GREAT REPUBLIC: A HISTORICAL AND ARCHAEOLOGICAL ANALYSIS OF A PACIFIC MAIL STEAMSHIP

A Thesis

by

ANDREW P. ROBERTS

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

December 2008

Major Subject: Anthropology

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Approved by:

Chair of Committee,	Kevin Crisman
Committee Members,	Joseph Dawson
	Donny L. Hamilton
Head of Department	Donny L. Hamilton

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ABSTRACT

Great Republic: A Historical and Archaeological Analysis of a Pacific Mail Steamship.

(December 2008)

Andrew P. Roberts, B.A., University of Oregon

Chair of Advisory Committee: Dr. Kevin Crisman

In 1986 the remains of a shipwreck were discovered on Sand Island in the mouth of the Columbia River in the Pacific Northwest. The following year, a team of archaeologists investigated the site in order to determine its original identity. After a series of dives, the team concluded that the wreck was the remains of the Hudson's Bay Company brig, *Isabella*, a ship that was lost in that area in 1830. Recent investigations on the shipwreck disproved this identity. The turbulent conditions of the Columbia River have helped researchers by shifting a significant amount of sand overburden away from the vessel, exposing a greater area of the ship. With this new information, the wreck is now believed to be the remains of the wooden side-wheel steamer *Great Republic* that belonged to the Pacific Mail Steamship Company, rather than *Isabella*.

This thesis investigates the history of *Great Republic* and its role in American maritime history, as well as its possible archaeological remains at the bottom of the Columbia River. In order to provide a clear and concise story, I begin with the history of the Pacific Mail Steamship Company and its importance in the development of the western coast of the United States. Since *Great Republic* was integral to the Asian trade

of the nineteenth century, the second portion of the thesis is dedicated to Asian-American commercial and political relations during the nineteenth century. *Great Republic* and its three sister ships are then described and analyzed in detail based on contemporary sources. Finally, the archaeological evidence is assessed beginning with the discovery of the wreck. I detail the investigations and discoveries made on the wreck over the last 20 years. In my conclusions I discuss the importance of *Great Republic* from a historical standpoint and emphasize its place in American maritime history. I also detail key aspects concerning the wreck that I believe are imperative for future research. Though the remains convincingly appear to be those of *Great Republic* there are still structural features that need to be analyzed before a positive identification is possible.

DEDICATION

To my family

ACKNOWLEDGEMENTS

I would like to thank my committee chair Dr. Kevin Crisman and my committee members Dr. Donny Hamilton and Dr. Joseph Dawson for their guidance and support throughout the course of my research. Additionally I would like to thank Dr. James P. Delgado for his assistance, enthusiasm, and support during my research; without his work on this topic, this project would have been impossible.

I would also like to thank Mr. Steve Potash for allowing me access to his collection of Pacific Mail Steamship Company material and his assistance with my research in San Francisco. I could not have been able to accomplish as much as I did without his help. Other people who were integral in my research include Mr. Jerry Ostermiller and Mr. Jeffrey Smith at the Columbia River Maritime Museum who gave me unlimited access to their resources and were extremely enthusiastic and cooperative throughout all stages of my work. Mr. Henry Silka helped with my research concerning Henry Steers and his shipyard. The National Parks Service deserves recognition for their assistance as well. They were extremely helpful and have given me complete access to their files concerning the initial investigation concerning the Sand Island wreck. Funding for travel and research for this project was provided in part by the Vaughn Family Foundation from the Independence Seaport Museum. Their assistance is greatly appreciated.

On a personal level I have many people to thank here at Texas A&M University. Ben Ford and Jessi Halligan have provided me unending support and friendship and for that I am extremely grateful. Heather Brown is not only a close friend but also edited all

of my work and provided much needed input. Matthew Labbe and Frank Burnside were always present to help me to remember to relax. John Hamilton never failed to provide criticism and a reality check any time he thought I might need them. Finally, Ashley Smallwood has been my strength and support for the last two years and I feel indebted to her for her patience and love. I would also like to thank my family for being supportive in all things and for always encouraging me especially during my darkest hours.

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CHAPTER I

INTRODUCTION

This project details the history and archaeology of *Great Republic*, an oceanic steamer of the Pacific Mail Steamship Company. *Great Republic* is an exceptional example of wooden steamship engineering. It was one of the last American, oceanic, wooden steamships ever to be built, as well as one of the largest, measuring 360 feet (109.73 meters) in length and 48 feet 6 inches (14.81 meters) in breadth.[1] This elegant behemoth was a central element in the establishment of a regular steam route to and from China and Japan. *Great Republic* was the first steamship built specifically for the transpacific run. However, as time passed and technology changed, *Great Republic* and its sister ships quickly became outdated and were relegated into other services. This vessel served as a coastal steamship, carrying passengers and goods between San Francisco, California, and Portland, Oregon, until its demise in 1879 when it ran aground in the mouth of the Columbia River. As years passed, *Great Republic* vanished from public memory and became just another wreck at the mouth of the Columbia River, an area often referred to as the Graveyard of the Pacific.

During a research project in 2004, archaeologists investigating what was previously thought to be the brig *Isabella* realized that the wreck was in fact another ship

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This thesis follows the style and format of *Journal of Military History.*

[1] "The *Great Republic*: Launch of the *Great Republic*—China Line &c." *New York Times*, November 10, 1866.

altogether. Over the years, the shifting sands of the Columbia River unearthed a much larger portion of the vessel, exposing key features that countered the original identification. The wreck turned out to be a large portion of what is now believed to be *Great Republic*.

The goal of this thesis is to present the story of *Great Republic* in its entirety, from the inception of the Pacific Mail Steamship Company, the corporation responsible for the ship's commission, to the vessel's final demise in the Columbia River. In order to convey this story precisely, I have conducted detailed historical research and analyzed archaeological reports on the wreck site. Numerous first-hand accounts, newspapers, congressional documents and other historical resources were compiled and evaluated in order to properly illustrate *Great Republic's* history.

A fundamental aspect of this research is the data concerning the Pacific Mail Steamship Company and its origins. This company, one of the most successful and important American businesses of the nineteenth century, was the force behind the creation of *Great Republic*. The Pacific Mail Steamship Company's roots were strongly entwined with the expansion of the United States towards the Pacific Ocean. To provide a context for the company's history, I first discuss the establishment of the United States mail contracts in the 1840s and their importance to the United States Navy. This is followed by a description of the inception of the company and its first foray into the Pacific with the famed steamship *California*. Finally, I relate the company's activities during the 1850s and its position in the succeeding decade.

Great Republic was commissioned as one of the first United States mail steamers to initiate a regular service between the Far East and America. This service was a federally-funded project that politically and economically intertwined the futures of China, Japan, and the United States of America. The establishment of the route was the culmination of a nearly century-long relationship with China, a tumultuous, though extremely short, history with Japan, and the efforts of businessmen, senators, and presidents striving to obtain access to the wealth of the Orient. In order to understand the issues and events that were responsible for the creation of the China line, I briefly trace the history of American and Chinese interactions as they pertain to the establishment of the service.

Once the China mail contract was obtained by the Pacific Mail Steamship Company, the *Great Republic* and its three sister ships were commissioned. These four vessels were the apex of American wooden shipbuilding and were meant to be a symbol of the nation's pride and success. *Great Republic*, therefore, was created to be an American masterpiece. The ship's construction exceeded any ship built before in the country in both size and sturdiness. Only its sister ship, *America*, would surpass *Great Republic* in size.

In order to convey the specifics of this magnificent vessel, I delved into the historical documents of the period. Newspaper clippings and personal logbooks proved to be invaluable resources for describing the vessel. Through the analysis of these contemporaneous documents a detailed description and understanding of the vessel has been achieved.

Finally, I reviewed and analyzed the recent archaeological investigations of the Sand Island wreck. Originally identified as the brig *Isabella* and now believed to be *Great Republic*, the Sand Island wreck remains an important archaeological site. Thankfully, archaeologists from the United States National Park Service Submerged Cultural Resources Unit, now known as the Submerged Resources Center, provided me with unlimited access to their site reports, notes, and dive logs. From this information I have detailed, to the best of my ability, the site as it exists today and the steps that have been taken to document it.

Most importantly, this thesis attempts to illustrate the place of *Great Republic* in American history. Not only was it one of the greatest feats of American wooden shipbuilding, but *Great Republic* was also a symbol of Manifest Destiny, the concept that dominated the movement westward. Throughout the nineteenth century, Great Britain and the United States competed heavily for supremacy in the Asian market. However, in the 1860s, with the near-completion of the transcontinental railroad, the United States of America was in a position to take control of trade to the Far East.

Once the railroad was complete, an established line of steamships finished the route from the eastern seaboard to the Far East. This route crossed the continent and enabled the United States to take control of the international economies of China and Japan. With the railroad and steamships, passage via the United States became the quickest way to travel to the Far East for both Americans and many Europeans. It also allowed direct flow of American goods to China and Japan. This route was soon recognized as superior to the established British trade route around Africa due to its

speed and accessibility. With the completion of the transcontinental railway in 1869, the United States became the dominant power in the Asian market.

Great Republic was a product of this movement. Built in 1866 as the premier steamship of the Pacific Mail Steamship Company's China route, *Great Republic* was engineered to exemplify the technological achievements and luxury of American steam transportation. Constructed completely out of wood, *Great Republic* was considered outdated by some, since Great Britain had already shifted to iron-hulled ships by this time. However, American shipbuilders excelled at wooden construction and had not fully embraced iron technology, especially on the West Coast. Therefore, *Great Republic*, a symbol of the excellence and pride of the nation, incorporated the highest level of craftsmanship known in America.

Great Republic was also the symbol of a business, the Pacific Mail Steamship Company. From 1848, with the creation of the steamship *California*, this enterprise designed, built, commissioned, and operated numerous steamships. The company quickly became renowned for its ships, which often received the highest praise from crew and passengers alike; the latter found these ships to set a standard for luxury and service.

As one of the last wooden steamships to be built, *Great Republic* provides us with a rare glimpse of the construction of these noble vessels and allows us to further our understanding of this period in American shipbuilding history. This thesis illustrates the story of *Great Republic*, from the Pacific Mail Steamship Company's earliest days to the archaeological investigations of the wreck site. I tried to provide a concise and clear

perspective concerning the social and economic forces that were at play during this period. In addition, it was my intention to convey the elegance of this vessel, its fine finish, and interesting life.

CHAPTER II

A BRIEF HISTORY OF THE PACIFIC MAIL

Throughout the United States, the cries of "Fifty-four forty or fight" ceased as President James K. Polk finalized the Oregon Treaty with Great Britain, finally bringing the long standing debate between the United States of America and Great Britain to a close. The Senate voted thirty-eight to twelve to settle the dispute and the agreement was signed by President Polk on June 15, 1846.[2] The treaty secured the northern boundary of the Oregon Territory at the forty-ninth parallel, officially establishing the Oregon region as a part of the American Republic. While many who believed that America deserved a northern boundary of 54° 40' were undoubtedly disgruntled, an unwanted and potentially disastrous war with England was averted. The act was highly praised in the eastern newspapers with the *Morning News* of New London, Connecticut, describing the decision as:

> … [A] triumph of patriotism over selfish and brutal passion of which both Great Britain and the United States may well be proud of. May no untoward circumstance prevent the consummation of the work so auspiciously begun! The laurels won in this contest are unstained by human blood and shall bloom in undying beauty when those achieved by war and carnage are trampled in dust![3]

The settlement of this dispute, widely viewed as a grand achievement of diplomacy, would also prove to be instrumental in the development of the western economy. At the time of the treaty, cities and towns were slowly developing in response

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[2] Donald A. Rakestraw, *For Honor or Destiny: The Crisis over the Oregon Territory* (New York: Peter Lang Publishing, 1995), 171.

[3] "From the Tribune Extra of Saturday. From Washington. Peace secured! — Peace with England secured! — The Oregon question settled! — The 54 40s extinguished! —The senate in favor of the treaty — 38 to 12 — The country saved from war!" *Morning News*, New London, Connecticut, June 15,1846.

to the increasing popularity of the Oregon Trail. Every year more men, women, and children made their way west to the Oregon Territory.

The initial movement of settlers to Oregon occurred a decade earlier with the establishment of Methodist missions in the Willamette Valley and The Dalles in 1833. The Presbyterians were not far behind when they founded their own religious outpost in Waiilatpu among the Cayuse and Nez Perce tribes.[4] The existence of these remote settlements encouraged a trickle of settlers westward. By 1841, the year of the first Oregon wagon train, five hundred white settlers lived in the Willamette Valley alone. Over the next few years the population increased as more made the trek to the Oregon Territory. Nine hundred pioneers made the journey west in 1843. In 1845 this number more than doubled with over 2,500 men, women, and children traveling to Oregon.[5]

Upon acquisition of the territory, the United States' government acknowledged its responsibility to establish regular communication services to the region. In a declaration to Congress in 1846, President Polk emphasized the importance of creating a mail service to the West by stating "it is likewise important that mail facilities, so indispensable for the diffusion of information and for building together the different portions of our extended Confederacy, should be afforded to our citizens west of the Rocky Mountains."[6]

Even so, Oregon was a remote region in a developing country, and establishing a regular mail service would prove to be a substantial undertaking. There were three

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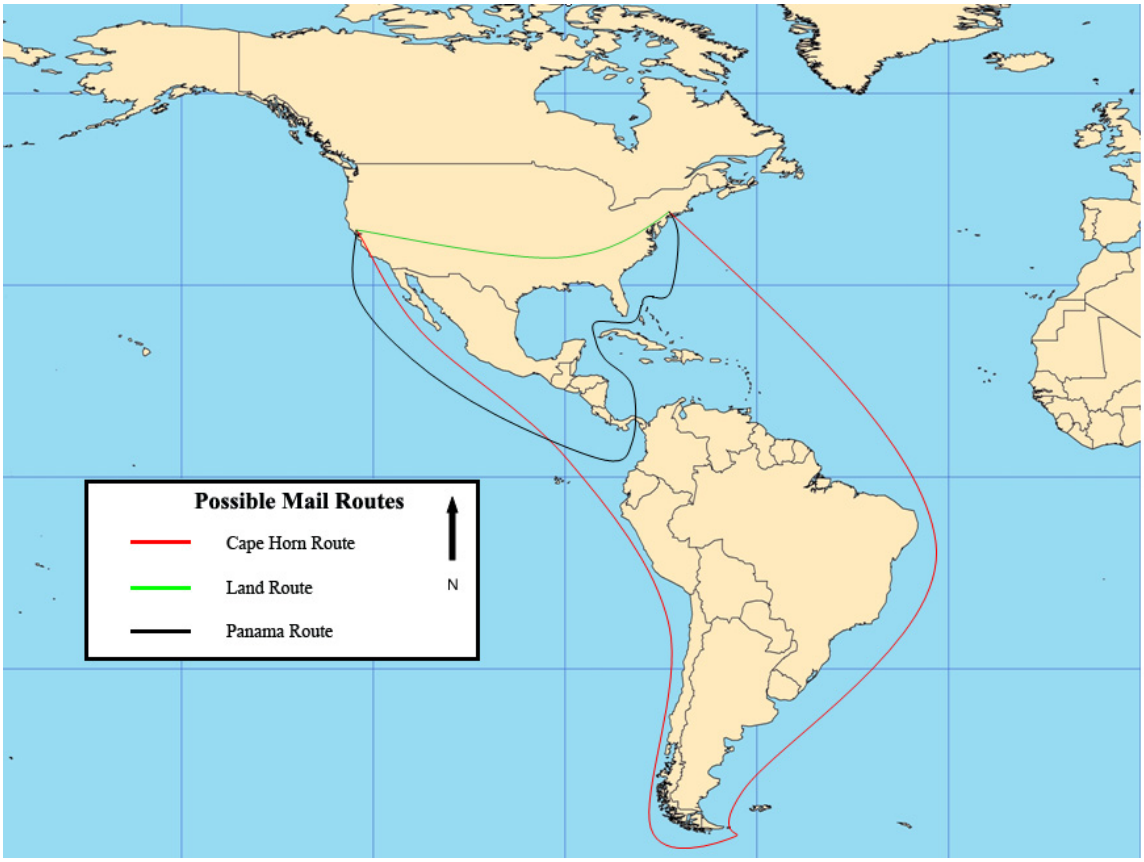
[4] Frank McLynn, *Wagons West* (New York: Grove Press, 2002), 7-8.
[5]David Peterson Del Mar, *Oregon's Promise: An Interpretive History* (Corvallis: Oregon State University Press, 2003), 68-70.
[6] *Congressional Globe,* 29th Cong., 1st sess., 1846, 1199.

possibilities available to the government at the time: the mail could be transported around Cape Horn on sailing vessels, overland from the Missouri River, or over the Panama Isthmus by means of steam vessel or sailing ship (Figure 1).[7]



(Figure 1. Map of possible mail routes.)

Of the three, Cape Horn was the most established route for delivery. Every year sailing vessels rounded the Horn on a regular basis. The creation of a mail service via these sailing ships would not involve an excessive investment of money because the route had been firmly fixed for over half a century by American whaling and trading ships. However, the passage proved impractical due to time constraints. A ship

[7] John Haskell Kemble, *The Panama Route 1848-1869* (Columbia: University of South Carolina Press, 1990), 7.

traveling from New York around the Horn to the northwest coast could easily take six months to arrive, a lengthy period of time for a regular mail service.

Creating an overland route that was accessible throughout the year also proved problematic. The cost of developing such a route was prohibitive and the threat of disaster was much greater than for either of the other options. In the Rocky Mountains, even the best wagon road would have to be closed during the winter months. To complicate matters further, hostile native populations remained a threat throughout the year. Though various attempts were made to develop an overland route, this option was ultimately rejected.

The third mail delivery option was to create a steam or sailing line from an eastern American port to the Isthmus of Panama, where the mail would then be taken by mule overland to the Pacific, and then finally would finish its journey by steam or sail north up the Pacific Coast. The path over the isthmus had been known for centuries, though it had never been used by Americans. Between the sixteenth and eighteenth centuries, Spanish colonists shipped the treasures of Peru up the west coast of South America over the isthmus and from thence back to Spain. This trade declined as Spain lost control over its American Empire, and by the early 1820s regular traffic over the isthmus had disappeared.

In 1829 interest in a trans-Panamanian crossing was revived when Silas Burrows, a merchant from Connecticut, created a line of packet brigs that connected New York to Columbia and Panama. Burrows intended to carry mail to and from Panama and hoped to establish a route that connected New York and Callao, Peru, via Panama, by 1830.

Burrows believed that this line would be useful to the American whalers and sealers who predominated in the Pacific at this time. Although Burrows abandoned his endeavor in 1835 and the Panamanian path quickly fell into disuse once again, his establishment of the route is most likely one of the driving forces that encouraged the United States government to pursue this method of mail delivery.[8]

The path proposed for mail delivery began in an eastern seaboard port with steamships carrying the mail down the Atlantic coast to the port village of Chagres, Panama. Once there, the mail would be transported up the Chagres River to the headwaters and then overland by mule to the town of Panama on the Pacific Coast. A second vessel would complete the coastal voyage north to Astoria, Oregon.

This route was decidedly the most time efficient and cost effective. The Panama passage was quicker than the Cape Horn voyage and significantly cheaper to establish than creating an overland road or railroad. With its responsibility to connect the Oregon Territory to the American Republic, the United States Congress began a concerted effort to initiate this service.

The Mail Contracts

"An Act to establish certain Post Routes and for other Purposes" became law on March 3, 1847 and enabled mail to and from Oregon. This act provided the Postmaster General with a maximum of $100,000 per year to initiate a regular service that routed

[8] Robert Greenhalgh Albion, *Square-riggers on a schedule; the New York sailing packets to England, France, and the cotton ports* (Princeton: Princeton University Press,1938), 62 and Kemble, *The Panama Route 1848-1869*, 1-2.

mail from Charleston, South Carolina, to Astoria, Oregon, via Panama.[9] The route was separated into three parts, the Pacific, Atlantic, and Panamanian segments. This allowed contractors to bid on one, two, or all three of the legs, which in turn gave the Post Office financial flexibility in incorporating the service.

On the Pacific side, contractors were allowed to employ either sailing vessels or steamships. The ships were required to make calls at the port cities of Monterey and San Francisco, both American military outposts at the time. The act required that the Atlantic route be serviced by steam vessels that operated at least once every two months.[10]

However, on that same day another act concerning the establishment of mail routes was passed by Congress. "An Act providing for the Building and Equipment of four naval ships", often referred to as the warship bill, addressed a series of complex needs, including those of the Postal Service. This Act not only authorized the construction of four new steamships, but also enabled the Secretary of the Navy to accept bids for mail contracts.[11]

The United States Navy had been actively interested in the creation of oceanic steamships since the 1830s, when British steam liners became prominent. Both the United States and Great Britain recognized the effectiveness of steam power in vessel navigation, but were equally limited by the high cost of building new steam naval ships.

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[9] *An Act to establish certain Post Routes and for other purposes*, 29th Cong., 2nd sess. LXIII.
[10] Kemble, *The Panama Route* 1848-1869, 10.
[11] *An Act providing for the Building and Equipment of four naval Steamships*, 29th Cong., 2nd sess. Chap LXII.

Great Britain overcame this obstacle by subsidizing merchant and mail steamships that could, in the event they were needed, be converted to naval purposes.

