FINANCES.

REPORT

OF

THE SECRETARY OF THE TREASURY,

ON

The state of the Finances.

JANUARY 20, 1853.—Referred to the Committee of Ways and Means.

JANUARY 27, 1853.—*Ordered*, That 13,000 extra copies of the annual report of the Secretary of the Treasury on the state of the finances, and 2,000 copies of the portion of it relating exclusively to the fisheries, be printed separately, for the use of the House.

TREASURY DEPARTMENT, *January* 15, 1853

The Secretary of the Treasury reports:

RECEIPTS AND EXPENDITURES.

The receipts for the fiscal year ending June 30, 1852, were—

From customs	$47,339,326 62
From public lands	2,043,239 58
From miscellaneous sources	345,820 69
	49,728,386 89
Add balance in the treasury July 1, 1851	10,911,645 68
	60,640,032 57
The expenditures for the same fiscal year were	46,007,896 20
Leaving a balance in the treasury July 1, 1852	14,632,136 37

(As appears in detail by accompanying statement A.)

ESTIMATES.

The estimated receipts and expenditures for the fiscal year ending June 30, 1853, are—

Receipts from customs 1st quarter, by actual returns	$15,728,992 25	
Receipts from customs 2d, 3d, and 4th quarters, as estimated	33,271,007 75	
		$49,000,000 00
Receipts from public lands		2,000,000 00
Receipts from miscellaneous sources		300,000 00
Total receipts		51,300,000 00
Add balance in the treasury July 1, 1852		14,632,136 37
Total means, as estimated		65,932,136 37

Expenditures, viz:

The actual expenditures for the quarter ending Sept. 30, 1852, were... (As appears by accompanying statement B.)	$13,440,587 69	
The estimated expenditures during the other three quarters, from October 1, 1852, to June 30, 1853, are—		
Civil list, foreign intercourse, and miscellaneous	13,214,330 17	
Expenses of collecting the revenue from customs	1,575,000 00	
Expenses of collecting the revenue from lands	192,646 28	
Army proper, &c	8,689,530 21	
Fortifications, ordnance, arming militia, &c	705,620 18	
Internal improvements, &c	1,318,963 77	
Indian department	1,973,313 50	
Pensions	1,070,686 53	
Naval establishment, including dry-docks and ocean steam mail contracts	7,454,300 66	
Interest on the public debt	3,725,600 10	
Redemption of stock of the loan of 1843	5,922,931 35	
Purchase of stock of the loan of 1847.	1,276,546 42	
		$60,560,056 86
Leaving an estimated unappropriated balance in the treasury July 1, 1853, of		5,372,079 51

This balance, it will be observed, exists after the application of $7,199,477 77 to the redemption of the public debt.

The estimated receipts and expenditures for the fiscal year commencing July 1, 1853, and ending June 30, 1854, are—

Receipts from customs	$49,000,000 00
Receipts from public lands	2,000,000 00
Receipts from miscellaneous sources	200,000 00
Total estimated receipts	51,200,000 00
Add estimated balance in the treasury July 1, 1853	5,372,079 51
Total means as estimated	56,572,079 51

The expenditures for the same period, as estimated by the several Departments of State, Treasury, Interior, War, and Navy, and Postmaster General, are—

Balances of former appropriations which will be required to be expended this year	$6,879,883 28

Permanent and indefinite appropriations	$9,172,829 68
Specific appropriations asked for this year	30,151,040 64
Total	46,203,753 60

This sum is composed of the following particulars, viz:

Civil list, foreign intercourse, and miscellaneous	$11,213,430 74
Expenses of collecting revenue from customs	2,100,000 00
Expenses of collecting revenue from lands	204,520 00
Army proper, &c	9,311,808 64
Fortifications, ordnance, arming militia, &c	2,191,647 48
Internal improvements, &c	895,205 70
Indian department	1,612,137 45
Pensions	2,023,512 00
Naval establishment, including dry-docks and ocean steam mail contracts	12,664,222 05
Interest on public debt	3,400,638 54
Purchase of stock of the loan of 1847	586,631 00
	46,203,753 60
Leaving an estimated balance in the treasury July 1, 1854, of	$10,368,325 91

It will be seen, by reference to the foregoing statement, that the total cash receipts and means in the treasury for the year ending on the 30th June, 1852, were $60,640,032 57. Of which there were received from customs, $47,339,326 62; from lands and miscellaneous sources, $2,389,060 27; and a balance in the treasury at the commencement of the year of $10,911,645 68.

