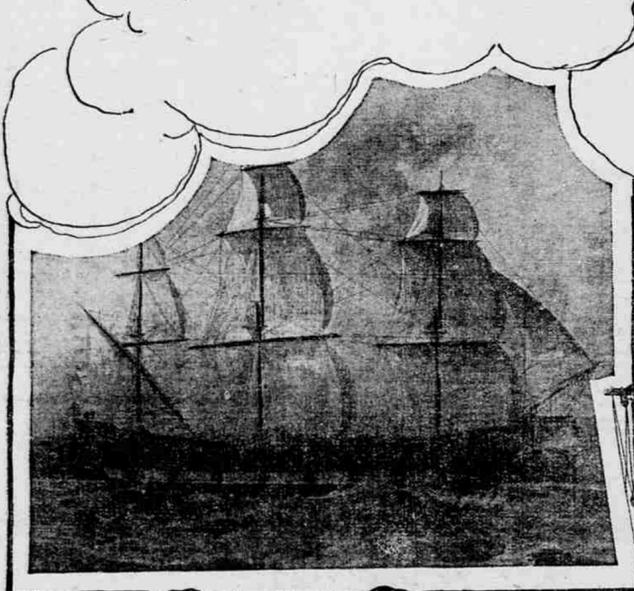


DEVELOPMENT OF THE AMERICAN NAVY.

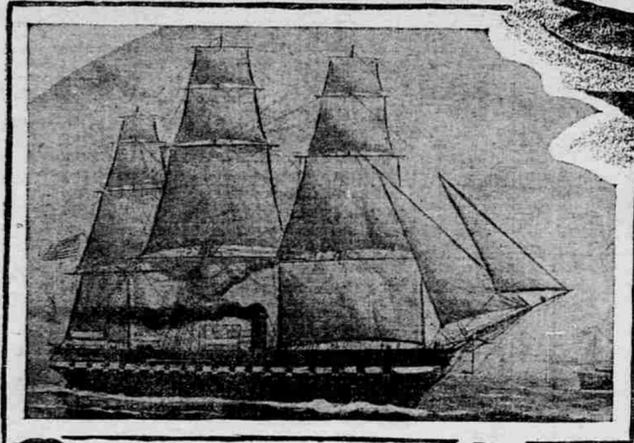


1690

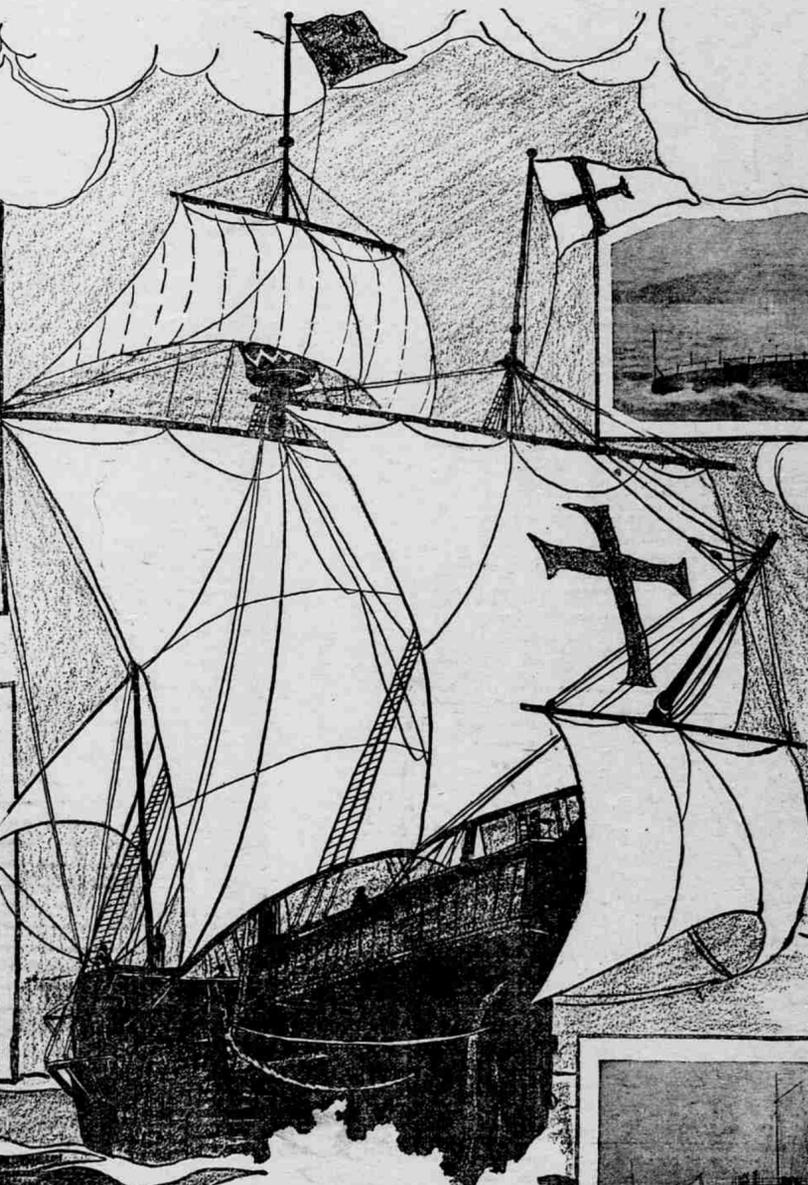
Falkland:



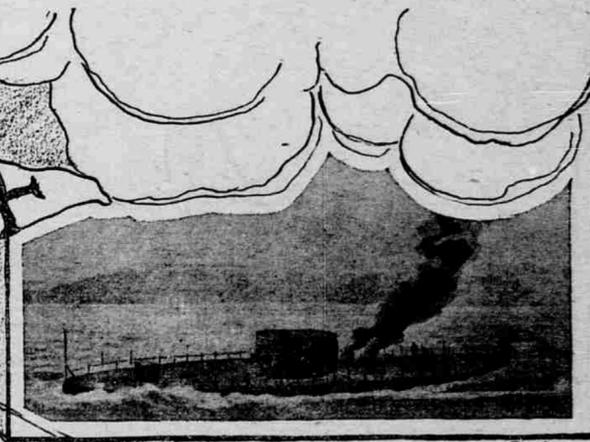
1797 Constitution:



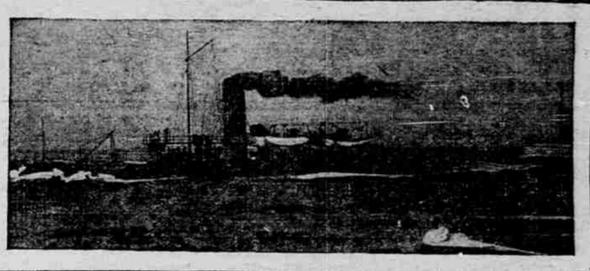
1855 Minnesota:



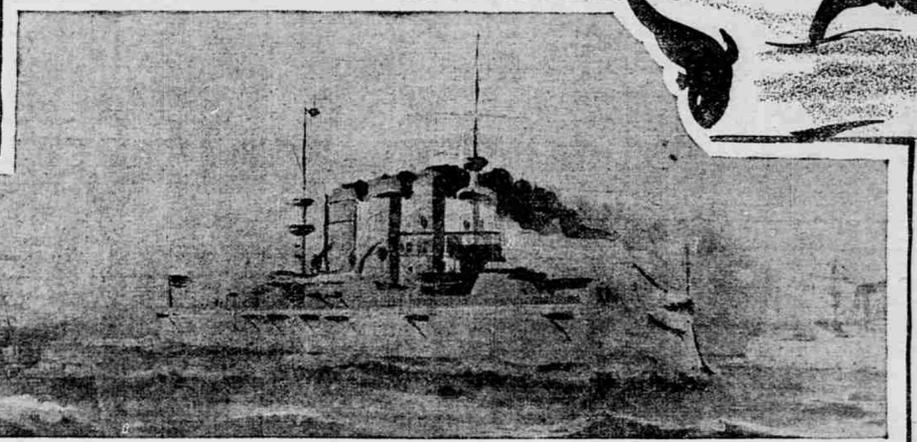
Monitor: 1861



Katahdin: 1896



1902



Pennsylvania:

Wonderful Growth of Naval Architecture in the United States From the Advent of Columbus' Historic Fleet to the Great Warships of the Present Day—First Ship of the Line to Be Built in This Country a Crude Affair.

A SERIES of pictures, prepared under the direction of Admiral Hichborn, and recently placed in the semi-circular spaces above the windows and doors in the office of the chief of construction of the Navy Department, represent the evolution of what might be called national naval architecture in this country from its earliest beginnings to its latest development, including a representative of each distinct type.

Historic Fleet of Columbus.
Beginning with the historic fleet of Columbus, the Santa Maria, Nina, and Pinta, the first vessels, with the exception of the semi-mythical Norse boats, which crossed the ocean and floated in our waters, it will be seen that while they were great ships in their day, the largest of them is insignificant compared with modern ships. The Santa Maria, the largest of the Columbus fleet, was a vessel about sixty-three feet long and of about two hundred tons' burden; the Nina was not more than 45 feet in length, and the Pinta was a still smaller vessel. From the time of Columbus until the

first naval vessel was built in this country there elapsed a period of two centuries. This vessel was the Falkland, represented in the second picture of the series. She was built in Portsmouth in 1690—the first ship of the line to be constructed in the United States—presented to the English Government by the colonists, and added to the navy March 2, 1695. She was of 621 tons' burden and carried fifty-four guns and a crew of 226 men.

