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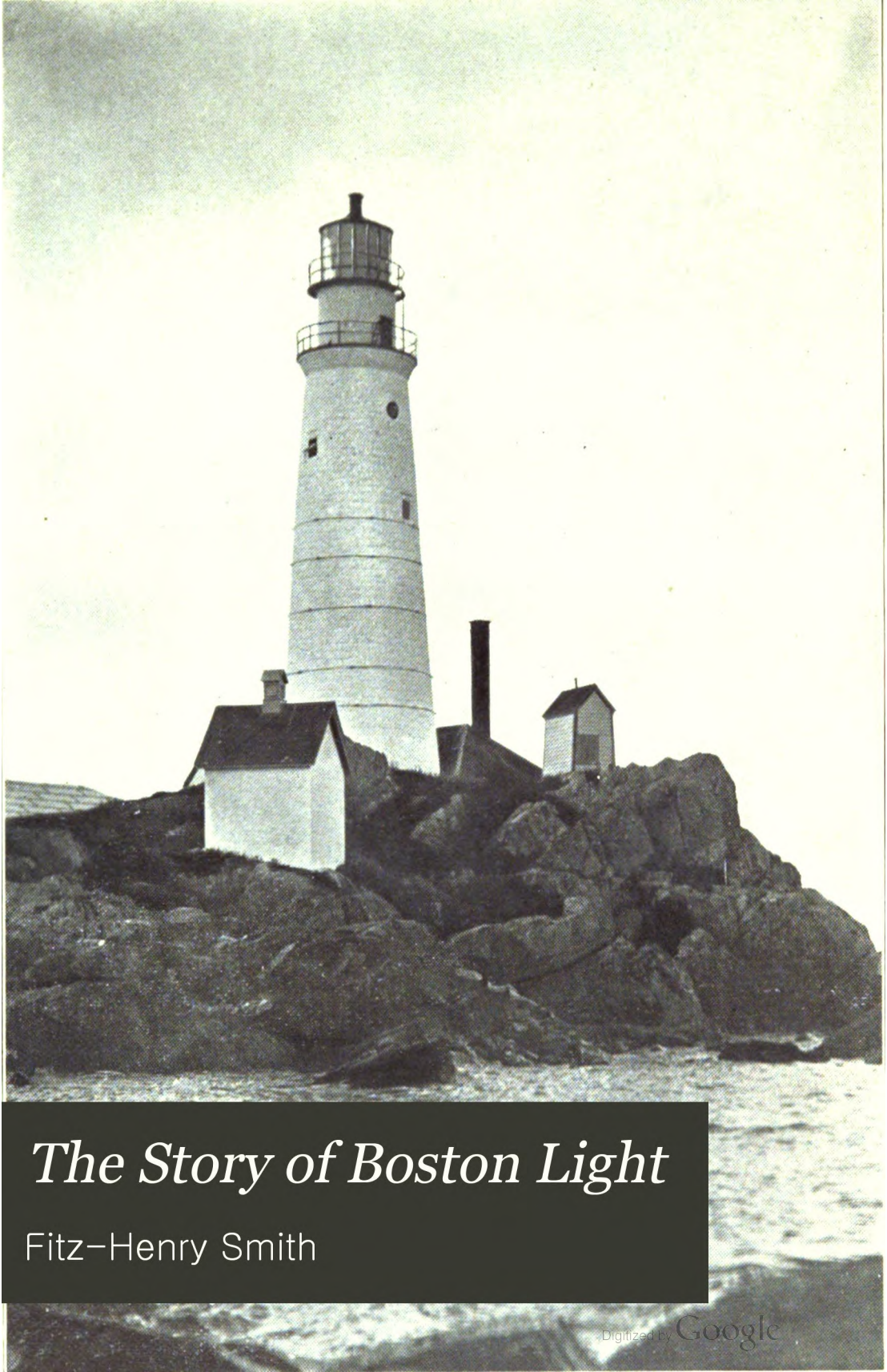

The Story of Boston Light

Fitz-Henry Smith

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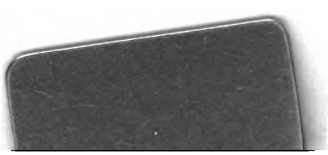

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THE STORY OF BOSTON LIGHT

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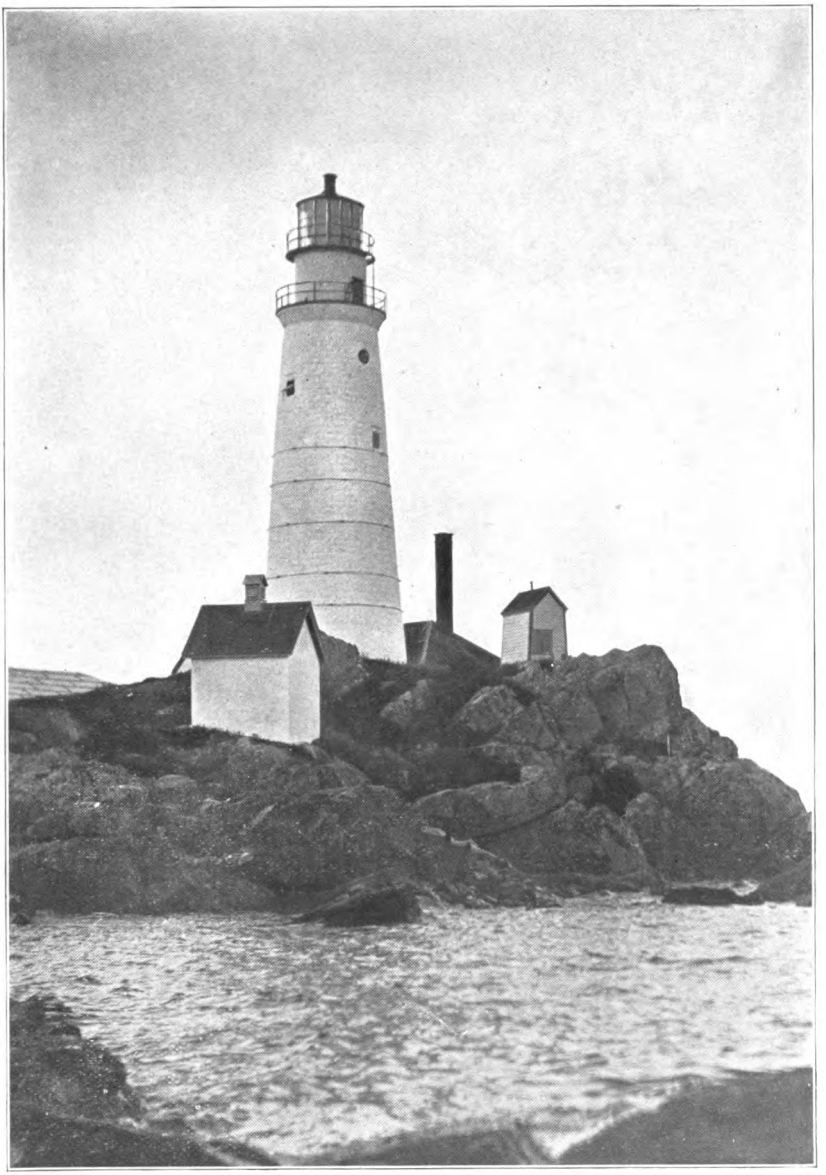

BOSTON LIGHT, 1910.

From a Photograph, by the courtesy of C B. Webster & Co., Boston.

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THE

STORY OF BOSTON LIGHT

WITH SOME

ACCOUNT OF THE BEACONS IN BOSTON HARBOR

BY

FITZ-HENRY SMITH, JR.

BOSTON
PRIVATELY PRINTED
1911

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THE STORY OF BOSTON LIGHT

With Some Account of the Beacons in Boston Harbor

A PAPER READ TO THE BOSTONIAN SOCIETY, COUNCIL CHAMBER, OLD STATE HOUSE, NOVEMBER 9, 1909, WITH ADDITIONS, BY

FITZ-HENRY SMITH, JR.

NO landmark in the harbor of Boston is more conspicuous than Boston Light. A representation of the light is the chief feature on the seal of the Town of Hull; and the seal of The Marine Society, an old Boston institution, shows "a Ship arriving at the light House from a storm and the Sun breaking out of the Clouds." The original structure is reputed to have been the first lighthouse erected in this country, and it played a by no means unimportant part in the history of the harbor. Yet the story of the light seems to be but little known to Bostonians. This may be due to the fact that a complete and separate account has not heretofore existed, and the following paper is an

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attempt to supply the deficiency and to collect and preserve the data relating to the light in serviceable form.

The placing of a lighthouse at the entrance of Boston harbor was thought of as early as the beginning of the eighteenth century, as is manifest from a note in Clough's "New England Almanac" for the year 1701:* "Q. *Whether or no a Light-Houſe at* Alderton's *point, may not be of great benefit to* Mariners *coming on theſe Coaſts?*" But the move which finally brought about the establishment of the light did not take place until more than a decade had passed. Saturday, January 3, 1713, the petition of one John George, "merchant," in behalf of himself and associates, "Propoſing the Erecting of a Light Hous & Lanthorn on ſome Head Land at the Entrance of the Harbour of Boſton for the Direction of Ships & Veſſels in the Night Time bound into the ſaid Harbour," was read in the General Court of Massachusetts, and an order made appointing a committee, consisting of the Lieutenant-Governor (Hon. William Tailer), Eliakim Hutchinson and Andrew Belcher from the Council, and John Clark, Addington Davenport, Major Thomas Fitch, and Samuel Thaxter from the House of Representatives, to confer with Mr. George and his associates, and to report at the next session of the Court. The petition seems to have been prompted

* For this reference and for many helpful suggestions, the writer is indebted to Mr. John H. Edmonds of Boston.

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by private enterprise. John George* was, at the time, a selectman of the town of Boston, but subsequent events show that at the outset neither he nor his associates proceeded in an official capacity.

The committee reported March 20, that having met Mr. George and received his proposals, including a method of building and supporting the lighthouse, it was found necessary to "take a view" of the place most convenient for the erection of the structure, and that on the 13th of the month, accompanied by several of the most experienced ship-masters of Boston and Charlestown, they went down to the outermost islands at the entrance of the harbor. They landed upon and surveyed several of these islands, and, backed by the unanimous opinion of the ship-masters who went down with them, recommended; "That the Southermoſt Part of the Great Brewſter called Beacon Iſland is the

* John George was a person of some prominence; he was a Selectman in 1701 as well as in 1713, and a member of the committee of thirty-one chosen in 1708 to formulate a scheme for the better government of the town. His firm, John George & Co., appears among the list of "merchants and traders" who in 1700–01 petitioned the Governor for a bankrupt law "as in England," and he individually was one of the backers of the Long Wharf project. He died November 24, 1714, leaving a will by which he divided his "part in the long Wharff and Warehouſe thereon" and his interest in the partnership with his son-in-law (Nathan Howell) between his wife Lydia, and his daughter Katherine Howell. July 5, 1715, his widow married the Rev. Dr. Cotton Mather. Sewall wrote that "Mr. George laid in my Tomb till Madam George have an opportunity to build one," and that he "Was a Well-accompliſh'd Merchant and appears to have been a good Chriſtian, deſirable, uſefull Man.

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moſt convenient Place for the Erecting a Light Houſe, which will be of great Uſe not only for the Preſervation of the Lives & Eſtates of Perſons deſigning for the Harbour of Boſton & Charleſtown but of any other Place within the Maſſachuſetts Bay," as Boston Bay was then called. Whereupon it was resolved by both Houses of the Court "that the Projection will be of general publick Benefit & Service & is worthy to be encouraged," and the committee was directed to proceed to receive the proposals and offers of persons to undertake the work, "and upon what Terms or Encouragement to be given by the Government in Laying a Duty of Tunnage upon Shipping."

Meanwhile the selectmen of Boston seem to have awakened to the fact that the project was one which might be turned to the account of the town, and on March 2, 1713, they "Agreed to propoſe to ye Town their being concerned in ye charge of a Light Houſe in ord^r^ to an income." March 9, at a meeting of "Freeholders and other inhabitants of ye town of Boſton," held at the South Meeting House, it was voted, "that the conſideration of what is proper for the Town to do Ab^t^. a Light-Hous be referred to the Select men and Committee afore appointed to Improve the fifteen hundred pounds."* And May 13 the town voted that in case the Court should see cause to proceed to the establishment of a lighthouse, the selectmen or representatives

* "The produce of ye Blue-Hill Lands."

