NED'S POINT LIGHTHOUSE
MATTAPOISETT, MASSACHUSETTS
A CHRONICLE
and
RELATED INFORMATION

Albert A. Theriault, Jr. and Elizabeth A. Theriault
(Bert and Betty)

Picture from Mattapoisett Free Public Library. Reprinted by permission.

Ned's Point Lighthouse
1838

2002
Ned's Point Light Publishing

Ned's Point Light Publishing

nedspointlight@attbi.com

Documentation of Sources

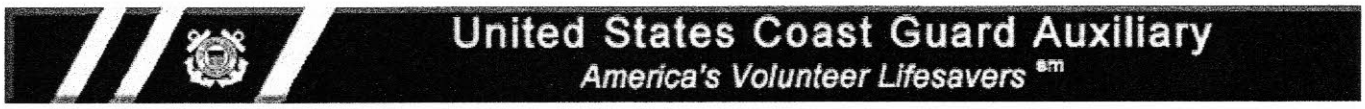
We are using the Modern Language Association (MLA) method of documenting sources. If the author's last name is given prior to the summary, paraphrase or quotation, the page number appears in parentheses at the end of the information. Otherwise, the author's last name and page number will both be given in the parentheses. If there is no author, we will give an abbreviated title of the work.

If the parentheses are outside the period, the credit is given to all of the information in the paragraph.

The reader will then cross reference the author's name or title of the work with the bibliographical entry for the full citation.

2017.9.2

TO . . .
FLOTILLA 67
FIRST DISTRICT, NORTHERN REGION



In 1993, Flotilla 67 became the first flotilla in the nation to adopt a lighthouse. The adoption process required communication up and down not only the Coast Guard chain of command but also the Coast Guard Auxiliary chain of leadership and management.

The Ned's Point Lighthouse adoption team was comprised of the following Flotilla 67 members:

Joan W. Andersen — Mattapoisett
Kenn C. Cutler — Rochester
Clayton L. Hagy — Mattapoisett
Marjorie C. Hagy — Mattapoisett
John J. Ouellette — Wareham
Albert A. Theriault, Jr. — Mattapoisett
Elizabeth A. Theriault — Mattapoisett

The adoption agreement gives Flotilla 67 and other flotillas adopting lighthouses within the jurisdiction of Group Woods Hole not only the responsibility of performing minor maintenance but also the privilege of conducting lighthouse tours. The "policies," "procedures," and "action" are contained in the U.S. Coast Guard Group Woods Hole *Auxiliary Operational Guide*: COMGRPWHINST—M16795.2B, Chapter 14, "Adoption of Lighthouses by Auxiliary."

In Flotilla 67, the flotilla commander annually appoints the Flotilla Aids to Navigation Officer (FSO-AN), who along with the members of the flotilla sets up a tour schedule for July and August. Special tours are taken care of on an individual basis.

The FSO-AN also communicates with and in effect becomes an ancillary member of the U.S. Coast Guard Aids to Navigation Team, Station Woods Hole, Massachusetts.

Since the Coast Guard Auxiliary is the civilian arm of the Coast Guard, the Auxiliary is comprised of unpaid volunteers whose mission is to support the activities of the Coast Guard.

Anyone interested in learning more about the Coast Guard Auxiliary, should visit the following website: http://www.cgaux.org/cgauxweb/eetzip.html. **Keep in mind that since many Auxiliary activities are not performed on the water, interested parties need not own a boat to join. The members have access to many courses offered by the Auxiliary and the Coast Guard.**

As of this printing, Flotilla 67 has Air Observers, Pilots, Coxswains, Crew, Instructors, Vessel Examiners, and Tour Guides for Ned's Point Lighthouse.

Directions to Ned's Point Lighthouse

1. **Traveling East or West on Rte I-195**, take exit 19A.
2. You are now heading South on North St.
3. Go straight through the stop lights at the junction of Rte. 6 until you can go no further.
4. Take a left on to Water St., which becomes Beacon St.
5. After going around a curve to the right, the road will sharply curve to the left. At that point go straight on to Ned's Point Rd. (Don't follow the yellow line on the curve because that goes on to Marion Rd, taking you to Rte 6.)
6. Follow Ned's Point Road to the end, where you will go through the pillars on the right and into Veterans' Park. The lighthouse is on government property in the park.

Traveling East (from Fairhaven) on Rte 6,

1. Go right at the first set of lights. You are now on Main St.
2. Follow that road all the way through the village and along the waterfront. (Main becomes Water and then Beacon.
3. Then follow #s 5 and 6 above.

Traveling West (from Marion) on Rte. 6,

1. Follow Rte. 6 until you come to blinking yellow light. Oxford Creamery is just beyond this light.
2. Go to the left of the blinking yellow light. You are now on Marion Rd.
3. Follow Marion Rd. until it curves to the right. At that point go left on to Ned's Point Rd.

Located on a Chart: Lat. 41 - 39 - 03 N
Long. 70 - 47 - 44 W (*Local Notice to Mariners* No. 21/02, 05/21/02, p.12)

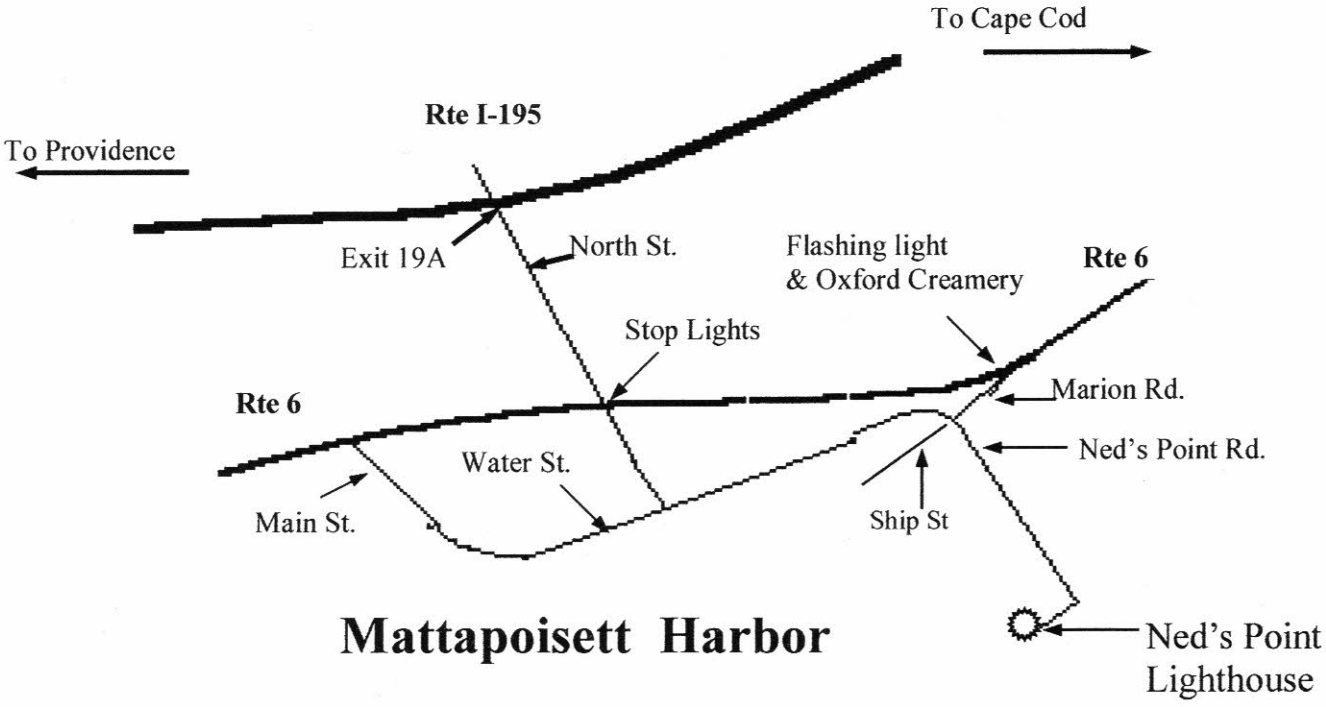


Table of Contents

Dedication iii

List of Illustrations vii

Ned's Point Lighthouse

Significant Dates 1

History of Ned's Point Light Station

Why an Aid to Navigation at Ned's Point? 2

Approval of the Project

Advertisement for Contractor

Contract Award and Construction

Cantilevered Granite Spiraled Stairway . 3

The 1838 Lantern

Lighting the Lamps

Problems

Why so many Problems? A little Background 4

One of the Very Few to Survive?

Fresnel Lens

Supplies for Ned's Point Light Station

Keepers of Ned's Point Light 5

Finding keepers' names

Relevant information from the "Ned's Point" file located in the New Bedford Free Public Library Archives Room

Russell Eastman, The last keeper of Ned's Point Light 6

1888-1889 Keepers' Salaries 9

1883-Uniforms and costs

Changes to the tower, Lantern and Keeper's House 10

Plot plans 1889 and 1952 .....11, 12

Characteristics of Ned's Point Optic (Light) Over the Years 13

Discussion of the above Clues
Fixed light: 1838-1902+

Flashing light: 1923

How it functioned w/out a keeper

Did United States create its own solar valve? 14

How does the sun valve work?

How could compressed acetylene gas produce a very bright light?

What turned the lens platform?

How could buoys and some lighthouse produce flashes without a rotating lens platform? 15

Isophase 6 second light: 1961 to present

Today's Technical Highlights of Ned's Point Lighthouse

Light List 16

Range

Characteristics of the Optic or Light

Focal Plane

Tower

Lantern

Lantern Room Dimensions 17

Vents

Windows

Original 1838 Lamps and Reflectors

Candela (Candle Power) over the Years

Present Lamp and Lens Installed in 1961 18

Nautical Chart 19

U.S. Coast Guard Lighthouse Maintenance at work 20

U.S. Coast Guard Auxiliary 21

Is the History of Ned's Point Light Now Complete?

1. The Tower Plans 22
2. The House Plans
3. The Incomplete List of Keepers
4. The Keepers as Persons
5. Today's Tower
6. The Light Characteristics 23
7. Really a Keeper?
8. Electrified Light

Significance of Ned's Point Light 23

Related Information 24

Winslow Lewis
- Lamps and Oil
- Lighthouses

Fifth Auditor Stephen Pleasonton

A Brief History of 25

1. **Lamps and Reflectors, including Order of Lenses and the Fresnel Lens** 25
   - Candles
   - Oil Lamps
   - Argand Lamp
   - Parabolic Reflector
   - The Winslow Lewis Lamp and Reflectors
   - Order of Lenses
   - Lenses for Flashing Light Prior to the Use of a Flashing Device
   - The Fresnel Lens 26
2. **Fuel for Lamps**
   - Wood fires
   - Coal fires
   - Regular whale oil
   - Sperm whale oil
   - Colza oil
   - Lard oil
   - Mineral oil (kerosene)
   - Oil incandescent vapor
   - Compressed acetylene gas 27
   - Electric light lamps
3. **1852—The advent of the Lighthouse Board**
   - Qualifications of Keepers
   - A Big Change: The Civil Service Reform Acts of 1871 and 1883
   - Uniforms
   - Some Tasks
   - Lighthouse Libraries 28
   - Buoys
4. **1910—The advent of the Lighthouse Service**
5. **1939—The Coast Guard to the Rescue**

Summary of Lighthouse Supervision 29

Job Performance Incentive in 1912

Glossary of Terms 30

Characteristics of Lights 32

GEOGRAPHIC RANGE TABLE 34

Acknowledgements 35

Bibliography of Sources 36

List of Illustrations, Pictures and Photos

Ned's Point Light Station 1838 .....Cover page

Cantilevered granite spiraled stairway..... 3

Iron ladder leading to the lantern room..... 3

Light Keeper's House Winched from shore to 6

Keeper's house on scow..... 7

Russell Eastman standing on scow w/house 7

Keeper's house being towed across bay 7

Partial outline of where house stood..... 8

Changes to the tower, lantern and keeper's house

1838 10

On or before 1849 10

1888..... 10

1889 Plot plan of Ned's Point Light Station 11

1952 Plot Plan 12

Nils Gustaf Dalén Sun Valve on Buoy 14

Buoy Cross Section w/flasher etc..... 15

Three youngsters tour lighthouse 15

Bird Cage Lantern 16

Octagonal Lantern 16

Ceiling Vent 17

Roof Vent..... 17

Lantern Room Vents—inside and outside 17

Winslow Lewis Lamp and Reflectors..... 17

Present Lens 18

Lamp Changer 18

Internal Mechanisms inside of Lens: Lamp Changer and Flasher 18

Labeled Graphic of Lens..... 18

Nautical Chart with Ned's Light 19

U.S. Coast Guard Lighthouse Maintenance Crew painting the lighthouse 20

U.S. Coast Guard Auxiliary Lighthouse with holiday lights..... 21
Holiday decoration groups..... 21
Tour Guides 21

Photo of moving equipment down the Lighthouse Ladder 21

Labeled Tower Plan..... 22

Keeper's House Plan..... 22

Undated Pictures of Lighthouse 23

Enlargement to show Fresnel lens 23

Winslow Lewis Lamp and Reflectors..... 25

Fresnel Lens—for Fixed Light 26

Fresnel Lens—Bull's-eye Type on Rotating Platform 26

Lighthouse Service Pennant 29

Superintendent of Lighthouse Flag..... 29

Characteristics of Lights 32

The Authors..... 39

NED'S POINT LIGHTHOUSE

SIGNIFICANT DATES

1837 August 10: Barnabas Hiller, guardian of Hannah H. Edwards, a minor and daughter of the deceased Charles Edwards, sold 4 acres of land for $240 paid by John P. Norton, Collector (of Customs) of Edgartown and Superintendent of Light Houses did . . . "grant bargain sell and convey unto the said John P. Norton in behalf of the United States a certain piece of land situate and being in said Rochester and is neds point—so called . . . to Erect a Light-house." (Sic) (Plymouth County Registry of Deeds) The deed was recorded on August 18.

Note: Mattapoisett was a village in the Town of Rochester until 1857.
Some subsequent deeds erroneously referred to Barnabas Hiller as Barnabas Miller.

1837 Construction of the lighthouse and buildings.

1838 March 20 or 21: Lighting of lamps for the first time. (See page 3.)

1857 Fresnel lens of the fifth order was installed (Clifford and Clifford 57). Yet some websites say that the Fresnel lens was not installed until 1888. However, Holland said that by the beginning of the Civil War, every lighthouse in the United States had a Fresnel lens (21, under "Adoption of Fresnel Lens" and Rhein 161). Therefore, every lighthouse had a Fresnel lens by 1861.

1888 Stone light keeper's house was replaced by a wood frame structure (Clifford and Clifford 57).
- Tower was rebuilt (1940 *Light List*). Since that edition of the *Light List* is the only reference that indicated the rebuilding of the light house, we wonder if this actually took place. According to a notation over the lighthouse door, the tower was rehabilitated in 1888. When the U.S. Coast Guard Lighthouse Maintenance repaint and repair the tower, a member notes the date with the word *Rehabilitated.*

1896 New lantern was installed (Clifford and Clifford 57).
- Another Fresnel lens [with a bull's-eye and on a rotating type?] was installed (Clifford and Clifford 57). (See "Discussion . . ." on page 13.)

1901 Town of Mattapoisett votes to complete the construction of the road going from Marion Road to the Lighthouse Gate. This road would be called Ned's Point Road. (Town Clerk's records)

1923 Keeper's house floated on a barge to Wing's Neck, Pocasset. Light was automated. ("Keeper Clings . . . ," 1)

1939 Town voted not to buy "Ned's Point Lighthouse Reservation" for $7,000.
- U. S. Lighthouse Service merged with the U. S. Coast Guard.

1949 Committee was formed to try again to buy the Ned's Point Reservation from the federal government.

1952 Town of Mattapoisett obtained title to "Ned's Point Light-House Reservation" for $3000.
- Reservation renamed "Veterans of Mattapoisett Memorial Park."
- The "United States of America acting by and through the Administrator of General Services" retained structure as well as .177 of an acre of land and a right of way. (Plymouth County Registry of Deeds)

1952-1961 Coast Guard decommissioned the light for 9 years (CPO Lucey, USCG).

Note: Although Ned's Point Light was decommissioned from 1952 to 1961, a newspaper article written in 1957 stated that the Coast Guard "keeps it in operation from April 15 through October 15" ("Mattapoisett Celebrates . . . ," 22 and Rotogravure Section, 1).

1961 Ned's Light activated on a year-round basis. Coast Guard installed the present lens (CPO Lucey, USCG).

1988 Formal approval of listing Ned's Point Lighthouse in the National Register of Historic Places.

1993 Adopted by U.S. Coast Guard Auxiliary Flotilla 67, First District, Northern Region.

HISTORY OF NED'S POINT LIGHT STATION

WHY AN AID TO NAVIGATION AT NED'S POINT?

Mattapoisett, a thriving harbor during the 1800s, was one of the major builders of whaling ships along the Atlantic coast. Therefore, in 1835, John Quincy Adams recommended to Congress that a lighthouse be erected at Ned's Point on land that had at one time belonged to Edwin "Ned" Dexter.

(Note: Herman Melville, author of ***Moby Dick***, once sailed on the ***Acushnet***, which was built in Mattapoisett.)

APPROVAL FOR THE PROJECT

The approval for Ned's Point Lighthouse and several others throughout Massachusetts was given on March 3, 1837. The document reads:

> . . . for a light-house to be erected on a proper site at or near Ned's Point; contiguous to the village of Mattapoisett, five thousand dollars; . . ." (*Laws of the United States* . . . 14)
>
> (Note: Mattapoisett was part of Rochester until 1857.)

ADVERTISEMENT FOR CONTRACTOR

This advertisement appeared in the New Bedford ***Mercury***, August 4, 1837.

> We invite the attention of mechanics and others of our readers, to the able exposé which is given by a correspondent in a previous column, of the trickery and management practiced by the subordinate agents of the Government in relation to the light house job at Ned's Point, near Mattapoisett. The Collector's advertisement stating that the proposals would be received until the *fourth* instant, was first published in this town on *Monday*; and to-day we may probably learn who has been the *favored* contractor. (Italics theirs)

Therefore, a previous advertisement for a contractor had appeared on Monday, and the awarding of the contract was to be done on the "*fourth* instant," the fourth day of August.

CONTRACT AWARD AND CONSTRUCTION

Leonard Hammond of Mattapoisett was named the "*favored* contractor" (Mattapoisett Historical Commission). He not only built the 35 foot stone tower from rubble found along the shore for $450 but also constructed an oil house, keeper's residence and barn for an unknown price. The tower's three windows, which are visible in the 1838 picture, helped the lighthouse keepers see their way up the steps. (See cover picture.)

Business Man

According to Seth Mendell's lectures, Uncle Hammond operated a shipyard at the bottom of Barstow Street, had an interest as owner and agent in several whale ships, ran a saltworks on Mattapoisett Neck and the Plymouth County House, a tavern. The tavern burned down in 1855, a fire that nearly took the rest of the town (Reference to "Ned's Point Lighthouse" by Seth's father, Charles Mendell, a paper on file at Mattapoisett Historical Society).

