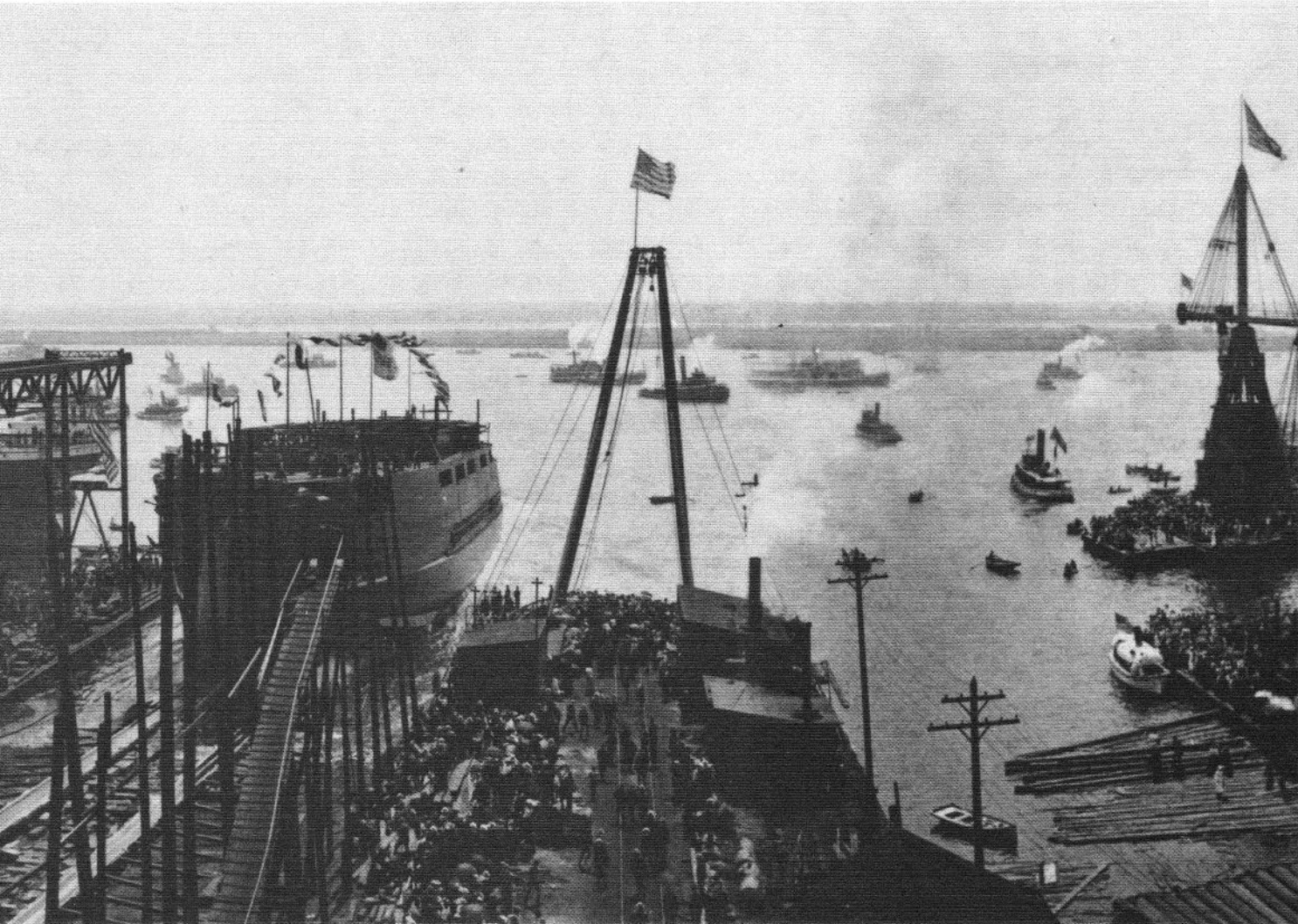


# Shipbuilding at Cramp & Sons



*A History and Guide to Collections of the  
William Cramp & Sons Ship and Engine Building Company (1830-1927)  
and the Cramp Shipbuilding Company (1941-46) of Philadelphia*

*By Gail E. Farr and Brett F. Bostwick with the assistance of Merville Willis*

*Philadelphia Maritime Museum*

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*Cover illustration: Detail from panorama of the William Cramp & Sons shipyard looking east across the Delaware River from Kensington, Philadelphia, July 27, 1901. Spectators have gathered for the launch of the second United States battleship Maine (foreground). Atwater Kent Museum Collection at the Philadelphia Maritime Museum (L90.42.242).*

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## Foreword

In the history of Philadelphia shipbuilding, one company easily holds the premier position—Cramp. When the company was founded in 1830, wood was the material of construction and sails the principal method of propulsion. By the time the yard closed in 1946, its workers were producing such highly sophisticated metal clad ships as submarines propelled by intricate engines. In all, Cramp built over 500 vessels including sloops, battleships, cruisers, yachts, tugs, lighters, tenders, barges, caissons, passenger steamers, and oil tankers.

Over the past 18 months, the library staff has worked with plans, photos, documents, and other Cramp records on deposit at the Philadelphia Maritime Museum. Our holdings have been enriched by materials placed here on loan from The Franklin Institute and the Atwater Kent Museum. In cataloging and conserving more than 4000 items we have developed a great respect for the company's contributions to American shipbuilding.

Processing these materials was made possible through a grant from The Pew Charitable Trusts Museum Loan Program. We are indeed grateful for their support.

Gail E. Farr and Brett F. Bostwick worked long hours to sort, describe and organize the collections; oversee their conservation; locate Cramp materials at other institutions; research Cramp's role in the shipbuilding industry; and create this guide. Their efforts can only be described as outstanding.

We have appreciated the assistance of PMM colleagues.

The Conservation Center for Art and Historic Artifacts completed the majority of the conservation work on the plans, glass plate negatives, books, and other paper documents. Mervin Martin restored one of the Cramp half models. Robert Asman created archival quality film negatives from over 1200 glass plate negatives.

Monique Bourke, Ray Barber, and Robert Rynkiewicz offered computer expertise.

Jeff Hurwitz served as photographic consultant as well as photographer for the guide in addition to printing a series of prints from glass plate negatives for us.

Aiding with the production of the guide was Jonathan Shapiro.

Many others helped with the project. An advisory board met periodically to advise the staff. The Board was made up of Gladys Breuer, Curatorial Associate, The Franklin Institute; Robert Eskind, Senior Curator of Collections, Atwater Kent Museum; Christopher T. Baer, Assistant Curator, Manuscripts and Archives, Hagley Museum and Library; and Merville Willis, naval architect.

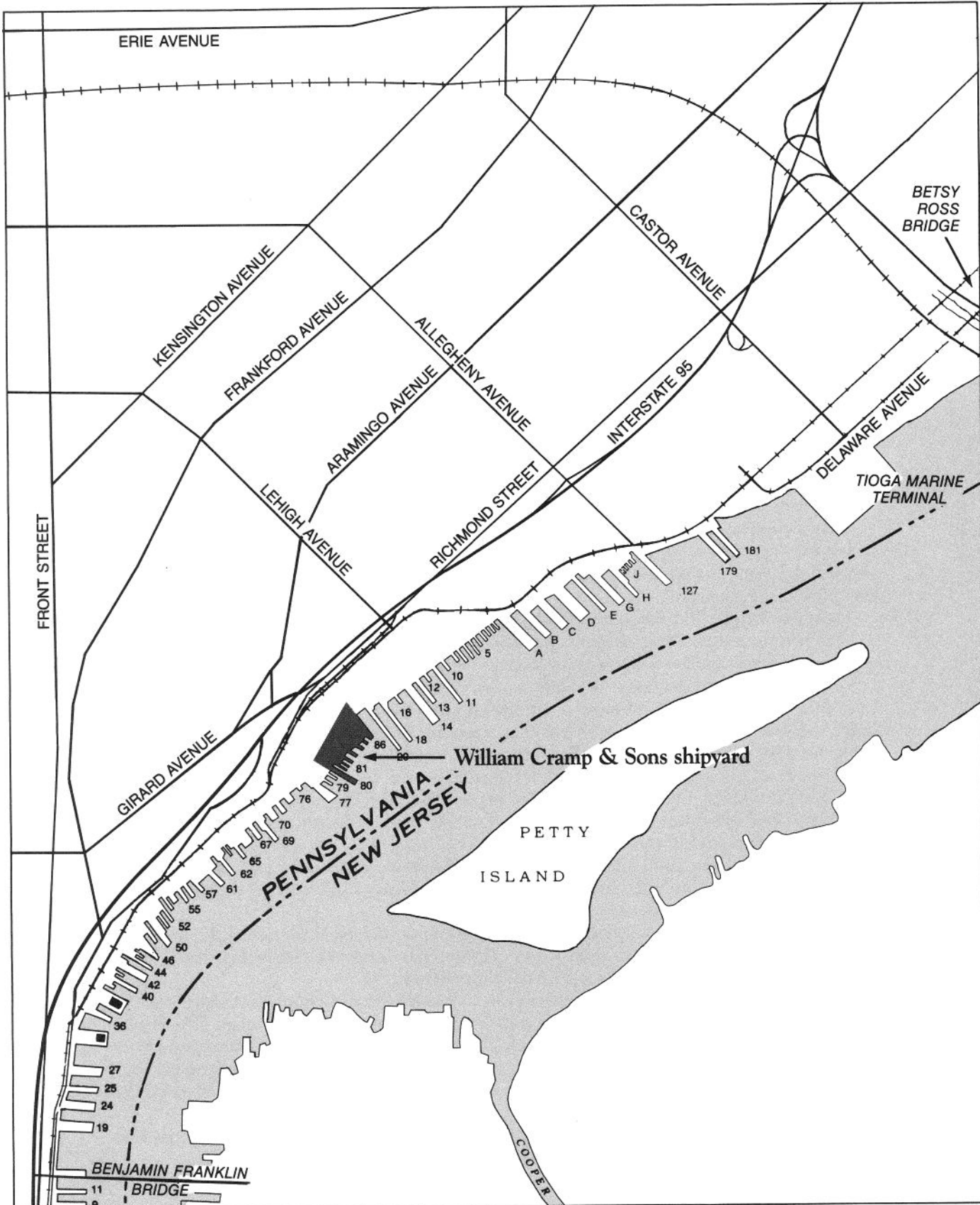
The following repositories supplied needed information: John Vajda, John Reilly, and Charles Haberlein, Naval Historical Center, Washington DC; William G. Heynen and Ray Cotton of the National Archives and Records Administration; The Free Library; Temple University Urban Archives; Hagley Museum and Library; Mystic Seaport Museum; Mariners' Museum; Hart Nautical Collections, Massachusetts Institute of Technology; Van Pelt Library, University of Pennsylvania; and the American Philosophical Society.

Also adding to our information about the Cramp shipyards were fellow researchers Bill Crothers, Rick Russell, Tom Heinrich, Ed Zajkowski, John Arrison, Stephen Antol, and Barbara Bates, M.D. Steve Fisher reviewed the manuscript and Larry Kelly proofread.

Since the Cramp shipyards were of such renown, we would like to alert scholars throughout the country of the unique opportunity to study the combined collections of three institutions (The Franklin Institute, Atwater Kent Museum, and Philadelphia Maritime Museum) at the Philadelphia Maritime Museum Library. David Weinberg, manuscript cataloger, has entered bibliographic records into the national database OCLC (Online Computer Library Center) so that the collections might be accessed nationally and even internationally.

We are pleased with the results of the project and look forward to meeting researchers who may be interested in the innumerable historical facets which the Cramp shipyards have to offer.

E. Ann Wilcox  
Librarian



The history of the Cramp shipyard began along the Delaware River waterfront in the early nineteenth century. Access to rich mineral deposits contributed to the emergence of iron and steel shipbuilding at several sites along the river, including the Kensington district northeast of central Philadelphia—an area long populated by wooden shipbuilders. Cramp & Sons operated at a site bounded by Richmond and Morris streets from the early 1870s to 1927. The facility was taken over by the Cramp Shipbuilding Company under different ownership from 1941-46. Map: Adapted from Franklin's Atlas of Philadelphia and Suburbs (1984).

# Shipbuilding at Cramp & Sons: A History 1830-1946

by Gail E. Farr

The Cramp shipyard was a vital part of Philadelphia for more than a century. The following sample of headlines from the old *Evening Bulletin* captures the excitement of its history in the making:

The Iron Steamship *Pennsylvania*, The First Vessel of the American Steamship Company of Philadelphia, Was Launched at Cramp's Shipyards, Beach and Norris Streets. *August 15, 1872.*

Announcement Made That Cramps' Would Build Ten Torpedo-Boat Destroyers. *May 31, 1898.*

President McKinley and Party at Cramps'; Visited the Cruiser *Raleigh* and Complimented the Officers and Crew of the Ship That Fired the First Shot at Manila. *April 28, 1899.*

City Agrees to Compromise Cramp Shipyard Taxes to Facilitate Its Revival. *June 28, 1939.*

Cramps Closed When 42 Painters Are Fired Over Spraying Dispute; 15,000 Then Strike; Ends Jan. 9; War Labor Board Shipbuilding Com. Fines Workers 1 Month Retroactive Pay Boost. *January 1944.*

To this list might be added accounts of pending contracts, ship christenings, and adventures of ships built by the Cramp establishment, including clippers of the 1850s; steam-driven iron merchantmen of the 1870s; steel warships for the New Navy; and destroyers for World War I. Most memorably to Philadelphians of recent generations, the Cramp yards employed more than 18,000 workers during World War II.

Cramp was not the only shipbuilding firm on the Delaware, but its history was significant for many reasons. Most striking was its longevity. When the Cramp yard opened in 1830, it was one of at least thirteen private shipbuilding establishments operating along the Philadelphia waterfront. Seventy years later, it was the only one of the original group which was still operating. Cramp was one of the few American shipbuilders to survive the transition from a craft mode of production focused around wooden sailing vessels to an industry centered around steam engines and iron and steel construction; from canvas and rope to mechanical devices including refrigeration, lighting, and telegraph equipment. The Cramp firm contributed in the technological transformation of shipbuilding through its exploration of new building materials and methods.

Cramp's experiences speak to the transformation of shipbuilding from a field engaging numerous producers to a system which was increasingly dominated by a few large corporations. These changes paralleled a growth in the size and complexity of vessels and a simultaneous need for heavy capital investment in plant and equipment. Established by a single master builder in 1830, Cramp evolved into a multi-divisional corporation with vast productive capacity. In 1919 the company became part of a larger corporate conglomerate; a series of reversals led to the decision to discontinue the ship manufacturing branch in 1927. Although the Cramp yards reopened in 1941-46, work did not continue after massive wartime contracts were completed.

Despite obstacles to Cramp's continuing development in the twentieth century, Philadelphians still regard the company as a uniquely local version of the American success story. Part of that mystique has centered around the founder and his sons who transformed a modest family business into an industrial leader. As one of the city's major employers, the Cramp firm had a powerful impact on its home neighborhood of Kensington and the lives of workers who resided there. And the ships were newsworthy in their own right. Cramp was far more than a company; it mirrored America's growing presence in the modern world.

The following essay presents a brief sketch of the company's development from its beginnings up through World War II. Within a chronological framework, the account seeks to identify ways in which Cramp typified broader trends in American shipbuilding and to note those features which differentiated its work from that of other producers.

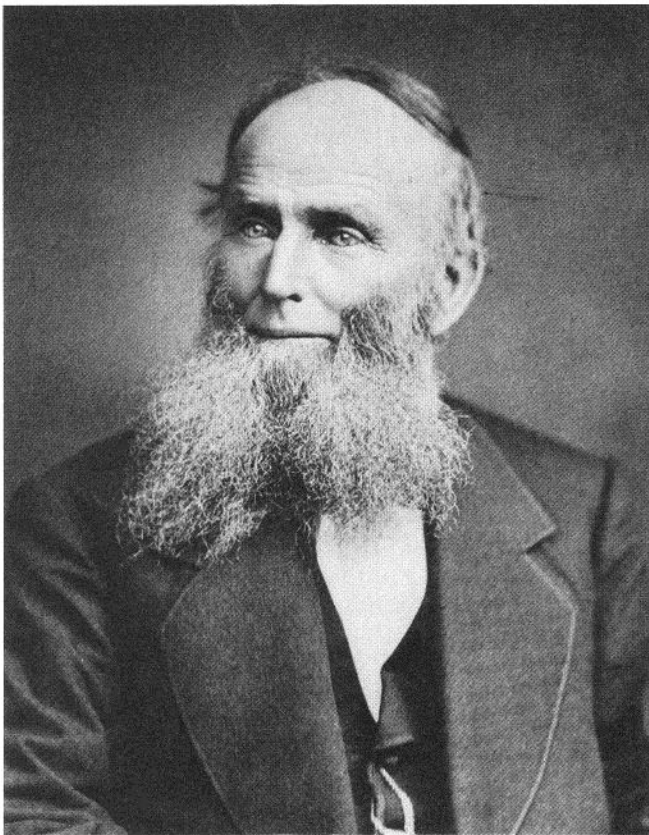
## Founding Years 1830-1870

In his biography of the Cramp family, Augustus Buell (1906) made a distinction between shipbuilding as it existed in the era of wooden sailing vessels and as it developed under an industrialized system of manufacture from the mid-nineteenth century on. Despite Buell's view that "with but few exceptions the modern steel ship is a retrograde in everything pertaining to the real art as compared to the ship" of earlier times, he nonetheless stressed that Cramp was a major force in bringing modernization about. To understand Cramp's role in this process, it is important to examine the previous development of shipbuilding in Philadelphia.

Commerce was the original basis of Philadelphia's economy. Shipbuilding emerged as a primary adjunct to the mercantile houses which carried goods from Europe, the West Indies, and Far East. Shipbuilders established yards along the Delaware River, at Southwark just below the city (the Philadelphia Navy Yard was constructed there in 1800-01), and along the bend in the river to the north at Kensington—specifically, in a wedge bounded by Frankford Road below the river and Montgomery Avenue. Other industries developed in the areas surrounding the shipyards, often satellite enterprises such as blacksmith shops, foundries, and sail-making establishments which supplied shipbuilding materials. By 1830 Kensington was a major center of textile manufacturing activity in the county.

Eventually, as applications of the steam engine became more widely understood, Philadelphia also became a center for the production of steam engines and other machinery which transformed processes formerly done by hand. Engine builders often gravitated to areas where various productive activities were already under way. The introduction of anthracite coal as a fuel source in the 1820s, and the subsequent growth of Pennsylvania's coal-mining industry, encouraged Philadelphians to engage in the manufacture of large iron products and castings. By the mid-1840s, railroad companies were building lines into the city from upstate coal districts. The Philadelphia & Reading railroad obtained waterfront footage in the Kensington area with the plan to make Philadelphia a terminus for coastwise coal trade. These





William Cramp (1807-1879), c. 1870. FI Collection at PMM (L90.43.X333).

changes prompted I.P. Morris Co., Philadelphia's largest producer of iron castings (founded 1828) to relocate to Kensington's neighboring suburb, Port Richmond, in 1846. Not surprisingly, some entrepreneurs became interested in using iron boats to transport coal out of Philadelphia—another factor shaping the waterfront district when William Cramp established his shipyard.

Born in 1807, William Cramp had long-standing ties to Kensington. His great-grandfather, Johannes Krampp (also spelled "Krampf"), migrated to this country from Germany in the early 1700s and settled along the Delaware. William's father, Martin Cramp, adopting a modified spelling of the name, was a ship carpenter, and his son observed the work of many builders firsthand. Among the names associated with the area were John Vaughan, who built ships for China trader Stephen Girard, and Jacob Neafie, partner in the firm of Neafie & Levy (Penn Works), founded in 1838. Moreover, during this period officials at the Navy Yard let out work to private contractors: Kensington builders supplied vessels for the War of 1812. William Cramp's mentor, Samuel Grice, was experienced in constructing both commercial and naval vessels.

McElroy's *Philadelphia Directory* for 1837-43 listed William Cramp, "boatbuilder," at a location near the present Susquehanna Avenue. The listing appeared along with those of three others with the same surname who were also identified as boatbuilders or ship carpenters in Kensington. One of William's earliest known commissions was a request to supply boats for landing the American army at Vera Cruz during the Mexican War (1846-7). Interestingly enough, Cramp's main role was to furnish a design and serve as a middleman for the

government in consigning work on some 300 surf boats to other builders (Buell, 50). The arrangement offered a glimpse into the organization of shipyard labor in this period and what was evidently a trend toward differentiation in the scale of shipbuilding establishments. Because of the seasonal and often unpredictable nature of their business, shipbuilders did not always employ standing workforces but rather assembled gangs of artisans who remained on a temporary payroll until they completed their part of the job. When clients demanded a large order on short notice, they turned to builders who had the greatest familiarity with available labor pools. Thus, although shipbuilding remained for many of its practitioners an activity centered around an individual master builder, conditions also encouraged the formation of larger business entities. With growth came division of labor: the work of the master builder evolved into several roles including construction manager, labor contractor, bookkeeper, clerk, engineer, and marketing manager. Cramp did not yet have a well-defined managerial hierarchy, but the involvement of family members permitted some specialization at the management level.

By the late 1840s, William Cramp had relocated to a site at the foot of Palmer Street. This was the era of the great ocean-going clipper ships—fast wooden cargo vessels which formed the backbone of the American merchant marine. From 1849-53, Cramp built at least six clippers for the California trade. One of them, the *Bridgewater*, was a ship of around 1,500 tons. In addition to these major commissions, William built smaller brigs and schooners. In peak years, it was estimated that William Cramp had about 100 workers on his payroll. But when the demand for wooden sailing vessels fell off in the Panic of 1857, Cramp was forced to sell some of his assets to satisfy creditors.

He found other resources to weather the setback. William was the father of nine children, all the males of whom had been trained in their father's trade. *McElroy's Directory* for 1858 listed the partnership of sons Charles H. and William M. Cramp, shipbuilders, and identified the father as a ship carpenter. H. Birchard Taylor—a later company vice-president and great-grandson of William Cramp—explained that the arrangement allowed the sons to carry on business in the late 1850s while the father remained as their foreman. In 1860 William, Charles, and William M. Cramp returned to separate proprietorships, but in 1864 they came together again, this time under the name of "William Cramp & Sons, Shipbuilders." William's sons, Samuel H. and Jacob C., joined the business in 1867.

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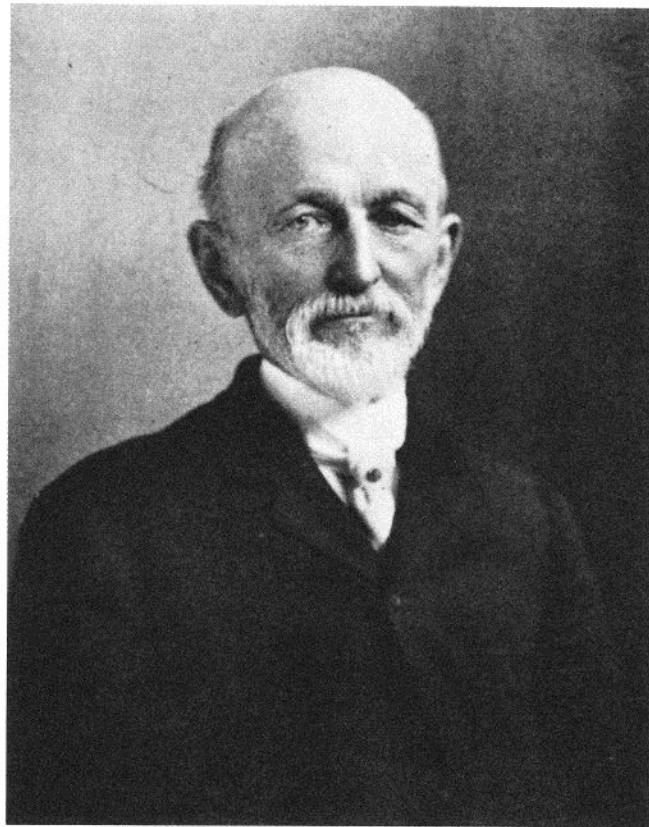
Card advertising the clipper, Isaac Jeanes (Hull 66), c. 1860s. PMM Collection (90.38).

## Charles H. Cramp Enters the Business

It was the sons, particularly Charles, who led the firm into steam and iron. Throughout his life, William remained devoted to wooden shipbuilding and the craft skills it entailed. As Taylor related, William carved his own models, selected the trees to be cut, and chose which parts were to be used for making planking, masts, and hulls. Other technologies were becoming available, but William did not actively pursue them, or at least not so passionately as did Charles. Looking back on this period in 1906, Charles observed that “Most of these shipbuilders neglected to familiarize themselves with the application of the steam engine to ship construction even in the most general way, and this resulted in a gradual elimination of the cult or guild of the master builder that had existed for centuries.”

Born in 1828, Charles Henry Cramp received his education in Philadelphia public schools, including the Central High School from 1841-44. In 1846 he completed an apprenticeship with his uncle, John Byerly, and became a ship carpenter. While growing up in Kensington, Charles developed an interest in new industrial processes. In later years, he recalled witnessing the completion of the first iron-hulled vessel produced in Kensington around 1838. It was a barge constructed by boilermakers who carted their ship over to the waterfront. Many shipbuilders in this country were skeptical about using iron because it cost more than wood and was presumed to be heavier. Actually, an iron hull made up of plates riveted to iron framing weighed less than a wooden ship, traveled faster, and held more cargo because the metal sheathing took up less space than thick timbers. But since the bending and riveting of metal were more within the realms of engine-building and boilermaking than shipbuilding as these trades then existed, it was not surprising that practitioners of the former crafts would be the first to explore these innovations. As Charles Cramp related, the city’s engine builders and boiler makers began to contract with shipbuilders to design the ships and supervise the bending and mounting of frames.

Cramp’s entree into steam navigation developed in a similarly roundabout fashion. In 1847, when William was arranging commissions for large sailing ships, there were almost eighty small steam vessels operating on the Delaware and Schuylkill rivers (Weigley, ed., 327). Although steam-powered vessels had been built with some frequency along the Delaware since John Fitch’s application in 1786, these craft were generally driven by walking beams connected to paddlewheels. Philadelphians were now experimenting with screw propulsion. This technique, devised by the Swedish inventor John Ericsson in the 1830s, employed a single turning shaft which extended lengthwise and drove a propeller located below the stern. Neafie & Levy pioneered in introducing screw propellers in the Delaware Valley, and it was through their association that Charles Cramp began to create his own adaptations. In 1846 Charles produced the 80-foot *Sampson*—the first screw-propelled tugboat in the United States—with engines built by Neafie & Levy. Over the next few years, working alone, with Neafie & Levy, or in association with his relatives, Charles Cramp completed several projects. The *Caroline*, constructed by C. & N. Cramp (launched 1849), was purported to be the fastest propeller ship in the area (Freedley, 380). In the early 1850s Charles assisted in producing seven steamers at the Cramp yards for



Charles H. Cramp (1828-1913), c. 1900. From The Memoirs of Charles H. Cramp (1906). PMM Collection.

Spanish or Cuban accounts to be used in coastwise trade with the Spanish West Indies, among them the *Cardenas*, *Alfonso*, and *Carolina*.

The Cramp yard received at least eight government contracts during the Civil War. These commissions helped move the partners further in the direction of iron and steam navigation. The Cramps’ most famous contribution to the Union fleet, the *New Ironsides*, launched in late 1862, was a composite—a wooden ship with a steam engine, screw propeller, and four inches of iron plating. This was an important transitional project for several reasons. First, it was the largest wooden hull yet constructed in the United States, measuring 232 feet long with a displacement of 4120 tons. The ship proved itself battle-worthy because the sheathed siding was remarkably resistant to shell fire. One of her commanding officers insisted she “had a record for having been hammered more thoroughly than any vessel that ever floated”: in one engagement she was struck seventy times within three hours (Bennett, 273-74). Moreover, the ship was more versatile than the monitors then being built for the navy in great numbers, for monitors were limited to shallow-water maneuvers. The *New Ironsides* could only travel about 6 knots, but she *could* travel on the open sea.

Originally the Navy awarded the contract to Southwark engine builder Merrick & Sons to build the machinery, and Merrick subcontracted with the Cramps to construct the hull. The arrangement not only dramatized the division that existed between these two facets of the production of steamships but also suggested that the shipbuilder was to some extent considered the less critical member of the partnership. Again, this situation reflected the reluctance of shipbuilders

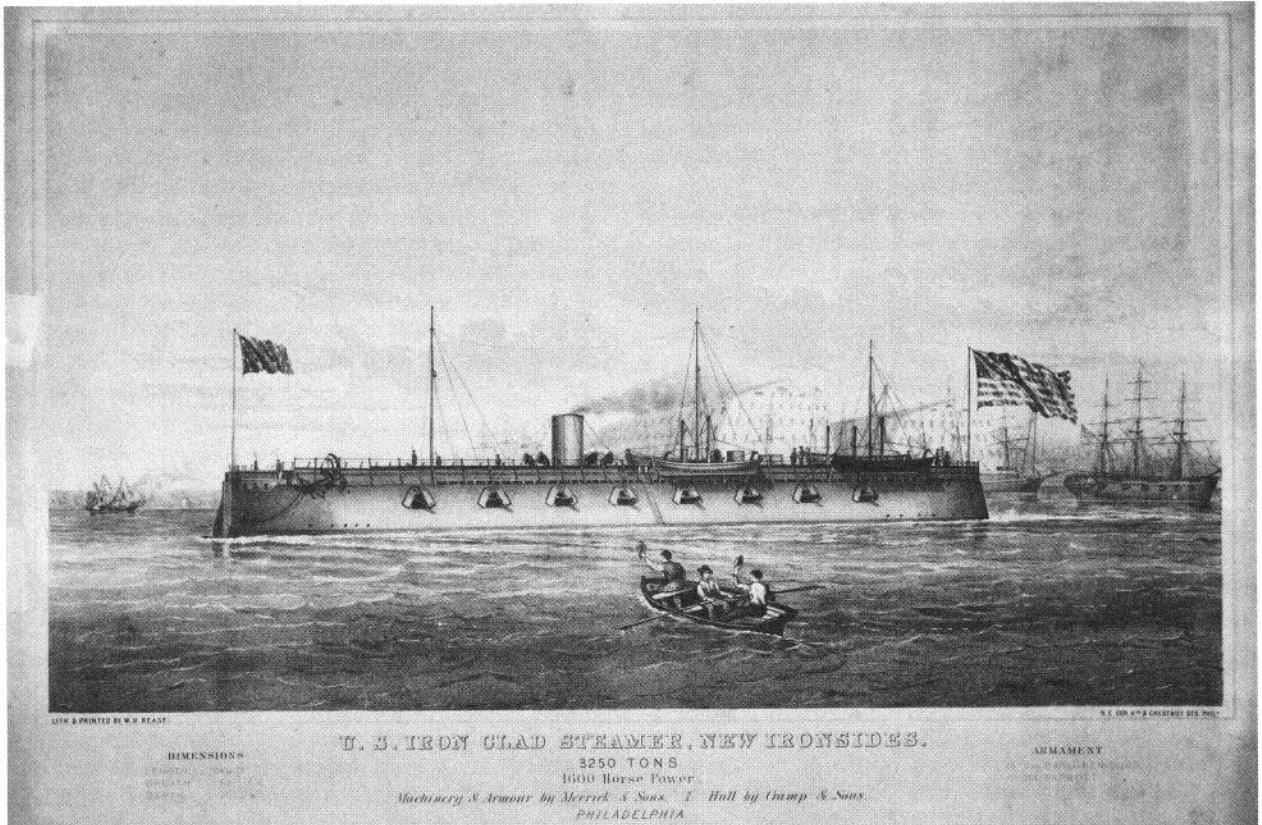
in this country to make enginebuilding part of their business. Charles Cramp explained that “the design, plans, and specifications of the hull complete had been made by me in connection with Mr. B. H. Bartol who conceived the project and had charge of the proposal to the government” (Barnabas H. Bartol was superintendent of Merrick & Sons). The latter “sublet the hull together with fittings to Cramp in accordance with a previous agreement with Mr. Bartol.” The total contract price was \$848,000 and the contractors remained within budget (Buell, 68). The experience helped establish the Cramps’ reputation as reliable contractors. Other Union warships never even made successful trials.

