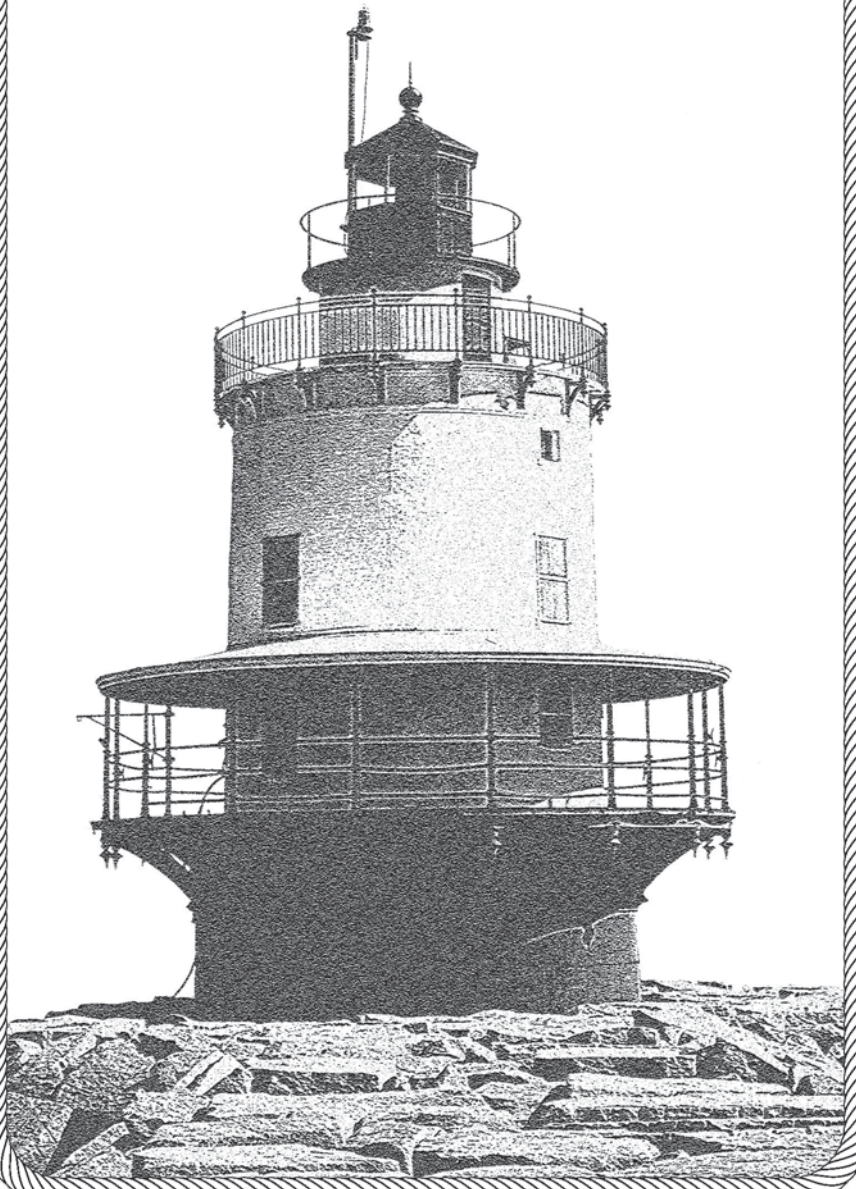
Spring Point Ledge Lighthouse & Fog Signal Station

A Brief History



Spring Point Ledge Light & Fog Signal Station

Established 1897

A Brief History Compiled by Rusty Nelson

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Spring Point Ledge Light Station is listed on the National Register of Historic Places and has been surveyed and listed by the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER).

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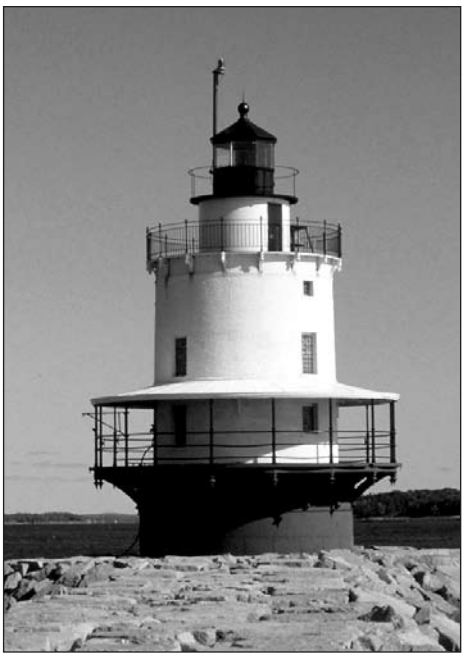
This publication was funded by a grant from the U.S. Lighthouse Society.
www.USLHS.org



A typical scene in Portland Harbor in 1911. The lighthouse keepers are in the station dory at the base of the ladder. That both of them were in it at the same time is questionable. However this glass plate negative was taken for use in a post card and was probably posed, as was often the case. Or maybe they were just going to do a little local fishing! On the left a fishing sloop is on the way out into the Gulf of Maine while Pilot Boat #2 is headed out to pick up an incoming vessel. In the right background the Peaks Island steam ferry of Casco Bay Lines is headed into Portland. Note the two sets of davits which allowed the keeper to always have a lee and associated rigging on the tower. There were times when two dories were in use at this lighthouse, although one may have been the personal property of a keeper. Photo from the Library of Congress via the U. S. Lighthouse Society.

Spring Point Ledge Lighthouse was constructed to mark a dangerous ledge which is now covered by the breakwater. Numerous ships had struck the ledge which extended into the main shipping channel. Vessels running onto ledge often floated off at high tide. But not always: in 1832, the schooner *Nancy,* loaded with lime, ran onto the ledge hard enough to split her hull. Lime ignites when wet, so she burned to the waterline with only her sails and rigging saved.

In response, a large spar buoy was anchored to the end of the ledge. However, it did not survive the winters, and vessels continued to hit the ledge: *Mazatlan, Seguin, Solomon Poole, Smith Tuttle* and others. The most spectacular was the bark *Harriet S. Jackson.* Running for shelter in the great gale March 20–21, 1876 she ran onto the ledge. Steam tugs managed to drag her off rocks.



In 1891 seven steamship lines carrying a 500,000 people past Spring Point petitioned the Lighthouse Board in Washington, DC for a lighthouse. And local shipowners had petitioned the Lighthouse Board for many years before funds were made available for construction.

Finally, in 1891, the shipowners enjoyed success and the Lighthouse Board presented a formal request to Congress to build a fifth-order Lighthouse for an estimated $45,000. The request was denied, but repeated requests finally bore fruit in 1895 when an initial amount of $20,000 was authorized to begin construction. Fifteen months later the remaining $25,000 was made available.

Construction Begins

Thomas Dwyer of New York City received the contract from the Lighthouse Board to build a cast iron caisson lighthouse of standard design. During this period of time, the Lighthouse Board was heavily into cast iron construction, and probably chose a New York City contractor because of his experience. Such experience would likely have allowed him to submit the lowest bid, beating out any local firms which might have competed.

Construction started August 2, 1896 with divers assembling the cast iron caisson plates underwater. The work went smoothly until a storm on September 6th deformed many of the $1\frac{1}{8}$-inch iron plates already in place. The damage was estimated at $5,000. Of equal importance was the time lost obtaining new iron plates from the rolling mill in Pennsylvania, which took nearly a month, bringing the December completion date into question.

Work resumed in October and continued at a steady pace. The structure broke above water October 2. During October the caisson was completed, filled with cement, and cast iron work finished

In early November government inspectors halted the job due to disagreement over the type of cement used to fill the foundation. This argument might have been brought about by the contractor allowing for excessively large cisterns in the concrete base, thus saving what amounted to many cubic yards of cement! Construction again stood still for three weeks but the name-calling and finger-pointing did not. In the end, the contractor won out and was allowed to continue. (Whatever the problem was, the cement in question has lasted for well over a century!)

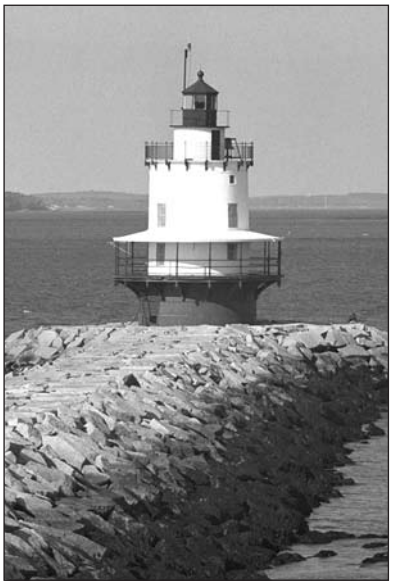
By March of 1897, the tower was complete and painted. The Fresnel lens and lamp apparatus were installed in April, but bureaucratic formalities took several additional weeks. Finally Keeper William A. Lane lit the kerosene lamp for the first time on May 24, 1897. Kerosene remained the source of illumination until the light was electrified in 1934.

Although Spring Point Ledge Lighthouse it is basically a standard design similar to many other caisson lighthouses, it is different in several respects. The three floors above the caisson are double-wall brick, most lighthouses of this type are cast iron throughout with brick lining. In addition, the first floor, used as a cellar for storage of tools and fuel, is actually within the cast iron caisson below the gallery. This makes the structure appear shorter than other similar towers. However, the caisson (at a total of 40 feet in height) is built higher than average, putting the focal plane at a height of 54 feet. One reason is the relatively large difference of 10-11 feet between high and low tide.

Another unusual facet of the lighthouse is the fact that it is one of the very few lights of this type you can walk around. Nearly all other caisson lights are fully surrounded by water, but the breakwater permits Spring Point Ledge Lighthouse to welcome thousands of pedestrians every

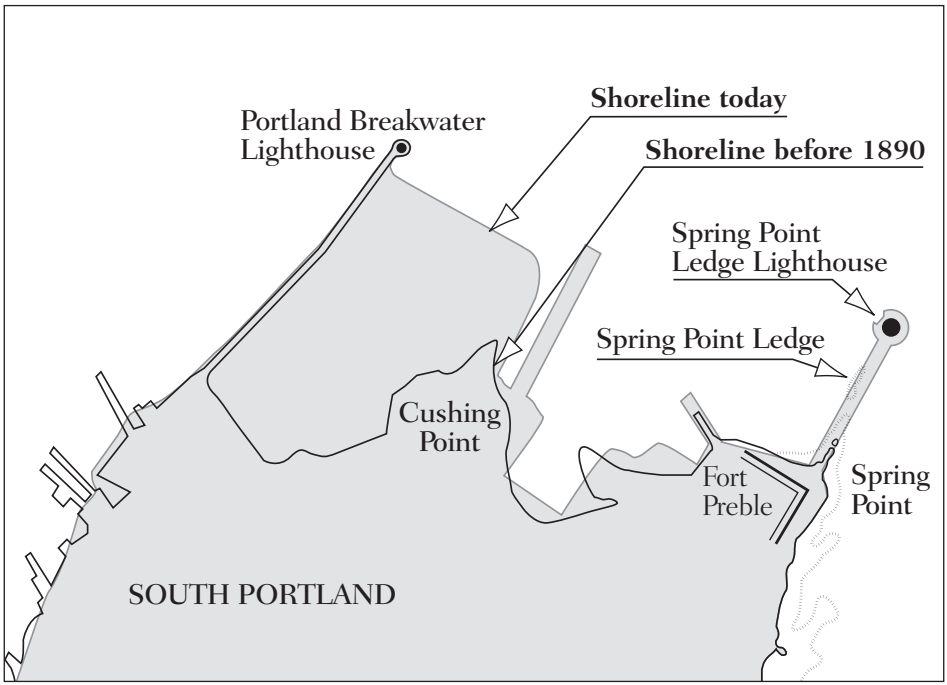


year. It is a favorite local fishing spot, especially when Stripped Bass are running.