The expenditures for the same period were $46,007,896 20, which includes the following payments on account of the public debt, viz:

For interest, including that on $5,000,000 of 5 per cent. stock issued to Texas	$4,000,297 80
For the redemption of the principal of various loans	1,986,160 66
Reimbursement of revolutionary debt	1,460 31
Reimbursement of outstanding treasury notes	300 00
Reimbursement of stock for the fourth and fifth instalment of the Mexican indemnity	287,596 76
Total	6,275,815 53
Besides which there was paid the instalment of the debt of the cities of the District	60,000 00
The last instalment due to Mexico under the treaty of Guadalupe Hidalgo	3,180,000 00
Awards to American citizens under the same treaty	521,980 78
Making a total of	*10,045,796 31*

included in the expenditures of the last fiscal year on account of the

principal and interest of the funded and unfunded public debt, which, deducted from the above sum, reduces the expenditure to $35,962,099 89.

From this latter sum, however, may be still further deducted the following items, which form no portion of the regular expenses of the government, viz:

Repayment to importers of the excess of deposites on unascertained duties	$846,918 86
Repayment of drawbacks, allowances for damages on imported merchandise, fishing bounties, &c	544,452 38
Refunding duties under the act of 8th August, 1846	138,086 41
Refunding duties under the decisions of the Supreme Court, acquiesced in by the department	221,985 87
Debentures and other charges refunded under various acts of Congress	113,307 73
A still further reduction may be made for the ocean mail service, which more properly belongs to the Post Office Department, the revenue and expenditures of which are entirely distinct from the general expenses of the government, and which department collects all the revenue from this ocean mail service	865,555 55
The expenses attending the seventh census is an expenditure accruing only once every ten years, and the amount under this head in the expenditures of the last year is	547,385 02
Making together	3,277,691 82
If to this are added the expenses of collecting the revenue from customs and lands, which, previous to the year 1849, were deducted from the gross receipts, and the net revenue only paid into the treasury, but which form items of expenditure during the last year to the extent of	2,249,715 38
There will be altogether	5,527,407 20

Which, deducted from the preceding sum of $35,962,099 89, would leave $30,434,692 69 as the regular and ordinary, including some considerable items of extraordinary, expenditures of the government for the last fiscal year.

It will be observed that the whole amount of the last instalment to Mexico is included in the expenditure of the year; but the sum of $66,467 42 has since been refunded into the treasury, and will appear in the miscellaneous receipts for the current fiscal year, being the profit accruing to the United States from gain in exchange in consequence of the said instalment having been paid in the City of Mexico.

The balance remaining in the treasury on the 1st of July, 1852, it will be seen, was $14,632,136 37.

By the last annual report from this department, the estimated total receipts and means from all sources for the year ending 30th June,

1852, were $62,411,645 68. The estimated total expenditures for the same period were $50,952,909 59; leaving an estimated unappropriated balance in the treasury on the 1st of July last of $11,458,743 09.

The actual balance in the treasury at that date was	$14,632,136 37
From which deduct the balance of appropriations already made for the same fiscal year undrawn, but subject to draft, on the 1st of July last, of....	6,108,315 48
To the payment of which the actual balance in the treasury on that date of $14,632,136 37 was liable, and the actual *unappropriated* balance in the treasury on the 1st of July last was.....	8,523,820 89

The estimated receipts for the current fiscal year, as submitted in December, 1851, were $51,800,000 00. The actual receipts, so far as returns have been received, for the five months ending the 30th November, being $22,220,299 20, indicate the then estimates of receipts to have been nearly correct.

The then estimated expenditures, as submitted to Congress, for the current fiscal year were $42,892,299 19; and the unappropriated balance in the treasury on the 1st July, 1853, provided no additional appropriations beyond the estimates then submitted should be made by Congress, was estimated at $20,366,443. Congress, however, in its appropriations, exceeded the estimates submitted by this department (including provision for any deficiency in the income of the post office in consequence of the reduction in the rates of postage) about ten millions of dollars.

The actual expenditures for the current fiscal year, as appropriated and authorized by Congress, (exclusive of the sum to be applied to the redemption of the public debt,) therefore amount to $53,360,579 09, in place of $42,892,299 19, as estimated by the department; and the balance in the treasury at the end of the current fiscal year is estimated at $5,372,079 51, after allowing the sum of $7,199,477 77, as applicable to the redemption of the public debt.

