

LOG

THE KEEPER'S

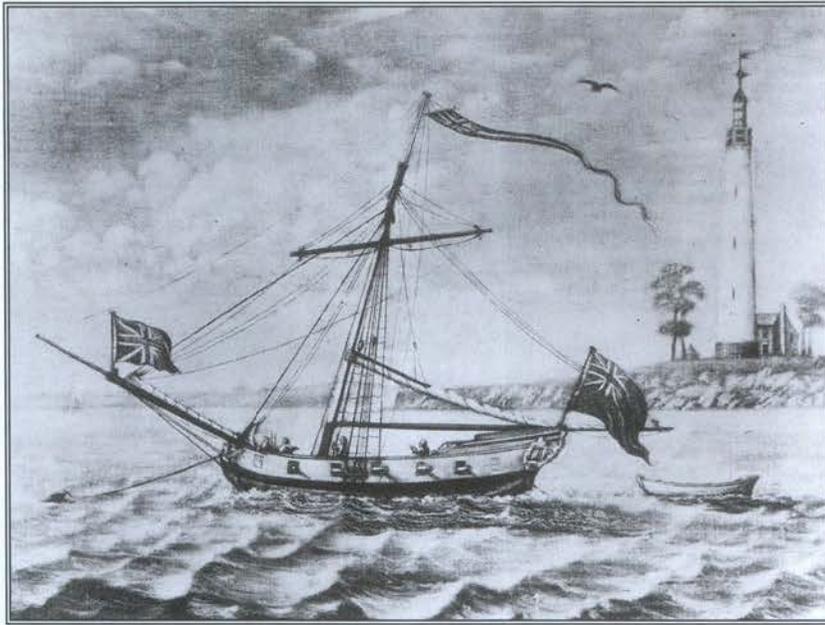
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Boston Light Station

By Wayne Wheeler

In 1630 eleven ships came into Boston Harbor, landing emigrants at Salem and Charleston. Up to that time it was the largest fleet of vessels ever seen in an American harbor. In those years Massachusetts was described by enthusiastic voyagers from England as the garden spot of the New England coast. Commerce grew immediately as small boats, fishing and cargo vessels spread out, north to Penobscot Bay (now Maine) and as far south as Virginia. Wrecks, war and pirates could not hold the growth in check. Beacons were placed at different points to give warning of the approach of hostile vessels. Beacon Hill in Boston was one of the first such warning sites. The eventual site of the first American lighthouse also supported a beacon and was known as Beacon Island, but continued to bear the name of Elder Brewster (eventually changed, first to Great, then Little Brewster) Island.

In 1701 one of the most popular authors of the day asked, "...whether or no a lighthouse at Alderton's [Allerton] Point may not be of great benefit to mariners coming on these coasts?" The suggestion didn't bear fruit. In 1706, in apprehension of an

attack from the French fleet, it was proposed to place a beacon there and at other points to give warning of any ship which might be "...thought to be an enemy." However, the emergency passed and the point, and island, remained dark.

In the year 1713, Queen Anne was on the throne of England. In the colonies, at Boston, the news was the loss of a third ship in less than two months at the approaches to Boston Harbor. Many citizens of Boston were dismayed to learn that once again the treacherous shoals off Massachusetts had claimed long awaited merchandise, goods desperately needed in the growing Bay Colony.

At the time there were no lighthouses in the colonies and very few aids to navigation. Navigating the rocky shores of northern Massachusetts (now the state of Maine), the shoals of Cape Cod, the low-lying banks of the Carolinas and the reefs of Delaware and Chesapeake Bay was a tricky operation. The only aids were, perhaps, a few crude buoys and stakes placed by various harbor masters. Most navigation was done by mariners with local knowledge and a lead line. Natural ranges, like lining a tree up with a barn, were the primary aids to navigation.

The merchants, led by John George and Associates of Boston, laid before the General Court of the colony a petition that proposed the construction of a lighthouse at the entrance to Boston Harbor.

