



by Wayne Wheeler

1 Congress 9th Act

In the last Log we covered the administration of the lighthouses of this country from the 1789 beginning to the investigation of 1842-43. That investigation was conducted by I.W.P. Lewis, nephew of Winslow Lewis and the man who won most of the government contracts to construct and maintain our lighthouses. Many believe Winslow was at least partially responsible for keeping the Fresnel lens, developed in 1822, from our shores in favor of his reflector system. We continue now with I.W.P. Lewis's investigation.

"That all expenses which shall accrue from and after the 15th day of August 1789, in the necessary support, maintenance and repairs of all lighthouses, beacons, buoys and public piers erected, placed, or sunk before the passing of this Act, at the entrance of, or within any bay, inlet, harbor, or port of the United States, for rendering the navigation thereof easy and safe, shall be defrayed out of the treasury of the United States; Provided nevertheless, That none of the said expenses shall continue to be so defrayed by the United States, after the expiration of one year of the day aforesaid, unless such lighthouses, beacons, buoys and public piers, shall in the mean time be ceded to and vested in the United States, by the state or states respectively in which the same may be, together with the jurisdiction of same."

The inspection then shifted to the construction of the lighthouses. He began by castigating the very mortar that they were constructed with, stating that the mixture of lime and sand was in such proportions that no "set" could be possible. He stated that there were two basic types of lighthouse in his area of inspection, "conical towers of rubble stone masonry, and wooden-frame towers, erected upon the roofs of the keepers' dwelling-houses...a description of one of each kind will apply to all." He noted that the rubble towers were capped by large slabs of soap stone laid on the top of the tower (projecting over from six to twelve inches) and not in any way fastened to it. Thus during storms water was driven up the tower and between the soap stone slabs and tower wall and that "large quantities of water remain [in the tower] after every rain storm." Then the water seeps down through the tower destroying the weak mortar, leaving sand and rotting the wood frame of the structure. Of course in winter this effect is worsened with the advent of ice, or the freeze-thaw situation. He found of the 31 lighthouses upon the coast of Maine, 24 were "injured from this cause alone."

Lewis continued his inspection noting that off the beaten path lighthouses often had more lamps and reflectors than major seacoast or harbor lights, like Boston; that some areas had clusters of lights and other stretches were devoid of any light at all. He attacked the rated range of the vari-

ous lights. The Lighthouse Service stated in Light Lists that a light with an elevation of 70 feet could be seen for 19 miles, when in fact the curvature of the earth will only allow a light at this height to be seen for 11 miles, not that the crude lamp reflector system would have that range were it properly elevated.

Of the wooden, tower on the roof, type of structure he stated, "The angle posts [of the lantern] rest upon the attic floor beams, and are not supported by

studding of any kind from below; consequently the whole weight and stress of the tower and lantern are borne by the horizontal beams...In every example of this method of construction...the same results were apparent, viz: a distortion of the framing of the roof of the house by lateral swaying motion of the tower in storms, and constant opening of all the joints, causing profuse leakage. The same movement of the tower destroys the plastering of the ceilings beneath, and the frame work of the house rapidly decay." He was shocked by not only the method of construction and workmanship, but by the design of the quarters. "...a division of the principal floor into three rooms, having a cellar beneath, and three above in the attic, which are always small and inconvenient, besides being cold and uncomfortable. The details of the work and materials are of the very roughest description, requiring regular annual repairs...At every station the complaint of smoky chimneys was made...very few of the stations were provided with the proper means of obtaining pure water..." He found that many remote and isolated stations either had no boat assigned or a boat too small to safely make it to civilization.

His findings for the construction of the lighthouses of Massachusetts was similar to his report on those of Maine.

