

# Navy Yards

View of the Philadelphia Navy Yard at Southwark from the west (facing the Delaware River) showing the Ship House (at left), the Frigate House (center), and boat and spar shed (at right), late 1875. The Ship House and Frigate House were torn down beginning within days of this photograph having been taken when the yard was relocated to League Island, two miles downriver (Henry M. Vallette. History and Reminiscences of the Philadelphia Navy Yard (The Fourth Paper), *Potter's American Monthly*, Volume VI, No. 52, April 1876, p 256-260). An illustration of this photograph was published in Vallette's article, p 256. NH 1587 courtesy of Naval History and Heritage Command.

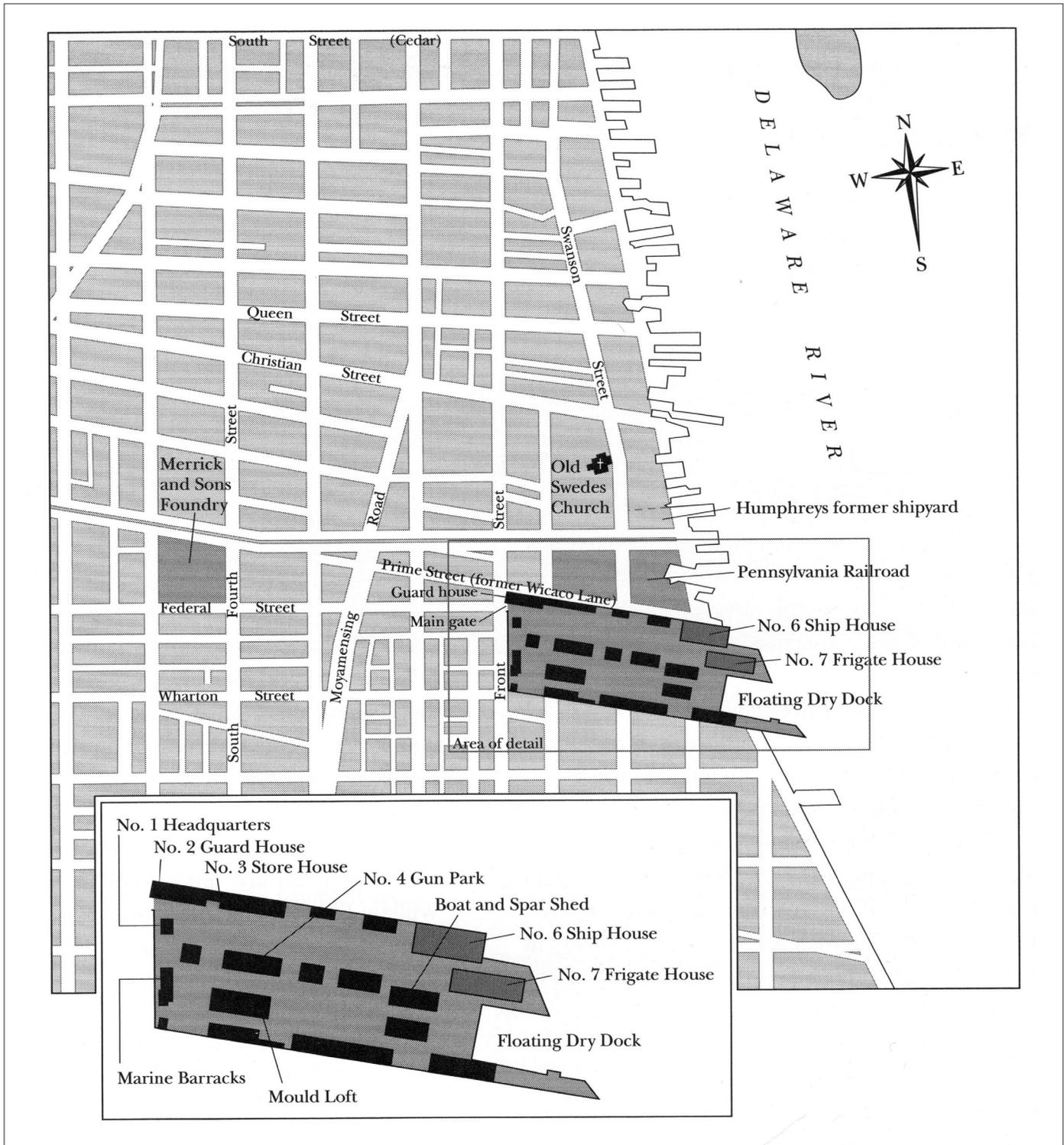


## Philadelphia Navy Yard

By Gary McQuarrie

**THE FIRST U.S. NAVY YARD**, established in 1800, was located at the foot of Federal Street in the neighborhood of Southwark, along the Delaware River, in Philadelphia. Shipwright Joshua Humphreys was appointed in late June 1794 as constructor or master builder of a 44-gun frigate to be built at Philadelphia, and the government named the frigate laid down on the stocks of his shipyard, *United States*, leading many to refer to the facility as the “United States Ship-Yard” and

making it appear that his shipyard was the official U.S. government navy yard.<sup>1</sup> In 1798, the first Secretary of the Navy Benjamin Stoddert asked Humphreys to assist with cost estimates and a plan to construct a 74-gun ship as part of a dozen such vessels to make the U.S. a naval power.<sup>2</sup> Humphreys lobbied to make Philadelphia a premier site among others for a navy yard given its location, shipbuilding experience, freshwater anchorage, necessary supplies of workers, and access to natural resources.<sup>3</sup>