Over a period of ten years (1835-1845) Great Britain created a vast system of mail ships that connected England to the rest of the world. The Peninsular and Oriental Steam Navigation Company was created in 1837 and carried the mail to Egypt, India, and the Far East. The Cunard Line began in 1838 and delivered mail between England and the United States. That same year the West Indies and east coast of South America were accommodated with mail service by the Royal Mail Steam Packet Company, and in 1840 the west coast of South America received service from the Pacific Steam Navigation Company.[12]

The United States recognized the importance of maintaining an independent mail fleet, and in 1845 Congress passed "An act to provide for the transportation of the mail between the United States and Foreign Countries" which afforded mail service between the United States and Europe.[13] As a result of this act the Ocean Steam Navigation Company of New York was created and carried the mail from the United States to Cowes, England, and Bremen, Germany. Unfortunately, this act resulted in the regular passage of only two steamers, *Washington* and *Hermann*, hardly a substantial fleet.[14]

Thomas Butler King, chairman of the United States House Naval Affairs Committee, addressed the importance of enlarging and maintaining a modern navy when he proposed a bill to the House of Representatives that provided for an increase in war

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[12]Kemble, *The Panama Route 1848-1869*, 11.
[13] *An Act to provide for the transportation of the mail between the United States and foreign countries, and for other purposes*, 28th Cong., 2nd sess. Chap LXIX
[14]Cedric Ridgely-Nevitt, *American Steamships on the Atlantic* (Newark: University of Delaware Press, 1981) 132-139.

steamers. He reported that by 1846, England had already supplemented its navy with two hundred war steamers and France had adopted a policy to augment its fleet to a total of one hundred and sixty steam powered vessels. The United States had a total of seventy-four ships in its navy and only nine of those were steam-driven.[15]

This lack of steam powered naval vessels was not due to any deficiencies on the part of American steam engineers. On the contrary, the use of steam engines on American inland waters had been growing in popularity since 1807 when Robert Fulton introduced his vessel *North River Steamboat of Clermont* on the Hudson River. By 1846 there were over 1,500 steamships working on inland rivers and lakes throughout the United States. These American commercial steamers were considered to be superior to their British counterparts in both speed and efficiency. The average speed of a British coastal steamer was cited at 12.5 miles (20.12 kilometers) to 13.5 miles (21.73 kilometers) an hour, while the fastest vessels on the Thames were clocked at 15.5 miles (24.94 kilometers) per hour. Mississippi steamers were averaging 17 miles (27.36 kilometers) per hour and were surpassed in average speed by their counterparts on the Hudson River.[16]

With these facts in mind, King questioned why, if America was as capable as it appeared to be in the steam age, did it remain inactive when it came to steam-powered ships on the high seas? He acknowledged that it was not in America's interest to increase and maintain an expensive, over-large navy during times of peace. Yet, he

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[15] House Committee on Naval Affairs, *Ocean Steamers: to accompany H.R. no 458.*, 31st Cong., 2nd sess., 1846, H.Rept 34, 2.
[16] Ibid.

insisted that it was imperative to "…devise some system which, with a moderate and beneficial outlay, will enable us at all times to be prepared for the contingency of war."[17]

To effectively fulfill this charge, King claimed that it was necessary to augment America's Navy with war steamers. Recognizing that building a new fleet of steam warships was financially impossible for the United States, King proposed an alternative. New steam powered mail ships, authorized and subsidized by Congress and regulated by the Secretary of Navy, would conveniently provide the United States with a fleet of modern vessels that could be converted into warships in times of war.

Throughout 1846 and 1847 King championed this cause in Congress. Finally, on March 3, 1847, Congress passed what was commonly referred to as the Warship Bill. This bill not only authorized the creation of four actual U.S. Navy steamships, but also addressed the needs of the mail service. A line connecting New York and Liverpool was to be operated by Edward K. Collins. The Atlantic portion of the Pacific Mail Route was awarded to Albert G. Sloop, while the Pacific side was left open to bids.[18]

This resulted in the United States Post Office and the United States Navy competing for bids for oceanic mail ships for the entire route. Postmaster General Cave Johnson, concerned about the rivalry over the lines, tried to convince the Navy to separate the funding of the routes and allow the Post Office to handle the Pacific route, but to no avail. Ultimately, it was the Secretary of the Navy and not the Postmaster General who secured contracts for the United States Mail Service.[19]

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[17] Ibid.
[18] *An Act providing for the Building and Equipment of four naval Steamships,* 29th Cong., 2nd sess. Chap LXII.
[19] Kemble, *The Panama Route 1848-1869,* 14.

The act required that every ship built to carry the mail must be suitable for naval service if necessary and therefore had to be inspected and approved by Navy personnel. In addition, each vessel was required to accommodate and carry, at no cost to the government, four U.S. Navy midshipmen who were to act as watch officers.[20]

Albert G. Sloop originally secured the contract from the Secretary of the Navy, but it was quickly apparent that he had no intention of personally fulfilling it. Sloop reassigned the contract to three men, George Law, Bowes R. McIlvaine, and Marshall Owen Roberts. These men formed a board of trustees in order to execute the terms of the contract. They secured financial backing from investors and designated Law as the principal manager of the steamships, though all three would be held responsible. On March 6, 1848, the United States Mail Steamship Company was officially formed.[21]

While the Atlantic route had obvious financial potential, thanks to its path between established ports, the financial success of the Pacific run was much more speculative. Even with the increased population and infrastructure development on the West Coast, potential investors were dubious about the potential profits. Bids were advertised for the Pacific route on May 4, 1847, but only a handful were received. Ultimately the service was awarded to Arnold Harris of Tennessee who offered to operate the route for $190,000 a year.[22]

Much like Sloop, after acquiring the contract, Harris transferred it to a separate party for a profit. In this case, the contract ended up in the hands of the shipping magnate

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[20] *An Act providing for the Building and Equipment of four naval Steamships*, 29th Cong., 2nd sess. Chap LXII.
[21] Kemble, *The Panama Route 1848-1869*, 15-17.
[22] Ibid., 19.

William Henry Aspinwall (Figure 2). Aspinwall, a well known name in the United States, belonged to a respected and wealthy New York family. Often referred to as an "old family," the Aspinwalls belonged to a close-knit society of descendants of Dutch settlers and early colonists of New England that often socialized and intermarried.[23]

(Figure 2. William Aspinwall. Courtesy of the Bancroft Library, University of California, Berkeley.)

As a young man Aspinwall apprenticed under his uncles Gardiner Greene Howland and Samuel Shaw Howland, operators of the shipping firm G.G. & S. Howland. The firm established itself as a successful shipping operation and managed vessels throughout the world. By 1832, when Aspinwall and his younger cousin William Edgar Howland apprenticed at the firm, the company had few serious rivals in New York.[24]

[23] Duncan S. Somerville, *Aspinwall Empire* (Mystic: Mystic Seaport Museum Inc.,1983), 1-2.
[24] Ibid., 3.

Within two years of the young men entering the trade, the firm changed its name and became Howland & Aspinwall to reflect their new ownership. If the firm had sprouted and flourished under the senior management, then it practically blossomed under the direction of the younger Howland and Aspinwall. The company expanded its interests even further into the international market and in just a few short years the blue and white house flag of Howland & Aspinwall was seen throughout Europe, the East and West Indies, South America and China.[25]

Even though Aspinwall had proved himself capable of making business-savvy decisions, his purchase of the Pacific contract was widely criticized. Many people thought the contract held very little incentive. Unlike the Atlantic route which had the advantage of carrying paying passengers between established ports, the Pacific route ran along a remote and relatively unpopulated coastline. Alfred Robinson, an active businessman who had invested in the commerce of California since 1829, wrote of Aspinwall's decision:

> To give an idea of how little I thought of the speculation when these steamers were started, I will mention that Mr. Aspinwall was extremely desirous that I should take an interest in the steamers, and I thought it was out of the question that it should pay, that all the profit that could possibly be derived from the venture was from the few passengers we might pick up, and some little freight which would not amount to much of anything. We supposed that the compensation from the Government for carrying the mails would just about defray the expense of running the steamers, and all that we got beyond that would be the remuneration from passage and freight custom.[26]

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[25] Ibid., 8.
[26] Kemble, *The Panama Route 1848-1869* 22-23, quoted from Statement of recollections on early years of California made by Alfred Robinson for the Bancroft Library, 1878.

Regardless of criticism, William Aspinwall sought the contract and successfully procured it from Harris on February 8, 1848. Once Aspinwall acquired the contract, he set about meeting its terms. The original act stated that the northern terminus of the route was Astoria in the Oregon Territory. Rather than having his steamers complete the entire trip, Aspinwall suggested that they carry the mail only as far as San Francisco, and that sailing vessels transport it from thence to the northern port. Postmaster General Johnson investigated this change in the contract and approved of it. Since the port of Astoria was located at the mouth of the Columbia River, an infamously dangerous area for shipping, the terms of the Pacific Route were modified so that steamers terminated their voyage at San Francisco and sailing vessels then transported the mail north to the mouth of the Klamath River, a safer harbor, from which the mail could be sent overland to its destination depots.

With the details settled, the creation of the service commenced. On April 1, 1848, a bill to incorporate the Pacific Mail Steamship Company was reported to the New York Senate. On April 4 the bill was passed by the Senate, and by the Assembly six days later. Along with William Aspinwall, fellow incorporators were also appointed, including Gardiner Green Howland, Henry Chauncey, and Edwin Bartlett. The company charter was established on April 12, 1848, for the purpose of:

> … building, equipping, furnishing, purchasing, chartering, and owning the vessels, to be propelled solely or partially by the power or aid of steam or other expansive fluid or motive power, to be run and propelled in navigating the Pacific Ocean…[27]

[27] Pacific Mail Steamship Company, *Charter of the Pacific Mail Steamship Company with its Amendments up to May 11th, 1872*, (New York: Slote & James Stationers, 1872).

William Henry Aspinwall, elected president of the company, was authorized to elect his own trading house, Howland & Aspinwall, as the sole commercial business for the transactions of the organization. By doing this, Aspinwall successfully linked his personal financial success to the success or failure of the Pacific line.

California

The contract that Aspinwall accepted required that steamships servicing the line make the voyage between Panama and San Francisco twice a month. Three steamers were necessary for the run under the stipulations of the act. Two of these vessels were to be no less than 1,000 tons burden and the third was to be at least 600 tons burden. All ships were required to be easily converted into warships and had to be approved by the Navy Department with a Navy contractor supervising the construction.

Aspinwall commissioned the famous shipwright William H. Webb to design and build two of the vessels, *California* and *Panama*. The third ship, *Oregon*, was to be built at the yard of Smith & Dimon. Despite being built at two different yards, all three ships were nearly identical in size and construction. Each was about 200 feet (60.96 meters) long and 33 feet (10.06 meters) in breadth and was rated at just over 1,000 tons.[28] They were three-masted and bark-rigged, with a larger sail area than usual. Since they were destined for remote and desolate shores where there were no shipyards or machine shops, the vessels had to be just as capable under sail as they were when relying on their steam engines alone.

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[28] Ridgely-Nevitt, *American Steamships on the Atlantic*,104.

Interestingly enough, the ships' engines were also built by two different companies. One of Webb's vessels, *California*, and the Smith and Dimon-built *Oregon* were outfitted with side-lever engines from the Novelty Iron Works, while Webb's second ship, *Panama*, was outfitted with the same type of engine from the Allaire Works.[29]

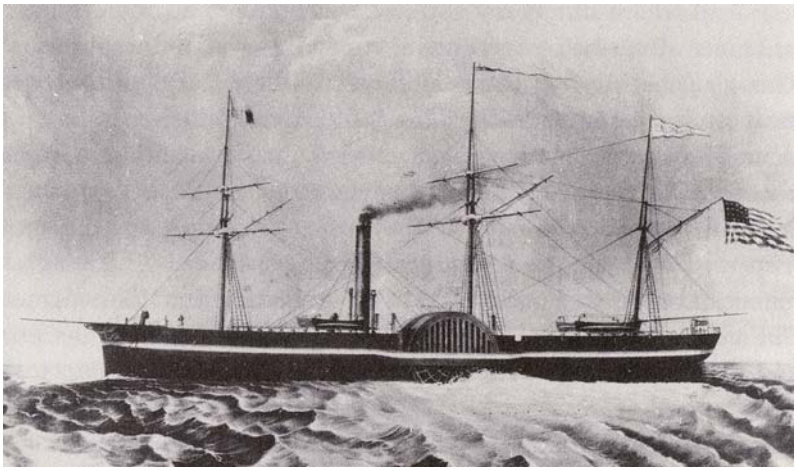
These three vessels were also some of the first American steamers to exhibit changes in form that deviated from standard sailing ship design. For years after the development of the steam engine, oceanic steamships were still patterned after the form of a sailing vessel, with raked bows, cutwaters, trail boards, and headrails, all elements directly traceable to sailing vessels.

California, *Panama,* and *Oregon* did not display any of these traits. All three ships had vertical stems that ended with a gammoning knee at the bowsprit. Gone, too, was the elaborate rig developed for sailing vessels. The combination of the bowsprit, jibboom, and dolphin striker was reduced to a short bowsprit supported by the knee at the head of the stem.[30] These alterations would eventually become standard on steamships of the mid-century and are representative of the changes that the wooden steam vessel underwent in its developmental progression.

California was the first vessel completed and was inspected and approved in September of 1848 (Figure 3). In preparation for the long voyage to the Pacific and remote assignment, it was loaded with 520 tons of coal, a year's worth of stores and a complete set of replacement engine parts. As it was designed for passenger service as

[29]Ibid.
[30] Ibid., 105.

well as a cargo ship, *California* was outfitted with sixty first class cabins and accommodations for up to one hundred and fifty steerage passengers.[31]



(Figure 3. *California*. Courtesy of the Mariner's Museum.)

On October 6, 1848, *California* officially departed from New York harbor with over one hundred passengers on board, among them the owner, Aspinwall and its designer, Webb. For most of those on board, however, this was simply a pleasure cruise. Once the vessel passed Sandy Hook, a smaller steamer, *Orus*, relieved *California* of all but seven passengers and left the vessel to brave the long journey south.

California's journey to the Pacific shore of Panama was one of the defining moments in the history of the Western United States and the Pacific Mail Steamship Company. No one aboard that lonely vessel could have expected what waited for them on the Pacific coast. Rumors of a discovery in the California countryside would profoundly affect the course of American history. The steamer *California* and the Pacific Mail Steamship Company would find themselves in the middle of this tumultuous discovery.

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[31] Victor M. Berthold, *The Pioneer Steamer* California, (Boston: Houghton Mifflin Company, 1932), 5-6.

Unfortunately for *California*, the voyage to its new cruising grounds was not without mishap. The dangers of oceanic steam travel were still very real. Despite the advances in steam engine technology, it was still in its nascent stage. On the first night of the voyage, a shaft bearing overheated and the starboard feed pump ruptured. Disabled and forced to proceed under low pressure, the stricken vessel limped on through the night. The next day the engineers discovered yet another problem, a cracked crosshead in the engine. While the vessel carried a duplicate part, it could not be replaced at sea. The vessel continued to carefully make its way to its next port, Rio de Janeiro in Brazil.[32]

The rest of the journey continued to be plagued with troubles. The engineers were in constant battle with the engine and paddle machinery, having to readjust the paddle-wheel shaft bearings nearly every other day. On the fifteenth day, the bilge pumps failed, the blow-off pipe to each boiler burst, and a check valve in the feed pump broke. Struggling against the constant ailments and under continual repair, *California* miraculously continued to make headway south.[33]

On October 16, 1848, Captain Cleveland Forbes wrote in his logbook about the ship's difficulties.

> [I] Find many inconviencies about the ship. The Bath is not convenient, the water closets in the wrong place & a nuisance. The Ladies small cabin continually flooded from the wheel. The center bearings wrong & the engineers obliged to go through the Cabin to attend to the journals to the same. The Stewards Pantry continually afloat from leakage in Pipes & from Shaft. Engineers rooms too hot to sleep in, the Thermometer being

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[32] John E. Pomfret, *California Gold Rush Voyages, 1848-1849: Three Original Narratives* (San Marino: The Huntington Library Publications, 1954), 180.
[33] Ibid., 188.

> up to 120° with all the winds sails & ventilations in opperation. The stock Pen to [*sic*] hot & confined & much too small for the ships use.[34]

The troubles were not restricted to mechanical failures. On the twenty-fourth day out, Captain Forbes suffered a lung hemorrhage and was forced to turn the ship over to the first mate, Mr. Duryee. The vessel sailed into Rio de Janeiro the following day, back-tracking after suffering a navigational error. Here the ship was refueled and repaired and Captain Forbes was allowed to recuperate on shore. *California* remained in port for twenty-five days, but once back on the open sea, its engines ran much smoother and the steamer was able to reach the Straits of Magellan in only eleven days.

California was only the third steamship to brave voyaging around the Horn. Six days were spent maneuvering through the foggy passages of the Straits, with pauses at anchor to wait out the foul conditions. Once *California* went aground while at anchor but did not suffer any substantial damage. The vessel was able to successfully round the Horn without any permanent damage and continued on to Valparaiso, Chile where Captain Forbes, continually troubled by chest pains, requested his replacement. Captain John J. Marshal of the ship *Natchez* took command of the vessel and set sail for Callao, Peru.

On December 5, 1848, while *California* was making its way through the Straits of Magellan, President of the United States James K. Polk addressed Congress with momentous news. He had received word from California concerning the discovery of gold at Sutter's Mill. With this single address to Congress and the American public, President Polk changed the future of the American West.

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[34] Ibid., 186.

> "It was known that mines of precious metals existed to a considerable extent in California at the time of its acquisition. Recent discoveries render it possible that these mines are more extensive and valuable than was anticipated. The accounts of the abundance of gold in that territory are of such an extraordinary character as would scarcely command belief, were they not corroborated by the authentic reports of officers in the public service who have visited the mineral district and derived the facts which they detail from personal observation. Reluctant to credit the report in federal circulation as to the quantity of gold, the officer commanding our forces in California visited the mineral district in July [1848] for the purpose of obtaining accurate information on the subject. His report to the War Department of the result of his examination and the facts obtained on the spot is herewith laid before the Congress. When he visited the country there were about 4000 persons engaged in collecting gold. There is every reason to believe that the number of persons so employed has since been augmented. The explorations already made warrant the belief that the supply is very large and that gold is found at various places in an extensive district of country."[35]

This proclamation initiated a veritable stampede of men westward. The call of gold was not discriminatory. Men from all walks of life scrambled for any available means to travel to the California gold fields. Newspapers throughout America detailed the success of gold-mining in California on a daily basis. On December 7, 1848, the *Berkshire County Whig* of Pittsfield, Massachusetts reported:

> The receipts average 40 dollars a day to each person, while some realize three hundred per day. The total addition of gold to the resources of California is at a low calculation $64,000 per day. Even United States soldiers desert in platoons to dig for gold.[36]

The *New Hampshire Patriot and State Gazette* of Concord received word from California describing the methods and ease of gathering gold:

> At present people are running over the country and picking it out of the earth here and there just as a thousand hogs, let loose in a forest, would root ground nuts. Some get eight or ten ounces a day; and the least active

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[35] Berthold, *The Pioneer Steamer* California, 14: quoting the Message of President Polk, December 5th, 1848

[36] "The New York Evening Post Says", *Berkshire County Whig*, Pittsfield, Massachusetts, Dec 7,1848.

> one or two. They make the most who employ the wild Indians to hunt it up for them. There is one man who has sixty Indians in his employ; his profits are a dollar a minute.[37]

With accounts such as this pouring in from the West every day, it is a small wonder that the ensuing mass-departure of fortune seekers occurred. Those who could afford to book passage on a steamship did. The Pacific Mail Steamship Company's second ship *Oregon* was scheduled to depart New York on December 22, 1848, but had to close its books two weeks early. Others took the long way around the Horn on sailing packets. So immense was the rush that between December 14, 1848, and January 4, 1849, thirty-six ships carrying 1,164 passengers sailed from the East Coast for the trip around South America. Before the end of January, another seven vessels with 350 passengers sailed for the Isthmus of Panama. By the end of January, 1848, 150 ships were advertising passage to California.[38]

Hoping to meet *California* on its way north, hundreds of men rushed to Panama, by steam ship, sailing vessel, fishing skiff, or any other means conceivable, all of them headed towards the tiny village of Chagres. Here the gold seekers hired local natives to take them by canoe up the mosquito-infested Chagres River, and then by foot or burro to the Pacific coast where they gathered in the small hamlet of Panama and waited for *California*'s arrival.

When *California* finally steamed into Panama's harbor, those on board encountered an astonishing sight: hundreds of men crowded the docks, anxiously awaiting their arrival. Captain Forbes described the town of Panama in his logbook.

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[37] "Gold Mines of California", *New Hampshire Patriot and State Gazette*, Concord, New Hampshire, Dec. 7, 1848.
[38] Somerville, *Aspinwall Empire*, 36.

> The Town of Panama is fast crumbling to pieces. The houses are miserable & going to decay & the churches are crumbling as the Roman Empire must do before civilization & Religion. The climate is very debilitating & unhealthy to those who expose [*sic*] themselves, but not particularly so to prudent people. The place was filled with Americans, about 500 in number, who had suffered some from expose & imprudence in crossing the Isthmus. Some died from the severe attacks of cholera & dysentery which proceeded from eating too much fruit & drinking Brandy on the fruit which is rank in poison.[39]

Captain Marshall eventually decided to provide passage to the men who had arrived in Panama via the United States Mail steamer *Falcon* and had already booked through passage to California. This number still overloaded his vessel with a total of 365 passengers.

The rest of *California*'s voyage to California was a sordid affair. The unplanned increase in passengers depleted the ship's stores. The captain quickly gave up any attempt at maintaining order on his crowded, unruly vessel and made every effort to get to California as quickly as possible. The vessel made stops at Acapulco, San Blas, Mazatlan, and Monterey. Just after leaving San Blas, part of the crew attempted mutiny, but were suppressed and delivered to a jail in Mazatlan. After departing Mazatlan, the ship ran out of coal and the crew was forced to tear up timber to fuel the engines.

Finally, on February 28, 1849, *California* steamed into San Francisco to the joy of those on board. The *Alta California* described the steamer's arrival:

> The *California* is a truly magnificent vessel, and her fine appearance as she came in sight off the Town, called forth cheer upon cheer from our enraptured citizens, who were assembled in masses upon the heights commanding a view of the Bay, and in dense crowds at the principle [sic] Wharves and landing places. She passed the vessels of war in the harbor

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[39] Pomfret, *California Gold Rush Voyages, 1848-1849: Three Original Narratives*, 223.

> and under a salute from each, returned by hearty cheering from the crowded decks, and at eleven was safely moored off the town.[40]

After unloading passengers and cargo, *California* was supposed to refuel and begin regular passages to Panama. Unfortunately, the lure of the mines was too strong and within a week every member of the crew had forsaken the ship except for the stricken Captain Forbes and an engine-room boy. The vessel was also out of coal and the collier that had sailed from England had not yet arrived.