In February 1843 Lewis submitted his report to Congress, through Secretary Forward. Secretary Forward included his recommendations with the report which stated, in part, that no further appropriations should be made for the erection of any lighthouse unless a competent engineer ascertained its necessity, suitability of site and a detailed plans and cost estimate for all buildings of the station. He also suggested that anytime repairs to any aid to navigation were estimated to exceed \$500, funds should be approved by the Secretary of the Treasury. Finally he requested that the supervision of lighthouses be placed under a "competent and scientific engineer" who would be paid \$3,000 a year.

I.W.P. Lewis's report was made with such vigor that Stephen Pleasonton's

rebuttal, made to Treasury Secretary Spencer (who had replaced Forward) characterized the report as "these calumnies" and declared himself as "having been grossly misrepresented by him."

Pleasonton wrote to Spencer "Sir: The Light-house establishment within the States of Maine, New Hampshire and Massachusetts, and its management, having been grossly misrepresented by a man employed by your immediate predecessor to inspect the same, and these calumnies having been communicated to the House....I took [liberty] to instruct the ...superinten-

Society of Portland, Maine representing 1,400 ships and other vessels.

He added to this vote of confidence the following statement: "In the report [I.W.P. Lewis's report] before alluded to, is an affidavit by one Daniel Bryant procured with a view of impeaching my character in connection with Mr. Winslow Lewis, who was employed by Mr. Bancroft to build three small lighthouses at Nauset Beach [Ed. - the Three Sisters of Nauset on Cape Cod]. Unfortunately for Daniel Bryant, there is not one word of truth in his disposition in regard to myself." Pleasonton explained that Mr. Bancroft, Collector of Customs



The Three Sisters of Nauset circa 1900. U.S. Lighthouse Society photo.

dent, not only of these states, but in all the states bordering upon the Atlantic, to open books at their respective Custom Houses, and to ask the masters of ships and other vessels, as they visited the custom-houses to make entry, to enter in those books their several opinions as to the quality of all lights from Maine to Louisiana, and forward these books to me prior to the meeting of Congress at its present session." Pleasonton went on to state that the "books" that he was forwarding contained the names of 1,000 masters of ships and other vessels who all attested to the excellence of the aids to navigation of this country. He also forwarded favorable testimony from the Marine

at Boston, was directed by him to advertise for proposal for the lighthouses (which had been approved by Congress), give the job to the lowest bidder and appoint a mechanic to oversee the project and make payment if the job was well done. Winslow Lewis was the low bidder, something that happened with amazing regularity, and Daniel Bryant was appointed mechanic or inspector.

On July 30, 1838 Bancroft wrote to Pleasonton that the work was complete "and done in a manner to do credit to Mr. Lewis, and was the best work of the kind, probably, in my district." On the same day Daniel Bryant certified that the contract had been fully complied with and Lewis paid.

However, four years later the 2 December 1842 affidavit of Bryant stated: "When the job was finished, I was called upon by the contractor to sign a certificate that the terms of his contract...had been honorably fulfilled. This paper I refused to sign, and referred the contractor to the collector at Boston...After a delay of some time, I received notice to call upon the collector at the Custom-house; and when I called there, I was directed to sign the certificate of approval before named." When Bryant inquired as to why he should sign, the collector told him that the Fifth Auditor had accepted the work and that he should sign as a matter of form (it was just government paperwork). David Bryant did sign thinking that his objection to the quality of the work was waived.

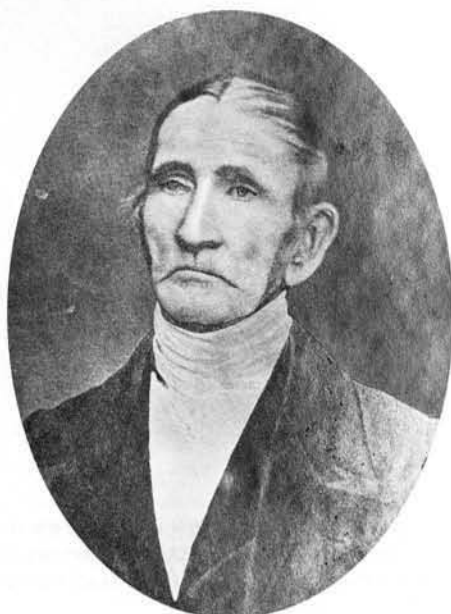
Pleasanton wrote that he never received a letter from Winslow Lewis, nor never wrote a line to Mr. Bancroft and that..."This man, Bryant, will be indicted, and probably punished, for perjury in this case." Things were heating up for the Fifth Auditor.