In typical bureaucratic fashion the petition resulted in the appointment of a committee to study the matter. After a considerable delay, the committee recommended that a lighthouse be constructed on the southernmost part of Great Brewster Island, now called Little Brewster.

Provided this information, the General Court then resolved that "The projection [construction] will be of a general public benefit and service and is worthy to be encouraged." A noble proclamation, but no funds were actually appropriated for the actual construction of the lighthouse.

The merchants of Boston would not let the matter rest. They were adamant that the harbor required a lighthouse at the entrance. A meeting was held to consider the matter. The Selectmen of Boston appealed to the General Court to give Boston preference in erecting and maintaining a lighthouse, "...and being entitled to the Profits and Incomes thereof...", the latter possibly influencing the town of Boston in the matter.

The General Court, however, decided to construct the lighthouse at the expense of the Province, and passed the following Act on July 20, 1715:

“AN ACT for building and maintaining a lighthouse upon the Great Brewster at the entrance of the harbor of Boston. Whereas the want of a lighthouse at the entrance of the harbor of Boston hath been a great discouragement to navigation by the loss of lives and estates of several of His Majesty's subjects (King George I was now on the throne); for prevention thereof - Be it enacted by His Excellency the Governor, Council and representatives in General Court Assembled, and by the authorities of the same.

“Sect. 1. That there be a lighthouse erected at the charge of the province, on the southernmost part of Great Brewster, called Beacon Island, to be kept lighted from sun setting to sun rising.

“Sect. 2. That from and after the building of said lighthouse, and kindling a light in it useful for shipping coming into or going out of the harbor of Boston, or any other harbor within the Massachusetts Bay, there shall be paid to the receiver of Impost, by the master of all ships and vessels, except coasters, the duty of one penny per tun [ton] outwards, and no more, for every tun of burthen of said vessel, before they load or unload the goods therein. And be it further enacted...that the person who shall be appointed from Time to Time

by the General Court of the Assembly to be the Keeper of the...Light-House, shall carefully and diligently attend his Duty at all Times in kindling the lights from sun-setting, and placing them so as they may be most seen by Vessels coming in or going out; and upon Conviction of Neglect of his Duty before the Court of General Sessions of the Peace within the County shall be liable to be fined according to the degree and circumstances of his offense, not exceeding one hundred pounds; two thirds thereof to be to His Majesty, to and for the support of the government of this His Majesty's Province, and the other part thereof to the person or persons that shall inform of such Neglect: to be recovered by Bill, Plaint or Information in any of His Majesty's Courts of Record with the Province.”

This was the first Act of any legislative body in the Western Hemisphere providing for the construction of a lighthouse. And it appears that steps were promptly taken to carry out the intention of the Act. The following year the *Boston News Letter* of September 17, 1716 published the following:

“Boston - By virtue of an Act made in the first year of His Majesty's Reign, For Building and Maintaining a Light-House Upon the Great Brewster (called Beacon) Island at the entrance of the Harbor of Boston. The said Light-House has been built: and on Friday last, the 14th current

the Light was kindled.”

The year 1716 was really an early date in “modern” lighthouse development. Although lighthouses in varying forms had been in existence since the Pharos of Alexandria, Egypt (280 B.C.), they were few and far between and mostly towers with an open fire on top (fueled by wood, coal or other flammables). The Romans constructed several of these towers. The first enclosed lantern room, however, on the famous Eddystone Rocks south of Plymouth, England, had only been in existence for about 20 years.

Although Boston is generally regarded as being the first lighthouse in the Western Hemisphere, there is some evidence that the French constructed an earlier tower with an open flame at the mouth of the Mississippi River. Additionally, a rubble stone tower with an open flame was situated on Allerton Point, south of the Boston Lighthouse. That early tower is thought to have been more of a warning tower to alert the local population of the approach of enemy vessels.

A record of the proceedings of the general Court of the Province of Massachusetts Bay, March 9, 1673 (some 43 years prior to the Boston lighthouse) included a petition from the citizens of Nantasket, Massachusetts (now Hull). They requested a lessening of their taxes because of the material and labor they had expended in the construction of a beacon on Allerton Point. At that session of the court it also appears that bills from Nantasket were paid for making and furnishing “fier-bales of pitch and ocum for the beacon at Allerton Point...which...fier-bales were burned in an iron grate or basket on the top of the beacon.”