Government Lighthouse Contractor

Seth also mentions that before building Ned's Point Lighthouse, Leonard Hammond had constructed the light at Gay Head on Martha's Vineyard. After finishing the Ned's Point project, he and a large crew sailed on two ships to construct two lighthouses along the Gulf of Mexico (Mattapoisett Historical Society).

CANTILEVERED GRANITE SPIRALED STAIRWAY

The 32 granite steps were quarried in Mattapoisett. What makes them special is the fact that they are cantilevered. The wide ends are embedded into the side of the tower without any mortar between the steps, a dried laid construction. The photo at the right illustrates how the narrow ends are not supported by a wall but rest on top of each other, thus forming a self-supporting column for the steps. In recent years they were cemented. Each step had to be cut to conform to the coning of the tower. According to the Coast Guard lighthouse maintenance crew from Coast Guard Station Woods Hole, this construction is quite rare.

Presently, at the top of the stone steps is an iron ladder leading to the lantern room. See photo at the right below.

Photos by Bert Theriault

Cantilevered granite spiraled stairway.

THE 1838 LANTERN

Set on top of the tower was a cast-iron birdcage lantern with a deck and a tin dome that had a round chimney for the purpose of venting heat, fumes and smoke from the lantern's 11 original lamps. Each lamp had a Winslow Lewis reflector to intensify the light. A weather vane was attached to the chimney. The lantern room measured 5 feet, 8 inches high. (Number of lamps and dimensions of lantern room: Carpenter cited by Clifford and Clifford 56)

LIGHTING THE LAMPS

The lamps were lit for the first time on March 20 or 21, 1838. Two sources:

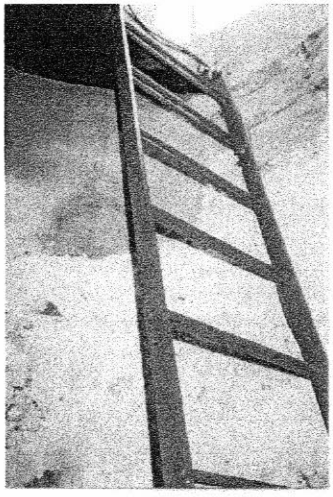
1. Notice in the New Bedford *Mercury*, March 16, 1838:

   Collector's Office. Edgartown, March 8, 1838

   The Light House recently built on Ned's Point, near Mattapoisett, will be lit up on the 20th instant.

   JOHN P. NORTON, Coll. [Collector of Customs] and Superintendent of Light Houses in Massachusetts

2. The diary of Dr. Thomas Robbins, Congregational minister Mattapoisett, set the date at March 21 (Mattapoisett Historical Commission).



Note: If there were a lighting ceremony, perhaps the lighting of the lamps was delayed because of inclement weather. March 20, 1838, fell on a Tuesday.

PROBLEMS

On November 1, 1838, just a few months after the first lighting of the lamps, Lt. Carpenter, U.S. Navy, reported major deficiencies with the use of lamps and the construction of the tower and keeper's house.

Lamps

- He thought that 2 tiers of lamps (6 on the bottom and 5 on top) with their 13½-inch reflectors were too many for this aid to navigation. According to him, 7 lamps would give off sufficient light for far less money. His estimate: 11 lamps would use about 300 to 400 gallons of oil each year.
- He criticized the placement of three lamps because of their reduced effectiveness. They reflected light toward the interior of the lantern.
- Also, he felt that, placed at adequate height, a lantern with only 7 lamps would be a sufficient aid to navigation for the entrance of Mattapoisett Harbor.

Tower, Lantern and Keeper's Dwelling

The lighthouse keeper had informed Lt. Carpenter of several problems:

- During a recent storm, both the tower and the house leaked badly.
- The lantern dome leaked to the extent that the keeper had to tend the lamps all night to prevent the dripping water from extinguishing the flames.
- When Lt. Carpenter removed some of the surface cement at different locations, he found that the stones had been set in what was not much more than sand.
- Lt. Carpenter felt that the glass was the thinnest that could be found.
- The lantern was only 5'8" high, much too low for the keeper's comfort when he worked with his hat on.
- The glass around the lantern was thinnest available, not the specified Boston type glass. (All the above problems are from Clifford and Clifford, 56 citing Lt. Carpenter, U.S. Navy)
- The keepers had to live with these conditions until 1888, when the stone keeper's house was torn down and a wood frame house was erected on the same foundation (Clifford and Clifford 57).

According to Edward Rowe Snow, in 1838 Carpender (sic), made recommendations for several other lighthouses, including Bird Island off Marion Harbor; Point Gammon, Hyannis Harbor; Mayo Beach Light, Wellfleet (412, 415, 417). Lighthouse inspectors were officers in the U.S. Navy (Johnson 106).

WHY SO MANY PROBLEMS? A LITTLE BACKGROUND:

From 1789 to 1820, the Secretary of the Treasury controlled the expenditure for lighthouses.

> For quite some time, Albert Gallatin, the Secretary from 1801 to 1814, personally, played an active role in lighthouse administration. . . . During this era, cut stones and brick were used for the first time. This permitted the construction of taller and stronger towers because the weight could be more evenly distributed.
>
> From 1820 to 1852, Stephen Pleasonton, the Fifth Auditor of the Treasury, took over lighthouse administration because Albert Gallatin felt that job was now too much for his office. The Fifth Auditor of the Treasury was a bookkeeper and a financial zealot. After all, one would hardly expect to find a philanthropist in the Treasury Department. The Fifth Auditor prided himself that for many years he was able to return funds appropriated for the construction and repair of lighthouses to the Treasury unspent. . . . The Fifth Auditor, however, was a lighthouse novice when assigned the task, and unfortunately he did little to improve his knowledge of lighthouse technology during his 32-year tenure.
>
> This period, which begins in 1820, might well be labeled the era of "the lowest bidder," and the lighthouses built during this period were inferior structures constantly in need of replacement (Browning website).

According to Coast Guard historians, it is no wonder that only a very few of the lighthouses built during that time are standing today. (See page 24 for more information about Lewis and Pleasonton.)

ONE OF THE VERY FEW TO SURVIVE?

As noted under 1888 on page 1, we are not absolutely sure because the 1940 *Light List* states that the tower was rebuilt in 1888. Perhaps only the top the tower was rebuilt. (See page 10.)

FRESNEL LENS (Frā-nel′) (See pictures on page 26.)

In 1857, Ned's Point Lighthouse received a Fifth Order Fresnel lens (Clifford and Clifford 57).
Although the lens was perfected in 1822, Stephen Pleasonton would not purchase them while he was the Fifth Auditor.

This Fresnel lens was for a fixed light with the following weight: 226 to 440 pounds (Noble 24).

SUPPLIES FOR NED'S POINT LIGHT STATION

Between 1870 and 1923, the U.S. Lighthouse steamers *Vebena* and *Anomone* docked in Mattapoisett Harbor not only with supplies for the lighthouse and keeper but also to tend to the spar buoys in the vicinity (Wood, *Sailing* . . . , 5).

KEEPERS OF THE LIGHT AT NED'S POINT

Name	Year Appointed	Yearly Salary
George Braley	**1843-1849**	**?**
Hannah Braley	**Appears as "keeper" on the keeper's report for 1846 and letter of 1848**	
Larnet Hall Jr.	**March 3, 1849—1853**	**$350**
John Bumpus	**May 30, 1853—1859**	**$350**
Larnet Hall, Jr.	**March 12, 1859—1874**	**$500**
George H. Kelly	**September 30, 1874—1895**	**$500**
William P. Howard	**May 1, 1895—1912**	**$500 increased to $510**
Zimri Tobias "Toby" Robinson	**1912—1914**	**?**
Russell B. Eastman	**1914-1923**	**?**

Finding the keepers' names

George Braley's signature appears on a 1843 "Daily Journal" located in the "Ned's Point Lighthouse" file in the New Bedford Free Public Library Archives Room. **Hannah Braley's** signature appears on the 1846 *Annual Report* and an 1848 letter to Joseph Adams, Superintendent of Lighthouses. Does that mean that George was too ill to carry out his responsibilities as keeper? Or had he died? In either case, a keeper's wife or one of his children would quite often take over as the keeper of the lighthouse.

The names of **Larnet Hall Jr., John Bumpus, George H. Kelly** and **William P. Howard** were culled from *Registers of Lighthouse Keepers: 1845-1912.* Roll 1: New England, a microfilm roll located in the Nickerson Room of Cape Cod Community College. As of July 1, 1908, Keeper Howard's salary was increased to $42.50 per month, giving him a yearly salary of $510. The records only went as far as 1912. **Zimri Tobias "Toby" Robinson** came from the *New England Lighthouses, A Virtual Guide* website.

Russell Eastman, the last keeper of the Ned's Point Light Station, was the subject of an article in the June 28, 1923, edition of *The Evening Standard*, a New Bedford newspaper located in the New Bedford Free Public Library microfilm room.

Relevant information from the "Ned's Point" file located in the "Lighthouse" box of files, New Bedford Free Public Library Archives Room

- Only 8 lamps in use: The Ned's Point daily journals for 1843, 1846 and the annual reports for 1846 and 1849 noted that 8 lamps were lit up and that 3 were unused, 2½ - 4½ fills per night. As noted earlier, Lt. Carpenter in 1838 had recommended that 7 lamps, not 11 as originally lit, would be sufficient.
- Amount of oil consumed: According to the 1846 and 1849 annual reports, the average for the two years was 200 gallons of winter oil (light grade) and 110 gallons of summer oil (heavy grade) for a total of 310 gallons a year. As noted earlier, in November of 1838 Lt. Carpenter, USN, had estimated that between 300 and 400 gallons of oil would be consumed by 11 lamps.
- Number of broken or used tube glasses (glass chimneys for Lewis Winslow lamps): According to the 1846 and 1849 annual reports, the number was 10 for 1843 and 50 for 1849, showing quite an increase.
- Lantern roof leaked: Both the 1846 and 1849 annual reports indicate that lantern roof leaked in stormy weather. As noted earlier, the keeper in 1838 had given the same complaint to Lt. Carpenter, USN.
- House roof leaked: The 1849 annual report told of leaks in the roof of the keeper's house as well as where the porch connects to the house. As trivial as this information may seem, it helps to date the picture on page 10, a picture that shows a different lantern. Also, the 1838 picture on the cover of this book shows that there was no porch on the house.
- Proper forms: Apparently, Joseph Adams, Superintendent of Lighthouses in Massachusetts, was not too pleased that Hannah Braley wrote one of her quarterly reports on letter paper instead of the proper form. Her reply of March 22, 1848, indicated that she did not have any official blanks, but she did have her daily journals that she was going to send to answer any questions he might have.

- Work performed on the tower and keeper's house: Evidently the keeper of Ned's Point Light Station must have been given permission have work done on the tower and keeper's house. Examples: A receipt showed that on June 9, 1849, Larnet Hall Jr. paid Jona Kinney $10 for pointing up the masonry and whitewashing the tower. On June 12, 1849, a receipt showed that Larnet had paid Ebenezer Jones $8.21 for different colored paints, varnish, paper, and two different types of lead. The colors used were white, green, yellow, and black. Ebenezer's bill for 3 days labor was $10.50. Therefore, the going rate for labor in 1849 must have been $1.50 per day. Larnet Hall Jr. then submitted all bills on vouchers to Joseph Adams, Superintendent of Light Houses in the State of Massachusetts, for reimbursement. Larnet's receipt showed that he was paid in full for all vouchers.
- Salary paid quarterly: Larnet Hall Jr. was paid the quarterly salary of $87.50 for the period beginning April 1, 1849, and ending June 30, 1849. He then sent a receipt of payment to Joseph Adams, Superintendent of Lighthouse in Massachusetts. This $87.50 x 4 = $350 for the year.
- Limited passage: According to the 1846 and 1849 annual reports, Hannah Braley and Larnet Hall Jr. were concerned that they did not have a boat, wharf or any means of leaving the lighthouse reservation unless land owners gave them permission to cross over their property. In other words, there was no public way, even a public path, leading from the lighthouse reservation to Marion Road. The lighthouse keeper would have ask each landowner in person in advance because there were no phones.
- **Ned's Point Road**

It was not until February 4, 1901, that the Town of Mattapoisett "Voted [that the] highway surveyor be instructed to complete construction of the Light House road by June 1, 1901, from Marion Road to Light House gate." The road was called "Ned's Point Road as early as 1912. Also, referred to as Lighthouse Road." Quotations are from records located in the Mattapoisett Town Clerk's Office. Evidently there was a gate at the entrance of the lighthouse reservation. Perhaps remnants of it are still at the very end of the road.

RUSSELL EASTMAN, THE LAST KEEPER OF NED'S POINT LIGHT

The following information is based on **"Light Keeper Clings to Home as It Is Floated Across Bay ,"** an article that was in *The Evening Standard*, dated Thursday, June 28, 1923, and is located in the New Bedford Free Public Library microfilm room. The photos are from the Mattapoisett Historical Society collection and, as noted, are reprinted here by permission.

- ***Keeper Keeps House?***

Since Ned's Point Light had been automated, Lighthouse Keeper Captain Russell B. Eastman and the keeper's house were no longer needed at Ned's Point. However, having lived in the house with his wife for the past nine years, he had become so attached to it that he rode with the house while it was towed on a scow across Buzzards Bay to its new location at the Wings Neck Light Station in Pocasset, where Assistant Keeper Charles Dennis was waiting for he delivery of this new home because Dennis and his family had been living in what could only be termed as a shack. Therefore, he must have been quite shocked when Captain Eastman arrived with the house. The Eastmans would live in the house until the Government (Lighthouse Service) provided housing for them. The Dennis family had to remain in their substandard dwelling until the Eastmans were relocated.

- ***Eastman Name Lives On***

The Mattapoisett American Legion Post is named after Florence Eastman. An Army nurse who died in Europe during World War I., Florence was the daughter of Captain and Mrs. Eastman.

- ***House Is Winched Aboard***

Loading the house on the scow took quite a while. After being placed on rollers, it was trundled down to the scow *Eva*, which had been floated in quite close to shore at high tide. When the tide receded, the scow set down rather nicely on the bottom.

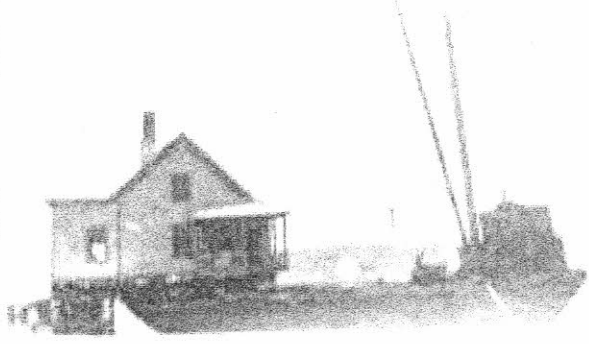


Photo from Mattapoisett Historical Society.
Reprinted by permission

Keeper's house winched from shore to the scow.

The house was jacked up and placed on beams that acted like a skid for winching the house aboard the scow. Chunks of wood wedged everything in place so the wave action would not cause the house to roll or slide off the scow. This part of the operation was done by Solvey-Blair of Boston. Once the house was placed on board the scow, the firm of Merritt, Chapman, Scott and Company of New London, Connecticut, was responsible for transporting the house across Buzzards Bay.

However, Priscilla A. Hathaway recorded a slightly different description of the move for the Mattapoisett Historical Commission. Her information came from a January 1, 1967 article in the New Bedford *Standard-Times*. No title of article was given.

> . . . the late Everett Stetson of Matt. and his men jacked up the house onto railroad ties leading to a lighter at the waters [sic] edge. A yoke of oxen hitched to the a heavy block and tackle eased the house down the makeshift ways and aboard the lighter, . . .

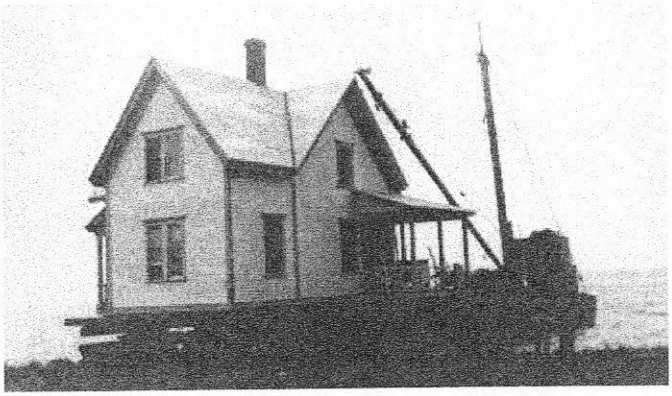
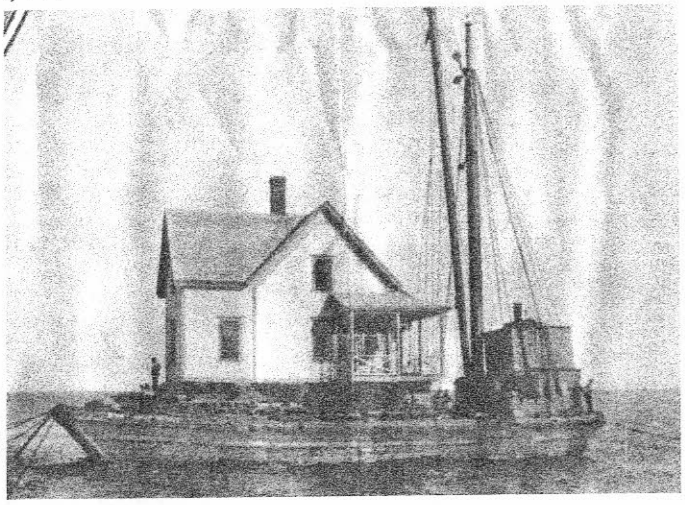


Photo from Mattapoisett Historical Society.
Reprinted by permission

Keeper's house is now completely on the scow.



Newspaper clipping from Mattapoisett Historical Society.
Reprinted by permission.

Russell Eastman, lighthouse keeper, stands next to his house, ready to wave "good bye" to Ned's Point.

- ***Prevailing Winds Slow Down the Move***

On Wednesday, June 27, 1923, the house was scheduled to leave from Ned's Point. However, in the afternoon, the wind had picked up, creating white caps in the bay and waves that pushed against the scow. By evening, the wind had died down enough for the tug *Harriet* to hook up and tow the scow with the house with Keeper Eastman out into deeper water where they anchored and rode out the wind and waves until early Thursday morning.