Oregon was not far behind *California* and landed at Panama on February 23, 1849. The situation had not improved in the least. Unlike Captain Marshal, Captain Pearson of *Oregon* refused to overload his vessel and transported only the ship's full capacity, 250 passengers, north to San Francisco. By the time *Oregon* reached San Francisco, the collier had arrived, and it was *Oregon*, not *California*, that began regular service to and from Panama. *Oregon* departed for Panama on April 12, 1849, and *California* departed for the same port on May 1 of that year.

On June 4, 1849, *Panama*, which had been delayed departing New York due to engine malfunction, arrived in San Francisco with 290 passengers on board, leaving over 2,000 still on the docks in Panama. *Panama* began regular service by sailing back to Panama on June 20, 1849. With this departure, the regular service of the Pacific Mail Steamship Company was officially in full swing, though now entirely inadequate for the volume of traffic on the Panama mail route.

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[40] "Arrival of the Steamship California and her reception of this port", *Alta California*, San Francisco, March 1, 1849.

The Panama Years

William Aspinwall's business investment had resulted in an astonishing financial success. The flood of immigrants westward continued steadily, supplying the three Pacific Mail steamers with a mass of paying passengers. With such a demand for transport, prices quickly rocketed up for the passage between the isthmus and California. It soon became dramatically clear to all those involved with the Panama route that the three commissioned ships were insufficient for the number of passengers waiting for transportation. Though *California* and its sister ships made regular passages, it was never enough. The crowds in Panama were always more than the three steamers could safely carry.

In the fall of 1849 Pacific Mail bought the side-wheeler *Tennessee* from the New York and Savannah Steamship Navigation Company for service on the Pacific route. Built in 1848 in the yard of William H. Webb, *Tennessee* was 211 feet, 10 inches (64.57 meters) long and 35 ft, 8 inches (10.87 meters) in breadth and was rated at 1,275 tons burden.[41] The steamer was designed to carry two hundred passengers in cabins but was altered by the Pacific Mail to support an additional deck that extended from just aft of the forecastle the entire length of the ship to the stern. The sides of the vessel abaft of the wheels were raised to accommodate the new deck. These modifications increased the passenger capacity but obliterated much of the steamer's elegance.

This type of alteration of steamers was not unique during the Gold Rush era. Many ships used on the route were not designed to carry large numbers of passengers

[41] Ridgely Nevitt, *American Steamships on the Atlantic,* 111.

and had to be modified in order to accommodate the mobs in Panama. Once the new volume of traffic on the Panama route was evident, larger and more commodious vessels were purpose-built for the trade.

Immediately after *Tennessee*, four additional vessels were quickly introduced onto the Pacific run. *Carolina*, a smaller twin-screw steamer of 545 tons was sent to San Francisco soon after *Tennessee*. *Columbia* followed and started service in 1850. Originally destined for the San Francisco-to-Astoria leg of Pacific Mail's route, the needs of Panama required this steamer's service. *Columbia* was rated at 777 tons and was capable of carrying only 150 passengers in berths.[42] Another vessel, *Fremont*, was bought and placed onto the run in 1851. This small side-wheeler was purchased new from the Philadelphia shipyards of T. Birley. At the end of that year, *Golden Gate*, another vessel from Webb's yard, was purpose-built for the Panama route.[43]

Even with these new additions to the fleet, the ships of the Pacific Mail were unable to meet the constant flow of fortune seekers in Panama. The hoards of paying passengers quickly attracted newcomers to the trans-isthmus market and initiated fierce competition to the Pacific Mail Steamship Company in the west, as well as the United States Steamship Company in the east.

The first opposing line came from a New York agent, J. Howard and Son, who placed the ship *Crescent City* onto the New York to Chagres run in December 1848, with *Empire City* following six months later. The first competitive vessel in the Pacific was *Sarah Sands*, which did not arrive until June 1850. The company that

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[42] Kemble, *The Panama Route 1848-1869*, 40.
[43] Ibid., 39-40.

commissioned it was ultimately referred to as the Empire City Line. Within two years the ships of the Empire City Line were bought by the Pacific Mail Steamship Company and the vessels disappeared from the route.[44]

Even so, a fierce competition raged between the two original mail companies. The Pacific Mail Steamship Company officials became frustrated with the irregular and slow service of the United States Mail Steamship Company. Often, Pacific Mail officials were forced to wait at Panama for a ship to arrive at Chagres so that customers who had bought a "through ticket" from New York to San Francisco could make their connection. In response to this lethargic service, Pacific Mail placed competitive vessels on the New York to Chagres route as early as 1849. That same year, the United States Mail Steamship Company, envious of the higher profits of the Pacific leg, placed their own ships on that route. In January of 1851, the dispute was resolved and each company returned to their respective runs, purchasing the opposing ships from the other line.[45]

The success of the Panama route attracted a third, more insidious competitor, a man referred to as "the Commodore": Cornelius Vanderbilt. Vanderbilt established himself as a consummate businessman and shrewd investor with his operations in the rivers and sounds of the Northeast. He mastered the art of waging rate wars with his competition in the steamboat lines of the northeastern rivers and was considered a

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[44] Ibid., 47-48

[45]Edwin L. Dunbaugh and William duBarry Thomas, *William H. Webb: Shipbuilder* (Glen Cove, New York: Webb Institute of Naval Architecture, 1989), 50-52.

ruthless and dangerous adversary. When the glitter of gold attracted the nation's attention, Vanderbilt noticed.[46]

Rather than compete with the established lines on their routes, Vanderbilt attempted to cut everyone out by creating his own passage. Vanderbilt instituted a new route altogether, avoiding the original Panamanian crossing at the town of Chagres. Instead, he forged a path across Nicaragua.

The route proved to be attractive to many as it was closer to American ports than Panama by 525 miles (844.91 kilometers). The passage across the isthmus was slightly longer than the Panamanian trek, but nearly all of the Nicaraguan journey could be made by ship, up the San Juan River and across Lake Nicaragua. Vanderbilt's route would continue to run throughout the following years, though the service itself would be stolen away from him by his own representatives, Charles Morgan and Cornelius Garrison.[47]

The story of the Panama route during the 1850s is a long and sordid affair. Double dealing and back stabbing were common. Competitors waged vicious rate wars, undercutting the opposing shippers so badly that oftentimes the dominant line was forced to buy out the other. The behavior on the high seas was not much better. Near collisions occurred, and in one instance a stranded vessel, *Yankee Blade* of Vanderbilt's line, was ignored by a passing Pacific Mail ship, leaving the crew and passengers to fend for themselves.

By 1860 much of the competitive fire had faded. The original contracts that were signed in 1848 had been issued for ten years and then extended for an additional nine

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[46] John A. Butler, *Atlantic Kingdom: America's Contest with Cunard in the Age of Sail and Steam* (Washington, D.C.: Brassey's Inc. 2001), 122-129.
[47] Kemble, *The Panama Route 1848-1869*, 66.

months. This put the expiration date at September 30, 1859. Earlier that year, it became clear that the United States Mail Steamship Company would not return to the market and on the expiration day the company ceased to exist. Vanderbilt followed in the wake of the United States Mail Steamship Company and bought up most of the company's vessels. After another bidding war over contracts, Vanderbilt succeeded in gaining control of the Atlantic portion, while the Pacific Mail Steamship Company retained its hegemony on Pacific side of the continent.

The next five years were no less interesting for the Pacific Mail Steamship Company. Heightened tensions in the east and the outbreak of the Civil War prompted more passengers to head west and every steamship destined for San Francisco was fully booked.[48] At the end of 1860, the mail contract that had initiated steamer service on the West Coast was pulled from the steamship companies in favor of a new overland route. Fortunately, Pacific Mail remained one of the favored methods of passenger service to the west and retained its dominance in western coastal navigation.

The future of the company was not assured, however. On July 1, 1862, the Pacific Railway Act was signed by United States President Abraham Lincoln. Though the Transcontinental Railroad would not be completed until 1869, the effects of the decision were understood by the Panama route participants. A railway connecting both coasts made the Panama route largely obsolete. The Pacific Mail Steamship Company needed a new venue for its operations.

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[48] Ibid., 98.

Fortunately, the United States government had been interested in strengthening its relations with China for many years and was at that time in the process of developing a connecting mail service to the Far East. As the dominant steamship company in the Pacific, the Pacific Mail Steamship Company was in a prime position to take advantage of this opportunity.

CHAPTER III

TO THE EASTERN SHORES

By the mid-nineteenth century, the United States had established a long and profitable relationship with China. Western nations developed a commercial interest in the Far East as early as the Roman Empire and Portugal, Spain, and England had a history of trade with China that dated back to the sixteenth and seventeenth centuries. And after the Revolutionary War ended, America did not wait long to start a system of trade of its own. The first American merchant ship to sail into Chinese waters was *Empress of China* in 1784.[49] United States' citizens were familiar with Chinese goods which had been supplied to them by their English patrons, but now the newly independent country sought to establish itself in the international market. The relationship that *Empress of China* inaugurated on that first voyage was the beginning of a long-term economic partnership between the United States and China.

The China Trade

Beginning in 1784, America and China engaged in an intense commercial relationship completely independent of other nations. The main item of trade was tea. The importance of tea in American society was established early on in the history of the United States. By the turn of the nineteenth century, tea was considered a commodity of

[49] Philip Chadwick Foster-Smith, *The* Empress of China (Philadelphia: Philadelphia Maritime Museum, 1984).

vast economic and social importance. Exports of tea from China to America grew exponentially after *Empress of China* made its first voyage. In 1785 China exported 880,100 pounds (399,206.64 kilograms) of tea to America and only five years later, 3,093,200 pounds (1,403,051.92 kilograms) of tea left Canton, bound for the United States.[50]

Though tea was the primary commodity sent to the United States, it was not the only one. Silk played a major role in the early years of the Chinese-American trade, accounting for nearly one-third of the goods imported from China in the 1820s.[51] This product declined in popularity early in the nineteenth century and played a relatively insignificant role in trade until it re-emerged in the late 1800s. Chinese porcelain was also traded and soon appeared on many tables throughout the United States.

While the United States had a definite and established market for tea, it was unclear what products the Chinese desired. Standard products of American export such as salted fish, rum or lumber did not have an immediate market in China. However, a strange American root did command a substantial price in Canton. American Ginseng (*Panax Quinquefolia*) was the primary trade product that was carried to Far East by the *Empress of China*. The Chinese valued ginseng as a medicinal herb, which they believed was useful in curing most ailments. All levels of Chinese society sought the

[50] Yen-P'ing Hao, "Chinese Teas to America—A Synopsis," in *America's China Trade in Historical Perspective*, ed. Ernest R. May and John K. Fairbanks (Cambridge, Massachusetts: The Committee on American-East Asian Relations of the Department of History, 1986), 13.
[51] Ibid., 14.

herb, much like tea in America, and it was found that there was a demand for the foreign species despite the fact that there were local varieties available.[52]

Though the demand for ginseng primed the trade with China, it did not sustain it. Unlike America's demand for tea, which continues today, the Chinese market for ginseng was quickly flooded and diminished. This left American merchants struggling to find a replacement commodity to export to the Chinese. Fortunately, furs from the Pacific Northwest were recognized early on as commanding high prices in Asia. One of the first accounts of Chinese interest in furs came from John Ledyard, a marine who sailed on Captain Cook's last expedition into the Pacific.

> We purchased while here [*George's Sound*]about 1500 beaver, besides other skins, but took none but the best, having no thoughts at that time of using them to any other advantage than converting them to the purposes of cloathing, but it afterwards happened that skins which did not cost the purchaser six-pence sterling sold in China for 100 dollars. Neither did we purchase a quarter part of the beaver and other furr skins we might have done, and most certainly should have done had we known of meeting the opportunity of disposing of them to such an astonishing profit.[53]

Though Ledyard tried to commence fur trade with China upon his return to the United States in 1783, he was not able to generate serious interest. However, with China's diminishing demand for American ginseng, furs received renewed attention. Both American and British ships began to ply Northwestern waters in search of furs and pelts. The first American attempt at establishing a permanent outpost on the West Coast came from this endeavor. John Jacob Astor, a wealthy fur merchant from New York, attempted to create a permanent depot near the Columbia River to provide for the fur

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[52] Foster-Smith, *The* Empress of China, 33.
[53] John Ledyard, *A Journal of Captain Cook's Last Voyage* (Chicago: Quadrangle Books Inc., 1963), 70.

trade and enable "…a trade across the continent to that river, and from thence, on the range of the northwest coast, &c., to Canton, in China, and from thence to the United States."[54]

Astor's project ultimately failed and the demand for fur, like ginseng before it, gradually declined in the Eastern market. Yet again, American merchants were left struggling to find a viable commodity that sold well in the Asian economy. This time they turned to a truly addictive product: opium.

Great Britain initiated the opium trade with China after obtaining the monopoly from the Indian Moghul emperors in 1793, following Britain's occupation of India. The British East India Company discovered that opium commanded high prices in China and created its own market. Despite being declared illegal by the Chinese emperor in 1799, the importation of opium into China continued and blossomed into an extremely successful enterprise for both Great Britain and America.[55]

Great Britain held the monopoly on Indian opium, but beginning in 1811, American merchants discovered that the Turkish product could be sold to the Chinese. Even though Turkish opium was considered inferior to the Indian product, Americans remained active in the Turkish drug trade until 1838, when Great Britain relinquished its monopoly and allowed foreign vessels to carry Indian opium.

The opium trade, however, was not without its obstacles. As noted, the Chinese emperor realized the dangers of opium to the populace early on and attempted to stem its use throughout the country. This resulted in a series of attempts by the Chinese

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[54] Foster Rhea Dulles, *America in the Pacific: A Century of Expansion*, 2nd ed. (New York: Da Capo Press, 1969), 19.
[55] Jack Beeching, *The Chinese Opium Wars.* (New York: Harcourt Brace Jovanich, 1975), 22.

Government to prohibit the trade of opium and restrict its use throughout their country. Despite the political and legal tensions of the trade, both American and British merchants continued to sell opium throughout the nineteenth century.

Regardless of the product, whether ginseng, furs or opium, trade between China and America flourished in the nineteenth century. Every season, Canton saw more American ships enter its harbor. Within a few years of entering the market, America was second only to Britain in trade with China.[56] By the 1840s, Chinese goods were commonplace throughout the United States.

America's Push to the Far East

As America firmly established itself as a trading partner with China, an interest in creating a trans-Pacific route that directly connected the United States and the Far East was voiced. The contemporary eastward route to China required a long and arduous, though well-traveled, trek around the Cape of Good Hope, across the Indian Ocean and through the South China Sea to China. With the introduction of the clipper ships in the 1840s, a regular westward route to China was inaugurated. This run required a voyage down the eastern seaboard of North and South America, around Cape Horn, and across the Pacific to China. The route proved practical and profitable and the clipper ships immediately became symbols of America's maritime prosperity.

However, as the settlement of North America's far west continued and the relationship with China grew stronger, interest in establishing a direct route from the

[56] Hao, "Chinese Teas to America—A Synopsis", 14.

western coast of the American continent to China emerged. This avenue would bypass the lengthy passage around South America, and direct mercantile traffic into developing western ports. This initiative would secure America's dominance in the Pacific economy.

America's potential for dominating the far eastern trade through the West Coast was realized early on. A Spanish official, the Viceroy to Peru, commented on America's position as early as the late eighteenth century.

> We should not be surprised that the English colonists of America, republican and independent, are putting into practice the design of discovering a safe port in the South Sea and trying to hold it by traveling across the immense territory of this continent above our possessions in Texas, new Mexico and California. Much more wandering about may be expected from an active nation, which bases all its hopes on navigation and trade; and in truth it could hold the riches of Great China and of India, if it succeeds in establishing a colony on the western coasts of America.[57]

Perhaps the most important expansionist thinker of the nineteenth century was President James K. Polk, who spearheaded the movement west. Polk, who served as president from 1845 to 1849, was a strong advocate of Manifest Destiny, believing that America's boundaries should stretch from the Atlantic to the Pacific and farther. During this period of expansion he entertained numerous propositions for facilitating access to the West Coast. In 1845 Charles M. Fletcher wrote President Polk detailing its importance.

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[57] Charles Henry Carey, *History of Oregon* (Chicago: The Pioneer Historical Publishing Company, 1922), 112-113.

> For three hundred years the people of Europe have been seeking for a western passage to China. The principal governments of that quarter of the globe have at various times fitted out vessels at great expense to explore passage through or around the continent of America to the land of the spices & silks but have never been able yet to find it. Now this passage is presented to the American people and by opening it we cut-off the China trade through the Mediterranean & the Red Sea & make all Europe tributary to ourselves. The ports of the Pacific will be equal to the ports of the Atlantic, & the City of West Boston or by whatever other name it may be called, will yet rise in glory and grandeur on the shores of the great Western Ocean.[58]

Asa Whitney of New York presented a similar case. Whitney requested a land grant from the United States government to create a railroad system connecting the Great Lakes to the West Coast. His primary objective was to facilitate trade with the Far East. On January 23, 1845, he made his case to the Senate, illustrating the efficiency of his proposed route.

> [F]rom Columbia river to Japan is 5,600 miles making from New York to Japan 8,600 miles; from the Columbia river to Amoy, in China (the port nearest the tea and silk provinces) is 6,300 miles, making from New York to Amoy only 9,200 miles, which with a railroad to the Pacific, thence to China by steam, can be performed in 30 days, now being a sailing distance of nearly 17,000 miles, requiring from 100 to 150 days for its performance. Then the drills and sheetings of Connecticut, Rhode Island and Massachussetts, can be transported to China in thirty days and the teas and rich silks of China in exchange come back to New Orleans, to Charleston, to Washington, to Baltimore, to Philadelphia, to New York, and to Boston in thirty days more.[59]

These initial attempts at creating an overland connection to the West Coast failed. Fletcher and Whitney were correct in their beliefs concerning the potential of the

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[58] Charles Fletcher to James K. Polk, Geneva, 8 July 1845, in *Correspondence of James K. Polk*, ed. Wayne Cutler & James L Rogers II (Knoxville: The University of Tennessee Press 2004), 10:30-31.
[59] Senate Committee on Roads and Canals, *Memorial of Asa Whitney, of the City of New York, praying for A Land Grant to enable him to construct a railroad from Lake Michigan to the Pacific Ocean*, 28th Congress 2d sess., 1845.

Pacific coast as a frontier for Asian trade, yet each man treated the West Coast as if it were already part of the American Republic with an established port available, while, in fact, the American presence in the west was still in a nascent stage during this period.

As mentioned in the previous chapter, however, President Polk solidified America's claim to the western coast by concluding the Oregon Treaty with Britain in 1846. He further expanded the United States' western presence by seizing California from Mexico in 1848. While Polk's acquisitions gave the American populace claims to lands and U.S. Government protection in the West, these were not the driving motivations of his actions. Like Fletcher, Whitney, and other contemporary expansionists, Polk believed that California and Oregon, as territories, were in fact mere stepping stones to the Far East. Polk was decidedly aware of the potential of the West Coast for expanding trade with China and he was intent on securing a position from which to enter the Pacific directly from the United States. With the acquisition of California, he gained that position in the form of San Francisco Bay.

Once a legitimate American presence was formed on the West Coast, the United States did not waste any time preparing for the inauguration of the Pacific route. As early as 1848, the same year that the Panama contracts were issued, the government entertained the idea of creating a subsidized steamship line to the Far East. Once again, Thomas Butler King championed the cause to Congress. King stressed the importance of the United States' commerce with China and advocated attempts to increase America's share of the trade.

America had quickly established itself as a viable competitor with Britain in East Asia, but expansion of the volume of trade and better communication were necessary to compete effectively. King argued that "frequency and rapidity of intercourse are found to be the surest means of extending and increasing commerce".[60] He then declared that an established route from the western coast of the United States to China was indeed the quickest and most efficient route to reach China, and thanks to the steamship lines already in place, a passage from New York to Shanghai could be completed in forty-five days.[61]

King detailed the particulars of the route, outlining a circular track extending north from Monterey, skirting just south of the Aleutian Islands, (then in the possession of Russia) and then south down the Japanese coast and on to China. He acknowledged that this route was unknown and that coaling stations would be necessary, but assured Congress that coal would not be difficult to find as it occurred in abundance throughout the North Pacific and the Far East.[62]

Even though King made a convincing argument, it was not enough to initiate the immediate creation of yet another steamship subsidy. The original mail contracts connecting the East and West Coasts had not yet proved to be successful. And despite San Francisco's many qualities as a harbor, this port town was not large enough at that point to sustain major trading activities. The West needed more time to develop before it could facilitate the Pacific jump.

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[60] House Committee on Naval Affairs, *Steam communication with China, and the Sandwich Islands,* 30th Cong., 1st sess., 1848, H. Rep 596.
[61] Ibid., 15
[62] Ibid., 14

King's ideas however, did not go unheeded and the importance of creating a steamship line to the Far East remained in the United States national agenda. The next attempt came in 1851 when a bill was reported to the House of Representatives by the minority of the Committee on Naval Affairs. The bill required the secretary of the navy to enter into a contract with James B. Moore of Ohio in order to construct steamers to carry the mail from some point "to be defined by the contractors" within either California or the Oregon Territory to China.[63]

Like the Panama contracts, the particulars of this new contract had been defined earlier. Beginning in 1856, Moore offered to carry the mail on a monthly basis until 1861, when he would be required to provide semi-monthly access. The bill, if accepted, would require Moore to initiate the service with four steamships, three of which had to be of no less than 4,000 tons burden and the fourth ship of no less than 1,500 tons burden. All of the larger vessels would be required to carry a modern engine of 1,250 horsepower.[64]

These ships were expected to stop at the Sandwich Islands (the modern day Hawaiian Islands) on their way to and from the United States for coal and supplies and then continue directly to Shanghai. At Shanghai, the smaller vessel would carry the mail the rest of the journey to Canton. As in the original contracts, all ships were subject to the U.S. Navy oversight and, in times of conflict, could be removed from their routes and commandeered into service.[65]

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[63] House Committee on Naval Affairs, *Ammendment*, 31st Cong., 2nd sess., 1851, H. Rep. 472.
[64] Ibid., 2
[65] Ibid., 2-3,8.