The names that he submitted in his defense did stay his "execution" for another eight years, but one has to wonder about the politics of the situation. Perhaps the Collectors of the various ports had some influence over the local mariners. And many of the names were no doubt those of mariners who had never been to Europe; they were names of pilots, coastal vessel operators and fishermen who had never been to Europe, had never seen the "light" and had nothing with which to compare the weak reflector system.

A prominent Boston Journal said: "The report that resulted from this partial survey was a severe blow to the defenders of the old [reflector] system; and if the Government had possessed the proper energy and vigilance, such an array of facts could not have been passed over unnoticed. A most important benefit, however, resulted to the public from the detail of the defective condition of the lighthouses, and particularly as to the illuminating apparatus contained in this report of Mr. I.W.P. Lewis; for it compelled the general superintendent of

light-houses to bestir himself and "get things a little more to rights." But Stephan Pleasanton wasn't about to "get things a little more to rights." The report and recommendations were tabled by Congress to the next session.

In June 1845 the new Secretary of Treasury, R.J. Walker, detailed Navy LT's Thornton A. Jenkins and Richard Bache to investigate the world situation. They were sent abroad "to procure information which may tend to the improvement of the light-house system of the United States; and as it is alleged that important improvements have been



Stephen Pleasanton
Fifth Auditor

made in the light-houses of Europe, especially those of France and Great Britain, the Department wishes to understand fully what those improvements are, and if they are adapted to introduction in our country." They were instructed to obtain information on the organization of the various systems, construction methods, lighting apparatus, costs, instructions to keepers and even information on types of buoys used abroad.

After spending a year abroad the young officers submitted a report in June of 1846 that recommended the reorganization of the Light-House Establishment

by the appointment of an engineer and optician and a number of District Superintendents, under the direction of the Secretary of the Treasury. They recommended that the engineer would make the plans, drawings and specifications for all construction work and inspect each lighthouse at least once a year. The optician would test illuminates and lens apparatus and visit each lighthouse once a year to make repairs and adjust the apparatus. The coasts were to be divided into ten districts, each placed in charge of an officer of the Navy who would inspect his lighthouses once a month and establish positions of aids to navigation by angles, bearings, etc., and make regular reports to the central office.

Secretary Walker submitted the very detailed report and recommendations to Congress stating "The report of the inspecting officers detailed...to examine the lights of our coasts showed their absolute defects; the present report shows their deficiencies as compared with other countries. The trial made of one of the French lights [Keep' - Fresnel lens] at Sandy Hook...has been very successful, but the use of this apparatus has not been extended." The Secretary noted that the law still required the old reflector system be employed. He went on to suggest that our system had grown to the point that one man could not attend to all the details concerning construction, contractual matters, modern developments and inspections...not to mention having the expertise to understand all the ramifications to navigation matters. Secretary Walker thought that the formation of a board was the answer and that such a board might include the 5th Auditor, the Superintendent of the Coast Survey, two naval officers and two from the Army (a Corp and a Topographical engineer) and a junior Navy officer to act as secretary. He requested permission to appoint such a board.