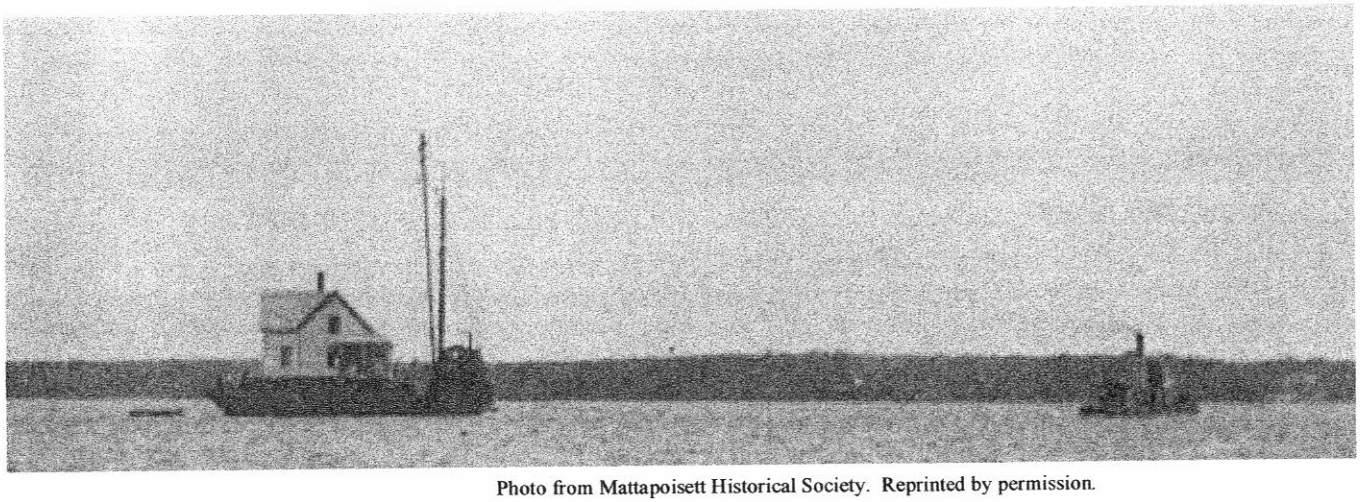


Photo from Mattapoisett Historical Society. Reprinted by permission.

The tug *Harriet* tows Light Keeper Eastman, his house and a dinghy across Buzzard's Bay to Wing's Neck.

- ***Light To Be Seasonal***

Although Mattapoisett Harbor was a busy place during the shipbuilding era, very little shipping now took place. So the Bureau of Lighthouses decided that Ned's Point would be an active aid to navigation for only the six warm months of the year. During that time, the lamp would be fueled by acetylene gas, the same gas used in some of the buoys. (For graphics and to find out how his works, see pages 14 and 15.)

According to the article, the light was a red dash at one time and had low candle power. A red lens would in its self reduce the candela. However, the light at the time of the move had been changed to white, thus giving it more candela.

- ***Eastman's Many Years of Service***

Captain Eastman had been in the Lighthouse Service for 36 years, thus indicating that he had entered the service in 1887. According to the article, Captain Eastman had received his appointment to Ned's Point Lighthouse 9 years prior to 1923, thus placing him at Ned's Point in 1914.

PARTIAL OUTLINE OF KEEPER'S HOUSE
ALL THAT IS LEFT.

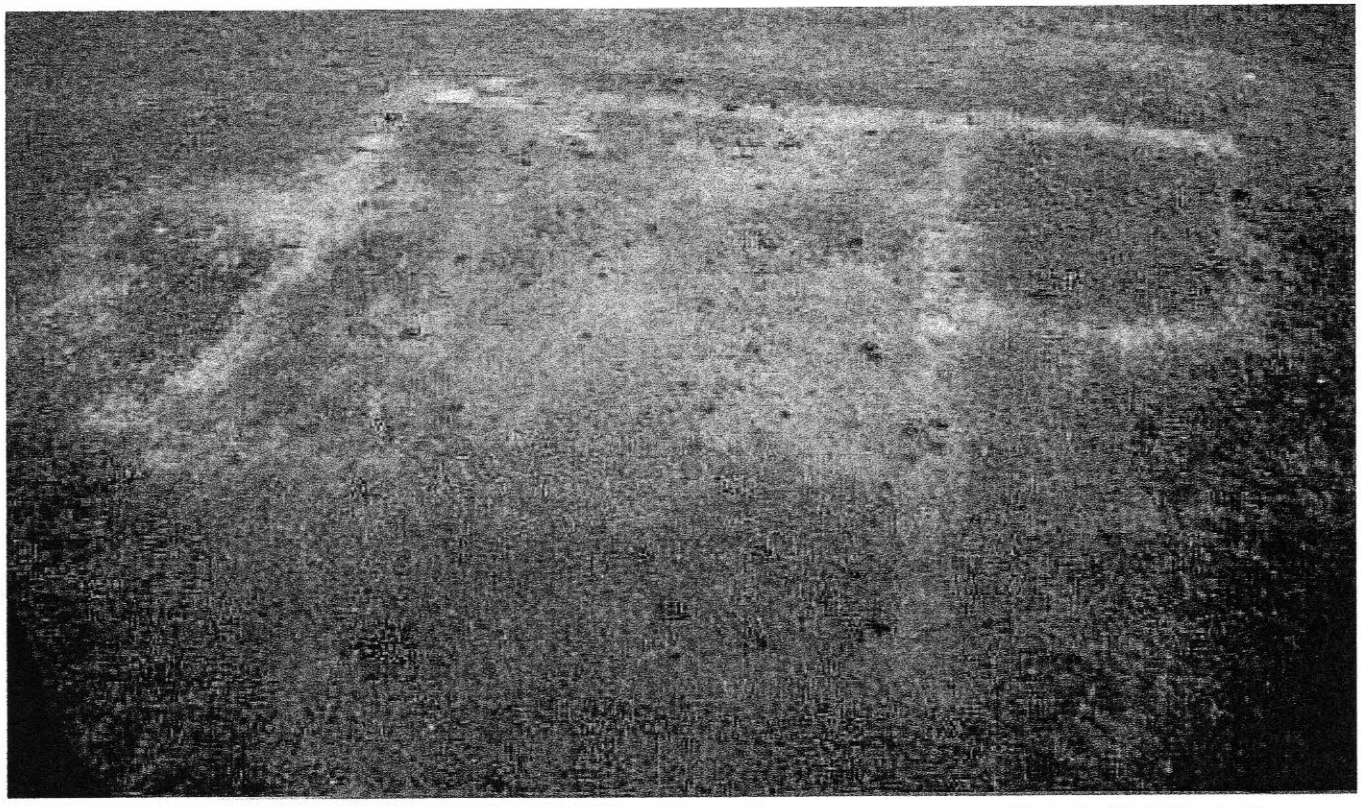


Photo by Bert Theriault

This photo, taken from the lantern deck, illustrates all that is left of the Ned's Point keepers house as it existed in 1923. The outline is difficult to see while standing on the ground.

1888-1889 KEEPERS' SALARIES

- The Collector of Customs in a district would nominate a member serving in a lower grade. If the person satisfactorily completed the trial period, that person would receive the appointment of assistant keeper. (However, not all light stations had assistant keepers.)
- Generally, the annual salaries for lighthouse keepers in 1888 varied, depending on the order or size of the lighthouse.
  - ◊ First Order Lighthouse: ..... $700-$800
  - ◊ Second Order Lighthouse: ..... $600-$700
  - ◊ Lower order lighthouses: ..... $500-$600
    [Ned's Point Lighthouse was in this category.]
  - ◊ Assistant Lighthouse Keeper: ..... $400-$500
    (All the above from Heap 211-212)

"David P. Heap, Major of Engineers, U.S. Army, Tompkinsville, Staten Island, N.Y." (Johnson 119).

Major Heap was the engineer for the Third Lighthouse District (Johnson 118-119).

However, Johnson (109), quoting the Light-House Board, had the following salary schedule for June, 30, 1989:

- ◊ First-order light-station $3,842.00
- ◊ Second-order $2,711.12
- ◊ Third-order $1,508.77
- ◊ Fourth-order $1,107.83
- ◊ Fifth-order ..... $ 635.05
- ◊ Sixth-order ..... $ 552.17
- ◊ Outside light-ship recent build $7,078.28
- ◊ Inside light-ship of old build ... $3,546.32
- ◊ Average fog-signal operated by steam or hot air ... $2,260.59

[Note: For the First and Second order lighthouses, why are Major Heap's salaries different from those of the Light-House Board? A difference between what was on paper from what was paid in the field where Heap was located?

1883—UNIFORMS

For the first time, uniforms were to be worn. In May 1, 1884 the Light-House Board issued the following regulations:

> The uniforms for male keepers and assistant keepers of light-stations, and masters, mates, engineers, and assistant engineers of light vessels and tenders, will consist of coat, vest , trousers, and a cap or helmet. (Johnson 104 quoting the Light-House Board).

The Board forgot to make any clothing regulations or supply any official clothing for the female employees (Johnson 104). Only those men employed on or before the date the regulations went into effect would be issued a uniform. If any one should leave the service within a year of issuance, he would have the value of the uniform deducted from any salary coming to him (Johnson 105).

Subsequent uniforms would have to be purchased. Those men employed after the above date would also have to purchase their uniforms. (Johnson 105).

Regulation stated how the men were to dress for dirty work (fixing fog horn engines, painting and so on), lighthouse duty and weather. And each member of the crew would have to dress alike. (Johnson 105)

Men who are only acting appointees, temporary employees or substitutes were not permitted to wear the uniform (Johnson, Regulations 105).

According to Johnson (105), quoting the Light-House Board, in 1883 the cost of uniforms and accessories were as quoted below:

(*do* below is short for *ditto.)*

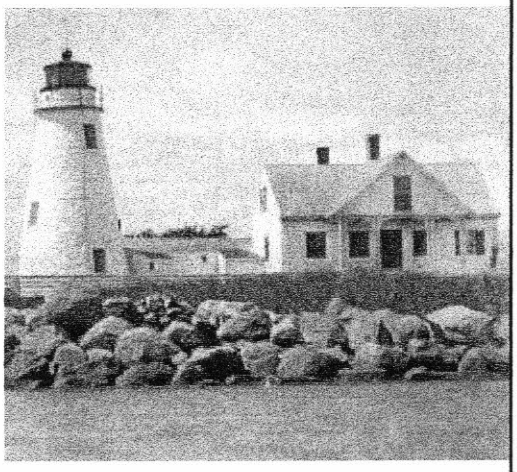
Kersey coats	each	$9.75
Kersey vests	do	2.75
Kersey trousers	do	5.50
Flannel coats	do	7.00
Flannel vests	do	2.25
Flannel trousers	do	5.50
Blue woolen working trousers (crew)	each	3.75
Guernsey shirts	do	1.75
Canvas working suits	do	1.25
Cloth caps with badge (officers, keepers, and assistant keepers)	each	2.00
Master's chin-straps	each	.75
Linen helmets , with badge each		1.75
Cloth cap, with ribbon (crew)		1.50
Brown linen caps (crew)	each	.75
Collar ornaments	each	1.09 to 1.25
Coat buttons	per doz.	.50
Vest buttons	do	.25
Button fasteners	do	.25

CHANGES TO THE TOWER, LANTERN AND KEEPER'S HOUSE

Looking at the visual clues on this page, the reader can compare and contrast some of the changes that took place at Ned's Point Light Station over the years.

Picture from Mattapoisett Free Public Library.
Reprinted by permission.

Note the birdcage lantern, tower entryway and the keeper's stone house in this 1838 picture. Now proceed to the next picture.



Picture from Mattapoisett Historical Society.
Reprinted by permission.

This undated picture shows a different lantern, one that is octagonal. The keeper's house is the same as the 1838 stone one but with the additions of a protruding dormer, porch and four supporting posts. Note the low sheds and the window in long passageway leading to the tower. (See "House roof leaked" on page 5. The addition of the porch was done on or before 1849. Was the lantern changed the same time that the porch was added on?)

In any event, this picture demonstrates that an octagonal lantern had been added **prior to 1888**, the year the stone house was torn down and replaced by a frame one. Also, note how low the lantern deck is.

All of this is important because in an e-mail to Bert Theriault, Candace Clifford, co-author of *Nineteenth-Century Lights . . .* , said that the birdcage lantern could not accommodate a Fresnel lens, thus another lantern had to be put in place.

Also, by the beginning of the Civil War, every lighthouse in the United States had a Fresnel lens (Holland 21 under "Adoption of Fresnel Lens," Rhein 161). This information would place a Fresnel lens in Ned's Point Light by 1861.

All of this helps to verify Clifford's 1857 date for the placement of a Fresnel lens (Clifford and Clifford 57). Some websites had a later date.

Photo from Mattapoisett Historical Society. Reprinted by permission.

This undated photo shows an additional alteration to the lantern and deck.

This picture was taken after the stone house was torn down and the frame house erected in 1888 because the covered walkway has been reduced to an entry-way. See the 1889 Plot Plan on the next page.

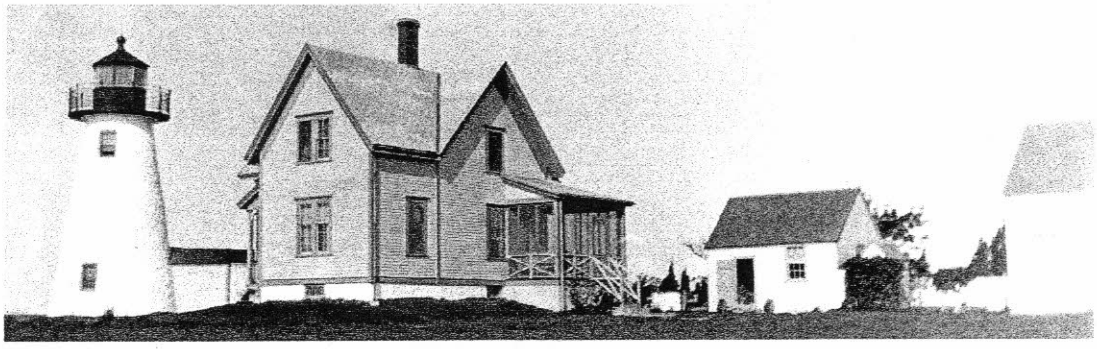
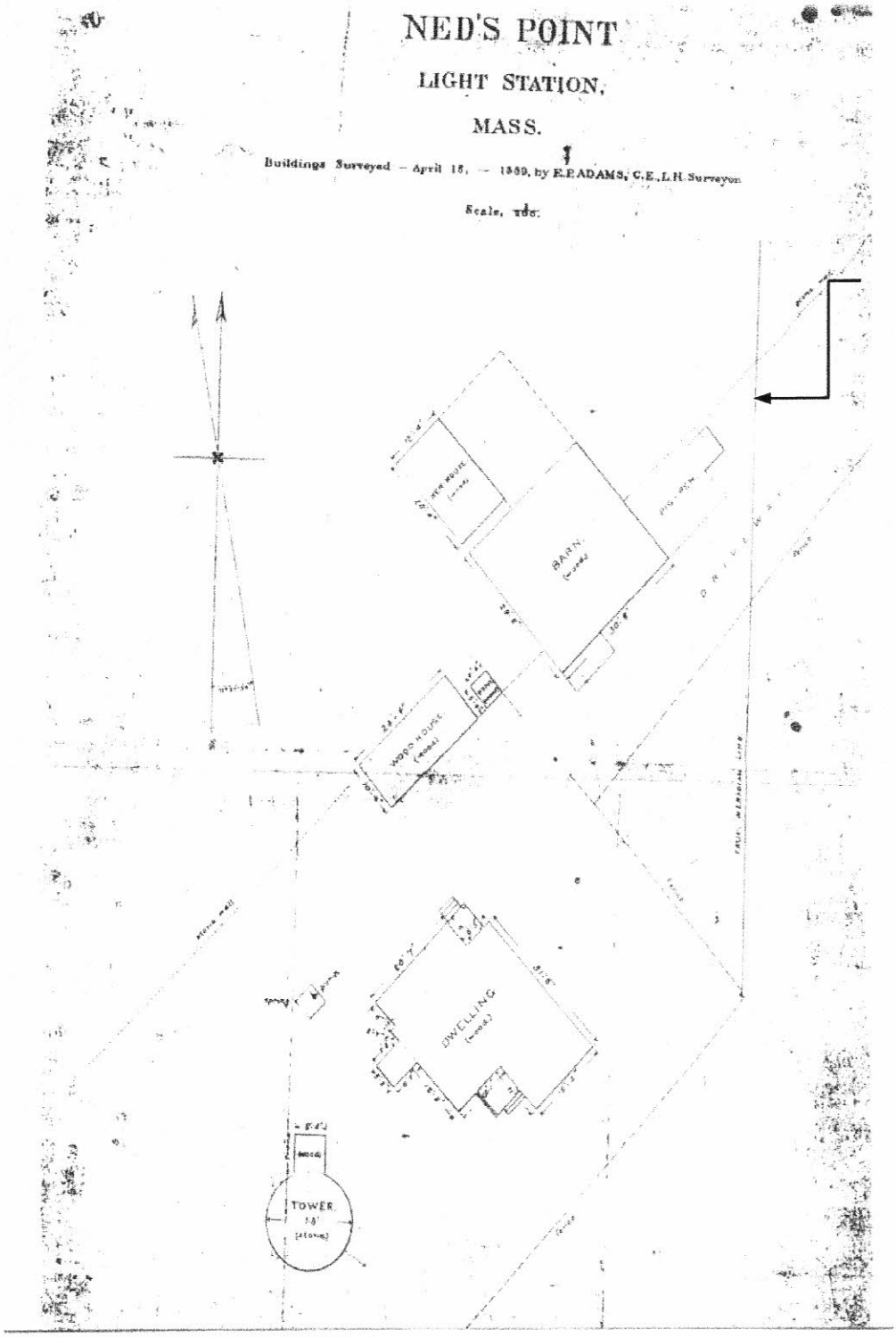


Photo from Mattapoisett
Historical Society.
Reprinted by permission.

In this undated photo is the keeper's house that was put on the scow and transported to Wings Neck, Pocasset. This wood frame house replaced the stone one that was torn down in 1888. The reader will notice the absence of a porch in the 1889 plot plan that appears on the next page. However, this picture reveals that the tower entryway has been lengthened again.

According to Clifford and Clifford, the lantern in this picture was put in place in 1896 (57). It is the same lantern that is at the top of the tower today.