Despite the fact that the bill had enthusiastic supporters, it failed to meet congressional approval. Ultimately, it would take another decade to successfully initiate the China line. However, the United States government did not ignore the topic of trans-Pacific policy during this period. Rather, attention was shifted from China to Japan, and a concerted effort to send an expedition to that island nation was put into effect.

Land of the Rising Sun

In 1638 the Shogun of Japan banished all Christians from the country and forbade them to return by his decree, "So long as the Sun shall warm the earth, let no Christian dare to come to Japan."[66] The complete expulsion of Christianity from Japan was solidified when the last Christian priest in the country was crucified in 1642. This eradication of western religion from Japan heralded a more than 200-year-long self-imposed seclusion from the rest of the world.

As America became increasingly involved in the Pacific, government officials realized that a relationship with Japan would be necessary. Just as sailing ships crossing the Pacific relied upon prevailing winds to transport them safely across great expanses, so steam powered ships required a constant supply of coal in order to function. To establish a regular line of steamships between the United States and the Far East, it was necessary to locate sufficient supplies of coal at refueling depots in the Pacific.

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[66] Peter Booth Wiley, *Yankess in the Land of Gods: Commodore Perry and the Opening of Japan* (New York: Viking Press, 1990), 5: quoting the Shogun edict of 1638.

As mentioned, Thomas Butler King assured Congress in 1848 that the acquisition of coal would be a trivial concern as it was abundant throughout the Pacific.[67] Despite King's enthusiasm, by 1852 America had not created or located a sufficient coal depot for the Pacific run. The Government believed, however, that Japan had the potential to be an excellent coaling station on the route towards China. Unfortunately, due to Japan's insular and secretive nature, the United States knew very little of this foreign empire, and America's earliest attempts to initiate communications with Japan met with various levels of rebuff.

One of the United States' earliest attempts to contact Japan was in 1837 when Charles W. King, a missionary-merchant, sailed to Japan to return four Japanese castaways to their homeland. King and his financial backer, D.W.C. Olyphaunt, staunchly believed that the return of the Japanese citizens would provide an ideal situation to promote foreign trade. A fellow missionary on the voyage, Samuel Wells Williams, wrote of the party's intentions.

> Since it was the misconduct of foreigners which closed their ports, it in fairness belongs to the same source to disabuse them of their misanthropy. Free trade begets a free interchange of thought; with the goods, the civilization and Christianity of foreign nations will extend.[68]

None of the crew could have guessed how difficult it would be to successfully initiate that trade.

When King's ship, *Morrison*, arrived in Japan, it was greeted by a warning shot fired from Japanese coastal batteries. Not long after, swarms of boats approached the

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[67] House Committee on Naval Affairs, *Steam communication with China, and the Sandwich Islands,* 30th Cong., 1st sess., 1848, H. Rep 596.

[68] Wiley, *Yankees in the Land of Gods,* 32, quoting S. Wells Williams, "Narrative of a Voyage of The Ship *Morrison,*" *The Chinese Repository,* VI (September and December 1837), 227.

ship, and soon *Morrison* was boarded by numerous curious locals. The Japanese interacted with the American sailors peacefully and left soon after boarding the vessel. This initial contact with the Japanese appeared reassuring. But the following day, *Morrison* was fired upon without warning and forced to weigh anchor and move out of range, and eventually abandoned Japanese waters altogether.[69]

Charles King was unimpressed with the Japanese reception and believed that the American government should take action. King feared that the Japanese would begin attacking any foreign ships that neared their soil. In response, he suggested that the United States government form a naval expedition to Japan which would insist upon opening diplomatic and commercial relations.[70] King's ideas did not receive much attention and Japan was largely ignored for the next few years. However, beginning in 1844, as a growing stream of American whaling ships ventured closer to Japan, the island nation re-emerged into the public realm.

In 1845 Captain Mercator Cooper of the whaling ship *Manhattan* landed in Japan with another fourteen Japanese castaways. After depositing them on Japanese soil, he attempted to sail to Uraga to alert officials of his peaceful intentions. At Uraga, Cooper's vessel was met by hundreds of Japanese vessels and forced to wait for five days. The Japanese were polite and presented the sailors with food and gifts, but at the end of the five days, Cooper was presented with a letter that thanked him for returning the castaways but told him never to return to Japan again.[71]

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[69] Wiley, *Yankees in the Land of Gods*, 31-32.
[70] Ibid, 33-34.
[71] John H. Schroeder, *Matthew Calbraith Perry: Antebellum Sailor and Diplomat* (Annapolis, Maryland: Naval Institute Press, 2001), 166.

The following year, the American Navy made its first attempt at diplomacy with the Japanese. Commodore James Biddle entered Edo Bay with the ship of the line *Columbus* and sloop-of-war *Vincennes*. Once again, the Japanese treated the Americans with cordial curiosity but refused them entrance onto Japanese soil. One week after Biddle had entered Edo Bay, he received an edict from the Japanese government refusing to conduct any negotiations and advising the American vessels to depart immediately.[72]

Finally, in 1850, Commander James Glynn of the United States Navy, captain of the sloop-of-war *Preble*, was sent to Japan after government officials heard of American castaways being held captive by the Japanese. The men in question, part of the crew of the whaling ship *Lagoda*, were imprisoned in the city of Nagasaki after wrecking on the Japanese coast. Glynn sailed into Nagasaki, and, being familiar with the past behavior of the Japanese, demanded the immediate release of the American sailors. When the Japanese officials stalled, Glynn threatened to sail to Edo and demand satisfaction. The sailors were released and Glynn promptly left.[73]

When Glynn reported back to the United States government, his account received more attention than previous encounters. One of the members of the *Lagoda* crew had perished while in Japanese care, and the crew claimed that they had been treated cruelly during their imprisonment. The apparent hostility of the Japanese was not acceptable to the American public and the *Lagoda* incident caused Congress to respond.

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[72] Wiley, *Yankees in the Land of God*, 34-35.
[73] Schroeder, *Matthew Calbraith Perry: Antebellum Sailor and Diplomat*, 167.

The United States publicly claimed that any attempt to establish relations with Japan was solely based on the protection of American whaling interests in the Pacific. After the harrowing and exaggerated *Lagoda* affair, this cause was easy to sell to the American public. The true intention of the expedition was, of course, concerned with the acquisition of coal and the propagation of trade.

Japan was a feudalistic country determined to stick to its reclusive ways, but the United States was brash and set on expansion and commercial growth. With open access to ports and supplies in Japan, the United States could establish a reliable and regular steamship line from San Francisco to Japan and China. Thanks to the Japanese hostility towards Americans, Congress had the excuse to organize an expedition.

Matthew Calbraith Perry and the Mission to Japan

The man who would ultimately lead this mission, Captain Matthew Calbraith Perry, was at first not interested in commanding the mission at all, but rather only wanted to assist in its organization (Figure 4). Captain Perry was one of the quintessential naval officers of the time. Born into what would become one of the most prestigious navy clans of the United States, Perry's life was steeped in maritime tradition.

(Figure 4. Duagerrotype of Matthew Calbraith Perry. Courtesy of the U.S. Naval Academy Museum.)

Matthew's father, Christopher Perry, broke from the family's Quaker pacifist tradition and fought in the Revolutionary War, serving on several privateers and two colonial naval vessels, as well as serving a brief stint in the Continental Army.[74] All of Christopher's five sons became naval men, including Matthew's older brother, Oliver Hazard Perry, who gained renown after defeating the British in the Battle of Lake Erie in 1813.[75]

Matthew began his own career in 1809 at the age of fifteen serving as a midshipman aboard the twelve-gun schooner *Revenge*.[76] Over the course of his long career, Perry proved himself to be a strong-minded commander as well as a progressive

[74] Ibid.
[75] Wiley, *Yankees in the Land of Gods*, 46.
[76] Ibid, 45.

thinker. As a commanding officer off of the coast of Africa in 1821, he displayed a concern for health and discipline aboard naval vessels when he implemented systematic health measures to prevent scurvy and other tropical diseases. He also demanded obedient and cooperative behavior from his crew, and was known to have a liberal taste for flogging.[77]

Aside from his assignments abroad, Perry also became an important force ashore. Beginning in 1833, he served at the Brooklyn Navy Yard for ten consecutive years and was responsible for recruitment.[78] During his time in New York, Perry began to pursue the improvement and reformation of the navy. Believing that the education of sailors and officers was paramount for a successful force, Perry organized and helped found a naval lyceum, museum, and library as well as the first naval journal.[79]

Known as a competent sailor and strict disciplinarian, Perry became involved in multiple naval campaigns and motivated many reforms within the navy itself. A supporter of a large navy, Perry also became involved with the mail subsidization project and was the chief naval inspector for many of the steamships created for the line.

As American interest grew concerning Japan, Perry began to investigate the secluded island nation. In January 1851 he wrote to the secretary of the navy, William A. Graham, proposing an expedition to Japan. In his letter he related past American relations with Japan and discussed the culture and environment of the mysterious island nation. Perry included a large amount of information he had gathered from the "best

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[77] Ibid, 48.
[78] Schroeder, *Matthew Calbraith Perry: Antebellum Sailor and Diplomat*, 68.
[79] Wiley, *Yankees in the Land of Gods*, 51.

authorities in the Congressional Library, from official reports, and from other reliable sources."[80]

Perry also believed that it was necessary to remain secretive concerning the true nature of the mission.

> The real object of the expedition should be concealed from the public view, under a general understanding, that its main purpose will be to examine the usual resorts of our whaling ships, with special reference to their protection, and the opening to them of new ports of refuge and refreshment.[81]

Furthermore, Perry felt that the original mission should be an entirely naval affair.

> To insure success, the first expedition should be strictly naval, untrammeled by the interference of diplomatic agents, who cannot judge advisedly of the movements and necessities of a squadron in remote and unfrequented seas. Once the way is open, which must be effected by at least a show of force, -trade and consequently diplomatic appointments would of course follow.[82]

On May 9, 1851, Secretary of State Daniel Webster wrote Secretary Graham concerning an excuse for the U.S. Navy to enter Japanese waters again. Seventeen Japanese sailors had been found adrift at sea 600 miles (965.61 km) from Japan and had been rescued and delivered safely to San Francisco. Captain John H. Aulick, the newly appointed commander of the East India Squadron, suggested to Webster that the return of these sailors might provide the ideal opportunity to once again attempt opening relations with Japan. Captain Aulick was preparing to depart from New York for China

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[80] Matthew C. Perry to Willam A. Graham, Washington, 27 January 1851, in *Papers of William A Graham*, ed. J.G. de Roulhac Hamilton (Raleigh: State Department of Archives and History, 1961), 22.
[81] Ibid., 15
[82] Ibid, 20.

to begin his service in the East India Squadron and offered to deliver the Japanese men back to their homeland.[83]

Webster, anxious to capitalize on this fortunate event, suggested immediate action. In his letter to Secretary Graham, he asked for a vessel to deliver the Japanese sailors from San Francisco to Hong Kong where they would be placed under the direction of Captain Aulick. Webster also instructed Captain. Aulick to deliver a letter to the Emperor of Japan from the President of the United States, Millard Fillmore. The letter was expressive and clear, indicating that Aulick was not a missionary but, rather, an emissary sent to "promote friendship and commerce between the countries."[84]

Above all else, Webster emphasized that Aulick's mission to Japan was to acquire the rights to purchase coal. The U.S. official promoting the new initiative felt that the mission's ostensible goal was not unreasonable, the country's navy and private shippers intended to purchase a natural commodity found in Japan and pay the local people adequate compensation for it. In the commercially minded view of the American government, opening trade between the two countries was completely reasonable, and no right minded nation would deny that simple request.

Surprisingly, Captain Aulick's mission was unable to even make it to Japan. After leaving New York, Captain Aulick, aboard the new war steamer *Susquehanna,* was instructed to escort the Brazilian minister to Rio de Janeiro and then continue to China. During the voyage, Captain Aulick quarreled with the commander of the vessel. After leaving Rio de Janeiro, the American envoy on board, Robert Schenck, charged Aulick

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[83] Daniel Webster to William A. Graham, Washington, 9 May 1851, in *Papers of William A. Graham,* ed. J.G. de Roulhac Hamilton, 90-91.
[84] Schroeder, *Matthew Calbraith Perry: Antebellum Sailor and Diplomat,* 169.

with misconduct towards the minister. Aulick was further charged with providing illegal passage to his son. These allegations, part of a damaging rumor campaign aimed at Aulick, resulted in his removal from the Japan mission.[85]

On November 18, 1851, Matthew Perry received a letter from Graham which simply stated: "Proceed to Washington immediately, for the purpose of conferring with the secretary of the navy."[86] Much to Perry's chagrin, he was appointed as the replacement commander of the Japan mission. He argued with Graham, claiming that to serve in the place of a subordinate office was similar to being demoted. Perry had previously requested a position commanding the Mediterranean Squadron, a much more attractive and respected station, and was gravely disappointed by his reassignment.[87]

Regardless of Perry's resistance, he was assigned to command the mission. And as with all things that Perry undertook, once he was resigned to his fate, he pursued the mission with vigor. In the next two years, Perry was able to do what no other man or nation accomplished. With his indomitable personality, his self-acquired knowledge of Japan and his determination, Perry successfully forced open the doors of Japan to the world and, specifically, to America and its merchants. The events and details of Perry's voyage have been the subject of many published volumes and will not be extensively discussed here.[88]

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[85] Ibid, 170.
[86] William A. Graham to Matthew C. Perry, Navy Department, 18 November 1851, in *Papers of William A. Graham*, ed. J.G. de Roulhac Hamilton, 216.
[87] Matthew C. Perry to William A. Graham, New York, 3 December 1851, in *Papers of William A. Graham*, ed. J.G. de Roulhac Hamilton, 221-222.
[88] Commodore M.C. Perry, *Narrative of the Expedition to the China Seas and Japan, 1852-1854* (Mineola, New York: Dover Publications, 2000).

Perry's voyage succeeded in not only securing ports and coal supplies for American ships, but it also initiated a dynamic economic relationship with Japan. Trade between the United States and Japan blossomed throughout the rest of the 1850s and Japan quickly became a strong competitor in the Chinese market. By 1860, both Japan and China were important trade partners with the United States.

With the ever-increasing trade with the Far East, interest in establishing a transpacific steam line re-emerged. In 1862 the California Legislature requested that Congress enact a law that establishing a mail route between San Francisco, Japan, and China.[89] The Chamber of Commerce of California hoped that this line would be incorporated in order to accommodate the growing wants of the market.

Not only was the exchange of goods between the Far East and the port of San Francisco doubling by the year, but there was also an increase in travel to Asia from ports all over the West Coast. The citizens of California claimed that by creating a steamship line connecting the Far East and San Francisco much of this traffic would be channeled through that city.[90]

With newly established ports of call in Japan, the success of San Francisco and California, and the growing trans-Pacific economy, the creation of the China line became possible. On February 17, 1865, an "Act to authorize the establishment of ocean steamship service between the United States and China" was passed by Congress.[91] The

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[89] *Mail Line Between San Francisco and Japan and China: Resolutions of the Legislature of California*. 37th Congress, 2nd, sess., 1862, H. Rep. 55.

[90] *Memorial of the Chamber of Commerce, San Francisco.* 37th Congress, 2nd sess.,1862, S. Rep. 25.

[91] *An Act to authorize the Establishment of Ocean Mail-Steamship Service between the United States and China*. 38th Cong., 2nd sess., 1865, Chap XXXVII.

act allowed the Postmaster General a span of sixty days to advertise for bids which accommodated

> [M]ail-steamship service between San Francisco, in the United States, and some port or ports in the Chinese empire, touching at Honolulu, in the Sandwich Islands, and one or more ports in Japan, by means of a monthly line of first class American sea-going steamship, to be not less than three thousand tons burden each…[92]

Not surprisingly, the only bid received came from the Pacific Mail Steamship Company.[93] The company had proven itself as the dominant steamship company in the Pacific and was in an ideal position to carry out the contract set by the Postmaster. It was also the only company that had the resources to commit to such an undertaking from the West Coast at the time. The Pacific Mail Steamship Company proposed building four steamers between 3,500 and 4,000 tons burden in order to facilitate the service. The company asked the maximum allowed amount, $500,000 a year, which was granted.[94]

The ships that serviced this line were built in the most exquisite fashion. Not only were they intended to be the flagships of Pacific Mail's new line, but they were also a striking testament of the United States' power in the Pacific realm. The vessels would appear in the Far East exhibiting the utmost luxury and latest design features, and would ferry all manner of men, women, and goods back and forth between the Orient and the United States.

The success of these ships would result in a huge influx of Asian immigrants into San Francisco and the west coast as well as increase the profitability of foreign trade.

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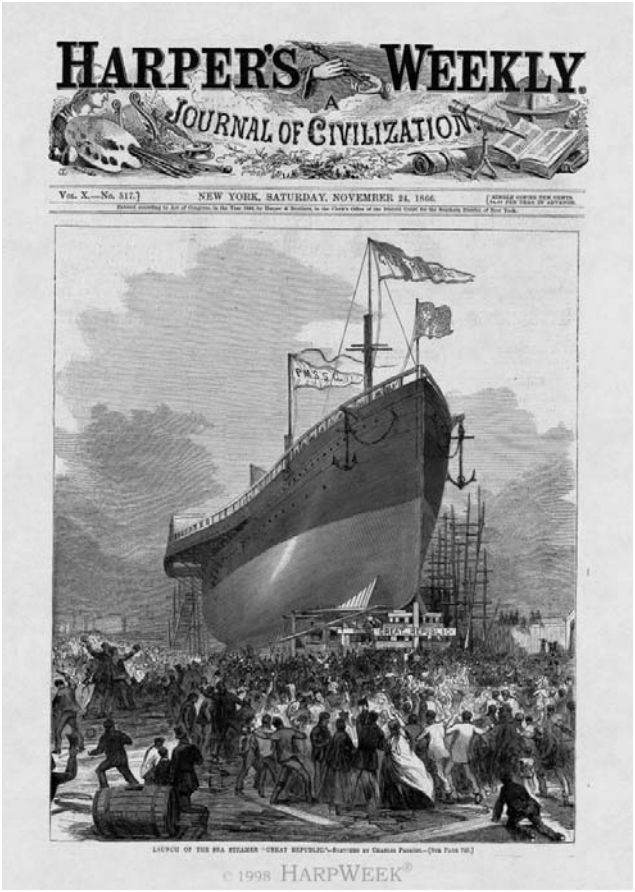
[92] Ibid.
[93] Kemble, *Side-Wheelers across the Pacific*, 6
[94] Ibid.

Just as important, these vessels were a statement to the rest of the world that the United States had arrived as a dominant international power in the world economy. The first of these ships to be built was *Great Republic*.

CHAPTER IV

GREAT REPUBLIC AND THE CHINA LINE

On a cold November morning in 1866 at Henry Steers' shipyard in Greenpoint, New York, a crowd of at least two thousand people gathered to witness the launch of the newest addition to the Pacific Mail Steamship Company's fleet, *Great Republic*. The event was an impressive affair with many of the city's elite in attendance. The ship loomed above them on its stocks, ready to slide into the East River. The vessel measured a massive 360 feet (109.73 meters) in length and 48 feet 6 inches (14.78 meters) in breadth. The two enormous paddle wheels spanned a full 40 feet (12.19 meters) in diameter and were a magnificent sight hanging above the throng. The launching of the ship was considered a newsworthy event and was advertised throughout the city, as well as the rest of the United States, as far west as its future home port of San Francisco. An image of the launch day scene even graced the cover of *Harper's Weekly* (Figure 5).

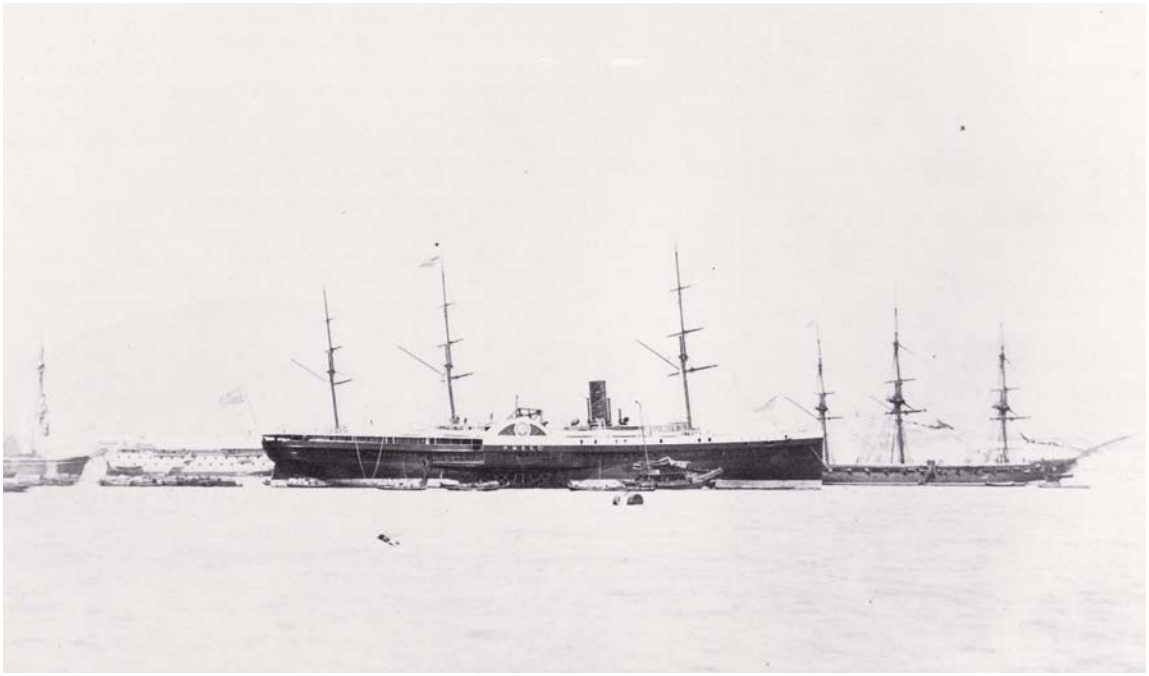


(Figure 5. *Great Republic*. Courtesy of HarpWeek, November 24, 1866.)