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of the town be desired to move the Court that the town of Boston as a town have the preference in the charge of erecting and maintaining the lighthouse, "and being Intituled to the Proffits and Incomes thereof."

The Committee of the General Court reported that they gave public notice of the time and place for receiving proposals; had received a further proposal from Mr. George, and had heard several times from the selectmen of Boston and a "Committee for their free Grammar Schools," relating to the desire of the town for preference in the matter of the light before any particular individuals.

After the report was read it was voted, June 2, 1713, that the lighthouse "be erected at the Charge of the Province, if this Court ſee meet; If not the Town of Boſton to have the preference before any private perſon or Company." June 9 the selectmen of Boston took action whereby the representatives of the town in the General Court were desired to move the Court in the interest of the town "after ye rules of duty for Light money" were stated. The report of the Committee on the question of the duties to be assessed for the support of the lighthouse in case it should be erected, was made on June 17, 1713, and for a period of more than a year thereafter progress on the project was halted.* But on

* August 4, 1713, the selectmen appointed a committee to procure a draft of an Act, to be presented to the General Court, relating to the erection and maintenance of the lighthouse by the town of Boston.

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November 5, 1714, and again on June 9, 1715, the Court passed the following order: "That a Light Houſe be Erected at the Charge of this Province at the Entrance of the Harbour of Boſton on the ſame Place & Rates propoſed in Bill, projected for the Town of Boſton's Doing it, Accompanying this Vote, And that a Bill be drawn accordingly."

This vote finally disposed of the part which the town of Boston hoped to take in the enterprise, and which seems to have been the cause of the delay. A few days later (June 14) a committee* was appointed to erect the lighthouse pursuant to the votes of the General Court, and on July 23, 1715, a bill was passed entitled "An Act for Building and Maintaining a Light Houſe upon the Great Brewſter, called Beacon Iſland at the Entrance of the Harbour of Boſton," the reason for the Act, as stated in the preamble, being that the want of such a lighthouse, "hath been a great Diſcouragement to Navigation by the loſs of the lives and Eſtates of Several of His Majeſties Subjects."

The Act provided for the erection of a lighthouse "at the charge of the Province" on "the South-ermoſt part of the Great Brewſter called Beacon Iſland .... to be kept lighted from Sun ſetting to Sun riſing," and decreed that from and after the completion of the structure "and kindling a light in it uſefull for Ship-

*The members were William Payne, Col. Samuel Thaxter, Col. Adam Winthrop, Addington Davenport, and the Hon. William Tailer.

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ping" . . . . there should "be paid to the receiver of Impoſt by the Maſter of all Ships and Veſſells Except Coaſters the Duty of one penny per Tun Inwards and alſo one penny per Tun outwards and no more for every Tun of the burthen of ſaid Veſſell before they load or unlade the Goods therein." Fishing vessels and vessels engaged in bringing lumber, stone, etc., from ports within the Province were required to pay but five shillings a year, and the Act expressly defined the meaning of the word "coasters," provided for the measurement of vessels and the collection of the tax, and stated that a person should be appointed from time to time "by the General Court or Assembly" to be the keeper of the light. For a failure to attend his duties the keeper was made liable to a fine not to exceed £100, two-thirds of which was to go to the Government and the balance to the informer. At the same time, by a Resolve, £500 was allowed "for a present Supply" to the cost of building the lighthouse, and the committee was empowered to trade with the owners of Beacon Island for its purchase.

Accordingly Col. Samuel Thaxter, in behalf of the committee, appeared before the proprietors of the town of Hull, the owners of the Brewsters, at a meeting of the proprietors held on the 1st of August, 1715: and the proprietors "being cenſable" that the proposed lighthouse would be of general benefit to trade and that they in particular would "rape a greate benefite there-

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by," by unanimous vote "granted the ſd. Bacan Iſland to the pruince of the Maſſatuſſets Bay for the uſe of a light houſe foreuer," to be disposed of as the Government should see fit; but with the provision that the grantors should be kept harmless.

December 20, 1715, the Court granted a further £500 toward the undertaking, and on the same day appointed Mr. William Payne* and Captain Zechariah Tuthill† as overseers to carry on and finish the work under the direction of the committee, the committee "not having Leiſure to attend that Work." In all, £1900 was granted by the Court for the purpose, and on November 29, 1716, the report of the committee showing a balance of £485 : 7 : 8 remaining due was accepted and this amount ordered to be paid out of the public treasury, thus making the total cost of the structure £2385 : 17 : 8. Previously (June 25, 1716) the committee had been desired to procure a suitable person to keep the light, and his salary for the first year fixed at £50, "to begin when the Lights are ſett & kept up." In the "Boston News Letter" of September 17, 1716, it is said that the "Light Houſe has been built; And on

* Born January 22, 1668; died June 10, 1735. Commissioner of Impost 1698, Collector 1699 to 1710, Selectman of Boston 1713, Sheriff of Suffolk County 1714 and 1715, Representative from Boston in the General Court 1715 and 1716, Excise Commissioner 1716.

† Captain of the Castle and one of the founders of the Brattle Street Church. As compensation for their trouble it was provided that the overseers should have £60 when the lighthouse was completed.

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Fryday laſt the 14th Currant the Light was kindled." When it is considered that the first Eddystone lighthouse, which took four years to build, was not begun until 1696, and that the celebrated Tour de Corduan at the mouth of the river Garonne, although a long time in building, was not completed until 1610, it will be realized that in addition to being the first erected in this country, Boston Light is also one of the oldest of the famous lighthouses of the modern world, and the two hundredth anniversary of its establishment is fast approaching.

The dimensions of the lighthouse are not given us, but to judge from an early picture it was a tall and stately structure. The tower at least seems to have been built of stone, evidenced by the reports of various committees on the repair of the lighthouse, and in particular by the report of the committee appointed to examine the building after the great storm in February, 1723. The committee reported June 18, 1723, in part as follows: —

We Likewiſe Examin^{d} the Light Houſe & Searched into the Severall Cracks in the Stone Wall, but Cannot be of opinion that they are in the leaſt Meaſure Occaſioned by the Late Storm, and Rather becauſe the Cracks are much Wider on the Inſide than on the Out, & many that appear within do not go through the Walls, which were likely to be Occaſioned by ye Fire when part of the Light Houſe was burnt, For if the Storm of Wind & Water had hurt the Building, the Damage would appear on the out Side, where the Force Came, Neither Can wee perceive any of the Stones diſplaced.

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That "part of the Great Brewster called Beacon Island" on which the lighthouse was erected is, in effect, a separate island joined to the Great Brewster by a bar. How and when it came to be called "Beacon Island" is puzzling. Before 1715 it was also known as the Little Brewster, though that name appears on some maps made earlier, as well as later, for the island now designated as the Outer Brewster. Since the establishment of the light the island has generally been called the Light House Island, and it so appears on the present Government charts of the harbor.

Previous to the erection of the lighthouse, beacons had been placed on the heights in and about Boston for the purpose of giving alarm in the case of the approach of a supposed enemy. The beacon on Sentry Hill in Boston, which has given to the hill the name so familiar to Bostonians, was established as the result of an order of the General Court passed in March, 1635. Such a beacon may have been set up on the Little Brewster, but it would not seem likely, in view of the low elevation of the island and the distance from the mainland. We know that as early as 1673 there was a beacon on Point Allerton at the entrance of the harbor, for on March 9, 1674, the selectmen of Hull petitioned the General Court that some consideration might be allowed them in their rate for the past year for their "charge and trouble about the ſetting up and wardinge off the Beacon erected on Poynt Allerton By order off the

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Honoured Counſell." And Nathaniel Bosworth of Hull filed an account of the expenses to which the town had been about the beacon, with a list of the persons who had warded the same.

In May, 1678, Captain James Oliver was ordered by the Council to repair to Hull and to live there, in order that a ward might be kept daily on the *island* where the beacon is, "eſpying fower ſhips together to be Approaching to give an Alarum by firing the Beacon." The use of the word "island" in this order does not necessarily mean that the beacon was situated on one of the Brewsters Nor does it exclude Point Allerton. "Island," as a term, is sometimes used loosely in the records of this period, and we have other documentary evidence showing that the beacon was in fact on the main land.

In 1679–80 two Dutchmen, Jaspar Dankers and Peter Sluyter, made a voyage from Holland to New York, and on their way home stopped at Boston. Dankers wrote a Journal of the trip in which the approach to Boston is described as follows: "There are many small islands before Boston, well on to fifty, I believe, between which you sail on to the city. A high one, or the highest, is the first that you meet. It is twelve miles from the city and has a light-house upon it which you can see from a great distance, for it is in other respects naked and bare." Although the words "light house" are used in the translation quoted, there is no

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doubt that what the voyagers saw was a beacon, for the narrator states later on, "there is a high hill in the city also with a light-house upon it." And that this beacon was stationed on Point Allerton appears from the description given of the course to the city. Says the Journal: "In sailing by this island [the one with the beacon] you keep it on the west side; on the other side there is an island with many rocks upon and around it, and when you pass by it you must be careful, as a shoal pushes out from it which you must sail round." The rocky island with the shoal exactly describes the Brewsters, and a ship entering Boston Harbor has Point Allerton to the west. The beacon of 1673 was erected at Point Allerton, and judging from a petition of Benjamin Bosworth on whose land it stood, was set up under the supervision of Captain Oliver. Further, Point Allerton was but a short distance from the village of Hull, lying in the valley between the hills to the west, and where the captain was most likely to take up his residence.

Finally, it may be said, that in 1689 the inhabitants of Hull were exempted from impressment to public service upon certain conditions, among them that of "Erecting a Beacon at Alderton point for to make a Signal of the approach of Ships. If more than three together to give Notice." And FitzHugh's copy, so-called, of Captain Southake's Map of the Harbor* shows

* See Publications of the Bostonian Society, II: 110.

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a beacon at Point Allerton, the hill there being designated as "Beacon Hill." Sewall refers to the firing of "Nantasket Beacon" in 1696.

These orders as to beacons were of a precautionary or defensive nature and were not passed in the interests of navigation, as was the vote for the erection of a lighthouse. In January, 1680–81, the Council authorized the payment to the town of Hull of eight pounds or its equivalent, for an acre of land "upon the top or higheſt part of the Great Iſlands amongſt the Iſlands Called Brewſters Iſlands," which had been appraised by a committee of the Court and reserved for a "Generall ſea marke" for the public use. If the Little Brewster got to be called Beacon Island because of a structure erected upon it, that structure was in all probability nothing more than a nautical beacon or sea-mark without a light; but no one of the early maps of the harbor that we have seen shows anything of the sort on either the Great or the Little Brewster.

The system of warning the country by means of beacons continued to be employed after the lighthouse was built; and when there was danger approaching by sea the signal was given from the lighthouse island. Thus Daniel Neal says, writing in 1719:—

> To prevent any poſſible Surprize from an Enemy, there is a Light-Houſe built on a Rock, appearing above Water about two long Leagues from the Town, which in Time of War makes a Signal to the Caſtle, and the Caſtle to the Town by hoiſting and

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lowering the Union-Flag, ſo many Times as there are Ships approaching, which if they exceed a certain Number, the Caſtle fires three Guns to alarm the Town of *Boſton*, and the Governour, if Need be, orders a *Beacon* to be fired, which alarms all the adjacent Country; ſo that unleſs an Enemy can be ſuppoſed to fail by ſo many Iſlands and Rocks in a Fog, the Town of *Boſton* muſt have ſix or more Hours to prepare for their Reception.

And Bennett's narrative describes a similar scheme as in use in 1740: —

About two leagues diſtant from the Caſtle on a rock, ſtands an exceeding fine light-houſe, at which there is a guard conſtantly attending to prevent ſurpriſe; from whence they make ſignals to the Caſtle when any ſhips come in ſight, whether friend or foe .... when a ſignal is made from off the light-houſe to the Caſtle of the approach of an Enemy if there be more than four or five ſhips then the Caſtle thereupon gives a ſignal to the town; and thoſe of the town alarm the country by firing a Beacon. And for that purpoſe they have a very famous one on the north weſt ſide of the town erected on a hill.