Map showing location of Philadelphia Navy Yard in the Southwark neighborhood on the Delaware River and inset showing the ship houses and other facilities located in the yard during 1801-1875. In addition to the two ship houses, the yard contained a sectional floating dry dock and nearly fifty craft shops and support facilities to construct and repair wood and sail and steam vessels. The nearby Merrick and Sons Foundry repaired steam engines and fabricated boilers and machinery for ships repaired or constructed at the yard. Growth of the neighboring residential and industrial area prevented the expansion needed to adequately serve the developing steam and iron navy. Reproduced with permission from The Barra Foundation book: Jeffrey M. Dorwart. *The Philadelphia Navy Yard: From the Birth of the U.S. Navy to the Nuclear Age* (Philadelphia, PA: University of Pennsylvania Press, 2001), p 62.

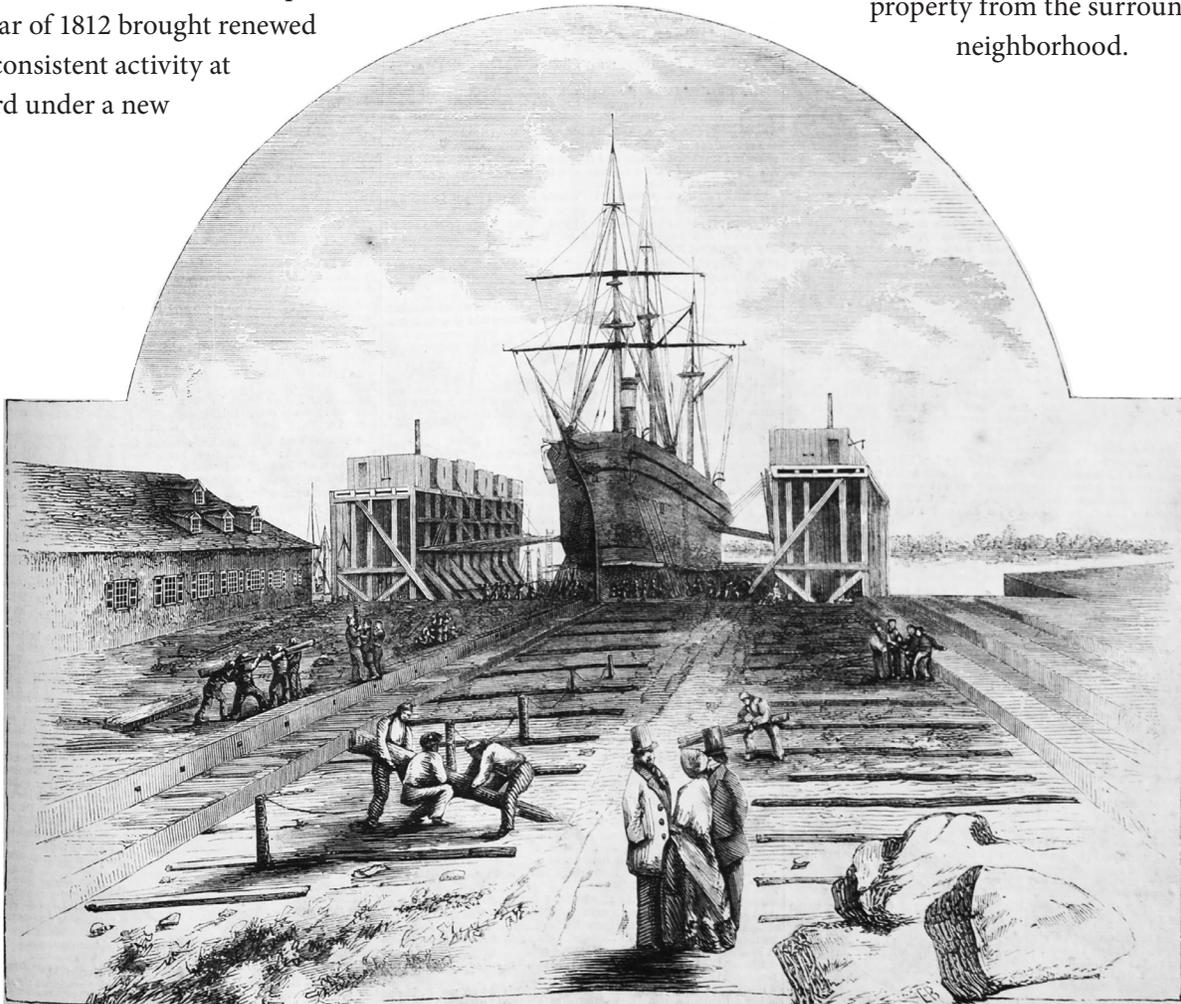
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In early November 1800, Stoddert instructed Humphreys to purchase the necessary Southwark properties (without the authority of law), which he promptly did, before the Jeffersonian Republicans (who favored a small navy) took office and canceled the purchase.<sup>4</sup> Humphreys began immediately to prepare the properties for the navy yard, but President Thomas Jefferson canceled the 74-gun shipbuilding and ordered the frigates laid up—work at Southwark stopped. The Jefferson administration retained the Southwark property for a U.S. Navy yard, but Humphreys was discharged as naval constructor in October 1801.<sup>5</sup>