Today, totally-automated Spring Point Ledge Lighthouse marks the entrance into Portland Harbor by showing a narrow arc of white light (331°–337°) to a mariner properly positioned in the channel. On either side of the fairway, the light shows two red sectors. The present characteristic is a one second flash every six seconds, visible for 12 miles. The automatic fog signal emits a one second blast every 10 seconds.

The Spring Point Ledge Lighthouse was officially deeded to the Spring Point Ledge Light Trust by the U. S. Coast Guard in June, 1998 as part of the Maine Lights Program. The Trust is responsible for maintaining the structure and for making it available to the public. Since acquiring ownership the Trust has held open houses every year and has opened the lighthouse to special groups as well as a growing number of tour buses. It provides an important source of the funding needed to continue preservation work. Since 1998, more than 4,000 people have visited the site. The Coast Guard continues to maintain the active Aids to Navigation equipment.



When Spring Point Ledge Lighthouse was constructed, the shoreline was very much different than today.

ADVERTISEMENT.

OFFICE OF THE LIGHT-HOUSE ENGINEER, FIRST DISTRICT,
BOSTON, MASS., April 6th, 1896.

Proposals will be received at this office until 12 o'clock, noon, of Thursday, the 30th day of April, 1896, for furnishing the materials, appliances, and labor of all kinds necessary for the construction, erection, completion, and delivery of the Spring Point Ledge Light and Fog-Signal House, Portland Harbor, Maine.

Plans, specifications, forms of proposals, and other information may be obtained on application to this office.

The right is reserved to reject any or all bids and to waive any defects.

W. R. LIVERMORE,
Major of Engineers, U. S. Army,
Engineer First Light-House District.

SPECIFICATIONS

FOR THE

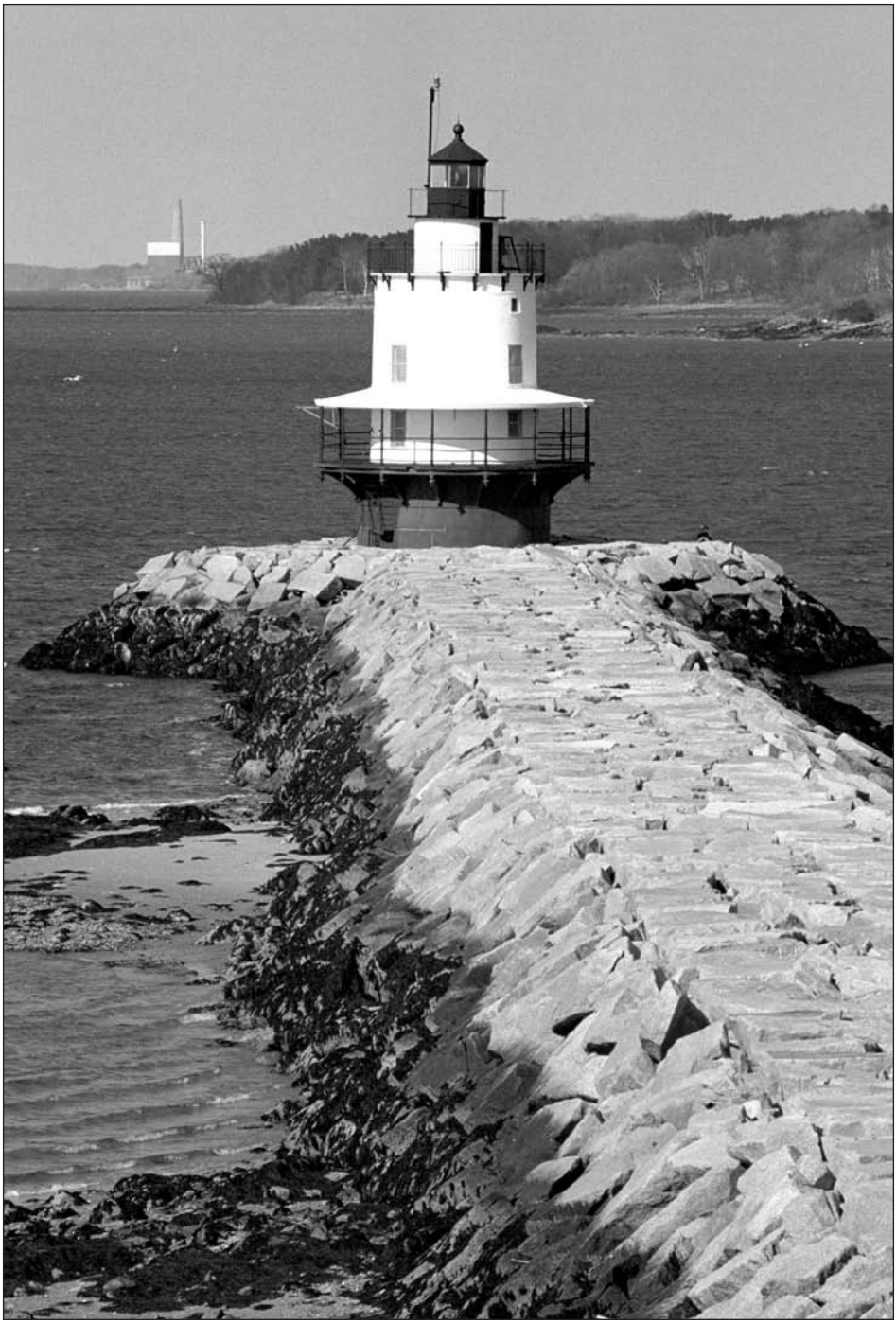
SPRING POINT LEDGE LIGHT AND FOG-SIGNAL HOUSE,

PORTLAND HARBOR, ME.

GENERAL DESCRIPTION.

The structure will consist of a circular foundation-pier, supporting a three-story circular dwelling, a veranda with boat-davits, a circular parapet, and an octagonal lantern. The foundation-pier is to be a cast-iron cylinder, open at both ends. The lower portion of the cylinder is to be filled with concrete, and will contain the water-cisterns, the water-conductors, the overflow and waste pipes. The upper portion is to be lined by a brick wall, and its interior space, the cellar, is to be divided by a number of straight brick walls into various compartments for the storage of oil, fuel, etc. The main gallery, which is to be supported by brackets, will be accessible from the water by ladders. It is to be covered by an iron roof and surrounded by hand-rails, which, like the boat-davits, are to be attached to the columns supporting the gutter on the outer edge of the roof. The brick dwelling-house will have the form of a frustum of a cone; it will rest upon the brick lining of the cylinder, and is to be divided into three stories by three iron floors, which are to be supported by the brick lining of the house and center columns. The dwelling is to be covered by an iron gallery-floor, which will support the parapet, the watch-room floor, the lantern-gallery, and the lantern. A spiral stairway of iron will lead from the cellar to the different floors of the dwelling. The watch-room and the lantern will be accessible by ladders.

Excerpts from the booklet containing specifications for prospective bidders issued by the Lighthouse Board, 1st District, Boston, Mass.



This view of Spring Point Ledge Lighthouse and the breakwater, taken at very low tide, shows some of the ledge rock at left center. Mostly silted up since the breakwater was built, it looks far less dangerous now than it did in the nineteenth century.

The caisson lighthouse came into use following the development of cast iron as a building material. The United States Lighthouse Service realized that cast iron construction would make it possible to build lighthouses on submerged ledges that previously required expensive granite piers. This made it a good choice for many locations along the New England coast. It was also used in areas with sandy and muddy bottoms, such as in the Chesapeake and Delaware Bays.

The basic idea of the caisson is to construct a tube of cast iron plates which when filled with concrete will support a light tower. Some caissons were constructed on shore and towed into position by barge. But most were built in place using divers for the underwater construction. This is how Spring Point Ledge Lighthouse was built.

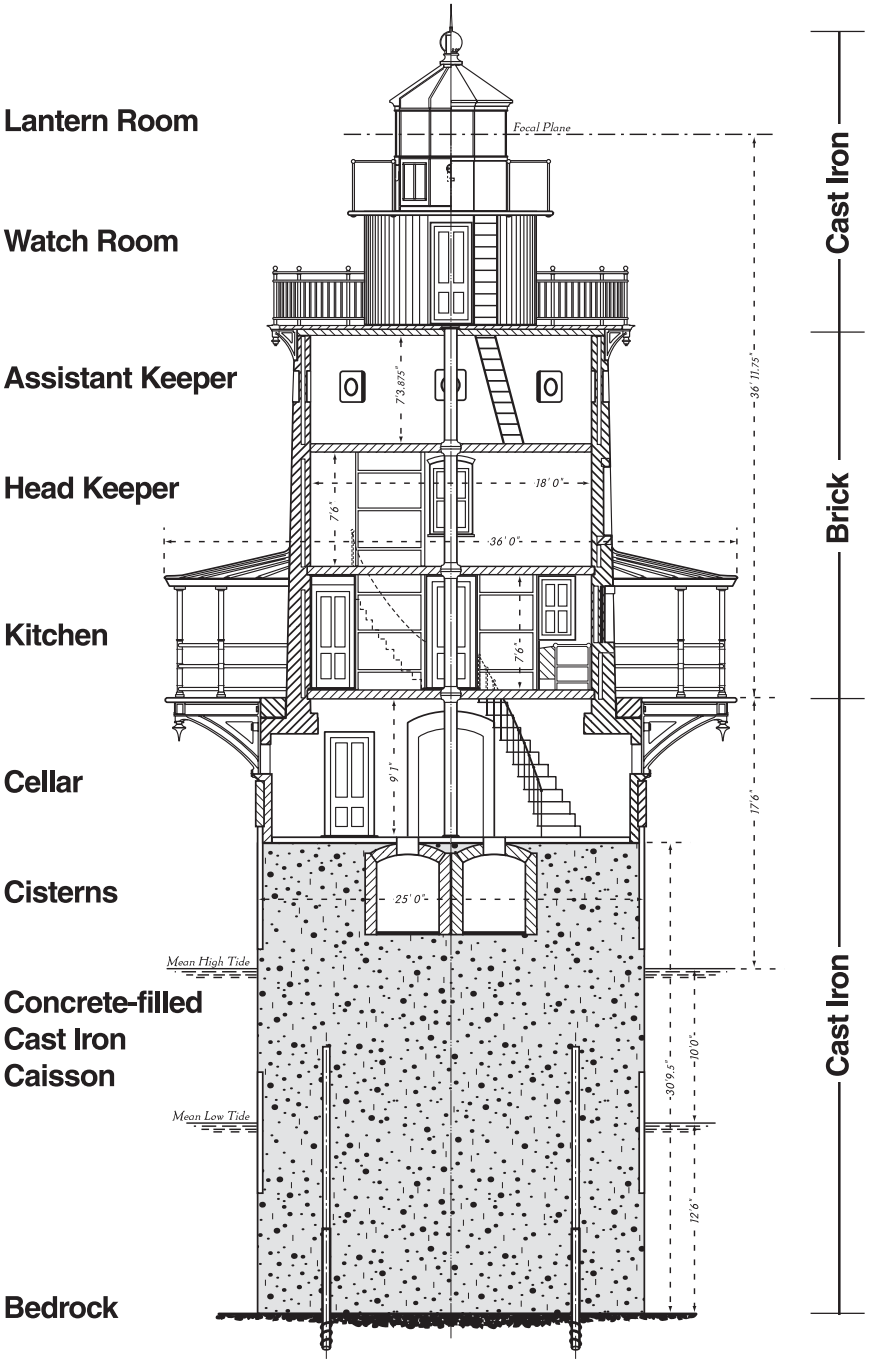
Eleven of the 47 caisson lighthouses built by the U. S. Lighthouse Service were pneumatic caissons, which had the water pumped out before the concrete was poured. This method was employed when the caisson was to be sunk deeply into a sandy or muddy bottom. The majority simply had the concrete poured underwater, the method used in constructing Spring Point Ledge Lighthouse. Yes, concrete will set and harden in water! Once filled with concrete, and in some cases, and rubble stone, the rest of the tower can be constructed out of cast iron or brick, or a combination of both. Spring Point Ledge Lighthouse utilizes a double-walled brick tower between 24″ and 16″ thick, but most towers employed cast iron throughout with a brick lining.