When the Lighthouse Act was passed, one Thomas Coram* made objections to the Act as laying a tax

* He was undoubtedly the Captain Thomas Coram who established the Foundling Hospital in London. Born in 1668, the son of a sea-captain, Coram was first a sailor and then a ship-builder. In 1693 he came to Boston under the protection of the British Government, "to promote and carry on" in the Province the business of ship-building for the account of Thomas Hunt and other merchants of London. After four or five years he moved to Taunton and set up a ship-yard in what is now South Dighton, where he seems to have constructed a

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upon shipping and making no provisions for pilots, who were much needed — going so far as to submit the matter to the Lords of the Admiralty, by whom he was referred to his Majesty's Commissioners for Trade and Plantations. The latter desired him to put his objections in writing, but apparently nothing came of them, for the Province proceeded unmolested in the erection and maintenance of the lighthouse. The pilotage question, though in a different form, was, however, subsequently raised by three of the lighthouse keepers: and Coram was right in suggesting that some attention be paid to the matter of pilots, though not, perhaps, in objecting to the Lighthouse Act on that account.

In July, 1719, the keeper petitioned the General Court that a gallery be built on the seaward side of the lighthouse, "that he may be able to come to the Glaſs to clear off the Ice & Snow in the Winter Time,

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number of vessels. But he did not get along well with his new neighbors. "Of a rather choleric disposition," Coram "spoke what he thought with vehemence" and was a frequent litigant. He accused the magistrates of Bristol County of rendering illegal judgments against him, and all of these judgments were reversed on appeal. In 1703 he returned to England. The blame for his "persecution" at Taunton Coram laid to Nathaniel Byfield, and used all his influence to prevent Byfield from being made Governor of the Province in 1715, "or so much as Judge of the Admiralty again in New England." June 27, 1700, Coram married at Boston, Eunice, daughter of John and Eunice Wait. She died in 1740, and his death occurred March 29, 1751. See the paper by Hamilton A. Hill on "*Thomas Coram in Boston and Taunton*," American Antiquarian Society Proceedings, VIII: 133, for reference to which I am indebted to Dr. S. A. Green of the Massachusetts Historical Society.

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whereby the Said Light is much obſcured & that a great Gun be placed on Said Iſland to anſwer Ships in a Fog." The Court voted him the gun and appointed a committee to see about the other matter; but a gallery was sometime thereafter added to the lighthouse. There is a picture of the lighthouse done by William Burgis in 1729, and dedicated to the Merchants of Boston, which is said to have been the second mezzotint made in this country. It shows the fog gun* and gives a very good idea of the lighthouse as first erected. A print of this picture was presented to the U. S. Light-house Board by Lieut. C. H. West, U. S. N., and is now owned by the Bureau of Light-Houses at Washington.

In the foreground is a single-masted armed vessel, which has been referred to as the "Province Sloop," as "An Armed British Customs Pinnace," and as "The Light-House Tender." A vessel described as the "Province Boat, which attends the service" of the lighthouse, is referred to in various petitions of Robert Ball, the third lighthouse keeper. But it is doubtful if this was an armed vessel, or so large as the sloop in the picture. The lighthouse boat figures frequently in the history of the light. It was often in need of repairs and new fittings, was lost and found at least once, and was once stolen. We may get some idea of the size of the tender from the fact that in 1734 the lighthouse

* The gun appears to have been one belonging to the Province and previously located at Long Island.

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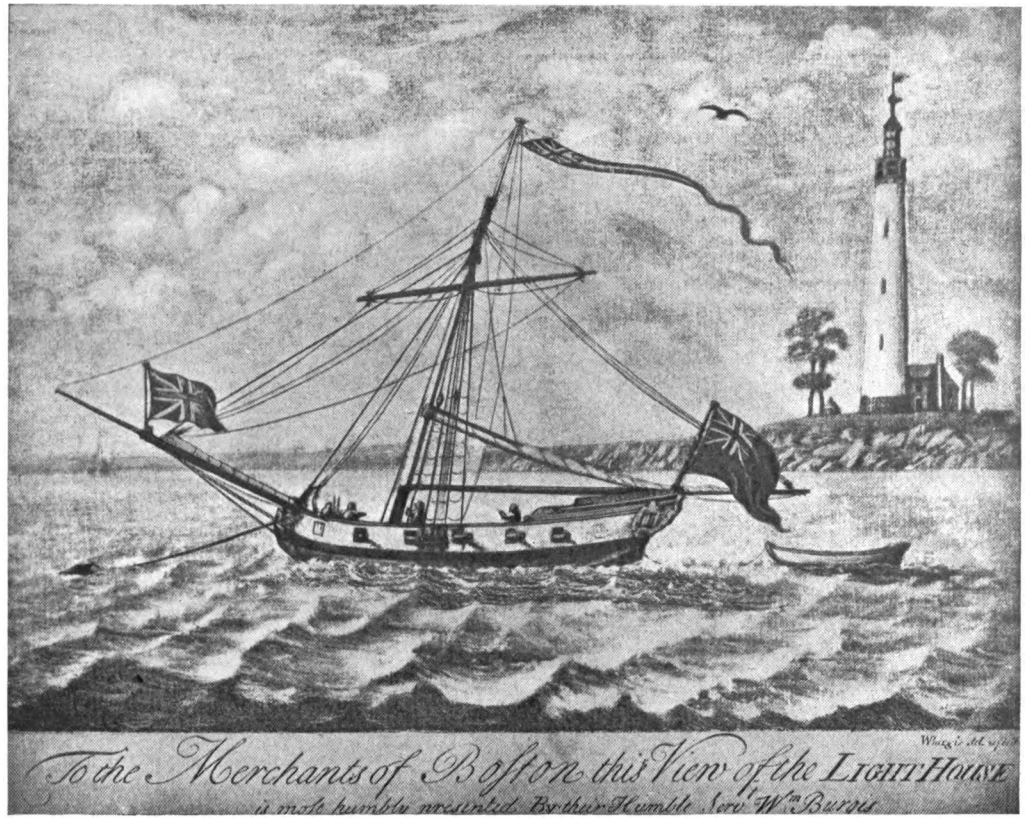

BOSTON LIGHT.

From the Original Mezzotint, Engraved in 1729.

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keeper asked the Court for a new one "of thirty feet by the keel."

Repairs to the lighthouse were necessary from time to time, and in 1726 £490: 1 : 8 was expended upon the plant at Beacon Island, including the wharf and buildings there. The need of more extensive repairs then became evident, with the result that in June, 1734, a committee was appointed by the General Court to ascertain if the lighthouse was capable of being repaired, and if not, whether "a more Convenient place and a better foundation for Erecting the Lighthouſe on then the place where the preſent houſe ſtands," could be found, and whether it was proper to build it of timber or of stone. Thursday, July 4, the committee reported, advising "that the Seams & Cracks be well filled with mortar or Putty, and the whole outſide caſed with Good oak Plank of two Inches and a half thick up and down, with twelve Iron hoops, the Hoops to be three Inches and a half wide, 5/8 of an Inch thick, well drove over the Plank and to be at Suitable diſtances about four feet apart, and boarded between the Hoops and Shingled on the outſide." "This method," says the committee, "we apprehend will Secure the ſaid Light houſe and make it as Strong as at firſt if not the better: And herein we have the opinion of Workmen going down with us, the foundation of the Houſe not being in leaſt altered nor the Houſe Settled one way or other, having Carefully plumbed it all Round." The cost of these repairs the

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committee thought would not exceed five hundred and fifty pounds — much less than the expense of tearing down and building anew. From this report it would seem evident that the structure, apart from the lantern, must have been at least fifty feet in height.

The report of the committee was accepted and the duty on shipping and navigation increased for the next four years to three halfpence per ton, to meet the charge of repairs, which another committee was designated to effect "after the most prudent manner." February 3, 1737, this committee addressed a memorial to the Court, stating that they had completed the repairs to the lighthouse and dwelling house and had built a new and very commodious wharf. They were granted for their services £150 "in the new tenor."

In 1738 a committee recommended that the lighthouse be painted white, and we infer that this was done from the fact that the keeper communicated to the Legislature in June, 1749, that the building required attention, "the Paint being all waſh'd off which renders it leſs viſible to Veſſels bound in in the Day Time than it would be if the Paint was freſh." Whereupon another coat was ordered.

Not only were repairs necessary by reason of the ordinary wear and tear on such a structure, but it suffered also from other causes. January 13, 1720, — that is, a little more than three years after the light went into operation — a fire occurred at the lighthouse. The

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Council immediately directed that an advertisement of the fact be put in the newspapers, and provided for the setting up of as good a light as could "conveniently be projected" until the building should be repaired. The fire was not serious enough to place the light out of commission for any length of time, for we learn from a second notice in the newspapers that on February 17 the repairs were completed and the lights burning as before.* The Council seemed to think, however, that some blame for the accident attached to the keeper, and they held back the salary due him on February 8, awaiting his explanation. February 25 the keeper, Capt. John Hayes, presented a Memorial in which he accounted for the fire as follows:

That it being the Memorialiſts manner to go to bed early in ye evening & riſe about nine o'clock at night, about eight o'clock he was waked out of his ſleep by his wife, who told him ſhe ſuſpected ye Light House was a fire, that he immediately ran up with two pails of water but ye fire was too violent to be ſubdued, that however he ſaved many things belonging to the Light Houſe. That he ſupoſes ye fire was occaſioned by ye Lamps dropping on ye wooden Benches & a ſnuff falling off & ſetting fire & that ye ſaid fire was not occaſioned by ye leaſt neglect of ye Memorialiſt.

* It cost the Province £221 : 16 : 1 to make good the damages which the fire had done, and then on the recommendation of the committee appointed to attend to the matter that "some further work" was necessary, the Council ordered the committee to proceed with it, referring this time to the stairs in the lighthouse in particular. The bill for these additional repairs amounted to £196 : 11 : 6, but included the cost of transferring to Beacon Island the "great gun" to which reference has been made.

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After the Memorial was read, the Council called the keeper before them and asked him several questions. They were apparently satisfied with his answers, for when he had withdrawn they voted him his salary.

While the method adopted in 1734 of repairing the tower by means of a wooden casing was temporarily cheaper, it rendered the building even more liable to damage by fire. As might be expected, when a fire next occurred, as in 1751, it very nearly destroyed the structure. This took place during a recess of the General Court, and without waiting for the opening of Court, Spencer Phips, the Acting Governor, appointed a body to examine the lighthouse and make such repairs as might be needed for the safety of navigation. It was found that while the wooden parts of the lighthouse were destroyed, including the several floors and the stairs leading to the lantern, the walls of the building were not much injured, except that the fire had caused the stones to "slake" off about two inches deep, which it was thought might be remedied by hammering off what was loose. Meanwhile it was suggested that a light be shown from a spar about forty feet high, to be raised to the eastward of the lighthouse. New floors and steps were then constructed and a temporary light displayed from a ship's lantern.

The committee appointed for the repair of the lighthouse after the General Court convened, recommended, to guard against fire in the future, that an arch be

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turned over the top of the tower (presumably of brick as recommended by the Governor's committee) through which an entrance be left into the lantern, the door of this entrance to be of thin iron plates, the frame of the lantern of iron, and the roof of copper. Previously the lantern had doubtless been constructed of wood, except possibly the roof, which William Payne as early as 1717 suggested be covered with lead as a protection against the weather. The committee further recommended that the outside be planked, hooped, shingled and painted as before, but suggested that to protect the lantern the walk around it be laid with "Connecticut stone" projecting about four inches beyond the sides of the building, and that for greater security the windows be stopped up or made narrower. These repairs were consummated at an outlay, so far as the records show, of £1170, including £20 allowed the keeper for work done by him, and an Act was passed imposing higher lighthouse duties for the space of two years.

In an article on the lighthouse in the "Massachusetts Magazine" for February of 1789, it was said that the building "was several times struck with lightning, and attempts were made to erect conductors; but this measure was opposed by several of the godly men of those days, who thought it vanity and irreligion for the arm of flesh to presume to avert the stroke of Heaven. But it having received considerable damage, in the course of two or three successive summers, necessity prevailed

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over the consciences of our faithful fathers, and the invention of Franklin was employed, since which, it has received no injury from that cause."