Though it was the launch day, *Great Republic* was still far behind schedule. While the contract issued to the Pacific Mail Steamship Company required a start date of January 1, 1867, not one of the four ships intended for the route was completed in time. To solve this problem the company assigned one of its coastal steamers, *Colorado*, a handsome vessel that measured 314 feet (95.71 meters) in length, 45 feet (13.72 meters) in breadth, and had a depth of hold of 31 feet, 9 inches (9.68 meters)(Figure 6).[95] *Colorado* was altered to accommodate the needs of the oceanic run, outfitted with a third

[95]John Haskell Kemble, *The Inauguration of the China Mail 1866* (Pasadena: Grant Dahlstrom, 1966), 2.

mast, and strengthened around the waterline to prepare the hull for service on the broad Pacific.[96]



(Figure 6. *Colorado* in Hong Kong. Courtesy of the Peabody Essex Museum.)

On December 31, 1866, a grand banquet was held at the Occidental Hotel in San Francisco celebrating the inauguration of the China line. Two hundred and fifty guests were invited to the eleven-course meal which started at nine in the evening and lasted long into the night. The banquet was as luxurious and ornate as the mighty steamers that it celebrated. The room was decorated with flags and evergreen garlands, and at the head of the table was an elaborate model of the *Colorado* crafted from sugar. The guests were further entertained by fifty live canaries placed throughout the hall. Luminaries from both east and west attended the event and the governor of California, Frederick Ferdinand Low, presided over the entire affair.[97]

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[96]E. Mowbray Tate, *Transpacific Steam* (New York: Cornwall Books, 1986), 24.
[97] Kemble, *The Inauguration of the China Mail 1866,* 1966.

The following day, a throng of people crowded the San Francisco docks to witness the departure of *Colorado*. It was a momentous occasion, heralding the start of an important enterprise between the United States and the Far East. At precisely noon, the ship's bow line was cast off and it slowly turned into the stream. Captain George Bradbury signaled the crew to cast off the quarter line and engage the engines. As the great walking beam began to rock up and down, the ship slowly moved into the channel and headed towards the Golden Gate. W.H. Mclean, a petty officer on *Colorado*, would later describe the event:

> That day was a great day for San Francisco, it seemed as if half the population was at hand to witness the sailing, which was to be the first steamboat to leave these shores for the faraway land across the Pacific. Flags waved and bands played the national air. When the moment for the steaming arrived, the great side wheels churned the water and she backed away from the wharf. The crowds cheered wildly and the bands fluted to the high notes. Salutes were fired from guns on the steamer and on the wharves. One of the guns exploded and several people were hurt as we swung into the stream. All the way down the bay the *Colorado* was saluted until we struck the open mouth of the sea. There were 150 passengers, every stateroom was taken and it was considered something of an honor to be a passenger on the first steamer to leave the Golden Gate for China.[98]

On board *Colorado* were a variety of VIP passengers, including A.A. Low, the president of the New York Chamber of Commerce, and Commodore J.T. Watkins, the senior officer of the Pacific Mail fleet. Along with these important figures were a multitude of first- class passengers who were mainly missionaries, businessmen, military personnel, and some true tourists. Steerage was made up solely of Chinese immigrants on their way home from the railroads and gold fields.[99]

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[98]William Kooiman, "SS Colorado, Paddle Wheeler to China" *Sea Classics* (November 1996), 20-25.
[99]Tate, *Transpacific Steam*, 24-25.

Colorado was a complete success and was well received on both sides of the Pacific. The ship arrived in Yokohama after just under twenty-two days at sea, and as it sailed into the harbor, the band aboard the French frigate *La Guerriere* played the "Star Spangled Banner," welcoming *Colorado* to Japan. After the warm reception in Japan, *Colorado* continued on to Hong Kong and arrived at its final destination just before midnight on January 30, a mere twenty-eight days after leaving San Francisco.[100]

Colorado remained in Hong Kong for more than a fortnight and loaded a cargo weighing over 2,000 tons before commencing the return voyage on February 17. *Colorado* entered San Francisco harbor on March 20 to yet another warm welcome. The citizens of San Francisco poured onto the wharves and crowded every available vantage point to watch the grand ship return home. Its return into the harbor marked the end of the inaugural run of the China Line and heralded a prosperous new age for the Pacific steam trade.

On March 1, the second ship of the Pacific Mail set sail for the Far East. The steamship *Hermann* was not destined to be a regular transpacific vessel, but rather was intended to serve as a spare or relief steamer in Japan. *Hermann* had already enjoyed a long career in the oceanic steam trade, having begun its career in 1847 on the New York to Bremen route for the Ocean Navigation Steamship Company.

While *Hermann* did not serve on the Pacific route directly, the ship was an example of the extent of the Pacific Mail Steamship Company's achievements in establishing the line. Not only were the primary steamers necessary, but additional

[100] Ibid., 25.

vessels were needed to act as relief ships in times of emergencies, as well as vessels like the *Costa Rica* which operated branch services to other parts of Asia.

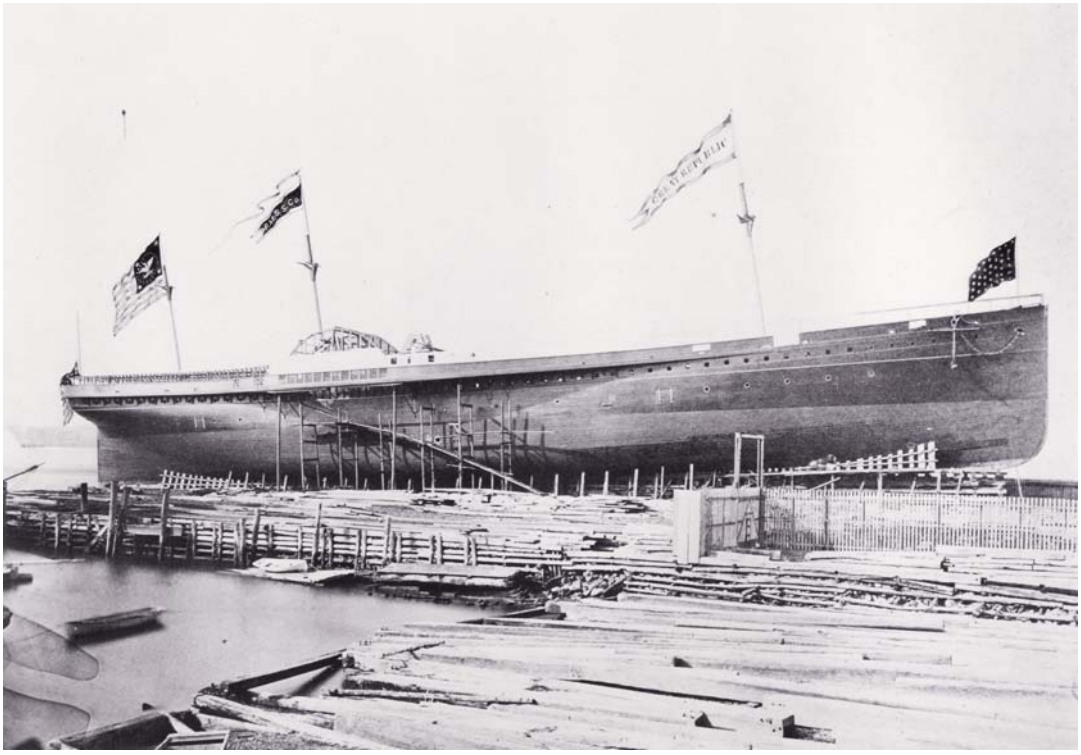
Colorado made its second voyage to the Far East on April 3, and continued to sail to the Far East on a regular schedule. On August 5, *Great Republic,* the first of the four commissioned steamships for the China Line, arrived in San Francisco Harbor. Once again the people of San Francisco provided a warm reception for the grand ship. The *Daily Alta* newspaper described the great ship and the importance of the China line soon after *Great Republic*'s arrival.

> From stem to stern she is as perfect a steamer as can be produced in the world, and no successful steamer (the *Great Eastern* is simply a mammoth marine elephant, which regularly ruins a new set of owners with every trip) save her companion ship, *China*, now on her way here, now afloat, can in any manner compare with her. It would seem at first glance that she is too richly furnished and luxuriously fitted for the trade between this port and Japan and China; but when we take into consideration the fact that steamers of this line are to compete with the indifferently furnished, comparatively small, close and inconvenient steamers of the Peninsular and Oriental Steamship Co., running through the sickly regions of the equator, it will be readily seen that such advantages as they offer will not be thrown away on the public…[101]

[101] "The *Great Republic"*, *Daily Alta California*, San Francisco, August 6, 1867.

Great Republic

A New York Times reporter described *Great Republic* as "…the largest ship of any kind sent "down to the sea" from any American shipyard for commercial purposes."[102] At least two images survive today of *Great Republic* immediately prior to its launching, the first on the stocks at Henry Steers' yard (Figure 7). The second is of it at the newly completed dry dock at Erie Basin, Brooklyn. This photo was taken shortly after launching but before it was sent to the Novelty Iron Works (Figure 8).



(Figure 7. *Great Republic* on the stocks. Courtesy of the Collections of The New York Historical Society.)

[102] "The *Great Republic*: Launch of the *Great Republic*—China Line &c." *New York Times*, November 10, 1866.

(Figure 8. *Great Republic* in dry dock. Courtesy of the Peabody Museum of Salem.)

Great Republic was finely crafted in the highest fashion of American naval engineering and considered the apogee of wooden steamship technology. *Great Republic* was, in fact, the largest wooden American ship at the time, though the hull would be surpassed in size by its sister ship, *America*. The ship married a massive structure and solid features with elegance and luxury rarely seen in steamships. However, the ships' luxuriousness came with a price. Each of the four steamers cost $1,000,000 to build, an astounding price for any ship in the nineteenth century.[103]

Though destined for the untested Pacific route, the ship displayed every amenity of an Atlantic liner. And even though British steamship engineers had completely

[103] Ridgely-Nevitt, *American Steamships on the Atlantic*, 338.

converted to iron construction by the 1860s, *Great Republic* maintained a level of American pride in its massive oak timber and pine planking.

Great Republic and its sister ships were nearly identical in structure and layout. Each ship carried three full decks, a main, berth, and cargo deck, and an orlop deck fore and aft of the engine room. Additionally, *Great Republic*'s hold was separated into five watertight compartments by four stout bulkheads.[104] Appearance-wise, the ships closely resembled the contemporary coastal steamers employed by the Pacific Mail. Due to the more rigorous demands of the ocean crossing, however, the main deck was enclosed forward of the paddle-wheel boxes, and the extent of the upper works was reduced when compared to their coastal counterparts.[105]

All of the vessels were outfitted with massive walking beam engines, built and installed by Novelty Iron Works of New York. *Great Republic*'s engines had a single cylinder that was 105 inches (2.67 meters) in diameter with the piston reaching a twelve-foot (3.66 meters) stroke. Horatio Allen, the president of the Novelty Iron Works, actually held a luncheon party for twenty-two individuals within one of the cylinders as it lay on its side! Steam was fed into the cylinder via four horizontal tubular boilers which in turn were heated by four furnaces each, making a total of sixteen furnaces. Each furnace had a grate surface area of 560 square feet (170.69 meters), making the total heating surface area 15,100 square feet (4602.48 meters).[106]

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[104]Ibid.
[105] Kemble, *Sidewheelers across the Pacific*, 9.
[106] "The *Great Republic*: Launch of the *Great Republic*—China Line &c." *New York Times*, November 10, 1866.

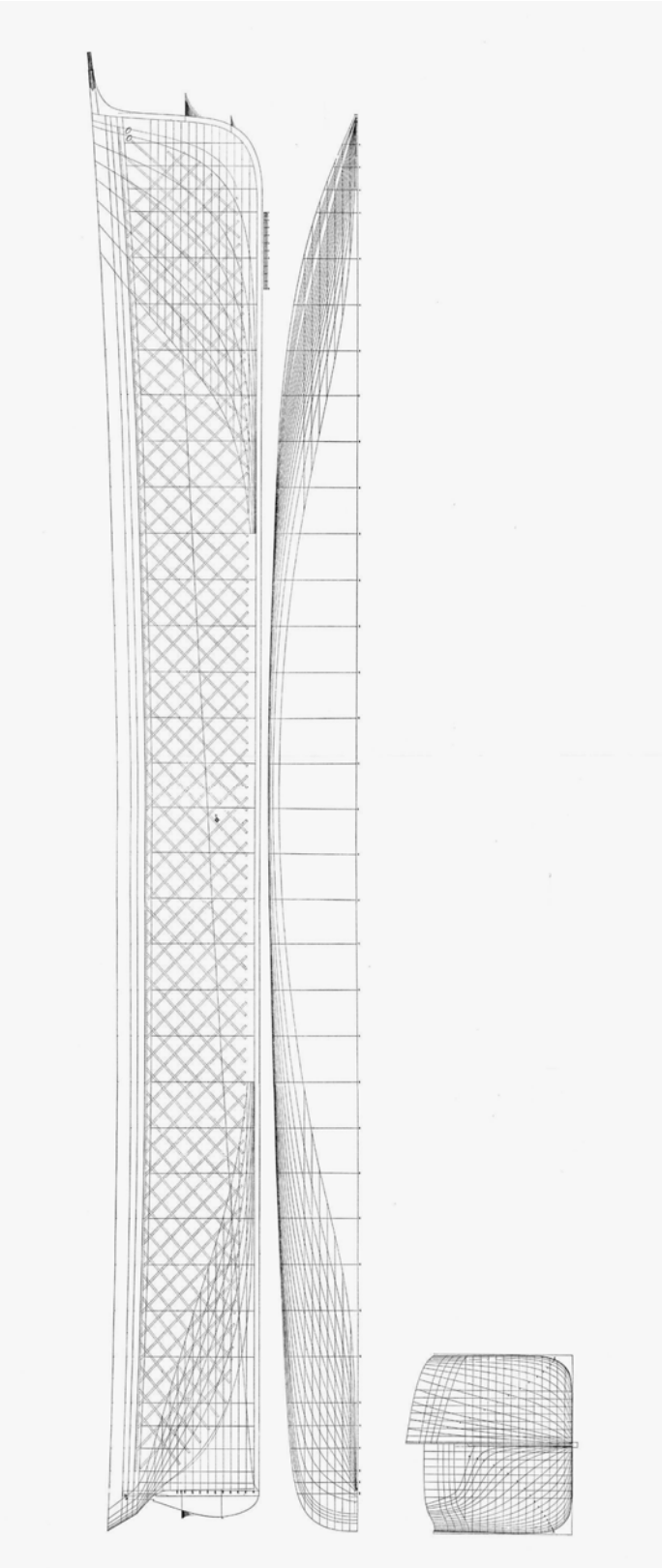
The massive engines powered the equally enormous paddlewheels which measured 40 feet (12.19 meters) in diameter and carried thirty-four buckets.[107] In addition to the powerful engine, all of the China liners carried a full complement of sails. *Great Republic*, as well as the rest of its sister ships, were bark-rigged, three-masted vessels. Though the ships were intended to rely upon their engines, steam engineering had not been fully refined to the point where complete trust could be placed in the engines. This was proven during a voyage when the *Great Republic* broke its paddle shaft and had to complete the rest of the voyage solely on sail power.

Great Republic's construction was extremely solid, built to survive the long Pacific crossings. The arduous journey posed greater difficulties for such a large hull, and its design had to be sufficiently strengthened to resist greater stress and deflection problems. Its frames were constructed from white and live oak, both strong and durable species of timber. The frames were reinforced with a series of iron straps that fitted into the outboard face of the timbers.

[107] Ibid.

These iron straps were 7/8 inch (2.22 centimeters) thick and 5 inches (12.7 centimeters) wide and were fitted diagonally across the frames, crisscrossing each other every 4 feet (1.22 meters).[108] A layer of yellow pine planking was then placed over the braces and frames and made watertight in the traditional manner with caulking and pitch. A second layer of iron braces was installed over the first layer of planking followed by a second layer of planking. Oak planking 4 ½ inches (11.43 centimeters) thick was used below the water line and 5 inch (12.7 centimeters) pine planking above it.[109] This complex structure required exacting workmanship since every fastener had to be accurately placed to accommodate the frames as well as both layers of planking and braces. In addition, each frame had to be precisely notched to allow for the diagonal strapping.[110] Though a construction plan for *Great Republic* does not survive, a lines drawing for its sister ship *China* is still available and clearly shows the diagonal straps and their placement across the hull (Figure 9).

[108] Kemble, *Sidewheelers across the Pacific,* 9
[109] Ibid.
[110] Ridgely-Nevitt, *American Steamships on the Atlantic,* 338.



(Figure 9. The hull lines of *China*. From The Mariners Museum.)

The rest of the ship was equally strong. Each beam for the orlop deck was supported by a pair of grown knees at either end which were fastened to the hull with sixteen iron bolts. The beams for the berth and main decks were supported by three knees at each end.[111]

The strength of this vessel was summed up in the newspapers with the statement: "The whole is so thoroughly braced and bolted and fastened together that it is difficult to imagine wind and wave combined of sufficient power to cause distress to so staunch a structure."[112] The vessel was, in fact, built excessively strong and for a very good reason. *Great Republic* and its sister ships were pushing the limits of feasibility for wooden steamship construction. The iron bracing and knees were required by the drastic demands that a vessel of this size presented.

At the time of *Great Republic*'s construction, Pacific Mail officials were criticized for building the four new ships from wood since foreign steamships were relying heavily upon iron by this period. The choice to build with wood was a result of a variety of factors, including available resources and maintenance facilities. However, perhaps the most crucial element was the fact that American shipbuilders lagged behind their British counterparts when it came to a shifting to a radically different technology.

Great Britain, with its substantially longer maritime history, began to experience wood shortages for ship building. To remedy this, the British imported wood from

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[111] Ibid 338-339.
[112] "The *Great Republic*: Launch of the *Great Republic*—China Line &c." *New York Times*, November 10, 1866.

throughout Europe for the manufacture of their vessels. However, as the Industrial Revolution began to grip Great Britain, iron became more available to the shipbuilding community. Though not immediately accepted as a viable shipbuilding medium, iron eventually became a crucial element in British ship construction. This was largely thanks to the influence of civil engineers and a scientific approach to shipbuilding. During the early nineteenth century, men like John Grantham, William Fairburn and I.K. Brunel heavily influenced British shipbuilding with innovative techniques and designs that incorporated iron. This marriage of iron engineering and shipbuilding revolutionized ship construction in Britain.[113]

This shipbuilding movement did not occur in America, or at least not in the same way. American shipbuilders did not experience the same extensive depletion of natural resources for shipbuilding like Great Britain and, therefore, were not forced to turn to iron as an alternative shipbuilding medium. Additionally, shipbuilding largely remained a traditional enterprise and did not incorporate scientific methods, and relied instead on the methods and designs that were in practice during the colonial period.

[113]William H. Thiesen. *Industrializing American Shipbuilding: the Transformation of the Ship Design and Construction, 1820-1920.* (Gainesville: University Press of Florida, 2006), 17-19.

Indeed, very little in ship design and construction changed from the colonial period to the nineteenth century in American shipbuilding, except for a more extensive reliance on iron fasteners and reinforcing elements. The American industry retained a certain level of practicality that was largely based upon manufacturing efficient wooden ships.

Since there was little incentive to incorporate new theories, materials and techniques in ship design or construction, the adoption of iron took longer in the American shipyards.[114] *Great Republic* and its sister ships are perfect examples of this phenomena. Though modern in shape and style, they were built in the prevailing American tradition. Some shipbuilders were beginning to convert to iron construction, but many during this period still retained the practice of constructing vessels out of wood.

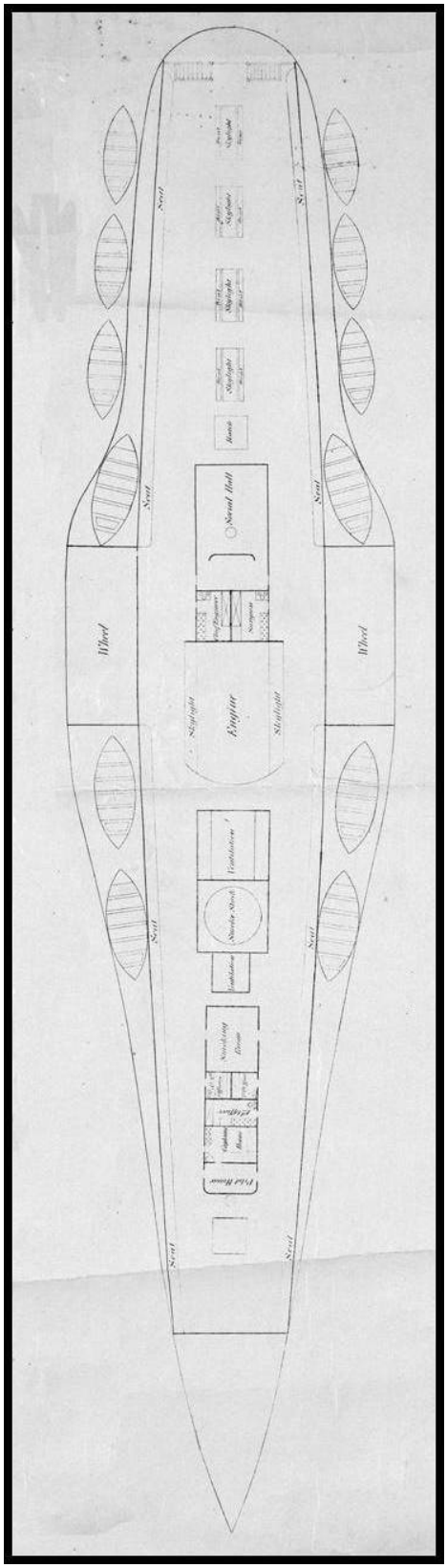
Despite retaining a primarily wood-based construction, the China Line's vessels proved to be quite successful despite their short careers. Before they were replaced by iron vessels, the wooden behemoths of the Pacific Mail carried passengers to and from the Far East on a regular basis. *Great Republic* inaugurated a six-week schedule beginning in September 1867.