1889 Plot Plan of Ned's Point Light Station



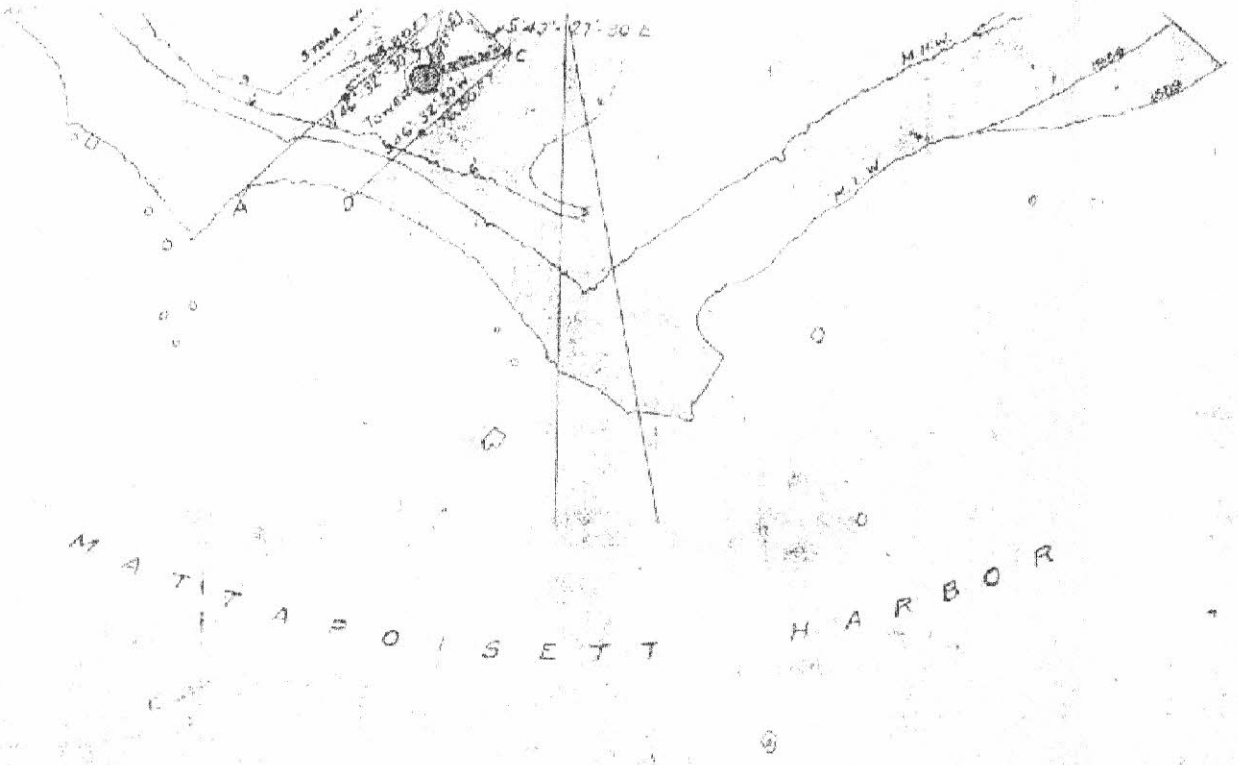
1889 Plot Plan from Old Dartmouth Historical Society—New Bedford Whaling Museum
Reproduced by permission.

Buildings Surveyed — April 18, 1889 by E.E. Adams, C. E., L.H. [Light House] Surveyor [2nd Light House District]

- Note the zigzag fence line (dashes) running down the right side of the plan.
- The solid line is labeled "TRUE MERIDIAN LINE." The two arrows on the far left: the solid one is the true direction; the other indicates 11° 37 minutes 30 seconds west magnetic deviation from the true line. See compass rose on the chart on p. 19 for the 1993 deviation of 15° 45' W [West].
- Outline of pig pen.
- Hen house (wood) 12' 4" x 20' 4"
- Barn (wood) 29' 6" x 30' 6"
- Privy 4' 4" x 5' 4" next to the wood house
- Wood house [shed for cord wood] 10' 4" x 24' 4"
- Dwelling (wood) 37' 6" x 27' 0" overall dimensions
- Spring and pump [in small square to the left behind the house]
- Tower with a 6' 4" W x 7' 4" L wooden entry way

Note: For some reason, the oil house was omitted from the plot plan.

Most of the lighthouse keepers and their families were expected to be self-sufficient by maintaining a garden and farm animals as well as taking from the sea whatever they could eat. Unlike other light stations, Ned's Point was not isolated from the mainland nor miles away from other inhabitants.



- Stone bound marked USLHE on top
- Iron pipe, concrete filled, copper tack on line

Original area of tract (survey by E.P. Adams in 1889) 4.02 acres ±
Area ABCD to be retained by U.S.L.H.S. contains 0.177 acres ±
* Area in excess of needs of Lighthouse Service 3.843 acres ±

All bearings are true.

* This area conveyed to the town of Mattapoisett, Mass. March 10, 1952

Scale in Feet
100 50 0 100 300

REVISION	DATE	DESCRIPTION
1	7-2948	Parkway Cable added.

This plan traced from original by E.P. Adams dated 1889, 2nd Dist. file No 1518

Office of The Superintendent of Lighthouses
Second District - Chelsea, Mass.

NED POINT LIGHT STATION
REDUCTION OF ORIGINAL RESERVATION

Scale: 1/1000

B.H. Robinson
Assoc. L. H. Engr.

Drawn by: JAP
Traced by:
Checked by: ESO

Approved: June , 1936
Leo E. Eaton
Superintendent

Sheet 1 of 1
No. 1009

"USLHE" is the abbreviation for *U.S. Lighthouse Engineer.*
This plot plan marks off what the U.S. Government now owns after selling the rest of the reservation to Mattapoisett on March 10, 1952.

1952 Plot Plan from Old Dartmouth Historical Society—New Bedford Whaling Museum
Reproduced by permission.

CHARACTERISTICS OF THE NED'S POINT OPTIC (LIGHT) OVER THE YEARS

Since it is important to understand where the following information came from, the reader should now consult the "**GLOSSARY OF TERMS**" on page 30, especially the following entries: *American Coast Pilot*, *Coast Pilot*, and *Light List*.

This section focuses on the history of the characteristics of only the light. No other lighthouse in Buzzards Bay will have the same light or color characteristics. For example, by consulting an up-to-date *Light List* or chart of Buzzards Bay, mariners know that an isophase six second pattern belongs only to Ned's Point Light, which is located at the entrance to Mattapoisett Harbor. Then, using a compass, the mariners can determine the bearing relative to the lighthouse and draw the bearing line on the chart. The mariner can then take a compass bearing to another aid to navigation or landmark on the chart and draw that bearing line on the chart. The boat will be located where the two lines intersect.

As time goes by, we hope that some readers who have access to an old chart, *Light List* or *Coast Pilot* will help us complete this history of the Ned's Point Light optic.

1838 — 1902 Fixed White Light (Clifford and Clifford 56 [ref. 1838]; Blunt 1847; Blunt 1854, p.238; Blunt 1863, p.293; *Light List* 1894, #142, p.38; Stebbins 1902, p.89)

1860 — Fixed light; distance visible in nautical miles: 11.9. (1860 Nautical Chart)

1923 — "Red Dash" replaced by white dash ("Lightkeeper Clings . . . ,"1) [Since we have not been able to find a nautical chart or *Light List* entry from 1915 to 1922, we can not verify the accuracy of this information.]

1936 — FLev 5 sec. [Flash every 5 seconds]
April 15 to October 15 (1936 Nautical Chart)

1940 — Fl. W. 5 sec., U. [Flashing White for 5 seconds, unwatched (no keeper)]
Candle power: 550
Flash 1 sec., eclipse 4 sec.
Illuminant 5a [5th order lens, acetylene gas, compressed]
Visible from 299½° to 119½°
Estab. 1837 [year tower was built]
Rebuilt 1888
Maintained Apr. 15 to Oct. 15 (*Light List* 1940, # 344, p.75)

1961 to present — "Iso 6s" [Isophase 6 Seconds] (CPO Lucey, USCG, AND *Light List* 2000, # 17095. For a definition and explanation of *isophase*, see pages 16, 30 and 32.

DISCUSSION OF THE ABOVE CLUES

Fixed light: 1838 to 1902 and beyond:

The fixed light sources above ended with 1902. Thus there is a 21-year gap between 1902 and 1923, the year the "Lightkeeper Clings . . ." article appeared in the paper. This information also indicates that the Fresnel lens installed in 1857 (Clifford and Clifford 57) was of the fixed light type as pictured on page 26.

However, whenever the flashing light was introduced between 1902 and 1923, the Fresnel lens would have probably been changed to a Fresnel lens of the "bull's-eye" type that sat on a rotating platform. (See photo of the lens on page 26.) The keeper would have to wind up the weights, as on a "grandfather's" clock, every so many hours in order to keep the platform turning. Other types of mechanisms for rotating the platforms were also used over the years. On the other hand, as noted on page 15, the Nils Gustaf Dalén flashing device could have been used instead of a bull's-eye lens on a the rotating platform.

Flashing light: 1923 to the time when the light was electrified:

But how did the light function without a keeper or electricity? What produced the flash?

Some of the clues appear in the above quoted 1940 *Light List*, "Illuminant 5a." As noted, the *5* stands for a fifth order lens (most likely a Fresnel), the *a* stands for *compressed acetylene gas*.

Now we do not know if the following information is applicable to Ned's Point Light, but it is a very good

possibility. According to Michael Rhein, Nils Gustaf Dalén's sun valve and switch, used in many buoys and certain lighthouses, would react to daylight by shutting off the compressed acetylene gas by day and turning it on at night (163).

According to two AGA websites, a Swedish gas company, in 1907 Nobel Prize winner Gustaf Dalén produced a sun valve which, activated by daylight or darkness, turns the acetylene gas off and on.

Did the United States create its own solar valve?

"If you have read about Gustaf Dalén and the simple design of the sun valve then I think you know all about them. I'm sure that the U.S. purchased them from his company [AGA of Sweden] as I have not seen any evidence of them being constructed in this country. Not to say that AGA of America didn't produce any, I have just never seen any" (CWO Joseph Cocking, USCG, Group Miami ATON in an e-mail letter to the author).

How does the sun valve work?

Three parallel, shiny light-reflecting rods surround a metal rod that is blackened to absorb light. When darkness sets in, all of the rods are the same length and temperature. At dawn, the blackened rod absorbs energy from the light of day, slightly raising the temperature of the rod and making it a bit longer than the shiny ones. Now that the blackened rod is longer it causes a device to cut off the gas, thus turning off the lighthouse light. At dusk the blackened rod cools and contracts, thus opening the gas valve. A small pilot flame will light the gas flame for the beacon. (Website for AGA 1)

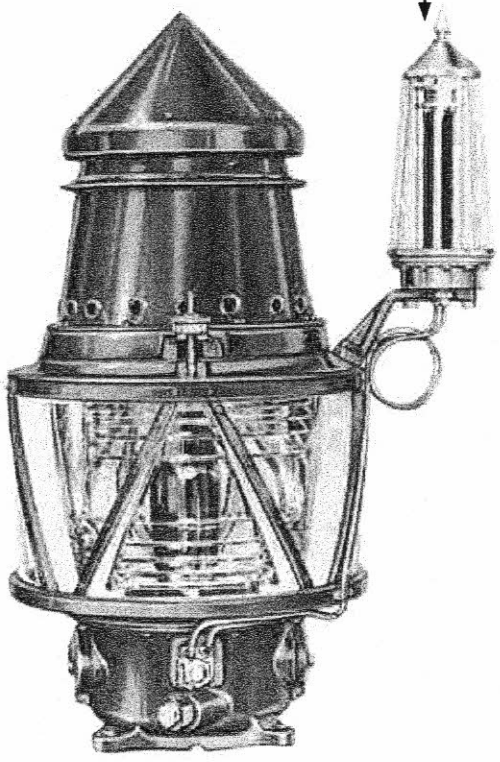
How could compressed acetylene gas produce a very bright light?

Noting that an open acetylene flame produced a suitable light for buoys and small light houses, in 1907 Dalén invented the Dalén mixer, a device that provided the exact mixture of air and acetylene to keep a small meshwork hood burning brightly with a strong light. The hood was made of a noncombustible substance which when placed over a flame, as in a lantern, gives off a brilliant incandescent light suitable for lighthouses needing a very bright light. Dalén also invented a means of safely transporting acetylene gas in cylinders (Website for AGA 2) Prior to that a generator was needed to produce acetylene gas from calcium carbide (Putnam 189 and a conversation with Fred Boothman, U.S. Coast Guard Auxiliary Flotilla 67).

Without electricity or weights what supplied the energy to turn rotating lens platforms?

Using pressure from the acetylene, the Dalén mixer could power the rotating lens system. Thus the lighthouse could produce the desired light characteristics. (AGA 2)

Gustaf Dalén sun valve



Graphic from AGA Gas, Inc.
Reprinted by permission.

The above graphic of an old acetylene gas buoy will give the reader an idea of the principle on which the Dalén sun valve works. For a lighthouse, the sun valve would have often been placed where it would gain the maximum effect of daylight and darkness, sometimes being mounted on the rail of the lantern deck or on a bracket just outside of the lantern room .

How were buoys and some lighthouses able to produce flashes without a rotating lens platform?

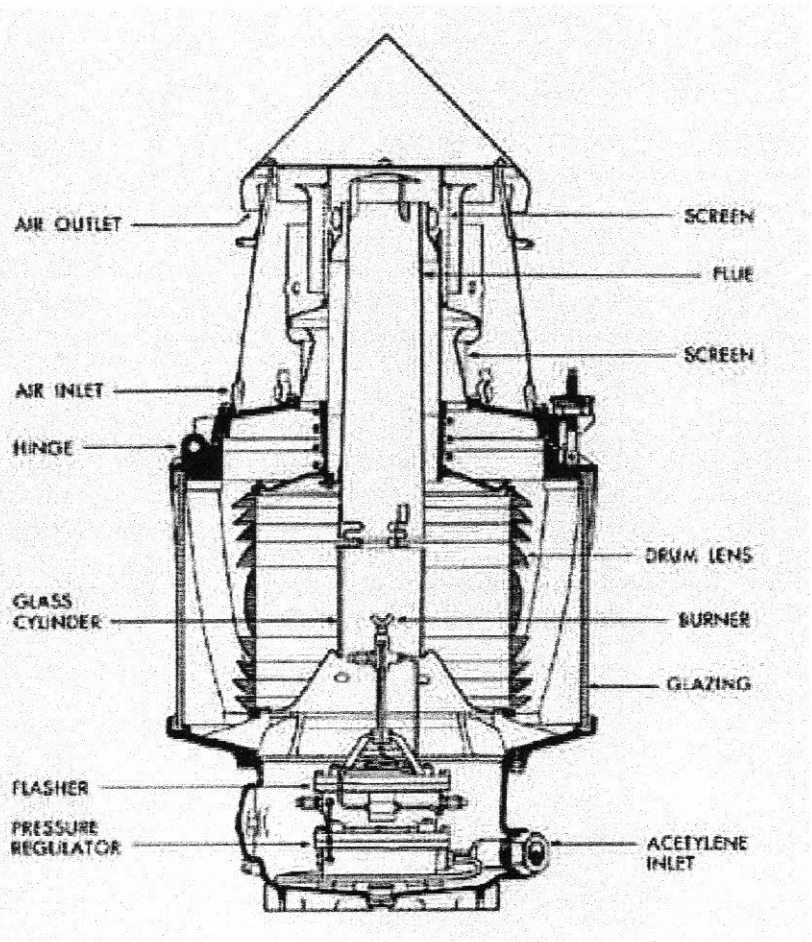
Nils Gustaf Dalén invented a flashing apparatus that was able to divide a liter of acetylene gas into as many as 10,000 small flashes of light. The flashing apparatus could be calibrated to provide 1 flash, 2 flashes or 3 flashes at precisely the desired intervals. In a 1-flash lighthouse, for example, you can have light for 0.3 seconds and darkness for 3.7 seconds. (Linde)

Within a few years the patented flashing apparatus was also used in a line of AGA inventions, including railway signals (Linde). (Note: AGA Gas, Inc. is part of the Linde gas group.)

Isophase 6 second light: 1961 to present

The light is powered by electricity. The device that produces the Iso 6s flashing pattern is called a "flasher." For more information, see page 18.

Note: Prior to the advent of the flashing mechanism in lights, how did the mariner distinguish one light from another in a given vicinity? Two lighthouses would be built rather close to each other in one area to distinguish one geographical location from another.



Graphic from AGA Gas, Inc.
Reprinted by permission.

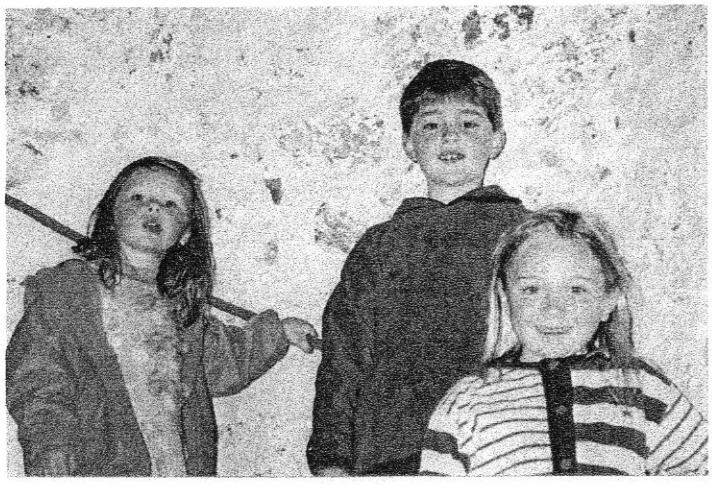


Photo by Betty Theriault

L. to R. Catherine, Anthony and Emily enjoying a tour of Ned's Point Lighthouse with their parents 2002,

TODAY'S TECHNICAL HIGHLIGHTS OF NED'S POINT LIGHTHOUSE

Although most of the information in this section refers to today's lighthouse, we have repeated some of the previous information in order to help the reader compare and contrast the present with the past. Keep in mind that the present lantern was put in place in 1896 (Clifford and Clifford 57). Therefore, the vents pictured on the next page date back to 1896.

LIGHT LIST **:** Ned's Point Light is number 17095 in the year 2000 edition.

(Each aid to navigation listed in the *Light List* is assigned a number.)

PRESENT STATUS: Active Aid to Navigation (Under the direct supervision of the U.S. Coast Guard.)

RANGE: 12 nautical miles (Based on the focal plane at 41 feet above mean high water and the mariner's eyes at 15 feet above the water.) (To see the calculation, go to page 34.)

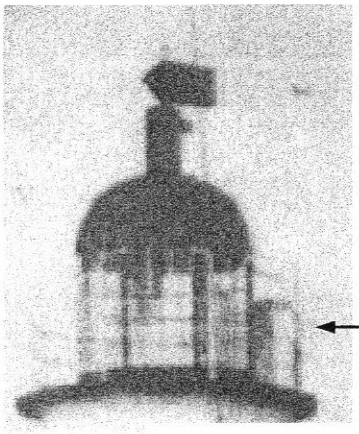
CHARACTERISTICS OF THE OPTIC OR LIGHT: (As given on a chart or in the *Light List*)

- Optic (light) is shown as "Iso 6s" **(Isophase 6 Seconds)**
  - *Iso* means *equal* (equal time on and off)
  - *phase* in this context means the fractional part of a cycle.
    - The fractional parts of Ned's Point Light adding up to a complete cycle of "on" and "off" are as follows:

    3 seconds on + 3 seconds off = a 6 second cycle

  (See "Glossary of Terms" on page 30 for a more technical explanation.)

FOCAL PLANE: 41 feet above mean high water. (The mariner uses the height of the focal plane to calculate the boat's distance from the light.) (See graphic at bottom of page 18 and "Glossary" page 30.)