There also may have been other small structures supporting “fier-bales of pitch” in various locations throughout the colonies. However, the title of first lighthouse in North America, and probably the Western Hemisphere, goes to that erected on what is now known as Little Brewster Island in Massachusetts Bay. It was most certainly the first lighthouse on this side of the Atlantic with an enclosed lantern room.

The Boston lighthouse cost 2,285 pounds, 17 shillings and 8-1/2 pence to construct. The consumer price index we



An old aquatint of the original Boston lighthouse. The drawing on the title page, opposite, is also an early rendition of the lighthouse.

use only goes back to 1820, and 2,285 pounds in 1820 would equal approximately \$98,000 in today's dollars. Any conversions that follow use this same index.

The committee appointed by the General Court, not having the "leisure" (as the records state) "...to over see and direct the construction of the lighthouse, the court orders that the oversight be committed to Mr. William Payne and Captain Zachariah Tuthill, to carry out and finish the same agreeable to the Advise and Direction they shall from Time to Time receive from said committee, and the sum of sixty pounds (\$2,570) be allowed them for the whole of that service when it shall be completed."

The tower was constructed of stone. From early aquatint illustrations, the tower appears to have been a tall, slender structure with an adjacent two-story dwelling.

A description of the optic or lighting apparatus doesn't exist. The Eddystone and other early enclosed lanterns employed candelabras and that could have been the case at Boston as well. But we do know that at some point spider lamps were installed in the Boston lantern, and they very well may have been the first source of light there.

Mr. George Worthylake was hired on June 25, 1716, at a salary of 50 pounds (\$2,142) per year, "...to begin when the lights are set up." Worthylake was 43 years old and was brought up in Boston Harbor on Pemberton (now George) and Lovell's Islands. He had a farm on Lovell's Island.

During his second year of employment his salary was increased to 70 pounds (\$2,998) by the General Court, "...on account of the loss of 59 sheep, which were drowned during the winter of 1716-17, having been driven into the sea by a storm through want of his care of them when obliged to attend the light-house."

On November 3, 1718, Worthylake, his wife and his daughter were drowned while sailing from the lighthouse to Noddle's Island. Their bodies were recovered and buried in Copp's Hill burying ground. A triple marker was placed over the graves which states, "George, in his forty-fifth year, Ann in her fortieth, and Ruth, their daughter."

This incident was the origin of a ballad called "The Light-house Tragedy", which was written by 12-year-old Benjamin Franklin and printed on his older brother's printing press. Franklin stated that it, "...sold prodigiously though it was wretched stuff."

The General Court immediately received petitions from the merchants of Boston requesting the appointment of John Hayes as the new keeper of the lighthouse. He was described as an experienced mariner and harbor pilot and an able-bodied and discreet person. He was appointed on the 18th of the same month in which the Worthylakes drowned.

approaching the harbor. The signals were "received" by a fort in the harbor and relayed to Boston.

In 1720 the wooden lantern room of the lighthouse caught fire and was destroyed, although the stone tower survived. The keeper reported that the fire was caused by, "...lamps dropping on the wooden benches and snuff falling off and setting fire."

An article in the *Boston News Letter* stated, "On Wednesday night last, the 13 inst., an unhappy accident fell out that the light-house was burned and the Government has Ordered the following advertisement [January 18 edition]:



The grave stone of the Worthylakes reads—"Here Lyes Y'body of Mr. George Worthylake Died Nov 3r, 1718 in 45 year of his age. Ruth Dau of Mr. George & Mrs. Ann Worthlake Died Nov 3r, 1718 in 18 year of her life. Here Lyes Y'body of Mrs. Ann Worthlake wife to Mr. George Worthylake Died Nov 3r, 1718 in 40 year of her life." Photo courtesy of Egbert Koch, Hamburg, Germany.