The project aided the Cramps in introducing new procedures into their yard so that they could begin to build iron vessels. Although Merrick & Sons furnished the armor plate for the *New Ironsides*, obtained from mills at Pittsburgh and Bristol, Pennsylvania (Buell, 68), Cramp workmen had to bend the plates. That meant designing furnaces and, even more significantly, creating a workforce that could adapt to metal building techniques. Charles Cramp explained that “our yard became a sort of kindergarten” for iron shipbuilding in the area, though not without resistance from craftsmen who were wedded to their old trades. Cramp went on to describe the case of “Red John,” a German immigrant who “gave us much trouble” in this transitional period because he was the only man in the yard who knew how to bend iron frames and often caused deliberate delays, or so his supervisor believed. A group of young fishermen offered to complete the bending and soon taught themselves how to produce a satisfactory product (Cramp, “Sixty Years,” 179-80). We don’t know what happened to Red John, but the incident illustrated how new technologies could displace craft labor.

## Transition to Iron: The 1870s

Unlike many domestic industries, shipyards did not immediately share in the prosperity that followed the close of the Civil War. Government contracts petered out along with commissions from commercial shippers hard hit by wartime losses. Nowhere was the situation more graphically described than in the report of a special committee appointed by Congress in 1869 to investigate the reasons for the decline of the American merchant marine. The committee found that in addition to the numerous merchant vessels destroyed during hostilities, privateering was so widespread that many owners transferred their vessels to foreign registry. Altogether, the United States had lost about 40 percent of its tonnage which had previously engaged in the foreign carrying trade. Moreover, despite the doubling of American exports from 1853 to 1869, the percentage of exports and imports shipped in American vessels had dropped from 67 to 34 percent. New York’s once-vibrant wooden shipbuilding district had closed down, and much of America’s flourishing transatlantic trade was now being transported in British steamers.

Charles Cramp was among the shipbuilders who testified at the committee hearings. Claiming that superior British technology—particularly in enginebuilding—was the main factor preventing Americans from claiming their rightful share in this lucrative commerce, he pleaded for government subsidies to help private shipyards in this country make the large capital outlays in plant and equipment that were necessary to produce a new generation of merchant ships which could compete successfully with British rivals. Cramp went on to cite lower wages and the lower cost of iron as additional factors favoring Britain’s shipbuilders over those in the United States. He stressed the role of government subventions in



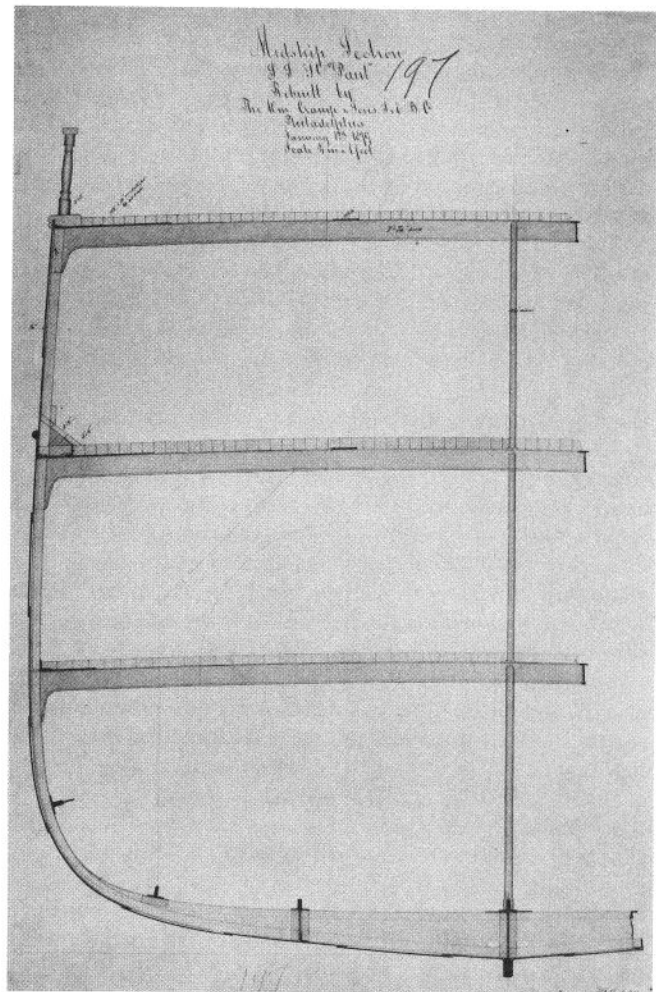
New Ironsides (Hull 108), a wooden warship with iron plating, lithograph by W. H. Rease, c. 1863. PMM Collection (950/85.100.10).

enabling the British to command the seas. Their ongoing program of naval construction was carried out mainly through private shipbuilders. Many shippers clamored for the repeal of the U.S. navigation laws which prohibited American shipowners from purchasing foreign-built vessels. As Cramp pointed out, that practice would only allow the British to dump their unwanted vessels onto the American market and drive domestic competitors out of business.

Although Congress upheld the navigation acts, the hearings failed to produce new incentives to domestic shipbuilding at the national policy level. But when the nation acquired its first transcontinental railroad in 1869, Cramp was not the only one who believed that the British would set up steam line connections at coastal terminal points and usurp whatever expanded carrying trade could be had. Motivated by a mix of self-interest and what he himself regarded as intense nationalistic pride, Charles Cramp became prominently connected with a move to promote iron shipbuilding beginning in his home locale.

The extent to which he succeeded is best seen in figures appearing in a special report on shipbuilding conducted under the 1880 Census of Manufactures. The findings contrasted markedly with the Congressional findings of 1869-70. The census data confirmed that from 1870-80, Cramp, together with neighboring producers, had shifted the locus of shipbuilding in this country from New York City to the Delaware Valley. Moreover, they had furthered the transition from wood to metal begun in the area before the war. From 1870-80, Pennsylvania led the nation in the number of new vessels constructed, claiming about one-third of the total produced. During this period, Pennsylvania also led in the production of iron vessels, followed by Delaware. Of the country's total output of iron ships (67) in the '70s, two-thirds had been produced in these two states. Cramp now employed a regular workforce of 1,200 and, in busy years, up to 3,000 men. The Delaware River Iron Ship Building and Engine Works, set up at Chester by former New York iron founder John Roach in 1871, employed a regular workforce of 1,500. (Hall, *Report on the Ship-Building Industry of the United States*, 1884: 253, 264, 204; Swann, 55). Both Cramp and Roach recognized the natural advantage of the area because of its access to coal regions. The main difference between the two men was that up through the Civil War, the former had had no direct experience in building marine engines.

During the late 1860s, Charles Cramp continued to familiarize himself with the techniques employed in Philadelphia engine shops. His work led to a collaboration on an iron coastal steamer, the *Clyde*, for which Cramp built the hull and Neafie & Levy supplied the engines. When the client, Thomas Clyde, bought out the Cramps' interest in the ship, which had become profitable, Charles Cramp determined to integrate enginebuilding into the Cramp firm. (Cramp, "Sixty Years," 185). The Cramps secured J. Shields Wilson, a former employee of I. P. Morris and, most recently, the superintendent of Neafie & Levy, to head the company's engineering department. The arrangement proved productive, for in 1872 the Cramps launched the *George W. Clyde*. Not only was this the Cramps' first ocean-going iron steamer, but it was the first iron steamer in the country equipped with a compound engine. The advantage of the compound engine was that it squeezed more work out of steam by running it through a series of cylinders—first, a small cylinder at high pressure, then larger cylinders as the pressure dropped. Since



Midship section of *St. Paul* (Hull 197), watercolor, 1879, details the iron frame. AKM Collection at PMM (L90.42.45).

compound engines required less coal than other engine types, they freed cargo space—an important breakthrough for American shippers. From then on, the Cramps resolved to concentrate solely on the production of iron ships.

These developments coincided with the efforts of Philadelphia merchants who joined together in 1871 to form the American Steamship Company (ASC). The purpose of the ASC was to promote the port of Philadelphia by offering regularly scheduled trips to and from European ports. At that time, only New York had regularly scheduled steamship lines. The group won support from the Pennsylvania Railroad which became the ASC's major shareholder. The ASC enlisted the Cramp firm to build four vessels which would compare favorably in every respect to Britain's "Atlantic greyhounds" (the name applied to fast steam vessels which handled the majority of passenger and mail service).

The offer was more than a simple transaction. The commission enabled the Cramps to expand their productive capacity and build an organization that would attract outside investment. As part of the contract, the investors insisted on sending Charles Cramp and J. Shields Wilson on a tour of shipbuilding establishments in England and Scotland to ensure that their understanding of compound engine machinery was as good as that found overseas. As an additional aid to the Cramp venture, the ASC involved B. H. Bartol, head of Merrick & Sons, as one of the directors of the new steamship

company. These incentives resulted in dramatic growth. In 1871-72 the Cramps purchased a tract at Richmond and Norris streets where they proceeded to erect a new plant. They converted the old yard to a basin dry-dock and marine railway to use mainly for repairs and alterations. The firm incorporated as the William Cramp & Sons Ship and Engine Building Company under an act of the legislature on March 26, 1872.

The four passenger steamers were christened the *Pennsylvania*, *Ohio*, *Indiana*, and *Illinois*. They were justly famous in their day for their speed, size, reliability, and length of service. By the late 1880s, a local newspaperman estimated that together they had carried over 150,000 passengers since their launchings in 1872-73. Charles Cramp hoped these would be the first of many modern American greyhounds to appear on the Atlantic, but this was not the case. The 1870s and '80s witnessed the appearance of ever-faster European competitors at less cost, which discouraged other American firms from adding to America's transatlantic passenger fleet. William Cramp & Sons did not attract another major client for a transatlantic passenger steamer until the American Steamship Company was taken over by the International Navigation Company (INC) in the 1890s; INC leased the ASC, eventually bought the ASC ships, and continued to operate as the "American Line." In addition to new liners commissioned by INC, the latter also requisitioned Cramp to install new engines in all four of the original ASC ships.

Another project entailed the construction of colliers for the Philadelphia & Reading Railroad Company. A specification book issued by the railroad company in 1872 "for an iron screw collier, to carry 1200 tons coal," called for the use of iron in all machinery and framing. The piston rods were "to be made of Bessemer steel"—a relatively new manufacturing process and one not yet employed in making larger structural elements such as ship plating. Cramp completed six of these vessels by 1874.

The company spent the greater part of the next decade producing coastwise vessels and harbor craft. These included passenger and cargo steamers for service along the West Coast and the Pacific Northwest, some built by railroads to connect western terminus points.

Two events of the late 1870s dramatized the company's coming of age. The first was a visit by Russian officials which prompted Charles Cramp to hastily arrange the conversion of the steamer *State of California* (then under construction for another client) into a cruiser for the Imperial Russian Navy. Cramp secured several other commissions from the Russians who were trying to marshal a display of sea power in order to keep the British from intervening in the Russo-Turkish war. These were the first naval vessels built by Cramp in its expanded facilities which were soon busy with other government contracts. The second significant occurrence was the death of William Cramp in 1879. Charles became president of the corporation shortly before the fiftieth anniversary of the shipyard's founding.

### **Cramp and the New Navy 1885-1918**

So much has been written about this era in the company's history (see Bibliography) that only a few points need to be emphasized here. To summarize briefly, after a period of stagnation following the Civil War, the navy adapted a policy of naval reconstruction beginning in 1883. By the 1890s, the U.S. had become capable of building naval and merchant

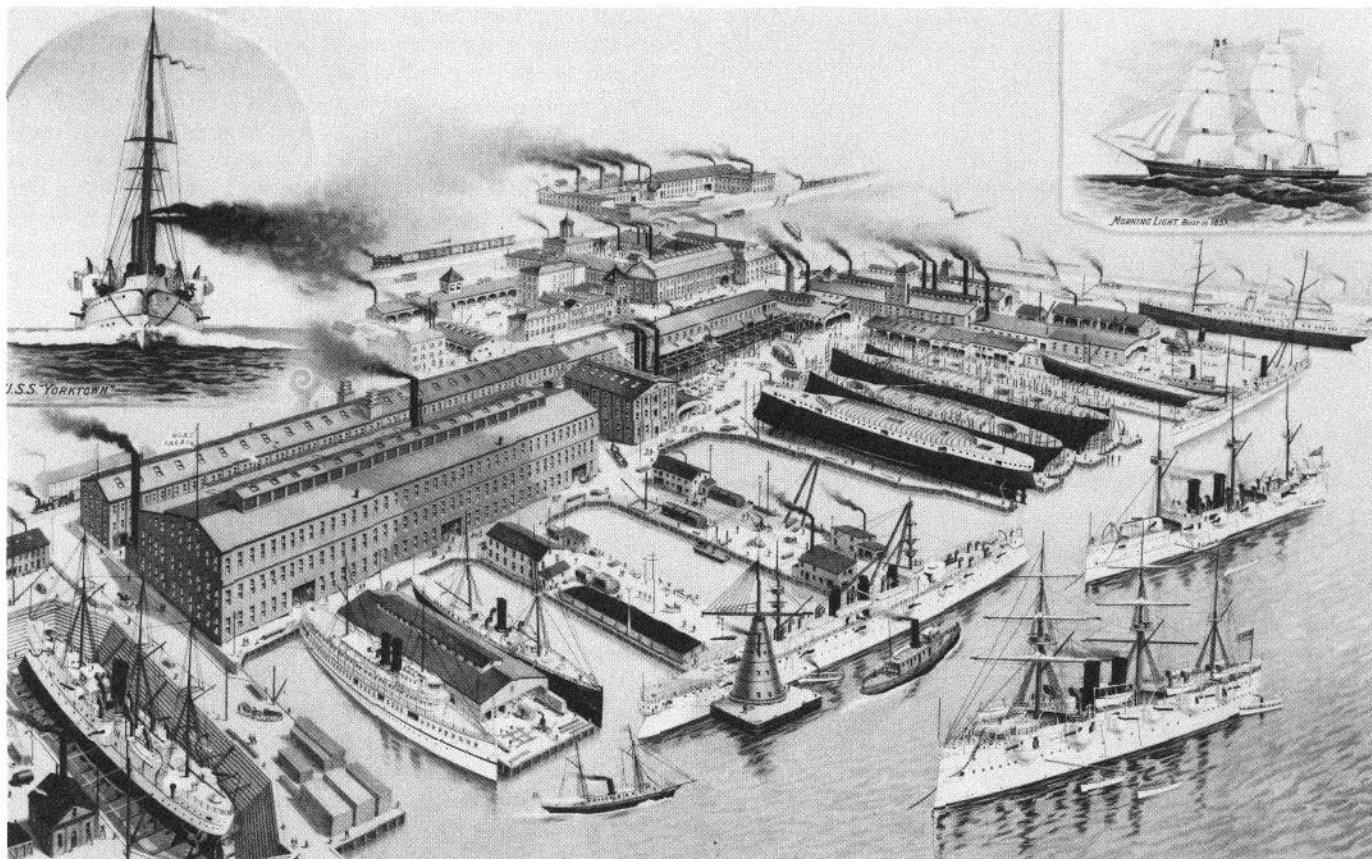
ships of the same caliber as those produced abroad. Not only was Cramp one of the chief recipients of building contracts, but the work enhanced the growth of the company during the several decades over which it continued. In 1891 Cramp purchased the I. P. Morris Company, engine manufacturer; a year later the firm acquired a brass foundry for developing new alloys that were being introduced into marine construction; and by 1900 Cramp had purchased the Charles Hillman Ship and Engine Building Company which was reorganized and incorporated as the Kensington Shipyard Company, comprising the drydock, ship railways, and repair yard at the foot of Palmer Street. That same year the Cramp firm upgraded its machine shop and power plant. In 1915-16 the company again made extensive capital improvements including a new mold loft and cranes. The original 10-acre site had grown to 60 acres. But when government orders declined in the early 1920s, Cramp was forced to relinquish its shipbuilding activities.

The chronology bore out Charles Cramp's belief in the need for steady subsidization of the American shipbuilding industry. Less obvious are the processes which allowed a subsidized system to evolve at Cramp and whether it did, in fact, lead to the production of quality ships.

Largely through his personal influence, Charles Cramp succeeded in making naval contracting a more exacting procedure than it had been in the past. The naval reconstruction began with an 1883 enactment by Congress authorizing the construction of four new steel cruising vessels and four double-turreted iron monitors to replace earlier wooden monitors of the same name. The contracts for the cruisers went to the Roach firm in Chester and the contracts for the monitors were divided between other shipyards, with Cramp receiving the commission for the *Terror*.

Charles Cramp had bid on the cruisers as well but Roach came in with a lower and, as it turned out, less realistic price: the Roach company went into receivership and the government stepped in to complete construction. Although circumstances suggested that Roach was the victim of a political scam, Cramp could not escape the realization that he, too, might become the scapegoat of capricious politicians. He therefore proposed a set of guidelines which enabled navy officials and contractors to agree on whether a vessel met the specifications that were originally prescribed. On the one hand, he suggested the use of a sliding scale to allow some margin for error. This practice allowed the client to specify desired levels of performance while protecting the contractor from unfair reductions or cancellations of payments. On the other hand, Cramp encouraged the navy to adopt a premium system which essentially amounted to the granting of bonuses every time a shipbuilder surpassed the specifications in the contract. Although the ostensible purpose was to promote pride in workmanship, the bonus system also carried genuine monetary value. Charles Cramp's firm earned nearly \$2 million in premiums on 11 naval contracts completed between 1885-95. (Buell, 186-7).

These ships were integral to the first stage of naval reconstruction. That phase ended with the last coastal battleships, the *Mississippi* and the *Idaho*, authorized in 1902 and launched at Cramp in 1905. Early the next year the British launched the H.M.S. *Dreadnought*, the first of the "big-gun battleships," so called because it replaced the dual battery on battleships with a single major caliber gun for the main battery. Its appearance ushered in the era of the first-class sea-



"Cramp's Ship Yard," lithograph, 1892. The company received the contract for the gunboat Yorktown (Hull 255) and other New Navy warships. PMM Collection (L1882), loan courtesy of J. Welles Henderson.

going battleship with its emphasis on range and cruising power as critical elements of battleship design (Neuhaus, 151-70). The first of the American dreadnoughts, the *South Carolina*, was launched at Cramp in 1908, as was the flagship *Wyoming* in 1911.

With the development of torpedo boats and submarines, Cramp began to produce destroyers designed to be long, light, and fast. During the First World War, the company built 46 torpedo boat destroyers, three transports, two freighters, and four tankers. One estimate claimed that Cramp produced one-fourth of the naval tonnage used in the First World War. From 1910-15 the Cramp yards employed around 5,000 workers; by 1917-18, the workforce averaged at least 10,000 (*Cramp's Shipyard War Activities*, 6).

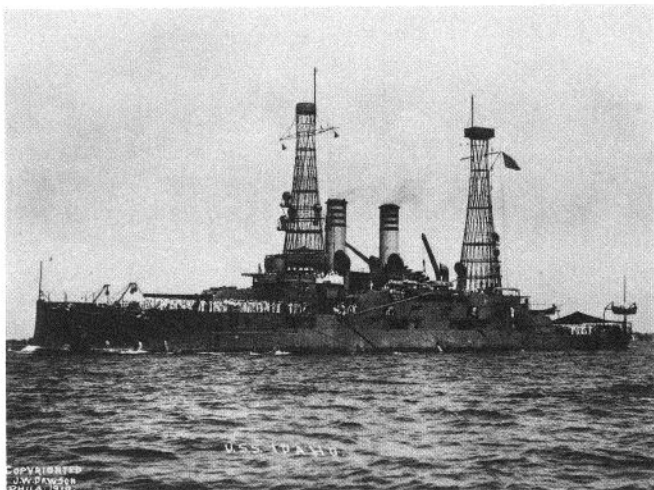
Not all of Cramp's commissions of this era were warships, but the commercial work of the company incorporated innovations developed through work on government contracts and vice versa. Turbines, for example, came into use in naval and merchant ships at around the same time. The United States had its first turbine-driven commercial ship in 1906, and its first turbine-powered battleship by 1908. Cramp's Morris subsidiary produced turbines for many applications besides shipbuilding, including hydroelectric projects in the western United States. The finest of Cramp's last prewar steamers, the *Great Northern* and *Northern Pacific* (launched 1914), contained Parsons turbines with an installation of water tube boilers using oil fuel.

### Specialization and Change 1900-1927

As the preceding examples suggest, shipbuilding became markedly more specialized by the early years of this century. This trend fostered the growth of new departments at the Cramp yard, some of them becoming domains in their own right. Perhaps the most important of the new areas of company growth involved the introduction of electricity into many areas of ship design including mechanical processes such as steering as well as in lighting. Artificial refrigeration was another development which had numerous applications, as did improved systems of piping, heating, and ventilation. Then came radio communication which posed additional challenges for ship engineers.

The major disadvantage of specialization was that it added to corporate overhead costs. Moreover, at least in the case of Cramp, it tended to promote divisions between departments which worked to the company's disadvantage when Charles Cramp ceased to be as active in the everyday life of the company as he had been for most of his career. When he retired as president in 1903, rumors of "financial reverses" began to circulate in the press. In 1910 there was talk of an attempted takeover by Bethlehem Steel magnate, Charles Schwab. Actually Charles Cramp remained the major shareholder in the company and a vital force in its operation until his death in 1913.

Two years later, the company passed out of the hands of the Cramp family. In August 1915, newspapers speculated that the company was about to be sold to the German government. But when the details became public, it was found that in July 1915 the company had been bought up by the Ameri-



The battleship Idaho (Hull 328) photograph by J. W. Dawson, 1910. FI Collection at PMM (L90.43.X75).

can Ship and Commerce Corporation as part of a move to form a new conglomerate made up of Cramp and several other shipyards. The merger was organized by W. Averill Harriman, New York financier and son of railroad magnate E. H. Harriman. The American Ship and Commerce Corporation, incorporated in Delaware on July 18, 1919, combined shipbuilding with a transatlantic shipping line.

After the war, in an attempt to slow the international arms race, the United States agreed to cut its output of warships in a ratio agreed upon by the Great Powers at the Washington Conference of 1921. The naval recess left Cramp with a few substantial commercial projects, but by April 1927 the Harriman interests had decided to segregate the non-marine branches into a holding company, Cramp-Morris Industrials, Inc., and close the shipbuilding branch (*Bulletin*, April 16, 1927; *Public Ledger*, December 15, 1926; January-November 1927). Whatever plans the owners may have had for continuing manufacturing activity at the site ended with the Depression. The operating subsidiaries of Cramp-Morris Industrials, Inc., namely the Cramp Brass & Iron Foundries Company, the I. P. Morris Corporation, the Federal Steel Foundry Company, the De La Vergne Machine Company, and the Pelton Water Wheel Company, were all sold to the Baldwin Locomotive Works in May 1931. The Cramp yard was shut down on October 19, 1927.

## The Cramp Shipyard in World War II

The Cramp yard remained dormant for twelve years after its close in 1927. Then, beginning with the naval building program initiated by President Franklin D. Roosevelt in the late 1930s, the secretary of the navy launched an attempt to reopen the site.

Although the naval appropriation for 1939 totaled nearly \$1 billion including plant redevelopment nationwide, it took nearly a year before the reopening of the Kensington shipyard could begin because of legal and financial complications. The Navy had claims against William Cramp & Sons amounting to more than \$1 million, while the city demanded that the company settle delinquent property taxes totaling \$1.3 million. The yard was filled with decayed buildings and rotting overgrowth. Not only did it require extensive construction but new equipment as well.

Finally, in July 1940, the respective parties worked out a

package financed by federal, local, and private funds. The arrangement centered around a plan to dissolve the William Cramp & Sons firm and form a new corporation, the Cramp Shipbuilding Company, incorporated July 16, 1940, in which the Harriman group retained interest. The city compromised on the payment of back taxes, and the federal government accepted a compromise payment of \$100,000 in lieu of the \$1 million lien against the yard held by the U.S. Navy. The new company intended to float stock to raise part of the \$5 million needed to recondition the yard for use. According to newspaper reports, part of this sum would be obtained from the Reconstruction Finance Corporation under legislation designed to enable the Navy Department to expand facilities at private and government-owned shipyards through financial loans. (*Record*, July 18, 1940).

The reconditioning of the plant began in October 1940. The build-up continued the following winter with the a massive training program conducted at the plant and at the city's public vocational schools in an attempt to produce a workforce that could perform various shipbuilding trades. By May 1941 the Cramp Shipbuilding Company had a payroll of 700 persons, including one hundred master mechanics who were to become supervisors.

The pace accelerated after the December 1941 attack on Pearl Harbor. An August 30, 1942, *Bulletin* article reported that the number of persons employed at the yards had surpassed the previous high of 10,000 set in World War I. At least 1,000 were former employees who had returned to the yard. Some came out of retirement to reclaim jobs similar to ones they lost in 1927. But the majority were former textile workers who had been employed in Kensington's hosiery and carpet mills or civilian industries which had been cut back by the war effort. Because of the loss of manpower to military service, the workforce included middle-aged persons who had no previous employment experience and were learning a trade for the first time. Women were well represented in building and repairing ships. The *Bulletin* reporter found that everyone was working an overtime week of 53 hours.

The Cramp Shipbuilding Company sold the yard to the Navy in 1946. There were no subsequent efforts to continue shipbuilding activity there. A developer bought the property, which has since been made into an industrial park.

Some writers would choose to end this account with a stars-and-stripes flourish. We believe that the roster of Cramp cruisers, submarines, and floating workshops (See "Comprehensive List" concluding this volume) is sufficient testimony to the company's role in the war effort. Viewed in a wider historical framework, the closing of Cramp dramatized the risks of an industry which required both large capital investment and a ready adaptability to product innovation. These factors made obsolescence an ever-present partner in the Cramp saga.

Perhaps it is fitting to note the fate of two battleships, the *Mississippi* and *Idaho* (Hulls 327-328). Completed at Cramp in 1905, they were soon upstaged by the H.M.S. *Dreadnought* and the Navy's push to produce American counterparts. In less than ten years, the Navy had sold the two "old" battleships to Greece and they left U.S. service before this country's entrance into World War I. But they remained in Greek ownership until World War II when they were sunk by the German Luftwaffe. As the following pages illustrate, ships—and stories about ships—sometimes outlive their builders.

# Guide to Collections

Many of the records of the William Cramp & Sons shipbuilding firm and the Cramp Shipbuilding Company have been lost to posterity. The business papers of the original yard (1830-72) were destroyed in a fire sometime before the turn of the century and later files disappeared when the company changed ownership.<sup>1</sup>

But there was also a marked interest among various corporate personnel in preserving the heritage of the company. After the shipyard closed in 1927, officials donated collections of ship construction files and photographs to The Franklin Institute and the Atwater Kent Museum. With the founding of the Philadelphia Maritime Museum in 1961, other Cramp records began to resurface. In 1982 PMM received a valuable deposit of minute books. These were followed in 1987 by a set of line drawings prepared by one of the company's draftsmen and transferred to PMM from the Smithsonian Institution.

In 1990 a unique funding program made it possible to place The Franklin Institute and Atwater Kent Museum

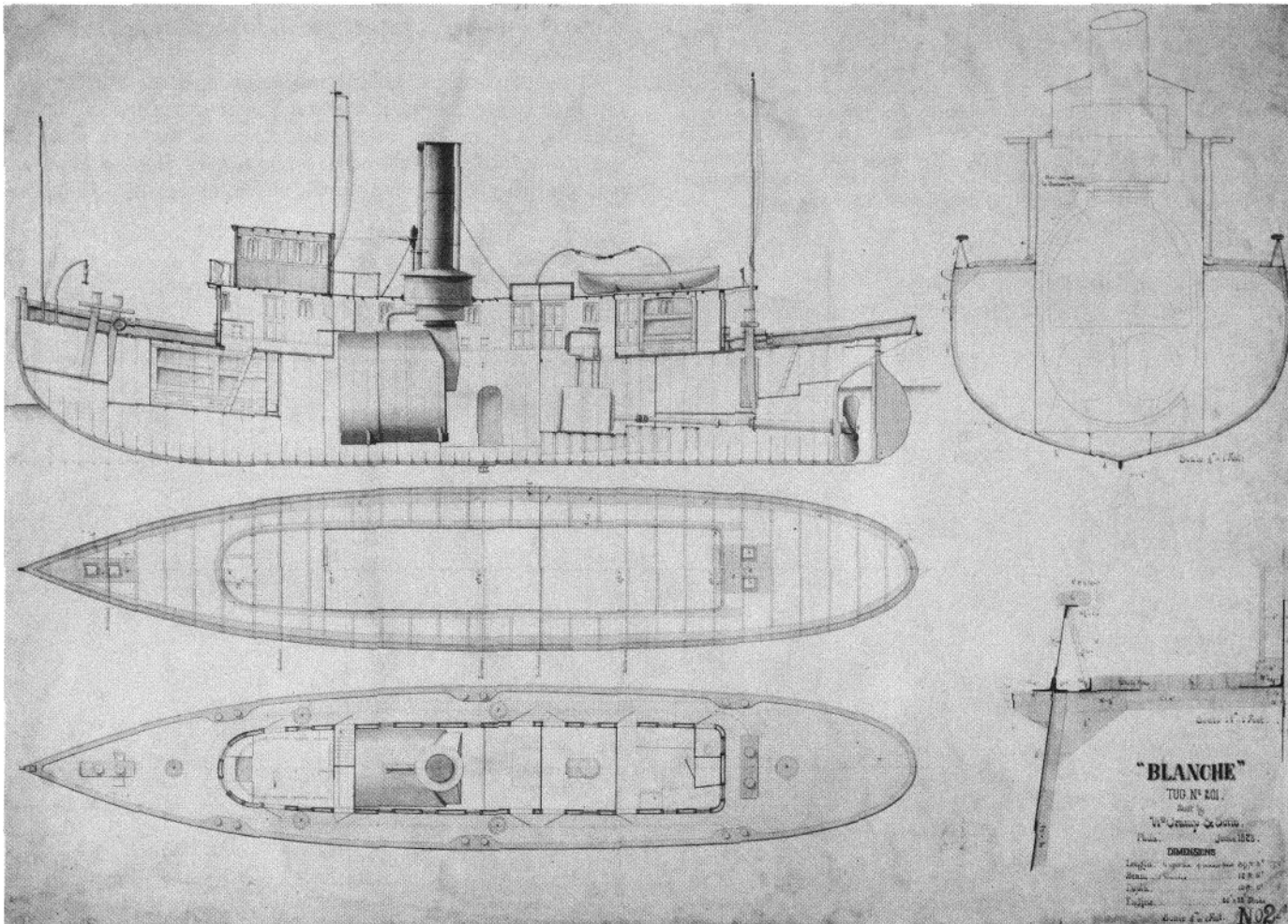
holdings on Cramp at the Philadelphia Maritime Museum under a loan arrangement which has supported the preservation and cataloguing of these materials. This guide grew out of the process of arranging the files and the research which was necessary to do so.

The most challenging task was to organize the files of ship construction plans. Not only are the plans bulky in size; they require a degree of technical understanding. Moreover, plans are visual records, which means they sometimes lack an essential piece of textual data—such as the name of the ship or the owner—which is important for cataloguing the items.

Gradually the project staff began to link ship plans to other available documentation through the device of the **hull number**—the shorthand identification which the shipyard assigned to each ship. By using the hull number as the basis for sorting and arranging the plans, the project team was able to study the history of the shipyard as seen in the progression of building techniques.