From cover photo

Birdcage lantern

TOWER

Position: Lat. 41 - 39 - 03 N (*Local Notice to Mariners*
Long. 70 - 47 - 44 W No. 21/02, 05/21/02, p.12)

- Height of tower (not the lantern) from the ground: 39 feet
- Stairs: 32 cantilevered, granite steps laid on top of each other with one end embedded in the wall

LANTERN

- Original — 1838:
  - ◊ Shape: Birdcage
  - ◊ Top: Chimney with weathervane and lightning rod on top.
  - ◊ (Could that be an oil drum on the deck to the right outside the lantern room?)
- Present — Fifth Order (Refers to the size of the lantern.)
  - ◊ Shape: Octagonal
  - ◊ Composition: Cast iron with a tin roof

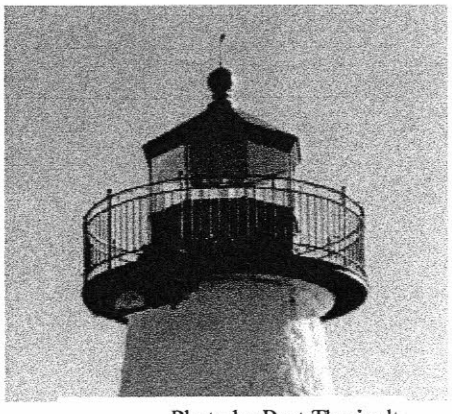


Photo by Bert Theriault

Octagonal lantern

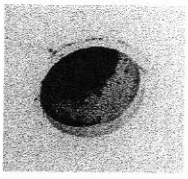
Lantern Room Dimensions

1838 — Height: 5 feet 8 inches as noted by Lt. Carpenter, USN. (See page 4.)

Present — Height: 9 feet ½ inch at the highest point in ceiling next to vent
Inside Diameter of the wooden wall: 6 feet 5½ inches (approximately)

Vents

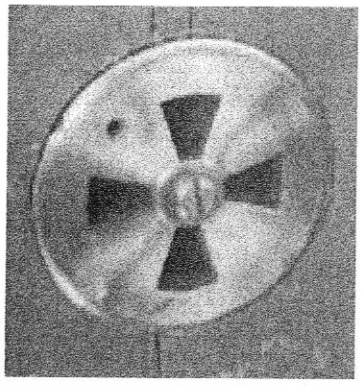
- ◊ Top of lantern room: Smoke, fumes and heat from oil burning lamps passed through a hole in the ceiling.
- ◊ Top outside of lantern: Exhaust came out of the holes in bottom of the ball on the roof.
- ◊ Inside vents of lantern room helped keepers to
  - * regulate the air by adjusting the brass disks
  - * reduce condensation on the lens and surrounding glass
- ◊ Outside vents (slots) of lantern room lead to the brass vents inside.



Vent hole inside lantern room ceiling.

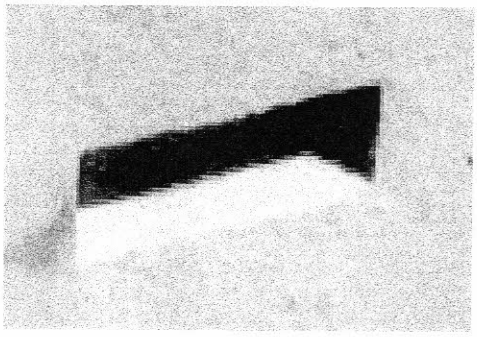
Vent holes in bot-

Photos by Bert Theriault



← Brass vent regulates air inside lantern room.

Slotted vent → in the iron wall outside of lantern room.



Windows

- Windows were once doubled paned with trough in between for condensed moisture. But the system did not work out. Now single panes of glass are in place.
- Curtains protected the Fresnel lens when the lamp was not lit. They were dropped down inside of the windows (Noble 90 citing U.S. Lighthouse Board 8).

Original 1838 Lamps and Reflectors (Carpenter cited by Clifford and Clifford, 56)

- ◊ Eleven [Winslow Lewis] lamps with 13½ inch reflectors, three of which reflected their light to the interior
- ◊ Two tiers—six on the lower and five on the upper

- Candela (candle power): 160
- Oil Consumption: 300-400 gallons for the year

Candela (Candle Power) over the years

1838 — 160 candela (Carpenter cited by Clifford and Clifford 56)

1940 — 550 candela (1940 *Light List*)

1961 to present— "4,400 candela fixed intensity" (Steve Trenchard, Automatic Power Co., unpublished letter to the authors)

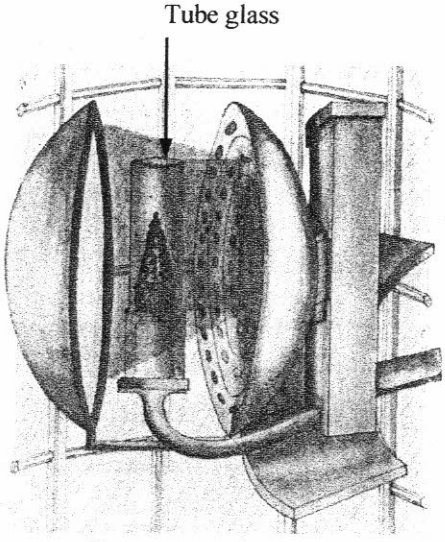


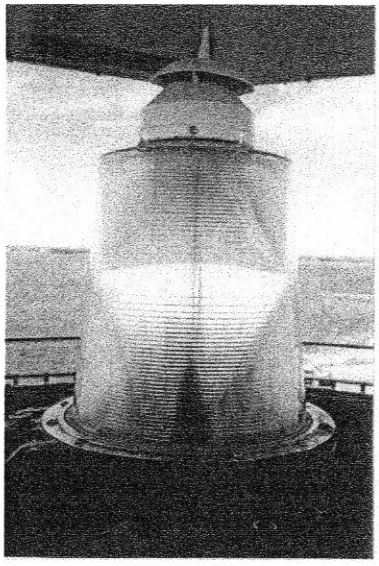
Photo courtesy of U.S. Coast Guard Historian's Office, Washington, D.C.

Winslow Lewis lamp and reflectors

Present Lantern, Lens and Lamp Installed in 1961

According to e-mails from CPO Lucey, USCG, Aids to Navigation Team , Station Woods Hole, Mass., as assigned in 2001.

- Lamp: 250 watt halogen lamp (bulb)
- Lamp changer: Coast Guard four-place lamp changer. When one lamp burns out, the changer automatically advances the next lamp into the operating position without interrupting the 6 second isophase sequence.
- Photo electric cell on the wall of the lantern room activates the lamp.
- Present Lens (Note the chimney at top of lens.)
  - ◊ Plastic 250 mm
    (250 mm x 0.03937 inches = 9.8425 inches)



Photod of lens and lamp changer by Bert Theriault

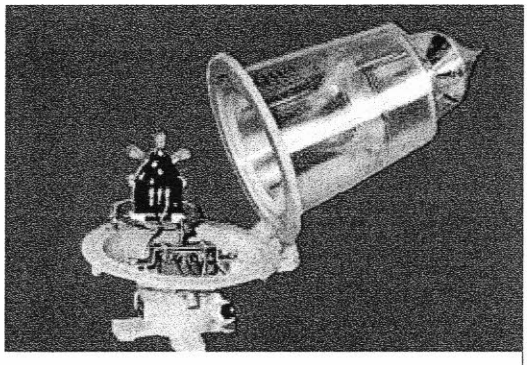
Candle power: "4,400 candela fixed intensity." (Steve Trenchard, Automatic Power Co., unpublished letter to the authors)

According to an e-mail from CAPT Larry Jaeger, USCG, District 7 (oan),

> The optic is a 250mm Marine Signal Lantern. The lantern is a 250mm lantern because that's the diameter of the optic at the height of the lamp filament. The ISO 6s flash characteristic is produced by a mechanism called a "flasher," . . . a disk-like device located in the base of the lantern, just below the 4-place lamp changer. The flasher has internal parts that basically switch the light on and off according to a pre-programmed flash characteristic—in other words, a timer that controls a switch. In your case the timer simply opens, then closes the switch every 3 seconds to produce the ISO 6s characteristic.

Lens

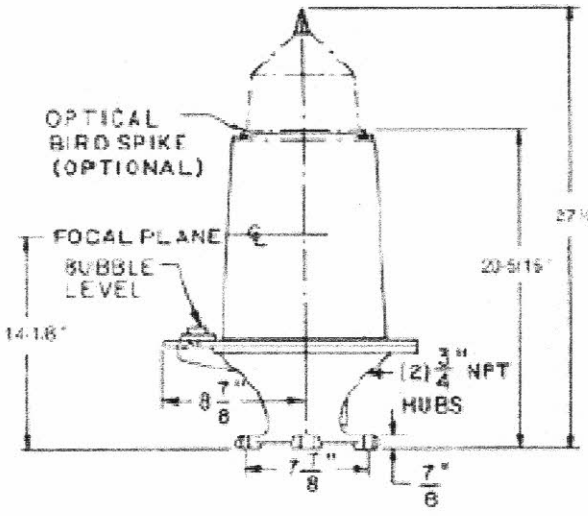
Lamp changer



Graphic of internal mechanism of the lens from Automatic Power, Inc. Reprinted by permission.

Note: Although the Ned's Point Light lens has a vented top, the rest of the lens, lamp changer, flashing mechanism and transformer are quite similar.

According to Automatic Power Inc., the 250mm Marine Lantern "provides values more than twice those from conventional glass lenses. Acrylic plastic has better optical characteristics, higher transmission and its reflective index and color are easily controlled." (Automatic Power Inc website. Reprinted by permission.)



Technical Information

Lens: A "250mm clear acrylic fresnel [sic] lens for 360° visibility."

Flasher: "Solid state 5-16 volt DC timer can be supplied with any recurring characteristic. Timers operate over an ambient temperature range of –40 to +60° C [-40 to + 160° F]. Optional DC flashers are available with voltage regulation and current limit features. AC flashers and step-down transformers are also available." (Ned's Light has such a transformer.)

Lamp Changers: "5-16 DC or AC/DC motor driven 4 place or 6 place lampchanger." (sic)

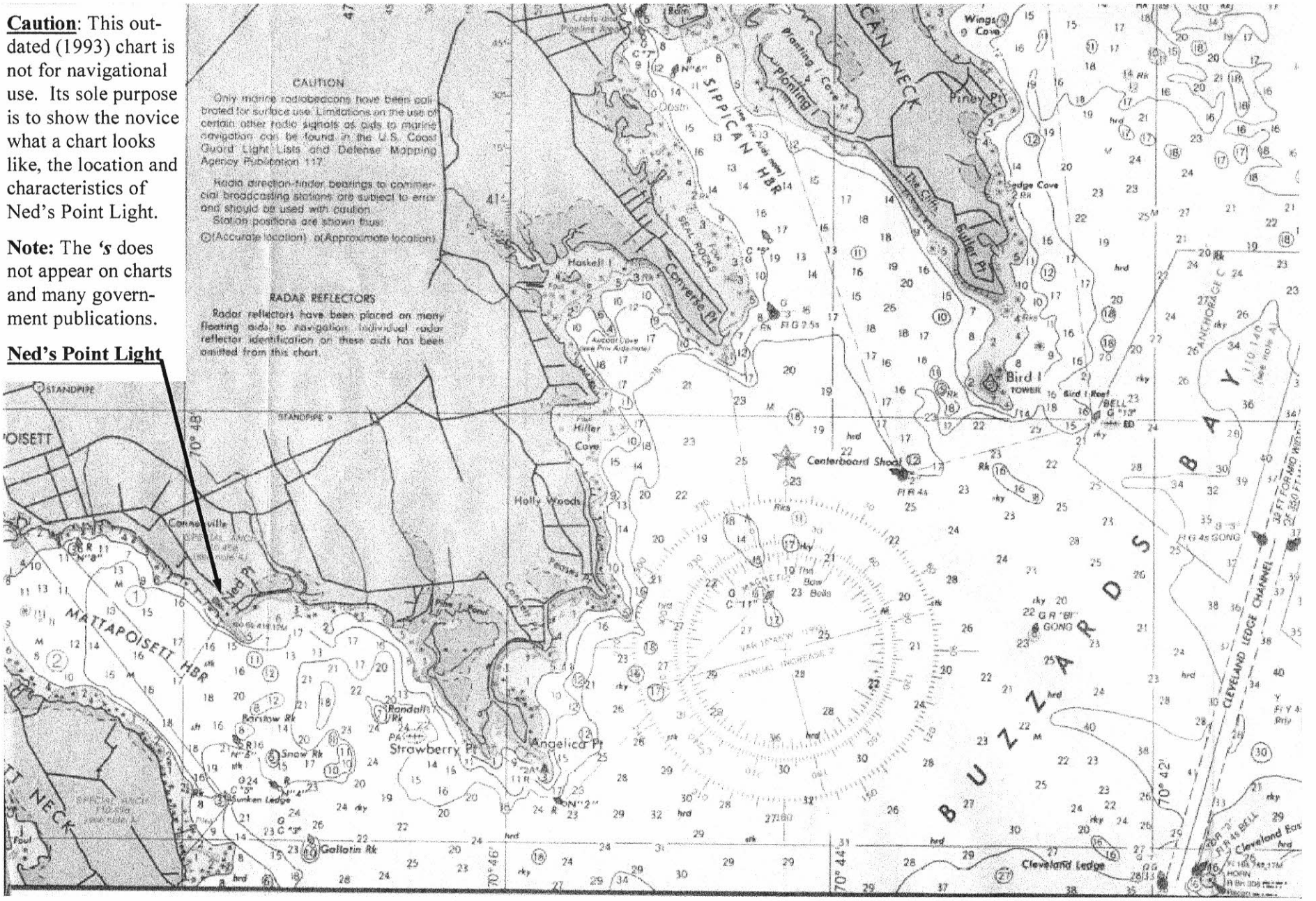
(Automatic Power Inc website. Reprinted by permission.)

Graphic from Automatic Power, Inc. Reprinted by permission.

Caution: This outdated (1993) chart is not for navigational use. Its sole purpose is to show the novice what a chart looks like, the location and characteristics of Ned's Point Light.

Note: The *'s* does not appear on charts and many government publications.

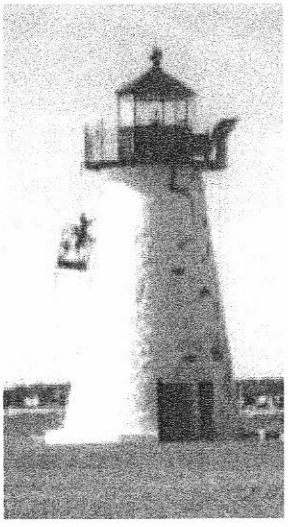
Ned's Point Light



Grey scale of chart section containing Ned's Point Light with notation "Iso 6s 41ft 12M" Magenta tear drop symbolizes a light. The dot pinpoints its position.

U.S. COAST GUARD

U.S. COAST GUARD Lighthouse Maintenance Crew Rehabilitates Ned's Point Light



LHM of ANT

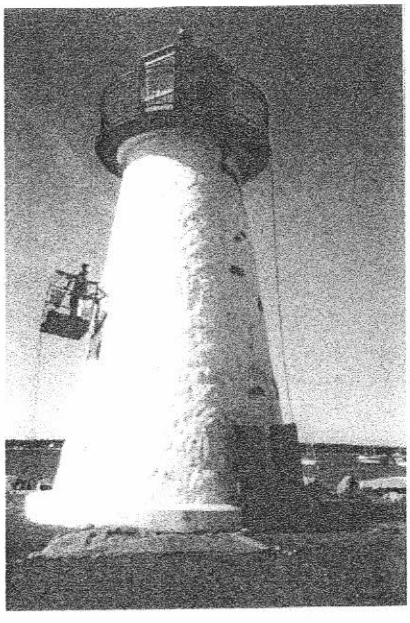
(Lighthouse Maintenance crew, members of the Aids to Navigation Team from Coast Guard Station, Woods Hole, Massachusetts.)

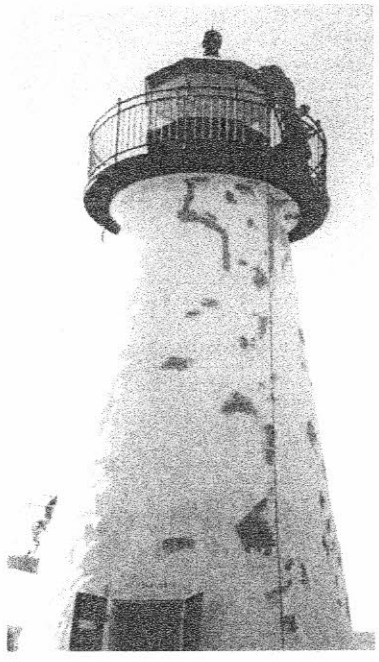
EM2 Joseph Miner
EM1 Jeff Harvey
EM1 Cris Rowe
SN Josh Henesy
MK3 Tim Nickerson
DC1 John Fontenot
SN Roland Theriault (No relation to the author)

About every five years, LHM will rehabilitate Ned's Point Light by scraping off the loose paint and rust and putting on fresh primer and top coat paints. If this is not done, the salt air and spray will slowly destroy the lighthouse and lantern.

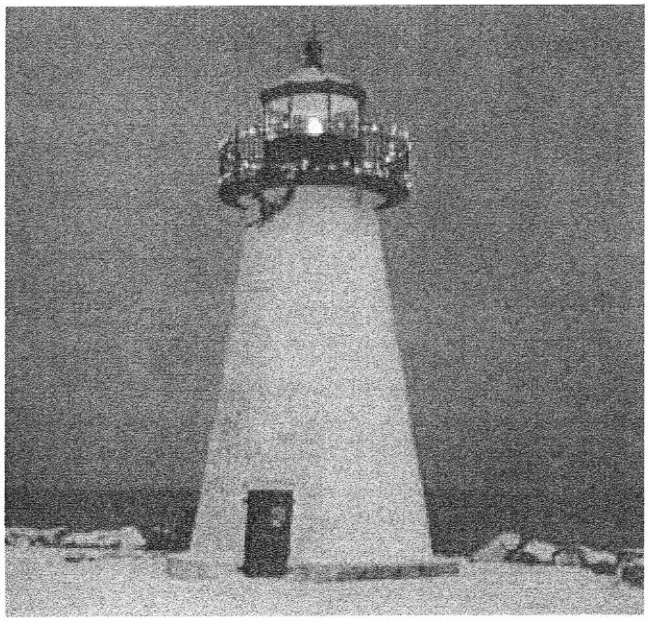
Every so many weeks, a member of LHM will check the lamps and the lamp changer, making sure that everything is functioning properly.

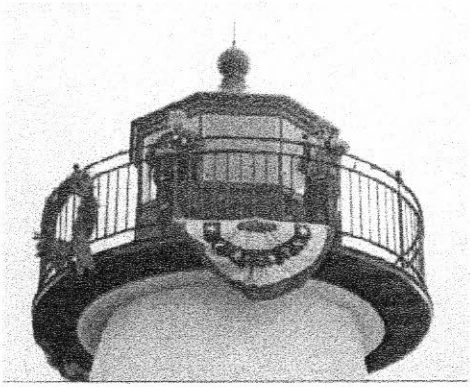
All lighthouse rehabilitation pictures were taken on 9-11, just before Coast Guard Station Woods Hole notified LHM of the infamous attack on the World Trade Center.



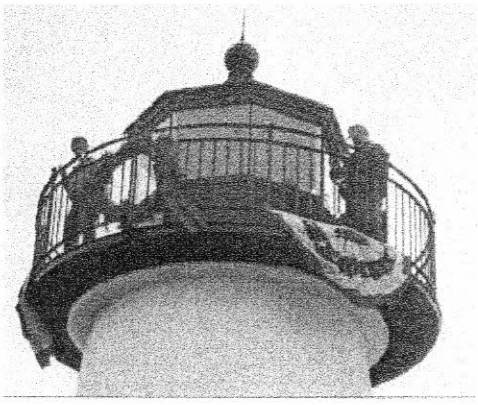


All photos on this page courtesy of Betty Theriault





Malcolm Nason and Ren LeBlanc attaching the holiday decorations to the lantern deck.