The duties of the keeper were varied. In addition to tending the station, he acted as a pilot taking vessels in and out of the harbor, and also as a health officer in case a vessel had to be quarantined before arriving at Boston. He was also expected to entertain such people as might visit the island. In 1719 America's first fog signal was installed on the island in the form of a cannon. The keeper was expected to fire it in answer to cannons fired by ships approaching the harbor in the fog.

In time of war the keeper was expected to hoist and lower the Union Jack as many times as there were enemy vessels

"At a Council held at the Council Chamber in Boston on Friday the 15th day of January, 1720. That an advertisement be put in the Newspaper giving notice of the fire lately happening at the light-house, and that care will be taken to refit the same with all possible Expedition; and that in the mean time there will be set up at the said Light-House as good a light as can be conveniently projected to serve for the present. J. Willard, Secty."

In the February 22 edition the following was reported: "whereas the Light-House by an Unhappy Accident was burnt down the 13 of Jan. past, and the Government then gave Publick Notice thereof several times

by this Print, that forth-with all due care would be taken to refit the same...that on Wednesday last the 17th Inst. the Lights were lighted and are burning as they did before they were burned down; and all vessels coming in may depend on seeing the Light to the full height from the surface, as they did the former.

While the fire didn't destroy the tower, it did cause cracks in the walls, which were further widened by the Great Storm of 1723. The 16-foot-tide that accompanied that storm is still the highest ever-recorded in Boston Harbor.

In November of that year, Keeper Hayes wrote to the General Court, "...showing that he is necessitated for the faithful Discharge of his office to hire two men constantly to attend that service as well as himself, So that after men's wages are paid and provisions are supplied them, the petitioner's allowance is not sufficient to give himself and family a support, and in-as-much as it may have been Represented that his Profits are considerable by giving entertainment for the last Twelve Months, and that for the affair of pilotage, In the summer season almost every fisher-man or boatman they met with in the Bay, Pilot the ships in, And that his benefit by pilotage is by that means very inconsiderable, and therefore Praying that some sufficient addition may be made to his salary." The Court granted him a raise to 70 pounds, to be paid quarterly (\$2,998 quarterly for the keeper, who hired two assistants from his own pocket).

In 1733 Keeper Hayes submitted his

resignation, "...on account of age and infirmities." The merchants then recommended Captain Robert Ball for the position. During his tenure he requested and received certain sums to repair the tower and dwelling.

Disaster struck again on June 22, 1751, when wooden portions of the tower caught fire. The wooden staircase and lantern were destroyed. An Act was passed to repair the structure, "Whereas the lighthouse at the entrance to the harbour of Boston hath been greatly damaged by fire, and it hath been ordered by this Court that it should be repaired; and it being reasonable that the charge of such repairs be born by those who receive the immediate benefit thereof...That the Commissioner of inport...hereby is directed...to demand and receive of the master of every vessel [leaving or entering any port in the Province], which within the space of two years from the publication of this Act, over and above what is already by law provided the following rates...For every vessel [each time it sails] less than one hundred tons, two shillings; for every vessel over one hundred tons and under two hundred tons, three shillings; and for every vessel over two hundred tons, four shillings.

Robert Ball, Sr., was the keeper from 1733 until at least 1766, although there is some evidence that he served until after the British fleet left Boston Harbor during the Revolution. During the Revolution the lighthouse became an object of concern for both sides. The Provincials destroyed parts of the lighthouse on at least two occasions,

leaving the brick tower portion to stand. While it was in the possession of the British, a Colonial party under Major Vose landed on the island at night and set fire to the lighthouse. As they were pulling away in whaleboats in the morning, British men-of-war discovered them, and fired on the boats. On shore an eyewitness reported, "I... saw the flames of the light-house ascending up to the Heavens, like grateful incense, and the ships waisting [sic] their powder." Major Vose returned the next day, burned the dwelling and brought off the furniture, lamps, and the boats.