For the next decade, the yard remained in poor condition with no funds for improvements. The War of 1812 brought renewed but inconsistent activity at the yard under a new

navy secretary, essentially saving its existence. In 1813, yard's first commandant, Commodore Alexander Murray, was appointed, and in 1815, the 74-gun *Franklin* was launched. In 1818, the ship of the line *North Carolina* was laid down, launching in 1820. In 1821, a frigate house was constructed (completed in 1822) over the frigate *Raritan* (under construction) and in 1822 a ship house was built (completed in 1823) over the keel and frame of *Pennsylvania* (under construction).<sup>6</sup> A navy yard gradually developed behind the ship houses, with timber sheds, workshops, a mast and spar shop, and Marine officers' house. The largest ship built to date, the frigate *Pennsylvania*, was launched in 1837.

By 1839, a high brick wall enclosed the property from the surrounding neighborhood.



United States Sectional Floating Dry Dock, Philadelphia Navy Yard at Southwark, November 1853. The dry dock was launched in 1851, but was not successfully tested until October 1853 with the docking of the steam warship *Fulton*. Illustration published in *Illustrated News*, Volume II, No. 45, p 261, November 5, 1853.

The 1840s brought an initial slowdown in construction and disrepair in the yard, which had never assumed the relative importance of other U.S. Navy yards. The idea to construct a floating dry dock was revived and the Mexican-American War led to the yard becoming a center for war preparations.<sup>7</sup> The screw gunboat *Princeton*, which would become the receiving ship at Philadelphia from 1857-1866, was launched in 1851. The sectional floating dry dock was also launched in 1851 but not tested successfully until 1853. The sectional design allowed the capability of connecting only the required number of sections necessary to support the length of the vessel taken out of the water.

During the decade of the 1850s, the yard was adapted to accommodate new naval technologies and larger, steam-powered vessels. Consequently, facilities were rebuilt, new machine shops installed, and the Ship House was moved closer to the river. With the dry dock, the yard became a truly functional industrial ship manufacturing and repair facility, ensuring a major role in the years preceding the onset of the Civil War. The yard increased the workforce to over 1,400 by 1858, improving the local prosperity, and repair and construction work flourished.<sup>8</sup> The Southwark yard was finally designated the “Philadelphia Navy Yard.”<sup>9</sup>

## Wartime Yard Operations

In December 1860, Charles Stewart, the navy’s senior officer and officially designated flag officer, who had served as the yard’s commandant since August 1853, retired and was relieved by Captain Samuel F. Du Pont.<sup>10</sup> Du Pont’s duty at the yard would be relatively short-lived. With the outbreak of the Civil War, Du Pont spent considerable time in Washington during 1861 serving as chairman of the Commission of Conference, or Blockade Strategy Board, organizing the naval blockade of the Confederacy. On April 27, Du Pont and other navy yard commandants received orders that put their yards on a war footing.<sup>11</sup> With the loss of the Pensacola and Norfolk navy yards, Du Pont noted that the loss of those yards “...brings that of Philadelphia nearest the seat of the war so that we have much to do there...we have but few of those appliances and facilities which pertain to a first-

class naval station.”<sup>12</sup> The yard was the smallest on the east coast, had the least waterfrontage, and was hampered by frequent icing of the river during winter; in addition, its expansion was constrained by its urban location. The yard initially had few ships available, and Du Pont had to quickly lease and purchase additional ships to perform critical duties. From April through June 1861, the frigate *St. Lawrence*, the sloop *Jamestown*, and the steamer *Water Witch* were repaired at the yard and put to sea duty, and the screw sloops *Juniata*, *Tuscarora* (construction completed in 59 days, launched in August), *Monongahela*, and *Shenandoah*, and the screw gunboats *Wissahickon* (launched in October) and *Miami* (launched in November) were built or were under construction or contract at the yard.<sup>13</sup>

With Du Pont on blockade business in Washington from late June 1861, oversight of the yard was left for a short period to his second in command, Commander James L. Lardner.<sup>14</sup> In early August, Du Pont was ordered to



Captain Samuel F. Du Pont, Commanding the Great Naval Expedition [Photographed by Brady.] Du Pont served as commandant of Philadelphia Navy Yard from December 1860 to September 1861. Illustration published in *Harper's Weekly*, Volume V, No. 254, p 705 (front page), November 9, 1861.