Between 1871 when the first caisson light tower was constructed at Duxbury in Massachusetts, and 1914, the Lighthouse Service built a total of 47 caisson lighthouses. Spring Point Ledge Light Station was built in 1896-97. Almost half of all the caisson structures built are similar to Spring Point Ledge Light in size and shape. The first, Duxbury Pier lighthouse, is a rather squat looking structure and was never duplicated.

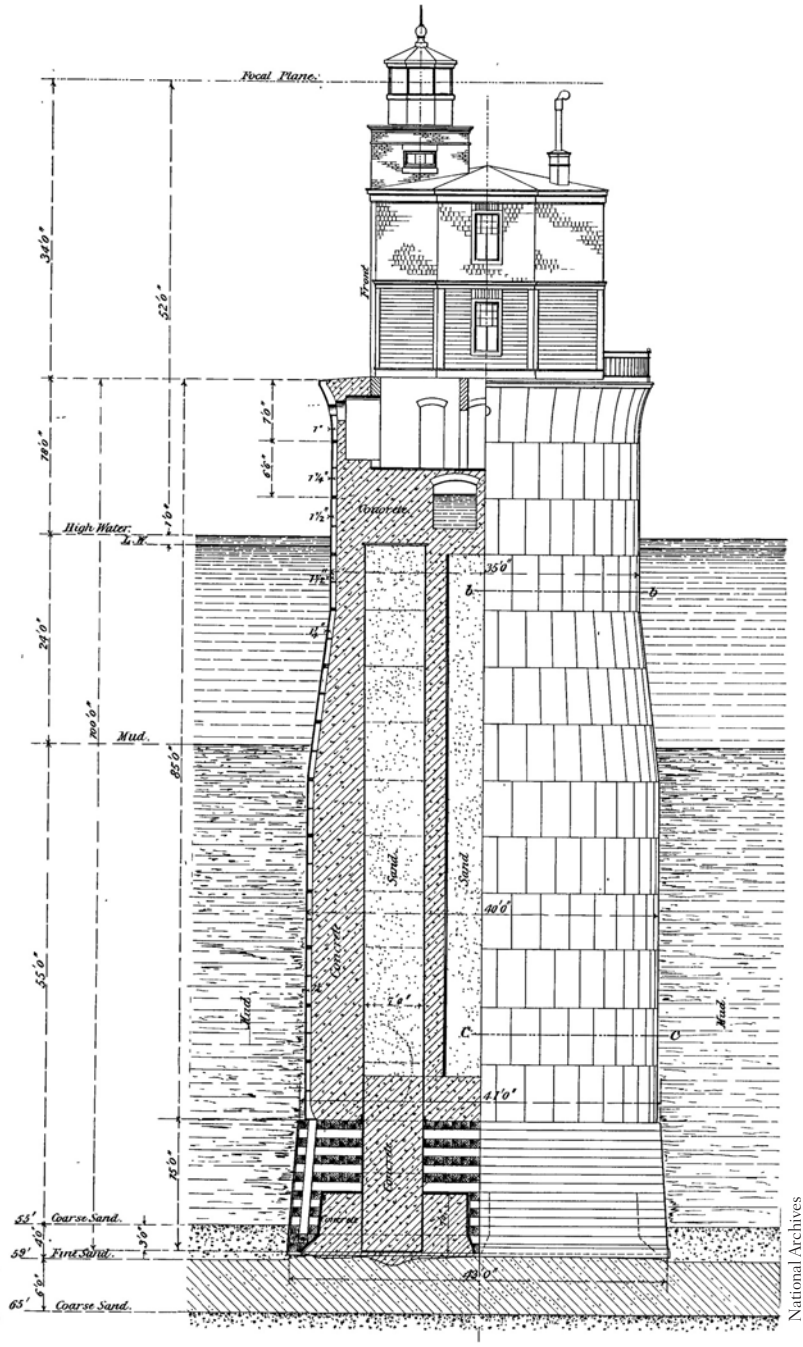
Of the 47 caisson lights built, 41 are still standing. In Maine, there are three, all still operating: Spring Point Ledge, Goose Rocks and Lubec Channel. All three look very much alike. A fourth Maine lighthouse, Crabtree Ledge in Frenchman's Bay was taken out of service in the 1930s and without maintenance, fell into the bay during the winter, probably the victim of excessive ice pressure. It had been sold to a private individual, so there was no investigation of its demise.

The popularity of cast iron construction reached well beyond caisson lights. A good number of light towers on dry land were built completely of cast iron, and virtually all still stand. Several nearby examples include Cape Elizabeth (Two Lights), Cape Neddick (The Nubble), and Portsmouth Harbor, NH. Because cast iron lighthouses are bolted together, it is fairly easy to take them apart and move them to a new location. This was done a number of times by the Lighthouse Service. In more recent times, lighthouses, even cast iron towers, are moved in one piece. A recent example is Nauset Beach Lighthouse on Cape Cod, which was moved inland in one piece to escape erosion of the sand cliff.

See drawings on the next pages which illustrate caisson lighthouse construction in varied locations.



Spring Point Ledge Lighthouse as originally planned. It illustrates the construction of a caisson lighthouse on solid submerged rocky bottom. Because it is in immediate contact with bedrock, seismic shocks can affect the structure. Some details shown above did not become part of the finished structure: no ribs on the canopy roof, no ladder on the outside of the lantern room and some minor interior details were not executed.



National Archives

The Baltimore Lighthouse in Chesapeake Bay is an example of a caisson lighthouse built on a sandy or muddy bottom. It was constructed as a pneumatic caisson, the fill being pumped out as new sections were added and the caisson extended downward until firmly embedded in the soft bottom. Then filled with concrete and sand. National Archives drawing from the National Park Service Lighthouse Preservation Handbook

People often forget why we had lighthouse keepers. Very simple. When most of our lighthouses were built, it was well before we had electricity to power incandescent lights. So we used various types of oil. And that required a person to light the lamp… to turn the light "on" and "off." And to make sure the light was shining at maximum efficiency all night through all kinds of weather. It wasn't an easy job, but most of the keepers enjoyed it. And they especially enjoyed a (usually) nice house and a steady paycheck!

So what did the keepers have at hand to keep the light burning? As time went along the U. S. Lighthouse Service established uniform rules and tools. Of course, there were improvements and new equipment, and the types of oil changed over the years from whale oil to vegetable substitutes, and finally to kerosene, known as "mineral oil" in lighthouse circles. The types of lamps changed, too, with incandescent electrical lamps finally replacing all oil-fired devices.

Depending on the size of the lighthouse, and based on the size of the Fresnel lens, a proscribed set of tools and supplies was determined for each lighthouse. Spring Point Ledge Light Station, having a fifth order lens, had the items and supplies listed in the table. Note the completeness of the list.

So it is easy to imagine that being a keeper had its both ups and downs. They all started as Assistant Keepers under a more experienced person, and most soon learned how to operate a light station successfully and within the rules of the Lighthouse Service.



This photo was taken in 1907 when the lighthouse was ten years old. The outdoor privy has been constructed and the sector box projecting from the right side of the lantern room is in place. Library of Congress photo.

Items Required for a Fifth Order Lighthouse

Annual Supplies:	
Mineral oil (kerosene) depending on type of lamp in use	85 - 160 gallons
Wick (Hains')	10 yards
Chimneys, glass	50
Safety matches, boxes	36
Glycerin, bottles	3
Mantles for oil-vapor lamps	60
Alcohol for oil-vapor lamps	12
Buff or chamois skin for cleaning lenses and plate glass	3
Linen towels	10
Household ammonia, pints	3
Polish for cleaning and polishing lenses and plate glass, boxes	10
Polish for cleaning brasswork of apparatus, boxes	3
Soap, brown, pounds	50
Corn brooms	4
Sponge, pieces	3
Cotton mops and handles	2
Straight scissors (best quality) for cuffing wicks	2
Sash brushes	2
Paint brushes (assorted) for painting inside of lanterns	3
Whitewash brushes	2
Scrubbing brushes	2
Hand dusting or counter brushes	2
Feather brushes	2
Sweeping brush	1
Wolf's head brush	1
Silver-plate brush	2
Panes of glass of proper size for lantern	6

Non-recurring supplies and tools:	
Spirit level, small size, for adjusting lamp	1
Circular level for adjusting lamp	1
Dustpan	1
Wick measure for calipers for measuring the size of wicks	1
Wick mandrel for burner	1
Trimming hooks for removing char from wicks	2
Sharp-pointed prickers, wooden handles, to remove "thieves" from burning wicks	2
Lamp feeder	1
Glass chimney lifters, buckskin covered, for removing hot lamp chimney	2
Corkscrews for mineral oil cans	2
Brass match box	1
Time marker for revolving light	1
Box, made with close top, marked "Wicks"	1
Sets of curtains, to be used exclusively for hanging up inside of the lantern	2
Fine linen covers for illuminating apparatus	2
Thermometer	1
Linen aprons, long, for keeper to wear while employed about the apparatus	2
Marine clock for lighthouses	1
Medicine chest	1
Rowboat or sailboat (no larger than one man can handle)	1
Brass oil can to contain oil for daily supply	1
Brass oil strainer	1
Brass funnels for filling mineral oil lamps	1
Brass standard liquid measure, one gallon, graduated	1
Hand pump for filling oil cans	1



Historic Fort Preble offers an added bonus for visitors. First established in 1808, it was continuously active until 1950, when the property was turned over to the State of Maine and became Southern Maine Community College. Pre-Civil War Fort Gorges is in the background.

The records for the keepers at Spring Point Ledge Light Station are spotty. There are no surviving records of the keepers who served after 1912. That is when the Lighthouse Service was transferred from the Treasury Department to the Department of Commerce. It also marked a transition to a more formalized method of appointing keepers. It was put under Civil Service rules and required a considerable amount of paperwork to operate.

Take the case of Assistant Keeper Daniel J. Doyle. He took the exam for the position in 1914 and was informed that he was number seventeen on the list of applicants. He moved up to number three "due to the declination" of eligible names on June 15, 1915, and recommended to the post of Assistant Keeper as of July 10, 1915.



Assistant Keeper Daniel J. Doyle with his two sons.