The British began rebuilding the lighthouse and on July 31, 1775, Colonialist Major Tupper and three hundred men stormed the island to disperse the British. They marched to the lighthouse and killed ten or twelve men and took the remainder prisoners. By the time they were ready to depart the tide had gone out, leaving their heavy boats high and dry. While they waited for the tide to come in, several boats were dispatched from the British men-of-war to reinforce the party on the island. Tupper's men and the British boats exchanged fire and a Colonial field piece located on Nantasket Point (situated to cover the Colonial retreat) sank one of the British boats, killing some of the crew. Eventually Major Tupper departed the island with the loss of only one man. His troops had killed and captured 53 of the enemy. On August 1, 1775, General Washington thanked Major Tupper and his men, "...for gallant and soldier-like behavior in possessing themselves of the enemy's post at the light-house."

The British were forced to depart Boston in March 1776, but remained in the harbor, sending parties to the various islands of the harbor to wreak as much havoc as they could. Finally on June 13, 1776, the Continentals brought several guns to bear on the British ships anchored in the harbor, forcing them to weigh anchor and make their way out of the harbor. As the British passed Little Brewster Island, the vessel *Renown* sent boats to the island and took off the British troops who had been stationed there. They left powder so arranged that it caught fire an hour after they left and blew up the brick tower. The lighthouse remained dark during the remaining war years.



This cannon, shown on Little Brewster Island, was America's first fog signal. It was at the Coast Guard Academy for many years, but has been returned to the Boston Light Station. National Archives photo.

In 1780 Massachusetts Governor Hancock sent a letter to his legislature recommending the lighthouse be rebuilt. A committee agreed and the new Boston lighthouse was constructed at the location of the old one. It was completed in November 1783 (some Light Lists and other publications state that it was completed in 1784).

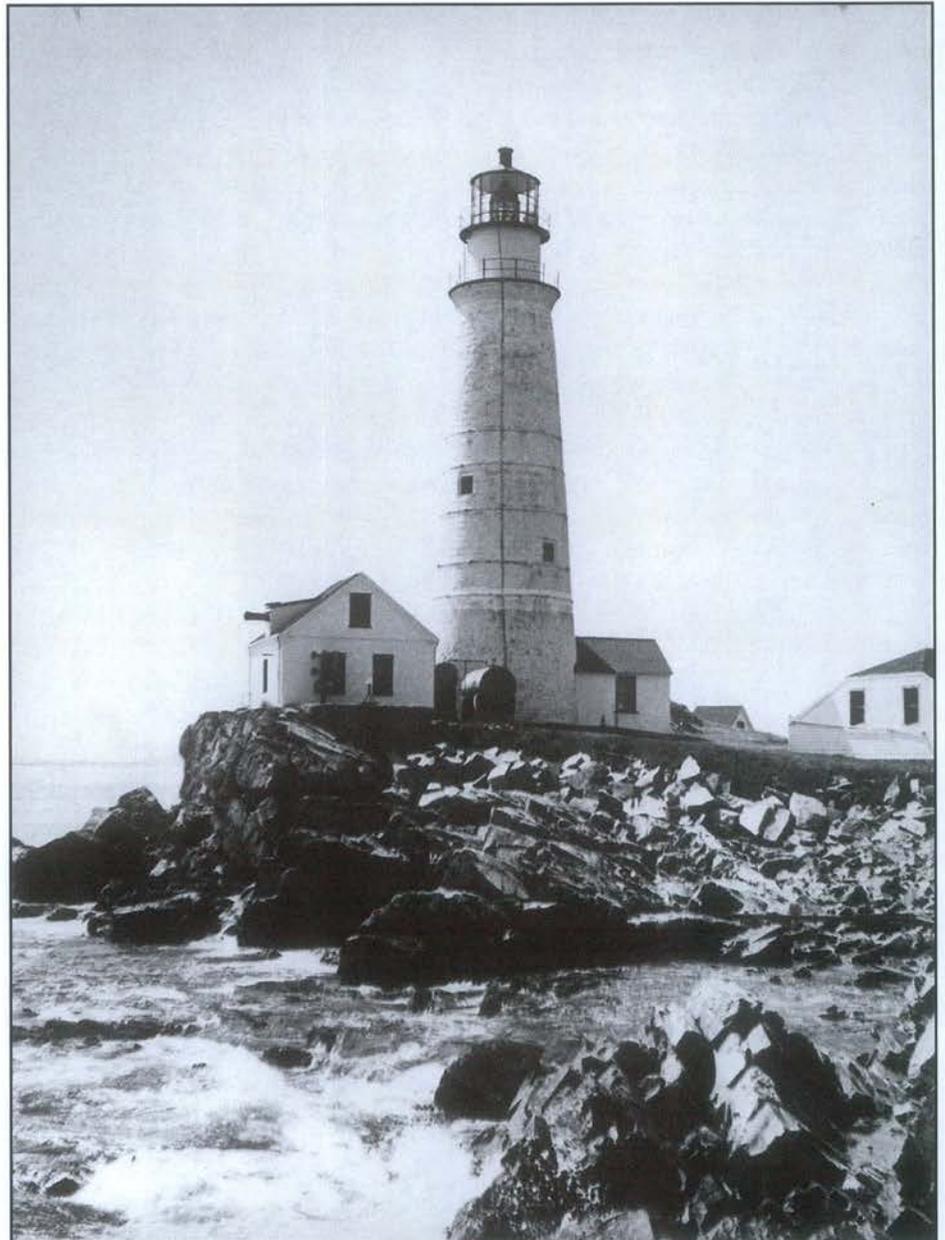
The new building was constructed of stone and stood 75 feet high. The walls of the base (which is 25 feet in diameter) are seven and one half feet thick. The original lantern was an octagon, fifteen feet high and eight and one half feet in diameter. Four one-gallon spider lamps were installed.