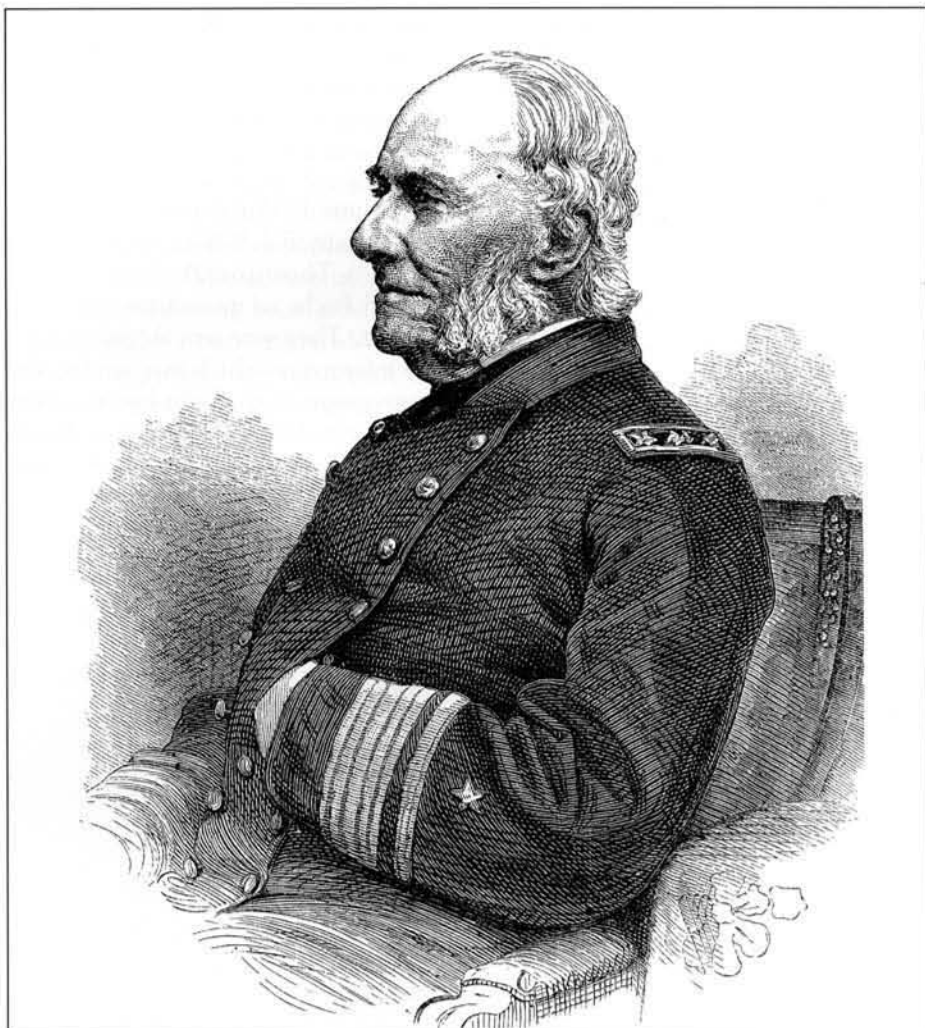
Congress dragged its feet in this matter until March of 1851 when suddenly an Act was approved in which the Secretary of the Treasury was authorized to place Fresnel lenses in lighthouses "as rapidly as he thought best," to appoint a board of proper persons to inquire into

the condition of the establishment, to make a (yet another) detailed report, and to detail from the Army engineering officers to superintend the construction and renovation of future lighthouses.

On May 21, 1851 Treasury Secretary Corwin appointed the board which consisted of Commodore W.B. Shubrick, USN (president), CDR S.F. Du Pont USN, General Jos. G. Totten, U.S. Engineers, Col. James Kearney, U.S. Topographical Engineers, Prof. A.D. Bache, Superintendent U.S. Coast Survey, and LT. T.A. Jenkins USN (Secretary). Finally professionals were about to take charge of the aids to navigation of this country. This ad hoc committee, in short order, submitted to the Congress a most comprehensive report of some 760 pages and 40 plates.