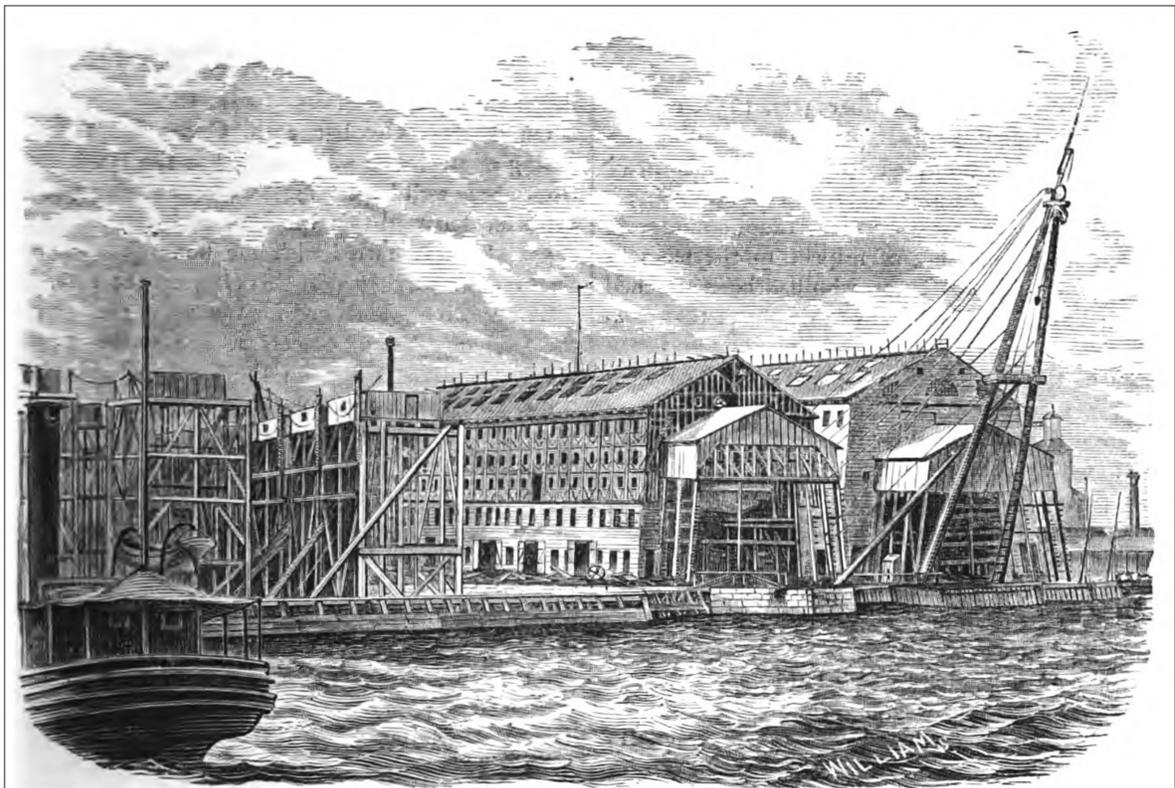
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New York to help lead a joint army-navy expedition to capture a Southern port (later revealed to be Port Royal, South Carolina), and in September he was also assigned command of the newly designated South Atlantic Blockading Squadron. When Lardner was detached and assigned command of *Susquehanna* in mid-September, oversight of the yard fell briefly to Commander Thomas Turner.<sup>15</sup> Longtime naval veteran Captain Garrett J. Pendergrast, who previously commanded the Home Squadron (prewar) and more recently the West Indies Squadron, appears to have been appointed commandant of the yard in late September 1861.<sup>16</sup>

During 1861, the yard hired 1,500 workers.<sup>17</sup> By October 31, 1861, there were 199 Marines at the yard, including the rendezvous, under command of Captain

Jacob Zeilin.<sup>18</sup> Continuous works of improvements at the yard included dredging, repairs of the floating dock, and all types of other repairs, with the expenses for these and contingent expenses totaling approximately \$49,300.<sup>19</sup> With the loss of the Norfolk yard, the Philadelphia yard performed approximately one third of all repairs for the North Atlantic Blockading Squadron during the initial year of the war; however, as the war progressed and the Norfolk yard was recaptured and placed back in service, repairs for the squadron at Philadelphia declined significantly.<sup>20</sup>

The surging demand for steam engine and machinery repairs during the early part of the war significantly strained the workforce at the yard—private contractors had traditionally undertaken the major steam



View of the Ship Houses at the Philadelphia Navy Yard from the Delaware River, late 1875. The Ship House (right) shows the upper portion of a temporary shed placed over the ironclad *Shackamaxon*. The second story of the building at the front of the Frigate House (center) was used as a “block” shop; on a portion of the ground floor, grindstones were kept revolving by steam power for the purpose of sharpening mechanics’ tools. In another portion was an apparatus for steaming timber. The frame structure to the right of this was occupied as a machine shop; the main brick building (foreground) was the joiner shop with a brick boiler house attached. The dry dock is shown at left. Illustration published in: Henry M. Vallette. *History and Reminiscences of the Philadelphia Navy Yard* (The Fourth Paper), *Potter’s American Monthly*, Volume VI, No. 52, April 1876, p 257 [256-260].

