frigates as in the blowing weather would be an overmatch for double-deck ships, and in light winds evade coming into action.

By the spring of 1794, Knox and his associates reached a number of conclusions. The American frigates should be at least as big and powerful as any frigates then in existence. Hull construction should be as rugged as the technology of the day would permit; they should be as heavily armed as, or more heavily armed than, any single opponent they could not outsail; and finally, as long as even a modest wind prevailed, their rigging and hull form should give them speed to elude any enemy man-of-war or squadron that they did not have an excellent chance of defeating. Fulfilling these goals would not be an easy task but Knox had the advantage of starting with a clean slate, in that no pre-existing ships, manufacturing technique, or suppliers need inhibit the design and construction of the new ships.

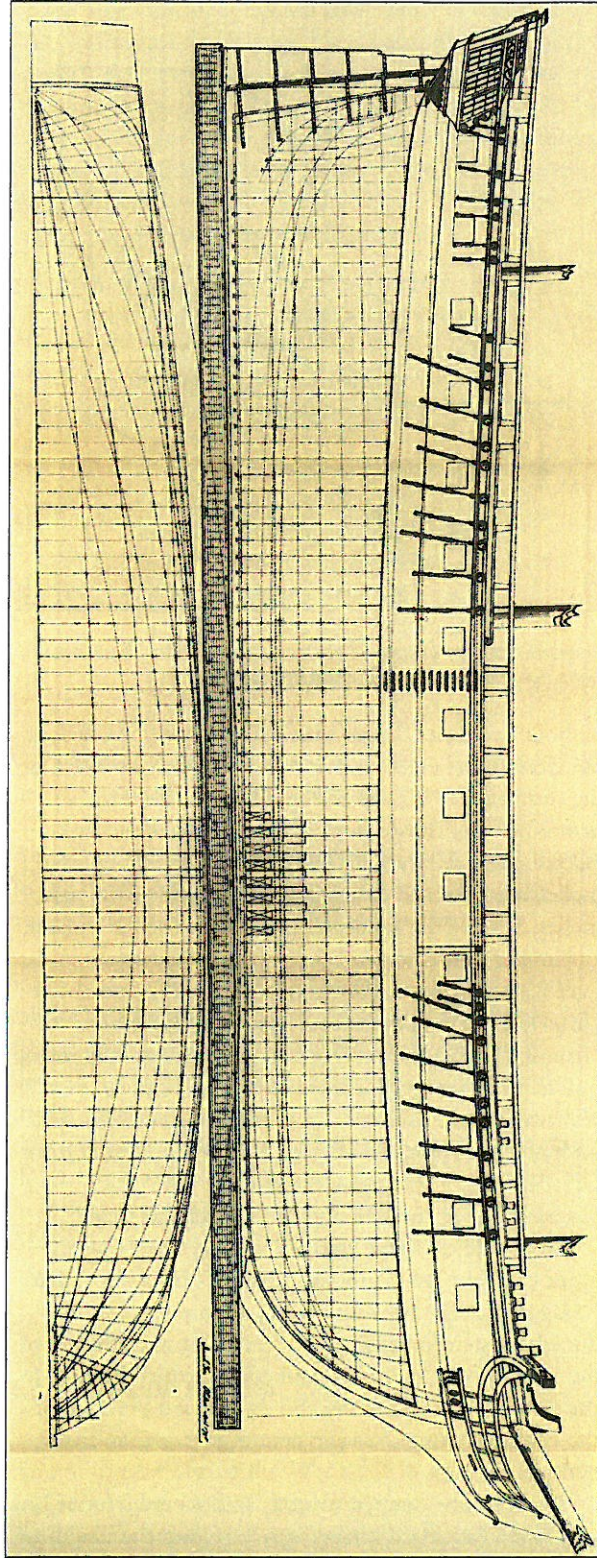
On 28 June 1794 Knox officially appointed Humphreys to prepare plans for the frigates. Josiah Fox and William Doughty were hired soon after to assist him in translating his ideas into construction drawings. The three talented men freely exchanged ideas, and Humphreys continued to confer with such other experienced individuals as Captain John Barry and John Wharton. Though Humphreys is properly recognized for his key role in developing the 44-gun frigates, other minds deserve credit in the design.

#### *Innovative Design Elements*

To achieve their goals, the planners incorporated several innovative elements into the design of the new frigates.