The report detailed construction of towers and dwellings, instructions as to how keepers were to perform their duties, ability and fidelity of the inspectors, mode of procuring and furnishing oil and other stores to the light stations, methods of testing supplies and types of reports to be placed into the new system. The report recommended that Fresnel lenses be placed in all of our lighthouses and that they be classed by Order, like the French (1st Order being the largest and 6th the smallest). Every aspect of construction, inspection and administration was laid out in fine detail. The report also recognized Mr. Pleasonton, who had administered the lighthouse service for over 30 years, a period in which the number of lighthouses had grown from 25 to well over 300. They said "great credit is due to the zeal and faithfulness of the General Superintendent and to the spirit of economy which he has shown," which spirit, perhaps, accounted for the "lack of zeal exhibited for the adoption of modern improvements"; and went on to say that, really, it was too much to expect that one person had the ability to manage such a vast organization and to stay on top of all the new developments, as well as ensure that all aspects of the service were running smoothly.

Both houses passed this organic Act



Admiral William B. Shubrick served as the first head of the U.S. Lighthouse Board (as a Captain) from October 1852 until February 1859 and again (as a Rear Admiral) from June 1859 to October 1871. The first vessel constructed especially for the Lighthouse Service (1857) was named after him.

and on 31 August 1852 it was signed by the President. The ad hoc committee became the U.S. Light-House Board and would hold sway for the next 58 years.

The Secretary of the Treasury was to be president but, in his (usual) absence, a chairman was chosen. Commodore Shubrick was named the first chairman. Joining him on the board were Professor Joseph Henry (Secretary of the Smithsonian Institution), Capt. E.L.F. Hardcastle USA as Engineer Secretary. Shubrick served on the board, with some breaks, for 19 years, and Professor Henry was chairman for seven years. Other respected civilians who served on the board during this important period of lighthouse development were A.D. Bache,

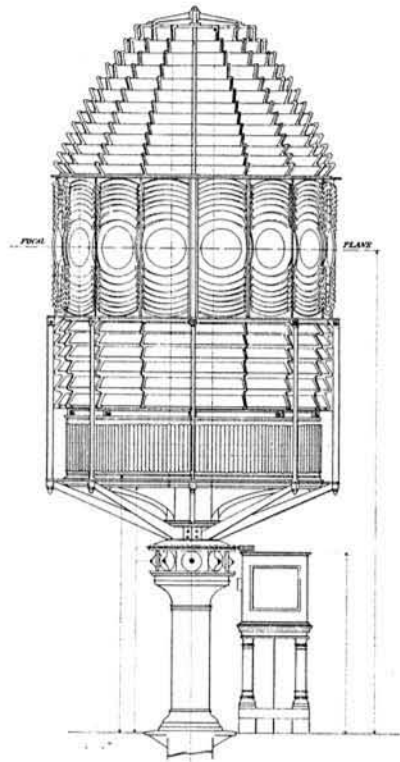
Mendenhall and Pritchett (all one time superintendents of the Coast and Geodetic Survey) and Henry Morgan, President of the Stevens Institute. Notable Navy officers were Jenkins, Dewey, Evans and Schley. The Army Engineers was represented by Totten, Humphreys, Franklin, Poe and Casey. Meade, in later years in Command of the federal troops at Gettysburg was engaged in lighthouse construction for six years in Delaware and Florida where he constructed Sombrero and Sand Key light-houses, the first of the giant Florida reef structures. Other board officers that later served the Confederacy were CDR Semmes and Generals Rosecans and Beauregard.

The Lighthouse Board took up its duties immediately upon being organized. As instructed by the Act they divided the coasts of the country into twelve districts; seven on the Atlantic, two on the Lakes, two on the Gulf and one on the Pacific. At first an Army or Navy officer was assigned as inspector. Later each district would have a naval officer as inspector and an Army Corps of Engineer officer as engineer.

The board took immediate steps to replace all reflector systems with Fresnel lenses and by 1859 the substitution was nearly complete. The contract for the first 8 lighthouses for the west coast had been awarded in 1852 and the board immediately sent a change order to the contractor deleting the reflector system from the contract. The west coast lighthouses were to have Fresnel lenses from the beginning.