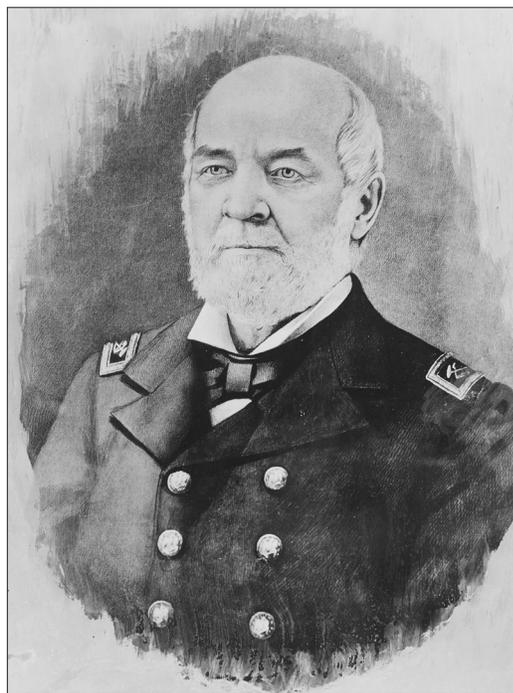
engineering work and the yard simply maintained the engines and machinery. As the war progressed and the Steam Engineering Bureau was created by the Navy Department in July 1862, the shortage of machinists at the Philadelphia yard was addressed.<sup>21</sup> During 1862, the works of improvements at the yard were continuous, with the expenses for these and contingent expenses totaling approximately \$112,400.<sup>22</sup> The floating dry dock was in constant use in repair of a large number of vessels. Dredging was also necessary to maintain a sufficient depth of water for working the floating dock. During 1862, the screw sloops *Juniata* (March), *Monongahela* (July), and *Shenandoah* (December) were launched.<sup>23</sup> Though constructed elsewhere, the large armored steam frigate *New Ironsides* arrived at the yard in June, where her iron plates were attached and other alterations were also made before she was commissioned in August.<sup>24</sup> In early November, the commandant, Pendergrast, suffered a stroke and died just days later;<sup>25</sup>

within days, the noted navy veteran Commodore Cornelius K. Stribling came out of retirement to be appointed commandant of the yard and would remain so for almost two years.<sup>26</sup> For the 1863-1864 fiscal year, similar amounts were appropriated for improvements and repairs as in the prior fiscal year, plus an additional \$90,000 for the purchase of two lots adjoining the navy yard to accommodate the growing demands, upon condition that a more extensive navy yard was not provided for on the Delaware.<sup>27</sup>

During 1863, the works of improvements at the yard were continuous (with none completed), with the expenses for these and contingent expenses totaling approximately \$98,400.<sup>28</sup> These works included dredging channels, repairing and operating the floating dry dock, extending the smithery, and repairs of all kinds. Because of the almost constant use of the floating dock, only a small amount of dredging was done. The floating dock



Captain Garrett J. Pendergrast, USN, undated. Pendergrast served as commandant of the Philadelphia Navy Yard from approximately October 1861 to early November 1862, when he died following a stroke. NH 66694 courtesy of Naval History and Heritage Command.