This emphasis has shaped our approach to the guide. The first and most detailed section concerns Cramp's ship plans. It is followed by notes on photographic holdings, business papers, art and artifacts, and lists of additional sources of information.

<sup>1</sup>Charles Cramp, "The War Eagle" (1908): 11.



This watercolor of the tugboat *Blanche* (Hull 201), 1878, shows the location of the engine machinery and screw propeller. AKM Collection at PMM (L90.42.59).



# Ship Plans

The assemblage of William Cramp & Sons ship plans at PMM is made up of the following:

**Philadelphia Maritime Museum Collection (PMM)**

150 plans, 1871-1927 (87.21.1-74)

**Atwater Kent Museum Collection (AKM)**

243 plans, 1871-1891. (L90.42.8-241)

**The Franklin Institute Collection (FI)**

Approximately 1900 plans, 1874-1927. (L90.43.544-2411)

23 hull contract books, 1877-1915. (L90.43.520-543)

Together these collections include 2300 plans representing 170 ships built by the company from 1872 to 1927. The emphasis is on merchant ships with the exception of a few small lots of plans for naval vessels.\*

Each collection of plans (PMM, AKM, FI) is kept in separate housing. Within each collection, the plans are arranged chronologically by hull (project) number, that is, according to the number by which the hulls were identified at the shipyard. Within hull groups, plans have been arranged in order by drawing numbers which appear on the plans or, when these were lacking, in date-order sequence. They are stored in 48" drawers, 72" drawers, and tubes.

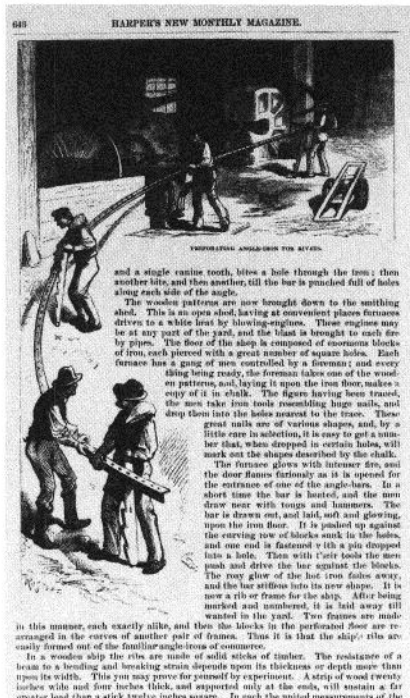
\*Processing the Cramp ship plans took more than a year of work by a multi-member team. The project could not have been completed without this pooling of ideas, information, and skills. It is perhaps appropriate to mention the special contributions of team members. Gail E. Farr devised the processing worksheet, directed processing, researched the company history, and wrote the descriptions of the project files. Brett F. Bostwick collected information from official registers and wrote the ship history notes which accompany the description of each project group. Mr. Bostwick was also responsible for creating an automated data-storage system which was used to generate finding aids. Merville Willis assisted in innumerable ways from completing processing worksheets to dating and identifying plans.

The descriptive format incorporates technical data used in the shipbuilding industry. The scope and content notes are based on information which was transcribed from the original documents onto individual item worksheets which were completed at the time of processing. The worksheet—essentially a grid for systematically recording the data—was designed to correspond to data fields in the USMARC AMC format, the international standard for exchanging information about archival and manuscript collections. Ship names have been used as organizational subdivisions of the company.

In order to facilitate subject access to the collections, the processors also sought to create a typology for classifying ship plans. The categories employed on the worksheets were as follows: Design, Structure, Hull Outfit, Propelling Machinery, Machinery Outfit, Electric Plant, Ordnance, Ornamentation. The term "design" turned out to be too broad to describe the many kinds of items which fell within that category. In the following pages, the archivists have substituted the words **lines**, **offsets**, and **inboard and outboard profiles** to identify plans which are valuable to researchers who want a general picture of what the ship looked like.

Most of the plans are originals, with the exception of a few hand-drawn copies made by company draftsmen. The files include examples executed in a variety of media including watercolor on heavy paper; ink on linen; blueprints, whiteprints, and sepias.

The survey of these holdings revealed much about the relationship between ship plans and the construction process. One of the chief links between wooden and metal shipbuilding was the **mold loft**, where employees worked from a wooden half-model to lay out the curves of the ship. A major



These engravings accompanied an article on the Delaware Valley's iron shipbuilding innovators in Harper's New Monthly Magazine (1878). Stages in the production process included (left to right): bending stem bar, perforating angle-iron, and steam riveting. Van Pelt Library, University of Pennsylvania.



Cramp & Sons' engine drawing room, February 24, 1920. A commission for a large commercial or naval vessel could involve as many as a hundred engineers and draftsmen. FI Collection at PMM (L90.43.L346).

departure was that instead of using wooden beams and planking, workers built a skeleton out of metal.

Researchers using the Cramp ship plans might wish to familiarize themselves with the following techniques as practiced at the time: (1) the construction of the iron frame; (2) plating; and (3) riveting. The first two are well described in "The American Clyde" (1878) and Cheyney and Nixon (1891): See bibliography for complete citations. For the third, project consultant Merville Willis supplies the following explanation:

"In the early days of iron and steel construction, only plates and angles were available for ship construction. Plates were about 3 to 4 feet wide and varied in thickness from about  $\frac{1}{4}$  to  $\frac{3}{4}$  inch. Angles had legs from 2 to 5 inches and varied in thickness from  $\frac{1}{4}$  to  $\frac{3}{4}$  inch. Angles could be obtained in lengths to about thirty feet. By the early 1900s, some other shapes and much greater sizes became available to American shipbuilders.

"Plates and angles were joined together as required by rivets passing through matching holes in each member to be joined. A rivet was a bolt with a head but no thread or nut. In 1870 they were driven by a gang of five men. First a heater boy tended a coal fire to heat the rivets red hot. He passed the rivet with pliers to the passer boy who put it into the rivet hole. The bucker applied an anvil or heavy piece of metal to the head of the rivet. This was carried out with great skill for the rivet had to arrive red hot in place for the riveters, who were equipped with light mauls used to upset the hot rivet end and make a head on the previously unheaded side. There were two riveters—a right-handed riveter and a left-handed riveter—in order to get the blows from the maul applied as rapidly as possible. Before the turn of the century the two hand riveters were replaced by one man equipped with a pneumatic riveting hammer.

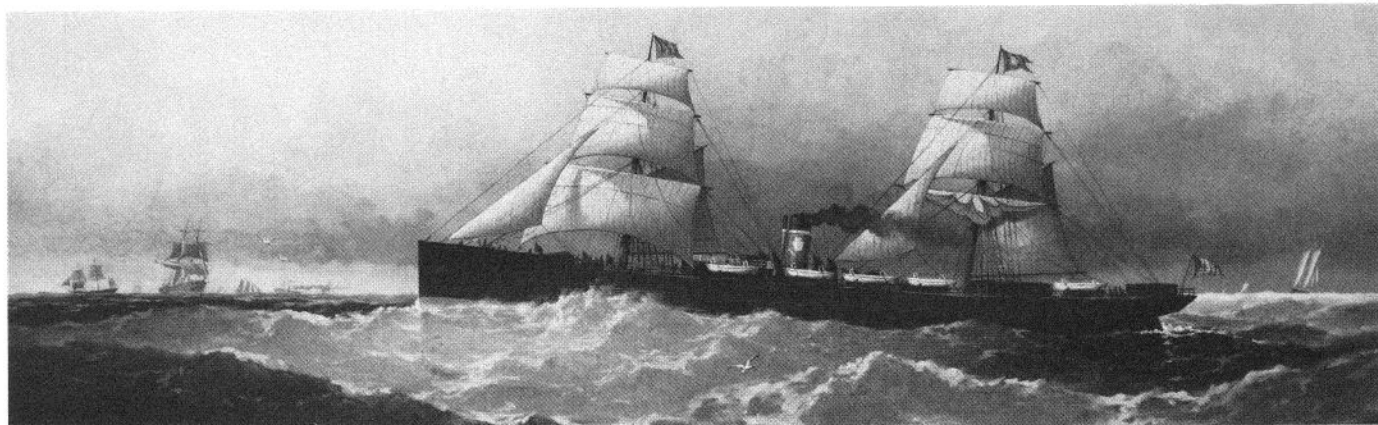
"Rivets were about as big in diameter as the thickness of the thickest member. They were spaced about 5 diameters for ordinary work, 4 diameters for watertight work, and 3 diameters for oil-tight work. Holes for rivets were punched through the plate or angle by big steam-driven punches in the shipyard shop. The punch was slightly larger than the diameter of the rivet. It is obvious that dimensional control of the rivet hole location was of supreme importance."

For further information see Gail E. Farr, Brett F. Bostwick, and Merville Willis, compilers, "William Cramp & Sons Ship and Engine Building Company: Cumulative List of Ship Plans 1871-1927 in the Philadelphia Maritime Museum Library" (PMM, April 1991).

#### Plan Key

Information including dimensions (length, breadth, depth), tonnage, launch date, and names of owners for merchant vessels from American Bureau of Shipping *Record* (1874-1929); for naval vessels, U.S. Naval History Division, *Dictionary of American Naval Fighting Ships* (8 vols.; 1959-81). Abbreviations for other sources listed as references are as follows (full citations given in the bibliography):

ABS	American Bureau of Shipping <i>Record</i>
APS	American Passenger Ships, Emmons
AYL	American Yacht List
Bulletin	Philadelphia Bulletin (Newspaper)
DANFS	Dictionary of American Naval Fighting Ships
GPWSW	Great Passenger Ships of the World, Kludas
MVUS	Merchant Vessels of the United States
NAS	North Atlantic Seaway, Bonsor
PL	Pacific Liners, Emmons
PSWPP	Passenger Ships of the World Past and Present, Smith
SNAME	Society of Naval Architects and Marine Engineers, <i>Historical Transactions 1893-1943</i>



*Indiana (Hull 182)*, oil painting by Robert S. Austin, 1878. PMM Collection (85.41.2).

### **Pennsylvania**

Passenger Steamer (Hull 180)  
 Dimensions: l. 356'; br. 43'; d. 32'  
 Tonnage: 3126 gross  
 Launch: 15 August 1872  
 Owner: American Steamship Company

### **Ohio**

Passenger Steamer (Hull 181)  
 Dimensions: l. 357'; br. 43'; d. 32'  
 Tonnage: 3392 gross  
 Launch: 30 October 1872  
 Owner: American Steamship Company

### **Indiana**

Passenger Steamer (Hull 182)  
 Dimensions: l. 357'; br. 43'; d. 32'  
 Tonnage: 3126 gross  
 Launch: 25 March 1873  
 Owner: American Steamship Company

### **Illinois**

Passenger Steamer (Hull 183)  
 Dimensions: l. 357'; br. 43'; d. 32'  
 Tonnage: 3126 gross  
 Launch: 7 June 1873  
 Owner: American Steamship Company

**History:** In 1870, the Pennsylvania Railroad Company decided to finance the American Steamship Company in order to attract transatlantic trade to Philadelphia. At this time, there were virtually no American steamships plying between the United States and Europe. The American Steamship Company negotiated with Cramp to build four iron screw steamers and they were named after the states through which the Pennsylvania Railroad ran to Chicago, Illinois. These four steamers (*Pennsylvania*, *Ohio*, *Indiana* and *Illinois*) were vital to Cramp because they helped establish the shipyard's reputation as an iron shipbuilder.

*Pennsylvania*: Single screw; compound engines; 13 knots. The pioneer vessel of the American Line, she ran between Philadelphia and Liverpool until her transfer to the Red Star Line in 1892. Chartered by the Army as a transport from 1898 to 1901. Bought by Northwestern Steamship Company in 1906. In 1909, she was bought by Pacific Mail Steamship Company. In 1916, she was used for wartime cargo service.

Destroyed by fire at Iquique Bay, Chile, 1918. Sister ships: *Ohio*, *Indiana*, and *Illinois*.

*Ohio*: Single screw; compound engines; 13 knots. Sailed between Philadelphia and Liverpool until 1898, when she was sold to the Empire Line. The Army chartered her during the Spanish-American War. Purchased by the Alaska Steamship Company in 1908; sank in British Columbia, 1909.

*Indiana*: Single screw; compound engines; 13 knots. She sailed between Philadelphia and Liverpool until her sale to the Empire Line in 1898. She later sailed with Pacific Mail until she wrecked off Baja California, 1909.

*Illinois*: Single screw; compound engines; 13 knots. The final ship built for the American Steamship Company, she is noted for bringing the first big arrival of Russian Jews to Philadelphia to escape pogroms in their homeland, 1882. Sold to the Navy in 1898 and renamed *Supply*, a store ship, she served with the Asiatic fleet from 1901-17. Decommissioned in 1919; broken up in 1928.

**References:** *Pennsylvania*: ABS 1874-75: 693; APS: 22, 23, 97, 157; NAS v.3: 938; PSWPP: 203. *Ohio*: ABS 1874-75: 665; APS: 23, 157-58; Dayton: 373; NAS v.3: 938; PSWPP: 192. *Indiana*: ABS 1874-75: 433; APS: 24, 97; NAS, v.3: 939; PSWPP: 124. *Illinois*: ABS 1874-75: 430; APS: 24; NAS, v.3: 939; PSWPP: 122; Weigley, ed., 489.

### **Holdings:**

10 plans (1871-72; [1891?!])  
 AKM L90.42.8-17  
 1 plan (1872)  
 PMM 87.21.01

**Description:** Outstanding features of this file include a pencil-sketched outboard profile of the *Pennsylvania*, c. 1872. The piece clearly shows the screw propeller and rigging which indicate that the vessel employed both steam and sail. A colored ink-on-linen profile of the spar and rigging notes the location of mast stays. The file includes sections of the hull and watertight bulkheads on heavy paper, 1872, with one indicating angle iron for braces. Also included are cargo plans for all four sister ships produced around 1891, and stamped "Superintendent/Engineers Department." These are interesting for their detailing of storage spaces.

### **Columbus**

Passenger Steamer (Hull 184)  
Dimensions: l. 289'; br. 35'; d. 24'  
Tonnage: 1583 gross  
Launch: September 1873  
Owner: William P. Clyde and Company  
**History:** Operated on the New York and Havana Direct Mail Line until sold to the Russian Navy for conversion into an auxiliary cruiser.  
**References:** ABS 1874-75: 194; APS: 129; Buell: 214-15.

#### **Holdings:**

1 plan (1878)  
PMM 87.21.02

**Description:** Sheer, half breadth, and body plan.

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### **Reading**

Collier (Hull 186)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: November 1873  
Owner: Philadelphia and Reading Railroad Company

### **Harrisburg**

Collier (Hull 187)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: January 1874  
Owner: Philadelphia and Reading Railroad Company

### **Lancaster**

Collier (Hull 188)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: March 1874  
Owner: Philadelphia and Reading Railroad Company

### **Williamsport**

Collier (Hull 189)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: March 1874  
Owner: Philadelphia and Reading Railroad Company

### **Allentown**

Collier (Hull 190)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: June 1874  
Owner: Philadelphia and Reading Railroad Company

### **Pottsville**

Collier (Hull 191)  
Dimensions: l. 250'; br. 37'; d. 20'  
Tonnage: 1283 gross  
Launch: August 1874  
Owner: Philadelphia and Reading Railroad Company

**References:** Philadelphia and Reading Railroad Company, *Specifications for Building an Iron Screw Collier . . .* (1872), HSP; Swann: 51-2; Fisher: 173-74. *Reading:* ABS 1874-75: 727; *Harrisburg:* ABS 1874-75: 391. *Lancaster:* ABS 1874-75: 518. *Williamsport:* ABS 1874-75: 905. *Allentown:* ABS 1881: 144. *Pottsville:* ABS 1881: 843.

#### **Holdings:**

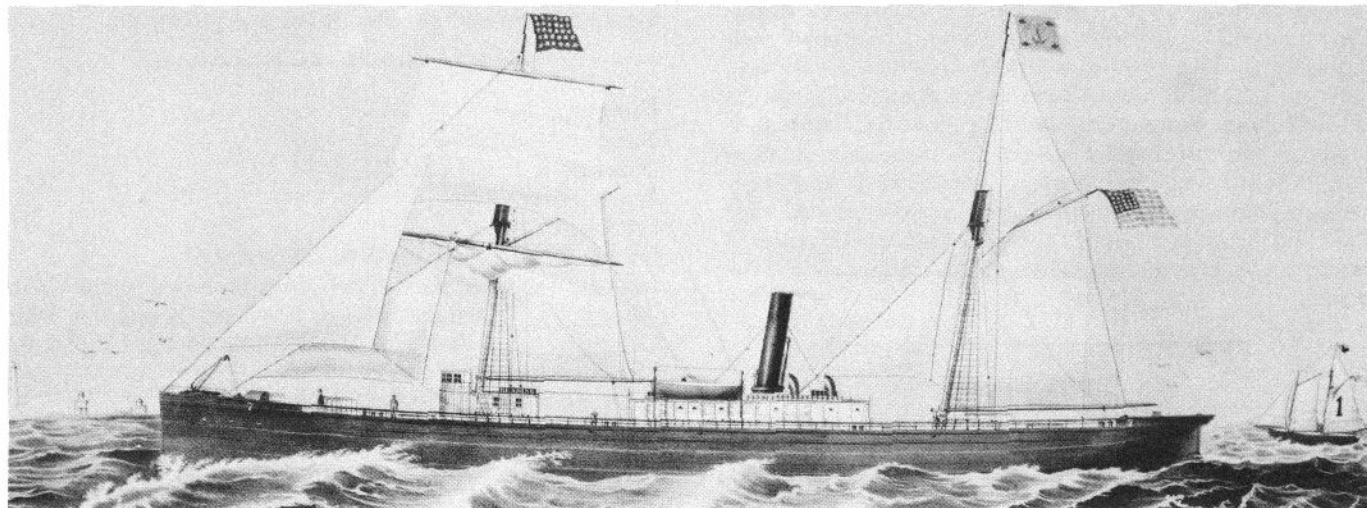
1 plan (1874)  
FI L90.43.2060

1 plan (1872)  
PMM 87.21.03

**Description:** Sheer, half breadth, and body plan; curves of form. A specification book issued by the company in July 1872 called for "an iron screw collier, to carry 1200 tons coal." Some of the features were as follows: there were to be 4 watertight bulkheads; the shaft alley to be built of iron; coal bunkers with the capacity to contain 100 tons of coal, to be built of iron; all seams of bottom, bilges, and side plating to be double-riveted; all deck-houses to be of iron, lined on ceiling and sides with white pine; and piston rods are to be made of Bessemer steel. There are also specifications on the "independent, compound, diagonal, direct-acting, surface condenser propeller engine."

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*Collier Reading (Hull 186), from a c. 1874 lithograph. PMM Collection (868/70.30).*



## **Stephens**

Tugboat (Hull 194)  
Launch: 1874

### **Holdings:**

1 plan (1874)  
FI L90.43.544

**Description:** Copy of 1874 lines drawing.

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## **Terror**

Monitor (Hull 195)  
Dimensions: l. 263'; b. 55'; dr. 14'  
Tonnage: 3990 displacement  
Launch: 24 March 1883  
Owner: U.S. Navy

**History:** Twin screw; compound engines; 12 knots. The *Terror* belonged to a class which formed a connecting link between the old Navy and the new. According to DANFS, she was a totally rebuilt version of an earlier monitor called the *Terror*, broken up because of dry rot in 1874. The keel for the new *Terror* was laid at Cramp in 1874, but she was not commissioned until 1896 due to confusion over funding for the project. The *Terror* served in the Spanish-American War off the coast of Cuba until decommissioned in 1899; then served as a practice ship from 1901-06, when she was decommissioned again. She was struck from the Navy list in 1915 and sold in 1920 for scrap iron.

**Reference:** DANFS, VI: 106; Bennett, *Steam Navy*: 628.

### **Holdings:**

26 plans (1874-1886?)  
AKM L90.42.18-43  
1 plan (1883)  
FI L90.43.2061

**Description:** These drawings demonstrate the role of monitors in the evolution of iron fighting craft. The earliest pieces include a series of sections signed Wm. Cramp and Sons, Philadelphia, and dated December 1874-January 1875. Others are signed and dated by Isaiah Hanscom, Naval Constructor, Bureau of Construction and Repair, Washington, DC, and dated 1874-76. Among them are a "Cross Section for New Iron . . . Clad 'Terror'"; details showing the operation of moveable parts such as cargo doors; the arrangement of the stern pipe, bulkheads, turret chamber, location of water tanks, and layout of interior living quarters; also, a "Plan of Hold, Storerooms, and Magazines &c," as well as details of the turret and hydraulic lift. A second group of plans from the mid-1880s consists primarily of deck arrangements, a proposed plan of watertight compartments and bilge pipes; a diagram of a bolt for the deck light; the location of delivery, injection, and sea valves; and alterations around the engine.

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## **St. Paul**

Passenger Steamer (Hull 197)  
Dimensions: l. 205'; br. 31'; d. 16'  
Tonnage: 888 gross  
Launch: August 1875  
Owner: Alaska Commercial Company  
**Reference:** ABS 1881: 900.

### **Holdings:**

4 plans (1875-79)  
AKM L90.42.44-46, .234  
1 plan (1875)  
FI L90.43.545  
1 plan (1875)  
PMM 87.21.04

**Description:** The general plan, dated January 4, 1876, an ornate watercolor of pastel tints on heavy paper, provides excellent documentation on the relation of engine, boiler, coal bunker, and steering mechanisms to interior space; it also shows framing and location of bulkheads. Outstanding draftsmanship is evident especially in detailing of steering gear in pilot house. One spar plan, dated 1875; and one plan for stem, stern, post, and rudder (colored ink on heavy paper) 1875, with note, "Ordered 5 bars 36' 2" long . . . for keel."

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## **William Cramp**

Tugboat (Hull 198)  
Dimensions: l. 69'; br. 17'; d. 7'  
Tonnage: 56 gross  
Launch: 1877  
Owner: Cramp & Sons Company  
**History:** She was named after the founder of the Cramp shipyard.  
**Reference:** MVUS 1901: 317.

### **Holdings:**

2 plans (1877)  
AKM L90.42.47-48

**Description:** Inboard profile, ink on paper, dated July 1, 1877, with notes for lengthening, 1886. Good view of propeller and engine arrangement; also, midship section showing the use of wood in covering the exposed metal.

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## **Pioneer**

Tugboat (Hull 199)  
Dimensions: l. 107'; br. 21'; d. 13'  
Tonnage: 160 gross  
Launch: 1878  
Owner: Puget Sound Tug Boat Company  
**History:** She spent most of her career on Puget Sound where she was one of the last tugs in the Puget Sound Tug Boat Company's fleet. In 1926, she was sold to the Charles R. McCormick Lumber Company.  
**References:** MVUS 1901: 290; Newell: 23.

**Holdings:**

1 plan (1878)            1 plan (1877)  
AKM L90.42.49        PMM 87.21.05

**Description:** Watercolor on heavy paper, dated February 1878, showing inboard profile, deck plans, cargo machinery, and midship section. Also displacement curve and sheer, half-breadth, and body plan.

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**Europe**

Corvette (Hull 200)  
Dimensions: l. 305'; br. 37'; d. ?  
Tonnage: 3170 displacement  
Launch: 1879

Owner: Imperial Russian Navy

**History:** Single screw; compound engines. The *Europe* started out as the merchant ship *Columbus* (Hull 184) until the Russians bought the ship and had Cramp convert it into a warship.

**Reference:** *Cramp's Shipyard 1830-1910*: 22; Buell: 215.

**Holdings:**

9 plans (1878)  
AKM L90.42.50-58

1 plan (1883) + 1 hull contract book  
FI L90.43.2062, .520

1 plan (1878)  
PMM 87.21.06

**Description:** The plans document the shift from the original steamer commission for the W. P. Clyde and Company to conversion into a corvette for the Imperial Russian Navy. They include a watercolor of the inboard profile and deck plans, a plan of the shaft alley, and hull plating diagrams. Also plans and technical diagrams labeled "Imperial Russian Navy." Plans for sail, spar, and rigging arrangements, piping diagrams, and deck layout.

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**Blanche**

Tugboat (Hull 201)  
Dimensions: l. 83'; br. 17'; d. 10'  
Tonnage: 94 gross  
Launch: 1878

Owner: R. R. Stone

**Reference:** *MVUS 1901*: 214.

**Holdings:**

1 plan (1878)  
AKM L90.42.59

1 hull contract book  
FI L90.43.520

1 plan (1901)  
PMM 87.21.07

**Description:** Watercolor showing inboard profile, deck plans, and midship section.

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**State of California**

Passenger Steamer (Hull 202)  
Dimensions: l. 300'; br. 38'; d. 24'  
Tonnage: 2266 gross

Launch: 5 December 1878

Owner: Pacific Coast Steamship Company

**History:** *State of California* sank in Gambier Bay, Alaska, in 1913.

**References:** ABS 1881: 948; *Bulletin*, August 19, 1913.

**Holdings:**

17 plans (1878-79)  
AKM L90.42.60-76

1 hull contract book  
FI L90.43.520

1 plan (1901)  
PMM 87.21.08

**Description:** Well-rounded set of documentation on the structure and machinery. Ink and watercolor drawings show midship sections, bulkhead structure, stem and rudder designs, engine and boiler room casings, and davits for steam launches. Also included in this series is a possible presentation piece which shows the inboard profile and deck plans, dated April 1879.

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**Zabiaka**

Cruiser (Hull 203)  
Dimensions: l. 220'; br. 30'; d. ?  
Tonnage: 1230 displacement  
Launch: 1880

Owner: Imperial Russian Navy

**History:** Single screw; compound engines; 15 knots. At the time of her construction, the *Zabiaka* was the fastest cruiser in the world.

**References:** *Jane 1898*: 172; *Cramp's Shipyard 1830-1910*: 22; Buell: 215.

**Holdings:**

21 plans (1878, 1884)  
AKM L90.42.77-94b

1 hull contract book  
FI L90.43.520

1 plan (1880)  
PMM 87.21.09

**Description:** Numerous plans showing midship sections; bulkhead placements, stem and stern post diagrams; detail of rudder with the note "Use steamer 'Columbus' pattern (modified)." Also, the series includes two sheets of ordnance plans showing the carriages and guns, with different colors indicating the use of various kinds of metals.

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## Asia

Corvette (Hull 204)

Dimensions: l. 269'; br. 35'; d. ?

Tonnage: 2490 displacement

Launch: 1879

Owner: Imperial Russian Navy

**History:** Single screw; compound engines; 8 knots. Converted from the merchant ship *Saratoga* into a corvette.

**Reference:** Jane 1898: 173.

### Holdings:

1 plan (1879)

FI L90.43.2063

**Description:** Curves of form.

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## Chalmette

Cargo Steamer (Hull 207)

Dimensions: l. 320'; br. 42'; d. 31'

Tonnage: 2983 gross

Launch: 13 September 1879

Owner: Southern Pacific Steamship Company

**History:** Single screw; compound engines; 12 knots. The *Chalmette* was originally built as a cargo ship. In 1900, she was refitted to carry passengers, her gross tonnage increased to 3,205, and she began service between New Orleans and Havana. In January 1924, she was sold to the Munson Line and continued under their flag until broken up in 1924.

**References:** ABS 1881: 275; APS: 139.

### Holdings:

18 plans (1879)

AKM L90.42.95-111, .237

1 plan (1879) + 1 hull contract book

FI L90.43.546, .520

1 plan (1901)

PMM 87.21.10

**Description:** Inboard profile of *Chalmette*, for "Morgan's L. & T. R. R. & S. S. Co." shows excellent detailing of compound engines and boiler layout, cargo holds, and sail plan. There is also a drawing, dated May 4, 1879, which shows the shaft alley and placement of watertight bulkheads; other drawings show the ballast compartment, freight hatch covers, masts, and sail plans.

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## Gratitude

Passenger Steamer (Hull 208)

Dimensions: l. 133'; br. 20'; d. 7'

Tonnage: 214 gross

Launch: 1880

**Reference:** MVUS 1901: 247.

### Holdings:

1 plan (1901) + 1 hull contract book

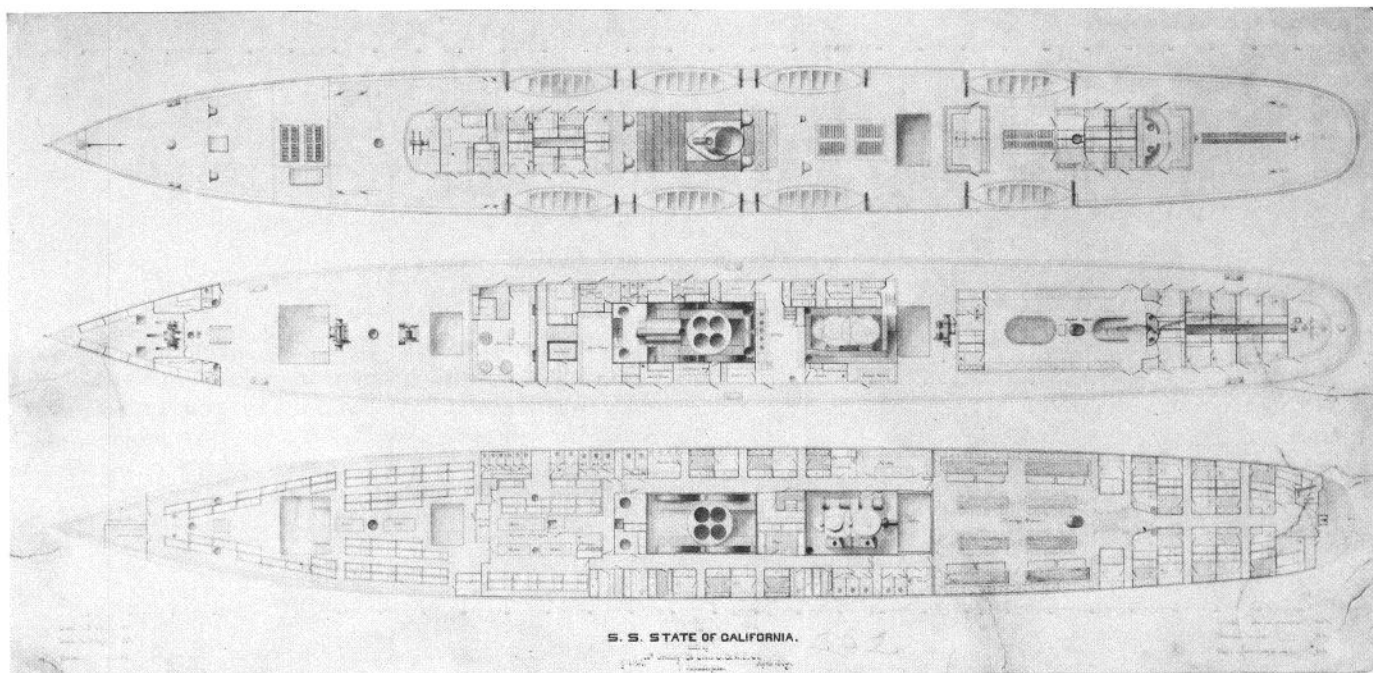
FI L90.43.2065, .520

1 plan (1901)

PMM 87.21.11

**Description:** Curves of form; half breadth and body plan.

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State of California (Hull 202), watercolor, 1879. AKM Collection at PMM (L90.42.66).

### **Confidence**

Tugboat (Hull 209)

Dimensions: l. 85'; b. 17'; dr. 8'

Tonnage: 150 displacement

Launch: 1880

Owner: M. Revel

**History:** Single screw; 13 knots. She was acquired by the Navy in 1898 for use during the Spanish-American War and renamed *Waban*. During the war, she was stationed at Port Royal, S.C., and after the war, she moved on to Guantanamo Bay, Cuba. During World War I, the *Waban* performed towing duties in Cuban waters. She was struck from the Navy list in July 1919 but operated under her Navy name until scrapped in 1924.