Repairs were made from time to time to the dwelling house on the island, and also to the wharves there, which were frequently damaged by storms. And in 1773 preparations seem again to have been made for repairs to the lighthouse itself. Then came the Revolution, and during the Revolution the lighthouse fared hard. The occupation of Boston by the British began in June, 1774, soon after the arrival of Gage as Governor and Captain General, and apparently they took possession of the lighthouse, though just when we do not know, and guarded it. In any event the light passed out of the control of the Province, and after the battle of Bunker Hill became an object of attack. Early in July following the battle, the Provincial Congress, taking into consideration the fact that the light had become useless to the Province because of the harbor's "being blocked up by ships of war," endeavored to find some means of removing the lamps and oil. This resulted simply in the matter being passed from one committee to another, and nothing accomplished. But later in the month the object was brought about in a somewhat startling manner.

The exposed condition of the town of Hull and the danger that British sympathizers might find a means of communicating with the ships of the enemy if precau-

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tions were not taken, led to an order in July, 1775, directing the inhabitants of Hull to remove therefrom and providing for a guard to be stationed at the entrance of Nantasket Beach. This order was readily complied with, if not anticipated, by the townspeople, and the little hamlet left deserted except for the family of Lieut. Wm. Haswell, an English half-pay officer in the Revenue Service. So hurried was the exodus from Hull, however, that the grain was left standing in the fields, although the Provincial Congress, in response to a petition of the Hullonians setting forth their dangerous situation, had ordered the selectmen and committee of correspondence of the town of Hingham and District of Cohasset to assist in the work of removal. But on July 20 a detachment under Major Vose of Heath's regiment went down to Hull, where they landed and cut the standing grain. Then they went over to the lighthouse island, took away the lamps and oil, some gunpowder, and the boats there, and "burned the wooden parts of the lighthouse." Although they were engaged by an armed schooner and several boats, in which engagement two of the Americans were wounded, they got away with all their booty, including 1000 bushels of barley and a quantity of hay. Writing of this affair an English officer remarked that it would "prove of great detriment to the shipping," thus indicating that the light was serviceable to the British, if not to the Continentals Says an American eye-witness quoted

Martin Gay to his brother. Boston, 27 July 17[illegible] "This day [illegible] the light house was burnt ... [illegible] am making new lamps for it. It will soon be in re[illegible] parc." Col. S[illegible] of Mass. Bu[illegible] iii, 382.

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by Frothingham in his "Siege of Boston," "I ascended an eminence at a distance and saw the flames of the light-house ascending up to heaven like grateful incense, and the ships wasting their powder."

The British at once began the reconstruction of the lighthouse with a force of carpenters, guarded by marines. In consequence, a command of three hundred men under Major Tupper was detached from the American army with orders to stop the work, and on July 31, during the progress of a heavy cannonade at Boston, they set out in whale boats from Dorchester and Squantum for the lighthouse. Planting a field piece under Major Crane on Nantasket Head to cover a retreat, they landed on the island, overcame the guard, killing ten or twelve outright and making the rest prisoners, and destroyed the buildings which were being erected. On the return they were hotly pursued by the British, but escaped with the loss of one killed, while one of the pursuing boats was sunk by a shot from Major Crane's gun, with fatal results. A wounded British prisoner was left by Major Tupper at Hull, where he died soon after and was buried in a corner of Lieutenant Haswell's garden. The story of the death of this young Englishman is told in sentimental style in a novel — "Rebecca" — written by the Lieutenant's daughter, Mrs. Susanna Rowson, famous in her day as actress, school-teacher and novelist, and in particular as the author of "Charlotte Temple," perhaps the most

Cf. Washington's Orders of Aug. 1, that the furniture &c. of William Timms yesterday taken from Boston Light be restored. Famous Orderly

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popular novel of its time.* These bold undertakings of the Continentals caused Col. Barré to exclaim in Parliament, "They burn even the lighthouse under the nose of the fleet, and carry off the men sent to repair it." Major Vose gained much credit by his success, and Washington, in general orders, thanked Major Tupper and the officers and men under his command "for their gallant and soldier-like behavior."

While it is apparent that the light was maintained by the British during their occupation of the harbor, though perhaps not with regularity, we do not know who the keeper was. The first keeper of the lighthouse was George Worthylake, who was appointed in 1716 and who lived at the time of his appointment, according to Dr. Shurtleff, upon Lovell's Island, his father having been a resident of George's Island. It does not appear how Worthylake came to be selected, but doubtless the fact of his long residence on the islands near the Brewsters had a great deal to do with it. March 5, 1716, the town of Hull, in which town it must be remembered the Brewsters are located, appointed a committee to petition the Court for the liberty of choosing the man

* The scene of "Rebecca" is laid, in part, at Hull, and Mrs. Rowson wrote of an event which she witnessed as a girl of thirteen. For her life see the "Memoir" by Elias Nason, Albany, N. Y., 1870. The Bostonian Society owns a Map of Boston Harbor worked in silk by Lydia Withington at Mrs. Rowson's School in Boston, June 30, 1799. A reprint of the first American edition of "Charlotte Temple" with cuts and an historical introduction and bibliography was published by Funk & Wagnalls in 1905. Copies of "Rebecca" are very rare.

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to keep the lighthouse. The authority to make the selection was, however, vested by the Court in the light-house committee, as has been noted, but Worthylake may have been Hull's man.

Worthylake's salary, as originally fixed, was fifty pounds per annum, but was increased to seventy pounds in 1717, on his petition. November 3, 1718, he was unfortunately drowned, together with his wife and daughter, and all three were buried in Copp's Hill Burial Ground. The accident was made the subject of a ballad by Benjamin Franklin, then a lad of thirteen, called "The Light House Tragedy," which his brother induced him to print, and which he sold on the streets of Boston. But although the ballad "sold wonderfully," as Franklin tells us in his Autobiography, "the event being recent" and "having made a great noise," not a copy is known to be in existence, nor do we know anything about the ballad, with the exception of its author's description that it was "wretched stuff, in the Grub-street-ballad style."

Three days after the tragedy, the Council directed Mr. Robert Saunders "to repair to Beacon Iſland & take care of the Light Houſe till a keeper be choſen & appointed by the General Aſſembly." The same day the merchants of Boston recommended for the position, as an experienced mariner and pilot, Capt. John Hayes. Hayes was appointed keeper by a vote of the Court Nov 18, but seems to have taken up his duties before

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that date, for his salary was figured from the 8th of the month. So the term of Saunders if he served at all was a very short one, and he never was the official keeper of the light, inasmuch as the Lighthouse Act especially provided that the keeper should be appointed by the General Assembly.*

As in Mr. Worthylake's case, Hayes' salary was originally fixed at fifty pounds, to be paid quarterly, but was raised in 1720 to seventy pounds, upon his showing the necessity of two men besides himself for the proper care of the light. An interesting feature of this petition is the keeper's statement that "in as much as it may

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* Dec. 3, 1718, one Mary Saunders presented a "charge about the Light Houſe," and was allowed £5 : 15. Dec. 15 of the same year "Mary Sanders, widow," took out administration on the estate of "Robert Sanders, late of Boston, mariner."

The following news item in "The New England Weekly Journal" of Monday, March 24, 1735, given me by Mr. Edmonds, shows how narrowly another Worthylake escaped the fate of the first keeper:—

"Laſt Tueſday Evening between 7 and 8 o'Clock we had a ſudden violent Guſt of Wind, the Light-Houſe Boat being then between the Long-Wharff and the Caſtle going down, the water beat ſo over her Stern that ſhe filled and ſank; there was on board Mr. *Ball* keeper of the Light-Houſe, Capt. *Bullney* Commander of a veſſel bound out lying at *Nantaſket*, Mr. *Worthylake*, and one *Kericane*, a Porter of this Town; they would in all probability have all loſt their Lives, but having providentially a ſmall Boat belonging to Captain Bullney's veſſel in tow, Mr. *Ball* tho' he could not ſwim, accidentally getting hold of the Painter, with much Difficulty got along by it into the ſmall Boat, and made up to Capt. *Bullney* and took him in, after he had ſunk once; Mr. *Worthy lake* alſo juſt made ſhift to get into the ſaid Boat; *Kericane*, who ſeem'd to be in great Conſternation, remain'd where he was, and was drowned the other three in the ſmall Boat in about an Hour after, got ſafe to Governours Iſland, tho' much ſpent and benumb'd with the Cold."

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have been repreſented, that his Profits are conſiderable by Giving Entertainment on the Iſland, That he has found the ſame prejudicial to himſelf, as well as the Town of Boſton, and therefore has left off giving Entertainment for the laſt twelve Months." Four years later an addition of £15 was made to Hayes' salary, and his allowance as keeper continued to be £85 for the remainder of his period of service. August 22, 1733, he gave notice of his desire to resign on November 8th, the end of his official year, and at the same time a memorial was presented by the merchants of Boston, recommending Robert Ball as keeper, and Ball was appointed to succeed Capt. Hayes.

Robert Ball kept the lighthouse until 1774, and, so far as appears, was the official Provincial keeper at the time of his death, October 10 of that year. The last Act of the General Court in reference to Boston Light during the year 1774 was passed in the month of February, and dealt with Mr. Ball's salary for the previous year. June 17 the Court adjourned with a "God save the King." When the delegates met again in the following October, they convened at Salem, as the First Provincial Congress, and the Journals of the Provincial Congresses contain no references to the lighthouse keeper. Ball was seventy-five years old when he died, and in his last petition for his salary stated that on November 19, 1773, he had completed his fortieth year as keeper of the light, — the longest term of service in

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its history. Whether he remained the actual keeper up to the date of his death may be questioned. The fact that he made his will just two months before he died is significant: and further, it would seem safe to assume that British jurisdiction over the light must have been exercised previous to October, 1774.

If there were any period before the death of Ball and before the lighthouse was seized by the British, when some other person kept the light for the Province, that person was in all probability Ball's nephew, William Minns, for Minns seems to have assisted at the lighthouse as early as 1770. If the light were maintained by the British while they remained in control of the harbor, the keeper was most likely a Tory or some member of the British force.

See p. 2

Ball was keeper in 1751, when the light was burned the second time, and during his long and faithful service was a witness to many of the improvements and changes that have been noted. In 1739, six years after he took charge, he petitioned the General Court to be appointed the established pilot of the harbor, or at least have the preference over all other persons, reciting in his petition that he had so acquainted himself with the harbor that he was able to take in the largest vessels; that he had two young men with him whom he had trained to be capable pilots, and that there were always two well-fitted boats at the lighthouse. He further set out that he piloted vessels in the winter time and charged no

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more than in the summer season, and that he had frequently been obliged to go on board vessels infected with the small-pox, to pilot them to the Province Hospital. Owing to the dangers which he thus ran he thought that he was "in ſome meaſure Entitled to the more eaſy & profitable part of pilotage in the ſummer ſeaſon"; but stated that in the summer time small craft would go out into the bay a considerable distance and, unfairly, as he thought, take the pilotage business away from him. In an earlier petition Capt. Hayes had made a similar complaint, explaining that during the summer almost every fisherman or boatman would act as pilot, to his detriment.

The House of Representatives was disposed to accede to Ball's request, but the Council amended the Act passed below by directing the petitioner to bring in a bill, and Ball apparently did not see fit to call the matter up again, or at least to ask to be made the exclusive pilot of the harbor.*

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* The order of the House appointed Ball the "established" pilot of the harbor of Boston for three years, fixed a maximum for his charges, and made elaborate provision in his behalf. He was to keep two well-fitted boats and distinguish them from all others "by having them Painted white down to the Wale." In addition the boat plying "in the Bay" was to fly "a broad blew Vane" at the mast head and the boat plying in the harbor "a broad red Vane." Any person presuming to imitate these distinguishing features was made liable to a fine of £5, to be recovered by Ball for his own use, and if he, or his agent, went on board a vessel before she got by the lighthouse and found another person in charge of her as pilot, Ball could claim half the fees.