This was also the era in which the price of sperm whale oil skyrocketed. At first, following the lead of Europe, the Lighthouse Service substituted Colza oil (a wild cabbage) for whale oil to fuel the lamps. But our farmers could not be enticed to grow this crop in ample amounts and the service employed lard oil as the principal illuminate. The 1850's also saw the development of several types of fog signals, invention of the bell buoy, construction of the first Lighthouse Service tender the Shubrick (which was assigned to the west coast), codification of a uniform system of buoyage and streamlining of the Notice to Mariners.

Lighthouses in the southern states suffered badly during the Civil War. A great many were partially or totally destroyed. In some cases the Confederates removed the lenses from the towers, hiding them until after the war was over. Nearly all the lightships in the Chesapeake were taken or sunk to obstruct various channels. Some 164 lighthouses were, in one way or another, placed out of commission during the hostilities. The management of the service also suffered as naval and army officers were reassigned to the military duties. The board tried to cooperate with the naval forces by relighting as



many towers as was possible. In 1862 a bill was introduced into the Senate to transfer the Lighthouse Board to the Navy department. The Secretary of Treasury asked Admiral Shubrick his opinion of this proposal and Shubrick shot back that one need only to look at the progress made between 1852 and 1862 as compared to the situation prior to 1852 to see the folly of this reorganization. The bill failed.

Another attempt was made in the period 1882-1885. This proposal would combine the Lighthouse Service with the Life Saving Service and Coast Survey and transfer that amalgamation to the Navy. The Secretary of the Navy argued that those three services were maritime in nature and had no relationship to the Treasury...but the reorganization was thwarted.

In 1874 Congress extended the jurisdiction of the Lighthouse Board over the Mississippi, Missouri and Ohio Rivers, providing for such "beacon lights, day-beacons and buoys as may be necessary for the vessels navigating these streams." The Act also provided that the rivers be divided into two (new) districts. The first light in the river districts was established at Jefferson Barracks, near St. Louis, MO in December 1874.

In 1883 several severe shipwrecks in Alaskan waters caused the board to establish 14 iron buoys in the new territory. However Alaska wouldn't get its first lighthouse until after the turn of the century.

On July 26, 1886 Congress authorized an increase in lighthouse districts to sixteen, the rivers were now divided into three districts and by this time the west coast had two (California & the Pacific Northwest).

A Presidential Executive Order on May 1, 1900 placed the Puerto Rican Lighthouse Service under the Lighthouse Board. Several requests were made during this era for an increase of the Districts from 16 to 18 so that Puerto Rico and the Dutch West Indies could be districts. Requests were also made to provide for the Hawaiian lighthouses, should they be transferred to the U.S. Lighthouse Service. Although there were some aids to navigation in Alaskan waters (which were under the Pacific Northwest District) no lighthouses had been constructed. On the first of January 1905 Hawaii lighthouses and aids to navigation became a sub district of the 12th (California) District. Later that year the Midway aids to navigation joined Hawaii under the 12th District with Guam and the Samoan islands following suit in 1905.



Lighthouses Transferred to Commerce

The Department of Commerce was created by an Act on May 14, 1903. A provision of the act required the transfer of the Lighthouse Board from Treasury to this new department. The Lighthouse Board, by this date, had been in existence for over 50 years and had not only increased the number of aids to navigation in the country, but had carried out some notable and difficult lighthouse construction (Minots Ledge, Tillamook Rock and St. George Reef to name but a few).



Bureau of Lighthouses Created

In June of 1910 Congress passed an Act that reorganized the Lighthouse Service. The Lighthouse Board had now been in control for 58 years. Total lighted aids had increased from around 335 when the board assumed control to nearly 4,000 (this includes minor lights and lighted buoys). Fog signals had increased from 49 to 457, and buoys from 1,000 to 5,300. The board which had been necessary to oversee a system too complex for one man had now, itself, become obsolete. Congress now thought that a pyramid structure was necessary with a single bureau chief at the top of the pile. We had come, in a way, full circle. Congress also felt that assigning military officers as engineers and inspectors of the districts (for short periods of time) caused the loss of continuity. The assignment of a civilian inspector, who would hopefully serve for many years, to provide continuity.