**Reference:** DANFS, VIII: 5.

### **Holdings:**

1 hull contract book

FI L90.43.520

2 plans (1880)

PMM 87.21.12a,b

**Description:** General arrangement; sheer, half breadth, and body plan.

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### **Josephine**

Iron Schooner (Hull 210)

Dimensions: l. 129'; br. 34'; d. 10'

Tonnage: 366 gross

Launch: April 1880

Owner: John Middleton, Jr.

**History:** The *Josephine* was the only iron sailing vessel built by Cramp. The schooner was sponsored by a number of maritime merchants in Philadelphia who wanted to see if they could build a sailing vessel with an iron hull. The vessel was regarded as a success by everyone involved; she could handle up to 550 tons of cargo per trip.

**References:** ABS 1881: 614; Hall: 204.

### **Holdings:**

2 plans (1880, 1914) + 1 hull contract book

FI L90.43.547-548, .520

1 plan (1880)

PMM 87.21.13

**Description:** Plans include outboard profile, lines, proposed ventilation and curves of form.

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### **Corsair**

Steam Yacht (Hull 211)

Dimensions: l. 185'; br. 23'; d. 14'

Tonnage: 247 gross

Launch: 1880

Owner: Charles J. Osborn

### **Stranger**

Steam Yacht (Hull 212)

Dimensions: l. 185'; br. 23'; d. 14'

Tonnage: 247 gross

Launch: 1880

Owner: George A. Osgood

**Corsair:** She steamed at 14 knots. Sister ship: *Stranger*.

**Stranger:** 15 knots. She was purchased by the Navy in 1898 for use in the Spanish-American War. After the war, she was turned over to the Louisiana Naval Militia and served them for 17 years until she was struck from the Navy list in 1915. She sank soon afterward.

**References:** *Corsair:* AYL 1886. *Stranger:* AYL 1883; DANFS, VI: 649.

### **Holdings:**

25 plans (1877-94) + 1 hull contract book

FI L90.43.549-572, .520

1 plan (1880)

PMM 87.21.14

**Description:** Numerous drawings showing the lines, sail plan, outfitting, joiner plans, and arrangement of the deck. Also a plan of a stern post, "to be smooth forged" and instructions to "allow for reboring."

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### **Not Built**

(Hulls 213-214)

### **Holdings:**

1 plan (1880)

FI L90.43.2066

**Description:** Curves of form.

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### **Arthur**

Lighter (Hull 215)

Launch: 1880

### **Holdings:**

1 plan (1901)

PMM 87.21.15

**Description:** Lines.

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## **Wilmington**

Passenger Steamer (Hull 216)  
Dimensions: l. 122'; b. 22'; d. 6'  
Tonnage: 161 gross  
Launch: 1882  
Reference: MVUS 1901: 319.

### **Holdings:**

1 plan (1913)  
FI L90.43.2068

1 plan (1901)  
PMM 87.21.16

**Description:** Curves of form; lines.

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## **Caracas**

Passenger Steamer (Hull 218)  
Dimensions: l. 257'; br. 34'; d. 21'  
Tonnage: 1589 gross  
Launch: April 1881  
Owner: Boulton, Bliss, and Dallett  
Reference: ABS 1884: 255.

### **Holdings:**

1 plan (1882)  
AKM L90.42.213

1 plan (1882?)  
PMM 87.21.17

**Description:** Diagram of hatch keepers; rigging plan.

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## **Cetus**

Passenger Steamer (Hull 219)  
Dimensions: l. 212'; br. 32'; d. 11'  
Tonnage: 857 gross  
Launch: March 1881  
Owner: Iron Steamboat Company

## **Pegasus**

Passenger Steamer (Hull 220)  
Dimensions: l. 212'; br. 32'; d. 11'  
Tonnage: 848 gross  
Launch: April 1881  
Owner: Iron Steamboat Company

## **Perseus**

Passenger Steamer (Hull 221)  
Dimensions: l. 212'; br. 32'; d. 11'  
Tonnage: 848 gross  
Launch: March 1881  
Owner: Iron Steamboat Company

**History:** These were used as excursion boats at Coney Island.

**References:** *Cetus*: ABS 1884: 273. *Pegasus*: ABS 1884: 790.  
*Perseus*: ABS 1884: 793.

### **Holdings:**

6 plans (1880-81)  
AKM L90.42.112-117

1 plan (1880)  
FI L90.43.2067

1 plan (1901)  
PMM 87.21.18

**Description:** Curves of form; lines; deck plans; inboard profile showing intercostals, paddle box, and walking beam.

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## **Taurus**

Passenger Steamer (Hull 222)  
Dimensions: l. 226'; br. 32'; d. 11'  
Tonnage: 917 gross  
Launch: May 1881  
Owner: Iron Steamboat Company  
**History:** The *Taurus* was used as an excursion boat at Coney Island. Sister ships: *Cetus*, *Pegasus*, and *Perseus*.  
Reference: ABS 1884: 925.

### **Holdings:**

8 plans (1881)  
AKM L90.42.118-124, .240

1 plan (1901)  
PMM 87.21.19

**Description:** Lines, deck plans, inboard profiles, several structural details, sectional drawing showing saloon front reveals ornate joinery work.

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## **Allegheny**

Cargo Steamer (Hull 223)  
Dimensions: l. 250'; br. 38'; d. 26'  
Tonnage: 2014 gross  
Launch: August 1881  
Owner: Merchants and Miners Transportation Company

## **Berkshire**

Passenger Steamer (Hull 224)  
Dimensions: l. 250'; br. 38'; dr. 20'  
Tonnage: 2014 gross  
Launch: September 1881  
Owner: Merchants and Miners Transportation Company

*Allegheny*: 12 knots. Chartered to the Army during the Spanish-American War as a troop transport. In 1900, along with the *Berkshire*, she inaugurated a Philadelphia-Savannah route for the Merchants and Miners Line. She met her end in July 1907, when she caught fire and burned to the waterline off Tybee, Georgia. Sister ship: *Berkshire*.

*Berkshire*: 12 knots. She was chartered by the Army as a troop transport in 1898. During World War I, she was chartered by the U.S. Shipping Board and commissioned in 1918 as a minesweeping practice ship in the Long Island Sound. She was returned to the Merchants and Miners Line in 1919.

**References:** *Allegheny*: ABS 1884: 144; APS: 125-26.  
*Berkshire*: ABS 1884: 219; DANFS, I: 120; APS: 125-26.

**Holdings:**

23 plans (1881-82)  
AKM L90.42.125-147

**Description:** Good descriptive drawings of a cargo ship. Includes outboard profile and deck plans, spatial layout of cargo area, framing plan, bulkheads, rudder, rigging, and anchor davits.

**City of Puebla**

Passenger Steamer (Hull 225)  
Dimensions: l. 319'; br. 38'; d. 26'  
Tonnage: 2624 gross  
Launch: 18 October 1881  
Owner: F. Alexandre and Sons

**History:** Single screw; compound engines; 16 knots. The loss of two Alexandre Line ships caused the company to build the *City of Puebla* to assist in its passenger service. Sold to the Pacific Coast Steamship Company in October 1887. Chartered by the Army as a troop transport 1898-1900. Chartered to the Grace Line for cargo service to the Far East in 1916, then sold to the City of Puebla Corporation. Broken up in Philadelphia in 1922.

**References:** ABS 1884: 293; APS: 116, 154.

**Holdings:**

30 plans (1881, 1887, 1891)  
AKM L90.42.148-173c

**Description:** Cargo plans; shaft alley; bulkheads; arrangement of hatches; detail plans of stem, rudder, freight cranes, spars and masts.

**Queen of the Pacific**

Passenger Steamer (Hull 227)  
Dimensions: l. 336'; br. 38'; d. 22'  
Tonnage: 2727 gross  
Launch: 14 January 1882  
Owner: Pacific Coast Steamship Company

**History:** Single screw; compound engines; 15 knots. Collided with British steamer *Wellington* in Victoria, 1884. Sank at Port Harford, California, 1888. Renamed *Queen*, 1888. Struck the steamer *Robert Adamson*, 1903. Caught fire off Tillamook, Oregon, 1904. Transferred to Pacific Steamship Company in 1916. Laid up in 1934; broken up in Japan a year later.

**References:** ABS 1884: 815; APS: 154, 161.

**Holdings:**

37 plans (1881-82)  
AKM L90.42.174-209

1 plan (1881)  
PMM 87.21.20

**Description:** Pen-and-ink drawing of deck layouts, outboard profiles, and arrangement of steerage. Also engineering drawing of the rudder showing bearings and details of davits.

**Valencia**

Passenger Steamer (Hull 228)  
Dimensions: l. 252'; br. 34'; d. 19'  
Tonnage: 1598 gross  
Launch: 1882  
Owner: Boulton, Bliss, and Dallett

**History:** The *Valencia* was sold for service on the Pacific Coast in 1889.

**References:** ABS 1884: 954; APS: 77.

**Holdings:**

23 plans (1881-82)  
AKM L90.42.210-232  
1 plan (1882)  
PMM 87.21.21

**Description:** Attractive watercolor shows deck layout, cabins, officers quarters; details of machinery, stem plan, and ventilation pipes.

**Tacoma**

Passenger Steamer (Hull 230)  
Dimensions: l. 339'; br. 42'; d. 29'  
Tonnage: 3119 gross  
Launch: 1882  
Owner: Pacific Improvement Company

**San Pedro**

Passenger Steamer (Hull 231)  
Dimensions: l. 339'; br. 42'; d. 29'  
Tonnage: 3119 gross  
Launch: November 1882  
Owner: Pacific Improvement Company

**San Pablo**

Passenger Steamer (Hull 239)  
Dimensions: l. 339'; br. 42'; d. 29'  
Tonnage: 3119 gross  
Launch: 1884  
Owner: Pacific Improvement Company

Sister ships: *Tacoma*, *San Pedro* and *San Pablo*.

**Reference:** *Tacoma*: Cramp's Shipyard 1830-1910: 27. *San Pedro*: ABS 1884: 867. *San Pablo*: ABS 1884: 867.

**Holdings:**

5 plans (1881-82)  
PMM 87.21.22a,b,c,d,e

**Description:** Outboard and inboard profile; midship section.

### **George W. Pride, Jr.**

Tugboat (Hull 232)

Dimensions: l. 116'; b. 21'; dr. 9'

Tonnage: 177 gross

Launch: 1883

Owner: John D. Spreckel and Brothers Company

**History:** Single screw; 12 knots. She was acquired by the Navy for service in the Spanish-American War in 1898 and renamed *Vigilant*. She was stationed at San Francisco until 1927, when she was struck from the Navy list and sold to the Cary Davis Tug & Barge Company, Seattle.

**References:** DANFS, VII: 518; MVUS 1888: 289.

#### **Holdings:**

1 plan (1882)

FI L90.43.2059

**Description:** Curves of form.

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### **Mariposa**

Passenger Steamer (Hull 233)

Dimensions: l. 320'; br. 41'; d. 26'

Tonnage: 3158 gross

Launch: 15 March 1883

Owner: Oceanic Steamship Company

### **Alameda**

Passenger Steamer (Hull 234)

Dimensions: l. 320'; br. 41'; d. 26'

Tonnage: 3158 gross

Launch: 3 May 1883

Owner: Oceanic Steamship Company

*Mariposa*: Single screw; 14 knots. She carried sugar between San Francisco and Honolulu, 1883-85; then transferred to carry Australian mail. Operated between San Francisco and Tahiti until 1912, when sold to the Alaska Steamship Company; ran aground off British Columbia, 1915; wrecked in Alaska, 1917. Sister ship: *Alameda*.

*Alameda*: Single screw; 15 knots. Operated between San Francisco and Honolulu 1883-85. Transferred to Australian service between San Francisco and Sydney 1885-1901; then San Francisco-Honolulu service 1901-10; sold to the Alaska Steamship Company, 1910. She was gutted by fire in Seattle, 1931; broken up in 1935.

**References:** *Mariposa*: ABS 1884: 684; APS: 55, 157. *Alameda*: ABS 1884: 128; APS: 55, 157.

#### **Holdings:**

1 plan (1883)

AKM L90.42.233

1 plan (1882)

FI L90.43.1301

3 plans (1883)

PMM 87.21.23a,b,c

**Description:** Inboard profile; deck plan; lines; general arrangement.

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### **Atalanta**

Steam Yacht (Hull 235)

Dimensions: l. 243'; br. 26'; d. 15'

Tonnage: 568

Launch: 1883

Owner: George Jay Gould

**History:** Double-expansion engines; 17 knots. She was an extremely fast yacht and lavishly decorated.

**Reference:** AYL 1896.

#### **Holdings:**

2 plans (1883)

PMM 87.21.24a,b

**Description:** Lines; structural plans.

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### **Kinau**

Passenger Steamer (Hull 236)

Dimensions: l. 189'; br. 33'; d. 16'

Tonnage: 993 gross

Launch: July 1883

Owner: S. G. Wilder Steamship Company

**History:** The *Kinau* steamed between Maui and the windward ports of Hawaii.

**References:** ABS 1884: 605; APS: 64.

#### **Holdings:**

4 plans (1883)

PMM 87.21.25a,b,c,d

**Description:** Outboard profile; midship section; scantling and joiner plans.

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### **Hinton**

Tugboat (Hull 237)

Dimensions: l. 85'; br. 19'; d. 9'

Tonnage: 90 gross

Launch: 1883

Owner: Palmetto Boat Company

**Reference:** MVUS 1901: 252.

#### **Holdings:**

1 plan (1883)

FI L90.43.2058

**Description:** Curves of form.

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### **Ivanhoe**

Tugboat (Hull 238)

Dimensions: l. 85'; br. 19'; d. 9'

Tonnage: 94 gross

Launch: 1883

**Reference:** MVUS 1901: 256.

#### **Holdings:**

1 plan (1883)

FI L90.43.2058

**Description:** Curves of form.

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## **Eureka**

Cargo Steamer (Hull 241)  
Dimensions: l. 331'; br. 42'; d. 22'  
Tonnage: 3531 gross  
Launch: 1884  
Owner: Southern Pacific Steamship Company  
Reference: MVUS 1885: 326.

### **Holdings:**

1 plan (1884)  
PMM 87.21.26

**Description:** Lines.

---

## **Philadelphia**

Passenger Steamer (Hull 245)  
Dimensions: l. 269'; br. 35'; d. 22'  
Tonnage: 2099 gross  
Launch: 7 February 1885  
Owner: Atlantic and Caribbean Steam Navigation Company  
**History:** Single screw; 11 knots. The *Philadelphia* was lengthened by 36 feet in 1892, and her gross tonnage increased to 2,530. She was laid up in New York in 1924, and broken up in Genoa, Italy, the following year.  
References: ABS 1886: 740; APS: 77.

### **Holdings:**

32 plans (1884-94) + 1 hull contract book  
FI L90.43.573-604, .521

4 plans (1885)  
PMM 87.21.27a,b,c,d

**Description:** Midship section; inboard profile of framing system; mast and sailing plan; several plans of spatial arrangements; plan of boiler layout; several diagrams of joiner work.

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## **Peerless**

Steam Yacht (Hull 246)  
Dimensions: l. 166'; br. 23'; d. 11'  
Tonnage: 227 gross  
Launch: 16 June 1885  
Owner: Charles W. Harkness  
**History:** The *Peerless* had the first triple-expansion engines in the United States.  
References: AYL 1896; SNAME, *Historical Transactions*: 215.

### **Holdings:**

1 plan (1885) + 1 hull contract book  
FI L90.43.2056, .521

3 plans (1885)  
PMM 87.21.28a,b,c

**Description:** Curves of form; lines; sail plans; inboard profile showing engine and propulsion systems.

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## **Mascotte**

Passenger Steamer (Hull 247)  
Dimensions: l. 207'; br. 30'; d. 20'  
Tonnage: 884 gross  
Launch: 22 October 1885  
Owner: Plant Railroad and Steamship Company  
**History:** She operated between Key West and Havana until taken over by the U.S. Railroad Administration for service in World War I. After the war, she was sold to the Boston and Gloucester Steamboat Line.  
References: ABS 1888: 609; APS: 131-32, 142-43.

### **Holdings:**

1 hull contract book  
FI L90.43.521

1 plan (1885)  
PMM 87.21.29

**Description:** Lines.

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## **John King**

Ferry Boat (Hull 248)  
Dimensions: l. 190'; br. 36'; d. 13'  
Tonnage: 1057 gross  
Launch: 13 April 1886  
Reference: MVUS 1888: 301.

### **Holdings:**

1 plan (1885) + 1 hull contract book  
FI L90.43.2057, .521

**Description:** Curves of form.

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## **Cherokee**

Passenger Steamer (Hull 250)  
Dimensions: l. 269'; br. 43'; d. 20'  
Tonnage: 2557 gross  
Launch: 21 August 1886  
Owner: William P. Clyde and Company  
**History:** 12 knots. The *Cherokee* and her sister ship, *Seminole*, were the first Clyde Line steamers to have their passenger quarters in houses above the deck instead of between the deck. This allowed for greater cargo capacity. The sister ships were among the fastest coastwise steamers of their day. The *Cherokee* was chartered by the Army as a troop transport in 1898. She was sold to the Gulf and Southern Steamship Company in 1922 and renamed *Tampa*; in 1929, she was renamed *Western Wave*; three years later her name changed to *Texan*. Broken up in 1939. Sister ship: *Seminole*.  
References: ABS 1888: 250; APS: 129-30, 144.

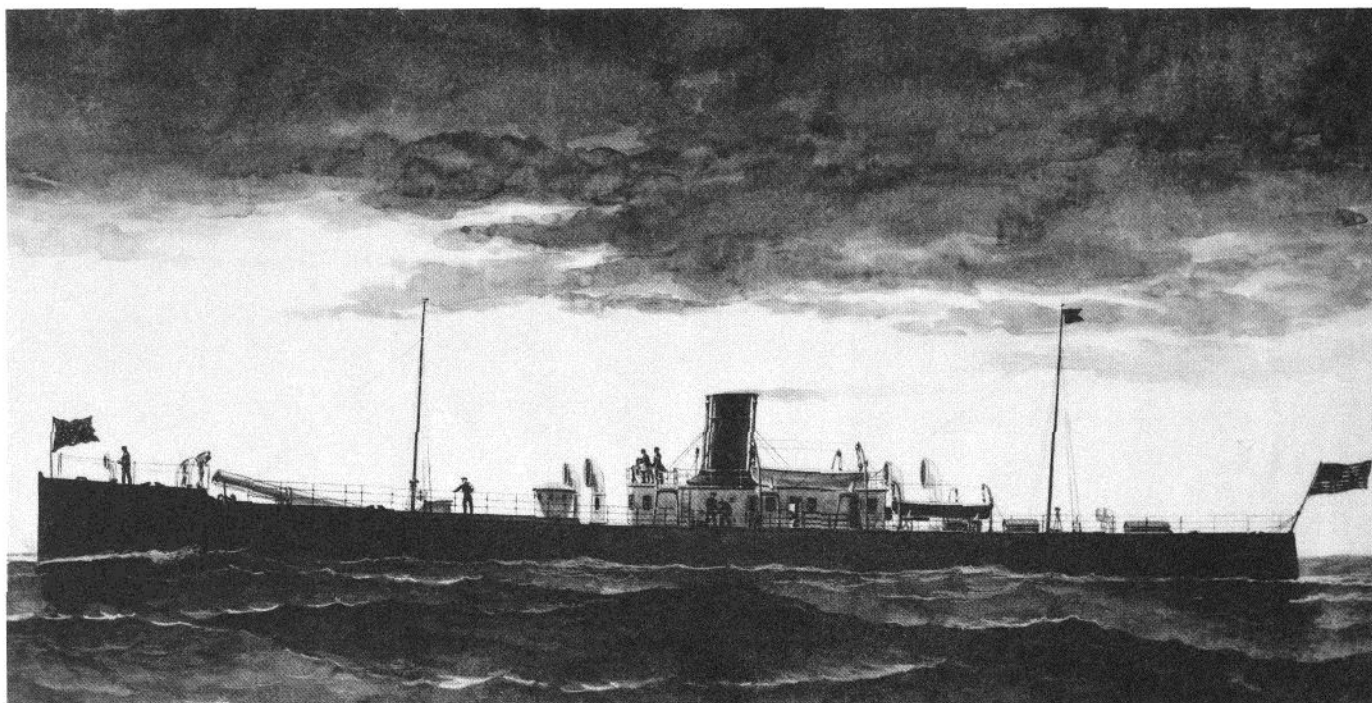
### **Holdings:**

1 hull contract book  
FI L90.43.521

4 plans (1886)  
PMM 87.21.30a,b,c, .73a

**Description:** Outboard profile; scantling plan; joiner plan; offsets.

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The experimental dynamite gun cruiser *Vesuvius* (Hull 256), watercolor and gouache by F. Cresson Schell, 1889. PMM Collection (941/77.51.3).

### **Olivette**

Passenger Steamer (Hull 253)

Dimensions: l. 280'; br. 35'; d. 19'

Tonnage: 1611 gross

Launch: 16 February 1887

Owner: Plant Railroad and Steamship Company

**History:** The *Olivette* steamed the Boston to Bar Harbor route from 1888 until 1891, when her service was terminated due to severe railroad opposition. Afterwards, she ran between Boston and Halifax until she was requested to serve in the Spanish-American War. With the American entry into World War I, the *Olivette* was taken over by the U.S. Railroad Administration for war duty. Her war duty did not last long; in January 1918, she struck a reef at the entrance to Havana harbor and sank.

**References:** ABS 1888: 667; APS: 131-32, 142-43; Dayton: 281, 286.

### **Holdings:**

1 plan (1886) + 1 hull contract book  
FI L90.43.2055, .522

**Description:** Curves of form.

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### **Vesuvius**

Dynamite Gun Cruiser (Hull 256)

Dimensions: l. 252'; b. 26'; dr. 9'

Tonnage: 930 displacement

Launch: 28 April 1888

Owner: U.S. Navy

**History:** Twin screw; triple-expansion engines; 21 knots. The *Vesuvius* was a unique ship when launched in 1888. Not only was she the first ship of the Navy to have triple-expansion engines; she carried three 15-inch pneumatic guns, mounted forward side-by-side, which lobbed huge dynamite bombs. But the ship had some limitations: in order to aim the guns at a specific target, the ship had to be pointed in the same direction. The *Vesuvius* saw action in the Spanish-American War. Her weapons caused little damage, but the tremendous noise of the massive shells gained some advantage for the Americans. After the war, she was converted into a testing vessel and her pneumatic guns were removed. Sold for scrap in 1922.

**References:** DANFS, VII: 466; Neuhaus: 7.

### **Holdings:**

36 plans (1886-89) + 1 hull contract book  
FI L90.43.605-636, .1302-1305, .525

**Description:** Several drawings of inboard profiles and deck arrangements; numerous detail sketches of the quadrant, tiller, and sighting instruments; plans of the steering gear shaft, engine foundations, and gun supports.

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## Monmouth

Passenger Steamer (Hull 259)  
Dimensions: l. 260'; br. 35'; d. 14'  
Tonnage: 1440 gross  
Launch: 22 May 1888  
Owner: Central Railroad Company of New Jersey  
**Reference:** ABS 1891: 721.

### Holdings:

4 plans (1887)  
PMM 87.21.31a,b,c,d

**Description:** Outboard profile; lines; midship section; joiner plan.

---

## Iroquois

Passenger Steamer (Hull 260)  
Dimensions: l. 280'; br. 46'; d. 28'  
Tonnage: 2944 gross  
Launch: 29 September 1888  
Owner: William P. Clyde and Company  
**History:** Triple-expansion engines; 13 knots. The *Iroquois* was the first all-steel steamer built in the U.S. and the first to make practical use of triple-expansion engines. She was chartered by the Army for use as a troop transport during the Spanish-American War. In 1901, she was lengthened by 49 feet and her tonnage increased to 3602. Broken up in 1926.  
**References:** ABS 1891: 570; APS: 130.

### Holdings:

5 plans (1888)  
PMM 87.21.32a,b,c,d, .73b

**Description:** Outboard profile; lines; offsets; joiner plan.

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## Caracas

Passenger Steamer (Hull 262)  
Dimensions: l. 283'; br. 40'; d. 20'  
Tonnage: 2584 gross  
Launch: 29 May 1889  
Owner: Atlantic and Caribbean Steam Navigation Company  
**History:** 14 knots. She was lengthened by 28 feet in 1898 and her gross tonnage increased to 2886. Broken up in 1926.  
**References:** ABS 1891: 321; APS: 77.

### Holdings:

5 plans (1889)  
PMM 87.21.33a,b,c,d, .73c

**Description:** General arrangement; lines; midship section; scantling plan; offsets.

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## Venezuela

Passenger Steamer (Hull 263)  
Dimensions: l. 303'; br. 40'; dr. 27'  
Tonnage: 2843 gross  
Launch: 19 October 1889  
Owner: Atlantic and Caribbean Steam Navigation Company  
**History:** 13 knots. She was sold to the Navy for service as an auxiliary cruiser in April 1898 and renamed *Panther*. In 1902, she was designated as a training ship until she was laid up in 1903. The *Panther* was recommissioned as a repair ship for the North Atlantic Fleet in 1907. During World War I, she served as a destroyer tender at Brest. After the war, she was transferred to the Yangtze River Patrol in China. In 1922, she was sold to the Tioga Steel Company of Philadelphia and broken up the following year.  
**References:** ABS 1891: 923; APS: 77; DANFS, V: 210.

### Holdings:

2 plans (1889, 1916)  
FI L90.43.637-638  
1 plan (1889)  
PMM 87.21.34

**Description:** Lines; stability curve and cargo capacity plan.

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## Essex

Passenger Steamer (Hull 265)  
Dimensions: l. 259'; br. 40'; d. 30'  
Tonnage: 2531 gross  
Launch: 28 May 1890  
Owner: Merchants and Miners Transportation Company  
**History:** 15 knots. The *Essex* burned and sank at Baltimore in 1906. She was raised and subsequently lengthened. In 1931, the *Essex* ceased to carry passengers. She was sold to the White Pearl Shipping Company in 1941. Later that year, she was wrecked on Block Island, Rhode Island.  
**References:** ABS 1891: 443; APS: 127.

### Holdings:

4 plans (1889)  
PMM 87.21.35a,b,c,d

**Description:** Outboard profile; lines; scantling and joiner plan.

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## El Sol

Passenger Steamer (Hull 267)  
Dimensions: l. 397'; br. 48'; d. 24'  
Tonnage: 4523 gross  
Launch: October 1890  
Owner: Southern Pacific Steamship Company  
**History:** 15 knots. The *El Sol* was purchased by the Navy in April 1898 and renamed *Prairie*. She was converted into an auxiliary cruiser and served in Cuban waters. In 1917, she was converted into a destroyer tender for World War I. She was sold in 1923.  
**References:** ABS 1891: 416; DANFS, V: 366.

**Holdings:**

1 hull contract book  
FI L90.43.528

3 plans (1890)  
PMM 87.21.36a,b, .73d

**Description:** Inboard profile; lines; offsets.

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**Columbia**

Protected Cruiser (Hull 269)  
Dimensions: l. 413'; br. 58'; dr. 24'  
Tonnage: 7375 displacement  
Launch: 26 July 1892  
Owner: U.S. Navy

**History:** Triple screw; triple-expansion engines; 23 knots. The Navy wanted a cruiser that could go 23 knots, so a decision was made to use three screws instead of two, the first such arrangement in the U.S. Navy. She was designed to resemble a merchant ship because she was intended for use in commerce raiding. During the Spanish-American War and World War I, the *Columbia* served on patrol duty off the East Coast. In 1921, she was decommissioned, renamed *Old Columbia* and classified CA-16. Sold for scrap in 1922.

**References:** DANFS, II: 147; Neuhaus: 9-11, 17.

**Holdings:**

1 plan (1916) + 2 hull contract books  
FI L90.43.638, .529-530

**Description:** Altered stability curve.

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**Indiana**

Battleship (Hull 270)  
Dimensions: l. 350'; br. 69'; dr. 24'  
Tonnage: 10288 displacement  
Launch: 28 February 1893  
Owner: U.S. Navy

**History:** Twin screw; 15 knots. The *Indiana* was the first battleship built for the rehabilitated Navy. She first saw action in the Spanish-American War where she was part of Admiral Sampson's squadron which destroyed the Spanish armada. During World War I, she served as a training ship. Sold for scrap in 1924.

**Reference:** DANFS, III: 429.

**Holdings:**

1 plan (1907)  
FI L90.43.639

1 plan (1896)  
PMM 87.21.73e

**Description:** General arrangement of armor; offsets.

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**Columbia**

Steam Yacht (Hull 274)  
Dimensions: l. 194'; br. 24'; d. 14'  
Tonnage: 380 gross  
Launch: August 1893  
Owner: J. H. Ladew

**History:** 16 knots. She was purchased by the Navy in 1898 for use in the Spanish-American War and renamed the *Wasp*. During the war, she was engaged in the blockade and bombardment of Cuba. After the war, she was used as a training ship for various militias until she was called up again to patrol the Atlantic coast during World War I. In 1921, she was sold to H. P. Layton of Georgetown, Delaware.

**References:** AYL 1896; DANFS, VIII: 141.

**Holdings:**

1 hull contract book  
FI L90.43.532

4 plans (1894)  
PMM 87.21.37a,b,c,d

**Description:** General arrangement; outboard profile; lines; midship section.

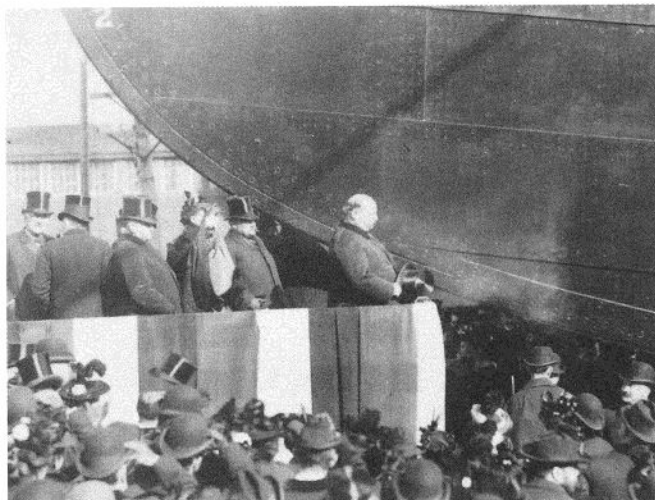
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**St. Louis**

Passenger Steamer (Hull 277)  
Dimensions: l. 535'; br. 63'; d. 50'  
Tonnage: 11629 gross  
Launch: 12 November 1894  
Owner: American Steamship Company

**St. Paul**

Passenger Steamer (Hull 278)  
Dimensions: l. 535'; br. 63'; d. 50'  
Tonnage: 11629 gross  
Launch: 10 April 1895  
Owner: American Steamship Company



Onlookers doff their hats to President and Mrs. Grover Cleveland at the christening of *St. Paul* (Hull 278), photograph by William H. Rau, 1894. PMM Collection (82.18.3).

**History:** The American Line wanted to purchase two foreign-built ships and register them under the American flag, which was not allowed by law. Congress passed a bill which allowed the two foreign ships to be registered, as long as two ships of equal size and speed were built in the United States. The ASC (now a subsidiary of the International Navigation Company) commissioned the *St. Louis* and the *St. Paul*, the first high-speed North Atlantic steamers to be built since the four Cramp-built vessels of the early 1870s. The two ships were built entirely of domestic materials, even though foreign material was less expensive. In this respect, they embodied features of a program long urged by Charles Cramp to strengthen the American shipbuilding industry. The two ships were powered by vertical inverted quadruple-expansion engines, the largest and most powerful marine engines yet built in the United States.