The Constitution.
The next picture shows our historic Constitution, built at Boston in 1797, and still in existence. She was one of the finest frigates afloat in her time, and is 175 feet long, 45 feet wide, and when ready for sea drew 26 feet of water, with 2,500 tons' displacement. No American needs to be told her history, which is, perhaps, the cornerstone of our naval glory. From the days of the Constitution there was but little change in the construction of war vessels until the advent of steam, and the next picture represents two types of the earlier steam frigates, the Powhatan and the Minnesota. The former

was a sidewheel vessel built at Philadelphia in 1850. She was a ship of 3,980 tons' displacement, carrying seventeen guns, and she continued in service until 1887, when she was condemned and sold.

The Minnesota.
The Minnesota was of a class of six powerful auxiliary steam frigates, which were, in their day, the best war vessels in the world. To this class belonged the Roanoke and Merrimac, both cut down and converted into ironclads at the beginning of the civil war by the Federal and Confederate authorities, respectively; the Franklin, in which Admiral Farragut made his tour of European ports after the close of the war; the Colorado, and the Wabash. All were good ships and performed splendid service.

Still Afloat.
The Minnesota was built at the Washington Navy Yard in 1855, and is still afloat, having been turned over to the Massachusetts naval militia. She is 264 feet 8 1/4 inches long, 51 feet 4 inches wide, and at 23 feet draft water displaces 4,700 tons. She originally carried a battery of

46 guns. Her engines of 1,000 horsepower were considered only as auxiliary power, her sails being mostly relied upon for propulsion.

The most radical departure from precedent in the history of warship construction came while the Minnesota and her class were still new and one of them, the unfinished Franklin, is represented in the next picture of the series, which shows the original Monitor, accompanied by the latest development of the monitor type, the Arkansas and class.

Built by John Ericsson.
The Monitor was built by John Ericsson in 1861, and though, individually, she was the first crude development of an idea, she revolutionized the navies of the world. Her splendid service showed that spars and sails must no longer be considered as part of a war vessel's means of propulsion, and that ships must be protected by armor to meet the improvements in ordnance.

While the Monitor type has long since passed out of favor as a sea fighter, there are certain phases of national defense for which many authorities consider its latest

development; the Arkansas, Connecticut, Florida, and Wyoming, now building, the best vessel that can be devised. In them, the only radical departure from the original consists in providing living accommodations above water. Other differences are those of detail.

Rams and Submarine Boats.
The sixth picture shows the Katahdin and the Holland. The former is, in a sense, the outcome of the Confederate ram Tennessee. Admiral Ammen, who participated in the fight between that vessel and the Federal ships, always thereafter held a fixed belief that the ram was the most formidable weapon of marine warfare, and finally persuaded Congress to authorize the construction of a vessel after his design, and the Katahdin was commenced at the Bath Iron Works in July, 1891.

Difficulty in Securing Armor.
Owing to the difficulty in procuring her armor, she was not completed until February, 1896. She is 251 feet long, 43 feet 5 inches wide, 21 feet deep, and at a 15-foot draft displaces 2,155 tons. Her turtle-

back deck rises only six feet above the water and is armored all over with steel plates, ranging from six inches thick at the sides to two inches thick at the center. Her armament comprises only four 6-pounders, and the armored conning tower, smoke stack, and ventilators are the only projections above the deck, except the davits and gallow frames for stowing the boats. The Katahdin had no opportunity to display her qualities during the Spanish war.

The Holland.
The other vessel in the submarine boat Holland, lately purchased by the Government. Congress, during the last session, authorized the construction of five similar boats. Accompanying these two is the steel tugboat Unadilla, a type of several which have been constructed in recent years for naval use. She was built at the Mare Island Navy Yard, in 1895, and is 110 feet long, 25 feet wide, and at 10 feet draft displaces 345 tons.

The final and up-to-date picture of the series shows the first-class battleship Pennsylvania, of the Virginia class, the designs for which are being completed by the Bureau of Construction and Repair,

Modern Type of War Vessels Began With Introduction of the Original Monitor Designed By John Ericsson, Which Revolutionized Marine Architecture of World.

In the same picture are shown the new Maine and the torpedoboot destroyer Farragut. The Virginia and class will be of 16,000 tons displacement and have a speed of 19 knots per hour. The principal dimensions being—length load water line, 435 feet; beam, 78 feet, and draft, 24 feet.

The New Maine.
The Maine is being constructed in Philadelphia, and is 288 feet long, 72 feet 2 1/2 inches wide, and has a displacement of 12,200 tons.

The Farragut was commissioned about a year ago, in California, having been built at the Union Iron Works, San Francisco. She is 213 feet 6 inches long, 29 feet 7 3/4 inches wide, and at 6 feet draft displaces 279 tons. Her speed on trial was 20.13 knots, with 5,500 horsepower. She is armed with two 18-inch Whitehead torpedo tubes and four 6-pounder guns.

At present the United States Navy is undoubtedly the best equipped in ordnance of any of the navies of the world. American ingenuity and American workmanship have devised and perfected the finest and most complete ordnance appointments.

Previous to Spanish War.
Previous to the Spanish war some of the nations were disposed to look upon the United States Navy as an institution informative state only, but the work of the ships, officers, and men at Manila and Santiago have practically demonstrated that man for man and ship for ship the United States Navy is equal if not superior to any other marine power in the world.