PROBATIONARY APPOINTMENT

DEPARTMENT OF COMMERCE
APPOINTMENT DIVISION
WASHINGTON

June 22, 1915.

Mr. Daniel J. Doyle,

Through the Commissioner of Lighthouses.

Sir:

You have been appointed, subject to taking the oath of office,

Assistant Keeper

in the Lighthouse Service

at a salary of Four Hundred and Eighty dollars

per annum, effective on the date on which you enter upon

duty in the above-mentioned position.

(By selection from certificate No. - - - - -, and subject to a probationary period of not to exceed six months as provided by paragraph (c) of section 1 of civil-service rule VII, to be found on the reverse hereof.)

By direction of the Secretary:

Respectfully,

Clifford Hastings

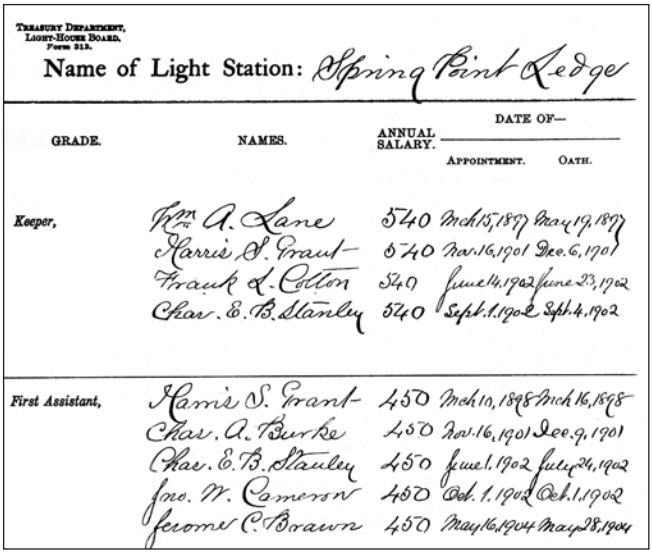
Acting Chief of Appointment Division.

E
Cv

Appropriation: Salaries, Keepers of Lighthouses.
Vice: Charles A. Jewett.
Legal Residence: Maine.

However, before all of this he was appointed to a probationary position as a "laborer" at Spring Point Ledge at the same salary as an Assistant Keeper. This appears to have been a method to speed up the bureaucratic process when a body was needed sooner than the red tape could provide one.

Doyle was officially appointed Assistant Keeper on June 22, 1915, with a probationary period not to exceed six months! On December 27, 1915 he was finally appointed to Assistant Keeper at a recently increased annual salary of $516 effective January 1, 1916.



TREASURY DEPARTMENT,
LIGHT-HOUSE BOARD.
Form 319.

Name of Light Station: Spring Point Ledge

GRADE.	NAMES.	ANNUAL SALARY.	DATE OF— APPOINTMENT.	OATH.
Keeper,	Wm A. Lane	540	Mch 15, 1897	May 19, 1897
	Harris S. Grant	540	Nov 16, 1901	Dec 6, 1901
	Frank L. Cotton	540	June 14, 1902	June 23, 1902
	Chas. E. B. Stanley	540	Sept 1, 1902	Sept 4, 1902
First Assistant,	Harris S. Grant	450	Mch 10, 1898	Mch 16, 1898
	Chas. A. Burke	450	Nov 16, 1901	Dec 9, 1901
	Chas. E. B. Stanley	450	June 1, 1902	July 24, 1902
	Jno. M. Cameron	450	Oct 1, 1902	Oct 1, 1902
	Jerome C. Brown	450	May 16, 1904	May 28, 1904

Left – The payroll record for Spring Point Ledge in the early years. These handwritten ledgers were maintained in the Treasury Department in Washington, DC until the Lighthouse Service was transferred to the Department of Commerce in 1912. After that time, records of keepers are often unavailable.

Below – Although predating Spring Point Ledge Lighthouse, the keepers' duties outlined below remained pretty much the same throughout the days of oil lamps. In later years, materials were supplied by regional Lighthouse Depots rather than directly from contractors.

INSTRUCTIONS TO THE KEEPERS OF LIGHT HOUSES WITHIN THE UNITED STATES

1. You are to light the lamps every evening at sun-setting, and keep them continually burning, bright and clear, till sun-rising.
2. You are to be careful that the lamps, reflectors, and lanterns, are constantly kept clean, and in order; and particularly to be careful that no lamps, wood, or candles, be left burning any where as to endanger fire.
3. In order to maintain the greatest degree of light during the night, the wicks are to be trimmed every four hours, taking care that they are exactly even on the top.
4. You are to keep an exact amount of the quantity of oil received from time to time; the number of gallons, quarts, gills, &c., consumed each night; and deliver a copy of the same to the Superintendent every three months, ending 31 March, 30 June, 30 September, and 31 December, in each year; with an account of the quantity on hand at the time.
5. You are not to sell, or permit to be sold, any spirituous liquors on the premises of the United States; but will treat with civility and attention, such strangers as may visit the Light-house under your charge, and may conduct themselves in an orderly manner.
6. You will receive no tube-glasses, wicks, or any other article which the contractors, Messrs. Morgan & Co., at New Bedford, are bound to supply, which shall not be of suitable kind; and if the oil they supply, should, on trial, prove bad, you will immediately acquaint the Superintendent therewith, in order that he may exact from them a compliance with this contract.
7. Should the contractors omit to supply the quantity of oil, wicks, tube-glasses, or other articles necessary to keep the lights in continual operation, you will give the Superintendent timely notice thereof, that he may inform the contractors and direct them to forward the requisite supplies.
8. You will not absent yourself from the Light-house at any time, without first obtaining the consent of the Superintendent, unless the occasion be so sudden and urgent as not to admit of an application to that officer; in which case, by leaving a suitable substitute, you may be absent for twenty-four hours.

Fifth Auditor and Acting Commissioner
of the Revenue

TREASURY DEPARTMENT
Fifth Auditor's Office – April 23d, 1835

Spring Point Ledge Lighthouse was a light station which could not allow families due to the lack of space. Thus, the keeper had to maintain an outside residence for his family. Normally, a keepers' dwelling would be furnished by the keeper, but in the case of "stag" lights, the Lighthouse Service authorized furnishings for the keepers as noted below. It is probably safe to assume that the furniture purchased was very basic yet serviceable. In later years, under the Coast Guard, virtually everything was furnished by the service.

381. Furniture for dwellings.—(*a*) Furniture, utensils, etc., for dwellings at light stations and depots having quarters for families shall not be furnished by the Lighthouse Service: *Provided*, That in special cases of isolation, or for other special reason, articles of furniture, etc., may be furnished upon the approval of the commissioner in each case. Cooking and heating stoves and lamps, where these are not already included as fixtures of the dwellings, may be furnished at Government expense.

(*b*) For light stations having resident keepers, but where no quarters for families are provided, furniture, utensils, and tableware will be supplied by the Lighthouse Service where necessary; these shall be limited to such articles as are in common use for the purpose and as are necessary for the use and comfort of the keepers. Expensive furniture, chinaware, or silver shall not be furnished. Kitchen and dining-room furniture and utensils shall be supplied for one mess only at each station, and all articles so supplied shall be of plain and serviceable quality. Beds and bedding shall consist of a single bed for each keeper, with bed springs, mattress, mattress cover, pillow, pillowcase (colored), and blankets (blue or dark color). Sheets, towels, etc., for personal use and subject to frequent laundering shall not be furnished, and each keeper should be required to furnish a supply of these articles needed for his own use. One or two small, inexpensive rugs for each bedroom may also be furnished.

(*c*) Lists of furniture, etc., proposed for new stations or vessels shall be submitted to the bureau for approval; when articles on the authorized lists become worn out or unserviceable they may, upon survey and condemnation in the regular way, be replaced with similar articles without specific bureau authority, provided that purchases shall be made in accordance with regulations.

(*d*) No furniture or household furnishings will be provided or installed at Government expense in other than Government dwellings or structures.

45900—27——12

This article by Amy Sutherland is excerpted from the "Portland Press Herald" July 9, 2001. Copyright 2001 Blethen Maine Newspapers Inc.

Gus Wilson was probably the most famous keeper at Spring Point Ledge Lighthouse. He fame as a duck decoy carver has continued to grow since his death. In a recent 2005 auction, a Wilson decoy fetched $126,000!

Gus Wilson typically sold his decoys for 75 cents a piece to Walker & Evans sporting goods store in Portland - that is if he didn't give them away to friends and neighbors. He carved the birds with Boy Scout knives, which he bought four at a time, during his long hours as keeper of Spring Point Light. He painted them with whatever he had on hand, sometimes even shiny automobile paint, which he then had to sand to take the gloss off.

Wilson died in 1950 in Gray, not long after the collecting market for decoys started. Just a hair more than a half-century later, he is considered the state's premier decoy maker, and some of his birds bring five figures at auction. His decoys are in The Shelburne Museum in Vermont, with the largest collection in the country, as well in Boston.

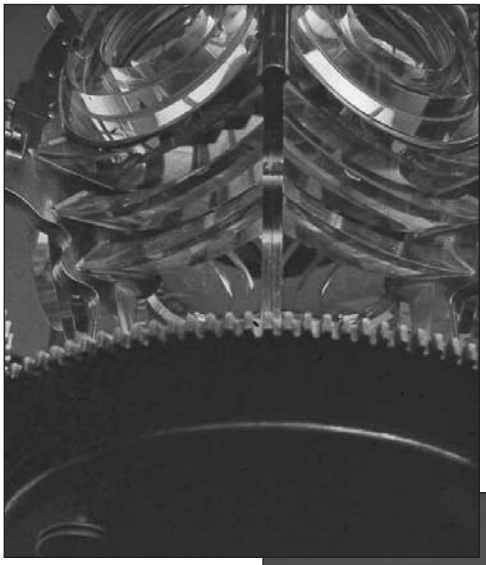
At the Museum of Fine Arts in Boston, two of Wilson's decoys are currently on display as part of the museum's "American Folk." It's the biggest exhibit of folk art the museum has ever presented, with more than 200 pots, paintings, quilts, wood carvings, chests and weather vanes. The majority of the work was made in New England in the 18th and 19th centuries. Wilson's two birds, a red-breasted merganser drake and hen, can be found resting on a rounded slice of mirror, the exhibit's duck pond. The hen bows its head, its narrow beak gracefully pointed at its breast. The colors of each decoy have been darkened by time.

In the show, Wilson (1864-1950) is in the minority as an artist who lived well into the 20th century. His two birds in the show, though, date from 1910, which is considered his best period, and are done in what is referred to as the Monhegan style. That's a misnomer that stuck. According to Frank Schmidt, a collector and co-owner of the Maine-based decoy auction house Guyette & Schmidt, Wilson never lived on Monhegan Island, but when his decoys were first being collected they were often unattributed. Collectors assumed the best Maine decoys came from Monhegan Island, and so the term was applied to Wilson's sleek, beautiful birds from the turn-of-the-century, Schmidt says.

Wilson was born in Bass Harbor on Mt. Desert, where he fished for most of his working life. At the age of 50, he became assistant lighthouse keeper of Goose Rocks Light Station in the Fox Island Thorofare. From there he moved south to Two Lights in Cape Elizabeth, then in 1917 he became the assistant keeper at Spring Point Ledge Lighthouse, succeeding his brother as keeper in 1931. He retired in 1934.