*St. Louis:* Twin screw; quadruple-expansion engines; 20 knots. An interesting note about the *St. Louis* was that she was christened by Mrs. Grover Cleveland, the President's wife. The *St. Louis* was acquired by the Navy as a scout cruiser for the Spanish-American War and fitted with huge drag lines in order to cut the undersea cables which connected Cuba to the outside world. After a successful Navy career, she returned to the American Line to resume passenger service between New York and Liverpool. When the First World War started, she was renamed *Louisville* and transported soldiers between the United States and France. After the war she returned to her owners, but as she was being refitted to carry passengers, she caught fire and was badly damaged. She was laid up in New York harbor until 1924, when she was towed to Genoa, Italy to be scrapped. Sister ship: *St. Paul*.

*St. Paul:* Twin screw; quadruple-expansion engines; 21 knots. In November 1899, Guglielmo Marconi made maritime history by installing the first wireless receiver aboard the *St. Paul* and establishing radio communication with a station on the Isle of Wight. The *St. Paul* was acquired by the Navy in 1898 for war duty as a scout cruiser and troop transport. After the Spanish-American War, she was returned to her owners to resume passenger service. During World War I, she was again

taken over by the Navy as a troop transport and commissioned as the *Knoxville*. After the war, she was returned to her former owners and renamed *St. Paul*. She continued transatlantic service until she was scrapped in Germany in 1923.

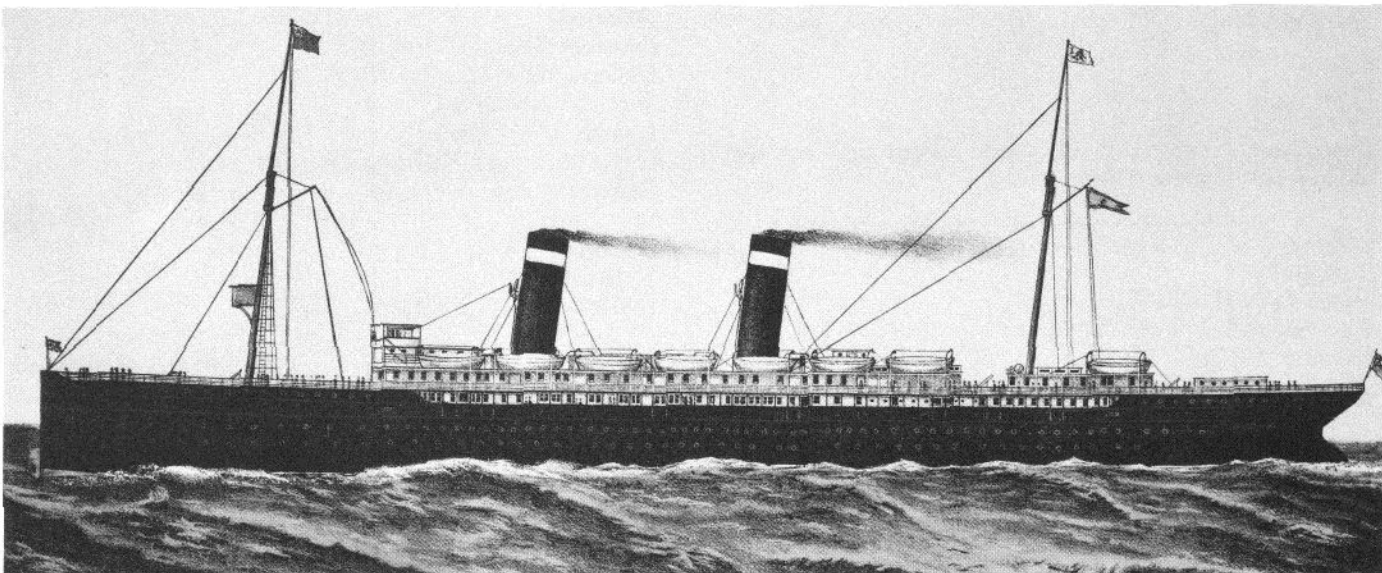
**References:** *St. Louis:* ABS 1896: 751; DANFS, VI: 244; APS: 22, 24; *Cramp's Shipyard 1830-1902:* 125-129. *St. Paul:* ABS 1896: 752; DANFS, VI: 252; APS: 22-24; NAS v.1: 598.

**Holdings:**

658 plans (1893-95, 1903, 1914-19) + 2 hull contract books  
FI L90.43.640-1202, .1206-1300, .533-534

Approximately 20 plans (1895)  
PMM 87.21.38a,b + 84.51

**Description:** One of the most complete project files in the collection and one of the most striking, the *St. Louis* and *St. Paul* drawings are notable for the large number of signatures that appear on the plans. Names of persons involved in supervising the construction process in some way included Lewis Lake, H. Fisher, E. Elmquist, Pauli, C. Platt, A. Aurelius, V. D. Lippe, and John H. Nilsson. Especially significant are the many plans for piping, including ventilation and water drainage. Also, there are numerous mechanical drawings detailing engines, boilers, and their placement within the ship. There are 4 folders (drawings #1-199) of plans which mainly describe the outfitting of the ship; 3 folders (#200-399) contain plans for the drainage and sanitation systems. Of special interest to social historians are the plans detailing "emigrant" areas, such as the water closets, lavatories, and cabin elevations showing passenger accommodations. There are 3 folders (#400-599) of hull outfitting plans, some of which show machinery and engine details. There are 9 folders (72" size) which contain drawings of hull plating, arrangement of pipes, machinery and joinery plans. Tube storage includes around 80 plans, mainly of structural diagrams showing engine and boiler foundations, piping and ventilation systems, plating diagrams and joinery work.



*St. Paul* (Hull 278), of the American Line, lithograph by Currier & Ives, c. 1895. PMM Collection (83.17.3).



## **Lebanon**

Collier (Hull 282)

Dimensions: l. 246'; br. 37'; d. 22'

Tonnage: 1486 gross

Launch: October 1894

Owner: Philadelphia and Reading Railroad Company

**History:** 9 knots. The *Lebanon* was purchased by the Navy in 1898 to help deliver coal to the American fleet fighting in the Spanish-American War. She continued to supply ships with coal until 1911, when she was assigned to tow targets for gunnery practice. During World War I, she helped supply ships with food and fuel. She was decommissioned in 1922.

**References:** ABS 1896: 580; DANFS, IV: 79.

### **Holdings:**

2 hull contract books

FI L90.43.532-533

1 plan (1894)

PMM 87.21.39

**Description:** Lines.

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## **Comanche**

Passenger Steamer (Hull 283)

Dimensions: l. 300'; br. 46'; d. 26'

Tonnage: 3202 gross

Launch: 22 August 1895

Owner: Clyde Steamship Company

**History:** Single screw; quadruple-expansion engines; 16 knots. The *Comanche* was the first Clyde steamer to use quadruple-expansion engines. She was the holder of a long-standing record from New York City to Charleston, of 41 hours, 30 minutes. She was used as a troop transport in the Spanish-American War and in World War I. Her career ended in October 1925, when she caught fire and sunk off Mayport, Florida.

**References:** ABS 1896: 341; APS: 130.

### **Holdings:**

1 plan (1916)

FI L90.43.2387

4 plans (1896)

PMM 87.21.40a,b,c, .73f

**Description:** Outboard profile; lines; offsets; deck arrangement; repair plan for rudder.

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## **Thespia**

Steam Yacht (Hull 284)

Dimensions: l. 179'; br. 23'; d. 13'

Tonnage: 312 gross

Launch: August 1895

Owner: David Dows, Jr.

**History:** *Thespia* was acquired by the Navy in the Spanish-American War, renamed *Hist* and used in the blockade of Cuba. Later, she was converted into a submarine tender. She was decommissioned in 1911 and sold shortly after.

**References:** ABS 1899: 951; DANFS, III: 335.

### **Holdings:**

3 plans (1895)

PMM 87.21.41a,b,c

**Description:** Detailed inboard profile showing cargo and boiler spaces and deck plans; rigging and docking plans.

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## **Curacao**

Passenger Steamer (Hull 285)

Dimensions: l. 241'; br. 38'; d. 16'

Tonnage: 1503 gross

Launch: December 1895

Owner: Boulton, Bliss, and Dallett

**Reference:** ABS 1899: 398.

### **Holdings:**

4 plans (1895)

PMM 87.21.42a,b,c,d

**Description:** Beautiful outboard profiles showing deck and rigging plans; inboard profile showing passenger and cargo space and deck machinery; lines.

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## **Tamaqua**

Ocean Tugboat (Hull 286)

Dimensions: l. 158'; br. 29'; d. 18'

Tonnage: 568 gross

Launch: January 1896

Owner: Philadelphia and Reading Railroad Company

**Reference:** ABS 1899: 943.

### **Holdings:**

4 plans (1896, 1900)

PMM 87.21.43a,b,c,d

**Description:** Outboard and inboard profiles; lines; detailed hull section.

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## **Atlanta**

Passenger Steamer (Hull 287)

Dimensions: l. 225'; br. 42'; d. 14'

Tonnage: 2095 gross

Launch: May 1896

Owner: Southern Railway Company

**Reference:** ABS 1899: 276.

### **Holdings:**

5 plans (1896)

PMM 87.21.44a,b,c,d,e

**Description:** Lines; outboard profile; deck plans; hull section; plan for cargo spaces designating areas for "white women," "colored women," "colored men," and "white men and crew."

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### **Pittsburgh**

Ferry Boat (Hull 289)  
Dimensions: l. 200'; br. 46'; d. 15'  
Tonnage: 1273 gross  
Launch: October 1896  
Owner: Pennsylvania Railroad Company  
**Reference:** ABS 1899: 831.

#### **Holdings:**

46 plans (1896) + 1 detail book  
FI L90.43.1306-1350, .2407

1 plan (1896)  
PMM 87.21.45

**Description:** Curves of form; lines; frame list; casting and forging plans; machinery diagrams; foundations for electric engines; plans for cabins and saloon; ornamentation diagrams.

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### **Kasagi**

Protected Cruiser (Hull 291)  
Dimensions: l. 374'; br. 48'; d. 30'  
Tonnage: 4760 displacement  
Launch: January 1898  
Owner: Imperial Japanese Navy  
**History:** Twin screw; triple-expansion engines; 22 knots.  
**References:** Jane 1905-06: 216; *Cramp's Shipyard 1830-1902*: 143-144.

#### **Holdings:**

1 plan (1898)  
FI L90.43.1351

1 plan (1898)  
PMM 87.21.46

**Description:** Lines; calculating department diagram of launch.

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### **Dorothea**

Steam Yacht (Hull 293)  
Dimensions: l. 183'; br. 23'; d. 13'  
Tonnage: 433 gross  
Launch: April 1898  
Owner: Thomas McKean  
**History:** The *Dorothea* was bought by the Navy in 1898 to patrol the waters between Key West and Cuba; then served with state militias until World War I, when she returned to patrol duty. Decommissioned in 1919 and sold shortly after.  
**References:** ABS 1899: 417; *DANFS*, II: 290.

#### **Holdings:**

4 plans (1898)  
PMM 87.21.47a,b,c,d

**Description:** Outboard profile; lines; midship section; joiner plan.

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### **Havana**

Cargo Steamer (Hull 294)  
Dimensions: l. 360'; br. 50'; d. 32'  
Tonnage: 5667 gross  
Launch: 1 October 1898  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 17 knots. The *Havana* was sold to the Panama Railroad Steamship Line in 1905 and renamed *Panama*. Collided with transport *Saratoga* off Staten Island, 1917. Renamed *Aleutian* in 1923 when she was sold to the Alaska Steamship Company. In 1929, she struck a rock in Uyak Bay, Alaska and sank.  
**References:** ABS 1901: 552; APS: 99, 119, 157.

#### **Holdings:**

4 plans (1897)  
PMM 87.21.48a,b,c,d

**Description:** General arrangement; outboard profile; lines; capacity plan.

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### **Admiral Dewey**

Passenger Steamer (Hull 296)  
Dimensions: l. 280'; br. 36'; d. 23'  
Tonnage: 2104 gross  
Launch: 18 August 1898  
Owner: American Mail Steamship Company  
**History:** 16 knots. *Admiral Dewey* was laid down as a naval dispatch ship for the Spanish-American War, but the war ended before her completion. Sold to the American Mail Steamship Company, then chartered to the Boston Fruit Company.  
**References:** ABS 1899: 214; APS: 100; *Bulletin*, August 19, 1898.

#### **Holdings:**

4 plans (1898-1900)  
PMM 87.21.49a,b,c,d

**Description:** General arrangement; lines; midship section; hydrostatics.

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### **Tugboat (Unidentified)**

#### **Holdings:**

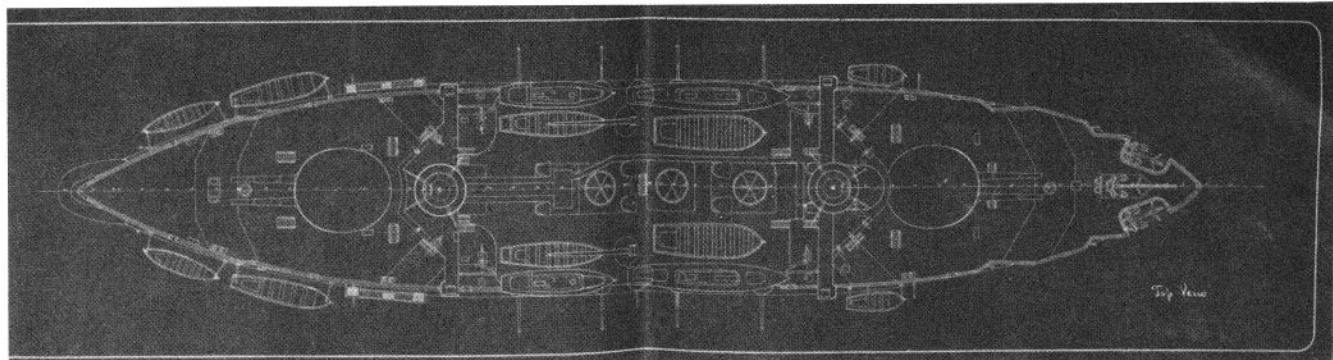
6 plans (1898-99, 1911)  
FI L90.43.1988-1993

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HULL N° 300  
IMPERIAL RUSSIAN BATTLESHIP

**RETVIZAN**

FIG. 2. 80  
THE W. S. CRAMP WORKS LTD. LTD.  
PHILADELPHIA, PA.



Plans for Retvizan (Hull 300), 1901. Blueprints were reproduced in booklets which could be folded to pocket size and carried to the construction site. PMM Collection (85.57.2).

### **Retvizan**

Battleship (Hull 300)  
Dimensions: l. 384'; br. 72'; dr. 24'  
Tonnage: 12750 displacement  
Launch: 1900  
Owner: Imperial Russian Navy

**History:** Twin screw; triple-expansion engines; 18 knots. In addition to supplying U.S. forces during the Spanish-American War, Cramp built warships for other countries in the race for sea power. Charles Cramp rationalized these commissions as an attempt on the part of the U.S. to claim a share of an international business then dominated by Britain, France, and Germany. The launch of the *Retvizan* made headlines in *Harper's Weekly* which ran a picture of the battleship being blessed by orthodox priests. Four years later, the *Retvizan* was torpedoed in the Russo-Japanese War.

**References:** *Bulletin*, April 20, 1927; 3 February, 1942. *Cramp's Shipyard 1830-1902*: 149-150.

#### **Holdings:**

1 plan (1900)  
FI L90.43.1352

1 plan (1902?)  
PMM 85.57.1-2

**Description:** Launching diagram.

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### **Variag**

Protected Cruiser (Hull 301)  
Dimensions: l. 400'; br. 52'; dr. 19'  
Tonnage: 6500 displacement  
Launch: 1900  
Owner: Imperial Russian Navy

**History:** Twin screw; triple-expansion engines; 23 knots.

**Reference:** *Cramp's Shipyard 1830-1902*: 151.

#### **Holdings:**

2 plans (1898-99)  
FI L90.43.1353-1354

**Description:** Lines; launching diagram.

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### **Morro Castle**

Passenger Steamer (Hull 303)  
Dimensions: l. 400'; br. 50'; d. 25'  
Tonnage: 6004 gross  
Launch: 14 April 1900  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 18 knots. *Morro Castle* rammed and sank the schooner *Pleiades* off the New Jersey coast in May 1904. Sold to the Walters Navigation Company in 1924; broken up in Italy, 1929.  
**References:** ABS 1903: 786; APS: 119.

#### **Holdings:**

112 plans (1898-1900, 1915) + 1 hull contract book  
FI L90.43.1355-1463, .2413-2415, .536

3 plans (1900)  
PMM 87.21.50a,b,c

**Description:** One folder (drawings #H, #2-71) contains a general plan and displacement scales; plans for the bunker and cargo capacity; curves of power and trial data; frame and beam lists; arrangement of steering gear; and boat davits. Another folder (#20-36) contain plans of the outboard and inboard profile and framing and bulkhead drawings. There are 4 folders (72" size) which hold inboard profiles; joiner and plating plans; skeleton of cargo ports; steering and derrick leads; docking and passenger plans.

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### **Sierra**

Passenger Steamer (Hull 304)  
Dimensions: l. 400'; br. 50'; d. 26'  
Tonnage: 6200 gross  
Launch: 29 May 1900  
Owner: Oceanic Steamship Company

**History:** Twin screw; triple-expansion engines; 17 knots. The *Sierra* sailed between San Francisco and Hawaii until 1915, when she was thoroughly overhauled and modernized. Transferred to Australian service until taken over by the Navy for use as a troop transport in 1918. Sold to Green Star Line for cargo service in 1919; resold to Polish American Navigation Corporation a year later. Renamed *Gdansk*, she brought refugees from Central Europe to the United States. Broken up in 1934. Sister ships: *Sonoma* and *Ventura*.  
**References:** ABS 1901: 917; APS: 37, 55, 59; DANFS, VI: 499.

#### **Holdings:**

1 plan (1900)  
PMM 87.21.51

**Description:** Outboard profile.

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### **Pontoon (Hull 307)**

Launch: 1901  
Owner: Brooklyn Dry Dock Company

#### **Holdings:**

2 plans (1899)  
FI L90.43.1464-1465

**Description:** Equivalent girder, showing stress curves.

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### **Caisson (Hull 308)**

Launch: 1901  
Owner: Boston Navy Yard

#### **Holdings:**

1 plan (1901)  
FI L90.43.1466

**Description:** Launch diagram.

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### **Esperanza**

Passenger Steamer (Hull 309)  
Dimensions: l. 341'; br. 47'; d. 16'  
Tonnage: 4702 gross  
Launch: 2 February 1901  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 16 knots. Wrecked off Tampico, Mexico, 1924. Sister ship: *Monterey*.  
**References:** ABS 1903: 479; APS: 119.

#### **Holdings:**

3 plans (1901)  
PMM 87.21.52a,b,c

**Description:** Inboard profile; lines; midship section.

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### **Kroonland**

Passenger Steamer (Hull 311)  
Dimensions: l. 560'; br. 60'; d. 21'  
Tonnage: 12760 gross  
Launch: 20 February 1902  
Owner: International Navigation Company

### **Finland**

Passenger Steamer (Hull 312)  
Dimensions: l. 560'; br. 60'; d. 21'  
Tonnage: 12760 gross  
Launch: 21 June 1902  
Owner: International Navigation Company

**History:** The *Kroonland* and her sister ship *Finland* belonged to a class of transatlantic steamers which were just as beautiful as the Ocean Greyhounds, but traveled at a slower speed. In addition to the first-class furnishings, these ships were also equipped with the latest safety features. They had eleven watertight bulkheads, and were designed to float with two of the compartments flooded. The two ships were the first to use extensive pneumatic riveting in their construction.

*Kroonland:* Twin screw; triple-expansion engines; 15 knots. She sailed between New York and Antwerp from 1902 until 1908, when she was registered under the Belgian flag. In 1914, she was registered under the American flag; transferred to Panama Pacific Line, then to the American Line in 1915. She was taken over by the Navy as a troop transport in 1918 and reacquired by the Red Star Line after the war. Transferred back to the American Line in 1923. The *Kroonland* was broken up in Genoa, Italy in 1927. Sister ship: *Finland*.

*Finland:* Twin screw; triple-expansion engines; 15 knots. Sailed between New York and Antwerp until 1908, when she was registered under the Belgian flag. In 1914, she was transferred to the Panama Pacific Line for service between New York and San Francisco. She was acquired by the Army as a troop transport in World War I and was torpedoed off the French coast in 1917. Resumed transport duty in April 1918. After the war, she was returned to the Red Star Line, then transferred to the Panama Pacific Line. Broken up in England in 1928.

**References:** *Kroonland:* ABS 1903: 675; DANFS, III: 678; APS: 25-26, 105; SNAME, *Historical Transactions*: 70. *Finland:* ABS 1903: 500; APS: 25-26, 105.

**Holdings:**

237 plans (1900-03) + 1 detail book  
 FI L90.43.1467-1698, .2408

3 plans (1902)  
 PMM 84.51.80-81, .83

**Description:** One of the largest project files in the Cramp records, this group testifies to the owner's desire to operate steamers that were both technically advanced and hand-somely fitted. One folder (drawings #47-176) contains elaborate plans of joinery work which reveal the richly decorated interior spaces. Another folder (#177-211, #H520-H763) has hull outfitting plans, including communication devices such as telegraphs, bell systems, and voice pipes. There are two folders which document the purchasing of equipment from outside suppliers. In this case, the supplier is the Hyde Windlass Company, Bath, Maine, which produced a steam brake windlass and other parts "for International Navigation Company steam ships." There are approximately 50 pieces (housed in the 72" drawer) which show structural elements such as pipes and ventilation. Of special interest is an out-board profile, dated 7 October 1902 (L90.43.1607) with handwritten notes indicating the number of passengers each ship could carry, divided into different classes: 1st class, 364; 2nd class, 190; 3rd class, 454; steerage, 884; and total officers and crew, 286. Finally, there are nearly 100 pieces stored in tubes. These consist primarily of cargo arrangements and designs for derricks and passageways.

**Apache**

Passenger Steamer (Hull 313)  
 Dimensions: l. 284'; br. 46'; d. 20'  
 Tonnage: 3378 gross  
 Launch: 30 March 1901  
 Owner: Clyde Steamship Company

**Arapahoe**

Passenger Steamer (Hull 314)  
 Dimensions: l. 284'; br. 46'; d. 20'  
 Tonnage: 3378 gross  
 Launch: 18 May 1901  
 Owner: Clyde Steamship Company

**Apache:** Single screw; triple-expansion engines; 15 knots. She was lengthened by 52 feet in 1902 and her tonnage increased to 4,145. In 1924, the *Apache* started New York-Miami service in response to a boom in the Florida tourist trade. She was laid up in 1927 and broken up the following year. Sister ship: *Arapahoe*.

**Arapahoe:** Single screw; triple-expansion engines; 15 knots. Enlarged in 1902. Broken up for scrap, 1928.

**References:** *Apache*: ABS 1903: 274; APS: 130. *Arapahoe*: ABS 1903: 276; APS: 130.

**Holdings:**

3 plans (1902, 1916)  
 FI L90.43.1699-1700, .2387

**Description:** Curves of form; lines; repair plan for rudder.

**Medjidia**

Protected Cruiser (Hull 315)  
 Dimensions: l. 330'; b. 42'; dr. 16'  
 Tonnage: 3300 displacement  
 Launch: 1903  
 Owner: Ottoman Navy (Turkey)  
**History:** Twin screw; triple-expansion engines; 22 knots.  
**Reference:** *Cramp's Shipyard 1830-1902*: 169-170.

**Holdings:**

3 plans (1902-03)  
 FI L90.43.1701-1703

**Description:** Body and lighting plan; dynamo room.

**Colonel E. L. Drake**

Oil Tanker (Hull 318)  
 Dimensions: l. 360'; br. 50'; d. 21'  
 Tonnage: 4205 gross  
 Launch: April 1903  
 Owner: Standard Oil Company  
**History:** The *Colonel E. L. Drake* was named after the driller of the first oil well in Pennsylvania.  
**Reference:** ABS 1905: 418.

**Holdings:**

1 plan (1903)  
 PMM 87.21.53

**Description:** Scantling plan.

**Huron**

Cargo Steamer (Hull 319)  
 Dimensions: l. 291'; br. 43'; d. 20'  
 Tonnage: 2949 gross  
 Launch: December 1902  
 Owner: Clyde Steamship Company  
**Reference:** ABS 1905: 620.

**Holdings:**

1 plan (1916)  
 FI L90.43.2387

**Description:** Repair plan for rudder.

**Mohican**

Cargo Steamer (Hull 329)  
 Dimensions: l. 237'; br. 40'; d. 19'  
 Tonnage: 2255 gross  
 Launch: September 1904  
 Owner: Clyde Steamship Company  
**Reference:** ABS 1905: 794.

**Holdings:**

1 plan (1916)  
 FI L90.43.2387

**Description:** Repair plan for rudder.

### **Chippewa**

Cargo Steamer (Hull 330)  
Dimensions: l. 275'; br. 40'; d. 19'  
Tonnage: 2696 gross  
Launch: May 1905  
Owner: Clyde Steamship Company  
Reference: ABS 1907: 415.

#### **Holdings:**

1 plan (1916)  
FI L90.43.2387  
  
1 plan (1905)  
PMM 87.21.69a

**Description:** Repair plan for rudder; mold loft offsets.

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### **Onondaga**

Cargo Steamer (Hull 331)  
Dimensions: l. 275'; br. 40'; d. 19'  
Tonnage: 2696 gross  
Launch: June 1905  
Owner: Clyde Steamship Company  
Reference: ABS 1907: 786.

#### **Holdings:**

1 plan (1916)  
FI L90.43.2387

**Description:** Repair plan for rudder.

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### **Merida**

Passenger Steamer (Hull 332)  
Dimensions: l. 400'; br. 50'; d. 17'  
Tonnage: 6207 gross  
Launch: 25 January 1906  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 17 knots. The *Merida* sank after colliding with the United Fruit steamer *Admiral Farragut* off Cape Charles, Virginia, in 1911. The wreck was said to have contained a large treasure of gold and jewels taken from Mexico during the Mexican Revolution. Sister ship: *Mexico*.  
References: ABS 1907: 733; APS: 119; *Bulletin*, August 18, 1960.

#### **Holdings:**

2 plans (1902, 1906)  
FI L90.43.1704-1705  
  
4 plans (1906)  
PMM 87.21.54a,b,c, .69b

**Description:** Launch diagram; general arrangement; lines; outboard profile; mold loft offsets.

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### **John Weaver**

Ice Breaker (Hull 333)  
Dimensions: l. 216'; br. 45'; d. 18'  
Tonnage: 1769 gross  
Launch: 1906  
Owner: City of Philadelphia  
Reference: MVUS 1913: 212.

#### **Holdings:**

3 plans (1905-06)  
FI L90.43.1706-1708  
  
1 plan (1906)  
PMM 87.21.69c

**Description:** Launch diagram; lines; mold loft offsets.

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### **Mexico**

Passenger Steamer (Hull 335)  
Dimensions: l. 400'; br. 50'; d. 17'  
Tonnage: 6207 gross  
Launch: 21 March 1906  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 17 knots. Sold to the Alaska Steamship Company in 1929, refitted, and renamed *Aleutian*. She was chartered by the Army as a troop transport, 1942-46. Acquired by the Hawaiian-Pacific Line in June 1953; sold to the Caribbean Atlantic Line in 1954, registered under the Liberian flag and renamed *Trade-wind*. Broken up in Belgium, 1956. Sister ship: *Merida*.  
References: ABS 1907: 736; APS: 119, 157.

#### **Holdings:**

4 plans (1906, 1915)  
FI L90.43.1709-1712

**Description:** Launch diagrams; plan for the arrangement of the radio house and veranda cafe; mechanical renovation of cargo hold proposed in 1915.

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### **Momus**

Passenger Steamer (Hull 338)  
Dimensions: l. 410'; br. 53'; d. 25'  
Tonnage: 6878 gross  
Launch: 31 July 1906  
Owner: Southern Pacific Steamship Company  
**History:** Single screw; triple-expansion engines; 17 knots. The *Momus* was among the finest ships sailing in the coast-wise trade. She had abundant facilities for handling cargo, such as cross hatches, side ports, and derricks. She was lighted by electricity and used artificial means of ventilation. In order to carry as much cargo as possible, passenger quarters were built on the main deck. The *Momus* sailed between New York and New Orleans until she was acquired by the Navy for service as a troop transport during World War I. Broken up for scrap in Japan, 1935. Sister ship: *Antilles*.  
References: ABS 1907: 744; APS: 140; *Bulletin*, July 31, 1906.

**Holdings:**

2 plans (1906)  
 FI L90.43.1713-1714

1 plan (1907)  
 PMM 87.21.70a

**Description:** Launch diagram; lines; mold loft offsets.

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**Antilles**

Passenger Steamer (Hull 339)  
 Dimensions: l. 410'; br. 53'; d. 25'  
 Tonnage: 6878 gross  
 Launch: 3 December 1906

Owner: Southern Pacific Steamship Company  
**History:** Single screw; triple-expansion engines; 17 knots. One of the largest coastwise ships of her day, the *Antilles* operated between New York and New Orleans. Taken over by the Army as a troop transport in 1917, she was struck by a torpedo off the coast of France and sank rapidly with a loss of nearly eighty lives. Sister ship: *Momus*.  
**References:** ABS 1908: 327; APS: 140; *Bulletin*, December 4, 1906.

**Holdings:**

1 plan (1906)  
 FI L90.43.1715

**Description:** Launch diagram.

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**Havana**

Passenger Steamer (Hull 340)  
 Dimensions: l. 413'; br. 50'; d. 17'  
 Tonnage: 6391 gross  
 Launch: 15 October 1906

Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 17 knots. Used as a troop transport during World War I, she was transferred to the Navy in 1917 for conversion into a hospital ship and renamed *Comfort* (AH-3). Repurchased by New York and Cuba Mail Steamship Company in 1927, she was refitted as a passenger liner and renamed *Havana*. In 1935, she struck a reef and after being towed to New York, she was renamed *Yucatan*. She was renamed *Agwileon* in 1941, used as a troop transport in World War II, and later converted into the hospital ship, *Shamrock*. Broken up in 1948. Sister ship: *Saratoga*.

**References:** ABS 1908: 576; APS: 119-20.

**Holdings:**

10 plans (1906-07, 1913-15)  
 FI L90.43.1716-1725

1 plan (1907)  
 PMM 87.21.69d

**Description:** Launch and bilging diagrams; arrangement of radio house and veranda cafe; joiner work, proposed in 1915; mold loft offsets.

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**Saratoga**

Passenger Steamer (Hull 341)  
 Dimensions: l. 413'; br. 50'; d. 17'  
 Tonnage: 6391 gross  
 Launch: 27 March 1907

Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; triple-expansion engines; 17 knots. The *Saratoga* was acquired by the Army in April 1917 for use as a troop transport during World War I. Three months later, she collided with the Panama Railroad steamer *Panama* off Staten Island. She was towed to Brooklyn, where she sunk at the dock. The *Saratoga* was raised by the Navy and converted into the hospital ship, *Mercy*. Broken up for scrap in Maryland in 1939.  
**References:** ABS 1908: 868; DANFS, IV: 331; APS: 119.