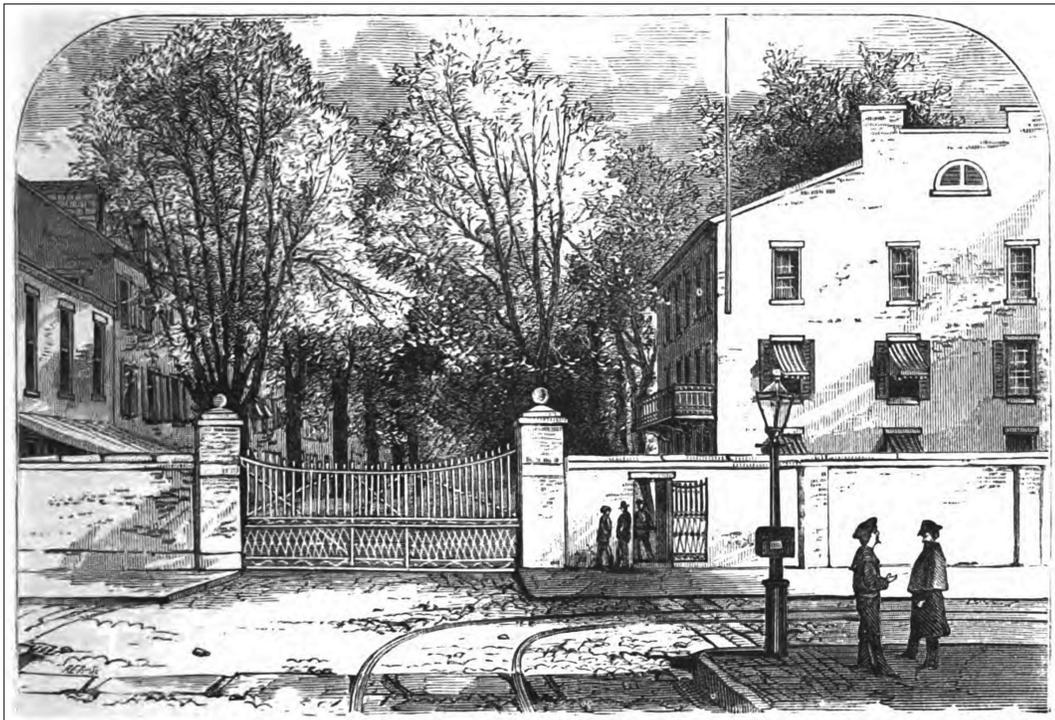


Portrait drawing or painting of Cornelius K. Stribling, USN, undated. Stribling served as commandant of the Philadelphia Navy Yard from early November 1862 (immediately following the death of Garrett J. Pendergrast) to September 1864. NH 44163 courtesy of Naval History and Heritage Command.

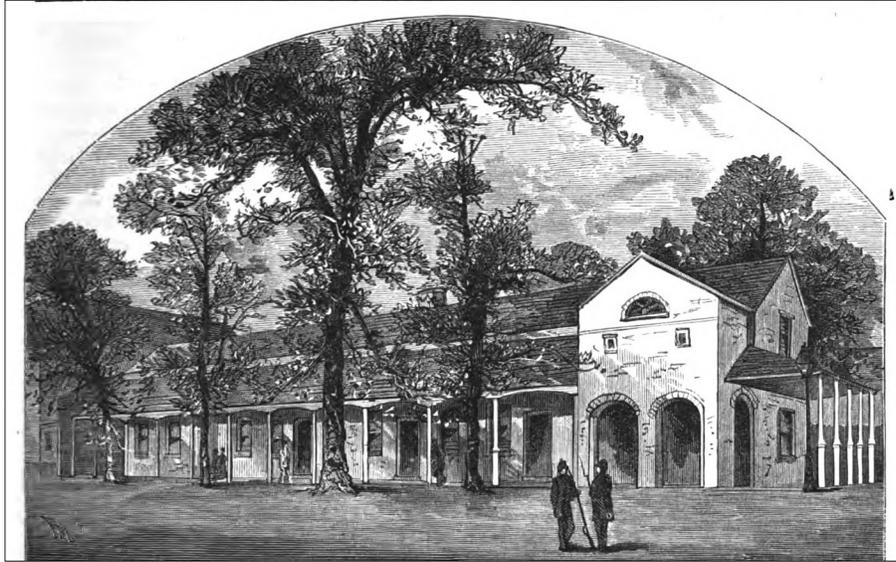
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was used for making repairs on 27 vessels. Extensive repairs were made on several sections of the dock, which was now in good condition. During 1863, the side-wheel gunboat *Tacony* (May) and steam sloop *Kansas* (September) were launched.<sup>29</sup> In September, a fire broke out in storeroom No. 2 in the buildings near the main entrance to the yard, engulfing its storehouses, carpenter shops, and other sheds, and threatening the two ship houses—the yard’s firefighting efforts were initiated and city firemen were prevented from entering the yard; however, when the fire was not controllable by the yard’s efforts, city firefighters were allowed into the yard and were able to control the fire, preventing a catastrophic conflagration that could have spread to adjoining residential and commercial areas.<sup>30</sup> The experience was another reminder that the yard had some serious shortcomings. For the fiscal year 1864-1865, appropriations were the highest of the war for the yard as they included \$10,000 for repairs to the fire-damaged storehouse and \$260,000 for a floating dry dock for monitors.<sup>31</sup>