[114] Ibid., 44-59.

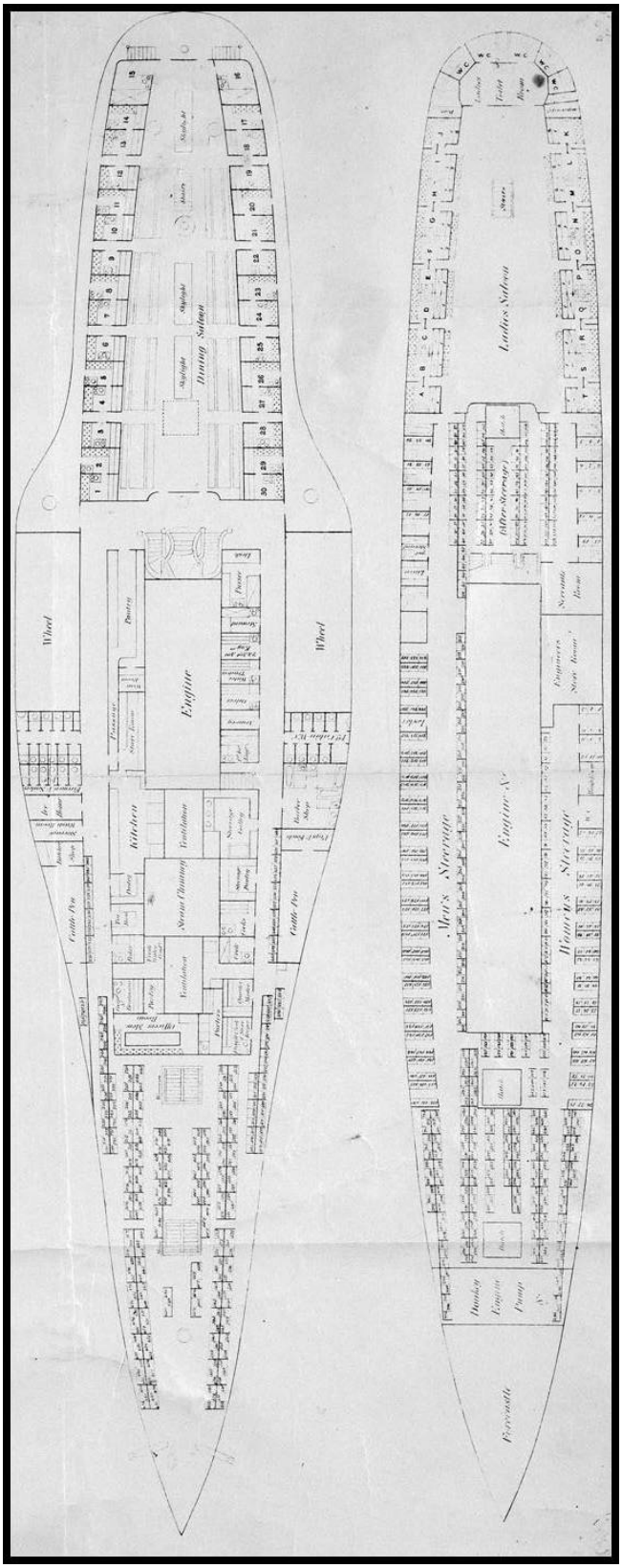
Its sister ship, *China*, arrived in October of that year, and the third ship of the service, *Japan*, steamed into San Francisco Bay the following year. Once *China* reached San Francisco, the monthly regular service to the Far East truly started with a steamship departing for the Orient at the beginning of each month. In 1868 *America*, the last of the original four ships commissioned, sailed from Henry Steers' yard in New York, around the Cape of Good Hope to Singapore, where it began to take on Chinese passengers. *America* entered San Francisco in October 1869 with nearly 800 Chinese immigrants.[115]

The vessels quickly became favorites among passengers, and for good reason. All four of the ships were not only engineered for stability, but also designed to be as comfortable, safe and luxurious as possible. Though a deck plan for *Great Republic* has not been found, there is a plan for her sister ship, *Japan*, the two were likely very similar (Figures 10 & 11).

[115] "Arrival of the America: Her build and Appearance", *Daily Alta California*, San Francisco, California, October 21, 1869.



(Figure 10. Upper deck plan of *Japan*. From the Mariner's Museum.)



(Figure11. Lower deck plans of *Japan*. From the Mariner's Museum.)

As evidenced from the deck plan, the pilot house was situated foremost on the main or spar deck. Directly abaft of this was a cluster of officer quarters including the captain's cabin, as well as a smaller public smoking room. Aft of these cabins were the smoke stacks, walking-beam engine, and another public cabin for social activities (which also housed the grand staircase entrance down to the main deck).

The rest of the spar deck appears to have been an open area with skylights that admitted air and light into the grand dining saloon. Alexander von Graf Hubner, a European passenger aboard the *China*, commented that, "[t]he vessel is all painted white; masts, deck cabins, deck, tarpauling, benches—all are white. This deck, from poop to prow, is all in one piece, and makes a famous walk."[116]

Another interesting element on the spar deck, not evident from the deck plan, is a transverse rod located amidships that connected the two sides of the vessel. Thanks to Hubner, its function is known: "It is very thin, and yet, if I am to believe the engineer, it is this bar alone which, in very bad weather, prevents the enormous shell of the boat from breaking in half. There are moments when one's life hangs on a thread; here it hangs on an iron bar."[117]

Directly below the spar deck was the main deck and center of first class passenger activity aboard *Great Republic*. The after section of this deck was dominated by the main dining saloon which measured 120 feet (36.58 meters) in length. On either side of the grand dining hall were situated state rooms. There were twenty-six state rooms and two bridal suites on *America*, the largest of the four vessels. It is not known

[116]Alexander von Graf Hubner. *A Ramble Round the World* (London: Macmillan, 1874), 189.
[117] Ibid.

exactly how many first class cabins there were aboard *Great Republic,* however, it is known that the ship was capable of carrying 250 cabin passengers and 1,500 passengers in steerage.[118] Cabin passengers likened their furnishings to those of drawing rooms ashore and claimed that they were only surpassed by the finest accommodations found on Hudson River and Long Island Sound steamers.[119]

Aboard the *America*, the grand staircase and main saloon were decorated in the highest fashion. The woodwork and furniture were crafted from black walnut and upholstered with silk. The decks were bare wood, but were designed with alternating planks of spruce and black walnut which provided a zebra stripe appearance. The walls of the saloon, entrance, and bridal suites were painted in luxurious frescoes with gold inlay work.[120] While first- hand accounts describing the interior of the *Great Republic* were not found, certain similarities must have existed between the sister ships *America* and *Great Republic*. Additionally, a rare stereo-photograph showing the interior of *Great Republic* does remain and is reproduced here (Figure 12). It is unclear precisely where in the ship this photo was taken. If it was in the main saloon, this is direct evidence that *differences* also existed since the deck here is ornately decorated with a floral-pattern carpet rather than the zebra stripes described on *America*.

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[118] Kemble, *Sidewheelers across the Pacific*, 12.
[119]William H. Seward. *William Seward's Travels Around the World* (New York: D. Appleton and Co., 1873), 31.
[120] "Arrival of the America: Her build and Appearance", *Daily Alta California*, San Francisco, California, October 21, 1869.

(Figure 12. Stereopticon depicting the interior of Pacific Mail steamer *Great Republic* by Boehland & Koenig. Courtesy of Mr. Stephen J. Potash.)

Located directly forward of the saloon was the barber shop, galley, doctor's office, purser's office, cow pens, armory, water closets, and similar storage and work spaces. The bathing arrangements aboard *Great Republic*, located directly forward of the paddle wheels, attracted particular attention from one passenger who detailed the experience in his journal.

> There is a bath that is in the paddle-box with a window a yard square. It is filled with fresh Pacific water, and I roll therein like the sea-lions of the Cliff-house while I watch the birds. Now and then a whale blows. None of them can enjoy the air and water more than I do in the early morning… Every morning the English crowd bathes in the paddle-box establishment; an occasional Dutchmen takes a plunge now and again, but we are regular bathers.[121]

Steerage passengers slept in standee berths forward of this area. These berths were temporary structures that could be easily erected and broken down to make efficient use of an area.

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[121] J.F. Campbell. *My circular notes: extracts from journals, letters sent home, geological and other notes, while traveling westwards round the world, from July 6, 1874 to July 6, 1875* (London: Macmillan & Co., 1876), 153, 155.

Below the main deck was the berth deck. The after portion of this deck was similar to the main deck, with accommodations for first- class passengers, though here the accommodations were cheaper and specifically intended for families and female passengers. There were approximately one hundred staterooms with three to six berths each, arranged around a central saloon. These staterooms were finely furnished, well-lighted and well-ventilated, though perhaps not as luxurious as those on the upper deck. The forward end of the berth deck was arranged for steerage passengers.

While the first-class cabin and second-class cabin passengers were mainly composed of European and American passengers, the steerage was solely Asian. Most of the extant information concerning traveling aboard these vessels comes from the accounts of first-class passengers. These accounts, combined with photographs of the vessels, journals, and newspaper articles, comprise the majority of this data, and almost all depict first-class accommodations. However, the majority of passengers and sailors aboard these vessels were Chinese. In fact, in addition to the transportation of mail and goods, the transportation of Chinese immigrants was a primary function of these ships.

The only information that we presently have concerning conditions for Chinese passengers aboard these vessels comes from the first-class traveler's perspective. Most of the passengers who recorded their experiences during the Pacific crossing also took the time to discuss their fellow Asian passengers. Early during his crossing, Hubner saw very little of the steerage passengers, commenting that "[t]hey go to bed at San Francisco

and never leave their berths till they reach their destination. You never see one of them on deck."[122]

Later in his journey, Hubner ventured below decks with the captain into the steerage area.

> The Chinese quarter is on the lower deck. We have about 800 on board. They are all in their berths, smoking and talking and enjoying the rare pleasure in their lives of being able to spend five weeks in complete idleness. In spite of the great number of men penned into so comparatively small a space, the ventilation is so well managed that there is neither closeness nor bad smells. The captain inspects every hole and corner—literally everything— and everywhere we found the same extraordinary cleanliness. One small space is reserved for the opium-eaters or smokers, and we saw these victims of a fatal habit, some eagerly inhaling the poison, others already feeling its effects.[123]

William H. Seward, an American traveler who ventured across the Pacific aboard *China* in 1870, recorded a similar observation.

> In steerage there are five hundred Chinese returning home. They pay less than half price, and are fed with the simple fare of their country. Knowing no use of beds, they sleep on the floor. In the middle of the cabin they have made, with canvas, a dark room for opium-smoking. When on deck, they appear neatly clad, and amuse themselves with unintelligible and apparently interminable games of chance.[124]

Despite being colored by the dominant racism of the time, both of these accounts relate interesting facts concerning life in Chinese steerage. Though not luxurious, accommodation in steerage quarters was simple and apparently not unpleasant. An illustration of the Asian-occupied steerage on board of *Alaska*, a coastal side-wheeler

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[122] Hubner, *A Ramble Round the World*, 189.
[123] Ibid., 194.
[124] Seward, *Travels Around the World*, 32

employed in Pacific crossing by the Pacific Mail later in 1870s gives us a sense of what the conditions were like (Figure 13).

(Figure 13. Chinese steerage aboard *Alaska*. Courtesy of The Bancroft Library, University of California, Berkeley.)

This print clearly shows the Chinese steerage during a meal. The area appears to be well lit and clean. A ship's officer and what appears to be a steward are also present, presumably inspecting the conditions of the accommodations. Admittedly, all of these articles, journal entries, and illustrations are biased from the American and European perspective. However, they suggest that the conditions on board the Pacific Mail Steamships, in both first- class and steerage, were as comfortable as possible.

Great Republic*'s Career*

Great Republic officially began service on September 3, 1867, and sailed from San Francisco to Hong Kong. The departure received considerable attention in the local newspapers:

> The departure of the magnificent steamship *Great Republic* for Japan and China yesterday was one of the features of the year, and attracted an immense number of our people to the city front. At noon, the hour fixed for her departure—the whole wharves [*sic*] and shipping in the vicinity of the Pacific Mail Steamship Company's dock were covered with people of every nationality and much enthusiasm was manifested. The Chinese population seemed to have turned out almost *en masse* to bid farewell to their departing countrymen, of whom there were nearly 700, and Americans, Europeans and Asiatics mingled and jostled each other in the vast crowd, the assumption of dignity of class and pride of race being for the moment, at least, laid aside and forgotten. The noble steamship, the pride of the steam marine of America, was gaily decked with colors, carrying the P.M.S.S Co.'s flag at the main, the Japanese national standard at the mizzen, the banner of the Chinese Empire at the fore, and the American ensign at the peak. As her great wheels commenced revolving and she steamed away from the wharf amid the huzzas of the multitude a salute was fired from the *Golden City*, and the colors of the various craft along the city front were dipped in her honor. The Chinese, at this moment, threw after her an immense number of yellow slips of paper, known to outside barbarians as "joss papers," or "prayer papers," inscribed with prayers for the safety of the vessel and her passengers and commending both to the merciful kindness and protection of the rulers of the winds and waves, and the great steamship swung around in the stream, and moved steadily and swiftly down the harbor.[125]

[125] "Departure of the "Great Republic": Great Crowd at the City Front –Curious Ceremony by the Chinese", *Daily Alta California*, San Francisco, California, September 4, 1867.

This event commenced *Great Republic*'s official career. *Great Republic* operated a regular six-week schedule to the Far East transporting a variety of goods and people. On every departure, the *Daily Alta California* would list the ship's cargo and important passengers. *Great Republic* and its sisters were responsible for the transportation of a large quantity of goods. The ships of the Pacific Mail Steamship Company carried everything from fruit and vegetables to rifles and kegs of whiskey as well as large amounts of specie. These commodities were traded for teas, silks, and rice.

Beginning with *Colorado*, *Great Republic*, and *China*, the Pacific Mail Steamship Company was able to operate a regular, monthly service to Japan and China, with branch services to Shanghai. Once all four commissioned ships were in operation, Pacific Mail was able to maintain a monthly schedule with extra ships available to serve as replacement steamers. This provided the company additional protection, ensuring that a broken-down ship could be replaced immediately. It also allowed the company time to overhaul ships and provide regular maintenance without affecting the regularity of the service.

The importance of additional ships had already been made extremely clear when *Great Republic* had a brush with disaster on the third voyage. On the morning of March 23, 1868 the first assistant engineer, Mr. Cooper, was surprised during his watch by a loud snapping noise. He immediately switched off the engine and began to investigate. He discovered a large crack running along the starboard shaft, where it passed through the hull, measuring 10-1/2 inches (26.67 centimeters) long, 3/8 inch (.95 centimeters) wide at one end. The crack ran along the shaft, both inboard and outboard of the ship,

increasing the difficulty of a repair. At the time of the break, *Great Republic* was 3,387 miles (5450.85 kilometers) from San Francisco, 2,089 miles (3361.92 kilometers) from Yokohama, 1,420 miles (2285.27 kilometers) from Honolulu, and 330 miles (531.08 kilometers) from the Pacific Mail Steamship Company's station on Midway Island.[126]

Under the supervision of Captain Seth Doane, the crew was able to secure the problem within thirty-one hours. *Great Republic* continued toward Japan with the port wheel slowly turning and all sails set. Despite the delay, *Great Republic* was able to make Japan just fourteen days behind schedule, an impressive achievement under the circumstances. The American press declared this incident a triumph and a clear testament to the efficiency of the ships and their crews. *Great Republic* underwent repairs in Japan and was briefly replaced by *Colorado* until sailing home later that year and returning to regular service.

Despite mishaps like these, the ships retained their reputations for keeping to their schedules. Passengers aboard Pacific Mail ships often looked forward to what some called "the great event of the voyage."[127] This was when two ships met in the middle of the ocean to exchange news, letters and pleasantries. At a precisely-scheduled time, openly predicted by the captain, the two ships would meet, pulling abreast of one another so that officers could exchange information. Though this feat was not always successfully performed, it still remained a favorite among passengers aboard the vessels and undoubtedly helped the reputation of the already famed Pacific Mail.

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[126] 'The Great Republic: Particulars of the Accident at Sea-Repairing Damages-The Voyage Home', *New York Times*, New York, New York, June 14, 1868.
[127] Seward, *Travels Around the World*, 32-33.

In May of 1872, Pacific Mail initiated a bi-monthly schedule and retrieved *Colorado* from retirement to accommodate the added traffic. Unfortunately, *Colorado* became a necessity rather than a luxury in August of that year when the first tragedy of the line occurred. *America*, the largest and newest vessel of the fleet, burned in Yokohama harbor, killing 59 passengers.[128] *Alaska*, a Pacific Mail coastal steamer, was placed on the run in *America*'s stead. Congress provided Pacific Mail with an additional subsidy that year which allowed the company an additional $500,000 per year, but required the company to maintain a bi-monthly schedule.

This subsidy also required that Pacific Mail begin using iron- hulled, propeller steamers of at least 4,000 tons by October 1873.[129] Though the remaining wooden steamers, *Colorado*, *Great Republic*, *China*, *Japan*, and *Alaska*, continued to operate on the Pacific run, their time was running out. The new world of iron-built ships was quickly approaching, and despite their stout construction and elegant appearance, the wooden paddle ships were already outdated. To make matters worse, *Great Republic* broke a paddle wheel shaft again and had to be temporarily removed from the line for repairs in December 1872.[130]

The first iron-hulled screw steamers appeared on the Pacific run the following year. *Macgregor* and *Quong Se* were both chartered British vessels, and they were followed by three more the following year, *Granada, Vancouver,* and *Vasco de Gama*. That same year, Pacific Mail sent its own new iron steamer *Colima,* to the Far East as

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[128] Kemble, *Sidewheelers across the Pacific*, 36.
[129] *An Act making Appropriations for the Service of the Post Office Department for the Year ending June thirty, eighteen hundred and seventy-three*, 42nd Cong., sess. II, Chapt. CCLVI
[130] Kemble, *Sidewheelers across the Pacific*, 35 *Daily Alta California,* San Francisco, December 21, 1872.

well. Finally in 1875, *City of Peking* and *City of Tokio*, two large iron-hulled screw steamers were launched. Both were purpose-built for the Pacific route and represented the new age of steam technology in the Pacific. With the introduction of the iron steamers, the wooden side-wheelers began to be used to a lesser degree.[131]

During the following year, 1876, *Great Republic* made its final voyage to Asia. While in China, *Great Republic* was caught in a typhoon which stripped planking from the paddle boxes and tore away some of the spars. When it returned to San Francisco, the vessel was sold to the shipbuilder John Roach as partial payment for the new iron steamships he was building for the company.[132]

Roach in turn sold the ship to P. B. Cornwall for $25,000, an insignificant sum compared to the $1,000,000 that it cost to build.[133] Cornwall placed *Great Republic* on the San Francisco to Portland, Oregon run in June 1878. Though *Great Republic* was outdated at the time and expensive to run, it became very popular among passengers. Cornwall set the rates surprisingly low, and every passage in both directions saw hundreds of passengers.[134] Even so, this new found success was short lived.

Great Republic*'s Demise*

On April 19, 1879, just after midnight, *Great Republic* neared the Columbia River bar prior to heading upriver towards Portland. The night was bright with stars and

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[131] Kemble, *Sidewheelers across the Pacific, 21.*
[132] Ibid., 38.
[133] Ibid.
[134] E.W. Wright, ed., *Lewis & Dryden's Marine History of the Pacific Northwest* (New York: Antiquarian Press, Ltd., 1961), 266.

the water was still and glassy. The local bar pilot, Thomas Doig, was brought aboard and given control of the great vessel. His knowledge of the local channel and bar was invaluable to captains unfamiliar with the Columbia River. The ship crossed over the bar safely and began edging upriver. Captain James Carroll was on deck with the first and third officers and was the first to spot Sand Island dead ahead of the steamer. Upon spotting this speck of land that sits astride the Columbia's mouth, Carroll notified Doig. Apparently, unconcerned, Doig continued on his path toward the island.

As Sand Island drew nearer, Captain Carroll became worried. Once again he alerted Doig, suggesting that he haul up the vessel. Doig, confident in his command, claimed that the island was not too near and that they had not entered the mouth far enough. Minutes passed until Captain Carroll, sensing imminent disaster, called out to Doig a third time: "Port your helm and put it hard over, as I think you are getting too near the island."[135]

Doig remained silent and stayed his course until, far too late, he put the helm hard-a-port to bring the vessel in the direction of Astoria. The elegant ship turned toward the small sea town and began to make way, engines steaming and paddles churning the cold waters, but it was to no avail. Doig had miscalculated the currents of the Columbia and the vessel was caught by the ebb tide and ran firmly onto the sandy spit (Figure 14).