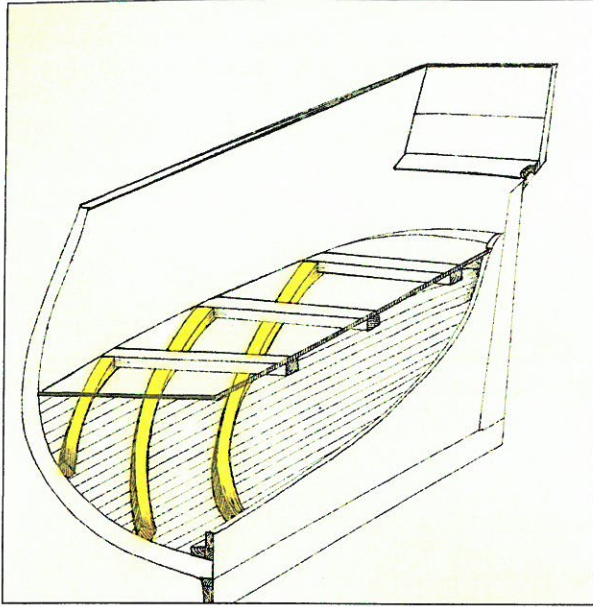
The plans for the 44s specified a larger than customary vessel for a frigate of that rating, displacing 2,200 tons. One hundred and seventy-five feet between perpendiculars and forty-four feet two inches in the beam, with a depth of hold of fourteen feet three inches, they were twenty feet longer than their British contemporaries and thirteen feet longer than French 40-gun frigates. Being a little longer and slimmer than the standard frigates of the day contributed to *Constitution's* speed and maneuverability.

Extensive use of live oak succeeded in making the hull strong and durable. The hull consisted of three layers: outer and inner horizontal layers (planking) of white oak, and a center, vertical layer (frames) of live oak. Live oak



Naval Constructor Josiah Fox's sheer and half breadth plan for a 44-gun frigate transformed Joshua Humphreys's concept for USS *Constitution* into a draft design. *Register of Officer Personnel: United States Navy and Marine Corps and Ships' Data, 1801–1807, plate IV*





Diagonal riders (in yellow) added longitudinal strength to *Constitution's* hull. Naval Historical Center photograph

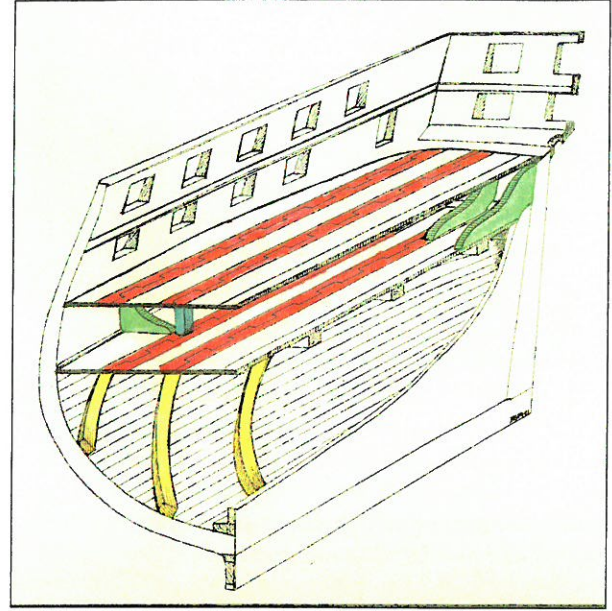
is about five times denser than other oak woods, and, at the close of the eighteenth century was only available in the southeastern United States. The live oak for *Constitution* came from the swampy coastal forests of Georgia. Additionally, the live oak frames were placed only two inches apart, instead of being spaced from four to eight inches, as were the frames of British and French frigates.

Copper pins made in Boston by a local coppersmith, Paul Revere (famous for his midnight ride), and about 150,000 wooden pegs called “trenails” (pronounced “trunnels”) held the hull together. This unusually strong hull had an average thickness of twenty-one inches, and was twenty-five inches thick at the waterline. The hull’s underside was plated with copper sheets imported from Great Britain. Tared paper known as “Irish felt” was placed between the hull and the copper sheeting.

To enable the large frigates to carry a main armament of heavy 24-pounders without “hogging” (that is, sagging at the bow and stern) Humphreys introduced a system of diagonal riders. Within each side of the hull, six thick curved timbers ran from the keel to the gun deck, transferring the downward pressure of the cannons’ weight to the center, rather than to the ends, of the vessel.

Thick beams, shaped roughly like inverted letter Ls and called “standard knees,” spaced along the length of the berth deck, transferred the weight of the long guns on the gun deck to the diagonal riders.

Mutually reinforcing design features made possible the placement of cannon along the entire length of the nearly continuous upper deck, called the spar deck.



Lock-scarfed or notched planking (in red) reinforced the ship's decks. Naval Historical Center photograph

Tying together the spar deck’s planking, which ran the length fore and aft, with lock-scarfs, and fastening them to the timbers at the fore and aft stiffened the ship and further countered the tendency that large vessels have of hogging. Lock scarfing refers to the way that the deck planks are cut. Several deck planks on each deck are notched along their lengths so that they interlock, like puzzle pieces, with the adjoining planks. Heavy stanchions on the deck below supported each gun.

In summary, the final design for the 44s incorporated several innovative elements that gave the new frigates increased strength: additional length; extensive use of live oak; diagonal riders; lock scarfing; and standard knees.