Wilson's early birds have been collected since the 1940s, and they still bring the highest prices, $40,000- $50,000. The later birds, which are simpler, are considered far less valuable. They can go for $1,000 or less.

When Schmidt first started collecting in the 1970s, Wilson decoys were easy to find. That has changed. What Wilson once delivered by the truckload has become rare and precious.



The heart of any lighthouse is the lantern room, often referred to as just the lantern. It houses the Fresnel lens and illuminating apparatus.

In the early days of Spring Point Ledge Lighthouse, the illumination was furnished by a single-wick kerosene lamp. The Fresnel lens was of the 5th order, with six bull's-eyes, rotated by a clockwork mechanism powered by a falling weight. The flashing characteristic of Spring Point Ledge was a 0.5 second flash every 4.5 seconds. Thus the lens made a complete rotation every 30 seconds.



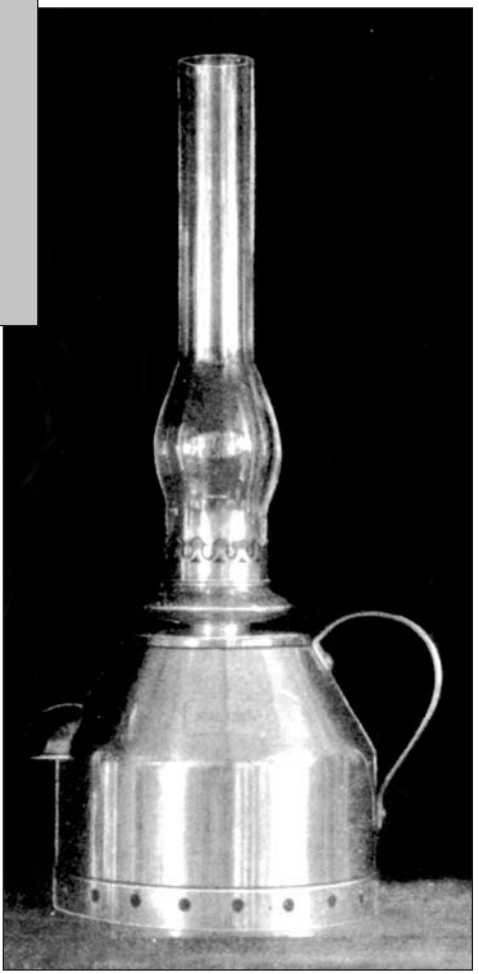
Above – The only known photograph of the 5th Order Fresnel Lens in place. Note the gear wheel which meshed with the rotating mechanism.
Right – The modern Lexan Fresnel lens currently in use. It has a focal length of 150-mm, providing much the same output as the original lens. Note the clear slot in the red panels at the left of the photo and in the photo below which restricts the white light to a narrow 6° arc (330°-337°).





Left – A clockworks setup similar to that used in Spring Point Ledge Lighthouse. The weight at bottom descended to power the rotating mechanism. A gear projecting out the top meshed with the large gear on the base of the lens, rotating it at a specified speed.
The number of bull's-eyes on lenses and various gear ratios provided an almost unlimited choice of flashing characteristics.

Below – A fifth order lamp of the type used when Spring Point Ledge Lighthouse was illuminated by kerosene (1897–1934). The bulge in the chimney was positioned at the focal point of the lens and the wick was trimmed to provide the brightest light at that point. The added height of the glass chimney carried any soot up through the open top of the lens and out of the lantern room through the ball vent on the roof.



The clockworks had to be wound up approximately every two hours while the light was operating. The weight fell through a tube passing through the upper two floors. The tube has since been removed, but there are telltale circular patches in the ceiling showing where it once was.

In later years, the characteristic has been changed to a one-second flash every six seconds. The modern 250-watt incandescent lamp is switched on and off by an electronic circuit installed in 1973, eliminating the need for mechanical timing devices.

The white sector can be seen for 14 miles, the red sectors for about half that.

THE FOG SIGNAL

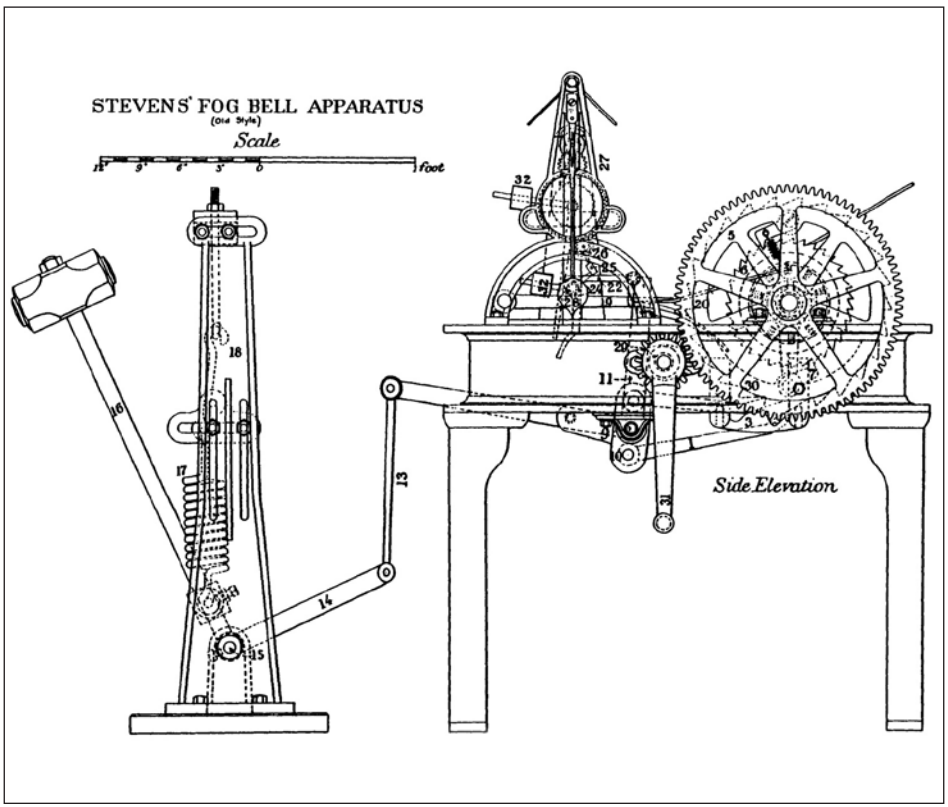
The original fog bell is still at the lighthouse, but not operating. In its original position it was hung outboard of the railing on the upper gallery. The striking mechanism was housed in the watch room with levers extending through the wall to the hammer. The mechanism was most likely a Stevens Fog Bell Striker operated by an 800-pound weight falling through the central pillar of the lighthouse. All in all, a heavy duty piece of equipment.

In 1959 the bell was moved to its present mount inboard on the upper gallery and an electric A'G'A Type ES-100 striker installed. This remained in operation until two electronic fog horns were installed next to the bell, date unknown.

The bell is a standard 1,000-pound bronze bell cast in Boston in 1887, ten years before Spring Point Ledge Lighthouse was put into service. The original characteristic of the bell was a double strike every twelve seconds. Today the electronic sound signals emit a one second blast every ten seconds.



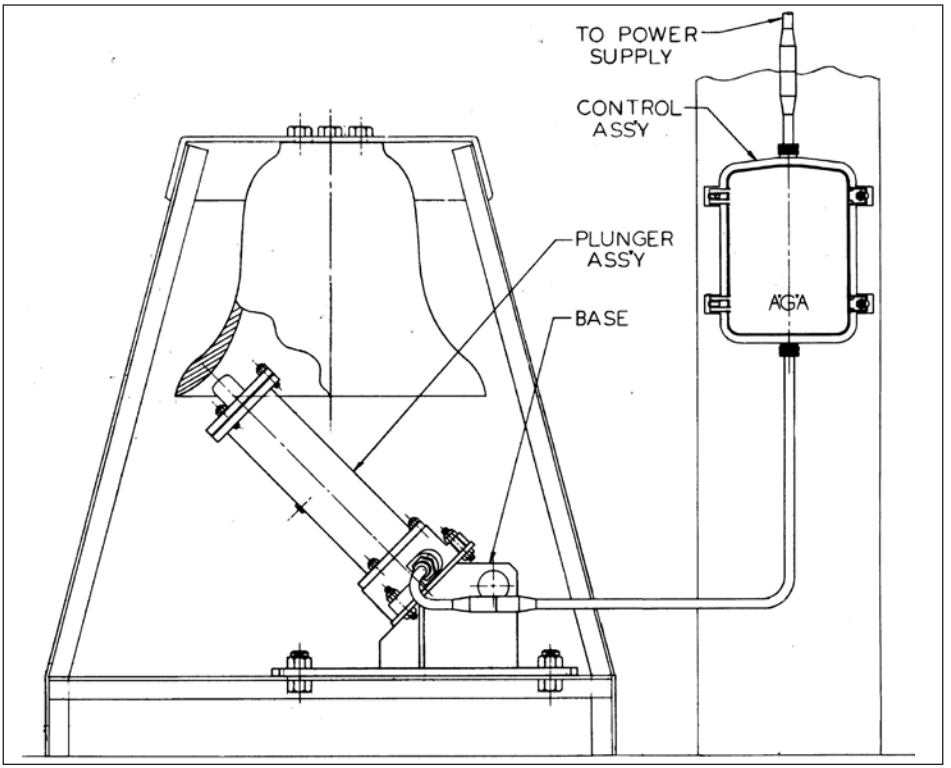
Original position of the fog bell hung outside of the upper gallery railing.





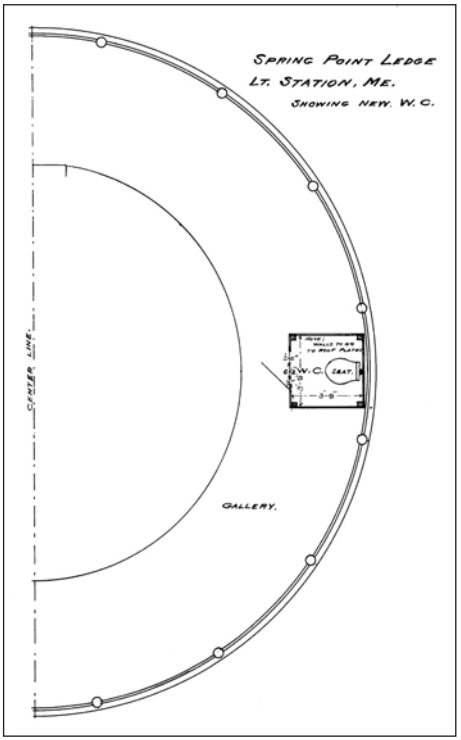


Above – The 1,000-pound fog bell on the upper gallery.
Right – Modern electronic fog horns in use today. Because of their shape, they are often referred to as R2D2s.
Below – Schematic of the A'G'A Type ES-100 Electric Bell Striker placed in operation in 1959. Manufactured by Elastic Stop-Nut Corporation.



When Spring Point Ledge Lighthouse was built, there were no bathroom facilities included in the plans. Running water was supplied by a pump in the kitchen sink drawing water from a pair of cisterns in the cellar. These were supplied by a system of pipes and downspouts collecting rain water from the gallery canopy.

It should be remembered that in 1897, there was very little, if any, indoor plumbing in even the best homes, so the lack of an outhouse did not raise concerns. However, a some point shortly after construction was completed, plans were drawn up for a "water closet" which was subsequently installed on the lower gallery.