This, however, it must be observed, is the *unappropriated*, and not the actual balance which will be in the treasury at the date specified. The actual balance undrawn at that date, provided Congress creates no unexpected demands upon the treasury to be liquidated prior to July next, may be estimated at about $10,000,000, after having redeemed, during the year, more than $7,000,000 of the debt.

For the fiscal year ending on the 30th of June, 1854, the total receipts are estimated at $51,200,000, which, with the estimated balance in the treasury on the 1st of July next, will give as the estimated total means for the year the sum of $56,572,079 51.

The estimated total expenditures for that period are $46,203,753 60; leaving an estimated unappropriated balance in the treasury on the 1st of July, 1854, of $10,368,325 91, without other deduction from the available means of the year, towards the reduction of the public debt, except the sum of $586,631 for the purchase from the land fund of the loan of 1847.

PUBLIC DEBT.

The public debt on the 20th November, 1851, was $62,560,395 26, exclusive of the stock authorized to be delivered to Texas by act of Congress of 9th September, 1850, amounting to $10,000,000, of which $5,000,000 of certificates were ready and awaiting the demand of that State at the date of my last annual report. That amount has since been delivered to the authorized agent of the State of Texas; thus increasing the aggregate registered debt to $67,560,395 26. The following reductions have been made since the last annual exhibit of the public debt, up to the 1st January:

On account of the debt of the District cities	$60,000 00
On account of the old funded and unfunded debt	2,143 39
On account of the loan of 1843	1,711,400 00
On account of the loan of 1846	9 74
On account of the loan of 1847	650,100 00
On account of the loan of 1848	5,000 00
Treasury notes paid in specie or received as such	50 00
Making a total of	2,428,703 13

The public debt on the 1st January, 1853, was $65,131,692 13, (as per statement E,) exclusive of the remaining $5,000,000 deliverable to Texas under the act of 9th September, 1850, when the provisions of that law are fully complied with.

Since the above date, an additional amount of the public debt has been redeemed, to the extent of about $250,000.

The department possesses no authority to purchase, at a rate above par value, any portion of the 6 per cent. loan of 1847, and which is only redeemable in 1867, except to the extent of what balance may remain in the treasury from the receipts from the sale of public lands, after the interest on that loan has first been paid from such receipts. As the amount of that stock forms so large a portion of the public debt, it would be desirable that Congress should remove that restriction by authorizing its purchase at the current market value. By thus giving a more extended scope to the application of any surplus funds in the treasury for the purchase of the public debt, it would probably enable the department to procure it on more favorable terms.

Some doubts have existed as to the direct and positive authority of the department to purchase some of the other stocks at rates above their par value; and in order to remove all uncertainty on the subject, I would recommend that express authority should be vested in the department to purchase, at its discretion, at their current market value, any portion of the existing public debt, to the extent of any surplus means on hand, provided the available balance in the treasury should never be reduced below five millions of dollars.

WAYS AND MEANS.

The receipts from duties on foreign merchandise for the last fiscal year exhibit a decrease, as compared with the preceding year, of

$1,678,241 30. This is deemed but a temporary decline of the receipts from that source, while it shows how unstable is the reliance placed upon the large amounts which in times of high prosperity are expected from that branch of the revenue.

The slightest disturbing causes felt in the channels of trade at once unfavorably affect the treasury; so any favorable impetus given to commerce, from causes often accidental, tends for the time to a sudden expansion of its revenues. This is observable to some extent in the receipts from duties on foreign goods for the periods above mentioned. The acquisition of our new territories on the Pacific, followed by the development of their immense mineral resources, gave a corresponding extended basis for commercial operations. The sudden drain of foreign merchandise from the Atlantic ports to the Pacific left a vacuum to be filled by fresh and larger importations of foreign dutiable goods—which, of course, was followed by a corresponding increase of receipts into the national treasury.