The crew responsible for taking down the decorations: L. to R. Betty and Bert Theriault, Marge Sullivan and Joan Andersen.

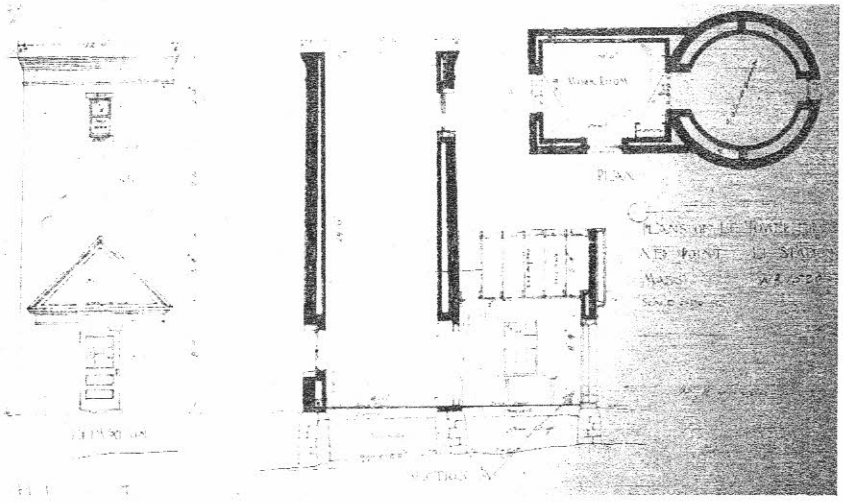
Joan Andersen hands down a box of equipment to Marge Sullivan.

R. to L. Beverly and Fred Bootman are ready to give tours of the light-

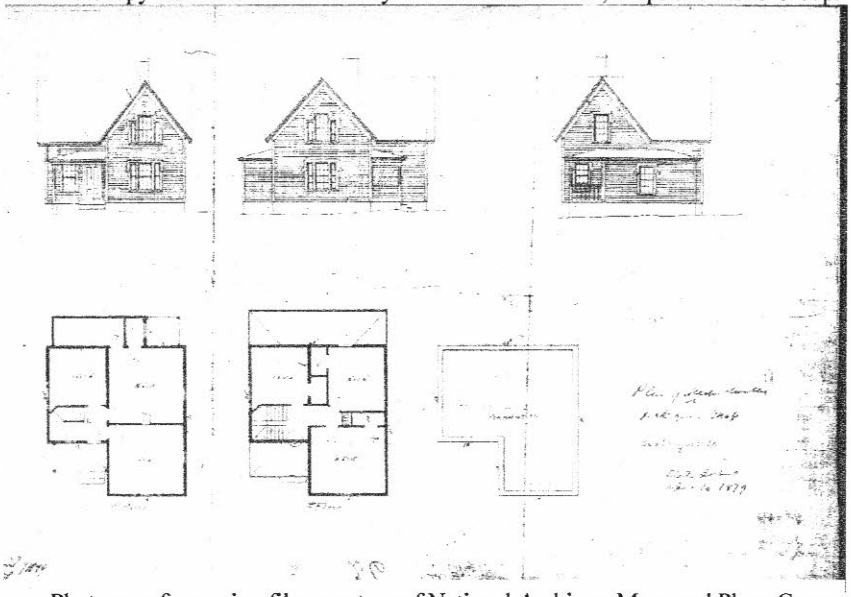
All photos on this page courtesy of Bert and Betty Theriault.

IS THE HISTORY OF NED'S POINT LIGHT NOW COMPLETE?

Far from it. But being able to put together even this much of the picture is what makes research interesting and fascinating. Some issues that could be resolved or explored in the future are as follows:



Photocopy from microfilm courtesy of National Archives, Maps and Plans Group.



Photocopy from microfilm courtesy of National Archives, Maps and Plans Group

1. **THE TOWER PLANS**

   Henry J. Gwiazda, Ph.D., Maps & Plans Group, National Archives & Records Administration, found four frames of microfilm on a reel covering the plans for Ned Point. However, not one piece of information that we have uncovered supports any of the frames.

   For example, one undated frame shows the elevation and a section of the tower. Problems: the tower is not conical and appears to be of iron, not stone. The dimensions of the workroom entryway are much larger than the ones shown in the 1889 plot plan. Yet the large photocopied plan is clearly marked:

   Plans of LT. Tower
   Ned Point LT. Station
   Mass. No. 1520

   Conclusion: The tower depicted never materialized for Ned's Point. Therefore, more research is needed to find the real plans, if they actually do exist.

2. **THE HOUSE PLANS**

   Labeled "Staten Island," these house plans, were found in a folder marked "Ned Point Light Station, Mass."

   Although similar to, this house is not the same as the keeper's frame house that was actually built at Ned's Point.

3. **THE INCOMPLETED LIST OF KEEPERS**

   Although most of the names of the keepers of Ned's Point Light Station were found, missing are the keepers that were appointed between 1838 and 1843.

4. **THE KEEPERS AS PERSONS**

   In order to see the keepers and families as human beings, not just names on a sheet of paper, we need answers to such questions as:

   What were their lives like? What problems did they face? Did they have children and where did they go to school? What were some of the happy and sad times in their lives? What was their relationship with the local community? Did they help with any rescues?

5. **TODAY'S TOWER**

   How much of the original tower still stands? Was the tower actually rebuilt in 1888 as noted in the 1940 *Light List* (page 13) , or was only the top portion or lantern changed as discussed on page 10? Was the

tower destroyed by a hurricane? The National Hurricane Service has no record of one for 1888. No mention of the destruction or rebuilding of the tower was ever mentioned in the newspaper archives.

Therefore, we do not have any hard evidence that the tower was destroyed in 1888.

6. The Light Characteristics

What were the complete characteristics of the light in 1923? The reporter called it a "red dash." When was that change made? What was the range of the light? What were the light characteristics for the missing dates on page 13? Was a solar valve as described on pages 13 and 14 actually used?

7. Really a Keeper?

Who is Mrs. Sarah Sadler in this undated newspaper clipping? Was she really a keeper of the light as stated in the newspaper caption? Or was she someone merely posing for the reporter-photographer? In what year was the picture taken?

8. Electrified Light

Looking closely at the picture on the right, you will notice that the entry-way to the tower is pretty much like that in the 1889 plot plan. However, Mrs. Sadler has a radio, perhaps a crystal set. Therefore, electricity was available. But according to the 1940 *Light List*, the light was powered by compressed acetylene gas. So when did electricity finally reach the light-house?

A fifth order Fresnel lens is in this enlarge-ment of the lantern room in the picture at the right .

Photo from Mattapoisett Historical Society. Reprinted by permission.

UNDER THE EAVES OF THE RADIO "ROOF OF THE WORLD": MRS. SARAH SADLER,
Keeper of the Light at Mattapoisett harbor, Buzzards Bay, With Her Radio Set, Which Makes Up for the Loneliness of Her Duties.

(Caption as it appeared in the clipping.)

Significance of Ned's Point Light

Many visitors to Ned's Point Lighthouse have indicated how pleased they are that the structure still exists, is open for tours—free of charge, has a part to play in our great American maritime history and is still an active aid to navigation.

For the mariners riding the waves in Buzzards Bay, it serves as a guiding beacon for those who do not have loran or a Global Positioning System (GPS) or whatever device will help a mariner answer the question: Where am I?

For the people of Mattapoisett—whether year-round, seasonal, or visitor—the beacon gives a sense of

- Permanence — a fixed position in time and space, including the philosophical coordinates of our lives.
- Heritage — a whole history in itself, a legacy belonging to us all.
- Nostalgia — dreams of whaling ships, schooners, ship building, and a way of life that we can only now imagine.

RELATED INFORMATION

Winslow Lewis

- ***Lamps and Oil***

In 1810, Winslow Lewis developed an oil lamp with a reflector that eventually impressed Secretary of the Treasury Albert Gallatin to the extent that he asked Congress to purchase Lewis's patent. After the purchase, Lewis was given the contract to install and repair his lamps in all forty-nine lighthouses that existed at that time. (Noble 17)

In 1816, Lewis was awarded a five-year contract to supply oil to all lighthouses, make annual visits to each lighthouse, repair the lamps, and report lighthouse conditions to the Treasury Department. He could also determine the number of lamps and the diameter of reflectors at each lighthouse. In effect, he had virtually become the superintendent of all lighthouses (Noble 17 citing Updike 40; Gleason 50-51)

Moreover, if he did not use all the oil contracted for, he could sell off the surplus for his own personal gain, which was considerable at times. For example, in 1816 his profit was $12,472.38—almost half the salary of President James Madison. When Stephen Pleasonton became responsible for all federal lighthouses and lightships in 1820, Lewis did not receive as much oil. However, his contract contained a cost increase for his transportation to and the maintenance of lighthouses. (Noble 17-18 citing Updike 41-43)

- ***Lighthouses***

In 1818, Winslow Lewis demonstrated how shrewd he could be. When contracting to build a lighthouse on the Mississippi River, he made two stipulations:

1. An inspector would be hired by the government to ascertain that Lewis had accurately followed the plans chosen by the government, the plans of noted architect Benjamin Latrobe.
2. He would still be paid if the foundation collapsed before the tower was completed. The government had contracted the project for $80,000. (Noble 18 citing Updike 43)

The foundation collapsed three days before completion of the tower. In 1822, after submitting his own plans, Lewis was awarded the contract for that same lighthouse. Managing to use materials salvaged from the old project, Lewis built the tower for $9,750 (Noble 18 citing Updike, 43)

Fifth Auditor Stephen Pleasonton

In 1820, when Fifth Auditor Stephen Pleasonton became responsible for all federal lighthouses, lightships, and many buoys and beacons, he appointed the collector of customs in each district as his superintendent of lighthouses in that district. These collector-superintendents were responsible for personnel, site selection, construction, maintenance, and annual inspection of lighthouses. The secretary of state appointed the light keepers. (Noble 8 citing Johnson 14-15)

However, since Winslow Lewis was already a powerful figure in the lighthouse establishment when Pleasonton arrived on the scene, it is no wonder that Pleasonton eventually relied very heavily on him for lamps, reflectors, oil, and plans for and construction of lighthouses. As a result, Pleasonton would not listen to advice on the superiority of the Fresnel lens over the Lewis reflector lamp, regardless of the growing complaints of sea captains. Nevertheless, in 1835, Lewis made a serious error. Without approval from Washington and without proper notification to mariners, he changed the light characteristics at Mobile Point Light, thus making it extremely difficult for mariners to determine their location in the area. (Noble 18 citing Holland)

Pleasonton firmly defended Lewis in this and several other instances as well before he eventually died in 1850, two years prior to the formation of the U.S. Lighthouse Board.

A BRIEF HISTORY OF . . .

1. Lamps and Reflectors, including Order of Lenses and the Fresnel Lens

- ***Candles***
- ***Oil Lamps*** with flat wicks similar to a hurricane kerosene lamp.
- ***Argand Lamp***

Developed in 1781 by Armi Argand, this oil lamp was an immense improvement over the flat wick lamps. It had a hollow circular wick with oxygen flowing around and through the wick, producing a smokeless intense light with the power of seven candles. The lamp was inserted through a hole in the bottom of the parabolic reflector that had its own chimney. (Holland 14 caption under graphics)

The Argand lamp without the reflector was used for the Fresnel lens. Some of these lamps would have as many as four concentric wicks. Improvements to and design changes on this lamp were made by such inventors as George G Meade in 1853, Carcel, Lepaute, and Funck.. The Funck lamp was the most widely used. He worked at the central supply house of the Lighthouse Service. George Meade rose to the rank of general in the Civil War, commanding the Union forces at Gettysburg. (Holland 21, 22 caption under graphic, 23)

- ***Parabolic Reflector***

With its concave shape that resembles a bowl, the function of this reflector is to take all the rays, both horizontal and vertical, that hit the highly polished (silvered glass or metal coated with silver) surface of the "bowl" and reflect them in one direction while attempting to reduce the vertical light in order to create a horizontal focal plane of light. The brightness of the horizontal plane of light was weakened because the reflector absorbed half the brightness before reflecting the light. Whereas, the Fresnel lens only absorbed one-tenth of the light. (Talbot 28-30)

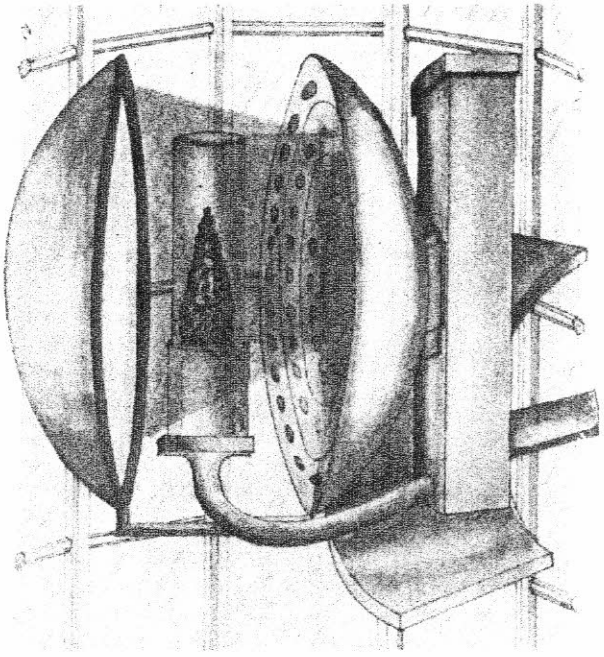


Photo courtesy of U.S. Coast Guard Historian's Office, Washington , D.C.

Winslow Lewis lamp with reflectors and round wick.

- ***The Winslow Lewis Lamp and Reflectors***

Demonstrating his lamp at Boston Light, Lewis proved that his lamp consumed about half as much oil as the older lamps. Problems: his lens contained a greenish tint, thus actually decreasing the amount of light. The thin reflectors would eventually bend out of shape from the heat of the lamp. Moreover, the reflectors had a thin coating of silver that ultimately wore off from polishing with the abrasive tripoli powder that was supplied by the Fifth Auditor. (Holland 15, 16, 21)

- ***Order of Lenses***

There was a time when the power of a light depended "on the focal length of the lens, — that is, the distance from center of the light to the inner surface of the lens" (Putnam 193). The greater the distance, the more powerful the light. Thus "a first-order lens has thirty-six inches focal length or six feet total inside diameter" (Putnam 193). Since the power of a light no longer depends on the focal length of a lens, words *candela* and *candle power* followed by a number now describe the brightness of a light.

- ***Lenses for a Flashing Light Prior to the Use of a Flashing Device.***

According to Putnam, the number of flashes in a single revolution of a lens is governed by the number of panels in the lens and how fast the lens rotates (196). (See the bull's-eye Fresnel lens on the next page.)

- ***The Fresnel Lens***

With its intricate glass mirrors and prisms, the Fresnel lens, when compared to the Lewis lamp, produced a beam of light that was several times more powerful. Nevertheless, although Augustine Fresnel, a Frenchman, invented his lens in 1822, the Fifth Auditor would not purchase them. However, the Lighthouse Board, which replaced the Fifth Auditor in 1852, started to import these lenses from France.

By the beginning of the Civil War (1861), every lighthouse in the United States had a Fresnel lens (Holland 21, under "Adoption of Fresnel Lens," Rhein 161).

According to the Johnson, the

> . . . adoption of the lenticular apparatus [Fresnel lens] made it possible for a lightkeeper of average capacity to keep a good light, and impossible to keep a bad one unless by violation of plain rules and avoidance of routine duties. (50)

In 1889, the cost of a Fresnel lens of the first order was $4,250-$8,400; the fourth order, $350-$1,230; the fifth order, $230-$840 (Johnson 52).

First-order lenses, measuring as much as 12 feet tall and 6 feet wide, were shipped unassembled and had to be assembled in the lantern room of a lighthouse (Lens measurements from Holland 20 caption under graphics). Weight: 12,800 pounds (Noble 24).

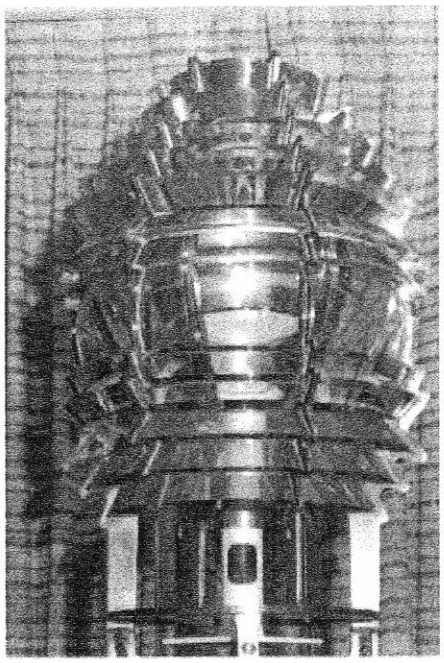


Photo courtesy of U.S. Coast Guard Historian's Office, Washington , D.C

Fifth order Fresnel lens used for a fixed light.

2. Fuel for Lamps

An interesting bit of trivia: In Dutch the word for *lighthouse* is *vuurtoren.* Translation: *firetower.*

- ***Wood fires***
- ***Coal fires***
- ***Regular whale oil***— two types: thin for summer and thick for winter. During really cold weather, a stove located in some lantern rooms heated the oil to make it thin enough to burn properly .
- ***Sperm Whale oil*** was used later on because it burned evenly and produced a bright light.
- ***Colza oil*** was made from the seeds found in wild cabbages. When sperm oil became too expensive in 1855, the Lighthouse Board tried this oil because it was used extensively in France. This oil burned well with very little charring of the wick.
- ***Lard oil,*** when heated to a temperature high enough, would burn well. It was used in all of the larger lamps by 1867.
- ***Mineral oil (kerosene),*** after passing tests in 1878, was first tried in the fourth-order and smaller lenses. Since kerosene performed well, it was then used in other lenses all the way up to those of the first-order.
- ***Oil incandescent vapor.*** Kerosene that is forced into a vaporizer chamber turns into vapor as it hits the hot walls of the chanber. After passing through several small holes, the vapor, a gas, goes to a small meshwork hood made of a noncombustible substance which, when placed over a lantern flame, gives

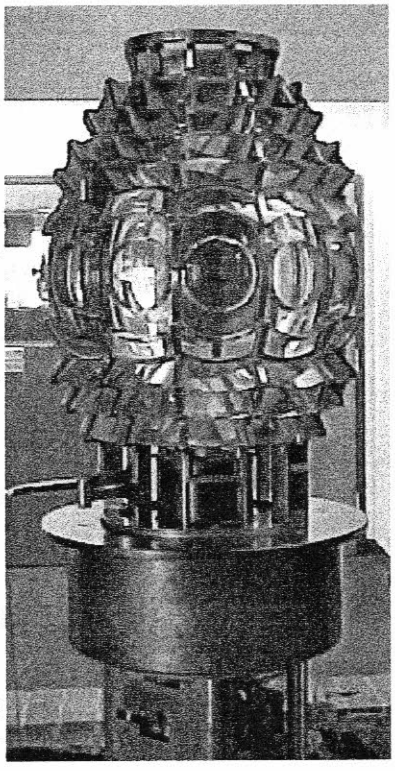


Photo by Nicholus E.Johnston, USCG (Retired) Reprinted by permission.