#### *Constitution Built and Launched*

To speed construction, and to distribute the economic benefits of the project throughout the states (a policy well known even then), President Washington directed the newly authorized warships be built in each of six American shipbuilding centers. He assigned one of the 44-gun frigates to Boston, with the other five warships built in Baltimore, New York, Norfolk, Philadelphia, and Portsmouth.

On 2 July 1794 Henry Jackson was engaged as the Boston naval agent, responsible for administering the local purchasing process and for hiring skilled artisans and laborers. Colonel George Claghorne was appointed constructor, to direct the shipyard work force. Finally, Knox named Captain Samuel Nicholson, a veteran of the Continental Navy, as the prospective commanding officer of the frigate.



As wooden warships of the time were ornamented with hand-carved woodwork at stem and stern, Timothy Pickering, who took Henry Knox's place as secretary of war at the beginning of 1795, felt that the decoration of each ship should be related to its name. Since such work took time, Pickering sent a list of ten suggested names to President Washington on 14 March 1795. One of the names the president selected was *Constitution*, and this name was allotted to the Boston frigate.

*Constitution* was laid down at Edmund Hartt's Boston shipyard during the summer of 1795. Edmund, one of the three Hartt brothers who owned the shipyard, became the yard foreman and worked in cooperation with Colonel Claghorne.

In early March 1796, word reached the shipyard in Boston that the dey of Algiers had signed a peace treaty with the United States. The peace with Algiers, under section 9 of the Naval Act of 1794, should have ended *Constitution's* life before it began. Before suspending work on the frigates, however, President Washington suggested that abrupt cancellation of the warships would be wasteful and disruptive of economic life, and asked Congress to reconsider the matter. It was also well understood in Congress that the completed frigates were destined for use in the Mediterranean, as the Barbary States could not be trusted in the long run to keep the peace. On 20 April 1796 the nation's lawmakers authorized the president "to continue the construction and equipment (with all convenient expedition) of two frigates of forty-four [*United States* and *Constitution*], and one of thirty-six guns [*Constellation*], any thing in the act, entitled 'An act to provide a naval armament,' to the contrary notwithstanding."

Work on the frigates continued that year, with the Portsmouth yard ordered to send any live oak in their possession to help finish *Constitution*. Although building costs proved to be greater than originally estimated, Congressional advocates of the Navy managed to persuade their more reluctant colleagues to approve additional appropriations needed to finish the frigate. They were aided by the spread of war in Europe and French victories in Italy. On 1 July 1797, another act authorized the president, "should he deem it expedient, to cause the frigates *United States*, *Constitution*, and *Constellation* to be manned and employed."

Shortly before noon on 20 September 1797, Claghorne ordered the launching of *Constitution*. Unfortunately, the warship slid only twenty-seven feet toward the water before coming to rest, the launch way having settled in the mud just enough to bring *Constitution* to a standstill. The yard gang drove wedges to raise the ramp, and tried again on the 22nd; but *Constitution* moved only thirty-one more feet, still short of the

water. The failures delighted opponents of the Navy, with Jeffersonian newspapers and pamphlets gleefully trumpeting the faux pas, hoping the frigate—which they saw as a symbol of overweening Federal power—would never get to sea. On 18 October the Republican newspaper editor and poet Philip Freneau celebrated the event with an ode, "To the Frigate *Constitution*," urging the ship to remain high and dry.

*Madam! – Stay where you are, 'Tis better, sure, by far  
Than venturing on an element of danger  
Where heavy seas and stormy gales  
May wreck your hulk and rend your sails  
Or Europe's Black-guards treat you like a stranger,*

*When first you stuck upon your ways  
(Where half New England came to gaze)  
We antifederalists thought it something odd  
That where all art had been display'd,  
And even the builder deem'd a little god,  
He had not your ways better laid.*

*O frigate Constitution! stay on shore:  
Why would you meet old Ocean's roar?*

Freneau's poem continued on in like vein for several more stanzas, clearly demonstrating the significant anti-Federalist hostility that existed against rebuilding American military capabilities, particularly when it came to the more expensive warships. Better times though, awaited the frigate, not to mention better poetry.

On 21 October 1797 the tide again approached its maximum height and one of *Constitution's* guns—still ashore to save on weight—fired to announce the frigate's third attempt to launch. Claghorne had increased the slope of the ways, and this time the ship finally entered the water in proper fashion. While Captain Nicholson stood on *Constitution's* deck as the ship floated in its element, Captain James Sever stood at the heel of the frigate's bowsprit, broke a bottle of choice Madeira across its bow, and ceremonially bestowed the name *Constitution* on the new ship.

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## Constitution's Guns

The two most important types of cannon in the American fleet during the War of 1812 were long guns and carronades. Both of these categories of gun were classified according to the weight of shot they fired. That is, a 9-pounder cannon fired a nine-pound ball, a 42-pounder carronade fired a forty-two pound ball, and so on. American long guns ranged in size from 9- to 24-pounders while carronades ranged in size from 18- to 42-pounders. In the blue water Navy of which