The repeated and disastrous conflagrations at the principal port of the Pacific, destroying millions of property in foreign goods, tended to a still further increase of foreign importations. The channels of trade, however, having once more accommodated themselves to these new circumstances, we find a gradual diminution in the year of nearly $2,000,000. A new discovery of mineral wealth, though not within the boundaries of our own country, yet within the reach of its enterprise, is followed by increased buoyancy in trade, and a corresponding increase in the revenues arising from it. By referring to my former annual reports, the views of this department may be found, somewhat in detail, of the results which, in my opinion, may be expected to flow, sooner or later, from a legislation which tends so injuriously to affect, if not to a great extent destroy, some of the prominent manufacturing interests of the country, by giving to the foreign producer the control of the supplies of our home market. The iron interest was cited to show the effect of permitting the surplus foreign productions, in all their various stages of manufacture, to be thrown upon our markets at almost nominal prices, and consequently upon the payment of comparatively nominal duties. Importations of bar, pig, and other iron for the year ending June 30, 1845, were 102,723 tons, producing duties amounting to $1,794,784; and for the year ending June 30, 1852, the imports were 435,149 tons, producing duties amounting to $3,272,812. Thus it is seen that, while the quantity imported has increased about four and a quarter times over that of 1845, the aggregate duties received are less than double the amount received from that source in 1845—and that, too, under a heavier rate of duty at the latter period.

This enormous increase in the importations of iron, at prices so far below the fair or usual cost of production, both here and abroad, while it produced no corresponding benefit to the treasury, destroyed, in a good degree, the competition of our own producer and manufacturer. The result then foretold is now partially realized. The foreign producer, by a reduction of prices on his part, and of duties on our part, having possessed himself of the control of our market, raises the prices of iron, it is believed, beyond the remunerating point, and certainly

far beyond the rates ruling during the period of the late hopeless struggle of our own manufacturer to sustain himself.

The effects of this state of things are felt in the very large increase of duties consequent upon the suddenly enhanced prices of iron, which must be paid by our consumers, and with the most unfavorable influences upon our numerous railroad enterprises now in progress; while it is attended with no corresponding benefit to those whose capital, embarked in this branch of manufacture, has been totally lost. On the other hand, by this rise in the prices of iron, it may be expected that a new stimulus will be given to that branch of American labor, which may again be met by similar consequences when it shall have become a formidable competitor with the foreign producer, ending in a destructive reduction in price and a redundant supply.

While the foreign commerce of the country and the foreign market for its productions are undoubtedly of great importance, yet they both probably receive an undue share of consideration; for they respectively sink into relative insignificance when compared with our internal and coastwise commerce, and with the home market.

There are no records which will enable the department to give the correct amount of our internal and coastwise trade. But some idea may be formed of its vast extent when it is recollected that the annual value of the agricultural, mineral, and manufacturing productions of the country is not less than three thousand millions of dollars, ($3,000,000,000,) as shown by the statistical returns of the late census—a large portion of which is transported by river, canal, or coasting vessels, or on railroads, and which, in the course of trade, changes hands several times before reaching the domestic consumer, making, in the aggregate, an amount of traffic counting by thousands of millions; while the whole amount shipped to foreign countries is but $150,000,000—being only *one-twentieth* part of the entire production of the country which thus finds an outlet in foreign markets.

The single article of coal annually transported coastwise, and in canal boats or on railroads, is of sufficient bulk to furnish full cargoes for four times the quantity of all the American tonnage employed in foreign commerce, and probably affords the means of livelihood to a greater number of persons than the latter.

The coastwise trade to and from the American ports in the Gulf of Mexico is of itself probably nearly equal, in point of value, to the entire export of American production to foreign nations.

A striking difference between the magnitude and importance of the home market and the foreign one is to be found in the statistics of exports of what is familiarly called the famine year of 1847. There was some difficulty at the time in procuring sufficient shipping, including both American and foreign, to convey our breadstuffs to the famishing nations of Europe; and yet our entire exports during that year of the two principal articles of food, Indian corn (maize) and flour, were only about three per cent. of the former, and about ten per cent. of the latter, estimated on the whole crop produced in the United States, leaving ninety-seven per cent. of the Indian corn, and ninety per cent. of the wheat crop, for the supply of the home market, where it was actually consumed. Our exports of breadstuffs at present are only

about one-third of what they were during the above year of unusual demand—exhibiting, in a still more striking contrast, the immense difference between the home and foreign markets, in favor of the former.

The mere tolls collected by the canals and railroads on the transportation of merchandise for the internal trade of the country exceed in amount the total value of all the breadstuffs purchased from us by foreign nations.

The annual value of the crop of Indian corn, of wheat, and of hay, each respectively, is fully equal to the entire value of our productions exported to foreign countries. The annual amount of the manufactures in the States of New York and Pennsylvania, or in either of those States, greatly exceeds the value of such exports; and even those of the comparatively small State of Massachusetts are fully equal to all the productions of the country consumed by foreign nations.