On November 28, 1783, Captain Thomas Knox, a pilot, was appointed keeper by Governor Hancock. His parents lived with him on the island.

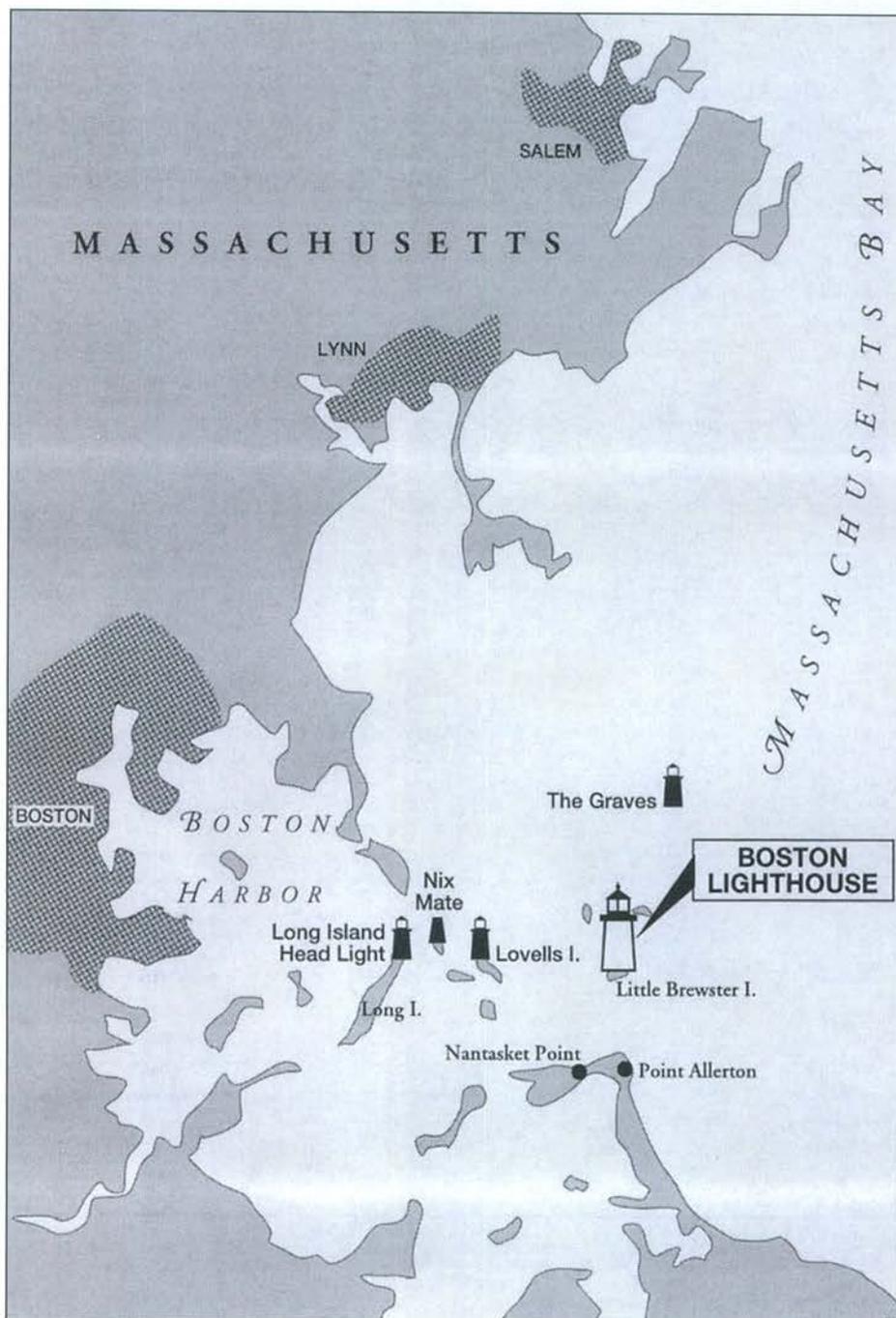
On June 10, 1790, under the Congressional Act of August 7, 1789, the island and lighthouse were ceded to the federal government, one of the twelve lighthouses that existed in this country at the time to fall under federal control. About that time, on the recommendation of Alexander Hamilton, the requirement for vessels to pay "light dues" was abandoned. Hamilton wrote to Washington that lighthouses and aids to navigation "should be as free as the air."