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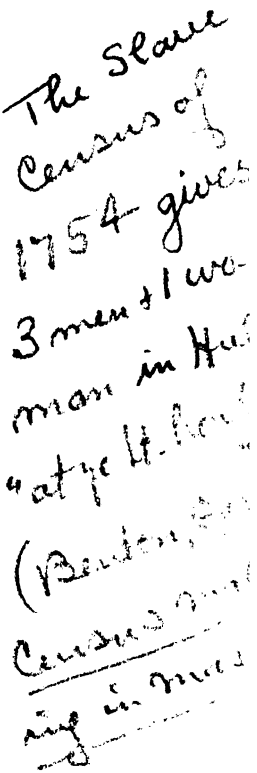
Ball was not given a fixed salary like his predecessors, with the result that at the end of every year he petitioned the Legislature for an allowance for his services and for his disbursements on account of the light. He was first allowed for services the sum of £120. In 1741 his allowance was £130 "old tenor." The next year we find it £32:10, doubtless, though not so stated, because payable in the "new tenor" bills of 1737, which the Government valued at the rate of one new for three of the old and which, it is said, the people passed at the rate of one for four. But whatever the currency, and notwithstanding a subsequent increase of ten pounds, the allowance was not satisfactory, and in 1747 Ball informed the Court that his pay was "not Equivalent to his time, care and trouble in Attending the Light," stating that while the light constantly required two persons, he attended it alone "with his Servant or Negro." * This devotion to his duty, he declared, prevented him from pursuing any other business which could be made more advantageous to himself and his family. And he asserted that his complaint was just, "Inaſmuch as the Price of all the Neceſſarys of Life are now vaſtly raiſed, and the Bills of Credit greatly Depreciated," — a note which has a familiar sound to-day. That Ball was then not alone in his trouble appears from a vote of the Court in March,



* In the inventory of Ball's estate is the item: "1 negro man Jack £6.13.4."

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1748, "*ſtrongly recommending* to the ſeveral Churches and Congregations within this Province to make an honourable proviſion for the Support of their Miniſters proportionate to the great Riſe of the Neceſſaries of Life ſince their ſettlement;" and reference to the "dearness of Provisions" was made when the Court increased the Captain's salary, as keeper, twenty-four years earlier.

As a result of his petition Ball's allowance was raised to £57: 10, but this he did not think enough, and in successive petitions stated that he could not help setting forth the insufficiency of the amount allowed him, refering, as before, to "the dear price of all neceſſarys of Life," the hardships and risks he was obliged to undergo in the winter time, and the small amount he was able to realize in his capacity as pilot. By this persistency he was allowed £65 for his services in 1748, and £75 in 1749, in which year the Governor sent a message to the House with Ball's memorial, urging the Court "to do ſomething for the Relief of ſo good & uſeful an officer & ſo prevent his quitting a Buſineſs he is ſo well fitted for." His pay then dropped to £40, but by 1756 was raised to £60, at which figure it seems to have remained. Ball was taxed in Hull, and had some difficulty with the towns-people about the assessment, his position being, apparently, that he was a non-resident. December 8, 1766, the town voted to discharge him on his proposal to pay £5 for each of the four

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previous years, and the same sum annually thereafter so long as he continued to keep the lighthouse. But some ill-feeling seemed to remain. A few years later a lot of Ball's fire-wood was carried off by a storm and landed in Hull; he sent a man (William Minns) after it, who was informed that if he would swear that he owned the wood he should have what the law allowed, and Ball advised the Court that not being able to recover any of it he was obliged to buy more.

In the first period of the existence of the light the work of the keepers was multifarious. They do not seem to have been expected to devote all their time to the light, and were allowed to eke out their incomes by engaging as pilots as has been shown. What is more, they appear to have regarded the title of "pilot" as a greater distinction than that of "keeper." *

On occasions they were called upon for additional service. Reference has been made to the use of the lighthouse island as a signal station in times of public danger: whether the keepers had any extra help for this purpose we do not know. The traveller Bennett would have us believe that there was always a "guard" at the island, but this may be doubted if by "guard" is meant more than the keeper and his assistants. It is probable that most of this extra work fell upon the keepers. Sometimes they were paid for it, sometimes

* In his will Ball describes himself as "of Boston — pilot" without in any way refering to the lighthouse.

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not. Thus in 1722, at the time of the small-pox scare in Boston, Captain Hayes complained of the extraordinary expense and trouble he had been put to in giving notice to vessels from France and other places infected with the plague, and requiring them to perform quarantine. For this he was allowed twenty pounds. A number of years later he was granted a like amount because of time spent in obedience to an order of the Council looking out for "his Excellencey's coming in," whereby he lost the opportunity of piloting vessels.

July 4, 1728, Hayes was ordered to keep a watch for Henry Phillips, the murderer of Benjamin Woodbridge. Phillips had killed Woodbridge the evening before in a duel on the Common. It was the first duel in Boston and made a great commotion, the principals being young men of prominent families. All of these commissions were given to the second keeper, but Ball had his extra duties, as his petitions indicate.

When the light was rebuilt after the Revolution, the keeper was Thomas Knox,* and this leads us to take up again the story of the structure.

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* Thomas Knox was the son of Adam and Martha (King) Knox, his mother being a danghter of Robert Ball's first wife, Mrs. Martha King. The relations between Ball and the young people seem to have been very close. He remembered Martha Knox in his will, referring to her as his daughter-in-law, and in a letter written in 1794, Thomas Knox calls Ball his grandfather. Mrs. Martha Ball died May 30, 1765, and on October 10th Ball married Mary Webber of Cambridge, who survived him. Ball lies buried at Copp's Hill along with his wife Martha.

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Upon the evacuation of Boston by the British in March, 1776, all of the enemy's vessels did not immediately leave the harbor, but lay near the Castle. Then, pestered by the Continentals from the neighboring heights and islands, they fell down to Nantasket Roads, where they remained until June. June 13, companies of men set out from Boston and the neighboring towns, and landing upon Long Island and Nantasket Hill commanding the Roads, they planted cannon and opened fire on the fleet.* Whereupon the British set sail and left the harbor for good, but on the way they stopped at the Brewsters and fired a train, which blew up the lighthouse. The British were not so particular on the occasion of this their final farewell to Boston but that they left some "Stores and Implements," belonging to the lighthouse, in a serviceable condition. A guard was placed over them by the military the very day the British sailed, and the Council promptly took measures to secure them for the use of the State. September 3, 1776, the Council gave directions to the Commissary General, "As the old top of the Light Houſe is rendered unfit to be uſed for that purpoſe in future, ... to deliver ſo much of it to the committee for fortyfying the harbour of Boſton as they ſhall need to Supply the Cannon with Ladles." This was the end of the original

* Consisting, according to Deacon Tudor, of eight ships, two snows two brigs and a schooner.

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lighthouse after a life of sixty years. "Ladle" is defined in the dictionaries as "an instrument for drawing a charge from a cannon."

During the remaining years of the Revolution and for a year or two thereafter no light seems to have been maintained at the entrance of Boston harbor. And for a period of seven or eight years after the light was destroyed by the British, the Little Brewster was bare of a lighthouse building. In 1780 the committee on fortifications was engaged in fixing a beacon "upon the ſpit of ſand near the Place where the late Light Houſe ſtood," it having been represented to the Court in the previous December that the absence of such a beacon made the entrance of the harbor dangerous to mariners. The order issued called for the erection of a beacon "to anſwer the purpoſes for wch. the former was Erected." This structure, without doubt, was merely a nautical beacon, such as has been described, and was erected at about the site of the present Bug Light, at the end of the long sand-bar running westerly from the Great Brewster, for a beacon of the kind mentioned is shown at this spot on the State plan of the town of Hull, made in 1795, and the Des Barres Map of the harbor twenty years earlier indicates one at the same place.

It seems, indeed, that a beacon had existed there for a long time, for in 1755 the committee upon repairs of the Castle was directed to erect a beacon "on the Spit

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of Sand near the Light-houſe, in the room of that which was carried away by the late Storm." In its turn the beacon of 1780 was swept away and taken up afloat in Braintree Bay, "the pole and wheels in good order." This happened during the storm of November, 1789, the same that destroyed the structure on Beacon Hill in Boston, so that, as Wheildon says, "there was nothing of it thereafter but the name."

In June, 1783, however, a committee of the Marine Society of Boston addressed a Memorial to the Senate and House of Representatives of the Commonwealth, on the subject of the increase in trade, which "returning Peace with all its great concomitant Advantages" would probably bring to the State, declaring that the "Two principal Requiſites for the Accompliſhment of this moſt deſirable Purpoſe are the Erection of judiciouſly diſpoſed Light-Houſes & the Eſtabliſhment of a regular ſkillful Syſtem of Pilotage. The Loſſes occaſioned by the egregious Defect in both during the Continuance of the late War," being, the committee said, "too diſtreſſing and too recent to demand a recital." This resulted in the appointment of committees to consider the expediency of erecting lighthouses on the coasts of the State, and the passage of an Act in July, 1783, wherein Richard Devens, Esq., Commissary General of the Commonwealth, was directed to build a lighthouse as soon as possible on the island "at the Entrance of Boſton Harbor" where the old house stood, "*to be nearly of the*

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ſame dimenſions of the former Light-houſe." He was also directed to repair the wharves at the island and construct such other buildings as were necessary. To do all this he was granted the sum of £1,000. September 23 Devens advised the Court that he had found the grant so inadequate he was forced to confine his attention to the lighthouse, which was about three-quarters done, but that in order to accomplish even this much he had "been Obliged to borrow considerable sums of money on his own private Creditt." And he asked the Court "to look into the business" and instruct him about it. The Court accordingly appointed a committee which visited the light and reported that the work intrusted to the Commissary General had been conducted "with wisdom and fidelity." The report then continues: "That it is supposed the whole expense may amount to about Five thousand pounds, That three fourths of the work is now done, and if s^d^ Devens can be supplied with Four hundred and fifty pounds, he will be able so far to compleat the bussines, as to put the work into a state of security and to have a Light, before the approaching Winter."* The £450 was granted October 18th, and the light seems to have been ready for use within a couple of months, for the pay of the keeper began December 5, 1783. Devens paid bills as late as

* In the archives of the Bureau of Light-Houses is a list of those houses ceded by the States to the Federal Government, in which the cost of Boston Light, "when built," is given as $19,881.44.

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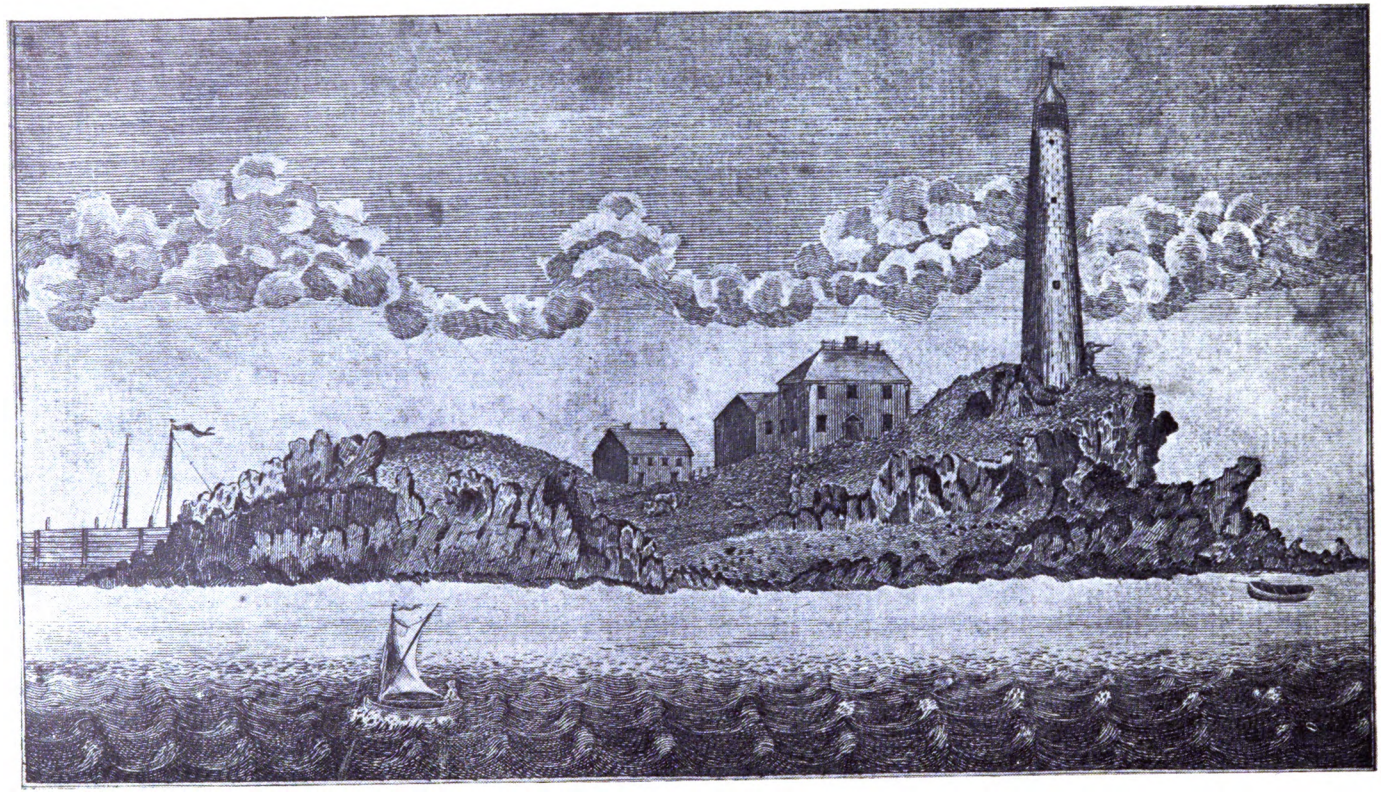

BOSTON LIGHT, 1788.