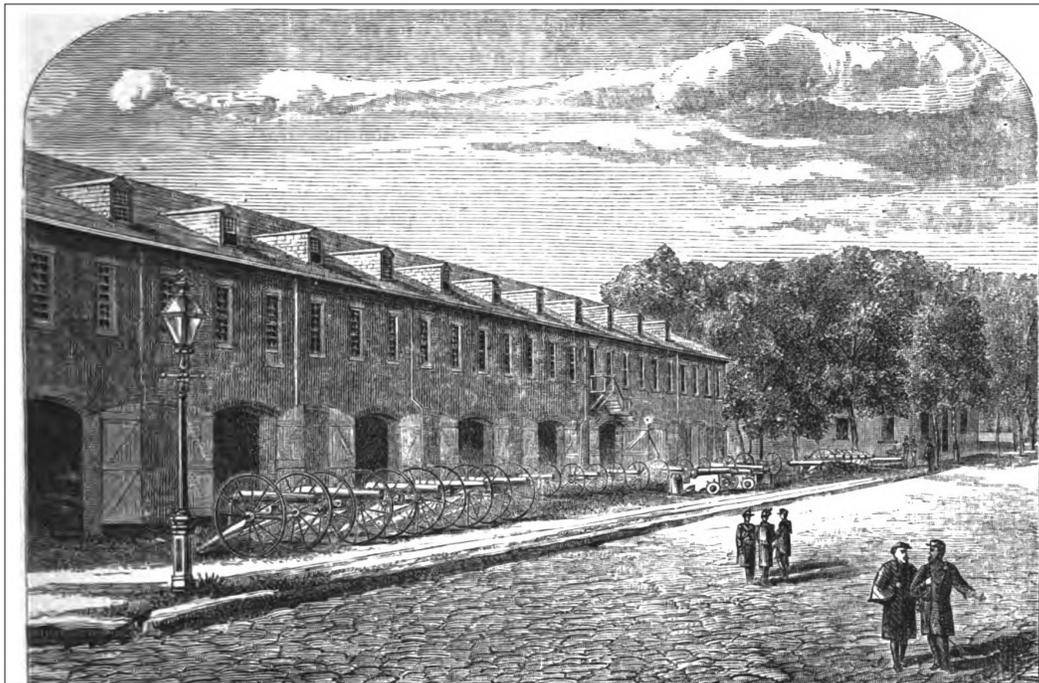
During 1864, works of improvement at the yard included extensions of the storehouse, joiners’ shop, and smithery, with the expenses for these extensions, for typical continuous works of improvement, and contingent expenses totaling approximately \$162,200.<sup>32</sup> Though provided for in law, the purchase of the small property addition to the yard was not consummated. In addition, another floating dock was contracted for the yard, but the difficulty in providing a location for the safekeeping and working of the dock was still a concern—further expenses were going to be necessary for leasing a wharf and dock room for the dock. The secretary of the navy noted that the yard could be extended by the purchase of adjoining property and, if no new yard was established on the Delaware, the extension of the existing yard was still recommended.<sup>33</sup> The last wooden-hulled steamer built at the yard, the screw sloop *Yantic*, was launched in March.<sup>34</sup> During the year, work was performed on a total of 81 vessels, including screw frigates, screw gunboats, side-wheel steamers, tugs, and ironclad monitors.<sup>35</sup> The keels were also laid for the steam sloop *Swatara* and the



Entrance to the Philadelphia Navy Yard, November 1875. The main entrance was located on Front Street. Illustration published in: Henry M. Vallette. *History and Reminiscences of the Philadelphia Navy Yard (The First Paper)*, *Potter's American Monthly*, Volume VI, No. 49, January 1876, p 9 [9-14].



Barracks and Parade Ground, Philadelphia Navy Yard, late 1875. This barracks was constructed in 1807 and housed approximately 100 Marines. The quarters for the commanding officer of the Marine Corps, built in 1821, was just south of the barracks and had an entrance on Front Street. Illustration published in: Henry M. Vallette. *History and Reminiscences of the Philadelphia Navy Yard (The Second Paper)*, *Potter's American Monthly*, Volume VI, No. 50, February 1876, p 89 [88-91].



Gun Park and Timber House, Philadelphia Navy Yard, late 1875. The Gun Park was situated on the south side of the main avenue just east of the entrance gate on Front Street and had ordinary boat howitzers arranged in a semicircle, with the group in the center an army field piece and the others cannonades. The building behind the Gun Park is the Timber House, where shipbuilding wood was stored and seasoned; the second story of the building was used as a sail loft, where canvas was stored and sails were cut and sewn. In the western end of the upper portion was the office of Navigation Department. South of this building was a similar structure where timber was stored in the lower story and the mould loft was in the upper story. At the eastern end was the office of the Assistant Naval constructor and a paint shop, and in the ground floor of the eastern front the fire equipment was kept. These buildings were constructed in 1850. Illustration published in: Henry M. Vallette. *History and Reminiscences of the Philadelphia Navy Yard (The Fifth Paper)*, *Potter's American Monthly*, Volume VI, No. 53, May 1876, p 329 [327-333].

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screw cruiser *Neshaminy*. In October, Stribling was assigned to command the East Gulf Blockading Squadron, and Commodore Joseph B. Hull Jr. became the new commandant in early November and served in that role through the end of 1865.<sup>36</sup>

Between November 1864 and January 1865, a number of yard employees were arrested after months of investigation by the War Department Special Commissioner Henry S. Olcutt.<sup>37</sup> Wide-scale corruption was discovered at the yard, and master caulkers, joiners, plumbers, painters, storekeeper clerks, timber inspectors, and even a



Captain Joseph B. Hull, USN, circa 1855. Hull served as commandant of the Philadelphia Navy Yard from November 10, 1864 to the end of 1865. NH 49802 courtesy of Naval History and Heritage Command.