Undated plans for the "water closet" on the lower gallery. The structure was a wooden shed with a china toilet seat set over a hole cut in the deck. No other plumbing was included.



This rather poor picture is the only one available which shows the lighthouse before the installation of the privy.



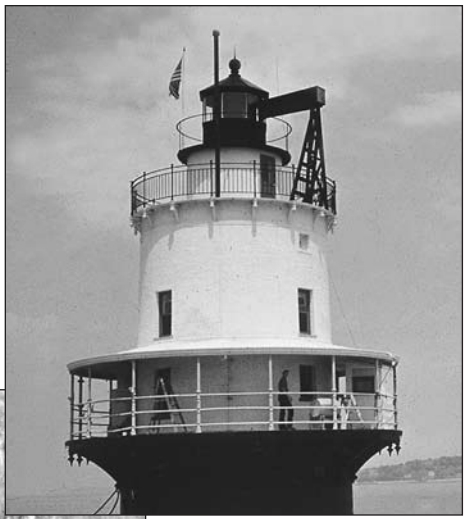
The new privy is shown on the right side of the gallery in this 1911 photo. It appears that a window was included, although not indicated on the plans. The structure was demolished when the lighthouse was automated and the Coast Guard keepers removed.

Most lighthouses don't have a sector box. In fact, it is very rare to find one. It is usually employed in situations where it is necessary to be very restrictive in marking a channel. Usually this is done by having range lights where two lights are arranged one behind the other so that when aligned vertically, the mariner is positioned correctly in the channel.

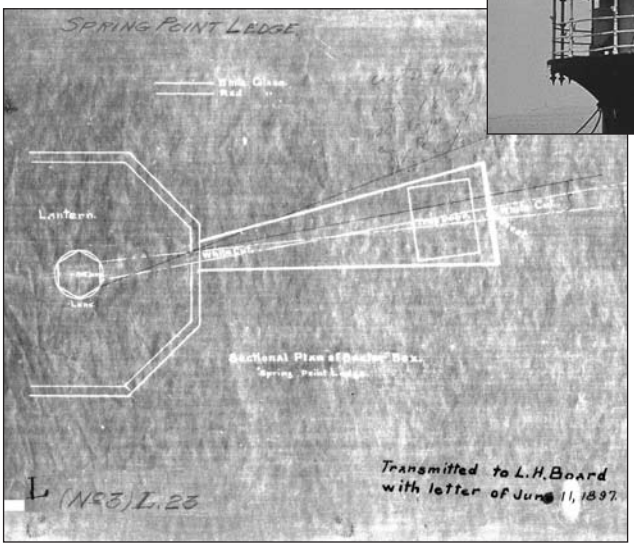
In the case of Spring Point Ledge Lighthouse, range lights were not possible because there is nowhere to place a rear range light. So a sector box was employed. This was a hollow rectangular tube placed outside of the lantern room to confine the white "sector" light to a very narrow beam of just six degrees. Everything outside of the narrow sector is shown as red.

The need to restrict the white sector was apparently evident as soon as the lighthouse went into operation in 1897. A scrap of blueprint gives evidence of this and a notation indicates that it was sent to the Lighthouse Service on June 11, 1897, less than three weeks after the light was first shown. How quickly the device went into service is not known, but probably within a month or so.

The final design differs from the original suggestion in that it is a rectangular shape, rather that a tapered tube. Most likely because it was easier to fabricate, especially if it was done by a local firm. The result was the same, the white sector was narrowed as required. The sector box remained in service until the 1980s, when a slot in two pieces of red glass was used, probably when the classic Fresnel lens was removed. See page 18.

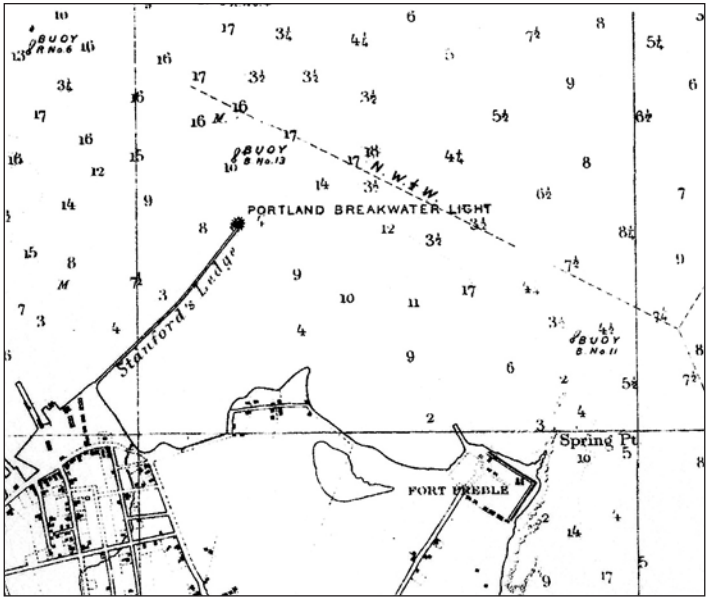


Above – The sector box, supported by a rather heavy duty A-frame, is clearly shown on the upper gallery. This 1954 photo also shows an interesting, and unauthorized, flag pole with Old Glory waving in the breeze. The privy is clearly visible on the lower gallery.



Left – A scrap of blueprint showing the proposed sector box. Of interest is the written notation at lower right: "Transmitted to the L. H. Board with letter of June 11, 1897."

From the outset, Spring Point Ledge Lighthouse was subjected to heavy ice pressure during the four months of a typical Maine winter. The shallow areas to the west of the lighthouse underwent constant freezing and breakup with the average tide differential of ten feet. With every outgoing tide large floes would develop and hit the lighthouse, sometimes piling up around the caisson.



A chart of the area around Spring Point before the lighthouse was built. Note the shallow coves between Portland Breakwater Lighthouse and Spring Point. This is the area which generated most of the ice.

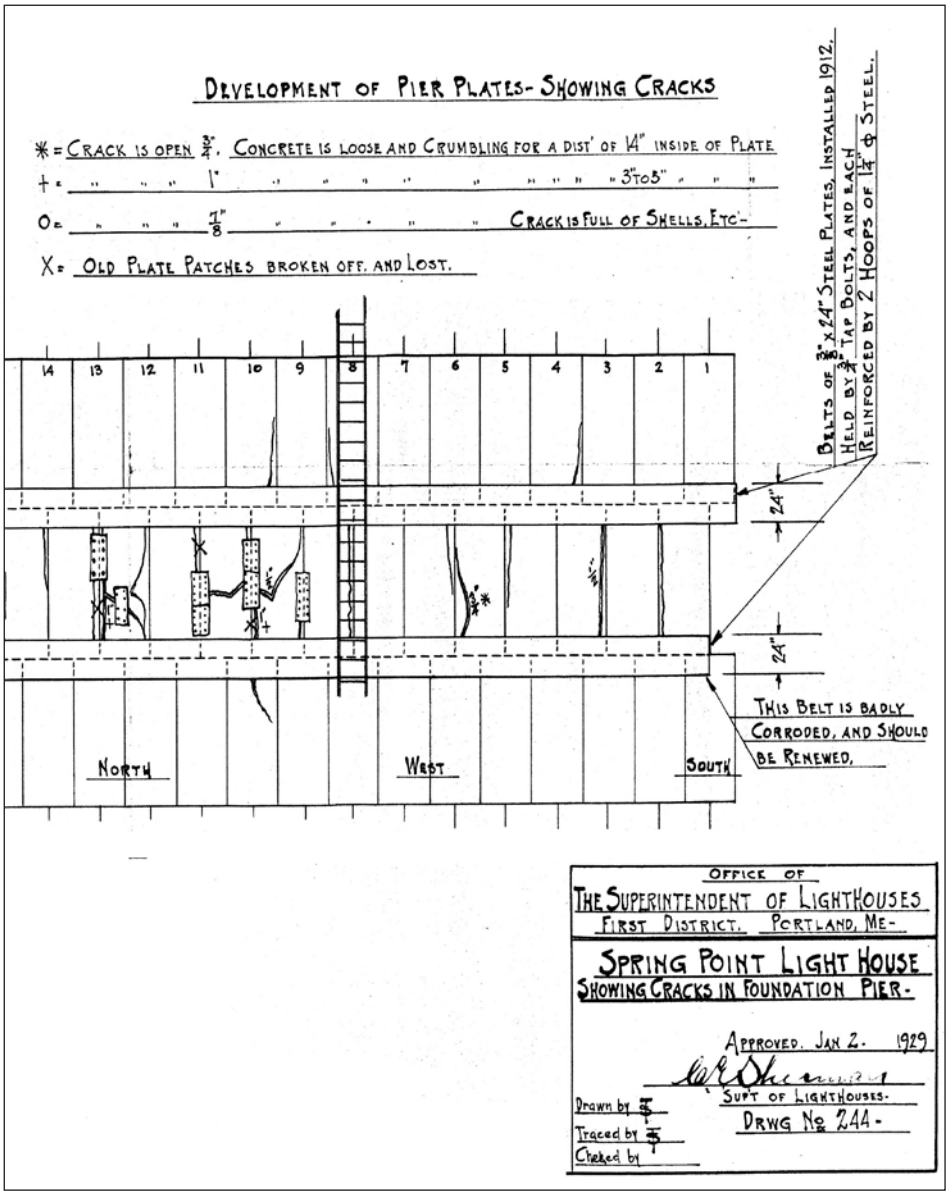
It should be remembered that the average temperatures of a century ago were considerably colder than the are today. In many years, Portland Harbor froze over to the extent that teams of horses could be driven across the harbor. And in one very cold winter, Casco Bay froze solid enough to allow horses to travel to Peaks Island!

The earliest reports of caisson cracks due to ice were recorded in 1907 when the lighthouse was only ten years old. The cracks were filled. Just five years later, in 1912 more cracks had appeared and action was taken. Some cracks were patched over with iron plates and two plate iron belts were installed, one below water line, each held in place by steel bands. This helped the caisson withstand the pressure, but it didn't make the problem disappear.

In 1929, the cracks had reached a level that required serious intervention. As outlined in the drawing at right, the belts required rehabilitation or replacement, and a large number of cracks needed filling. In addition, 200 tons of granite riprap were placed around the caisson to give it added protection.