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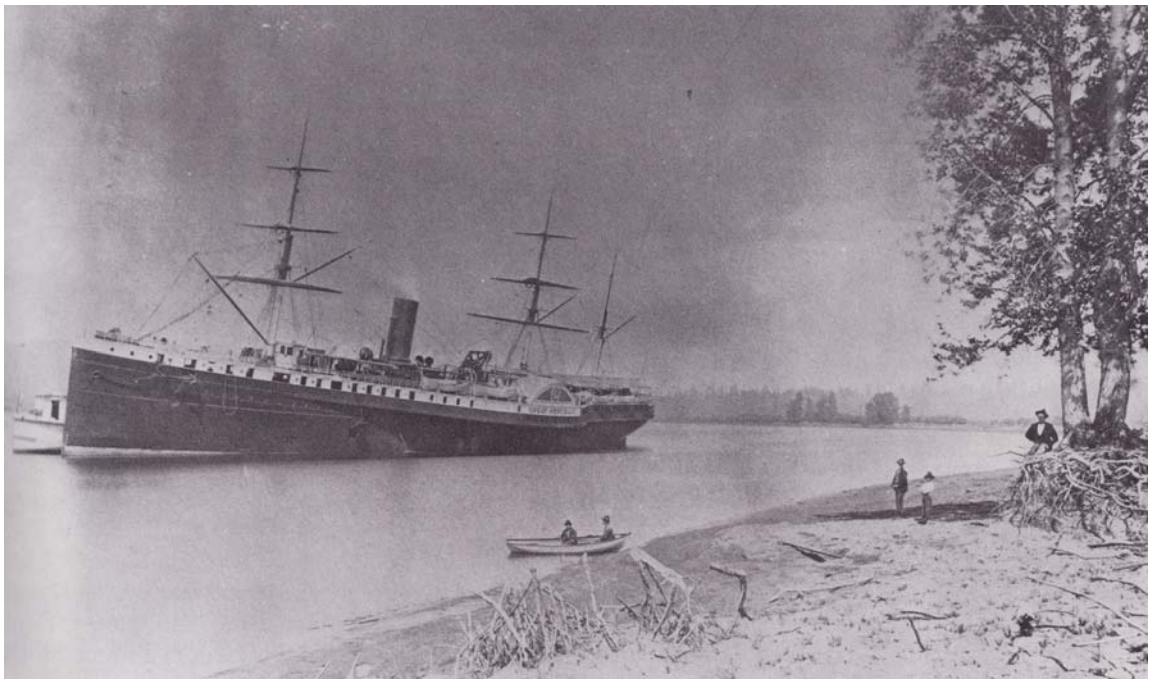
[135]Ibid.



(Figure 14. *Great Republic* stranded on Sand Island. Courtesy of the Oregon Historical Society.)

The vessel struck the island so gently that only those awake on deck noticed that the ship had run aground. It was hoped that, since the grounding was so gentle, it would be possible to easily dislodge the steamer from the spot. Unfortunately, this was not to be. *Great Republic* had run aground at high tide, the worst possible time to strand a vessel. As the tide went out, the hull settled into the sand, the full weight of the massive ship pressing down on beams and timbers and rupturing the injection pipes. The bilge pumps became clogged with sand and malfunctioned, allowing water to fill the ship's hold.

By morning, it was apparent that the ship was in serious trouble. In addition to the already-dire grounding situation, the barometer was quickly rising, indicating an approaching storm. In order to prevent outright disaster, it was decided to remove the passengers and freight from the ship. Captain Carroll sent the purser, Mr. Peck, ashore

to nearby Fort Canby for assistance. Two steam tugs, *Brenham* and *Canby*, arrived and were soon joined by the steamers *Shubrick* and *Columbia*. Passengers were ferried on small boats from *Great Republic* to these steamers which then transported them to Astoria. All 886 passengers were safely delivered, as well as 1,059 tons of the cargo.

Captain Carroll and his crew remained on board, attempting to free the foundering vessel. They worked the entire day discharging coal in an attempt to lighten the ship, but to no avail. By eight o'clock that evening, the waves had become turbulent and downright dangerous, preventing the steam tugs from approaching the stranded vessel to evacuate the crew. The driving winds and waves pushed the vessel farther onto the spit.

Captain Carroll and his crew braved the dark hours aboard the doomed ship, witnessing the last night of the grand vessel, which began to break up and was becoming increasingly dangerous to stay aboard. Once morning broke, the crew evacuated the wreck. The last rescue boat, loaded with fourteen crewmen, left the ship around ten thirty on Sunday morning April 20, 1879. As the rescue boat pulled away from *Great Republic,* the steering oar broke and the boat capsized in the heavy waves. Eleven of the fourteen men aboard were drowned.

Remarkably, Captain Carroll and Pilot Doig stayed with the dying vessel throughout the day until the conditions became downright hazardous. In a later testimony Carroll recalled the event by stating:

> …a heavy sea boarded the ship and carried away the staterooms on the starboard side, gutted the dining-room, broke up the floor of the social hall, and carried away the piano. Several seas afterward boarded forward and carried away the starboard guard, officers' room and steerage deck,

> also a number of horses. I remained on board until 5 p.m., when the pilot and myself lowered a lifeboat and came ashore.[136]

Great Republic and its un-retrieved cargo were purchased for $3,780 by Jackson & Meyers, a group of local salvagers. Wasting no time, they immediately set about removing all remaining cargo from the wreck. However, the destructive forces of the Pacific are not slow and on April 22 the main and foremast toppled over the side. The following day, 100 feet (30.48 meters) of the bow broke off and washed onto the beach. On May 2 the entire hull aft of the walking beam broke away and sank under the waves.[137] Within a few days, only the walking beam and the two large paddlewheels remained intact on Sand Island.

Legal battles ensued concerning the fault of the incident. Both Captain James Carroll and Pilot Thomas Doig were placed under investigation for the accident. After a complete inquiry, both men had their licenses suspended, Captain Carroll for six months and Doig for a year. Carroll appealed to the Supervising Inspector and received an immediate reversal of the suspension. His crew and passengers publicly exonerated him of all guilt as well.[138]

Remnants of *Great Republic* could be seen for years after the ship's demise. Parts of the machinery remained visible on Sand Island into the twentieth century, but disappeared over time, undoubtedly buried beneath the shifting sand. The wreck site

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[136] Ibid.
[137] Ibid.
[138] Ibid.

remained marked on nautical charts as “Republic” for many years, and the area on Sand Island near the grounding was marked as “Republic spit” as late as 1910. After this period, all traces of *Great Republic* disappeared from the public view, and the wooden wreckage, the last remaining physical testament to the ship’s greatness, was forgotten beneath the dark waters of the Columbia.

CHAPTER V

ARCHAEOLOGICAL INVESTIGATIONS

In September of 1986, commercial fisherman Daryl Hughes from the small town of Chinook, Washington, caught his salmon gill net on a submerged snag in the mouth of the Columbia River. Not wanting to abandon the net, Hughes acquired the assistance of a local commercial diver, Robert Cutting, to retrieve the net. Cutting descended to the location where Hughes reported the snag and upon reaching the river bed discovered that the net had caught on the remains of a partially buried, but very extensive wooden shipwreck. Cutting freed the net and retrieved a small section of timber for identification.[139]

Hughes and Cutting reported their discovery to Lawrence Gilmore, who at the time was the curator of the Columbia River Maritime Museum in nearby Astoria, Oregon. They brought the retrieved timber to the museum for inspection and identification. The timber was slightly rotted at one end and wrapped in gillnets, but the rest of the length was solid and unaffected by the marine conditions. The remarkably sound state of the wood indicated that the wreck had likely been recently uncovered by the shifting sands and had not been exposed for long.[140]

The section was approximately 6 inches (15.24 centimeters) square and several feet long and contained an octagonal treenail in it. The presence of a treenail in the timber prompted greater interest in the discovery. Although treenails were used

[139] Larry Gilmore, "Sand Island Wreck" (photocopy, Columbia River Maritime Museum, 1988).
[140] Ibid.

throughout history in shipbuilding technology, the practice became less common towards the end of the nineteenth century. The presence of a treenail in the Sand Island wreck indicated that the hulk was relatively old for the area.

Hughes, who was knowledgeable in the maritime history of the region, was the first to propose a possible identification of the vessel. He suggested that the wreck was *Isabella*, a Hudson's Bay Company supply brig that sank in the area in 1830. *Isabella* was only the second known ship to have foundered in the area and would have been a valuable historical find. Initially skeptical, Gilmore investigated the matter.

The mouth of the Columbia River is sometimes called "the graveyard of the Pacific" due to the substantial number of shipwrecks accumulated in the area (Figure 15). Throughout history, the strong currents, deceptive bar, and unpredictable weather have wreaked havoc upon ships. Due to this reputation, Gilmore did not quickly accept the *Isabella* identification.

(Figure 15. Map of the Mouth of the Columbia River.)

The discovery of *Isabella* would have been a substantial find, one that would add to the scant archaeological data concerning the Hudson's Bay Company's activities in the Pacific Northwest. While it was tempting to assume that the newly-discovered wreck was *Isabella*, given the evidence at the time it was just as probable it was the remains of a much later, less significant vessel.

After investigating the matter further, Gilmore became increasingly convinced of the vessel's identity. While there are literally hundreds of wrecks in the area of the Columbia River's mouth, there are only a handful of them around Sand Island. Gilmore was able to eliminate vessels simply by reviewing the historical data. Of the ships stranded around the island, many had been salvaged and completely removed soon after

their demise. Other wrecks dated to much later periods which had distinctive construction characteristics that did not incorporate treenails. Of the remaining potential wrecks, *Isabella* seemed like the most likely candidate.

Isabella

Isabella was built at Shoreham, Sussex, England in 1825, and at the time would have been completely unremarkable. The vessel was built as a merchant brig and represented the standard workhorse of nineteenth century maritime England. Hundreds of these vessels were built throughout Great Britain during the first few decades of the century. They were constructed to be bulk carriers and transported inexpensive cargos such as coal or grain up and down England's coasts and throughout the rest of Europe.[141]

Isabella was a typical example, registered at 194 62/94 tons, with an approximate length of 84 feet, 4 inches (25.70 meters), an extreme breadth of 22 feet, 9.5 inches (6.94 meters), and a depth of hold of 15 feet, 2 inches (4.62 meters). The brig was listed in *Lloyd's Registry of Shipping* in 1825 as being copper-sheathed with a single deck and beams in the hold. [142]

Originally built with two masts and rigged as a brig, *Isabella* was eventually outfitted with a trysail mast directly abaft the main mast and converted to a snow. Like most English merchantmen at the time, *Isabella* was built in the "mackerel head and tail"

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[141] Daniel J. Lenihan, Larry Nordby, James P. Delgado and Larry Gilmore, "Archaeological Research Design, Sand Island Wreck" (photocopy, Columbia River Maritime Museum), 12-13.
[142] *Lloyd's Register of Shipping.* (London: Lloyd's 1825).

fashion. This was a common design in English shipbuilding, and simply meant that the vessel had a bluff bow and a fine run, much like the shape of a mackerel. Since *Isabella* was a commercial vessel, the hull was designed for maximum capacity and would have been fairly flat-floored amidships with an overall deep and beamy appearance.[143]

Structurally, *Isabella* would have been built entirely from wood with few iron elements. The hull would have had double frames and an open-beam hold with few knees. *Isabella* would also have had very little, if any, provision for armament below the deck. Six 9-pounder carronades were salvaged from the brig soon after wrecking, but this appears to have been the extent of its defenses.[144]

Isabella began its career in England carrying cargo between England and Cadiz, Spain. In 1828, after just three years on this route, the brig was sold and set to work between London and Gibraltar. After one year in this trade, *Isabella* was once again put up for sale. This time, the Hudson's Bay Company was interested. Looking for a new supply ship for their remote Pacific Northwest outpost, the company sought a sturdy, simple vessel that would be able to survive the harsh and remote conditions of the Columbia River. *Isabella* appeared to be a perfect fit.[145]

In preparation for this new career the brig was stripped of sheathing and re-inspected. Once it proved satisfactory, the Hudson's Bay Company purchased the hull on October 10, 1829, for £2,900. *Isabella* was re-sheathed with new copper, inspected by Lloyd's and given the highest rating of A1. Captain William Ryan was given

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[143] Daniel J. Lenihan. et al, "Archaeological Research Design, Sand Island Wreck", 12-13.
[144] Ibid.
[145] James P. Delgado, "The Brig *Isabella*: A Hudson's Bay Company Shipwreck of 1830." *American Neptune* 55, no. 4, (1995) 311.

command of the ship and set sail from London for the new assignment on October 29, 1829.[146]

After making the passage to the Pacific Northwest, *Isabella* attempted to cross the Columbia River bar and head upriver to its final destination, Fort Vancouver. As it entered the mouth of the river, Captain Ryan, who was unfamiliar with the area, mistook Chinook Point for Cape Disappointment and sailed into the river south of the ship channel. As *Isabella* edged into the river it struck bottom repeatedly, tore off its rudder and lost control. In a desperate attempt to save his ship, Ryan anchored *Isabella* in the channel and ordered the crew to jettison cargo to lighten the hull and thereby float free of the bar.[147]

Despite these efforts, Ryan's attempts to save his brig proved futile, and that evening he ordered the crew to abandon ship. His decision to flee the vessel was encouraged by accounts of local natives massacring the stranded sailors of the wrecked brig *William and Ann* the previous year. Fearful of hostile Indians, Ryan avoided an overland route and piloted the ship's boats upriver the entire distance to Fort Vancouver.[148]

A salvage crew was sent immediately from the fort to try and save the wreck. Upon arrival the crew discovered that the vessel had broken its anchor chain and the turbulent forces of the Columbia had pushed *Isabella* onto Sand Island's shore. Instead of expending their efforts on freeing the vessel they set upon salvaging any cargo that

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[146] Ibid.
[147] Letter, John McLoughlin to the Governor Deputy & Committee of the Hudson's Bay Company, Fort Vancouver, July 23, 1830, in *Letters of Dr. John McLoughlin*, ed. Burt Brown Baker (Portland: Binfords & Mort, 1948), 117.
[148] Ibid., 117-119.

remained. In order to facilitate this process, the crew cut a rough, square hole into the side of the vessel to allow water to drain from the hold and allow greater access to the ship's interior. This hole would become important in the final identification of the vessel. The rest of the ports were opened on the side of the vessel and the cargo was removed and taken to the fort. Once the cargo was removed, the crew attempted to save the stranded vessel but it soon became evident that the ship was settling deep into the sand and breaking apart. The ship was a total loss.[149]

Early Investigations

Once Gilmore became convinced that the vessel might be *Isabella*, he began to organize a research plan. The first step, before any actual field investigation could take place, was to protect the location from outside interference. The shipwreck was determined to lie within the boundaries of the State of Oregon, which established it as property of the Oregon Department of Lands. The wreck was reported to the Oregon State Archaeologist and placed on the Oregon Register of Archaeological Sites. This legally protected it from intentional disturbance and looting.[150] With these legal and administrative duties fulfilled, Gilmore was able to focus on creating a team to research the wreck.

Gilmore, assisted by Oregon State University archaeology professor Dr. David Brauner, and Lieutenant Commander Michael Montieth, commanding officer at the U.S.

[149] Delgado, "The Brig *Isabella*: A Hudson's Bay Company Shipwreck of 1830", 314-315.
[150] Gilmore, "Sand Island Wreck", 1-2.

Coast Guard station at Cape Disappointment, organized a series of dives on the wreck. Montieth, an accomplished wreck diver who had participated in numerous underwater archaeological projects, was assisted in conducting the underwater investigation by James Seeley White, a personnel manager with the Oregon Fish and Game Department and an avocational underwater archaeologist. These two divers, assisted by local enthusiasts, made over forty dives on the wreck and prepared a rough sketch of the site.[151] The results of this initial survey fueled the excitement for the project, and it did not take long for a professional team of archaeologists to investigate the site.

The Submerged Cultural Resource Unit (SCRU), a subdivision of the National Park Service, became involved with the project in 1987. While the wreck site was not technically inside a national park, *Isabella* was lost when sailing to the Hudson's Bay Company outpost at Fort Vancouver, Washington, now a National Historic Site and a facility of the National Park Service. If the site was actually *Isabella*'s remains, the find would have a valuable historical connection with the fort.[152]

At the behest of the Columbia River Maritime Museum, SCRU decided to investigate and map the site. In August 1987 the team came to investigate the site of the Sand Island wreck as well as conduct a survey in the area of Fort Vancouver's historical dock. Their primary goal was to map the wreck and determine its identification.[153]

In order to do this, they utilized two different methods. First they mapped the site by hand. Using standard methods developed for underwater archaeology, they

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[151] Ibid., 2.
[152] Larry Gilmore, "Archaeologist to Dive on Shipwreck at Mouth of Columbia" (photocopy, Columbia River Maritime Museum, 1987).
[153] Ibid.

recorded, drew and measured the wreck, identifying the placement of exposed frames, planks, knees and other features. Once a preliminary plan was created they supplemented it with SHARPS data.

SHARPS stands for Sonic High Accuracy Ranging and Positioning System, and at the time was a new method for recording submerged sites. The team wanted to test this new technology to determine its potential usefulness for making precise site drawings underwater. SHARPS records data by using a system of three sonic transducers set in a triangle around a site or object. A fourth, hand-held transducer is then used to record the object. The hand-held device is carried along the exposed portions of the desired object and triangulates its position from the three other points. Theoretically, this method records the exposed object accurately and allows the site to be recorded quickly and efficiently. By utilizing both methods, the team was able to accurately pinpoint features and record their locations on a map. Only the exposed area of the wreck was recorded, which left a substantial portion buried beneath the sand. Overall, the team found the results of the new technology satisfactory and acknowledged the system's potential for further use.[154]

The team worked in extremely difficult conditions while diving on the site. The wreck is in the tidal zone of the river, which meant that dive times were limited to slack tide periods. Twenty-minute windows were open twice a day for investigations, which severely limited the productivity of the team. Visibility was poor in the best of conditions, the water was cold, and currents constantly swept the site. Additionally,

[154] Daniel Lenihan, "Trip Report Covering Activities Conducted in Pacific Northwest Region During the Perio August 19-28, 1987" (photocopy Columbia River Maritime Museum).

years of net fishing had adorned the wreck with a dangerous mesh of fish nets, a potential for entrapping divers.[155]

SCRU members spent a week working on the site, from August 21 to 26, and were able to produce a comprehensive map of the site as well as create a set of criteria for identifying the wreck. With the help of Gilmore and James Delgado, a maritime historian and team member of SCRU, a list of structural attributes were compiled that were indicative of an English-built brig of the early nineteenth century as well as a set of characteristics that were specific to *Isabella'*s demise, including the square hole cut in the side of the hull. By comparing the archaeological data with the historical criteria, the team hoped to positively identify the vessel.

The archaeologists were able to identify and record many key features of the wreck. The entire exposed section was just under 80 feet (24.38 meters) long and approximately 15 feet (4.57 meters) wide (Figure 16).[156] The remains were interpreted as being the starboard section of a vessel from the bilge to the weather deck. Despite the fact that large portions of the starboard section were obscured by sand, what appeared to be a keelson was visible slightly below the exposed hull section, running longitudinally over the extent of the wreck. This would indicate that if the exposed area was the starboard side, it was intact down to the bilges.

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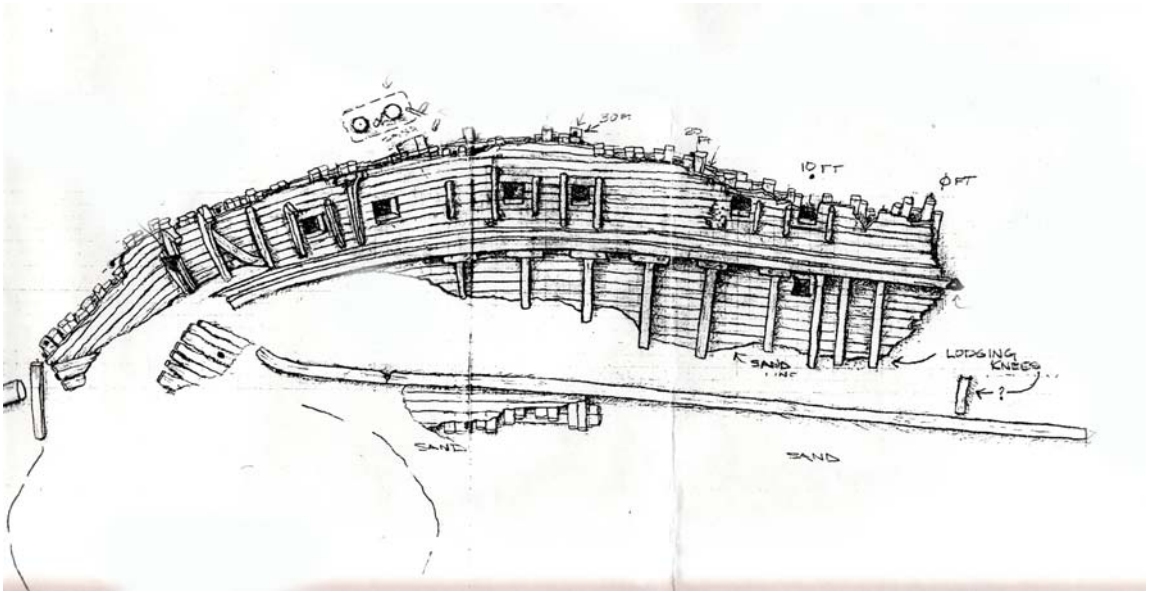
[155] Ibid.
[156] Personal Communication, James P. Delgado.



(Figure 16. *Isabella* site map. Courtesy of the Columbia River Maritime Museum.)

Since excavation was not permitted at the time, the team was restricted in its ability to thoroughly identify other areas of the vessel. However, after probing the sand bank further down the slope from the supposed starboard section, the team was able to positively locate portions of the wreck buried underneath the sand. This discovery led the team to conclude that the vessel had split along the keel and that the exposed portion was a starboard section and that the port side remained buried under the river bed.

The exposed part of the vessel displayed distinctive structural features. The remnants of the hanging and lodging knees indicated where the upper deck was once situated, while a longitudinal stringer, identified as a clamp, remained where the lower deck existed. Broken deck beams jutted just above the timber, denoting the deck's absence. Five open ports were also present in the ship. Despite the valuable information that these features convey for ship construction, they were still not necessarily indicative

of a vessel from early nineteenth century England. The wreck site did, however, provide additional information that convinced the team of the wreck's identity.

The five open ports were interpreted as being evidence of salvaging activity, a post-wrecking action that was predicted to be evident in the ship's remains. Additional clues determined to be indicative of salvage and, therefore, potentially pertinent to the ship's identification, included the lack of rigging elements (the rigging was reported to have been removed during *Isabella*'s salvage), and a lack of cargo or personal effects.[157] These features could be easily explained by the turbulent nature of the site and the constant changes that the wreck underwent due to the river's effects. However, a final discovery was made that convinced the team beyond a reasonable doubt that the wreck was in fact *Isabella*.