**Holdings:**

2 plans (1907, 1914)  
 FI L90.43.1726-1727

**Description:** Launch diagram; mechanical ventilation of cargo holds.

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**Massachusetts**

Cargo Steamer (Hull 342)  
 Dimensions: l. 375'; br. 54'; d. 31'  
 Tonnage: 4029 gross  
 Launch: 29 January 1907

Owner: New England Navigation Company  
**History:** Triple screw; steam turbine; 20 knots. The *Massachusetts* operated as a freighter for the New England Navigation Company until sold to the Maine Steamship Company in 1911 and converted into a passenger ship. A year later, she was transferred to the Eastern Steamship Corporation. As World War I approached, she was sold to the Navy for conversion into a minelayer and renamed *Shawmut*. In 1928, she was renamed *Oglala* and became the flagship of Mine Division One. Sunk at Pearl Harbor on December 7, 1941, the *Oglala* was refloated in 1942 and converted into a repair ship. Decommissioned in 1946 and sold to the U. S. Maritime Commission. Broken up in California, 1965. Sister ships: *Bunker Hill* and *Old Colony*.  
**References:** ABS 1908: 722; DANFS, V: 141; APS: 133, 137.

**Holdings:**

6 plans (1907, 1911)  
 FI L90.43.1728, .1730-1731, .1733-1735  
 1 plan (1907)  
 PMM 87.21.70b

**Description:** Launch diagrams; outboard profile; mold loft offsets; arrangement of 1st, 2nd, main, and saloon decks, proposed in 1911.

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Conversion of *Massachusetts* and *Bunker Hill* (Hulls 342, 343) into passenger steamers, photograph by J. S. Huse, 1911. FI Collection at PMM (L90.43.X34).

### ***Bunker Hill***

Cargo Steamer (Hull 343)  
 Dimensions: l. 375'; br. 52'; d. 31'  
 Tonnage: 4029 gross  
 Launch: 29 January 1907

Owner: New England Navigation Company

**History:** Triple screw; steam turbine; 20 knots. The *Bunker Hill* operated as a freighter until purchased by the Maine Steamship Company in 1911 and refitted into a passenger ship. Sold to the Navy for use in World War I, she was converted into a minelayer, and renamed *Aroostook*. At the end of the war, she was converted into an aircraft tender and served in the Pacific Fleet until 1931, when she was decommissioned. In 1943, she was acquired by the Army and renamed *Bunker Hill*. Sold to the Seven Seas Trading Company in 1946 and renamed *Lux*. Broken up in California, 1948. Sister ships: *Massachusetts* and *Old Colony*.

**References:** ABS 1908: 382; DANFS, I: 64; APS: 133, 137.

#### **Holdings:**

1 plan (1907)  
 FI L90.43.1729

**Description:** Launch diagrams.

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### ***Old Colony***

Cargo Steamer (Hull 344)  
 Dimensions: l. 375'; br. 52'; d. 31'  
 Tonnage: 4029 gross  
 Launch: 26 June 1907

Owner: New England Navigation Company

**History:** Triple screw; steam turbine; 20 knots. Originally, she was a cargo ship that was converted into a passenger ship in 1911. At the end of World War I, she was sold to the British Admiralty and converted into a hospital ship. Broken up in Germany in 1922. Sister ships: *Massachusetts* and *Bunker Hill*.

**References:** ABS 1908: 779; APS: 133, 137.

#### **Holdings:**

5 plans (1906, 1914)  
 FI L90.43.1732, .1736-1739

**Description:** Outboard and inboard profiles; lines; deck plans.

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## **Katahdin**

Cargo Steamer (Hull 345)

Dimensions: l. 275'; br. 40'; d. 19'

Tonnage: 2696 gross

Launch: 2 August 1906

Owner: Clyde Steamship Company

**History:** Triple-expansion engines; 12 knots. Coastwise ship built to replace the *Cherokee*.

**Reference:** ABS 1908: 650.

### **Holdings:**

67 plans (1906, 1916) + 1 hull contract book + 1 detail book

FI L90.43.1740-1805, .2387, .537, .2409

**Description:** Outboard and inboard profiles; engine foundations; good documentation of cargo space.

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## **South Carolina**

Battleship (Hull 346)

Dimensions: l. 452'; b. 80'; dr. 24'

Tonnage: 16000 displacement

Launch: 1 July 1908

Owner: U.S. Navy

**History:** Twin screw; triple-expansion engines; 18 knots. The *South Carolina* (BB-26), the first American dreadnought, sailed mainly in the Atlantic and Caribbean. Decommissioned in 1921 and sold for scrap in accordance with the Five Power Naval Limitation Treaty of Washington.

**References:** DANFS, VI: 559; *Bulletin*, April 16, 1927.

### **Holdings:**

1 plan (1909)

PMM 87.21.73g

**Description:** Mold loft offsets.

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## **Commonwealth**

Passenger Steamer (Hull 348)

Dimensions: l. 375'; br. 52'; d. 31'

Tonnage: 4029 gross

Launch: 9 October 1907

Owner: New England Navigation Company

**History:** Compound engines; 22 knots. The *Bulletin*, October 9, 1907, described her "as a floating palace, and all that is up-to-date and novel in the line of comfort and safety." Features included a double bottom, numerous watertight compartments, and extensive fire-fighting equipment. She was propelled by special feathered paddlewheels which were driven at a low number of revolutions to insure a smooth ride.

**References:** ABS 1908: 434; *Bulletin*, October 8, 9, 1907; SNAME, *Historical Transactions*: 127-131.

### **Holdings:**

2 plans (1906)

5 plans (1908)

FI L90.43.1806-1807

PMM 87.21.55a,b,c,d,e

**Description:** Outboard and inboard profiles; midship section; lines; curves of form.

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## **Mohawk**

Passenger Steamer (Hull 349)

Dimensions: l. 367'; br. 48'; d. 20'

Tonnage: 4623 gross

Launch: 28 July 1908

Owner: Clyde Steamship Company

**History:** Single screw; triple-expansion engines; 14 knots. The largest passenger and freight steamship built for the Clyde Steamship Company, she steamed between New York City, Charleston, and Jacksonville. Scuttled in the Delaware Bay after catching fire in 1925.

**References:** ABS 1909: 746; APS: 130; *North American*, July 29, 1908.

### **Holdings:**

2 plans (1907, 1916)

FI L90.43.1808, .2387

1 plan (1908)

PMM 87.21.56

**Description:** Lines; sheer draft; repair plan for rudder.

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## **Thrasher (G-4)**

Submarine (Hull 354)

Dimensions: l. 157'; b. 17'; dr. 10'

Tonnage: 360 displacement

Launch: 15 August 1912

Owner: U.S. Navy

**History:** 14 knots. The *Thrasher* was renamed G-4 prior to its launch. She was used mainly as a training ship for the submarine school and a testing ship for underwater sound experiments and torpedo firings. Decommissioned in 1919 and sold for scrap.

**Reference:** DANFS, III: 2.

### **Holdings:**

33 plans (1910-14) + 1 hull contract book + 1 detail book  
FI L90.43.1809-1841, .538, .2410

**Description:** This file contains details of mechanical and safety features including steering gear, a deep submergence gear, air supply for salvage purposes, installation of gyroscopic compass, and an emergency escape lock plan.

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## **Cyclops**

Collier (Hull 355)

Dimensions: l. 542'; b. 65'; dr. 27'

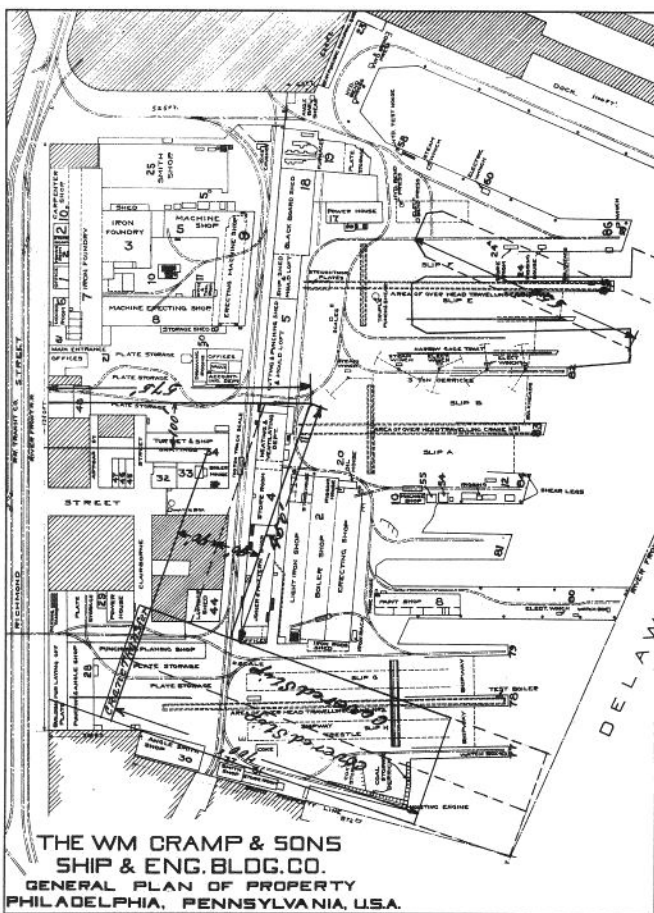
Tonnage: 19360 displacement

Launch: 7 May 1910

Owner: U.S. Navy

**History:** Twin screw; triple-expansion engines; 15 knots. After her launch, the *Cyclops* was assigned to the Naval Auxiliary Service, Atlantic Fleet to help fuel ships. Between 1917 and 1918, she served on the east coast fueling ships. On March 4, 1918, the *Cyclops* put to sea from Barbados and was never heard from again. Her disappearance remains one of the sea's unsolved mysteries.

**Reference:** DANFS, II: 226.



General plan of property for William Cramp & Sons yard, c. 1913, showing location of ship ways, foundries, and machinery shops. PMM Collection (82.140.69).

**Holdings:**

70 plans (1909-1911) + 1 hull contract book  
 FI L90.43.1842-1911, .539

**Description:** Numerous drawings of mechanical apparatus for handling coal such as gears, hatches, derricks, and cableway.

**Brooklyn**

Tugboat (Hull 369)  
 Dimensions: l. 91'; br. 24'; d. 12'  
 Tonnage: 191 gross  
 Launch: August 1910  
 Owner: New York Dock Company  
 Reference: ABS 1911: 350.

**Holdings:**

2 plans (1910)  
 PMM 87.21.57a,b

**Description:** General arrangement and curves of form.

**Santa Cruz**

Passenger Steamer (Hull 393)  
 Dimensions: l. 384'; br. 50'; d. 26'  
 Tonnage: 5082 gross  
 Launch: 16 November 1912  
 Owner: Atlantic and Pacific Steamship Company  
**History:** Single screw; triple-expansion engines; 10 knots. The *Santa Cruz* was the first Grace Line ship to sail under the American flag. In 1930, she was sold to the Bull Line and renamed *Barbara*. She was sunk by a torpedo off Santo Domingo in March 1942.  
 References: ABS 1914: 633; APS: 53, 80, 146.

**Holdings:**

1 plan (1913)  
 PMM 87.21.58

**Description:** Lines.

**Santa Clara**

Cargo Steamer (Hull 400)  
 Dimensions: l. 404'; br. 53'; d. 26'  
 Tonnage: 6309 gross  
 Launch: July 1913  
 Owner: Atlantic and Pacific Steamship Company  
**History:** Single screw; 12 knots. The *Santa Clara* carried freight between New York and San Francisco until she was chartered by the Army in 1917. A year later, she was returned to the Grace Line.  
 References: ABS 1914: 633; APS: 78; DANFS, VI: 320.

**Holdings:**

2 plans (1913)  
 PMM 87.21.59a,b

**Description:** General arrangement and lines.

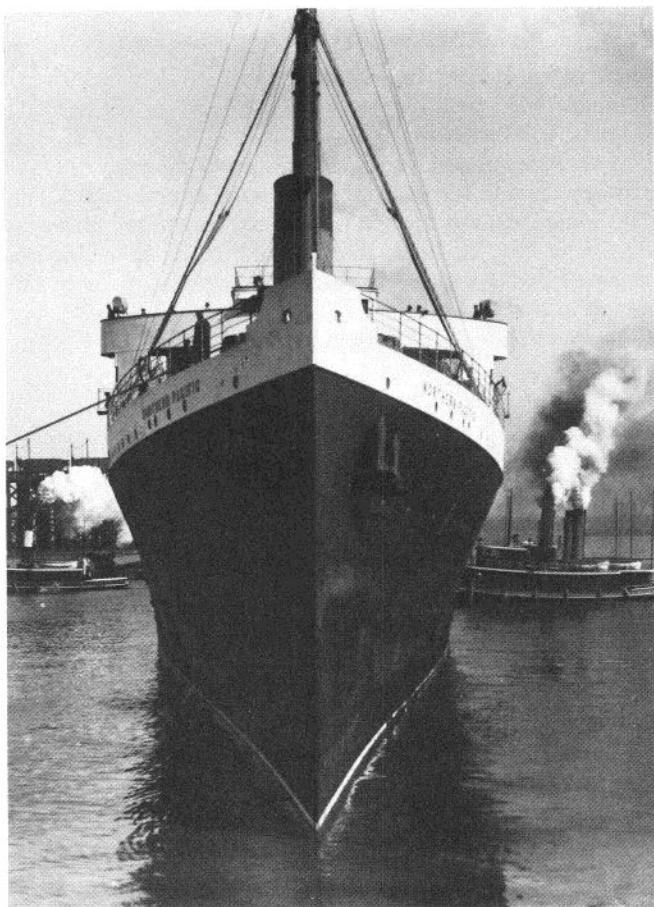
**Santa Catalina**

Passenger Steamer (Hull 401)  
 Dimensions: l. 404'; br. 53'; d. 26'  
 Tonnage: 6309 gross  
 Launch: September 1913  
 Owner: Atlantic and Pacific Steamship Company  
**History:** The *Santa Catalina* was purchased by the Navy in 1917, renamed *Black Hawk*, and converted into a destroyer tender where she operated as the flagship of the Mine Force. After the war, she was the flagship of the Operative Squadron, Destroyer Flotillas, Atlantic Fleet, and served in the Caribbean Ocean. In 1922, she was transferred to the Asiatic Squadron and served in the Far East for the next twenty years. Decommissioned in 1946.  
 References: ABS 1914: 632; DANFS, I: 128.

**Holdings:**

1 plan (1914)  
 FI L90.43.1912

**Description:** Steering gear.



Northern Pacific (Hull 408), docking after trial run, photograph, 1915. FI Collection at PMM (L90.43.X25).

### **Great Northern**

Passenger Steamer (Hull 407)

Dimensions: l. 509'; br. 63'; d. 21'

Tonnage: 8255 gross

Launch: 7 July 1914

Owner: Great Northern Pacific Steamship Company

### **Northern Pacific**

Passenger Steamer (Hull 408)

Dimensions: l. 509'; br. 63'; d. 21'

Tonnage: 8255 gross

Launch: 17 October 1914

Owner: Great Northern Pacific Steamship Company

**History:** The *Great Northern* and *Northern Pacific* were built for the Great Northern Pacific Steamship Company because the company wanted to compete against the established Pacific Coast Steamship Company for their service between Los Angeles and Portland. The company hoped to provide a fast rail and steamer connection to the south from their rail terminal in Seattle. The two sister ships were said to be the finest examples of ocean going express steamers ever built in the United States. Special attention was paid to safety. They had numerous watertight compartments and were equipped with the latest devices. Their interiors compared in comfort to the finest luxury hotels. An interesting note on the design of the hull is that they had the same lines as a yacht, which enabled them to achieve speeds of over 23 knots.

*Great Northern:* Triple screw; steam turbine engines; 23 knots. She steamed on the West Coast until she was transferred to Hawaiian service in March 1915. When the United States entered World War I, she was taken over by the Navy for use as a troop transport. As a transport, the *Great Northern* carried more troops per day, per 1000 tons, than any other transport. She was the premier ship in the transport service. In 1919, she was transferred to the Army and remained with them until August 1921, when she was recommissioned in the Navy as a miscellaneous auxiliary ship. At that time, she was renamed the *Columbia*. In March 1922, she was sold to the Admiral Line and renamed *H. F. Alexander*. This was the crowning achievement for the Admiral Line, which had to use considerable political pressure to purchase this ship. The Admiral Line had her completely overhauled, her speed was increased to 25 knots, and she became known as the "Galloping Ghost of the Pacific Coast" (APS, 160). Her regular run was between Seattle and San Francisco, a distance of 807 miles, which she could do in 39 hours, beating the railroad by 3 hours. In 1924, she set a record for this trip with a time of 37 hours, 13 minutes, almost 5 hours faster than the train. She was transferred to New York-Miami service in 1925 and the following year, she was chartered to the Clyde-Mallory Line. She was laid up at San Francisco in 1936 and three years later, she served as a floating hotel at the World's Fair. During World War II, the *H. F. Alexander* was taken over by the Army for use as a troop transport and renamed *George S. Simonds*. In March 1946, she was laid up at the James River. Two years later, she was broken up for scrap in Philadelphia. As the *Great Northern*, she set numerous speed records. She steamed from Honolulu to San Francisco, a distance of 2,091 miles, in 3 days, 18 hours, 20 minutes. She made a record round trip Atlantic crossing of 14 days, 4 hours, 30 minutes. She beat the *Leviathan* in a 3,200 mile race from Brest, France to the Ambrose Channel, New York by 3 hours. After she was overhauled in 1922, she set a new Atlantic crossing record of 12 days, 1 hour, 35 minutes. Many regarded her as one of the greatest ships to steam under the American flag. Sister ship: *Northern Pacific*.

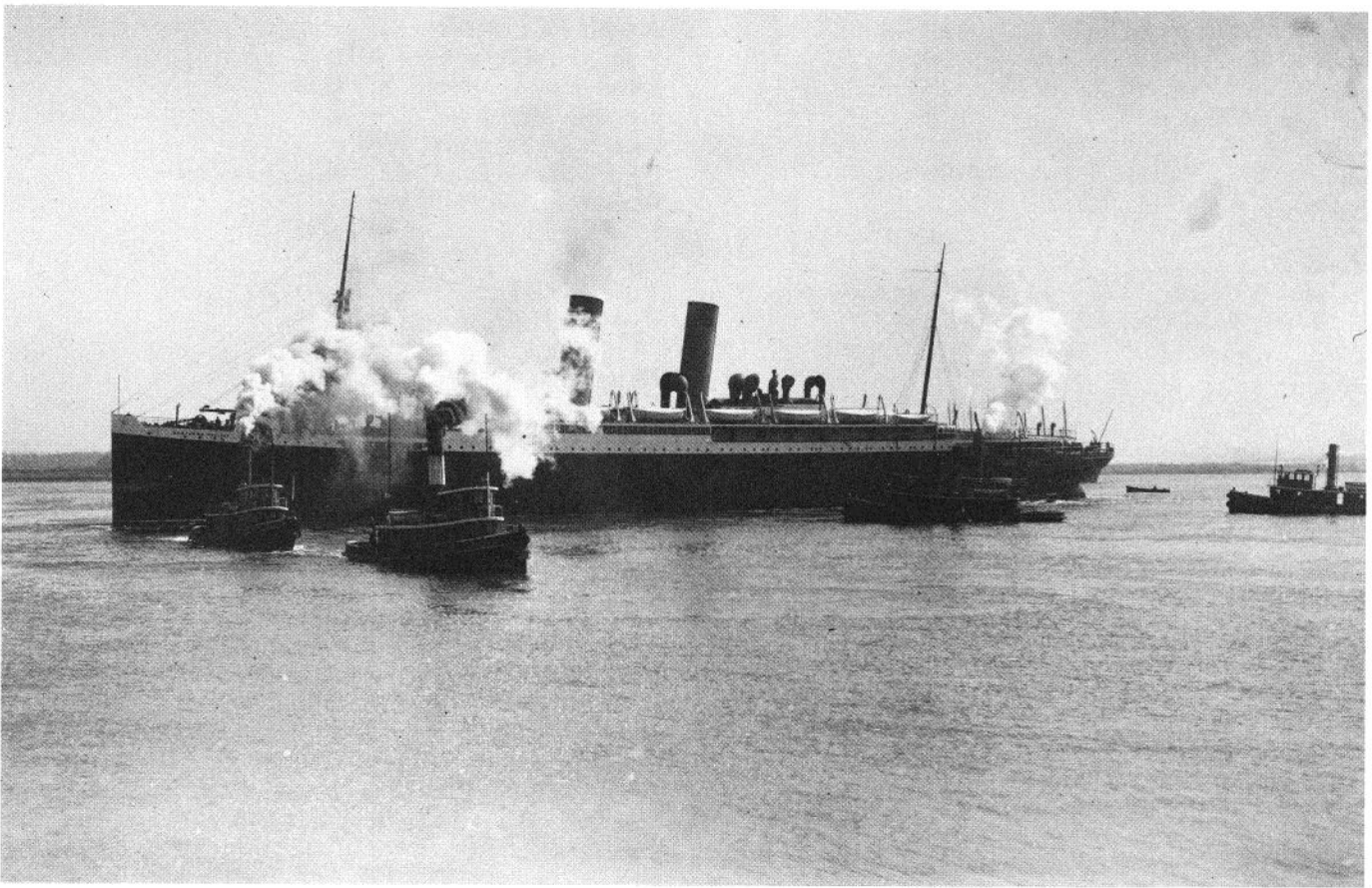
*Northern Pacific:* Triple screw; steam turbine engines; 23 knots. Served on the West Coast until acquired by the Navy for use as a troop transport in World War I. In February 1922, she was sold to the Pacific Steamship Company, but while being towed to their shipyard, she caught fire and sank off Cape May, New Jersey.

**References:** *Great Northern:* ABS 1916: 340; DANFS, III: 143; APS: 159-161; *Bulletin*, April 16, 1927. *Northern Pacific:* ABS 1916: 570; DANFS, V: 112; APS: 159-161; *Bulletin*, February 8, 1922; Romig, 1919.

### **Holdings:**

321 plans (1913-14) + 1 hull contract book + 1 detail book  
FI L90.43.2072-2386, .540, .2411

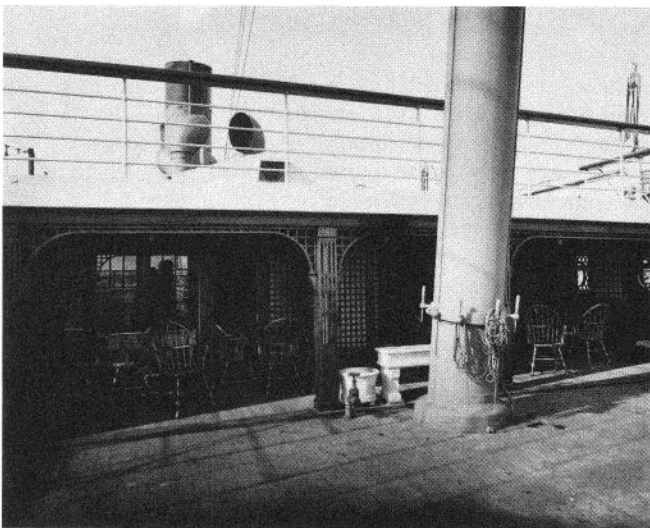
Approximately 10 plans (1913)  
PMM 87.21.60a,b + 84.51



Northern Pacific (Hull 408) on trial run, photograph, 1915. FI Collection at PMM (L90.43.X23).

**Description:** This project set offers an excellent representation of the ship interior as a living space. The plans are especially rich in views of the public areas, as illustrated by the fine ink-on-linen perspectives and details of joiner work for the dining saloon, smoking rooms, lounges, entry ways, and veranda deck, drawn by Harry B. Etter, delineator. In addition,

there are several kinds of plans which have not been much evidenced in the Cramp files before this time. They detail interior communications, lighting, refrigeration, and power systems.



Great Northern (Hull 407), photographs of interior, 1915. The project files for the Great Northern and her sister ship, Northern Pacific (Hull 408), document two of the most elegant American passenger ships then afloat. The veranda of the Great Northern offered an inviting array of comfortable chairs as did lounges below deck. To put anxious landlubbers at ease, the designers even installed a "window" looking out on a painted panorama of Glacier National Park. FI Collection at PMM (left, L90.43.X40; right, L90.43.X253).

### **Henry M. Flagler**

Railroad Car Ferry (Hull 421)  
Dimensions: l. 336'; br. 59'; d. 18'  
Tonnage: 2699 gross  
Launch: 1914  
Owner: Florida East Coast Railroad Company  
Reference: ABS 1916: 366.

#### **Holdings:**

69 plans (1912-14, 1917) + 1 hull contract book  
FI L90.43.1913-1981, .541

5 plans (1914)  
PMM 87.21.61a,b,c,d,e

**Description:** Several plans from the electrical department reflect the increasing use of mechanized equipment, the extension of lighting, refrigeration, and communication devices.

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### **Whileaway**

Steam Yacht (Hull 423)  
Dimensions: l. 166'; br. 24'; d. 9'  
Tonnage: 421 gross  
Launch: 1915  
Owner: Harry Payne Whitney  
Reference: ABS 1916: 823.

#### **Holdings:**

3 plans (1915-16)  
FI L90.43.1982-1984

**Description:** A plan for the alteration of the fuel oil tank reflects the advent of new forms of motive power.

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### **Submarine (Unidentified)**

#### **Holdings:**

1 plan (1915)  
FI L90.43.2389

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### **Jalisco**

Passenger Steamer (Hull 429)  
Dimensions: l. 304'; br. 45'; d. 22'  
Tonnage: 2585 gross  
Launch: February 1916  
Owner: Mexican Navigation Company  
Reference: ABS 1918: 375.

#### **Holdings:**

2 plans (1916)  
PMM 87.21.62a,b

**Description:** General arrangement and lines.

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### **Joseph R. Parrott**

Railroad Car Ferry (Hull 433)  
Dimensions: l. 336'; br. 59'; d. 18'  
Tonnage: 2406 gross  
Launch: 25 September 1916  
Owner: Florida East Coast Railroad Company  
Reference: ABS 1918: 394.

#### **Holdings:**

1 plan (1921)  
PMM 87.21.63

**Description:** General arrangement.

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### **Oriente**

Passenger Steamer (Hull 434)  
Dimensions: l. 423'; br. 60'; d. 23'  
Tonnage: 7653 gross  
Launch: 15 August 1917  
Owner: New York and Cuba Mail Steamship Company  
**History:** Twin screw; steam turbine engines; 17 knots. She was launched as the *Oriente* and renamed *Siboney* upon completion. Taken over by the Navy for use as a troop transport in 1918, she was returned to her former owners the following year. In 1941, she was taken over by the Army for use as a troop transport. Converted into an Army hospital ship in 1943 and renamed *Charles A. Stafford*. Broken up in 1957. Sister ship: *Orizaba*.  
References: ABS 1920: 735; APS: 120; DANFS, VI: 495.

#### **Holdings:**

1 plan (1918)  
PMM 87.21.71a

**Description:** Mold loft offsets.

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### **Santa Ana**

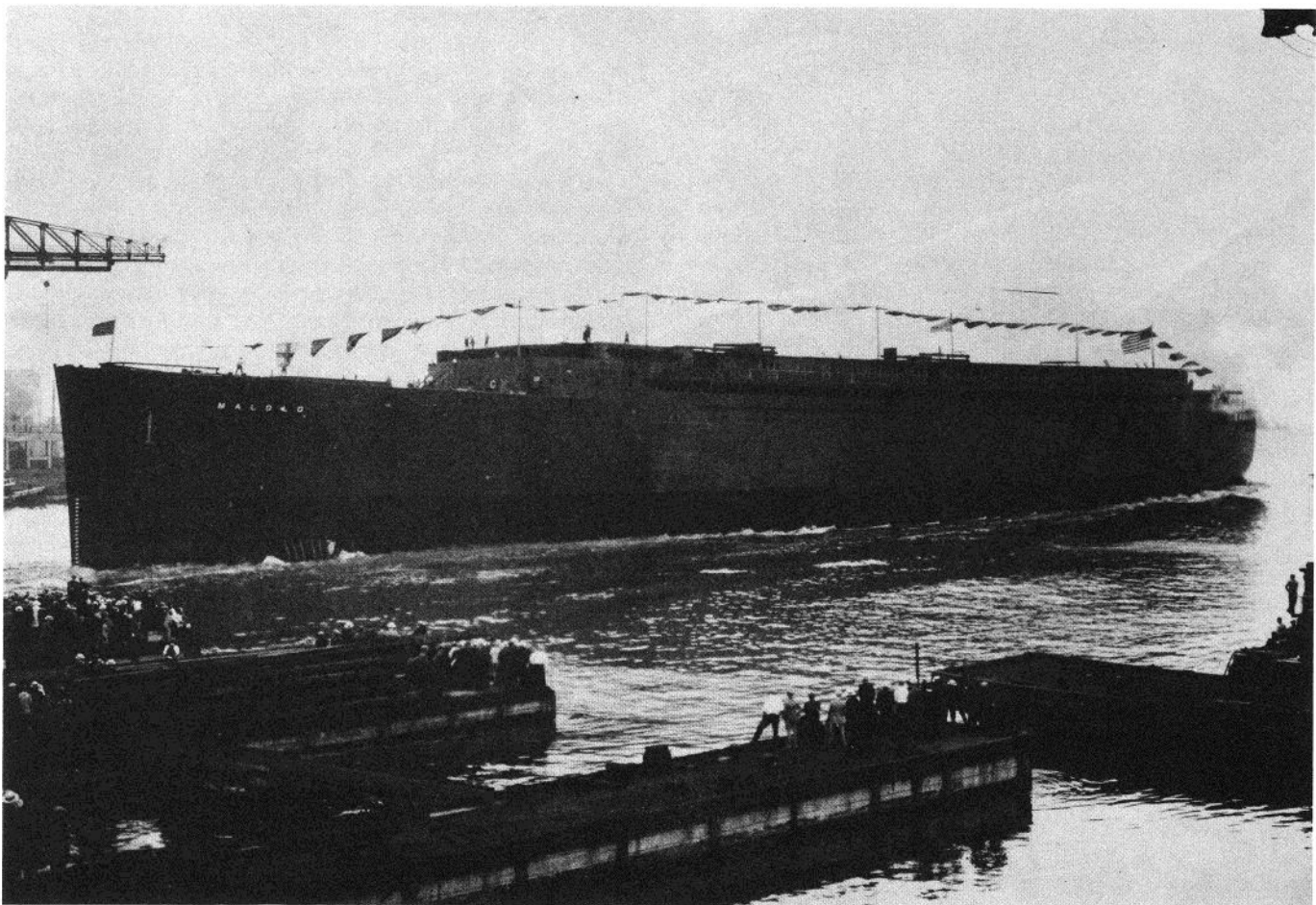
Passenger Steamer (Hull 442)  
Dimensions: l. 360'; br. 51'; d. 33'  
Tonnage: 4942 gross  
Launch: 13 October 1917  
Owner: W. R. Grace and Company  
**History:** Single screw; quadruple-expansion engines; 14 knots. Taken over by the United States Shipping Board upon her completion, she was used as a troop transport during World War I. After the war, she was returned to her former owners. In 1928, she was transferred to the Panama Mail Company and renamed *Guatemala*. Returned to Grace Line in 1931 and renamed *Santa Cecilia*. Broken up in 1943. Sister ships: *Santa Luisa* and *Santa Teresa*.  
References: ABS 1920: 714; APS: 80, 107, 128; DANFS, VI: 319.

#### **Holdings:**

3 plans (1918)  
PMM 87.21.64a,b, .71b

**Description:** General arrangement; lines; offset plans.

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Malolo (Hull 509), just after launch, photograph, 1926. The great liner was one of the last commissions completed before Cramp & Sons closed in 1927. AKM Collection at PMM (L90.42.255).

### **Cuba**

Passenger Steamer (Hull 505)  
 Dimensions: l. 325'; br. 47'; d. 18'  
 Tonnage: 2479 gross  
 Launch: April 1921  
 Owner: Peninsular and Occidental Steamship Company  
**References:** ABS 1922: 298; APS: 143.