Thomas Knox, keeper of the lighthouse, was owner of an island in the harbor known as Nix's Mate, which at one time was three miles in diameter. However, over the years erosion had reduced it to a small islet. In 1803 Knox stated he was willing to cede it to the government, if Congress would appropriate funds adequate to construct a strong stone wall around the remains of the island and place a beacon on it. This was agreed to.

Although the lighthouse was witness to several naval battles during the War of 1812, it apparently remained dark during that period. In 1815 the Boston Marine Society petitioned the government to have the lighthouse relit. Jonathan Bruce, another pilot, was appointed keeper. Tobias Cook became keeper in 1844 and established a cottage industry on the island. Young girls were brought out to the island to make "Spanish" cigars, which were taken into Boston as imported cigars.



The Boston Light Station tower showing the five steel bands installed to keep the tower from further damage. Fog signal building is at left with trumpets on the roof. The 2nd order Fresnel lens can be seen in the lantern. U.S. Coast Guard photo.



The scam was discovered and Keeper Cook was replaced by William Long.

Since the lighthouse was reconstructed it has undergone several alterations. Sometime around 1812, a "Winslow Lewis" reflector system comprised of 14 lamps backed by 21-inch diameter reflectors was installed. In 1839 it was refitted, perhaps with the same type of optic.

In 1856 the height of the tower was raised, a new lantern room constructed and a small Fresnel lens installed. The Annual Report of the Lighthouse Board the next year stated, "The Boston Lighthouse has been recently refitted, and as good a light is exhibited from it as the description of apparatus in use will produce. The tower, from original bad construction, is cracked in many places, which required the resort to temporary expedients to prevent serious consequences. Although it is believed that it must necessarily be rebuilt at no distant day — and there is no economy in patching up every year buildings of original bad construction — the state of it is not such as to demand an immediate rebuilding, which would require about \$71,000, built of cut stone" [and, of course, it is the same tower today]. Two years later the tower was relined with brick, the present 2nd order Fresnel lens was installed and a second dwelling was constructed.