A square hole was discovered in the side of the vessel further down from the cargo ports and off to one side that appeared to be roughly hewn. This hole was interpreted as the salvage hole that the fort's rescue crew were forced to cut in order to enter the hold. Due to the dangerous working conditions of the site and the limited time that the team had for each dive, detailed investigation of this feature was prohibited. Still, the very presence of the hole created a strong argument for the *Isabella* identification and, due to the lack of counterevidence, other possibilities were lacking.

After analyzing the wreck and comparing the results with the historical data, the team felt confident that the vessel was the *Isabella* and that the site could be safely

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[157] Larry Nordby, "Modelling *Isabella*: Behavioral Linkages Between Submerged and Terrestrial Sites", in *Underwater Archaeology Proceedings From the Society for Historical Archaeology*, ed. James P. Delgado (Pleasant Hill: The Society for Historical Archaeology, 1988).

assumed to be the brig's final resting place. In a statement issued to the press, senior investigator and SCRU team leader, Dan Lenihan, stated: "Our level of confidence is so high that it's beyond reason to treat it as anything else… We feel with a high degree of confidence that it is the *Isabella.*"[158]

The site was nominated to be placed on the National Register of Historical places by James Delgado. This status afforded the wreck increased protection from all agencies, private, public and federal. The site was accepted and listed on the National Register.[159] This was seen as the end of the story of the Sand Island shipwreck. However, years later new data surfaced that altered the identification and eventually lead to a completely new understanding of the site.

Recent Investigations

In 1994 return dives were made to the site to monitor the condition of the wreck by a local team of divers headed by the executive director of the Columbia River Maritime Museum, Jerry Ostermiller. The first order of business was to relocate the wreck site. Unfortunately, the coordinates that were recorded on the site map from the 1987 survey turned out to be in error and forced the team to re-identify the site's location. Fortunately, this task was not difficult, and the new investigation team, armed

[158]Joan Herman, "Shipwreck Confirmed as Isabella", *The Daily Astorian*, Astoria, Oregon, August 26, 1987.
[159] Larry Gilmore, *Isabella* Wreck Placed on National Register, *The Quarterdeck* Vol. 16 (Columbia River Maritime Museum 1989).

with GPS equipment, pinpointed the wreck and took multiple GPS measurements, which were then averaged to insure an accurate reading.

When the team commenced their investigation they immediately discovered that the river had scoured the wreck site and exposed an additional twenty-five to thirty percent of the hull. Ostermiller noted that, while the features described in 1987 were still clearly visible, an additional 3 to 4 vertical feet (.91-1.22 meters) was exposed on the starboard side, and frame timbers were much more apparent than before, extending across the wreck for more than 20 feet (6.10 meters). The team also discovered several scatters of concretions which denote the presence of metallic artifacts.[160]

The team of four divers made two dives to the wreck during this investigation, the first of which was unsuccessful due to poor conditions. Therefore, the extent of their discoveries was actually made over the course of a single dive lasting approximately twenty-five minutes. Despite the brevity of the investigation, the wealth of discoveries prompted Ostermiller to recommend a thorough reinvestigation of the site. In the survey report Ostermiller wrote:

> It became clear during the post dive debriefing that the new exposure warranted more testing. A system of permanent submerged markers should be installed on the wreck to gauge the scouring action from year to year. An update of the site map is also desirable, and the retrieval of selected diagnostic materials under the supervision of the Columbia River Maritime Museum would provide an opportunity for public interpretation. To accomplish these goals the Columbia River Maritime Museum is proposing a more intensive dive expedition in the fall of 1994 when water conditions are optimum.[161]

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[160] Jerry Ostermiller, *Reconnaissance Survey Report, Shipwreck Isabella, 29 June, 1994* (photocopy, Columbia River Maritime Museum).
[161] Ibid.

Even though the museum requested that the reinvestigation occur that year, an organized team was not able to visit the site until the fall of 1996. That year James Delgado, who at the time was Director of the Vancouver Maritime Museum, and a team of divers from the Underwater Archaeological Society of British Columbia led by the society's exploration director, Jacques Marc, conducted the new survey. The reassessment of the site focused on the newly-exposed portions of the wreck and identified new attributes that would lead to a reappraisal of the *Isabella* identification. The newly exposed section was interpreted as being the port side. The port section appeared to extend much farther aft than the starboard section, continuing beyond the limits of *Isabella'*s hull dimensions listed for *Isabella* in Lloyd's Register.[162] The new longitudinal dimension for the exposed hull was 88 feet (26.82 meters), 4 feet (1.22 meters) longer than *Isabella*.

Other discoveries also called the 1987 findings into question. A disarticulated stern post with a single bronze gudgeon was located in the area previously identified as the bow. The post measured approximately 8 feet, 2 inches (2.49 meters) in length by 17 inches (43.18 centimeters) wide and 12 inches (30.48 centimeters) thick. The gudgeon's strap was approximately 3.5 inches wide (8.89 centimeters) and the gudgeon's hole measured 4 inches (10.16 centimeters) in diameter.[163]

The post also contained a sizeable hole approximately 3 feet, 7 inches (1.09 meters) from the first gudgeon. This was interpreted as being evidence for the location

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[162] *Lloyds' Register of Shipping*. (London: Lloyds', 1825).
[163] *Underwater Archaeology Society of British Columbia Observations*, (photocopy, Columbia River Maritime Museum, 1996).

of a second gudgeon and evidence of the rudder's forceful removal. The presence of the sternpost, however, challenged the earlier interpretation of the vessel's alignment. Unless the sternpost belonged to another vessel or had been completely disarticulated and shifted to the bow end of the vessel, the original team had the ship's ends confused, and what was thought to be the bow was actually the stern.

A large piece of wreckage was also discovered near the sternpost that had not been previously located.[164] This assemblage of timbers appeared to be a large section of deadwood, a portion of a vessel associated with the stern. Unfortunately, due to the current and low visibility, the team was not able to get precise measurements of the timbers. Even so, the presence of deadwood in close proximity to a sternpost clearly indicated that if the vessel was *Isabella*, the port section was the exposed portion of the ship and not the starboard.

Despite the confusion regarding the arrangement of the vessel, other discoveries challenged the identity of *Isabella* altogether. First was the discovery of a deck with two large iron bollards that extended a short distance out from the ship's outer hull. This portion of the wreck had been largely covered by sand during the 1987 investigations but was now plainly visible. These bollards were considered to be exceptionally large for a ship of *Isabella's* tonnage, measuring approximately 12 inches (30.48 centimeters) in diameter and 20 to 22 inches (50.80 to 55.88 centimeters) tall.[165]

It was postulated that, due to the general shortage of large iron elements during the 1820s, the iron bollards could have been taken from another larger vessel and fit on

[164] Ibid.
[165] Ibid.

Isabella. The practice of scavenging other ships for parts was not unheard of and it could have possibly happened in *Isabella'*s situation, even though no record exists detailing it. Even so, iron bollards or the guard deck on which they were situated would be strange for a sailing vessel from the early nineteenth century.

An additional interesting construction feature was discovered on a previously-obscured piece of wreckage. Large diagonal iron straps were visible on the outer face of the newly exposed frames, inside the outer planking.[166] The practice of diagonally strapping vessels was known during the 1820s and applied to strengthen the hulls from excessive torque and longitudinal stress. Excessive torque or twisting of a hull was a problem in larger wooden vessels, particularly steam-powered vessels where the movement of the machinery could place additional stress on the hull, but would not have been much of an issue on smaller sailing vessels such as *Isabella*.

The appearance of the strapping, like the presence of the bollards, was startling to the investigators, but not convincing enough to alter the previous identification. Both discoveries did not match the construction features posited for a British brig of the early nineteenth century, but they could be explained as unusual coincidences, construction elements that, while uncommon, were in existence during the period.

The discoveries that year added more to the record of the Sand Island wreck but did not alter the *Isabella* identification. Though some of the new details, particularly the length of the vessel, did not adhere to the written record of *Isabella*, the archaeologists were not convinced to change the previous identification. Besides, the most compelling

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[166] Ibid.

and seemingly infallible piece of evidence still remained: the rough cut hole in the side of the vessel. The hole convinced almost all of those involved that the vessel was in fact *Isabella*.

The most recent investigation of the site took place in 2004 when James Delgado returned to the site with the television show *Sea Hunters*. Originally, it was the show's intention to relate and illustrate the story of *Isabella* for the episode. However, after diving on the wreck again, Delgado realized that the *Isabella* identification was, in fact, most likely erroneous. The site had undergone continuous scouring by the shifting sands and a greater portion of the wreck was again uncovered. This time, the currents had also undercut the wreck, allowing divers to dive on the outboard side of the vessel, a feat that had been previously impossible.

Thanks to the newly-exposed features and improved diving conditions, the team was able to develop a more comprehensive understanding of the wreck site. Rather than two halves of the vessel, split down the keel, what the team discovered was actually a single side of large ship. Additionally, the large timbers that formed the portion of deadwood were positively identified as being directly attached to the vessel, clearly indicating the exposed segment of the wreck as the after end of the port side of a large wooden ship. The new dimensions of the wreck measured 89 feet (27.13 meters) in length by 46 feet (14.02 meters) in breadth.[167]

Further analysis of the wreck disclosed even more information. Thanks to the undercutting effects of the Columbia River, divers were allowed to investigate the square

[167] Personal communication, James P. Delgado.

ports from both sides of the vessel. They discovered that the ports were in fact lined with a gasket of lead approximately .5 inch (1.27 centimeters) thick.[168] This discovery was completely unforeseen, but perhaps not as startling as the final finding.

The hole that had been previously identified as the rough cut salvaging hole was in fact not alone. Approximately 8.25 feet (2.5 meters) aft of the original "rough cut" hole, a second hole was discovered which matched the first in shape and size.[169] This discovery immediately challenged the original analysis. *Isabella*'s record does not indicate that two holes were cut, and even more confusing was the fact that the holes in the side of the ship, after re-analysis, were obviously planned structural features. Lead gaskets identical to those on the upper row were discovered lining the outer edge of both holes. The accumulating evidence contradicted the *Isabella* identification and forced a reappraisal of the site.

In a final effort to identify the ship's origin, wood samples were taken from the wreck and sent to a laboratory for analysis. Merchant ships built in Great Britain during this period were typically constructed from local materials or from timber imported from northern European sources. Since *Isabella* was an English brig built during the beginning of the century, the timber used would most likely be native to Great Britain or northern Europe.

The samples were sent to the U.S. Forest Products Laboratory in Madison, Wisconsin, for analysis and were conclusively identified as being southern yellow pine

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[168] Ibid.
[169] Ibid.

(*Pinus*).[170] This timber was typically used in American shipbuilding, and while it was not out of the question that *Isabella* could have been constructed from an imported material, it was highly unlikely. Therefore, the wreckage appeared to be an American-built vessel of unknown identity.

The evidence that pointed towards the *Isabella* identification had been disproved thanks to the shifting sands of the Columbia River. The overall size, oversized iron bollards, diagonal iron strapping, lead-lined port holes, the presence of the second lower hole, and the wood species all challenged the *Isabella* identification. However, if the wreck was not *Isabella,* then what was it?

This question prompted a new investigation, and researchers returned to the archives to find what other ships had been lost in the location. As noted earlier, the immediate location of the Sand Island wreck did not present many other potential candidates. Delgado came to the conclusion that the only recorded shipwreck that could potentially fit the new data was *Great Republic*.

To solidly dispel the original identification and re-identify the vessel as *Great Republic,* it is necessary to review the archaeological data in light of this new discovery and conduct a reanalysis of the material.

Unfortunately, a new field investigation has not yet been conducted, though the author is currently in the process of organizing one, and, therefore, it is necessary to rely upon the previous collected data. Fortunately, the previous investigations were conducted thoroughly and a substantial amount of information was collected, much of

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[170] Ibid.

which has already been presented. The data will now be reanalyzed with comparisons and contrasts made to the *Great Republic* historical accounts to try and identify the true nature of this site.

The Case for Great Republic

The Sand Island wreck, in its currently exposed condition, is 89.1 feet (27 meters) in length and 46.2 feet (14 meters) wide. As noted, these dimensions do not correspond to *Isabella*'s specifications. However, they fit *Great Republic*. The steamship was registered at 360 feet (109.73 meters) long, 48 feet, 6 inches (14.78 meters) in breadth, and had a depth of hold of 31 feet, 6 inches (9.60 meters). The historical record states that several weeks after foundering, the hull aft of the walking beam "broke away and disappeared."[171] The presence of a sternpost and deadwood indicates that the segment of wreckage is the after end of a vessel.

Size and orientation alone, however, are not enough to prove the identity of the vessel. The construction features of the wreck are the most important clues that could reveal the true identity of the ship. The Sand Island wreck is constructed completely out of wood, save the iron strappings present between the frames of the ship. *Great Republic*, as stated in the previous chapter, was constructed solely from wood, relying upon an oak and pine assembly reinforced with a double layer of iron straps to provide greater structural stability. The first layer of iron strapping is clearly visible on the Sand

[171] *Lewis & Dryden's Marine History of the Pacific Northwest*, ed. E.W. Wright, 266.

Island wreck, and the wood samples taken from the wreck show that pine was a major component of the wreck. The second layer of iron strapping has not yet been discovered, though this is most likely due to conditions on the vessel.

The wood samples, while potentially conclusive, also pose a slight problem. Samples were retrieved from the outer planking and frames of the vessel and both were identified as pine. Historical data shows that the vessel was planked with pine on the entire inner layer of planking and on the outer layer above the waterline. However, historical records state that the frames of the vessel were made of oak. This discrepancy is currently unexplained and may require further sampling to resolve.

The arrangement of the vessel's exposed features also relays new information. What was originally thought to be two halves split along a keel now appears to be one half of a three-decked vessel. Delgado and Ostermiller interpreted the exposed timbers as being evidence for the three decks.

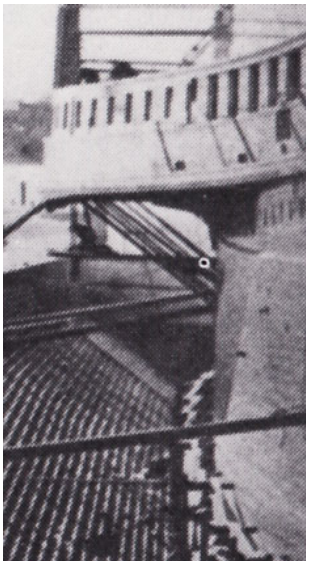
> The longitudinal stringer identified in 1987 as the keelson would therefore be a shelf clamp. This timber's size, much larger than that above it with broken beam ends and knees would make sense for *Great Republic*'s berth deck, while shelf clamp seen in 1987 would serve as the steamer's orlop deck. Above it, and marked by a few broken knees, is the level of the weather deck, situated just above the tops of the apertures at 1.5 meters (five feet)…[172]

Currently, there are at least two theories explaining the function of the mysterious port openings. James Delgado posits that rather than being cargo ports, which was the original assumption, these holes could in fact be passages for beams

[172] Personal communication, James P. Delgado

which would have supported the exterior deck.[173] *Great Republic* carried a deck which extended past the hull and provided more deck space for first class passengers.[174] Delgado believes these holes are evidence for the through beam that would have been required to hold the deck. The lead gaskets that lined the holes would have been in place to provide a watertight seal.

The lower holes could have served a similar function. As with the upper holes, these lower portals are also lined with lead, indicating that they were sealed in a likewise fashion. These holes may, in fact, be lower beam lodgings which were intended for additional deck support as well. Though historical documents are lacking concerning the design of the extended decks, photographs exist, clearly showing struts set at an angle supporting the deck and fitted against the hull of the ship. These holes may in fact be evidence for these elements (Figure 17).



(Figure 17. Detail of *Great Republic* showing possible sponson deck support struts. Courtesy of the Peabody Essex Museum.)

[173] Ibid.
[174] Ridgely-Nevitt, *American Steamships on the Atlantic*, 336-337.

An alternative theory explains these openings as ports to allow air and light into the passenger spaces.[175] Undoubtedly, these openings could be closed and sealed during stormy weather, which would explain the presence of the lead lining. Future research will solve the question.

The large iron bollards that were problematic for *Isabella* are of a more appropriate size for *Great Republic*. The bollards are positioned on the only remaining portion of the extended deck. Originally, these bollards would have been used for mooring alongside docks and were positioned at the after end of the deck. This interpretation fits with the current understanding of the wreck site.

Unfortunately, the difficult diving conditions have prevented a thorough analysis of the wreck. Despite all the work that has been completed on the Sand Island wreck, there is still much that is unknown about the ship. The new evidence convincingly shows that the remains are not those of *Isabella*, and are most likely a portion of the *Great Republic*. The available data is limited but has been crucial in the preliminary investigation of this site.

[175] Personal Communication Kevin Crisman.

CHAPTER VI

CONCLUSIONS

There is much more to be learned about the Sand Island wreck. As shown earlier, the vessel is most certainly not the remains of the *Isabella*. However, even though the *Isabella* identification has been disproved, it does not mean that the *Great Republic* identification has been proved beyond a doubt. Key features outlined in this thesis can serve as the basis for future investigation of the wreck with the potential for positively identifying the vessel.

Future research into the Sand Island wreck should concentrate on specific structural elements of the ship that can be linked to a specific vessel such as *Great Republic*. Field investigations need to concentrate on analyzing the outer shell of the vessel. If two layers of iron strapping can be identified, then a conclusive claim of identity is essentially assured. The double layering of iron strapping is a rare technique used to increase stability in extremely large wooden ships. To the best of our knowledge no other ships of the size of *Great Republic* sank in this area of the Columbia River. If the Sand Island wreck contains a double layer of strapping then it is arguably a "case closed" situation. Additionally, an investigation of the lead lined holes will provide interesting data concerning the ship's structure as well. A thorough documentation of these holes is needed so that a detailed investigation of whether or not they served for actual beam apertures.

Finally, I think a basic reassessment of the site is in order. With the newly-exposed section of the vessel and the developing case for the *Great Republic*

identification, more measurements and notes would be beneficial. A determination of the wreck's length and breadth, frame spacing, and timber measurements are necessary to complement the historical and archaeological research presented here.

In sum, it appears that the Sand Island wreck is actually in fact *Great Republic* and yet there remains a significant amount of investigation to conduct before that identification can be proven. Hopefully, this study will be undertaken in the near future, despite the difficult conditions posed be the river.

The wreck of *Great Republic* is an important piece of American maritime history, representing the end of an era and the end of an American shipbuilding tradition. *Great Republic* was significant in the development of commerce between Asia and the United States of America. After nearly two decades of attempts, a regular line of communication and trade between China, Japan, and the United States was achieved. No longer were the Pacific-rim nations separated by months of travel time, and after the creation of the Pacific Mail line, news, goods and people crossed from one side of the globe to the other in a matter of weeks. *Great Republic* also signified the final stage in the development of the western coast of the United States. The ships of the China line brought thousands of Asian immigrants to California, Oregon and the rest of the United States and were integral in building the ethnic communities that are now such an important part of cities like San Francisco.

As noted before, these vessels were also the end of an American shipbuilding tradition. After these ships were completed, large wooden steamship construction essentially ended. The modern world shifted to iron and steel, materials that were

stronger and more durable than wood. Once the new approach to shipbuilding took hold, the wooden ships of the China line quickly disappeared.

Today, only two of the original four ships built for the China line survive in any form: *Great Republic* and *China*. In 1886, many years after *China* was removed from active service on the transpacific route the steamer was sent to the marine crematory in Tiburon, California. Prior to *China*'s demise, the social saloon and adjoining staterooms were removed from the vessel and converted into a private residence in nearby Belvedere, California. Today the *China* Cabin, as it is referred to, has been thoroughly restored and renovated to its original state and has been designated as a landmark (Figure 18).

(Figure 18. *China* Cabin. Courtesy of Philip Roberts.)

Japan and *America* were not as fortunate. *America* was the last to be built and the first to sink. On August 24, 1872, only three years after its maiden voyage, *America*

met its end in Yokohama harbor. That evening, after the Captain had inspected the ship around ten o'clock p.m., a fire broke out in one of the crew's quarters or steerage cabins. It quickly spread throughout the ship. Even though *America* was outfitted with a steam powered sprinkler system to prevent such disasters, the boilers had been shut down for the evening and the pressurized system was completely ineffectual. By the time the other ships in the harbor reached *America* to assist in the fight against the fire, it was already too late. The great ship burned to the waterline and was considered a complete loss. Fifty-nine deaths occurred due to the fire, mostly among the steerage passengers.[176]

Japan's demise proved to be an even greater disaster than *America*'s. On December 17, 1874, two years after the burning of *America*, *Japan* was bound to Hong Kong from Yokohama. Only a few hours from its final destination a fire broke out amidships. Though the ship stopped its engines and headed for land under sail, the fire continued to rage and eventually became overwhelming. The boats were lowered and the ship was evacuated. Unfortunately, only a fraction of the 553 people on board survived. The ship sank in deep water that night and took 414 lives with it.[177] Neither

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[176] Pacific Mail Steamship Company, *Burning of the Pacific Mail Steam Ship Company's steam-ship "America," in the harbor of Yokohama, August 24th, 1872 : San Francisco investigation : to which is added agents' letter to the president of the company, report of the investigation at Yokohama, and newspaper report of same, from the "Japan Herald Mail Summary"*, (San Francisco: E. Bosqui & Co., 1872).

[177] "The Loss of the Japan. The Captain's Story of the Disaster— Incidents Attending the Burning of the Ship— A Terrible Loss of Life." *New York Times*, New York, New York, February 10, 1875.

Japan nor *America* has been located. The tragedy of these two vessels adds to the importance of the remains of *Great Republic*. Recording and analysis of the remains of *Great Republic*'s hull will shed light on the construction of all four of these ships.

This thesis has traced the history of *Great Republic* and linked the steamer to the material remains in the Columbia River. The historical evidence illustrates the important role that *Great Republic* played in the development American-Asian relations as well as its place in America's shipbuilding tradition. The archaeological evidence strongly supports the claim that the Sand Island wreck is actually the *Great Republic*. Further research, will be needed, however, to positively confirm this identification.

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