(Copy of J. W. P. Lewis's Letter)

Washington, Febʸ 28. 1842.

Dear Sir,

I have the honor to enclose you herewith, my reasons, with facts, in support of the statements already made verbally, as to the condition of our Light-house service.

Also the statement of Monsr. Fresnel, describing the French Light house service, — the admirable order, & systematic arrangement of which affords a practical example, worthy of imitation in this country.

I also enclose for your consideration, the draft of a "Bill to provide for the better organization of the Lighthouse Establishment of the U. States;" which bill was prepared by me three years since, but never brought before the House, owing to the unforeseen illness of Honble Abbott Lawrence who warmly espoused the measure.

Allow me most respectfully, to commend these documents & the subject they illustrate, to your attention.

I have the honor to be,
Dear Sir —
Your Obt. Servt
(Signed) J. W. P. Lewis,
Civil Engineer.

Honble Robert C. Winthrop,
M. C. for Massachusetts.

1st That the present Lighthouse system is founded in error.

In the year 1812, Congress authorized the purchase of a Patent Right obtained by Winslow Lewis of Boston Mass. which patent allowed him to claim the invention of apparatus for illuminating Light houses, styled "Magnifying & Reflecting Lanterns". For this patent right our Government paid the sum of $20,000, with the further expense of fitting up all the Lighthouses then existing on our coast, 49 in number. It is matter of public record, that the original of this same apparatus was invented in 1790, by Mr. Teulère Ingenieur en chef des Ponts et Chaussées in France, & also put in successful operation that same year at the Cordouan Lighthouse, & subsequently at the other Light Houses on the French coast. — Also that in 1803, the same apparatus was adopted in Great Britain; consequently that no Patent could be granted by our Government for an invention not only 20 years old, but as many years in public use abroad. But the error did not stop here; the construction of this apparatus required a thorough knowledge of optics; at least that portion of the science relating to the reflection of Light. But the patentee was not a scientific man, nor had he any knowledge of optics whatever. This is proved by his works, which in no instance can be found of a form even approximating to the truth. The Lamb forming part of the apparatus, & well known

original Patentee, who has enjoyed the patronage of the Government in this department for 30 successive years, to the exclusion of all competition or improvement.

In 1789, the Lighthouse administration was placed under the Treasury Department, where it still remains. When any portion of the people petition for a Lighthouse, it is referred to the 5th Auditor of the Treasury, who calls upon Congress for such an appropriation as he considers sufficient. The labors of the Engineer or Architect are unsought:— no examination is made of the site by competent men, rarely by any one. The specification is drawn up, describing the intended structure, &c., in most cases by a person who has never seen the site, & this very person is a Contractor, & always sends in his bid for the very work he has planned.

The said specification is then advertised for proposals, & the lowest bidder takes the contract, no matter if he be a builder or any other profession, so that he can give bonds— but in nine out of ten cases the aforesaid Contractor is the lowest bidder. The Collector of the District where the Light House is to be erected, next appoints a person to Superintend the progress of the work. This person is never an Architect or Engineer, but sometimes a journeyman mechanic, most commonly an idler of no profession.

The Government therefore relies ultimately for the execution of a work, badly planned in the outset, entirely upon the integrity of an obscure individual, employed at the rate of $2 pr. day.

In consequence of this defective system, by which the contracts are often given to parties who are irresponsible, the nation is saddled with an annual appropriation of $150,000 more or less, to keep these wretched structures in habitable order. 180 Lighthouses have been erected under the auspices of the 5th Auditor, in not one of which has an Architect or Engineer been employed.

In consequence of the 5th Auditor receiving petitions for Lighthouses, & adopting the same ad libitum without examining the coast to proove the necessity of additional lights, our sea coast of the Northern & middle Atlantic States is thronged with Lighthouses, there being no less than 131 Lights, containing 1200 Lamps, between Sandy Hook & Eastport, while along our Southern Seaboard, where the population, is scattered & thin, they stand at most magnificent distances from each other; and when we state, that between St. Augustine & Tortugas, a navigable distance of 580 miles, we have but one coast Light intervening, & that between these two extremes there are more vessels wrecked annually than on all the remaining sea coast of the Union, it is presumed that the fact will appear evident, that our Lighthouses are constructed for the satisfaction of landsmen rather than to serve the mariner, & also that our 1st position is proven — viz: that the American Lighthouse system is founded in error. —

2d That instead of Order, Economy & Utility, in the administration of our Lighthouse System, we have Confusion, Extravagance & Impotence.