The latter State probably consumes breadstuffs that are produced in the middle and western States to a greater amount than is shipped to all Europe, with the great additional advantage of this being a regular and uniform demand, not depending on European crops or the caprices of foreign governments in the regulation of their commerce and the assessment of arbitrary and ever-varying duties, according to their own actual wants and circumstances. Yet all these immense agricultural, mineral, and manufacturing interests, which are almost exclusively connected with the internal trade of the country and the home market, receive greatly less attention and consideration from the community than the comparatively small amount of our foreign commerce.

My views of the beneficial results which would follow a tariff with moderate and reliable, rather than with sliding and consequently uncertain, rates of duties, have undergone no change. I now recur to them as a duty imposed upon me by the acts establishing the Treasury Department.

The importations of foreign merchandise (table H) for the fiscal year ending 30th June last amounted to $207,109,738.

The exports for the same period were—

Of domestic merchandise	$154,930,447
Foreign merchandise re-exported	12,037,043
Total exports	166,967,490

The imports of specie during the same period were $5,503,544; and the exports of the same, $42,674,135.

In tobacco, (table S,) the exports show an increase in quantity of 41,152 hogsheads, and in value of $S12,032—having been in 1851 95,945 hogsheads, valued at $9,219,251; 1852, 137,097 hogsheads, valued at $10,031,283.

The exports of rice were 119,733 tierces, valued at $2,470,029—being an increase in quantity of 14,143 tierces, and in value of $299,102, as compared with the previous year.

The exports of breadstuffs and provisions amounted to $25,856,337, being an increase of $3,907,686.

The aggregate exports of domestic merchandise show a decrease, as compared with the previous year, of $24,349,585.

The exports of specie show an increase of $13,201,383, and an excess of exportation over importation of $37,170,591. (See table K.)

MINT.

The operations of the mint—particularly at Philadelphia, at which point the greater portion of all gold dust and bullion concentrates for assay and coinage—have been conducted with a remarkable degree of promptness and despatch, such as to remove all cause of complaint on the part of depositors, notwithstanding the enormous amounts of gold dust which have been and still continue to be received at that institution.

The coinage at the mint for the year ending 31st December, 1852, was as follows:

Gold, 6,094,765 pieces, of the value of	$51,505,638 50
Silver, 27,549,505 pieces, of the value of	847,310 00
Copper, 5,162,094 pieces, of the value of	51,620 94
Total	52,404,569 44

The full returns for the last quarter of the year have not been received from the branch mints; but the probable amount of their coinage will be about $4,700,000, of which the proportion of the branch mint at New Orleans will be $3,800,000, and the remainder about equally divided between the branch at Charlotte, North Carolina, and Dahlonega, Georgia.

In accordance with the act of last session, proposals have been invited by public advertisements, both here and in California, for the erection of a mint at San Francisco, in accordance with plans prepared with great care under the direction of this department. I, however, have great doubts whether any proposals will or can be made for the erection of a suitable building, and the supply of the needful machinery, for the sum of $300,000, to which amount Congress has restricted the expenditure, including both these objects. Even, however, should proposals be made which would be satisfactory and could be accepted by the department, no progress could be made with the work until Congress authorizes the purchase of a site, and makes the needful appropriation therefor, as, from the best information now in possession of the department, none of the public reserves in that city afford proper and elegible locations for this building.

By the act of the 30th September, 1850, making appropriations for the civil and diplomatic expenses of the government for the year ending 30th June, 1851, Congress authorized the appointment of a United States assayer for California, and directed a contract to be made by this department with the proprietors of some well-established assaying works for assaying gold and forming it into bars and ingots, under the supervision of the assayer. A contract was concluded, and ample security required for its faithful performance; and the contractors were limited in their charges for the services rendered by them to the rate fixed by the legislature of California in establishing a State assay office.

The department was induced, with a view to furnish, so far as it had the power, a safe and convenient currency to the people of California,

to authorize the receipt of the issues of the assay office thus established for public dues, especially as they have all the essential requisites of coin, and as this was believed to be the object of Congress.

The general appropriation act of the last session contained a provision by which the further receipt of these issues was prohibited, and, in obedience thereto, the instructions under which they were received were revoked.

The department has reasons to believe, from petitions addressed to it by a public meeting of the merchants of San Francisco, and from information received through other reliable sources, that much inconvenience and embarrassment have resulted from this legislation. It remains with Congress, however, to say what relief shall be extended; and the subject is submitted to its consideration.