Fourth order Fresnel bull's-eye lens on a rotating platform would be used to produce the characteristics of a light with a flash or patterned sequence such as an isophase.

off a brilliant incandescent light. All of this is achieved without any increase in kerosene consumption. This was the last of the oil lamps. (All of the above "fuel" information from Holland 13, 23)

- ***Compressed acetylene gas*** . . . a colorless, odorless, flammable gas. Acetylene burns in air with a hot and brilliant flame. It was formerly used as an illuminant and is now mainly used in the oxyacetylene torch. (See page 14 for more information.)
- ***Electric light lamps*** include incandescent and halogen lamps (bulbs).

3. 1852—The Advent of the Lighthouse Board

- ***Qualifications of Keepers***

Prior to 1852, many keepers were not too conscientious about doing their job. The only set of instruction given to lighthouse keepers was a one-page "INSTRUCTIONS TO THE KEEPERS OF LIGHT HOUSES WITHIN THE UNITED STATES" issued by Pleasonton in 1835 ("Instructions to Light-Keepers," National Parks Service website).

However, that changed with the advent of the Lighthouse Board. For example: On May 30, 1859, the lighthouse inspector for the Second Lighthouse District sent C.B.H. Fessenden, Superintendent of Lights, New Bedford, Massachusetts, 6 books entitled *Instructions and Directions to Light House and Vessel Keepers* to the following light stations: Cuttyhunk, Dumpling Rock, Clark's Point, Palmers Island, Ned's Point and Bird Island ("Lighthouse" box of files, New Bedford Free Public Library Archives Room). Larnet Hall Jr. was the keeper of the Ned's Point Light Station at that time.

No real qualifications for or training of lighthouse keepers existed. Moreover, since the collectors of customs were customarily political appointees, they would usually appoint keepers with the same political affiliation. Some politicians in office would make sure their friends were rewarded with keeper appointments. Thus many keepers would lose their job when new politicians took office (Noble 87).

- ***A Big Change:*** **The Civil Service Reform Acts of 1871 and 1883**

Although the Lighthouse Board attempted to take politics out of the lighthouse service, the situation did not really change until the Civil Service Reform Acts of 1871 and 1883 led the way to President Cleveland's Executive Order of May 6, 1896. On that date, the lighthouse keepers' jobs were classified as civil service positions (Noble 87 citing Holland 44). According to Adamson, the Civil Service Act ended the practice of issuing the "Extinguished Service Check," a form about the size of blank check having the signature of the local collector of revenue (28). It was not unusual for the bearer of this "check" to arrive unannounced at a post with wife, children, baggage, and furniture ready to take over as keeper of the light (Adamson 28).

Another result of the Executive Order of May 6, 1896: The keepers had to be no less than eighteen years old and able to read. Also, publications such as *Instructions and Directions to Guide Light-house Keepers and Others Belonging to the Light-House Establishment* were sent to all lighthouses (Noble 88 citing Holland 44-45).

- ***Uniforms***

1885 — The Lighthouse Board issued uniforms to male lighthouse keepers and officers of lightships and lighthouse tenders (Noble 88 citing Wheeler 11). (See page 9 for more particulars.)

- ***Some Tasks***

The keepers had to perform such tasks as trimming wicks, polishing and cleaning copper and brass fixtures and lamps, and painting some lighthouses. It was recommended that they wear a linen apron when cleaning and polishing the lens so that the keeper's clothing would not scratch the lens. Also, when the light was not in operation, the keeper had to draw curtains across the lantern room windows to protect the lens. (Noble 90 citing U.S. Lighthouse Board 8)

- ***Lighthouse Libraries***

In 1876, libraries of forty to fifty books and magazines covering such subjects as history, science and literature were circulated to lighthouses and replenished when the quarterly inspection took place (Noble 98 citing Noble and O'Brien 11).

- ***Buoys***

The Lighthouse Board not only created what is now known as the Lateral System but also developed better buoys. (For more information, see Marshal website.)

4. 1910—The Advent of the Lighthouse Service, also known as the Bureau of Lighthouses

Quoted from the Coast Guard Historian's website.

> By 1910, Congress discontinued the Lighthouse Board and created the Lighthouse Service [also known as the Bureau of Lighthouses]. The new agency was under the control of the secretary of commerce. The first Commissioner of Lighthouses was George Putnam. Putnam was the first and, very nearly, the last commissioner of the Lighthouse Service. His tenure extended from the service's inception until his retirement in 1935.
>
> Putnam did more for the cause of navigational aids and their maintenance than any other individual. He continued the Lighthouse Board's policy of experimentation and encouragement of new buoy designs. He also convinced Congress to allocate money for Lighthouse Service vessels and crusaded for his employees.
>
> Under Putnam the most important advances in long-range aids took place. The United States led the way with the new technology - the radio beacon. The advent of radio-beacon technology made buoys, lightships and lighthouses "visible" from significantly greater distances. No longer did a mariner have to physically see a buoy. The radio beacon made it possible for vessels equipped with a radio direction finder [RDF] to take a bearing up to 70 miles from a navigational aid and, once identified, set a course relative to the aid. (Marshall website)

According to Adamson, it took nine years for George Putnam and a lot of public support to push an importent bill through Congress, a bill that rewarded veteran keepers with a pension (30).

5. 1939—The Coast Guard to the Rescue

According to Adamson, by placing the lighthouses and all aids to navigation in the hands of the Coast Guard, President Franklin Delano Roosevelt did away with the Lighthouse Service. Unlike the past transfers of lighthouses and aids to navigation from one managerial office or government department to another, this change put everything in the hands of a branch of the armed forces. Those holdover employees of the Light House Service now found themselves civilians in a military organization. (31)

However, the Coast Guard proved to be an understanding and sympathetic manager, thus reducing the fears and apprehensions of those employees who wanted to remain. Some people remained as civilians while others chose to enlist or receive commissions in the Coast Guard. Those who later wanted to resign were permitted to do so under the Coast Guard Retirement Law. Actually, these people received better retirement benefits than those of the old Lighthouse Service. (Adamson 31)

The Coast Guard found it had inherited a deteriorating system of aids to navigation. After years of neglect caused by make-do and overly frugal managers, the Coast Guard had the chore of rehabilitating lighthouses, keepers' dwellings and living conditions, lightships and buoys. (Adamson 31)

SUMMARY OF LIGHTHOUSE SUPERVISION

1789 — The Lighthouse Establishment was created and placed under the control of the Treasury Department. Alexander Hamilton, the first secretary of the treasury, oversaw the operation. He was succeeded Albert Gallatin.

1820 — Stephen Pleasonton, Fifth Auditor, Treasury Department, was given the responsibility of all lighthouses.

1852 — The Lighthouse Board was created to handle the lighthouses.

1910— The Bureau of Lighthouses, also known as the ***Lighthouse Service***, was created and placed under the control of the Secretary of Commerce.

[Note: The surveyor's two stone markers at Ned's Point Lighthouse read "USLHS" for U.S. Light-House Service. The word *lighthouse* was hyphenated or two words at different times.]

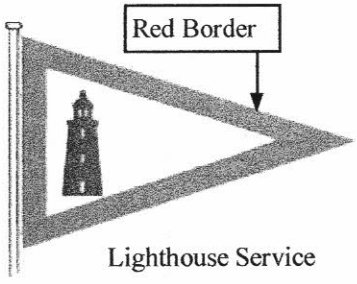
1939—U.S. Coast Guard, by order of President Roosevelt, became responsible for lighthouses.
(Coast Guard Historian website: http://www.uscg.mil/hq/g-cp/history/h_USLHSchron.html)
and
(Coast Guard Historian website: http://www.uscg.mil/hq/g-cp/history/LHevolution.html)

Job Performance Incentive in 1912

The following information came from a U.S. Coast Guard Historian's web page:
http://www.uscg.mil/hq/g-cp/history/h_uslhschron.html

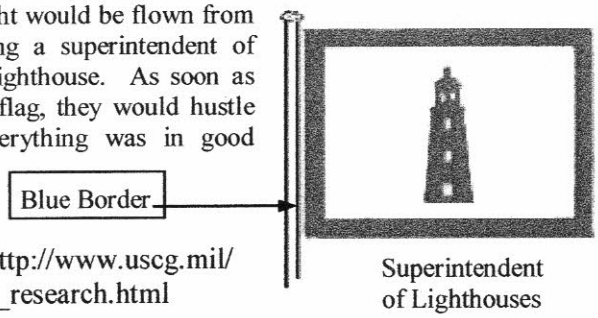
To promote better job performance and a friendly rivalry between lighthouse keepers, a system of efficiency stars and pennants was established during Fiscal Year 1912.

Keepers who have been commended for efficiency at each quarterly inspection during the year are entitled to wear the inspector's star for the next year, and those who receive the inspectors star for three successive years will be entitled to wear the Commissioner's star. The efficiency pennant, being the regular lighthouse pennant, is awarded to the station in each district showing the highest efficiency for a year, and may be flown during the succeeding year. (USLHS AR 1912, pp. 7-8)



Lighthouse Service

The flag to the right would be flown from a craft transporting a superintendent of lighthouses to a lighthouse. As soon as keepers saws the flag, they would hustle to make sure everything was in good shape.



Superintendent of Lighthouses

From Coast Guard website: http://www.uscg.mil/hq/g-cp/history/Lighthouse_research.html

Glossary of Terms

American Coast Pilot and ***Coast Pilot***

In the early years, private concerns published the *American Coast Pilot*, a publication that gave the mariner directions on how to navigate from point A to point B in certain bodies of water and what aids to navigation to look for in the process. Most of these publications included the characteristics and sometimes pictures of some of the prominent aids to navigation, especially lighthouses.

In later years, the National Oceanic and Atmospheric Administration published the *Coast Pilot*. Since the current *Coast Pilot* does not have the location or characteristics of aids to navigation, the mariner would have to refer to the latest edition of a chart or the *Light List* for that information.

Argand Lamp . . . the lamp developed by Armi Argand in 1781.

Bull's-eye Lens . . . the convex lens sections used on rotating lenses to produce a flash. The flash that the mariner saw would be produced each time a bull's-eye panel passed in front of the lamp.

Candela . . . a more recent name for *candlepower*, a measure of how brightly an illuminant shines.

Cantilever . . . a structural part that is fixed on one end while the other projects into space.

Characteristics of an aid to navigation. (See "Light List.")

Charts and **Maps: Distance and Speed**

- Charts are used for marine and air navigation.
  Distance: Nautical miles
  (one nautical mile is 6076.1 feet.)
  Speed: Knots
- Maps are used for land travel.
  Distance: Statute mile
  (one statute mile is 5280 feet.)
  Speed: Miles per hour

Elevation . . . the height of the optic or illuminant above sea level.

Filament . . . a fine metal wire in a light bulb which becomes incandescent when heated by an electric current.

Flashing Light . . . a light in which the total duration of light in each period is clearly shorter than the total duration of darkness and in which the flashes of light are all of equal duration. (Commonly used for a single-flashing light which exhibits only single flashes which are repeated at regular intervals.)

Focal Plane . . . of an aid to navigation is a level horizontal "line" of light created by light passing through the principal focus of a lens. The focal plane for Ned's Point Light is 41 feet above mean high water. With this information, mariners who use a sextant and trigonometry can determine their distance from the lighthouse.

Fresnel Lens . . . the very effective lens invented by Augustine Fresnel in 1822.

Global Positioning System (GPS) . . . a GPS receiver decodes a satellite's coded signal to calculate the receiver's position on the earth.

Incandescent . . . a very bright or high intensity light.

Incandescent lamp . . . a lamp in which the light is produced by a filament of conducting material contained in a vacuum and heated to incandescence (very hot or high degree of brightness) by an electric current.

Isophase (Up-to date definition is from "Light Characteristics . . ." Section E, p.3)

Equal interval lights are now termed *Isophase* and abbreviated *Iso* with the period shown. *Period* is defined as the interval of time between the commencement of the identical aspect or phase in two successive cycles of a rhythmic light. [Italics mine.] The period of an Isophase light is from the beginning of one flash to the beginning of the next flash. E. Int. R. 6s, a red light with a 3 second light phase and a 3 second eclipse phase, for period of 6 seconds, is now referred to as Iso R. 6s.

Lantern (1) . . . the whole assembly of lamps, changer, flasher and lens.

Lantern (2) . . . the structure housing the light on top of the lighthouse tower.

- **Birdcage shaped lantern** . . . the name given to a type of lantern shaped like a birdcage. (See cover.)
- **Octagonal shaped lantern** . . . the shape of the present lantern.

Lantern Balcony or **Deck . . .** the walkway around the outside of the lantern.

Lantern Room . . . the area inside the lantern containing the lamps and equipment.

Lamp . . . whatever produces the light: candle, oil burning wick, light bulb, and so on.

Latitude and **Longitude**

Latitude: the angular distance, measured in degrees, north or south from the equator.

Longitude: distance east or west on the earth's surface as measured from the prime meridian that passes through Greenwich, England.

Let's say that the mariner, wanting to know the boat's location in Buzzards Bay, can see Ned's Point Light and Cleveland Ledge Light. Using a compass, the mariner can determine the bearing relative to Ned's Point Light and draw the bearing line on the chart. The mariner can then take a compass bearing to Cleveland Ledge and draw that bearing line on the chart. The boat will be located where the two lines intersect.

Now the mariner uses the latitude scale at either side of the chart and the longitude scale at the bottom or top of the chart to determine the position of the boat in terms of coordinates of latitude and longitude. Mariners needing assistance give their location by citing such a coordinate, always giving the latitude first followed by longitude.

Lens . . . The purpose of a nautical lens is to concentrate light from a lamp into a beam or plane of light. See *Focal Plane.*

Light . . . the illuminant or a lighthouse.

***Light List* . . .** the annual Coast Guard publication that is broken down into seven volumes, each volume covering a specific broad area. For example, Ned's Point Light is listed in Volume 1, which covers the Atlantic coast from the St. Croix River in Maine to the Shrewsbury River in New Jersey.

This publication lists most of the aids to navigation, their location and characteristics. Each aid is given a number, a location (in coordinates of latitude and longitude), and its characteristics. The **characteristics** include such information as the

- Color of the aid. (For example, color of the lighthouse tower.)
- Height above mean high water of certain aids. (For example, the optic or focal plane of the lighthouse beacon.)
- Light characteristics of lighted aids: color (white, red, green or yellow) and type (fixed or the pattern of its on-off cycles, including the flash duration of a flashing light).
- Range in nautical miles of certain lights or beacons. The range depends on the candle power, color of the light, height of the optic or focal plane relative to mean high water, and weather.
- Fog horn, if present, as well as the pattern of its on-off cycle.
- Radar beacon and code, if present.

Light Station the lighthouse tower and any buildings belonging to it: fuel storage shed, fog-signaling structure, boat house, barn, wood shed, keeper's house and so on.

Parabolic Reflector . . . a reflector with a concave shape that resembles a bowl.

Radar . . . an electronic system designed to transmit radio signals and receive reflected images of those signals from a "target" in order to determine the bearing and distance to the "target."

Radar Beacon (RaCon) . . . produces a coded (usually Morse) response, or radar paint, when triggered by a radar signal.

Radio Beacon . . . electronic apparatus which transmits a radio signal (usually Morse code) for use in providing the mariner a line of position. They were phased out in 2000.

Radio Direction Finder (RDF) . . . an electronic device that can receive a radio beacon. The mariner turns the compass dial on the device until the signal comes in the strongest, thus give the mariner a line of position. With the phasing out of radio beacons, the RDF is no longer of much use to the mariner.

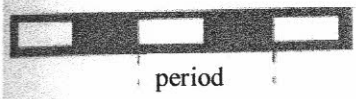
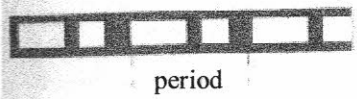
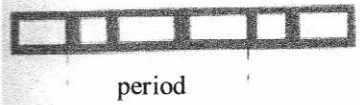
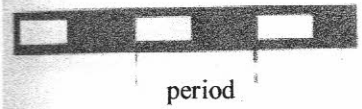
Solar Valve . . . produced in 1907 by Nils Gustaf Dalén, this sun valve, activated by daylight or darkness, turned the acetylene gas off and on in light buoys and some lighthouses.

Tower . . . the lighthouse structure on which the lantern sits.

Vapor Lamp - A device that turns fuel into vapor. After contacting the hot walls of a vaporizing chamber, the vapor then passes into a small meshwork hood made of a noncombustible substance where it burns with a very bright light.

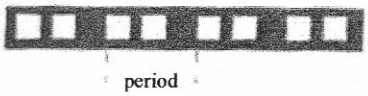
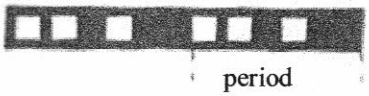
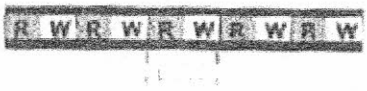
Winslow Lewis lamp and Reflectors . . . were developed in 1810. (See pages 24 and 25.)

CHARACTERISTICS OF LIGHTS

Illustration	Type Description	Abbreviation
	**1. Fixed** A light showing continuously and steady.	F
	2. Occulting. A light in which the total duration of light in a period is longer than the total duration of darkness and the intervals of darkness (eclipses) are usually of equal duration.	
	**2.1 Single-Occulting.** An occulting light in which an eclipse is regularly repeated.	Oc
	**2.2 Group-occulting.** An occulting light in which a group of eclipses, specified in numbers, is regularly repeated.	Oc (2)
	**2.3 Composite group-occulting.** A light, similar to a group-occulting light except that successive groups in a period have different numbers of eclipses.	Oc (2+1
	**3. Isophase.** A light in which all durations of light and darkness are equal.	Iso
	4. Flashing. A light in which the total duration of light in a period is shorter than the total duration of darkness and the appearances of light (flashes) are usually of equal duration.	
	**4.1 Single-flashing.** A flashing light in which a flash is regularly repeated (frequency not exceeding 30 flashes per minute).	Fl

(2000 *Light List* xiii)

CHARACTERISTICS OF LIGHTS (continued)

Illustration	Type Description	Abbreviation
	**4.2 Group-flashing.** A flashing light in which a group of flashes, specified in number, is regularly repeated.	Fl (2)
	**4.3 Composite group-flashing.** A light similar to a group flashing light except that successive groups in the period have different numbers of flashes.	Fl (2+1)
	5. Quick. A light in which flashes are produced at a rate of 60 flashes per minute.	
	**5.1 Continuous quick.** A quick light in which a flash is regularly repeated.	Q
	**5.2 Interrupted quick.** A quick light in which the sequence of flashes is interrupted by regularly repeated eclipses of constant and long duration.	IQ
	**6. MORSE CODE.** A light in which appearances of light of two clearly different durations (dots and dashes) are grouped to repeat a character or characters of Morse code.	Mo (A)
	**7. Fixed and flashing.** A light in which a fixed light is combined with a flashing light of higher luminous intensity.	FFl
 period	**8. ALTERNATING.** A light showing different colors alternately.	Al RW

(2000 *Light List* xiv)

GEOGRAPHIC RANGE TABLE (From 2000 *Light List* xxxii)

The following table gives the approximate geographic range of visibility which may be seen by an observer at sea level. It is necessary to add to the distance for the height of any object the distance corresponding to the height of the observer's eye above sea level.