### **Holdings:**

2 plans (1921)  
 PMM 87.21.65a,b

**Description:** Outboard profile; deck plans.

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### **Steel Motor Tug (Unidentified)**

### **Holdings:**

7 plans (1926)  
 FI L90.43.2392-2398

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### **Malolo**

Passenger Steamer (Hull 509)  
 Dimensions: l. 554'; br. 83'; d. 30'  
 Tonnage: 17232 gross  
 Launch: 26 June 1926  
 Owner: Matson Navigation Company

**History:** Twin screw; steam turbine engines; 21 knots. The *Malolo* was the first vessel built in the United States to incorporate into its design the full compliance with the specifications of the International Convention for Safety of Lives at Sea. The *Malolo* steamed between San Francisco and Honolulu until 1937, when she was renamed *Matsonia*. In 1941, she was taken over for service as a troop transport. She was sold to the Home Lines (Panama) in 1949 and renamed *Atlantic*. She was transferred to the National Hellenic American Line (Greece) in December 1954 and renamed *Queen Frederica*. She sailed with various companies until 1977, when she was sold for scrap.

**References:** ABS 1929: 593; APS: 59; PL: 66-67; GPSW, v.3: 70; *Public Ledger*, June 21, 1926.

### **Holdings:**

2 plans (1927)  
 PMM 87.21.66, .72

**Description:** General arrangement and offsets.

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## Yarmouth

Passenger Steamer (Hull 518)

Dimensions: l. 365'; br. 55'; d. 26'

Tonnage: 5045 gross

Launch: 6 November 1926

Owner: Eastern Steamship Company

**History:** Twin screw; steam turbine engines; 18 knots. The *Yarmouth* was taken over by the Army in 1942 for use as a troop transport in World War II. In 1954, she was sold to the Eastern Shipping Corporation and renamed *Yarmouth Castle*. Broken up in Greece in 1979.

**References:** ABS 1929: 1028; APS: 137.

### Holdings:

5 plans (1927)

PMM 87.21.67a,b,c,d,e

**Description:** Lines; inboard and outboard profiles; deck capacity and arrangement plans.

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## Evangeline

Passenger Steamer (Hull 524)

Dimensions: l. 365'; br. 55'; d. 26'

Tonnage: 5043 gross

Launch: 12 February 1927

Owner: Eastern Steamship Company

**History:** Twin screw; steam turbine engines; 18 knots. Chartered by the Clyde line for Miami-Havana service in 1928. In 1964, she was sold to Yarmouth Cruise Lines. Sank off Bahamas in 1965.

**References:** ABS 1929: 336; APS: 138.

### Holdings:

1 plan (1927)

PMM 87.21.68

**Description:** Cargo capacity plan.

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## Non-Cramp Ships

Documentation on hulls produced by other builders appear in these files for several reasons. First, when work on naval commissions slowed, the company filled in by taking on repairs and renovations. *Princess Anne* and *Allianca* were both refitted at Cramp in 1907. For the *Princess Anne*, there are 15 plans which describe the general arrangements, cargo handling gear, and hull outfitting. The *Allianca* was a lengthening project; this series of 30 plans contains numerous structural drawings, including a cutting plan of the shell.

The company also put draftsmen to work doing technical studies. The Franklin Institute files contain several dozen plans showing curves of form of Cramp hulls built between 1879-85, but drawn around 1915. Another interesting group consists of plans for equivalent girders for the cruisers *Yoshino*, *Olympia*, and *Edgar* drawn in 1898. These ships were produced by other builders and were evidently being examined in relation to cruisers designed at Cramp. There are also some documents from U.S. Navy battleships *New Mexico*, *Mississippi*, and *Idaho* and submarines *Perch*, *Pickrel*, and *Permit* (1931-4). These plans were made up as part of a naval modernization program. The submarines were launched in 1935.



# Photographs

The Cramp records assembled at PMM contain numerous photographs depicting activities in and around the shipyards from the late nineteenth century through World War II. These images provide an invaluable record of the industrial landscape and the changing technology of work. Like ship plans, photographs provide a record of building techniques employed by the company during an important period of innovation. They also offer revealing insights into the workers' experience and document social rituals such as christenings which surround the world of ships.

For an item list of contents of the following collections, complete with subject-accessing terms, see Gail E. Farr and Brett F. Bostwick, compilers, "William Cramp & Sons Ship and Engine Building Company, Philadelphia: Cumulative List of Photographs 1888-1927 in the Philadelphia Maritime Museum Library" (PMM, April 1991).

## Philadelphia Maritime Museum Collection

Approximately 300 images, 1890-1927, 1941-45.

The collection is made up of numerous pieces donated over the years from various sources. Among them are photographs of New Navy ships in the 1890s. The collection also includes a cache of about 200 photographs of the Cramp Shipbuilding Company during World War II. They include a group portrait of corporate officers at a banquet and a mural-size print of the *Delta*.

## Atwater Kent Museum Collection

PMM Library (L90.42.242-350)

108 images, 1888-c. 1927.

The emphasis of the AKM collection is on the design and construction of naval and passenger ships. Included are a panoramic view of the launch of the battleship *Maine* (2nd) in 1901; prints showing the launch of the dynamite cruiser *Vesuvius* and gunboat *Yorktown*, 1888; and views of fighting

ships of the world's navies taken by Philadelphia photographer J. W. Dawson, c. 1910-14. A series of 85 prints shows the construction of steamships for the William R. Grace & Company, World War I transports and destroyers, and details of work processes such as riveting and plating.

## The Franklin Institute Collection

PMM Library (L90.43)

Approximately 1480 images, c. 1900-1927.

This collection is made up of several parts:

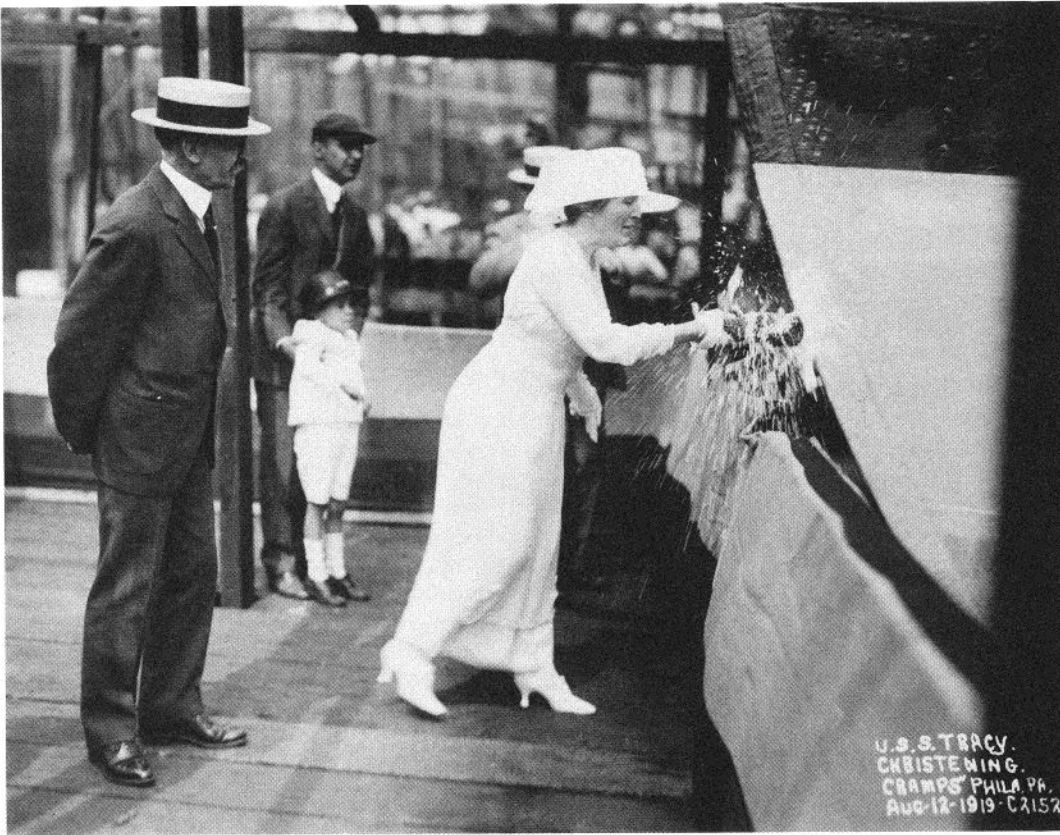
Series I is a set of 1142 original negatives taken by J. S. Huse and other photographers hired by William Cramp & Sons to document construction from c. 1905-1925. Although there are gaps in the files to indicate loss, the collection still provides remarkably detailed documentation of many ships under construction. It is believed that Cramp had these photographs made in order to satisfy contract requirements that shipbuilders supply proof of progress according to a specified timetable. As many as one-fourth of the images in the negative files detail the work of Cramp's subsidiaries including the I.P. Morris Company and other factories acquired around the turn of the century to produce engines and castings. The photographs detail the layout of the engine production areas, work processes, and products. Of special interest are depictions of various models of turbines around their time of introduction c. 1908-12. Documentation of the company's employment office and labor organization around the yard illuminate other facets of the Kensington firm.

Series II consists of miscellaneous small lots of prints and negatives which total around 335 images. Among the highlights are a series documenting reconstruction of the yards 1915-16; prints by J. W. Dawson depicting naval ships commissioned after 1900; and prints of ships built by the Cramp Shipbuilding Company during World War II. Another outstanding feature is an album of ship christenings 1920-23.

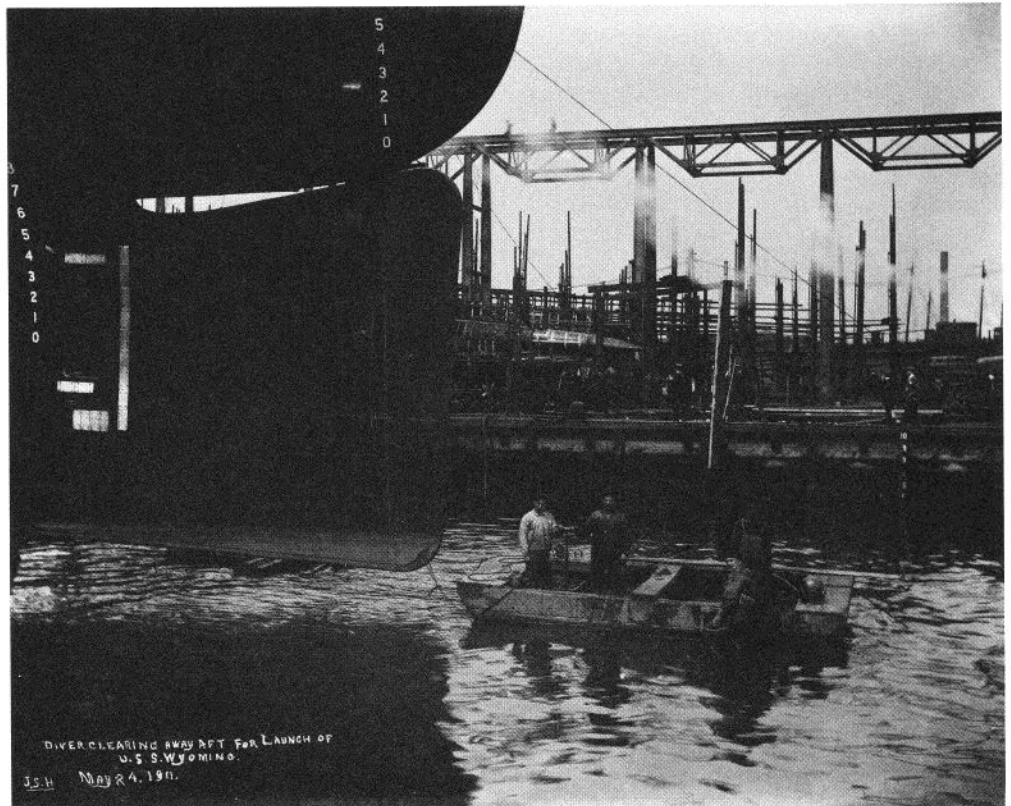


Workers outside the Cramp & Sons bureau of labor, Kensington, June 4, 1914. The photograph is reproduced from a series of glass-plate negatives taken in the early 1900s. The development of organized labor at Cramp is much deserving of systematic study. As this image suggests, the company attracted many wage-earners in search of work. FI Collection at PMM (L90.43.L27).





Christening of the destroyer Tracy, by her sponsor, Mrs. Elizabeth Whitney Cornell Tracy, photograph, August 12, 1919. FI Collection at PMM (L90.43.X65).



Diver clearing away aft for the launch of the battleship Wyoming (Hull 365), photograph by J. S. Huse, 1911. FI Collection at PMM (L90.43.L34).

# Checklist of Cramp Business Records in the PMM Library

Compiled by E. Ann Wilcox, Librarian

Housed in the Philadelphia Maritime Museum Library are approximately 12 linear feet of Cramp archival materials dating from 1872-1947, the majority of which cover the operation of the shipyard in the early part of the 20th century.

**Corporate Records:** 8 volumes of the minute books of the Board of Directors (1872-1932); copies of the by-laws (1895, 1903, 1910, and 1926); Executive Committee Members list (1895); orders of business (1895, 1917); stock ledgers #2 (1895-1920) and #3 (1903-1916); and annual reports (1940-1947, 1951).

**Books:** *Cramp's Shipyard, 1830-1910*; anniversary books containing brief histories of the shipyard as well as photos of ships (1893, 1892, 1894 and 1910 editions); 3 scrapbooks containing cuttings, pictures and articles about the shipyard (1919-1933, 1945-1947, 1945); notebook of Albert Day, foreman, which lists the hulls from #180-506; and 5 ledgers: Statistical Record of Cramp Vessels #186-337, Daily Record #1 (1891-1892), Director's Salaries (1895-1923), Index to Records of the Shipyard, and Contract Agreements #433-505 (1915-1920).

**Images of the Yard**—9 images of the shipyard: "Bird's-Eye View of Cramp's" (1892), View of Cramp Shipyard (1900), General Plan of Property (1913), Blueprint of Outside Plan (1916), Blueprint of Yard and Surrounding Area (1918), Aerial View of Yard (1919), Blueprint of Property (1922), Site and Building Plan (1923), and Photographic Renovation of the Yard (1940-1944).

**Operations Information**—wage scales (1914-1916); comparative statement of weekly payrolls (1918-1926); documents relating to earnings for departments, unpaid notes, list of pensions, insurance, property tax, expenditures, commitments (1925-1941); narrative notes on man hours, labor, and

costs (1943-1946); and a set of 6 photos of yard workers (1942-1945).

**Articles and Speeches on Shipbuilding**—over 20 articles and speeches such as "Shipbuilding on the Delaware" by Harry Mawson, a set of 5 papers written by Charles Cramp (1891-1894), and a pamphlet by H. B. Taylor for the Memorial Service of William Cramp entitled "I Build Men as well as Ships" (1941).

**I. P. Morris Company**—subsidiary of Cramp which built engines for the company's vessels from c.1891-1920s. PMM holdings include: Minute Book of the Board of Directors (1876-1912); by-laws (1892); Treasurer's Report (1901); listing of companies supplied with turbines and components (1904-1905); ledger containing monthly earnings, prospective business, estimated profits, losses and patent interference cases (1925-1941); and a standard contract.

**Book of Apprentices**, William Cramp & Sons, 1882-1919: Listed is the name of the apprentice, date service commenced, age, length of service, date service completed, and remarks. The entries are listed by trade: drawing room, machine shop, blacksmith shop, iron foundry, joiner shop, boiler shop. (FI)

**Clipping Files** (2.5 linear feet): collected by Theodore Ash, publicity director of the Cramp Shipbuilding Company, 1941-45. These include a miscellaneous lot of memoranda, press releases, news clips, and files of data on individual ships which Ash collected during his years at the yards. Of special interest is a run of correspondence and drafts pertaining to the safety manual revised by the company in 1942. Also included are loose folio pages from popular late nineteenth-century magazines containing articles and woodcuts about the company. (FI)

# Checklist of Art and Artifacts in the PMM Museum Collection

Compiled by Christine Mouw, Curatorial Assistant

The Philadelphia Maritime Museum holds the following paintings, prints, and models relating to the William Cramp & Sons Ship and Engine Building Company.

## General:

Steel engraving: "Wm. Cramp & Sons Ship and Engine Building Company," by John Lowell and Co., 1860. (83.47.1)

Colored engraving: "W. Cramp & Sons Ship & Engine Building Co. Philadelphia", 1872. (L926)

Woodcut engraving: "Construction of a fleet of Russian war-vessels . . .," by H. A. Ogden, 1878. (86.71.2)

Lithograph: View of Cramp shipyard, 1892. (1882)

Woodcut engraving: "Building a Great Ship," from *Harper's Weekly Magazine*, c. 1890. (85.4.9)

Chromolithograph of shipyard, by Century Lithograph Co., 1892. (91.2)

Watercolor: "Columbian Naval Review," by F. S. Cozzens, 1893. (85.91)

Photograph reproduction process print: "Bird's-Eye View of a Representative American Shipyard . . .," by F. Cresson Schell, 1894. (86.63.1)

Photograph reproduction process print: "The Building of a Great Ship at Cramp & Sons . . .," by F. Cresson Schell, c. 1895. (86.71.8)

Newspaper page: "Warship Building on the Delaware," *Harper's Weekly Magazine*, 2 April 1898. (79.38.12)

Wooden plaque: Name and motto of Cramp shipyard, n.d. (2125)

Metal plaque: "William Cramp & Sons' . . . Founded A.D. 1830," n.d. (596)

Reproduced drawing: "William Cramp & Sons Ship & Engine Building Co.: Philadelphia, January 1919 . . ." (698)

Map, Cramp Shipbuilding Company, 1942. (784)

Watercolor, Cramp Shipbuilding Company, Aerial view of graving dock and adjoining property, by Frede, c. 1942. (772)

Wooden half-models, Unidentified, n.d. (L90.42.2-3, 6-7)

#### Hulls:

**Isaac Jeanes** (Hull 66)  
Clipper card, c. 1860s. (90.38)

**Manitou** (Hull 72)  
Clipper ship card, c. 1855. (79.82.2)

**John Trucks** (Hull 75)  
Chromolithograph, by W. H. Rease, c. 1856-60. (85.53.2)

**New Ironsides** (Hull 108)  
Lithograph, by W. H. Rease, 1862. (77.26.1)  
Lithograph, by W. H. Rease, 1863. (85.100.10)

**Wyalusing** (Hull 113)  
Hand-colored lithograph, by Parsons/Endicott & Co., 1863. (87.35.22)

**Pennsylvania** (Hull 180)  
Wooden case, holding binoculars presented to captain of ship, 1872. (85.88)  
Woodcut engraving of launch, by Frank H. Taylor, 1872. (87.83.2)

**Ohio** (Hull 181)  
Oil on canvas, by D. C. Grose, 1874. (506)  
Watercolor and gouache, by E. Jennings, 1877. (1809)

**Reading** (Hull 186)  
Lithograph, n.d. (868)

**St. Paul** (Hull 197)  
Watercolor and ink on paper, 1876. (961)

**Europe/Asia** (Hull 200-1)  
Woodcut engraving: *Abfahrt der russischen Dampsschiffe Europa und Asia am Dezember*, 1878. (91.5.4)

**Russian Cruiser** (Hull 200-3?)  
Woodcut engraving of departure, 1879. (90.60.3)

**Corsair/Stranger** (Hulls 211-12)  
Woodcut engraving of launch, 1880. (90.13.5)  
Print, Currier & Ives, 1881. (749)  
Naval architect's drawing, by Frank B. King, n.d. (960)

**Tug** (Hull 237-8?)  
Half model, 1883. (1000)

**Philadelphia** (Hull 245)  
Oil painting, by A. Jacobsen, c. 1891. (2334)

**Baltimore** (Hull 254)  
Woodcut engraving of launch, by F. B. Schell, 1888. (79.38.19)  
Tin toy boat, c. 1918-25. (86.33)

**Vesuvius** (Hull 256)  
Watercolor and gouache, 1889. (941)  
Watercolor, by A. Operti, c. 1890. (965)

**Philadelphia** (Hull 257)  
Woodcut engraving: "Construction . . . at Cramp's Ship Yard", 1889. (91.13.4)

**Panther** (Hull 263)  
Oil on board, c. 1900. (79.37.2)

**New York** (Hull 268)  
Chromolithograph, by Burk & McFetridge Co., 1893. (87.35.108)  
Silk hat ribbon, c. 1900. (86.3.12)

**Columbia** (Hull 269)  
Silk hat ribbon, c. 1900. (86.3.15)

**Indiana** (Hull 270)  
Watercolor, by A. Operti, c. 1895. (963)  
Silk hat ribbon, c. 1900. (86.3.13)

**Minneapolis** (Hull 273)  
Woodcut engraving, by R. G. Skerrett and F. Cresson Schell, c. 1890. (87.35.57)

**Columbia** (Hull 274)  
Lithograph, by Koerner & Hayes, 1898. (1911)  
Wood engraving, by R. G. Skerrett and F. Cresson Schell, c. 1890. (87.35.57)

**Brooklyn** (Hull 275)  
Watercolor, by Albert Operti, c. 1895. (962)

**Iowa** (Hull 276)  
Chromolithograph, by Fred Pansing, 1898. (87.35.18)  
Silk hat ribbon, c. 1920. (86.3.10)

**St. Louis** (Hull 277)  
Reproduced print of launch of "Pioneer Ship of the New American Line," by F. Cresson Schell, 1894. (87.35.50)  
Oil painting, 1895. (1878)  
Silk hat ribbon, c. 1900. (86.3.4)

**St. Paul** (Hull 278)  
Lithograph, "The Magnificent Steamship St. Paul of the American Line," by Currier & Ives, c. 1895. (83.17.3)  
Silk hat ribbon, c. 1900. (86.3.3)

**Retvizan** (Hull 300)  
Photograph engraving of launch, 1900. (90.60.13)

**Variag** (Hull 301)  
Sketch of launch, 1899. (85.19)  
Blueprint, n.d. (87.23.6)

**Warships** (Hulls 302, 256, 268, 270)  
Commemorative plate showing *Maine*, *Vesuvius*, *New York*, *Indiana*, and *Nashville*. Sebring Pottery, c. 1900. (1889)

**Pennsylvania** (Hull 317)  
Invitation to launch, 1902. (1952)

**Asbury Park** (Hull 320)  
Wooden half-model, c. 1902. (L90.42.5)

**Wyoming** (Hull 365)  
Invitation to launch, 1911. (1953)

**Santa Cruz** (Hull 393)  
Wooden half-model, c. 1910. (L90.42.4)

**Malolo** (Hull 509)  
Wooden half-model, 1920s(?). (L90.42.1)

## Other Locations of Primary Sources

### National Archives and Records Administration

Washington, DC 20408

NARA maintains records of the U.S. Navy, among which are those relating to Cramp's contract work for the government. The **Military Reference Branch** provides access to naval textual records. Reports filed by Bureau of Ships officials based at the Cramp yards from c. 1890-1915 are described in Elizabeth Bethel et al., comps., *Records of the Bureau of Ships. Record Group 19* (1961). Photos of Navy ships are found in the **Still Pictures Branch**. The **Cartographic and Architectural Branch** has custody of approximately 50,000 original U.S. Navy plans for historical Navy ships in use from the 1790s to the 1920s. These holdings include plans for virtually all the Cramp ships from 1862-1927 appearing in "A Comprehensive List" (See following pages) for which the U.S. Navy is given as the owner, with the possible exception of naval barges. An old-fashioned card index made by the Navy years ago leads to file numbers indicating the arrangement of the plans. Each vessel must be researched individually by name of ship. NARA does not have plans of ships built during World II or later.

### Naval Historical Center

Building 57, Washington Navy Yard, Washington, DC 20374

In addition to its extensive holdings of books and serials, the Center maintains a collection of photographs of Navy ships.

### Mystic Seaport Museum

Mystic, CT 06355-0990

The **Ship Plans Collection** contains plans for the steam yachts *Corsair* (Hull 211) and *Whileaway* (Hull 423). Also included are blueprints for the Clyde Steamship Company's Ward Line consisting mainly of plans for machinery and engines for the *Chippewa*, *Iroquois*, *Mohican*, *Huron*, *George W. Clyde*, and *Philadelphia*. The **Museum Collection** has an array of nearly 100 half-models for Cramp hulls. Most were for merchant ships built around the turn of the century.

### The Mariners' Museum

100 Museum Drive, Newport News, VA 23606-3798

The Mariners' library has printed items relating to the Cramp yards. Of special interest are a set of plans for the *Alabama* issued by the company in 1900; a report by the U.S. Bureau of Construction and Repair on *General Construction of Naval Inspection under the Cognizance of the Bureau . . . at the Delaware Shipyards* (1913); and issues of the Cramp Shipbuilding Company's newsletter, *Cramp Ways*, for 1944-45.

### Hart Nautical Collections

The MIT Museum

265 Massachusetts Avenue, Cambridge, MA 02139

The Hart collection contains plans for the U.S. Navy collier *Cyclops* (1913). Body plans for approximately 20 commercial vessels built for the Grace, Merchants and Miners, and Matson lines from c. 1915-27, including the *Malolo* and *Yar-mouth*, are also found there.

### The Free Library of Philadelphia

Logan Square

Philadelphia, PA 19103

The Free Library contains a wealth of material for studying Cramp and other Philadelphia-area shipbuilders. The **Government Publications Department** houses U.S. census reports on manufacturing as well as studies by city and state agencies describing conditions in the industry. The **Newspaper Collection** has runs of Philadelphia newspapers together with indexes for the *Public Ledger* (1914-29) and the *Philadelphia Press* (1898-1912). The **Map Collection** contains insurance maps detailing the layout of the Cramp yards.

### Historical Society of Pennsylvania

1300 Locust Street

Philadelphia, PA 19107

HSP is also a source of newspapers and city directories. Another treasure is the earliest photograph of the Cramp shipyard located in the course of this project: a panoramic view of the launch of the U.S. cruiser *Chattanooga* in 1864.

### Temple University Urban Archives

Paley Library

Philadelphia, PA 19122

Those interested in the study of the Cramp company and the life surrounding the yards will want to consult the **clipping files** of the *Philadelphia Bulletin* (c. 1890-1960) which also contain pamphlets and annual reports. The **Photojournalism Collection**, comprising photographs from the *Bulletin*, *Inquirer*, and *Daily News*, contains approximately 200 black-and-white prints of Cramp c. 1920-45. The collection is particularly strong on photographs depicting the renovation of the Cramp yard in the early 1940s, wartime production, and morale-boosting activities for workers. Manuscript resources include minutes of the Pennsylvania Railroad subsidiary **American Steamship Company** (1871-1911).

### Hagley Museum and Library

P.O. Box 3630

Wilmington, DE 19807

Hagley's holdings on the Cramp yards consist primarily of printed histories issued by the company c. 1895-1915. Other resources on shipbuilding in the Delaware Valley include business records of Harlan & Hollingsworth, Wilmington (c. 1870-1926), containing minutes, cost books, specifications, and drawings; drawings and photographs (1859-1937) from another Wilmington shipbuilder, Pusey & Jones; and photographs (1918-82) from the Sun Shipbuilding & Dry Dock Company, Chester.

### Sources in Microfiche

Portions of The Franklin Institute's collection of Cramp plans are available in a microfiche edition distributed by CIS Academic Publications, Congressional Information Service, Inc., 4520 East-West Highway, Bethesda, MD 20814. They are described in Stephanie Morris, ed., *The Franklin Institute and The Making of Industrial America* (CIS, 1987).



Certificate for 10 shares of stock in the American Steamship Company, 1874. PMM Collection (82.139.4).

# William Cramp & Sons Ship and Engine Building Company

## A Comprehensive List of Ships Constructed, 1829-1927, Including Cramp Shipbuilding Company, 1941-1945

By Brett F. Bostwick and Merville Willis

This list is as complete as research allowed. It includes all ships which could be verified as William Cramp & Sons vessels in official registers from the early nineteenth century to 1927. It also includes the output of the Cramp Shipbuilding Company during World War II.<sup>1</sup>

The information is arranged in a column format beginning with hull numbers. Hull numbers were assigned to each ship that the company built and represent a kind of project

number. The numbers are unique, that is, Cramp gave only one number per ship. The date column represents the year the ship was launched, if known. Otherwise it is the year the keel was laid, or when the ship finally sailed. We tried to use the launch date whenever possible, but many of the earlier sources did not specify which date they used.

Any additional information that other researchers might add would be greatly appreciated. Enjoy the list!