The inconvenience arising from the scarcity of silver coinage still continues, and to such an extent as calls loudly for some legislative action to remedy the evil. Whether the present premium which silver bears, in comparison with gold, arises from the continued heavy influx of the latter, and its consequent depreciated value, or from a special and unusual demand in Europe for silver, or from both causes combined, is not very material to discuss at present; for if it arises from either or both of these causes, there is no reason for believing that there is any present prospect of either being removed, so as to create any reduction in the value of silver.

If, as I believe is the fact, this difference in the relative value of the two metals arises from the immense and increased supply of gold which has been furnished from California and Australia, there can be but little doubt such difference will continue to increase, as there is no present indication that there will be a reduced supply from those sources, but, on the contrary, every prospect of a still further increase. This state of things has banished almost entirely from circulation all silver coin of full weight; and what little remains in the hands of the community consists principally of the worn pieces of Spanish coinage of the fractional parts of a dollar, all of which are of light weight, and many of them ten or twenty per cent. below their nominal value.

I see no remedy for this great existing evil but the adoption of the principle embraced in the bill which passed the Senate during the last session, making a new issue of silver coinage of such reduced weight as will allow it to circulate with the gold coinage of established weight and fineness.

The principal objection which has been urged against the proposed new silver coinage is, that it could not, without a violation of contracts, be made a legal tender for the payment of debts, and that gold would, therefore, hereafter be the only legal tender. It is true that heretofore the laws of the United States have recognised the coin of either metal as a legal tender; and if it was at the option of the creditor to select which he would receive, there would be a very serious objection to changing either the weight or standard fineness of any portion of the coin. But this is not the fact, as it rests with the debtor to say with which description of coin he will pay his debts; and the natural and inevitable consequences of the premium which silver now bears have been to establish, practically, gold as the only legal tender. Nor can

any legal or equitable objection be advanced to continuing gold as a legal tender, as it is not proposed to reduce either the weight or the fineness of that description of coin; so that every creditor will continue to receive precisely the same quantity of gold, for any given sum, as at the time he may have made his contract. Nor does the present or any future increased depreciation in the value of gold form any just reason against its being continued as a legal tender at its present weight and fineness; for such depreciation in its *actual* value, if not in its relative one as regards silver, has been progressing gradually for some centuries. And all that can be said is, that the depreciation is more rapid at this time than formerly; and it is but a natural result of the uncertainty and want of stability in human affairs.

In the present state of things, as connected with this subject, not only the public service, but also the wants and convenience of the entire community, require that some measure should be adopted to furnish a silver currency; and the subject is therefore respectfully, but earnestly, recommended to the prompt attention of Congress.

I would again call the attention of Congress to the subject of making mint certificates receivable in all dues to the government, and dispensing with the present bullion fund, which is maintained at an annual expense of from $350,000 to $400,000, which might be saved in interest by the application of that fund to the redemption of the public debt, besides the great advantages to the business community and the general trade of the country by throwing the amount of that fund into circulation, instead of keeping it constantly as dead capital in the vaults of the mint.

The amount of the bullion fund during the last year has been nearly $7,000,000, and it has been applied to the immediate redemption of mint certificates, so soon as the deposites of gold dust were assayed and their value ascertained, which has generally been in from twenty-four to forty-eight hours after such deposites were made; and the bullion fund was then made good so soon as such assayed gold could be worked into coin, to be again employed in the redemption of other certificates.

The plan which the department would recommend would be, to issue certificates, under the authority of Congress, to be duly registered and signed at the treasury, to the needful amount—say six or seven millions of dollars—in sums of $100, $500, $1,000, $5,000, and $10,000 each, payable to the order of the treasurer of the mint, to be distributed in due proportions to the mint and its respective branches, and, so soon as any deposite of gold bullion was assayed, and its value ascertained, to pay the amount to the depositor in the above certificates, except the fractional part of $100, which would always be paid in coin. These certificates, being receivable in payment of dues to the United States, would at all times command their full par value, and would promptly and cheerfully be received on deposite as cash by the banks, and held by them as specie capital, until their customers required them for the payment of duties or lands. They would accumulate principally at the great marts of commerce in the Union, and could be transmitted by mail, by the different receiving officers, to such points as the treasury might direct, avoiding all the risk and expense which now attend the transfer of public funds in specie from points where it is collected and not required for public expenditures.