From an Engraving in the Massachusetts Magazine of February, 1789.

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August, 1784, for work done on the island, but just how much the new structure cost is uncertain.

An engraving of the new lighthouse, showing a south-west view, appears as the frontispiece of the "Massachusetts Magazine" for February, 1789. In the same number is the article by Thomas Knox, the keeper, but who signs himself as "Branch Pilot for the Port of Boston," to which reference has been made. From this we learn that the structure was sixty feet high, or seventy-five including the lantern, which was octagonal in shape and twenty-five feet in circumference. The tower was conical with a circumference of seventy-five feet at the base and forty-five at the top, and having walls diminishing in thickness from seven and one-half feet at the bottom to two and one-half feet underneath the lantern. Like the old structure, the new one was built of stone.*

At the time when Knox wrote, the lighthouse was under the control of the Governor and Council, and was maintained by what was called "light-money," a tax of "one shilling per ton on all foreign vessels entrance, and two pence half penny on American vessels clearance." In a note to the article it is said: "There is a Cannon at the Light House to be fired to

* Benjamin Lincoln says (1804) "of the best hewn stone," but a more detailed report by W. L. Dearborn, in 1857, describes the material as "the first ten feet .... of rubble-stone, the remainder of split-granite in courses of 12" or 14" rise." And the tower is generally referred to in the reports upon it as "rough stone" or "rubble masonry."

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answer any Signal Gun in thick weather," and the 1838 edition of Bowen's "Picture of Boston" indicates that a gun was used as late as that date. Indeed it seems probable that the fog signal at the light continued to be a gun for a still longer period, for it was not until 1851 or '52 that the first fog-bell was installed on the island, though one had been recommended at least ten years before. In 1869 the old bell machinery was removed and its place supplied by a set of Stevens' striking apparatus. Three years later a Daboll fog-trumpet was set up at the light, and this was the regular fog signal until a first class siren was put in operation in 1887.

June 10, 1790, Boston Light and the island on which it stands together with the other lighthouses and lighthouse sites belonging to the Commonwealth, were ceded to the United States, and passed out of the jurisdiction of the State.*

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* There were but twelve other lighthouses in the United States at the time when the Federal Government took over Boston Light, viz.:

	CEDED
Cape Henlopen, Del. (the property of Penn.)	Sept., 1789.
Sandy Hook, N. J. (the property of N. Y.)	Feb. 3, 1790.
Portland Head, Me. (the property of Mass.)	June 10, 1790.
Plum Island, Mass.	June 10, 1790.
Thatcher's Island, Mass.	June 10, 1790.
Plymouth, Mass.	June 10, 1790.
Nantucket, Mass. (also Beacon)	June 10, 1790.
Newcastle Island, N. H.	Feb. 14, 1791.
New London, Conn.	Oct. 1791.
Conanicut Island, R. I.	?
Middle Bay Island, So. Car.	1791.
Tybee, Ga.	1791.

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Since the light has been in the possession of the Federal Government, repairs and changes have been made from time to time, and from a petition of the Marine Society in 1815, to have the lighthouse "lighted during the winter months," it may be inferred that the operation of the light was suspended as a defensive measure, during the course of the war with Great Britain. But as compared with the original structure, that built in 1783 has enjoyed a quiet and uneventful career,* and except as altered and repaired, it stands as it was erected more than one hundred and twenty-five years ago.

Writing in 1843, Capt. Winslow Lewis, at one time connected with the Lighthouse Establishment, said: "To this day there is not one stone in the whole tower moved from the position it was first laid in."

In June, 1809, the superintendent, Henry Dearborn, reported three perpendicular cracks in the walls of the tower, from half an inch to an inch and a half in width, extending from ten or twelve feet above the base to within a few feet of the top. These cracks had opened so much during the previous winter that it was feared the building would become dangerous unless steps were taken to check further cracking, and resort was had

* A correspondent of the "Boston Post," writing from Hull in 1845, tells as a good joke that "there was recently a *Spanish* cigar factory on the island," in which "the operatives were young girls from Boston."

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once more to iron bands.* This time but six hoops were used and without a wooden casing.

The device was successful, and there seems to have been no serious question about its safety until 1857, when the presence of cracks in the tower was attributed to "original bad construction" which had been counteracted by "temporary expedients," and the belief was expressed that it would have to be rebuilt "at no distant day." This however was not done, but in 1859 it was "completely renovated," the tower "lined with brick," and raised until it measured eighty feet above the ground, and a new keeper's dwelling erected. And so the light remained until 1886, when "a large bulge of the outer ring of rubble masonry was removed from the tower and replaced by brick masonry, carefully banded to the hearting."

The original stairway was of wood, and so frequently in need of repair as to be an annoyance to the Government. In 1844 a contract was made with the South Boston Iron Company to equip the lighthouse with a cast-iron circular stair-case having a centre iron pipe and a wrought-iron railing. The contract also called for a cast-iron deck and scuttle, iron window frames, a large outside door of iron, and an inside door with frame and

* Carter's pilot said he helped to hoop the tower "forty-eight years ago." A Summer Cruise on the Coast of New England (made in 1858), by Robert Carter, p. 24.

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large arch-piece over it, — all for the price of $1,500. Some of this work can still be seen.

No story of Boston Light would be complete without some reference to methods of illumination. Indeed this topic furnishes perhaps the most interesting chapter in the whole history of lighthouse construction. Until nearly the close of the eighteenth century the lighthouses of Great Britain, and of Continental Europe also, were lighted by means of a coal or wood fire, exposed in open braziers on their summits, or by candles enclosed in lanterns.

We find it stated in one account that so late as the year 1811 the famous Eddystone Light was illuminated by twenty-four wax candles, and that the Lizard Lighthouse, one of the most important in England, displayed a coal fire in 1812. Neither of these methods seems to have been employed in America. At least there is no record of a brazier at Boston Light, and although it is said by Mr. Arnold Burgess Johnson, in his admirable monograph on "The Modern Light-House Service," that the light "was first lighted by tallow candles," we have not been able to substantiate the statement. The light on Beacon Island was first "kindled," to borrow the expression in the "Boston News Letter," September 14, 1716. November 27 of the same year the Commissioner of Impost was directed by the General Court to supply the keeper "with Oyl Week & Candles for

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the maintaining the Lights," and to enter them in his accounts. It is fair to assume that the oil and wick were to light the lantern, and there is nothing in the order to show that the use of oil was something new. Perhaps both lamps and candles were used in the lantern, but of this there is no evidence. Further, it will be remembered that Capt. Hayes reasoned that the fire in 1720 was occasioned by the *lamps* dropping oil on the wood beneath, and a falling snuff igniting it. If then candles were ever used, it must have been for but a comparatively short time.

In September, 1717, William Payne is mentioned in the Council Records as having "the care of altering the Lights of the Light Houſe & what elſe is neceſſary to be done thereto." What alteration was proposed we do not know, but Payne's expense account amounting to £192:16:6, which was presented and allowed in December of the same year, was "for altering the Light Houſe," and would seem to refer to the proposal he made to the Council in September, that the roof of the lantern be covered with lead, to which the Council agreed.

The lamp used was nothing more in style than the common oil-burner of the period, without a chimney. The wick was solid, and the oil, fish or whale oil.— Johnson says "fish oil," which he intimates was used in the lighthouses of the United States until "sperm oil" was substituted about 1812. But the term "fish

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oil" embraces certain kinds of whale oil. The oil of the "right" whale was a common illuminant at the time Boston Light was established, and the hunt of the "sperm-whale" began early in the eighteenth century. With the decrease in the catch, sperm oil became too expensive, and when the Lighthouse Board came into existence in 1852, it immediately undertook to find a substitute. This resulted in the use of colza, an oil employed extensively in France and obtained from the seed of several plants, but in particular from that of the wild cabbage. Colza was soon followed by lard oil, which continued to be the illuminant in American lighthouses until the item of cost once more compelled the Government to make a change. The new substitute was mineral oil, the present illuminant.*

The trouble with the use of these utensils for lighthouse illumination was the great amount of smoke created and the danger from fire. Some form of reflector may have been used with the first lamps, though it is doubtful, and the first great improvement came with the invention by M. Aimé Argand,† of the celebrated lamp which now bears his name, the first really

* Johnson, "The Modern Light-House Service," pp. 53 *et seq.* Mineral oil was substituted for lard oil, and lamps for burning the former installed in Boston Light in August, 1882.

† A Swiss chemist born at Geneva, 1755; died 1803. He lived in England and made the first model of his lamp there in 1782, but he appears to have enjoyed little profit from his great invention, which was not successful until the effect of the addition of a glass chimney was accidentally discovered.

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satisfactory one that the world had known. Argand contrived, by means of a hollow wick, to secure a double current of air, an interior as well as an exterior draft, and his invention was patented in 1784. His lamps were first utilized for lighthouse illumination on the French coast, where they were used in connection with mirrors. Then they were taken up by the English, and with the introduction of the Argand lamp came glass chimneys, and the general use of reflectors.

Capt. Knox tells us that in 1789 Boston Light was illuminated by four lamps, each containing a gallon of oil and having four lights, "making in all sixteen lights." These were not Argand lamps, and what range the light then had the Captain does not say, but it was so frequently complained of as to induce Gen. Benjamin Lincoln (recently appointed by President Washington Collector of the Port of Boston and in charge of the lights in the district in which Boston Light was situated) to attempt to improve it. Lincoln at once concluded that the lack of brilliancy in the light was not due to either the quality or quantity of the oil consumed, but resulted from the defect common in all the lighthouses of the period, — the want of an adequate arrangement for ridding the lantern of smoke. The lanterns of 1790 formed a point at the top where an opening was left through which the smoke was expected to escape. At Boston Light this hole was covered by "an old man's head," so-called, with an opening on one side. This

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head, much like some chimney tops in use to-day, "turned on a pivot and by the addition of a copper plate fixed to it, it was turned by the wind so as to keep the aperture always to leeward while it traversed well." The trouble was that it did not always "traverse well," but was frequently out of order and would not turn except "in a strong gale," with the result that the keeper was often obliged at great risk to climb the outside of the lantern and turn the head by hand. Further, the opening at the top was the only one. No attempt was made to secure a circulation of air, and it is easy to imagine what the conditions in the lantern must have been when the wind blew directly into it from above.

The General removed the "old man's head" and covered the opening with a contrivance of copper "made in the form of a saucer reversed," greater in diameter than the opening, and with "small ventilators" in it. He also place more small ventilators in the roof of the lantern and cut some holes near the bottom. Notwithstanding these changes the lamps continued to smoke "in a degree": so he turned his attention to the lamp and constructed a new one which he describes as follows*: —

The lamp, or the receiver of the oyl, is in a circular form about three feet diameter cut into quarters, each quarter inde-

* Letter of Benj. Lincoln to the Secretary of the Treasury, in the archives of the Bureau of Light Houses at Washington, and dated Nov. 16, 1790.