At a given position in Massachusetts Bay there are visible at one view in favorable weather twenty three Light Houses mounting 281 lamps. Among these are six double Light houses — that is, two separate towers at one establishment serving to distinguish them from their neighbors. At Cape Ann is a double Light, & only 12½ miles from there is the double Light on Baker's Island at the entrance of Salem Harbor. This erroneous disposition of distinctive Lights has been the cause of fatal disasters by mariners mistaking one for the other. If at either station one tower was made to contain a revolving Light, it would then be immediately known, from the station showing the two fixed Lights; but at present a stranger to the coast cannot distinguish one from the other.

At Scituate is a double Light, & the next Light 15 miles South (at Plymouth) is also double. In both these establishments the two Lanterns are so near together that at the distance of six miles the rays of light from each lantern combine in one beam, & they each appear as single lights.

Here then in Boston Bay alone we have four establishments with double lights, in each case both are fixed lights, therefore not distinguishable the one from the other. In Cape Cod Bay, we have four Lighthouses, likely to be destroyed by every storm, on account of their having been constructed without any protection from the encroachments of the sea.

Since these were erected, large sums have been expended to repair this omission; but the work being done by the same parties who erected the Lighthouses, & without any regard to permanency, as well as an utter ignorance of Hydraulic Architecture, the whole expenditure may be considered as a total loss. These four Lighthouses are at Long Point, Wellfleet, Sandy Neck, & Billingsgate Island. The Lighthouse at Wellfleet is comparatively useless - the harbor there being a tide harbor, & only available at high water, besides being always frozen up in winter: yet nine lamps are kept burning constantly, as if it were the entrance to a great sea port, instead of an obscure fishing village. The Light on Billingsgate Isld is at the mouth of Wellfleet harbor, & is quite sufficient for the limited number of small craft frequenting it. If a Light is allowed here, it should be merely a signal lantern, exhibited at high water only, or what in England is termed a tide light. The same remark applies to Scituate - which is also a tide harbor. On the ocean coast of Cape Cod, we have at Truro, the great Light of Truro - visible in clear weather 30 miles; next Nauset triple Lights, 12½ miles south of Truro; & next Chatham Lights - 12½ miles south of Nauset. Here in a space of 25 miles are six Lighthouses. — The three Lighthouses at Nauset mount 30 lamps, & utterly useless to Navigators, because when visible - so are Chatham & Truro; & as the coast is clean, straight, & bold, without any dangers outlying - there is not the least necessity for them. If however a

light must be maintained here, let it be a reciprocating light of 5 lamps, & extinguish 25 lamps & an annual cost of 1250 dollars for oil & repairs of apparatus. The Lights at Chatham were rebuilt last summer. The first severe gale in September destroyed one of the Lanterns a/c account of its being so badly built, yet the Contractor was not called upon to make good the damages resulting from his improper work. Large sums have been expended in the Vinyard Sound to repair work done by incompetent persons in the construction of Breakwaters, &c., as at Edgartown, Cape Poge, West Chop, & other places.

The Light house of Monamoy is one of the most important of this neighborhood, standing at the turning point or extreme angle of the South shore, where all the immense number of shipping from Massachusetts' Bay pass into the Vinyard Sound, yet the apparatus of this Light House is inferior in magnitude & effect to any one in Vinyard Sound, & has a less number of lamps than the obscure light of Wellfleet Harbor before noticed. The Lighthouse on the Dumpling Rock in Buzzards' Bay was so badly constructed that it has been twice cased over with brick, (the original structure being stone) to save the Keeper from being drowned out. The Lighthouse at Stonington was reported in 1838 to be in the utmost danger from the encroachment of the sea, & the following winter the Keeper & all his family barely escaped drowning during a heavy storm, the surf beating in all the windows & the door, & making a fair breach through the house. No notice was taken of this report until 1840, when an entire new