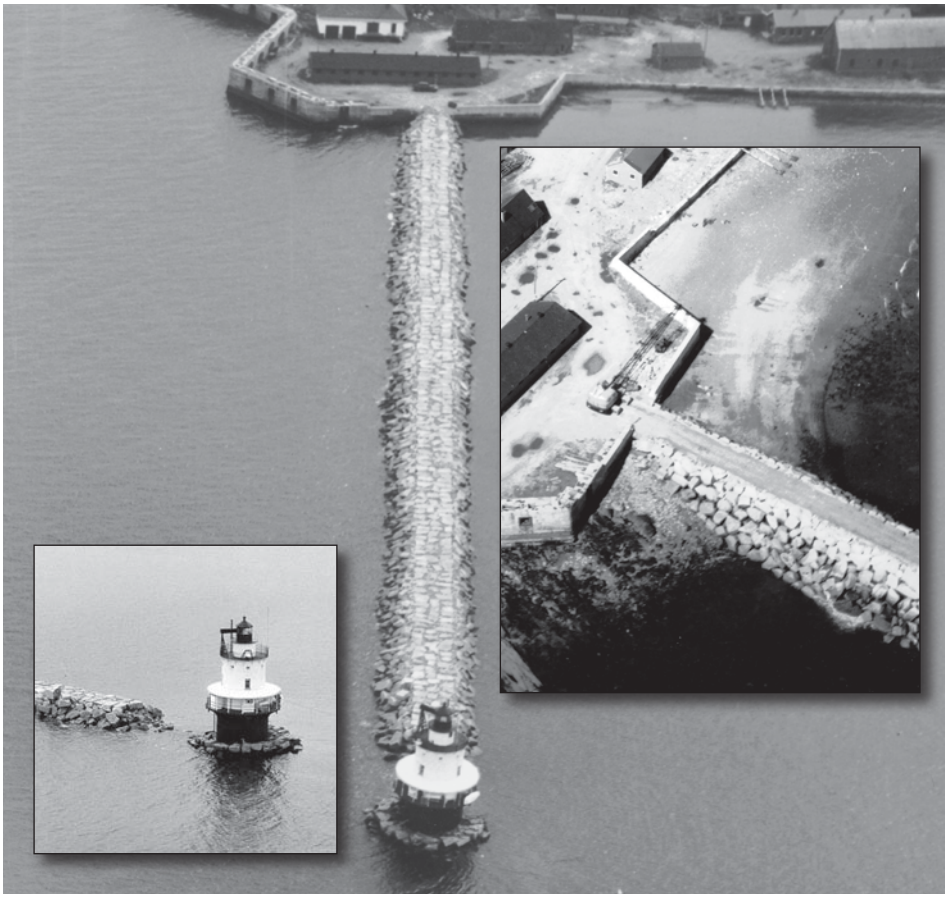
Although ice is no longer a factor in the deterioration of the caisson, the cracking continues. Some recent cracks are the result of tremors from minor seismic activity. Because the concrete-filled caisson is anchored to bedrock, occasional shocks will cause new cracks to form.

The solution remains the same as it has been in years past, and repair work is scheduled for the summer of 2005. All existing cracks will be cleaned out and grouted with epoxy. Two new steel bands will be installed on the upper courses of the cast iron caisson and the entire caisson and gallery deck support system repainted.





Looking quite lonely by itself, Spring Point Ledge Lighthouse at left, Fort Preble and Spring Point at right. This photo can be dated before 1930 because the riprap surrounding the lighthouse has not been put down.

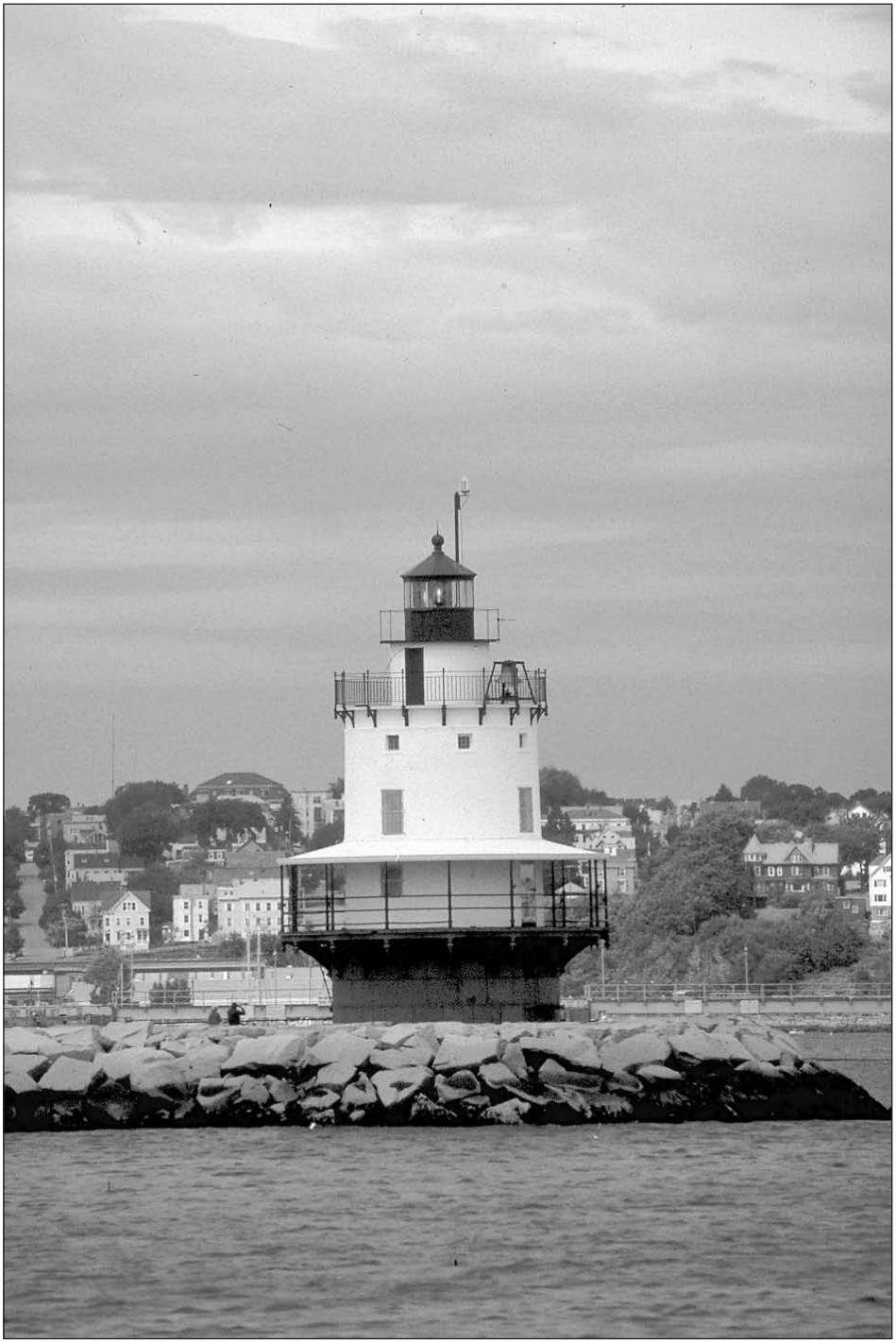


Background photo and photo at left courtesy of U. S. Coast Guard.

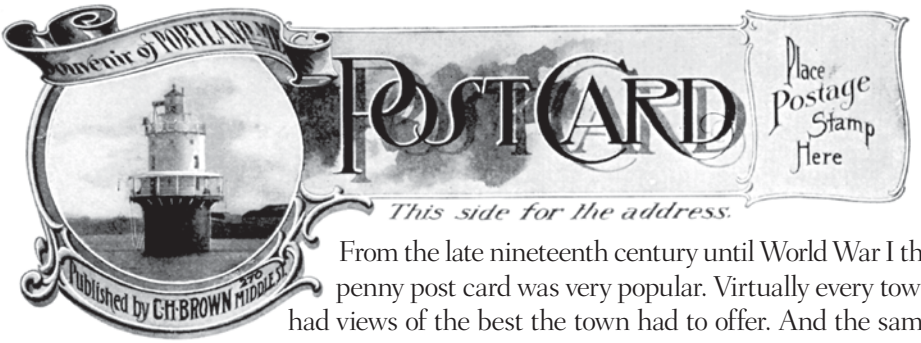
A breakwater was discussed shortly after World War I to the protect Cumberland Shipbuilding Company located just west of the lighthouse in Cushing Cove. The subject came up again in the 1930's and 1941, but nothing was done. Finally, in 1946 Congress gave U. S. Army Corps of Engineers the go-ahead for a breakwater but did not allocate funds. Three years later, in March, 1949 Congress allotted $255,000 to build the breakwater.

Work began June 6, 1950 and was completed a year and a day later, coming in $55,000 under budget. The breakwater is constructed of three- to five-ton granite blocks quarried in Biddeford and Wells and trucked to the site. As the breakwater progressed, gravel was used to provide a roadway atop the large rocks. The flatbed trailers were backed out unto the breakwater and the blocks positioned by crane. The breakwater consists of 50,000 tons of granite and is 900 feet long.

The final circle of blocks surrounding the lighthouse was not completed until a few years later. The rocks at the base of the lighthouse are the riprap placed there by the Lighthouse Service in the early 1930s.

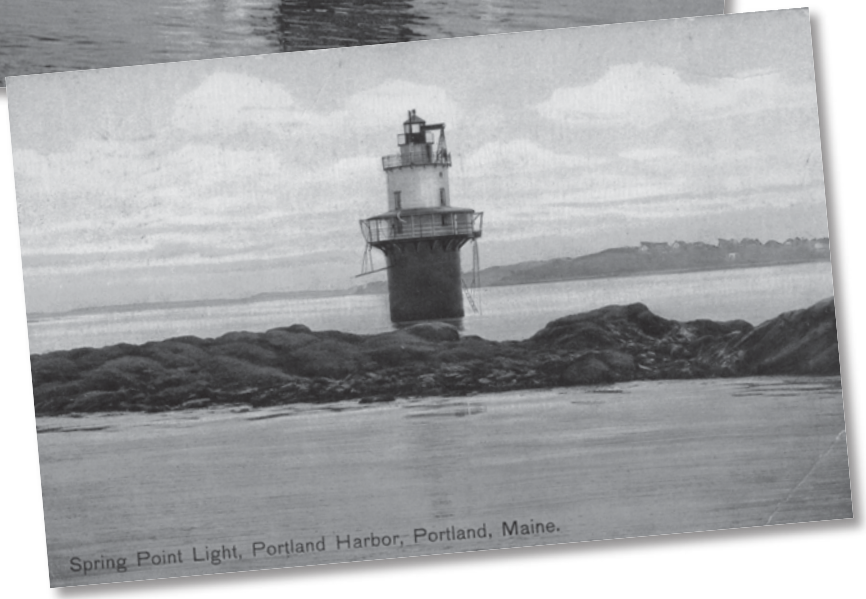


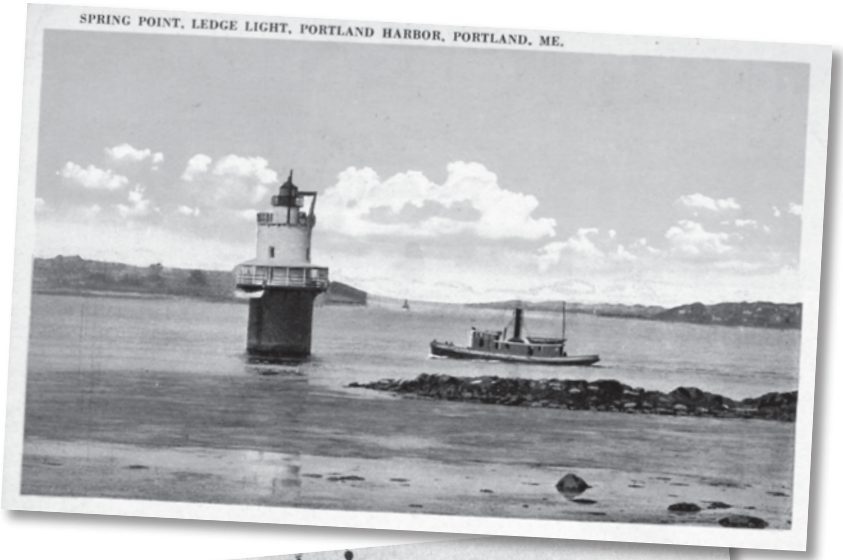
Spring Point Ledge Lighthouse as it looks today. The fog bell was moved on to the upper gallery in 1959. The sector box narrowing the white beam, was removed in the 1980s. Portland's Munjoy Hill is in the background.