naval constructor, were arrested. However, the Philadelphia Federal Judge refused to prosecute. The scandal was used locally to promote the relocation of the yard to League Island. After the war ended, the yard auctioned forty-two vessels, including some captured blockade runners, between May and November 1865.<sup>38</sup> Postwar, the yard maintained a wartime workforce of over 2,000 civilian employees despite cutbacks at other naval and military facilities. The screw sloop *Swatara* was launched in May, and the screw cruiser *Neshaminy* was launched in October.<sup>39</sup> Though authorized by law three years earlier, the removal of the Southwark yard to League Island had not occurred, and the secretary of the navy continued to recommend the relocation.<sup>40</sup>

## Wood vs Iron

The Philadelphia Navy Yard laid keels for a dozen warships and launched nine during the war, and ten of twelve new ship construction projects had wooden hulls. Some naval officials favored maintaining the Philadelphia yard as the main wooden-hulled steamship construction facility, while iron warships would be developed at the New York Navy Yard. Nonetheless, in 1862, the Navy Department contracted the Philadelphia yard to build the twin-turreted ironclad *Tonawanda*. Though the vessel was eventually completed during the war, her construction was plagued with numerous difficulties. Despite this experience, the department assigned construction of another ironclad to the yard, the three-turreted monitor *Shackamaxon*, but she was never completed. The yard's problems as an iron shipbuilding facility were due in part to its location, which limited its ability to expand for the machine shops and other manufacturing infrastructure necessary for iron shipbuilding. Even wooden shipbuilding functions had overextended the yard, as a total of fifty-two sheds, shops, and brick buildings were eventually squeezed into the yard's limited space.<sup>41</sup>

## League Island: Preferred Site for the Yard

The sizable League Island (approximately 600 acres), approximately two miles downriver of the Southwark location, near the confluence of the Schuylkill and Delaware Rivers, had long been considered a desirable and more logical location for a Philadelphia navy yard. In 1862, the Navy Department sought to establish a navy yard capable of building an iron navy, and League Island was a favored potential site.<sup>42</sup> It offered a freshwater anchorage and secure location and was near iron and coal resources, and could readily accommodate the transition of the yard from the Southwark site. However, during the Civil War, political interests would complicate and delay a decision.



The Philadelphia Navy Yard at Southwark 1800-1875

New location of Philadelphia Navy Yard beginning in 1876

Detail from Outline Map of the County and City of Philadelphia and Vicinity, 1872. Hand-colored lithograph by Orlando W. Gray and Henry F. Walling published by Stedman, Brown & Lyon, Philadelphia in 1872. Labels added by the Editors. David Rumsey Map Collection (List No. 1155.02), David Rumsey Map Center, Stanford Libraries.

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Initially, in mid-1862, the city offered the donation of the island to the U.S. government. Congress authorized the secretary of the navy to accept the donation subject to receiving a properly executed title and to the condition that a board of competent officers examine League Island and two other competing locations, New London, Connecticut and Narragansett Bay. The board preferred New London (with the bias of the board's chair) and the U.S. senators from Connecticut and Rhode Island lobbied for their locations; however, the secretary of the navy still preferred to accept the donation of League Island unless Congress directed otherwise.<sup>43</sup> By the end of 1864, no further progress had been made to accepting the donation of the island. The secretary of the navy took the opportunity to exhort Congress once again to accept the donation of this desirable location or risk losing it to private hands.<sup>44</sup> At the end of 1865, the situation remained the same.<sup>45</sup>

In February 1866, the secretary of the navy made one final effort to acquire League Island for the Navy Department. The Navy had already laid up dozens of warships on the island. In February 1867, Congress voted to accept title to the island, and Philadelphia transferred it to the U.S. government for \$1 on December 12, 1868.<sup>46</sup> However, development of the yard on League Island and closure and transfer of the yard from the Southwark site to the island would take nearly another decade involving political differences within the Navy Department and two secretaries of the navy. The last of the U.S. Navy ships built at Southwark, *Quinnebaug* and *Antietam*, were launched in the fall of 1875.<sup>47</sup> The official closing ceremonies for the Southwark site finally occurred on January 7, 1876.<sup>48</sup>

## Legacy

Despite its small size, the Philadelphia Navy Yard made important contributions to U.S. naval steam and sail wooden shipbuilding and repairs—building, converting, and outfitting over a hundred warships, including some ironclads—during the Civil War. Political influences during the war prevented its transfer to League Island,

limiting the size of the yard and its potential capabilities during that period. It took another decade to overcome the politics and for the yard to be relocated to the more desirable location downriver. Despite some disadvantages of location, a naval shore facility existed in Philadelphia for approximately two centuries. After moving to League Island, the yard struggled to survive but continued on and strove to be a first-class naval base and shipbuilding yard in the early 20th century. It reached its zenith during the World War II era, but postwar cutbacks again threatened its closure. The yard stopped building warships in the late 1960s. Again, political maneuvering kept it alive for almost another four decades until the inevitable conclusion—the Philadelphia Navy Yard was closed as an active yard on September 27, 1996.<sup>49</sup>

## Sources

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2. *Ibid.*, p 45-46.
3. *Ibid.*, p 46-47.
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