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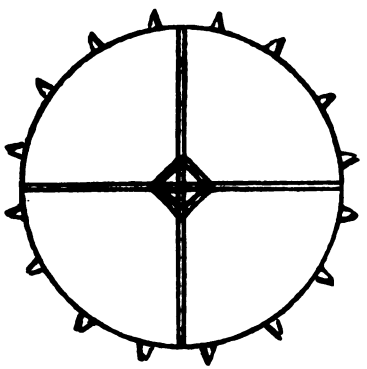
pendent, as to retaining the oyl, of the other. Thereby they are more safely handled, and may be repaired separately. See figure



as they (*sic*) the marks on the periphery are to represent the different weeks The square in the middle a cavity through which the air may ascend By the openings at the bottom there is a constant accession of fresh air which circulating through the above represented square and the space between the glass and the lamps extends the blaze, and gives that, and the smoake, a perpendicular direction, hence the light is increased and the smoake receives a proper direction to escape. . . . .

Lincoln thus set to work along correct lines, and, whether consciously or not, adopted, in part at least, the scheme of a lamp that Argand perfected. In addition he claimed for his invention certain advantages which are interesting, as showing the difficulties that stood in the way of a good light in the earlier period of light-house illumination. These advantages arose from the fact that he constructed the receiver with so large a surface* "that during the whole night" the oil receded from the "blaze or top of the wick but about two inches"

* His first lamp he thought was not large enough for Boston Light, but would do for "one of the houses on Thacher's Island," saying: "The circumference of the lamp should be as large as may be, only leaving a passage way between that and the glass" of the lantern.

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with the result that there was "no essential odds in the degree of light from evening to morning," and the lights were so clustered as to keep the oil warm and thus to avoid the "necessity of burning coals in the winter in the lantern to prevent the oyl from chilling." This last was a most important consideration. The item of fire-wood "for preventing ye Oyle from Congealing" appears frequently in Ball's expense account, and Knox is quoted as stating that before Gen. Lincoln changed the lamps, "he kept a charcoal fire all night in the lantern & uſed to expend 30 Buſhels of coals in the winter" without the results which the new lamps effected.

Despite the improvements made, a light was not shown which was satisfactory to the men of the sea. In 1796 Capt. Joshua Wetherle wanted to have the lamps in Boston Light conform to his plan,* and two years later in order to ascertain "the foundation of the long and frequent complaints respecting the insufficiency of the Light and especially at certain times," Lincoln visited the place and had the lamps lighted in his presence.

"The lantern became," he said, "in a short time full of smoak and so suffocating that it was painful for a

* About the year 1800 a Mr. Cannington exhibited some "improved lamps" from "the Cupola on the Top of the new State House," and a committee of the Boston Marine Society reported that a part of their number on board a Revenue Cutter half way between the State House and Boston Light, "decided that the power and glare of the light far exceeded the light from the Boston light house."

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person to remain there for any considerable time." The same old problem remained to be solved, and other ventilators were suggested. The "badness of the light in the Boston Light House" being called to his attention in 1804 by "a merchant in New Bedford," Lincoln replied that although it never had been thought "one of the best lights," he had heard no complaint save this one, since "some years" ago he "took out the old lamps and replaced them by one of a different form;" and he referred to the keeper, Knox, in support of the improvements, and of his conviction that "no very material alteration" could "advantageously be made."

This was the situation when, in 1807, Capt. Winslow Lewis* of Boston, began some experiments in the illumination of lighthouses. His first exhibition was in the cupola of the State House, and all subsequent to that in Boston Light. In June, 1810, Mr. Lewis took out a patent for a "reflecting and magnifying lantern," which patent was unfortunately destroyed in a fire in the Patent

* He was born at Wellfleet, Cape Cod, May 11, 1770, the son of a sea captain of the same name. He quit the sea, became interested in lighthouse construction and illumination, and is said to have built for the Government two hundred lighthouses. His life shows him to have been a very active man. He was commander of the Boston Sea Fencibles, organized during the War of 1812, and was taken prisoner by the British when making a visit to one of the lighthouses in the Bay. He owned a ropewalk at the foot of the Common, and was for several years Port Warden of Boston. In 1829 and again in 1836 he was an Alderman of the City, and he was President of the Marine Society, and a prominent Freemason. He died May 20, 1850.

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Office in 1836 — but the invention has been described as consisting of "the argand lamp and a spherical reflector with a kind of lens placed in front (known in common parlance as a bull's eye, and used, on account of its great thickness, to transmit light through cellar doors, hollow pavements and ships' decks.)" The reflectors, we are told, "came about as near to a true paraboloid as did a barber's basin," and inasmuch as the lens was "of green bottle glass, four inches thick through the axis," the whole was said to have only made a "bad light worse." However, the characterizations quoted are not wholly friendly, and Lewis's apparatus must have been some improvement over the existing one, for it was tried in one of the lighthouses on Thatcher's Island as an experiment, and regarded as so satisfactory that Boston Light was fitted with it. This was in May, 1811, and in 1812 the Government purchased the patent for $20,000.

Lewis's light was indorsed by the Lighthouse Superintendent and by several committees of the Boston Marine Society sent to observe Boston Light. Later, Lewis was able to show that under his system vastly less oil was consumed than with the old lamps. This was perhaps due to the Argand lamp, and it may be added that that burner, when properly lighted, emits little or no smoke.

For a period of twenty-five or thirty years thereafter Winslow Lewis was engaged in the business of erecting

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and fitting out lighthouses for the United States in accordance with this invention, and until 1839 little or no change was made in the American method, except to discard the bull's eye lens. Meanwhile a Frenchman, Augustin Fresnel,* had made the second great step toward a perfect light, — perhaps the greatest of all advances, — the use of lenses and prisms for the refraction of the light, instead of its reflection by polished metallic surfaces. Fresnel's improvement was invented in 1822; but the adoption of his apparatus — the dioptric, so-called — came about very slowly in this country.

When the State lighthouses came into the possession of the Federal Government they were placed under the control of the Treasury Department, and the Secretary of the Treasury seems to have given them his personal attention until 1820, except for two periods when the Commissioner of the Revenue had charge. In 1820 the duty of superintendence devolved upon the Fifth Auditor of the Treasury, Mr. Stephen Pleasanton, who remained at the head of the establishment until 1852. During his term the number of lights was so largely increased that

* Augustin Jean Fresnel was born at Broglie, France, May 10, 1788, and died near Paris July 14, 1827. He began researches in optics about 1814, and in 1819 received the prize of the "Académie des Sciences" for a memoir on diffraction. The same year he was made a Lighthouse Commissioner; member of the Academy 1823, and of the Royal Society of London 1825. During his last illness the Royal Society conferred upon him the Rumford medal. But his great labors in the cause of optical science received during his life-time scant public recognition.

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it was difficult for one man to give them the attention demanded, and about 1838 complaints began to be made as to the inefficiency of the service. The result was that Congress provided for the importation of two sets of the most improved kinds of illuminating apparatus. These were to be set up and tested, and, at the same time, naval officers were detailed to examine and report on the existing apparatus and the lighthouses that contained them.*

The report of Lieut. Edward W. Carpenter describes that on Little Brewster as "a revolving light, consisting of 14 argand lamps, with parabolic reflectors arranged in equal numbers on opposite sides of an oblong-square," the lamps being "of about the volume of similar lamps in family use." This was in November, 1838, the year in which the first lighthouse "List" was published, and the diameter of the reflectors in Boston Light is there given as sixteen inches. Because of the size of the iron frames of the lanterns, the fact that many were painted black inside and that the glass was generally full of blisters and waves, Lieut. Carpenter stated that the lights in the district he examined had "no chance of presenting a vivid and striking appearance." Nevertheless he thought that Boston Light "must be seen full 20 miles." The List says that it was twenty-two miles, and Winslow Lewis claimed its range to be thirty.

* Johnson, as cited, pp. 14 *et seq.*

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Carpenter proposed that the lanterns thereafter be made of copper with their principal strength, as well as the railing, on the land side, so as to interfere as little as possible with the seaward sweep of the light; and he further suggested that the lanterns inside be plated with silver so as to render them "reflective." This scheme was adopted in part at Boston, for of the two sets of apparatus provided for by Congress, one, a lenticular (Fresnel) double light, was tried at Neversink, N. J.; the other, consisting of English reflectors, twenty-one inches in diameter, was installed in Boston in 1839, and, preparatory to receiving it an absolutely new lantern of "bronze" was constructed. This was designed by Mr. I. W. P. Lewis, an engineer, and as described by him in 1842 it had sixteen sides against eight in the old lantern, with panes of plate glass two by three feet in place of the common glass of the previous period, measuring only ten by twelve inches.

Boston Light was, therefore, at this time, as twenty-eight years before, one of the first of the country to be fitted with improved apparatus, though the Fresnel type which finally became the standard was first installed at Neversink. Lewis said that with the English reflectors the light could be "seen in clear weather thirteen and three-fourths miles with perfect distinctness." But the lighthouse Lists continued to say twenty-two miles until the year 1848, at which time the distance crept up to twenty-five miles.

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In 1842 the Secretary of the Treasury, his attention arrested by the increase of lighthouse expenditures, determined to have a further examination made of the lighthouses on the coasts of Maine and Massachusetts. This work he intrusted to the same engineer, under instructions not only to investigate and report on the existing condition of the lights, but to make recommendations for a new system. This gentleman, curiously enough a nephew of Winslow Lewis,* made an exhaustive report,† in which he severely criticised the contract system under which the lighthouses had been constructed, and the condition of the houses he examined, going so far as to accuse his uncle of copying his patented invention of 1810 from a lighthouse on the coast of Ireland, and treating the invention as of little worth. The report drew a spirited reply from the uncle, printed in a pamphlet of sixty pages,‡ in which he denied the charges of his nephew, and his claim of responsibility for the then recent improvements at Boston Light. Winslow Lewis supported his reply with many affidavits and documents, and they give us much interesting information about his own work. The outcome of the controversy was further Congressional

* The nephew's full name was Isaiah William Penn Lewis, born June 15, 1808, died Oct. 18, 1855. He was a son of Winslow Lewis's younger brother, Isaiah, who died at sea April 20, 1822. For a genealogy of the Lewis family, see N. E. Hist. Gen. Reg., XVII: p. 162.

† Document, Ser. 422, No. 183, 27th Congress, 3rd Session.

‡ A Review of the Report of I. W. P. Lewis, etc., Boston, 1843.

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investigation, ending with the establishment of the Lighthouse Board in 1852.

Under the Act establishing the Board no person connected with the lighthouse service could be interested in furnishing lighthouse supplies, or in any contract or method for constructing or illuminating the lighthouses of the country.

Boston Light was refitted in 1849, and again in 1856, and finally in 1859 it was provided with illuminating apparatus of the Fresnel type.* This was the year when the tower was raised and the structure generally renovated. The new apparatus presented a very different appearance from the old, for in place of fourteen separate lamps the Fresnel light substituted "a single central lamp-flame proceeding from concentric wicks, varying in number from one to five." Around this was arranged the lens, made in France, consisting of rings of glass, "so shaped and placed as to throw out in a horizontal direction all the light received upon them." †

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* Mr. John H. Sheppard, in N. E. Hist. Gen. Reg., XVII: 165 (1863), gives the credit for the introduction of the system into this country to I. W. P. Lewis, saying: "Isaiah W. P. Lewis went to France on this account, spent two years there, *became intimate with Fresnel*, ... and after much newspaper discussion, opposition in high places, and frequent discouragement, succeeded in introducing it." As Fresnel died when I. W. P. Lewis was only nineteen, Sheppard's story of their intimacy may be taken for what it is worth.

† See Edward Bissell Hunt, "Light-House Construction and Illumination," Boston, 1857, at p. 14.