As these certificates were paid in at the large commercial seaports, the gold, so soon as coined, could be sent to such points from the mint or the branch which may have issued the certificates, and the latter would then be returned to the mint or its branch, for the purpose of being again issued to new depositors. The expense of transmitting gold coin to the points where it might be required in order to redeem the certificates which had been received by the public officers would of course be paid by the United States, and would require but a small sum—probably not the twentieth part of the amount which would be annually saved in interest by applying the present bullion fund to the redemption of the public debt.

No objection could be urged to this plan on the ground that it would be a paper currency; for it is merely a certificate for an amount of gold already actually in possession of the government. These certificates would not be intended for circulation, nor would they circulate from hand to hand, but would remain with banks, bankers, or individuals, until required for a payment to the government; and the receiving officer should not be permitted to reissue, but only to hold them until they are replaced with the gold in legal coin from the bullion for which they were originally issued.

These certificates should likewise always be redeemable at the mint, after a reasonable time being allowed for the coinage of the gold bullion, which might be fixed at not exceeding twenty days after the bullion had been assayed.

It is not proposed that the certificates thus issued by the mint and its different branches should be indiscriminately and generally received at all points of the Union, as in such case the fluctuations and the great differences in the rates of exchange between different places would cause them to be used as remittances, and throw a heavy expense upon the treasury for the transportation between distant points of large amounts in specie, sufficient to equalize exchanges, at least to the extent of the issue of such certificates. In California, for instance, the exchange on the Atlantic States is usually at about four per cent. premium; and consequently all the issue of mint certificates there would be immediately forwarded to New York, to be used at this latter point in payment of duties, and the United States would be obliged to transfer, at a heavy expense, all the coinage of the branch mint at San Francisco, in order to redeem its certificates in New York.

The remedy for this would be, to make the issues of the mint and its existing or any new branches in the Atlantic States to be receivable only at the Atlantic seaports, those issued by the branch mint at New Orleans to be receivable only at the ports on the Gulf of Mexico, and all the above at any of the land offices in the Atlantic and western States; while the issues of the branch mint at San Francisco, so soon as it is put into operation, shall be receivable at all the custom-houses and land offices on the Pacific.

If the present system is to be continued, and a bullion fund of seven millions is to be maintained, the balance in the treasury cannot conveniently be reduced below twelve millions of dollars, as the system of an independent treasury cannot be conducted with a less available balance than five millions so as to have the needful amount at all times at the numerous points where the public expenditure is made.

It gives me great pleasure to refer to the progress of this important work during the last four years. The whole coast is divided into eleven sections; and in ten, active operations have been carried on during this whole period. With only one link of twenty-six miles, south of the Chesapeake, to be filled up, an unbroken triangulation now extends from the mouth of the Kennebeck river, in Maine, to the harbor of Beaufort, in North Carolina. The topography and hydrography have made corresponding progress. The harbors of Portsmouth, New Hampshire; Newburyport, Ipswich, Gloucester, Salem, and Wellfleet, Massachusetts, and others, have been surveyed. New shoals have been discovered and sounded out in the vicinity of Nantucket. The dangerous shoals along the seacoast of Delaware, Maryland, and Virginia, Hatteras shoals and Fryingpan shoals, have been made known to the navigator in excellent preliminary charts. The survey of the Chesapeake bay is now nearly completed, and that of the rivers flowing into it has been commenced. Some of the most important harbors on the southern coast—as Hatteras inlet, Ocracoke inlet, Beaufort harbor, Cape Fear entrance, Roman shoals, Charleston harbor, North Edisto river, Tyber entrance, and the Savannah river—have been surveyed, and the charts are, or soon will be, published. The surveys of Georgetown harbor, in South Carolina, and of the entrance of St. John's river, Florida, have been commenced. The triangulation and reconnoissance of the vicinities of Cape Fear entrance, Georgetown harbor, Cape Roman, Charleston, North Edisto, Savannah, and entrance to the St. John's, are gradually and steadily advancing. In a few years, an unbroken series, with points well determined by astronomical and other observations, will cover the coast from the Penobscot river, in Maine, to the St. Mary's, in Florida. The progress of the survey on the Florida reef and the shores of the peninsula is entirely satisfactory, in view of the limited appropriations, compared with the vast extent and variety of the whole work. The entire reef and western shore have been examined in a preliminary way, and nearly one-half of the survey of the reef has been made. The important harbor of Cedar Keys, on the western shore, has been examined. A reconnoissance has been made of about one-half of the distance between St. Mark's and Mobile bay, and an examination of St. Mark's river. The triangulation and topography now extend from Mobile bay to Lake Pontchartrain, and nearly all the hydrography has been completed, an and examination made of the delta of the Mississippi. Galveston bay has been surveyed, excepting a small portion of the hydrography; and the triangulation now extends to the vicinity of Matagorda bay. Preliminary charts have been published of Galveston and Mobile bays, of the Mississippi delta, St. Mark's, Cedar Keys, Key West, Cape Canaveral, Mosquito inlet, and St. Andrew's shoals; and these will soon be followed by others. On the western coast, in consequence of the extraordinary difficulties in securing hands and means, owing to the discoveries of gold, the survey did not fairly get under way till about three years since. A very good preliminary reconnoissance has been made of the whole coast from San Diego to the straits of San Juan de Fuca, and of nearly every important harbor,