establishment was erected on higher ground; but though much pains had been taken by an Architect who presented the plan & specifications to the Department gratis, yet through the villany of the contractor, the work was executed in such a manner as will cause the rapid & premature decay of the whole structure. The Keeper states that this Winter he has had icicles the size of his arm hanging on the walls of his chambers & living room, & the copper sheathing of the roof was blown almost entirely off during a gale of wind. At Lynde Point, mouth of Connecticut River, a new Lighthouse was erected in 1838, & no provision was made to protect it from the surges of the Sound, or the dangerous ice & freshets of the river. Before 18 months had past, about $4000 were expended to prevent the tower from tumbling to the ground. —— In this way we can go on throughout the Union, & prove by the present condition of almost every Lighthouse, that enormous sums are annually wasted by patching the frauds of former days or in the commission of new ones. Look at the condition of Mispillion, Cohansey, Mahon's Ditch, Henlopen, & Reedy Island Lighthouses in the Bay & Delaware; also Watts's Island, Sharp's Island, Cove Point, Concord Point, Thomas's Point, & Cape Henry in Bay of Chesapeake, & see the sums that have literally been thrown overboard, to keep these crazy structures from falling to pieces, or being swallowed up by the drifting sands. In short, we have 236 witnesses in the shape of as many Lighthouses, that all order, Economy, & utility, in the construction illumination & administration of the Lighthouse service is set at utter defiance, by rule of ignorant & incompetent men, who are still pursuing the same career unnoticed, & uncared for.

(Copy of a Bill proposed by J. N. P. Lewis.)

A Bill to provide for the better organization of the Lighthouse Establishment of the United States.

Sec: 1- The Lighthouse establishment to be placed under the control of the Bureau of Top: Engineers, but subject to the Supervision of the Secretary of the Treasury.

Sec: 2d- The coast together with the Bays & rivers & the great lakes- to constitute four districts- 1st- from Papamaquoddy to Cape May- 2d- Cape May to Cape Florida- 3d- Cape Florida to the Sabine- 4th- the great lakes & all navigable waters of the Mississippi basin north of the mouth of Ohio river.

Sec: 3d- An officer of the corps of Top: Engineers to be placed in charge of each of the above named districts, in the capacity of Engineer & of Inspector of Lighthouses.

Sec: 4th- Upon the assignment of an officer to a district, he shall inspect personally, every Lighthouse within the

limits of his jurisdiction, if he shall find lights erected in places which he considers unnecessary for the purposes of navigation, he shall report it; & if in his judgment lights should be required at other points, he shall report that also, with his reasons in both cases. The condition of Beacons, buoys, &c. will in like manner be noticed by him.

Sec: 5th A vessel of suitable capacity to be provided for each district, for transporting all supplies required in the service, & material for erecting or repairing buildings, &c.; - also in case of need to co-operate with the Revenue service.

Sec: 6th: A manufactory for the fabrication of the apparatus for illuminating the several Lighthouses as they may be built or repaired, & for all necessary appendages - to be established in one of the principal cities - under the direction of the chief of the Corps of Engineers, & under the supervision of the Secretary of the Treasury, to be assisted in the duties by an Optician & such other artisans & other laborers as the service may require.

Sec: 7th At the close of each season, the Officer having charge of a district shall make a full statement of all expenditures made during the year with estimates for the succeeding year, specifying in detail the articles required: All contracts for supplies to be subject to the approval of the Chief Top: Engineer, & the sanction of the Secretary of the Treasury: & all accounts of expenditures to be rendered quarterly to the Treasury Department, & settled in the same manner as other public accounts.

Note. Under the present system of conducting the Lighthouse establishment, there seems to be a radical defect, to wit, The Superintendent who makes the contracts for supplies, buildings, &c. is in fact the same person who audits & settles the accounts for the same. The principle is clearly wrong, & in dishonest hands, collusion between the Superintendent & the Contractor could readily be practiced, & the evidences of the same be as readily concealed.

The evidence that a great annual saving in the expenses of our Lighthouse establishment would result from a more systematic mode of administration, under a scientific Corps already organized, will appear by examining the details of the French system.