Hull	Ship Name	Ship Type	Date	Hull	Ship Name	Ship Type	Date
?	<i>Elizabeth</i>	Sloop	1829	153	<i>City Ice Boat #2</i>	Sidewheel Ice Breaker	1867
?	<i>Lehigh</i> <sup>2</sup>	Towboat	?	158	<i>Ailanthus</i> * **	Sidewheel Steamer	1867
?	<i>Sampson</i> <sup>3</sup>	Steam Tugboat	1846	?	<i>Bessie Morris</i>	Wooden Schooner	1869
?	<i>Aspinwall</i>	Sidewheel Towboat	1847	?	<i>Clyde</i>	Iron Steamship	1870
?	<i>War Eagle</i>	Pungy	1848	161	<i>Verbena</i> * **	Sidewheel Steamer	1870
?	<i>Caroline</i>	Passenger Steamer	1849	179	<i>George W. Clyde</i> <sup>6</sup>	Cargo Steamer	1872
35	<i>Albatross</i>	Passenger Steamer	1849	180	<i>Pennsylvania</i> <sup>7</sup>	Passenger Steamer	1872
?	<i>Stilwell S. Bishop</i> <sup>4</sup>	Clipper	1851	181	<i>Ohio</i>	Passenger Steamer	1872
56	<i>Mount Savage</i>	Collier	1850	182	<i>Indiana</i>	Passenger Steamer	1873
57	<i>Locust Point</i>	Collier	1850	183	<i>Illinois</i>	Passenger Steamer	1873
58	<i>General Armero</i>	Passenger Steamer	1852	184	<i>Columbus</i>	Passenger Steamer	1873
59	<i>Carolina</i>	Passenger Steamer	1852	185	<i>Crescent City</i>	Passenger Steamer	1873
60	<i>Polynesian</i>	Passenger Steamer	1853	186	<i>Reading</i>	Collier	1873
61	<i>Underwriter</i>	Tugboat	1854	187	<i>Harrisburg</i>	Collier	1874
62	<i>Liberatador</i>	Gunboat	1859	188	<i>Lancaster</i>	Collier	1874
66	<i>Isaac Jeanes</i>	Sailing Clipper	1854	189	<i>Williamspport</i>	Collier	1874
67	<i>Morning Light</i>	Sailing Clipper	1853	190	<i>Allentown</i>	Collier	1874
68	<i>Chamberlin</i>	Sailing Clipper	1855	191	<i>Pottsville</i>	Collier	1874
71	<i>Bridgewater</i>	Sailing Clipper	1853	192	<i>South Carolina</i>	?	1874
72	<i>Manitou</i>	Sailing Clipper	1855	193	<i>Transit</i>	Ocean Tugboat	1884
75	<i>John Trucks</i>	Sailing Clipper	1855	194	<i>Stephens</i>	Tugboat	1874
85	<i>Alfonso</i>	Passenger Steamer	1857	195	<i>Terror</i> *	Monitor	1883
86	<i>Cardenas</i>	Passenger Steamer	1857	196	<i>Thomas A. Scott</i>	Passenger Steamer	1874
87	<i>Comanditaus</i>	Passenger Steamer	1858	197	<i>St. Paul</i>	Passenger Steamer	1875
88	<i>Maisi</i>	Passenger Steamer	1859	198	<i>William Cramp</i>	Tugboat	1877
92	<i>Mobile</i>	Passenger Steamer	1860	199	<i>Pioneer</i>	Tugboat	1878
93	<i>Carolina No. 2</i>	Passenger Steamer	1861	200	<i>Europe</i>	Corvette	1878
107	<i>Bahia Honda</i>	?	1862	201	<i>Blanche</i>	Tugboat	1878
108	<i>New Ironsides</i> *	Iron Clad Warship	1862	202	<i>State of California</i>	Passenger Steamer	1878
110	<i>John Rice</i> <sup>5</sup>	Passenger Steamer	1862	203	<i>Zabiaka</i>	Cruiser	1880
111	<i>Tonawanda</i>	Passenger Steamer	1862	204	<i>Asia</i>	Corvette	1879
112	<i>Thomas A. Scott</i>	Passenger Steamer	1863	205	<i>Africa</i>	Corvette	1879
113	<i>Wyalusing</i> *	Double-end Gunboat	1863	206	<i>Barcelona</i>	?	1879
118	<i>Charles Thomas</i>	Passenger Steamer	1863	207	<i>Chalmette</i>	Cargo Steamer	1879
119	<i>Yazoo</i> *	Monitor	1863	208	<i>Gratitude</i>	Passenger River Steamer	1880
121	<i>S. P. Chase</i>	Passenger Steamer	1863	209	<i>Confidence</i> <sup>8</sup>	Steam Tugboat	1880
126	<i>Chattanooga</i> *	Cruiser (Screw Steamer)	1864	210	<i>Josephine</i> <sup>9</sup>	Iron Schooner	1880
131	<i>E. C. Knight</i>	Passenger Steamer	1864	211	<i>Corsair</i> <sup>10</sup>	Steam Yacht	1880
132	<i>John Gibson</i>	Passenger Steamer	1864	212	<i>Stranger</i> <sup>11</sup>	Steam Yacht	1880
134	<i>Tonawanda No. 2</i>	Passenger Steamer	1863	213	Not Built	—	—
135	<i>Stanton</i> * **	Transport	1864	214	Not Built	—	—
136	<i>Welles</i> * **	Transport	1864	215	<i>Arthur</i>	Lighter	1880
137	<i>Porter</i> * **	Transport	1864	216	<i>Wilmington</i>	Passenger Steamer	1882
138	<i>Foote</i> * **	Transport	1864	217	—	Scow	1881
142	<i>Moneka</i>	Passenger Steamer	1864	218	<i>Caracas</i>	Passenger Steamer	1881
143	<i>Agnes</i>	Passenger Steamer	1865	219	<i>Cetus</i> <sup>12</sup>	Passenger Steamer	1881
147	<i>City Ice Boat #1</i>	Sidewheel Ice Breaker	1866	220	<i>Pegasus</i>	Passenger Steamer	1881
				221	<i>Perseus</i>	Passenger Steamer	1881

Hull	Ship Name	Ship Type	Date	Hull	Ship Name	Ship Type	Date
222	Taurus	Passenger Steamer	1881	291	Kasagi	Protected Cruiser	1898
223	Allegheny <sup>13</sup>	Cargo Steamer	1881	292	Miami	Passenger Steamer	1897
224	Berkshire	Passenger Steamer	1881	293	Dorothea <sup>23</sup>	Steam Yacht	1898
225	City of Puebla	Passenger Steamer	1881	294	Havana <sup>24</sup>	Passenger Steamer	1898
227	Queen of the Pacific	Passenger Steamer	1882	295	Mexico <sup>25</sup>	Passenger Steamer	1899
228	Valencia	Passenger Steamer	1882	296	Admiral Dewey <sup>26</sup>	Passenger Steamer	1898
229	—	Caisson	1881	297	Admiral Sampson	Passenger Steamer	1898
230	Tacoma <sup>14</sup>	Passenger Steamer	1882	298	Admiral Schley	Passenger Steamer	1898
231	San Pedro	Passenger Steamer	1882	299	Admiral Farragut	Passenger Steamer	1898
232	George W. Pride, Jr.	Tugboat	1882	300	Retvizan	Battleship	1900
233	Mariposa <sup>15</sup>	Passenger Steamer	1883	301	Variag	Protected Cruiser	1900
234	Alameda	Passenger Steamer	1883	302	Maine*	Battleship (BB-10)	1899
235	Atalanta	Steam Yacht	1883	303	Morro Castle	Passenger Steamer	1900
236	Kinau	Passenger Steamer	1883	304	Sierra	Passenger Steamer	1900
237	Hinton	Tugboat	1883	305	Sonoma <sup>27</sup>	Passenger Steamer	1900
238	Ivanhoe	Tugboat	1883	306	Ventura	Passenger Steamer	1900
239	San Pablo	Passenger Steamer	1884	307	—	Pontoon	1901
240	H. F. Dimock	Passenger Steamer	1884	308	—	Caisson	1901
241	Eureka	Cargo Steamer	1884	309	Esperanza <sup>28</sup>	Passenger Steamer	1901
242	El Paso	Cargo Steamer	1884	310	Monterey <sup>29</sup>	Passenger Steamer	1901
243	El Dorado	Cargo Steamer	1884	311	Kroonland <sup>30</sup>	Passenger Steamer	1902
244	Relief	Tugboat	1884	312	Finland	Passenger Steamer	1902
245	Philadelphia	Passenger Steamer	1885	313	Apache <sup>31</sup>	Passenger Steamer	1901
246	Peerless <sup>16</sup>	Steam Yacht	1885	314	Arapahoe	Passenger Steamer	1901
247	Mascotte	Passenger Steamer	1885	315	Medjidia	Protected Cruiser	1903
248	John King	Ferry Boat	1886	316	Colorado <sup>32*</sup>	Armor Cruiser (ACR-7)	1903
249	El Monte	Cargo Steamer	1886	317	Pennsylvania <sup>33*</sup>	Armor Cruiser (ACR-4)	1903
250	Cherokee <sup>17</sup>	Passenger Steamer	1886	318	Col. E. L. Drake	Oil Tanker	1903
251	Seminole	Passenger Steamer	1886	319	Huron	Cargo Steamer	1902
252	Herman Winter	Passenger Steamer	1886	320	Asbury Park	Passenger Steamer	1903
253	Olivette	Passenger Steamer	1887	321	Kiowa	Passenger Steamer	1903
254	Baltimore*	Protected Cruiser (C-3)	1888	322	Tennessee*	Armor Cruiser (ACR-10)	1904
255	Yorktown*	Gunboat No. 1	1888	323	M. S. Quay	Harbor-master's Tugboat	1903
256	Vesuvius*	Dynamite Gun Cruiser	1888	324	Transfer No. 16	Tugboat	1904
257	Philadelphia*	Protected Cruiser (C-4)	1889	325	Transfer No. 17	Tugboat	1904
258	Newark*	Protected Cruiser (C-1)	1890	326	Transfer No. 18	Tugboat	1904
259	Monmouth	Passenger Steamer	1888	327	Mississippi*	Battleship (BB-23)	1905
260	Iroquois	Passenger Steamer	1888	328	Idaho*	Battleship (BB-24)	1905
261	El Mar	Cargo Steamer	1889	329	Mohican	Cargo Steamer	1904
262	Caracas	Passenger Steamer	1889	330	Chippewa	Cargo Steamer	1905
263	Venezuela <sup>18</sup>	Passenger Steamer	1889	331	Onondaga	Cargo Steamer	1905
264	H. M. Whitney	Passenger Steamer	1890	332	Merida <sup>34</sup>	Passenger Steamer	1906
265	Essex	Passenger Steamer	1890	333	John Weaver	Ice Breaker	1906
266	Algonquin	Passenger Steamer	1890	334	Not Built	—	—
267	El Sol <sup>19</sup>	Passenger Steamer	1890	335	Mexico <sup>35</sup>	Passenger Steamer	1906
268	New York* <sup>20</sup>	Armor Cruiser (ACR-2)	1891	336	Transfer No. 19	Tugboat	1905
269	Columbia*	Protected Cruiser (C-12)	1892	337	Transfer No. 20	Tugboat	1905
270	Indiana*	Battleship (BB-1)	1893	338	Momus <sup>36</sup>	Passenger Steamer	1906
271	Massachusetts*	Battleship (BB-2)	1893	339	Antilles	Passenger Steamer	1906
272	Atlas	Floating Derrick	1892	340	Havana	Passenger Steamer	1906
273	Minneapolis*	Protected Cruiser (C-13)	1893	341	Saratoga <sup>37</sup>	Passenger Steamer	1907
274	Columbia	Steam Yacht	1893	342	Massachusetts <sup>38</sup>	Cargo Steamer	1907
275	Brooklyn*	Heavy Cruiser (CA-3)	1895	343	Bunker Hill <sup>39</sup>	Cargo Steamer	1907
276	Iowa*	Battleship (BB-4)	1896	344	Old Colony	Cargo Steamer	1907
277	St. Louis <sup>21</sup>	Passenger Steamer	1894	345	Katahdin	Cargo Steamer	1906
278	St. Paul <sup>22</sup>	Passenger Steamer	1895	346	South Carolina*	Battleship (BB-26)	1908
279	Not Built	—	—	347	Cyclops	Floating Derrick	1907
280	Not Built	—	—	348	Commonwealth	Passenger Steamer	1907
281	Not Built	—	—	349	Mohawk	Passenger Steamer	1908
282	Lebanon	Collier	1894	350	Smith*	Destroyer (DD-17)	1909
283	Comanche	Passenger Steamer	1895	351	Lamson*	Destroyer (DD-18)	1909
284	Thespia	Steam Yacht	1895	352	Warrington*	Destroyer (DD-30)	1910
285	Curacao	Passenger Steamer	1895	353	Mayrant*	Destroyer (DD-31)	1910
286	Tamaqua	Ocean Tugboat	1896	354	Thrasher (G-4)*	Submarine (SS-26)	1912
287	Atlanta	Passenger Steamer	1896	355	Cyclops*	Collier (AC)	1910
288	Hugh McCulloch\$	Revenue Cutter	1896	356	Isthmian	Dump Barge	1909
289	Pittsburgh	Ferry Boat	1896	357	Isthmian	Dump Barge	1909
290	Alabama*	Battleship (BB-8)	1898	358	Isthmian	Dump Barge	1909

Hull	Ship Name	Ship Type	Date	Hull	Ship Name	Ship Type	Date
359	Isthmian	Dump Barge	1909	424	Panama Canal*	Dump Barge #137	1915
360	Atlas	Derrick Barge	1909	425	Panama Canal*	Dump Barge #138	1915
361	Patterson*	Destroyer (DD-36)	1911	426	Panama Canal*	Dump Barge #139	1915
362	General George H. Weeks <sup>40</sup> **	Passenger Steamer	1910	427	Santa Barbara <sup>47</sup>	Cargo Steamer	1915
363	General S. B. Holabird**	Passenger Steamer	1910	428	J. M. Danziger	Tanker	1916
364	General D. S. Stanley**	Passenger Steamer	1910	429	Jalisco	Passenger Steamer	1916
365	Wyoming*	Battleship (BB-32)	1911	430	Coahuila	Passenger Steamer	1916
366	Isthmian	Dump Barge	1909	431	Sun Oil	Tanker	1916
367	—	Car Float	1910	432	Wm Rockefeller <sup>48</sup>	Tanker	1916
368	—	Car Float	1910	433	Joseph R. Parrott <sup>49</sup>	Railroad Car Ferry	1916
369	Brooklyn	Steam Tugboat	1910	434	Oriente <sup>50</sup>	Passenger Steamer	1917
370	—	Car Float	1910	435	Orizaba <sup>51</sup>	Passenger Steamer	1918
371	—	Car Float	1910	436	Conner*	Destroyer (DD-72)	1917
372	—	Car Float	1910	437	Stockton*	Destroyer (DD-73)	1917
373	—	Car Float	1910	438	Santa Rosa <sup>52</sup>	Passenger Steamer	1916
374	—	Car Float	1910	439	Santa Paula <sup>53</sup>	Cargo Steamer	1917
375	—	Car Float	1910	440	Harold Walker	Tanker	1917
376	—	Car Float	1911	441	William Green	Tanker	1917
377	—	Car Float	1911	442	Santa Ana <sup>54</sup>	Passenger Steamer	1917
378	Captain Collier	Oil Boat	1911	443	Santa Luisa <sup>55</sup>	Cargo Steamer	1918
379	Beale*	Destroyer (DD-40)	1912	444	Santa Olivia <sup>56</sup>	Cargo Steamer	1918
380	Cuba	Light Cruiser	1911	445	Charles H. Cramp#	Cargo Steamer	1920
381	Patria	Light Cruiser	1911	446	Santa Teresa <sup>57</sup>	Passenger Steamer	1918
382	Not Built	—	—	447	Santa Malta <sup>58</sup>	Cargo Steamer	1918
383	Aylwin*	Destroyer (DD-47)	1912	448	Richmond*	Light Cruiser (CL-9)	1921
384	Parker*	Destroyer (DD-48)	1913	449	Concord*	Light Cruiser (CL-10)	1921
385	Benham*	Destroyer (DD-49)	1912	450	Rathburne*	Destroyer (DD-113)	1917
386	Balch*	Destroyer (DD-50)	1912	451	Talbot*	Destroyer (DD-114)	1918
387	Lehigh Valley 765	Coal Barge	1912	452	Waters*	Destroyer (DD-115)	1918
388	Lehigh Valley 766	Coal Barge	1912	453	Dent*	Destroyer (DD-116)	1918
389	Lehigh Valley 767	Coal Barge	1912	454	Dorsey*	Destroyer (DD-117)	1918
390	Lehigh Valley 741	Coal Barge	1912	455	Lea*	Destroyer (DD-118)	1918
391	Lehigh Valley 740	Coal Barge	1912	456	Henry S. Grove#	Passenger Steamer	1920
392	Lehigh Valley 742	Coal Barge	1912	457	Tarbell*	Destroyer (DD-142)	1918
393	Santa Cruz	Passenger Steamer	1912	458	Yarnall*	Destroyer (DD-143)	1918
394	Govt. Barge 261	Barge	1912	459	Upshur*	Destroyer (DD-144)	1918
395	Govt. Barge 262	Barge	1912	460	Greer <sup>59</sup> *	Destroyer (DD-145)	1918
396	Govt. Barge 263	Barge	1912	461	Elliot*	Destroyer (DD-146)	1918
397	Govt. Barge 264	Barge	1912	462	Roper*	Destroyer (DD-147)	1918
398	Govt. Barge 265	Barge	1912	463	Breckenridge*	Destroyer (DD-148)	1918
399	Govt. Barge 266	Barge	1912	464	Barney*	Destroyer (DD-149)	1918
400	Santa Clara <sup>41</sup>	Cargo Steamer	1913	465	Blakeley*	Destroyer (DD-150)	1918
401	Santa Catalina <sup>42</sup>	Passenger Steamer	1913	466	Biddle*	Destroyer (DD-151)	1918
402	Santa Cecilia <sup>43</sup>	Cargo Steamer	1913	467	DuPont*	Destroyer (DD-152)	1918
403	Sacramento*	Gunboat No. 19	1914	468	Bernadou*	Destroyer (DD-153)	1918
404	O'Brien*	Destroyer (DD-51)	1914	469	Ellis*	Destroyer (DD-154)	1918
405	Nicholson*	Destroyer (DD-52)	1914	470	Cole*	Destroyer (DD-155)	1919
406	Winslow*	Destroyer (DD-53)	1915	471	J. Fred Talbot*	Destroyer (DD-156)	1918
407	Great Northern <sup>44</sup>	Passenger Steamer	1914	472	Chandler*	Destroyer (DD-206)	1919
408	Northern Pacific <sup>45</sup>	Passenger Steamer	1914	473	Southard*	Destroyer (DD-207)	1919
409	Naval Barge 267*	Barge	1913	474	Hovey*	Destroyer (DD-208)	1919
410	Naval Barge 269*	Barge	1913	475	Long*	Destroyer (DD-209)	1919
411	Naval Barge 270*	Barge	1913	476	Broome*	Destroyer (DD-210)	1919
412	Naval Barge 268*	Barge	1913	477	Alden*	Destroyer (DD-211)	1919
413	Naval Barge 271*	Barge	1913	478	Smith Thompson*	Destroyer (DD-212)	1919
414	Naval Barge 272*	Barge	1913	479	Barker*	Destroyer (DD-213)	1919
415	Naval Barge 273*	Barge	1913	480	Tracy*	Destroyer (DD-214)	1919
416	Naval Barge 274*	Barge	1913	481	Borie*	Destroyer (DD-215)	1919
417	Naval Barge 275*	Barge	1913	482	John D. Edwards*	Destroyer (DD-216)	1919
418	Naval Barge 276*	Barge	1913	483	Whipple*	Destroyer (DD-217)	1919
419	Conyngham*	Destroyer (DD-58)	1915	484	Parrott*	Destroyer (DD-218)	1919
420	Porter*	Destroyer (DD-59)	1915	485	Edsall*	Destroyer (DD-219)	1920
421	Henry M. Flagler <sup>46</sup>	Railroad Car Ferry	1914	486	MacLeish*	Destroyer (DD-220)	1919
422	Wilkes*	Destroyer (DD-67)	1916	487	Simpson*	Destroyer (DD-221)	1920
423	Whileaway	Steam Yacht	1915	488	Bulmer*	Destroyer (DD-222)	1920
				489	McCormick*	Destroyer (DD-223)	1920
				490	Stewart*	Destroyer (DD-224)	1920
				491	Pope*	Destroyer (DD-225)	1920



Hull	Ship Name	Ship Type	Date
492	Peary*	Destroyer (DD-226)	1920
493	Pillsbury*	Destroyer (DD-227)	1920
494	Ford*	Destroyer (DD-228)	1920
495	Truxtun*	Destroyer (DD-229)	1920
496	Paul Jones*	Destroyer (DD-230)	1920
497	Alameda*	Tanker (AO-10)	1919
498	Kaweah*	Oiler (AO-15)	1919
499	Laramie*	Oiler (AO-16)	1919
500	Mattole*	Oiler (AO-17)	1920
501	Trenton*	Light Cruiser (CL-11)	1923
502	Marblehead*	Light Cruiser (CL-12)	1920
503	Memphis*	Light Cruiser (CL-13)	1924
504	Estrada Palma <sup>60</sup>	Railroad Car Ferry	1920
505	Cuba <sup>61</sup>	Passenger Steamer	1920
506	—	Sand Barge #53	1922
507	—	Sand Barge #54	1922
508	—	Sand Barge #55	1922
509	Malolo <sup>62</sup>	Passenger Steamer	1926
510	—	Dump Barge	1926
511	—	Dump Barge	1926
512	—	Dump Barge	1926
513	—	Dump Barge	1926
514	—	Dump Barge	1926
515	—	Dump Barge	1926
516	—	Dump Barge	1926
517	—	Dump Barge	1926
518	Yarmouth <sup>63</sup>	Passenger Steamer	1926
519	—	Dump Scow	1926
520	—	Dump Scow	1926
521	—	Dump Scow	1926
522	—	Dump Scow	1926
523	—	Dump Scow	1926
524	Evangeline	Passenger Steamer	1927
525	—	Dredge	1926
526	—	Dredge	1926
527	—	Car Float	1926
528	—	Car Float	1926
529	—	Car Float	1926
530	—	Car Float	1926

## Cramp Shipbuilding Company World War II

Hull	Ship Name	Ship Type	Date
532	Miami*	Light Cruiser (CL-89)	1942
533	Astoria*	Light Cruiser (CL-90)	1943
534	Oklahoma City*	Light Cruiser (CL-91)	1944
535	Little Rock*	Light Cruiser (CL-92)	1944
536	Galveston*	Light Cruiser (CL-93)	1945
537	Youngstown*	Light Cruiser (CL-94)	N.C.
538	YR-29*	Floating Workshop	1941
539	YR-30*	Floating Workshop	1941
540	YR-31*	Floating Workshop	1941
541	YR-32*	Floating Workshop	1941
542	Moreno*	Ocean Tug (ATF-87)	1942
543	Narragansett*	Ocean Tug (AT-88)	1942
544	Nauset*	Ocean Tug	1942
545	Pinto*	Ocean Tug (AT-90)	1943
546	Seneca*	Ocean Tug (AT-91)	1943
547	Devilfish*	Submarine (SS-292)	1943
548	Dragonet*	Submarine (SS-293)	1943
549	Escolar*	Submarine (SS-294)	1943
550	Hackleback*	Submarine (SS-295)	1943
551	Lancetfish*	Submarine (SS-296)	1943
552	Ling*	Submarine (SS-297)	1943
553	Lionfish*	Submarine (SS-298)	1943
554	Manta*	Submarine (SS-299)	1943
555	Moray*	Submarine (SS-300)	1944
556	Roncador*	Submarine (SS-301)	1944
557	Sabalo*	Submarine (SS-302)	1944
558	Sablefish*	Submarine (SS-303)	1944
559	Trumpetfish*	Submarine (SS-425)	1945
560	Tusk*	Submarine (SS-426)	1945
561	Turbot*	Submarine (SS-427)	N.C.
562	Ulua*	Submarine (SS-428)	N.C.
563	Unicorn*	Submarine (SS-429)	N.C.
564	Vendance*	Submarine (SS-430)	N.C.
565	Walrus*	Submarine (SS-431)	N.C.
566	Whitefish*	Submarine (SS-432)	N.C.
567	Whiting*	Submarine (SS-433)	N.C.
568	Wolfish*	Submarine (SS-434)	N.C.
569	—*	Floating Workshop	1943
570	—*	Floating Workshop	1943
571	—*	Floating Workshop	1943
572	—*	Floating Workshop	1943
573	—*	Floating Workshop	1943
574	—*	Floating Workshop	1943
ALT	Hermitage*	Transport (AP-54)	1942
ALT	Delta*	Repair Ship (AR-9)	1943

\*-Built for U.S. Navy

\*\* -Built for U.S. Quartermaster's Department

\*\*\* -Built for U.S. Lighthouse Department

\$ -Built for U.S. Revenue Service

# -Built for U.S. Shipping Board

N.C. -Not Completed

ALT -Alteration to Vessel

## Notes

- <sup>1</sup> Many sources were used to compile the ship list. American Bureau of Shipping, *Record of American and Foreign Shipping* (New York: American Bureau of Shipping, annual), was established in 1867 to provide a standard American classification of vessels. It is also known as the "American Lloyd's," in reference to the prominent *Lloyd's Register*. The ABS register contains listings of almost all commercial ships, both foreign and domestic, which sailed in American waters. *Merchant Vessels of the United States* (Washington: Government Printing Office, annual), established in 1868, provides a list of all commercial marine vessels. It is divided into sections under the headings of sailing vessels, steam vessels, unrigged ships, and government vessels. This book is particularly helpful because it tells what the ship was used for. George H. Preble, *A Chronological History of the Origin and Development of Steam Navigation 1543-1882* (Philadelphia: L. R. Hamersly & Co., 1883), includes an appendix listing steam vessels built by Cramp, 1849-82. James L. Mooney, et al., eds., *Dictionary of American Naval Fighting Ships* (8 vols.; Washington: Naval Historical Center, 1959-81), was also invaluable.
- Some information came from the Cramp business papers, PMM. Especially helpful were William Cramp & Sons Ship and Engine Building Company, *Cramp's Shipyard, Philadelphia* (Philadelphia: various editions, 1895-1910); "List of Ships Built by William Cramp and Sons from Hull 180 and Up," a photostat of a list of hulls 180-582 compiled by "J. W./Hull Drawing Office"; a small 3-ring binder, approximately 100 pages, indexed, compiled by an unknown officer of the company, containing hull and engine numbers for naval and merchant ships, 1915-18. This latter source also contains the schedule of delivery for vessels, working schedules, contracts, costs of materials, technical data, financial statements and profiles of competitor shipbuilding firms across the U.S. Additional data were found in a bound notebook kept by Albert S. Day, foreman, William Cramp & Sons, containing a handwritten list of ships, their hull numbers (#180-506), and launch dates, 1872-1920. A list compiled by Cedric Ridgely-Nevitt, the Webb Institute of Naval Architecture, New York, includes hulls 180-524.
- <sup>2</sup> *Lehigh* was the first iron boat built by the Cramp shipyard.
- <sup>3</sup> *Sampson* was the first screw tugboat built in the United States.
- <sup>4</sup> Renamed *Grey Eagle* (1856).
- <sup>5</sup> *John Rice* was used as a transport in the Civil War. Renamed *Pioneer*.
- <sup>6</sup> *George W. Clyde* was the first ship with compound engines built in the United States.
- <sup>7</sup> Sister ships: *Illinois*, *Indiana*, and *Ohio*.
- <sup>8</sup> Renamed *Waban* (1898) and converted into Navy tugboat.
- <sup>9</sup> *Josephine* was the first iron sailing vessel built at Cramp.
- <sup>10</sup> Sister ship: *Stranger*.
- <sup>11</sup> *Stranger* was purchased by the Navy in 1898 for the Spanish-American War. Sister ship: *Corsair*.
- <sup>12</sup> Sister ships: *Pegasus*, *Perseus*, *Taurus*.
- <sup>13</sup> Sister ship: *Berkshire*.
- <sup>14</sup> Sister ships: *San Pedro* and *San Pablo*.
- <sup>15</sup> Sister ship: *Alameda*.
- <sup>16</sup> *Peerless* was one of the first ships with triple-expansion engines built in the United States.
- <sup>17</sup> Sister ship: *Alameda*.
- <sup>18</sup> *Venezuela* was sold to the U.S. Navy in 1898, converted into a destroyer tender (AD-6), and renamed *Panther*.
- <sup>19</sup> *El Sol* was sold to the U.S. Navy in 1898 and renamed *Prairie*, an auxiliary cruiser.
- <sup>20</sup> Renamed *Saratoga* (1911) and *Rochester* (1917).
- <sup>21</sup> *St. Louis* was chartered by the U.S. Navy in 1898 as an auxiliary cruiser. Used as a troop transport, 1918. Renamed *Louisville* (1918) and *St. Louis* (1920). Sister ship: *St. Paul*.
- <sup>22</sup> *St. Paul* was chartered by the U.S. Navy in 1898 as an auxiliary cruiser. Used as a troop transport (SP-1643) during World War I. Renamed *Knoxville* (1919) and *St. Paul* (1920). Sister ship: *St. Louis*.
- <sup>23</sup> *Dorothea* was purchased by the U.S. Navy in 1898 as a gunboat.
- <sup>24</sup> Renamed *Panama* (1905), *Aleutian* (1923). Sister ship: *Mexico*.
- <sup>25</sup> Renamed *Colon* (1905), *Yukon* (1923). Sister ship: *Havana*.
- <sup>26</sup> Sister ships: *Admiral Sampson*, *Admiral Schley*, and *Admiral Farragut*.
- <sup>27</sup> Sister ships: *Sierra* and *Ventura*.
- <sup>28</sup> Sister ship: *Monterey*.
- <sup>29</sup> Sister ship: *Esperanza*.
- <sup>30</sup> *Kroonland* (SP-1541) was acquired by the U.S. Navy in 1918 as a troop transport. Sister ship: *Finland*.
- <sup>31</sup> Sister ship: *Arapahoe*.
- <sup>32</sup> Renamed *Pueblo* (ACR-7) in 1916.
- <sup>33</sup> Renamed *Pittsburgh* (1912).
- <sup>34</sup> Sister ship: *Mexico*.
- <sup>35</sup> Renamed *Aleutian* (1929), *Tradewind* (1954). Sister ship: *Merida*.
- <sup>36</sup> Sister ship: *Antilles*.
- <sup>37</sup> *Saratoga* was converted into a hospital ship and renamed *Mercy* (AH-4) in 1917. Sister ship: *Havana*.
- <sup>38</sup> *Massachusetts* was converted into a minelayer in 1917 and renamed *Shawmut* (CM-4). Renamed *Oglala*, 1928. The *Oglala* was sunk at Pearl Harbor, 1941. Sister ships: *Bunker Hill* and *Old Colony*.
- <sup>39</sup> *Bunker Hill* was converted into a minelayer and renamed *Aroostook* (CM-3), 1917. Renamed *Bunker Hill* (1943), *Lux* (1946). Sister ships: *Massachusetts* and *Old Colony*.
- <sup>40</sup> Sister ships: *General S. B. Holabird*, *General D. S. Stanley*.
- <sup>41</sup> *Santa Clara* (SP-4523) was chartered by the Army in 1917 and used as a transport during World War I.
- <sup>42</sup> *Santa Catalina* was purchased by the U.S. Navy in 1917 and renamed *Black Hawk* (AD-9). She was converted into a destroyer tender.
- <sup>43</sup> *Santa Cecilia* (ID-4008) was converted into a troop transport by the U.S. Navy in 1919.
- <sup>44</sup> *Great Northern* (AG-9) was acquired by the U.S. Shipping Board in 1917 as a troop transport. Renamed *Columbia* (1921), *H. F. Alexander* (1922), and *General George S. Simonds* (1942), a hospital ship. Sister ship: *Northern Pacific*.
- <sup>45</sup> *Northern Pacific* was purchased by the U.S. Shipping Board in 1917 as a troop transport.
- <sup>46</sup> Sister ships: *Joseph R. Parrott* and *Estrada Palma*.
- <sup>47</sup> *Santa Barbara* was taken over by the Navy in 1918.
- <sup>48</sup> *William Rockefeller* was acquired by the U.S. Navy in 1918 and used as an oil tanker.
- <sup>49</sup> Sister ships: *Henry M. Flagler* and *Estrada Palma*.
- <sup>50</sup> The *Oriente* was renamed *Siboney* in 1918 when purchased by the U.S. Navy. Used as a troop transport during World War I, World War II. Renamed *Charles A. Stafford* (1944), a hospital ship. Sister ship: *Orizaba*.
- <sup>51</sup> *Orizaba* (SP-1536) was used by the U.S. Navy as a troop transport during World War I. During World War II, she was taken over by the U.S. Navy as the *Orizaba* (1941). Renamed *Duque de Caxias* (1945).
- <sup>52</sup> *Santa Rosa* was acquired by the Army in 1917 and used as a troop transport during World War I.
- <sup>53</sup> *Santa Paula* (SP-1590) was obtained by the U.S. Navy in 1918 as a cargo ship for World War I. Renamed *Montanan* (1925).
- <sup>54</sup> *Santa Ana* (SP-2869) was delivered to the U.S. Shipping Board and used as a troop transport during World War I. Renamed *Guatemala* (1928), *Santa Cecilia* (1931), *Irwin* (1936), *John L. Clem* (1941).
- <sup>55</sup> *Santa Luisa* (SP-2872) was delivered to the U.S. Shipping Board in 1918 as a cargo carrier for World War I. Renamed *El Salvador* (1928), *Santa Ana* (1931), *Mount McKinley* (1936).
- <sup>56</sup> *Santa Olivia* (SP-3125) was obtained by the Navy upon its completion and used as a cargo ship during World War I.
- <sup>57</sup> *Santa Teresa* (ID-3804) was acquired by the U.S. Shipping Board in 1918 as a troop transport during World War I. Renamed *Kent* (1936), *Ernest Hinds* (1941), *Kent* (1941), and *Ernest Hinds* (1942).
- <sup>58</sup> *Santa Malta* (SP-3125a) was delivered to the U.S. Shipping Board upon its completion in 1918 and used as a troop transport. Renamed *Hawaiian* (1925).
- <sup>59</sup> *Greer* is said to have delivered the first shots by American forces in World War II: on September 4, 1941, she fired at a German submarine.
- <sup>60</sup> Sister ships: *Henry M. Flagler* and *Joseph R. Parrott*.
- <sup>61</sup> Renamed *Pace* and *Sassari*.
- <sup>62</sup> Renamed *Matsonia* (1937), *Atlantic* (1949), and *Queen Frederica* (1954).
- <sup>63</sup> Sister ship: *Evangeline*.

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There is at present no full-length scholarly monograph on the William Cramp & Sons company or its successor, the Cramp Shipbuilding Company. Information in this guide has been drawn from the sources described in the preceding pages and in the following printed materials. Originals or photocopies of many of these items are available in the PMM Library.

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