In 1868, 152 tons of stone was brought to the island to stop the erosion in one area. The Annual Report stated, "The sloop *Billow*, in delivering this stone, was caught between the piers — the passage in and out having been safely made in a previous trip — was left by the tide and fell about eight feet, having 80 tons of stone on board. She was damaged beyond the possibility of extrication in a whole condition, and was stripped and abandoned by her owners. As she lay at the entrance of the only landing of the station her immediate removal was a necessity, and a contract was therefore made to cut off her bow, fill both parts with casks and tow her to Quincy, where she was sold at auction..."

In 1872 the automatic bell fog signal was replaced by a Daboll fog trumpet, which produced a 7-second blast followed by 43 seconds of silence. This signal was in turn replaced by a 1st class steam-powered siren in 1887. The new fog signal's boilers

used so much water, which was in limited supply at the station, that a concrete rain catchment basin and a 21,800-gallon cistern were constructed. In 1884 the Lighthouse Service installed a steam whistle alongside the siren in a two-year experiment to determine which was the better signal. The siren won out and remained the fog signal at the Boston station until 1963, when it was replaced with a diaphragm air horn (similar to those used on modern diesel trains).

Boston's Fog Signals

Cannon -
1719 to unknown

Bell -
Unknown date to 1872

Steam powered trumpet -
1872 to 1886

Steam powered siren -
1886 to 1963

Diaphragm -
1863 to 1990



Above - The very large Daboll trumpet horn which measured 55 feet long and was 17 feet wide across the mouth. This horn was part of a 1864 experiment by MIT students. If you look closely you can see a person standing in the mouth. To the right of the horn you can see a portion of the duplex prior to the 1895 renovations. National Archives photo courtesy of Sally Snowman.

Below - The assistants' duplex dwelling after its "colonial revival" style renovations and before the covered walkway between the house and the tower was removed in 1900. The connecting walkway can be seen at right behind a keeper's wife checking her garden. National Archives photo courtesy of Sally Snowman.



Over the years the Annual Reports mention a continuing battle with Mother Nature; erosion and storms took their toll on the land and the structures.

As the era of manned light stations came to an end, the Boston station was slated to be the last one automated, a fitting tribute to our country's first lighthouse. However, in the early 1990's Senator Ted Kennedy (D-MA) decided that it should continue to be manned in perpetuity. He attached a rider to the Coast Guard appropriation bill, which requires the Coast Guard to continue to man the Boston Light Station. But, in fact, the station is basically automated, the men stationed there merely flipping a switch to energize the light each night. This symbolic gesture merely requires the Coast Guard to station men at a basically automated station. Major repairs to the station, painting the buildings, etc., are carried out by contract. The 'good old' days of lighthouse keeping are over.

Up until 1999, the island was a difficult place to get to and visit the old light station, but that has changed. In 1996 Little Brewster Island and the other islands that make up the Boston Harbor Islands was Congressionally designated as a national recreation area. Since then over 100,000 people visit the islands annually, with a predicted annual visitation of half a million people, primarily due to the success in cleaning up Boston Harbor. Now lighthouse enthusiasts and nature lovers can visit the island from one of three gateways: Boston, Hingham or Lynn. Daily cruises to the island from Boston depart from Long Wharf. Tickets can be purchased at the Boston Harbor Cruises kiosk. For information on tours in 2000, call the Boston Harbor National Recreation Area information line at (617) 223-8666.



An overview of Little Brewster Island. The keeper's dwelling at extreme left, looking right - the duplex dwelling center, cistern house, tower and fog signal building, oil house in the foreground. U.S. Coast Guard photo.



Fog signal horns can be seen on the roof of the building at left. Note the lines extending down the tower and scaffolding at the base. The keepers were responsible for painting the tower both inside and out. They pulled the scaffolding up to the lower walkway and lowered themselves as they painted. No extra pay was given for this yearly chore. U.S. Lighthouse Society photo.

See review of *Boston Light: A Historical Perspective*, by Sally Snowman and James Thompson, in this issue of the Log.