The Organic Act of 1910 authorized that civilian personnel manage the system, and a period of three years be used to implement the new system. Further it increased the number of Districts to 18 to establish separate districts for Puerto Rico, Hawaii and Alaska. In the future each district would be managed by a single head, a District Inspector (in 1918 this title was changed to District Superintendent) who answered directly to the Commissioner of Lighthouses on all mat-

ters relating to his district. Each district was staffed with an assistant, a clerk and an engineer.

George Putnam, who had a long and distinguished career with the U.S. Coast & Geodetic Survey, was appointed the first Commissioner of the new bureau. He would reign until May 31, 1935 when he was forced to retire due to age. Prior to assuming control over the Lighthouse Service, Putnam was director of the coastal surveys of the Philippines. Once appointed to the new bureau he took firm control and instituted, not only the new administration but many changes as technological advances were developed, among them radiobeacons. At his retirement luncheon Secretary of Treasury Roper congratulated Mr. Putnam on his distinguished career of 45 years and noted that while aids to navigation had increased from around 12,000 to 24,000 during his tenure, the number of employees dropped from 5,832 to 4,980. Putnam was replaced by H.D. King who headed up the bureau until the Coast Guard assumed control in 1939.



President Roosevelt's Reorganization Order #11 consolidated the Lighthouse Service with the U.S. Coast Guard to take effect on July 1, 1939. It read: "Bureau of Lighthouses—The Bureau of Lighthouses in the Department of Commerce and its functions are hereby transferred to and shall be consolidated with the administration of the Coast Guard in the Department of Treasury." And, thus, lighthouses were back under Treasury again.

After the reorganization the keepers had several options: (1) Quit, (2) Retire (if they had enough time in service) (3) Remain a keeper (wearing the USLHS uniform) (4) Transfer into the Coast Guard at an applicable (lateral) rate. Keepers who transferred were given a petty officer rank that equaled the pay they were then drawing; a head keeper might become a 1st class, an assistant

2nd or 3rd, etc., and most keepers were given a boatswain mate rating. While some personnel remained "keepers," there was an advantage to transferring to the Coast Guard. The storm clouds of WWII were gathering. Because keepers were Civil Service they were eligible for the draft.

During the 1960's, when automation was in full swing, light stations were a strange mix of civilian and enlisted Coast Guard. By this period the few keepers remaining from the Lighthouse Service had acquired seniority, and knowledge, to the extent that they were head keepers of the manned stations to which they were assigned. They were provided two, or three, young Coast Guardsmen to assist in running the station. By the late 1970's all civilian keepers had retired with exception of Frank Schubert, keeper of the Coney Island, NY station. Also by the end of the 1970's most light stations of this country were unmanned, less than ten remain at the start of 1989 and this number will dwindle to zero within the next few years.