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Previously Boston Light had been rated as a light of the first class, but with the installation of the Fresnel apparatus it was designated and is still known as a "second order" light, this rating being determined by the inside diameter of the lens.*

The Fresnel lamp was lighted December 20, 1859, and, in the opinion of the district superintendent "looked finely." The pilots of Boston, however, did not agree with him, and on the 11th of the next month petitioned the Board to replace the old reflectors. The protest was unavailing, and a return has never been made to the old system. The distance that the light is visible has changed very little. In 1856 it could be seen sixteen miles, which is about the range of the light to-day, reckoned in nautical miles.

To the layman the distinctive feature of the light in Boston Lighthouse is that it revolves, and the light has been a revolving one for a long time. The records of the Light House Bureau show that revolving machinery was placed in Boston Light on July 5, 1811, that is, about two months after the time when Capt. Winslow Lewis says he fitted the lighthouse with his new lamps and reflectors; and this was the first revolving machinery used on the island. Under the older system of illumination a revolving light possessed one decided advantage, aside from the fact that it was easily distin-

* The only "first order" light in Boston Bay is in the new lighthouse on the Graves. "Minot's," like Boston Light is of the second order.

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guishable from other lights, namely, that fewer lamps were required to produce a light of relatively the same brilliancy as a fixed light. Other lights than Boston were made to revolve in those early days, but it is not probable that the light in the original structure on the Little Brewster revolved, else some reference to the fact would be found in the documents upon the lighthouse. And if there was a revolving light there when Benjamin Lincoln was struggling to overcome the defects in the lantern, he would most likely have mentioned it in his correspondence. Cape Cod Light was established in 1798, and in September of the previous year Gen. Lincoln informed the Marine Society* that it was "to be distinguished from the Light House in Boston by having an eclipser regularly passing round it."

This indicates that Boston Light was then a steady light, and not until the seventh edition was published in 1812 does the "American Coast Pilot" show that it was anything else. In that edition the light is described in a foot-note, the important second sentence of which does not appear in the earlier editions, viz:

> Boston Light-House stands on a small island on the north entrance of the channel (*Point Alderton* and *Nantucket* [*sic*, Nantasket] *heights* being on the south) and is about 65 feet high. It contains a REVOLVING LIGHT, on Lewis' improved plan, and will

* Nathaniel Spooner, "Gleanings from the Records of the Boston Marine Society," p. 46, for which reference I have to thank Mr. John W Farwell of the Bostonian Society.

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appear brilliant forty seconds, and be obscured twenty seconds, alternately. Two huts are erected here with accommodations for shipwrecked seamen. A cannon is lodged and mounted at the Light-House to answer signals.

The "improved plan" doubtless referred to Lewis's lamps.

Winslow Lewis reported to Albert Gallatin in 1811 that Boston Light had "been fitted on the plan . . . . for the revolving light" which he had submitted to the Secretary the previous winter. There seems to be no reason to doubt that Lewis installed it, but by whom the first revolving machinery was made is not so clear.

From the Report of Lieut. Carpenter we learn that in 1838 the apparatus in Boston Light was "turned by common clock work," the revolution requiring three and one-half minutes, "during which the combined light of seven lamps is seen twice from each point of the compass." It is a tradition in the Willard family that Simon Willard, Sr., made revolving machinery for some lighthouse. There were a number of Willards, all famous as clock-makers in their day, and having places of business in or near Boston. It is quite probable, therefore, that machinery for Boston Light was made by some of them, and if the revolving machinery of 1811 were made by a Willard, that Willard was most likely the elder Simon, who was an inventor as well as a clock-maker.

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In October, 1828, the Superintendent of Lights for the district of Massachusetts was authorized to procure an entirely new set of machinery for revolving Boston Light and "to accept the offer of Mr. Willard to supply it, on his improved plan, for two hundred and thirty dollars, employing him also to repair the old machinery." This Mr. Willard was either Simon or his son Benjamin F., but the order does not tell us which, or what improvement had been effected. In 1839, however, the same Benjamin F. Willard took out a patent for what he called "a Revolving Flashing Light," the distinctive feature of the invention being a shade of tin or other bright metal which was made to revolve rapidly in *front* of the lamps as they turned, thus causing the lights "to appear and disappear in quick succession of sudden flashes." This may have been the "improved plan" of 1828, but it is doubtful, and there is a question also when, if ever, Benjamin F. Willard installed new machinery in Boston Lighthouse. Yet Mr. Z. A. Willard, grandson of Simon, Sr., and now living in Boston, remembers a set of revolving apparatus designed for Boston Light and made by Benjamin at his brother's (Simon, Jr.) place in Roxbury some time in the early thirties.*

* One of the lighthouses at Ipswich erected in 1837 was fitted with machinery "made at the old establishment of Simon Willard at Roxbury," if the statement of Lott Pool, printed in Winslow Lewis's "Review," is correct.

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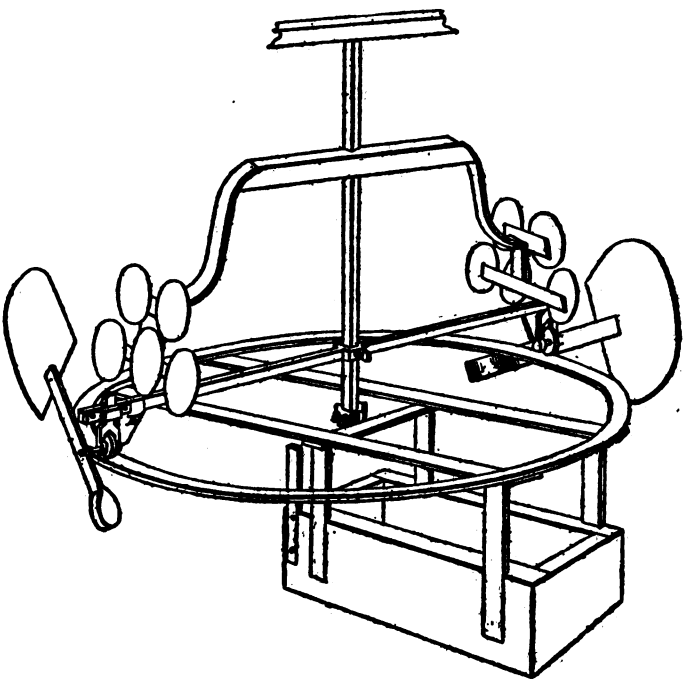
This machine was provided with a shield or "eclipser" which rotated around the lamps, and it is evident that some change affecting the revolution of the light was



BENJAMIN F. WILLARD'S "IMPROVEMENT FOR REVOLVING LIGHTS FOR LIGHT-HOUSES," 1839, from the Records of the United States Patent Office.

made in the period from 1811 to 1838, when we compare the time of revolution as stated in the Coast Pilot and in Lieut. Carpenter's report.

In 1842 Mr. I. W. P. Lewis wrote that the "machine of rotation" at Boston Light was "enclosed in a glazed

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case to protect it from dust and moisture . . . . the pulleys made with great nicety to diminish friction." The revolution of the light at that time took three minutes, during which there were "two bright periods and two eclipses." By 1854 the time of revolution was reduced to a minute and a half, and at present the light is described as "flashing white every thirty seconds."

It now remains for us to complete the list of light-house keepers. Thomas Knox was appointed keeper Nov. 28, 1783, and held the position until 1811, serving first the State and after 1790, the nation. Knox was succeeded by Jonathan Bruce, who, according to an affidavit made by him and printed in Winslow Lewis's "Review," "was keeper of Boston light house from the time it was fitted up by Winslow Lewis with patent lamps and reflectors in 1811 until 1834." But the records of the Light House Bureau show that Bruce was succeeded by David Tower, of Cohasset, September 11, 1833. Tower kept the light until his death in 1844, and the keepers following him, to date, are given in the list appended to this paper.

In 1785 the State allowed Knox the sum of £120 for himself and two assistants: what the Federal Government granted him does not appear. But about 1794 some reduction of his salary took place, and he wrote a letter to Benjamin Lincoln in which he raised the old question of pilotage. It seems that when Knox was appointed keeper his two brothers were made pilots with

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him, with authority to add as many others as the needs of the harbor required. This state of affairs continued until the United States took over the lighthouse, when Knox declared that by accepting a commission from the President as keeper he lost the friendship of Gov. Hancock, who gave the office of "branch pilot" to another. The result was that while the whole pilotage business was no longer under his direction Knox had to retain in his employ nearly as many pilots as formerly, in order to attend vessels "in the inclement seasons." In 1838, Lieut. Carpenter reported that the keeper was permitted to pilot vessels and had realized $150 a year from the business; but that it frequently took him away from the light at night. The Lieutenant then very pertinently inquired, "whether it would not be better to remove all complaint of inadequacy of salary as made by this keeper and prohibit by law, all light-house keepers from engaging in any pursuit calculated to absent them from home at the time they are required to prepare, to light and to attend their lights." *

The salary of the keeper of Boston Light in 1849 was $400. Beginning about 1861 the keeper has regularly been provided with two assistants. They now devote all of their attention to the light while on duty, but each in turn has a stated period of shore leave, and

* In 1829 the Marine Society recommended the keeper, Jonathan Bruce, as "competent to take charge of any vessel as a pilot drawing from 7 to 16 feet water."

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the Government pays, at present, the principal keeper $74.30 a month, his first assistant $54.30 for the same period, and the second assistant $49.30. Included in these amounts is a ration allowance of $9.30 each, figured at the daily rate of thirty cents for a month of thirty-one days.

Boston Light is still a commanding object at the entrance of the Harbor, though it is not so prominent a feature of the landscape as it once was, for its pre-eminence is now disputed by the new and more powerful light on the Graves. Its importance to mariners has been lessened by the opening of the new channel in Broad Sound; but its distinction as the oldest light in the country, and its history, are possessions that can never be taken away.

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NOTE.

THE KEEPERS OF BOSTON LIGHT

FROM THE TIME IT WENT INTO OPERATION UNTO THE PRESENT DAY.

George Worthylake.....Sept. 14, 1716 — Nov. 3, 1718
(When he was drowned.)

Robert Saunders.....Nov. 6, 1718 — Nov. 8 (?), 1718
(Temporary keeper.)

John Hayes.....Nov. 8, 1718 — Nov. 8, 1733
(Appointment dated Nov. 18, 1718, received pay from Nov. 8.)

Robert Ball.....Nov. 8, 1733 — ——, 1774
(Petitioned in February, 1774, for pay of year ending Nov. 19, 1773, died Oct. 10, 1774.)

(Perhaps for a time, William Minns).....——, 1774 — June 13, 1776 See p. 28.
(When Lighthouse was blown up by the British.)

NEW LIGHTHOUSE BUILT 1783.

Thomas Knox.....Nov. 28, 1783 — ——, 1811
(June 10, 1790, lighthouse was ceded to the United States.)

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Jonathan Bruce.....	——,	1811	—	——,	1833
David Tower.....	Sept. 11,	1833	—	Oct. 8,	1844

(The date of his death).

Joshua Snow.....	Oct. 29 (?),	1844	—	Dec. 30,	1844
Tobias Cook.....	Dec. 30,	1844	—	Oct. 2,	1849
William Long.....	Oct. 2,	1849	—	Sept. 16,	1851
Zebedee Small.....	Sept. 16,	1851	—	June 2,	1853
Hugh Douglass.....	June 2,	1853	—	April 24,	1856
Moses Barrett.....	April 24,	1856	—	Nov. 20,	1862
Charles E. Blair.....	Nov. 20,	1862	—	July 18,	1864
Thomas Bates.....	July 18,	1864	—	April 6,	1893

(The date of his death.)

Alfred Williams.....	April 6,	1893	—	May 3,	1893

(First Assistant in charge.)

Albert M. Horte.....	May 3,	1893	—	May 1,	1894
Henry L. Pingree.....	May 1,	1894	—	Nov. 1,	1909
Levi B. Clark.....	Nov. 1,	1909	—		

(The present keeper.)

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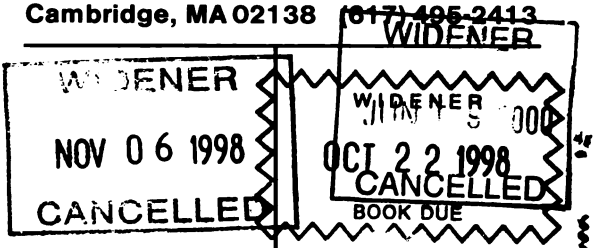

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