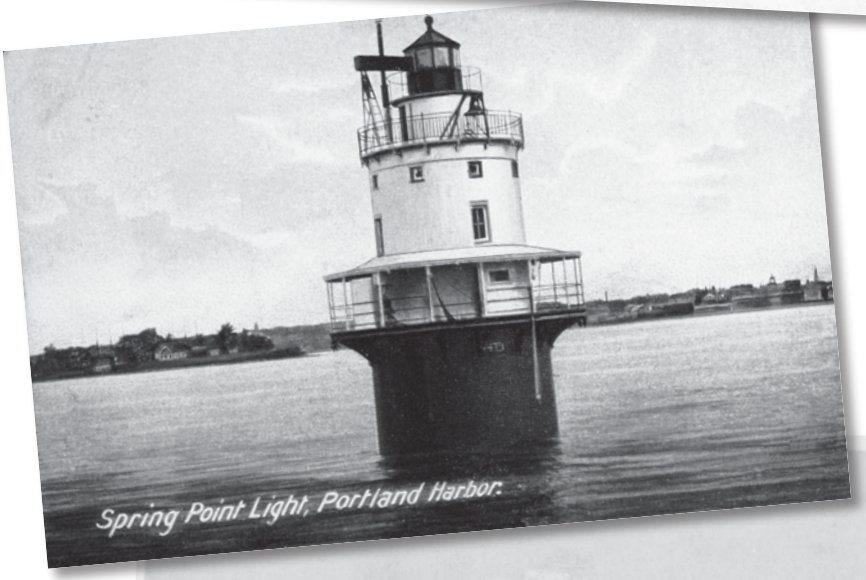


From the late nineteenth century until World War I the penny post card was very popular. Virtually every town had views of the best the town had to offer. And the same held for lighthouses, a subject that is still very popular today with post card collectors. Here are some representative views of Spring Point Ledge Lighthouse as post cards.






SPRING POINT, LEDGE LIGHT, PORTLAND HARBOR, PORTLAND, ME.


Spring Point Light, Portland Harbor.


9746 SPRING POINT LEDGE LIGHT, PORTLAND, ME.
COPR. DETROIT PUBLISHING CO

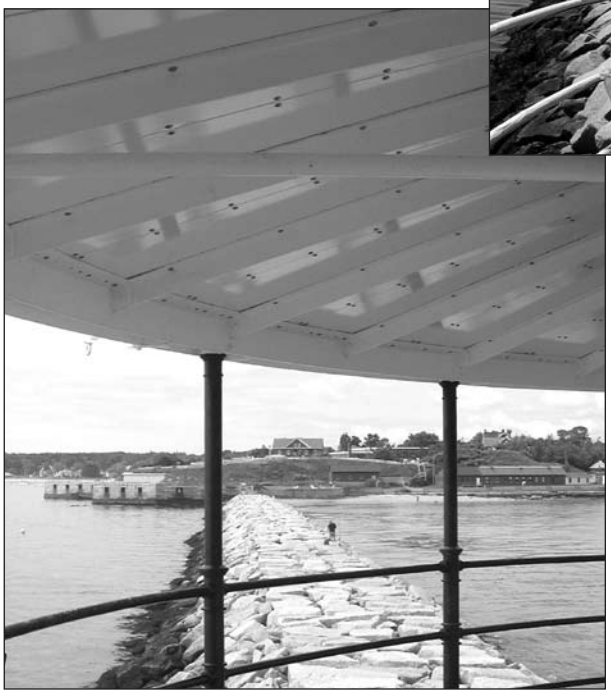
In the summer of 2004, a major restoration project got underway… the replacement of the iron canopy roof which had been in place since 1897. Thoroughly rusted and corroded in many places, it had been patched many times over the years and was at the end of its useful life. The fact that it had numerous coats of lead-based paint compounded the problem.

Funding for the work came from three sources:

1. A grant from Portland Area Comprehensive Transportation Committee (PACTS) applied for by the City of South Portland and approved by the City Council.
2. A Preservation Grant from the U. S. Lighthouse Society.
3. Funds raised by the Spring Point Ledge Light Trust from lighthouse tours and open houses.

Because federal transportation funding was involved, overall management of the project was by the Maine Department of Transportation with Engineer Peggy Duval in charge. Funds were disbursed through the City of South Portland. Managing for the Trust were Engineer Bob Ware of Design Service and Tom Meyers, City Transportation Director. The contractor





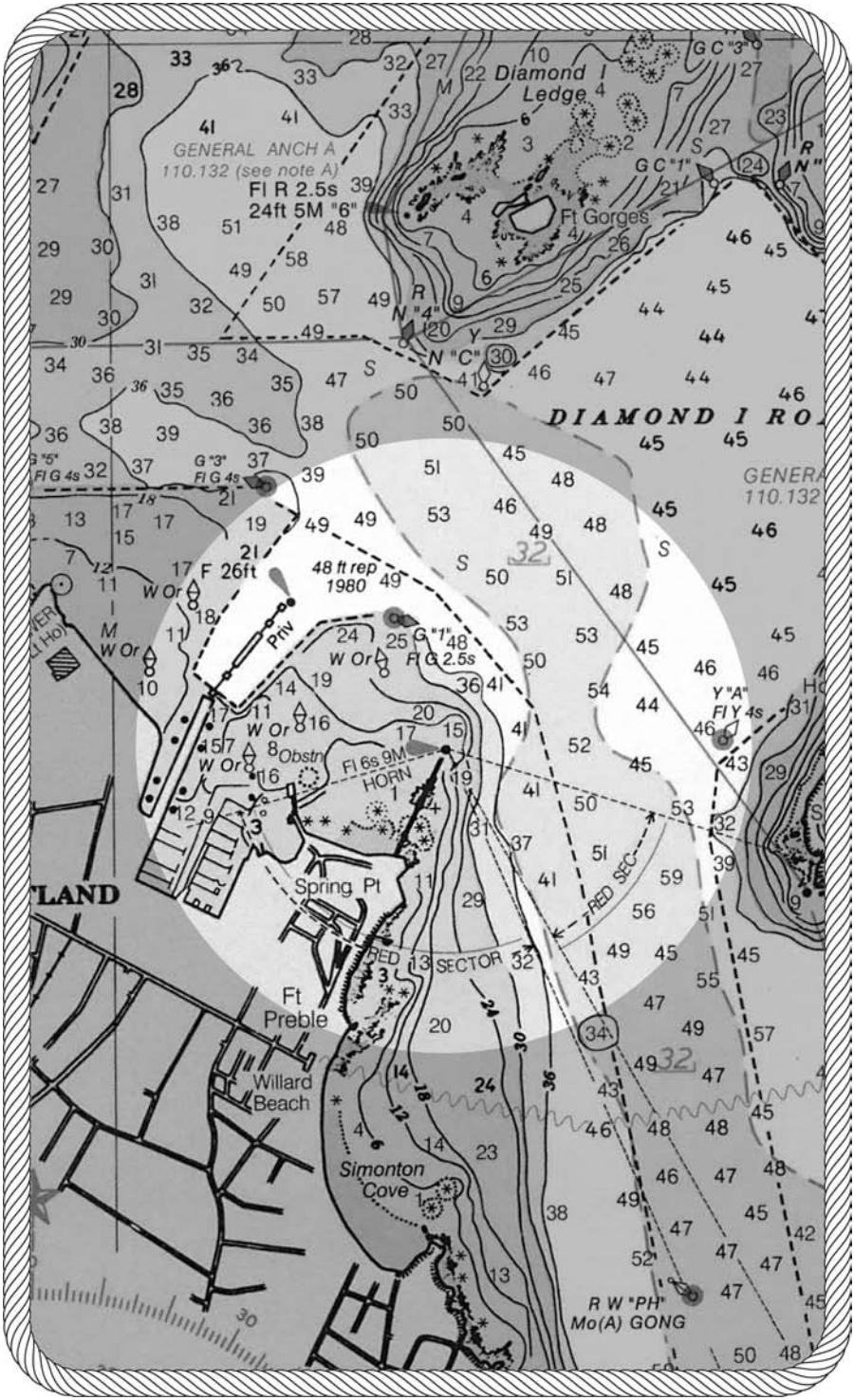
was Atlantic Mechanical, Inc., a Maine firm.

So, rather than attempt to repair something that was beyond repair, a new canopy was installed. Fabricated from hot powder-coated steel plates, they were bolted together to simulate the original hot riveted construction.

The result was a new canopy which does not require painting and met with the approval of the Maine Historic Preservation Commission.

A CHRONOLOGY

- Plans for a Fifth-Order Caisson Lighthouse with Fog Signal drawn in March, 1896 by Major W. R. Livermore, Engineer of the 1st Lighthouse District.
- Contract let to Thomas Dwyer of New York City.
- Foundation work began August 2, 1896 after initial leveling work in 14 feet of water by divers. Cast iron plates were bolted into a tube 25' in diameter. x 40' high to form the caisson.
- September 6, 1896 a major storm wrecked the iron work.
- New iron plates were ordered from Pennsylvania, forcing a delay of 3-1/2 weeks and costing an additional $5,000.
- The structure broke above water October 2.
- During October the caisson was completed, filled with cement, and cast iron work finished.
- In early November, federal inspectors questioned the quality of cement used to fill the foundation. Dispute is settled after three week hiatus.
- Work resumes in late November and continues through winter, brickwork begun.
- February 1897, the lantern is installed, workers finish interior.
- March 17, tower received final coat of paint.
- Lamp and lens arrive from Lighthouse depot April 2, 1897.
- First lit May 24, 1897, William A. Lane – Head Keeper.
- 1912, first reports of serious caisson cracks reported due to ice pressure. Two steel bands installed to add strength to caisson.
- 1929, caisson is repaired, cracks filled and steel bands replaced.
- 200 tons of granite riprap installed around the base in early 1930's due to increasing ice damage.
- Electrified in 1934 via underwater cable, along with Portland Breakwater Lighthouse, which was then controlled from Spring Point.
- U. S. Coast Guard assumes control of all lighthouses, and the Lighthouse Board is eliminated.
- 1946 Congress gave U. S. Army Corps of Engineers go-ahead for breakwater but did not allocate funds.
- March, 1949 Congress finally allotted $255,000 to build the breakwater.
- Work began June 6, 1950 and was completed a year and a day later.
- The lighthouse was fully automated in the early 1960's, and the Coast Guard keepers were removed.
- Deeded to Spring Point Ledge Light Trust in 1998 under the Maine Lights Program. The U. S. Coast Guard continues to operate the light and fog signal as an active Aid to Navigation.
- 2004 major renovation of the lower gallery canopy completed, replacing all panels and eliminating a lead paint hazard.


Diamond I Ledge
GENERAL ANCH A
110.132 (see note A)
Fl R 2.5s
24ft 5M "6"
Ft Gorges
GC "3"
GC "1"
N "4"
N "C"
DIAMOND I RO
GENERA
110.132
G "5"
Fl G 4s
G "3"
Fl G 4s
F 26ft
48 ft rep
1980
Priv
G "1"
Fl G 2.5s
W Or
Y "A"
Fl Y 4s
Obstn
Fl 6s 9M
HORN
Spring Pt
RED SEC
RED SECTOR
Ft
Preble
Willard
Beach
Simonton
Cove
R W "PH"
Mo(A) GONG
TLAND