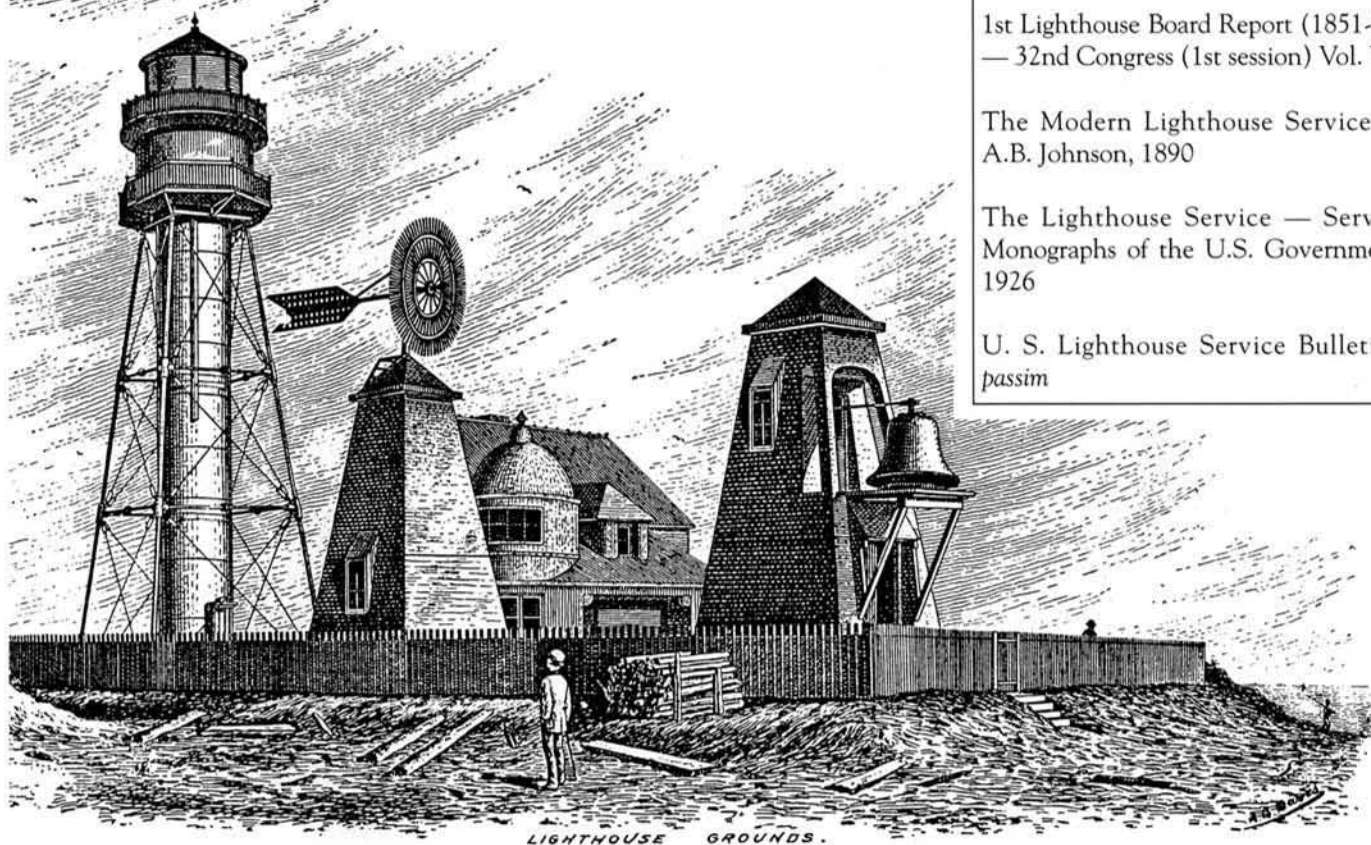
After 273 years, the era of manned lighthouses in this country is fast approaching an end. That unique way of life will pass as surely as has the era of the tall ship and steam locomotives. Somewhere, in a remote area of Canada or perhaps India, people may still be assigned to a lighthouse to fulfill the role of weather watcher or to assist with a remote communications link. And there will be stations, constructed long ago in the age of steam and clipper ships, where a scientist will reside to study and manage our wildlife. But the era of the manned lightstation is soon to end, and the Golden Age of lighthouses (the 19th Century) has passed.

Modern inexpensive electronics (both ashore at major sea coast lights and aboard all size vessels) have obviated the need for people to tend the flame, record weather and watch for vessels in distress.

As our civilization progresses, we move two steps forward...and sometimes one step backwards. In the areas of convenience, cost of goods and their availability, health and creature comforts, we continue to gain...in matters of a slower paced way of life and the personal touch, we sometimes lose — ebb and flow. Progress continues but, for us, a quaint, unique and altruistic way of life has passed over the horizon.



New flash light and fog bell at Coney Island Point.



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