Height Feet/Meters	Distance Nautical Miles (NM)	Height Feet/Meters	Distance Nautical Miles (NM)	Height Feet/Meters	Distance Nautical Miles (NM)
5/1.5	2.6	70/21.3	9.8	250/76.2	18.5
10/3.1	3.7	75/22.9	10.1	300/91.4	20.3
15/4.6	4.5	80/24.4	10.5	350/106.7	21.9
20/6.1	5.2	85/25.9	10.8	400/121.9	23.4
25/7.6	5.9	90/27.4	11.1	450/137.2	24.8
30/9.1	6.4	95/29.0	11.4	500/152.4	26.2
35/10.7	6.9	100/30.5	11.7	550/167.6	27.4
40/12.2	7.4	110/33.5	12.3	600/182.9	28.7
45/13.7	7.8	120./36.6	12.8	650/198.1	29.8
50/15.2	8.3	130/39.6	13.3	700/213.4	31.0
55/16.8	8.7	140/42.7	13.8	800/243.8	33.1
60/18.3	9.1	150/45.7	14.3	900/274.3	35.1
65/19.8	9.4	200/61.0	16.5	1000/304.8	37.0

Example: Determine the geographic visibility of an object, with a height above the water of 65 feet, for an observer with a height of eye of 35 feet. Enter the above table:

Height of object .....65 feet = 9.4 NM
Height [of eye] of observer .....35 feet = 6.9 NM
16.3 NM

(Authors' notations:)

CALCULATING THE GEOGRAPHIC RANGE OF A LIGHT:

Using the above tables, let's calculate the geographic range for Ned's Point Light on a clear night.

Focal Plane: 41 feet above mean high tide = 7.48 nautical miles

Eye-level height of observer: 15 feet above water = 4.5 nautical miles

Total distance of geographic visibility: 11.98 (Rounded off, it is 12 nautical miles.)

What makes this interesting is the range of 11.9 nautical miles listed on the 1860 chart. (See page 13.)
Why the difference? Perhaps the geographical tables were just a little bit different. The ones used in 1889 (Johnson 53) are slightly different from the above 2000 *Light List*.

If you stand with your feet at sea level and your eye level is 5.1 feet, the horizon will be 2.6 nautical miles away.

ACKNOWLEDEGEMENTS

AGA, Gas, Inc. (American and Swedish offices)
Independence, Ohio
Picture of Nils Gustaf Dalén's sun valve and graphic of a buoy lamp with location of flasher.

Automatic Power, Inc.
Houston, Texas
Graphics and text for 250mm Marine Lantern.

Tina V. Furtado, Archivist
Keepers 1843-1859 and "Lighthouse" file box.
Paul Cyr, Genealogy Room
Leads to some microfilmed newspaper articles.
Librarians in the Microfilm Archives
New Bedford Free Public Library
New Bedford, Mass.

William Faucon, Curator of Manuscripts
Boston Public Library:
American Coast Pilot 1863 and 1867.

Henry J. Gwiazda, Ph.D.
National Archives
Maps and Plans Group
Special Media Archives Services Division:
Copies of tower and house plans.

Janet Lexan, Reference, Special Collections
Kittredge Maritime Collection
Sturgis Library
Barnstable, Mass.
American Coast Pilot 1885.

Mary Jean Blasdale, Collections Manager
Laura Pereira, Library Assistant, Old Dartmouth Historical Society-New Bedford Whaling Museum
American Coast Pilot 1863,
Light List 1894 and 1940,
1889 and 1952 plot plans of Ned's Point Light Station.

Seth Mendell, President
Betty Roberts, Curator
Mattapoisett Historical Society, Inc.:
photos and clippings

Mary Sicchio, Special Collections Librarian,
Nickerson Room
Cape Cod Community College:
Light keepers at Ned's Point
American Coast Pilot 1854.

Florrie Smith
Mattapoisett Historical Commission:
Charts 1860 and 1936.

John Theriault, Senior Consultant
Dove Consulting
Editorial and layout suggestions

Betsy Tyler, Great Hall Librarian
The Nantucket Atheneum:
American Coast Pilot 1847 and 1887

Judith Wallace, Library Director
Jan Besse, Children's and Young Adult Services
Mattapoisett Free Public Library:
1838 photo
Facilitation of interlibrary loan materials

U.S. Coast Guard Personnel as Assigned in 2001

Robert M. Browning Jr.
Coast Guard Historian
Photos and recommendations.

CAPT Larry Jaeger, Seventh CG District (oan)
[Officer in Charge of Aids to Navigation]
Technical information about the "flasher" that controls the flash pattern of the light, introduction to CWO Cocking, and the website for Automatic Power Inc.

Chief Warrant Officer Joseph Cocking
Group Miami Aids to Navigation Team [ANT]
Miami, Florida
Information re: the Nils Gustaf Dalén's sun valve and leads to other information.

Chief Petty Office Sheila Lucey
Aids to Navigation Team,
Coast Guard Station,
Woods Hole, Mass.
Current information and numerous inquiries.

Nicholus E. Johnston, USCG (Retired)
Fresnel lens expert
Photo of fourth order Fresnel with bull's-eye lens.

U.S. Coast Guard Auxiliary

Mary-Alice Chasse, Educator (Flotilla 67)
Layout suggestions

Marguerite Sullivan, Accountant (Flotilla 67)
For close proofreading and editorial comments.

Renelle LeBlanc, Educator (Flotilla 67)
Light List 2000

Fred Boothman, Retired
Licensed Pilot (Flotilla 67)
Information about generating acetylene gas.

BIBLIOGRAPHY OF SOURCES

Adamson, Hans Christian. *Keepers of the Lights*. A Corwin Book. New York: Greenburg, 1955.

Blunt, Edmund. *American Coast Pilot*. 15th ed. New York: Edmund and George Blunt, 1847.

_____. *American Coast Pilot*. 17th ed. New York: Edmund and George Blunt, 1854.

_____. *American Coast Pilot*. 19th ed. New York: Edmund and George Blunt, 1863.

Clifford, J. Candace and Mary Louise Clifford, *Nineteenth-Century Lights: Historic Images of American Lighthouses*. Alexandria, Virginia: Cypress Communications, 2000.

Gleason, Sarah C. *Kindly Lights: A History of Lighthouses of Southern New England*. Boston: Beacon Press, 1991.

Heap, Major D. P., Corps of Engineers, United States Army. *Ancient and Modern Light-Houses*. Boston: Ticknor and Company, 1889.

Holland, F. Ross, Jr. *America's Lighthouses: An Illustrated History*. Mineola, New York: Dover Publications, 1988. (Previously published by Stephen Greene Press of Brattleboro, Vermont., 1972)

Johnson, Arnold Burges, Chief Clerk, United States Light-House Board. *The Modern Light-House Service*. Washington [D.C.]: Government Printing Office, 1889.

Noble, Dennis L. *Lighthouses & Keepers: The U.S. Lighthouse Service and its Legacy*. Annapolis, Maryland: Naval Institute Press. 1997 .

_____ and T. Michael O'Brien. *Sentinels of the Rocks: From "Graveyard Coast" to National Lakeshore*. Marquette: Northern Michigan University Press, 1979.

Pratt, Wm. A. *American Coast Pilot*. Hartford: Press of the Case, Lockwood & Brainard Co., 1885.

_____. *American Coast Pilot*. Hartford: Press of the Case, Lockwood & Brainard Co., 1887.

Putnam, George R. *Lighthouses and Lightships of the United States*. Boston and New York: Houghton Mifflin Company. The Riverside Press Cambridge, 1917.

Rhein, Michael J. *Anatomy of the Lighthouse*. New York: Barnes & Noble Books, 2000.

Shanks, Ralph C. and Lisa Woo Shanks (eds.). *Guardians of the Golden Gate: Lighthouses and Lifeboat Stations of San Francisco Bay*. Petaluma, California: Costano Books, 1990.

Snow, Edward Rowe. *Famous New England Lighthouses*. Boston: Yankee Publishing Co., 1945.

Stebbins, N.L. *The Illustrated Coast Pilot. With Sailing Directions. The Atlantic and Gulf Coasts of the United States, including Bays and Harbors*. New York: The Rudder Publishing Co., 1902.

Talbot, Frederick A. *Lightships and Lighthouses*. London: William Heinemann, 1913.

Wood, Edward F. R. Jr. *Old Mattapoisett, Summer Portrait*, Quadequina Publishers, Mattapoisett, Massachusetts, 1995.

_____. *Sailing Days at Mattapoisett 1870-1960*. New Bedford, Mass.: Reynolds Printing, Inc., 1961.

Government Publications

Johnson, Arnold Burges. *The Modern Light-House Service.* Washington, D.C.: U.S. Government Printing Office, 1890

Laws of the United States Related to the Establishment, Support, and Management of Light-Houses, Light-Vessels, Monuments, Beacons, Spindles, Buoys, and Public Piers of the United States from August 7, 1789 to March 3, 1855. Compiled by Order of the Light-House Board, June 30, 1855. Washington, D. C.: A.O.P. Nicholson, Public Printer. 1855.

"Light Characteristics and Abbreviations for Aids to Navigation," *Local Notice to Mariners*, Special Edition (biennial), August 2001, Section E, p.3. "Internet Resources," *Local Notice to Mariners*, Special Edition (biennial), August 2001, Section G, p.7.

Annual Lighthouse Reports and *My Daily Journal for the Last Quarter.* "Lighthouse" box of files. New Bedford Free Public Library Archives Room.

Light List. Atlantic Coast of the United States, Northern Part. Washington D.C.: Government Printing Office, 1940.

_____. 7 vols. Vol. 1: *Atlantic Coast.* 2000 Edition. **COMDTPUB P16502.1**. Washington, D.C.: Government Printing Office, 2000

List of Lights and Fog Signals on the Atlantic Coast of the United States. Washington, D.C.: Government Printing Office, 1894.

Registers of Lighthouse Keepers: 1845-1912. Roll 1: New England. Record Group 26, Records of the United States Coast Guard. National Archives Microfilm Publications, Microfilm Publication M1373.

U.S. Lighthouse Board. *Instructions to Light-Keepers,* Washington, D.C.: U.S. Government Printing Office, 1902), 27; U.S. Lighthouse Board, *General Orders.* Washington, D.C.: U.S. Government Printing Office, 1870, 8 (See: National Parks website listed below.)

Newspaper Articles

"Light Keeper Clings to Home as It Is Floated Across Bay," *The Evening Standard*, Thursday, June 28, 1923, 1. New Bedford Free Public Library Microfilm Room.

"Mattapoisett Celebrates 250 Years," *Sunday Standard*, August 4, 1957, 22 and Rotogravure Section, 1. New Bedford Free Public Library Microfilm Room.

New Bedford *Mercury*, August 7, 1837, 2:3. New Bedford, Mass.: New Bedford Free Public Library: Microfilm Room.

_____, March 16, 1838, 1:6. New Bedford, Mass.: New Bedford Free Public Library: Microfilm Room.

Periodical Articles

Updike, Richard W. "Winslow Lewis and the Lighthouses," *American Neptune.* 28, No.1 (January 1968): 31-48.

Wheeler, Wayne. "The Keeper's New Clothes," *Keeper's Log* (Summer 1985): 10-13.

Websites

AGA 1 (Gas Co.): **http://www.aga.com/web/web2000/com/WPPcom.nsf/Pages/History_sunvalve?opendocument**

AGA 2 (Gas Co.): **http://www.aga.com/history**

Automatic Power Inc.: **http://mail.automaticpower.com/products.html**

Browning, Dr. Robert, Historian compiler, "Lighthouse Evolutions & Typology," U.S. Coast Guard website: **http://www.uscg.mil/hq/g-cp/history/LHevolution.html**

"Instructions to Light-Keepers," Lighthouse Keepers in the Nineteenth Century, National Parks website: **http://www.cr.nps.gov/maritime/keep/keep19th.htm** with credits to Clifford.

Linde: **http://www.linde-gas.com/en/p0202/p0202.jsp**

Marshall, Amy K. Historian. "A History of Buoys and Tenders," U.S. Coast Guard website: **http://www.uscg.mil/hq/g-cp/history/h_bouys.html**

New England Lighthouses, A Virtual Guide: **http://www.lighthouse.cc/nedspoint/history.html.**

Strobridge, Truman R., Former U.S. Coast Guard Historian. "Chronology of Aids to Navigation and the United States Lighthouse Service 1716-1939." U.S. Coast Guard website: **http://www.uscg.mil/hq/g-cp/history/h_uslhschron.html**

Unpublished Sources

Braley, Hannay. "Annual Report for 1846." Ned's Point Lighthouse file, Lighthouse box of files. New Bedford Free Public Library Archives Room, New Bedford Massachusetts.

_____. 1848 letter to Joseph Adams, Superintendent of Lighthouses. Ned's Point Lighthouse file, Lighthouse box of files. New Bedford Free Public Library Archives Room, New Bedford Massachusetts.

Braley, George. "Copy of My Daily Journal for the Last Quarter" 1843. New Bedford Free Public Library Archives Room.

Carpenter, Lieutenant Edward W., USN. Report in *Lighthouse Papers*, p. 195 cited by J. Candace Clifford and Mary Louise Clifford, *Nineteenth-Century Lights: Historic Images of American Lighthouses*, Cypress Communications, Alexandria, VA, 2000.

Cocking, Chief Warrant Officer Joseph, U.S.C.G. E-mail to the author.

Deed transferring Ned's Point land to U.S. Government. Plymouth County Registry of Deeds

Form F— Recorded by Priscilla A. Hathaway, 1973. Mattapoisett Historical Commission Document.

Jaeger, Captain Larry, U.S.C.G. Seventh District (oan). E-mail to the author.

Hall, Larnet Jr. "Annual Report for 1849." Ned's Point Lighthouse file, Lighthouse box of files. New Bedford Free Public Library Archives Room, New Bedford Massachusetts.

Mendell, Charles. "Ned's Point Lighthouse." no date. Mattapoisett Historical Society.

Trenchard, Steve. Letter to the authors. Automatic Power Inc., Pharos Marine, Houston, Texas. Feb. 15, 2002.

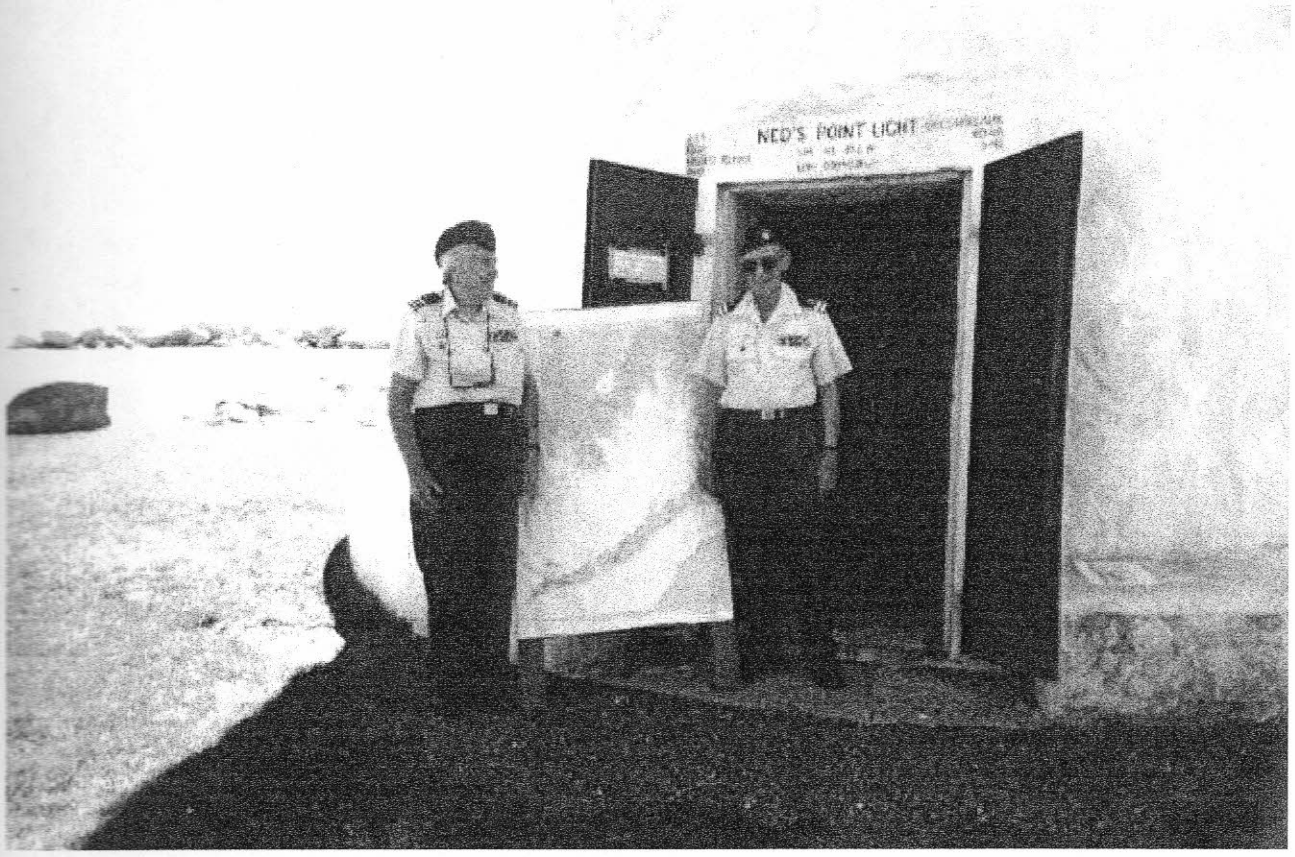
Other websites

Lighthouse Links on the Web: **http://www.maine.com/lights/links.htm#research**

National Parks Service: **http://www.cr.nps.gov/maritime/**

Coast Guard Web Page with Multiple Links: **http://www.uscg.mil/hq/g-cp/history/collect.html**

Keeper's Pennent and Superintendent's Flag: http://www.uscg.mil/hq/g-cp/history/Lighthouse_research.html



About the Authors

Betty and Bert Theriault, active members of the Coast Guard Auxiliary since 1975, have been giving free tours of Ned's Point Lighthouse since 1993, when Flotilla 67 first adopted the lighthouse.

The book is really an attempt to answer the many questions that visitors to the lighthouse have had over the years. As you look over the "Acknowledgements," you will realize that a lot of the information came from such wonderful sources as the Plymouth County Registry of Deeds, archives of several libraries, files in historical societies, microfilm in the National Archives, U.S. Coast Guard personnel as well as the many available publications and internet sources.

If anyone has information about Ned's Point Lighthouse and its keepers, please e-mail us at nedspointlight@attbi.com We would very much like to hear from you.