embracing San Diego, San Simeon, Santa Barbara, San Pedro, Point Conception, the harbor of Coxo, San Luis Obispo, Point Pinos, and the harbor of Monterey, Santa Cruz, Catalina island, (including both anchorages,) Cuyler's harbor, Prisoner's harbor, San Clemente, Mare Island straits, Trinidad and Humboldt bays, and entrance of the Columbia river. Charts of all these harbors have been furnished and distributed, excepting the harbor of Santa Barbara, which is now in the hands of the engraver. Charts of the coast from Monterey to the mouth of the Columbia river, published two years since, and that from San Diego to San Francisco, are now undergoing the last revision. The charts of the surveys north of the mouth of the Columbia river are daily expected, and will be published as early as practicable. Besides the coast, several of the harbors have been carefully examined. In addition to this, good progress has been made in the survey of the waters of San Francisco bay. A plan of the city has been published, to which will soon be added the adjacent topography. The triangulation embraces the waters of San Francisco and Suisun bays, extending from Mare Island straits to the entrance, and for several miles up and down the coast. Topography has been completed for a chart of San Francisco bay, and the hydrography will be executed the coming winter. The triangulation of the Columbia river has been extended thirty-three miles from its mouth.

A commencement has also been made in the survey of the Santa Barbara islands, including the land surveys by the geodetic method. In connexion with this rapid progress of the survey on this coast, observations have been made for latitude and longitude and the magnetic variation. The geographical position of the coast from the straits of San Juan de Fuca to San Diego has been established, the latitude and longitude of the most important head-lands having been determined by sufficiently numerous and reliable preliminary observations. The latitude of seventeen stations, and the longitude of nineteen stations, and the magnetic variations of seven stations, have been thus determined. On the Atlantic and Gulf coast the usual attention has been given to the same subject. Magnetic observations have been made at thirty-three stations. Sixteen longitude and seventeen latitude stations have been occupied, and ten base lines measured. A great extension has been given to the method of determining the longitudes of cardinal points by using the electric-magnetic telegraph—a method admitting of a degree of precision not hitherto attainable by other means. The exploration of the Gulf Stream has been continued. Great progress has been made in publishing the results of the survey. Forty-two charts, elaborate and highly finished, and forty-two preliminary charts, have already been published; and twenty-seven sheets are in various stages of engraving. The geographical positions determined by the survey, from its commencement to July, 1851, have been published. The latitude and longitude of over 3,200 points have thus been given to the public, furnishing information of great value for general and local purposes. Many special examinations have been made to determine the proper sites for lights, light-boats, beacons, and buoys, along the whole coast from Maine to Texas; and as regards the western coast, the entire duty of selecting sites has devolved upon and

been performed by the coast survey. It gives me great pleasure to acknowledge the promptitude with which this duty has been performed, and my confidence in the result thus reached.

It has been an arduous and responsible duty, requiring in each case a personal examination, and in many cases accurate surveys, of the localities. Much valuable information has also been furnished in connexion with the river and harbor improvements, greatly expediting the plans for prosecuting these works, and making available the results of the surveys and the personal examination of the superintendents to this branch of the public service.

In view of the very extensive correspondence which necessarily appertains to such extended and varied operations, it is respectfully recommended that the same authority, as to receiving or sending official communications connected with the survey, now exercised by the several bureaus of this department, may be extended to the Superintendent of the Coast Survey and to the assistant in charge of the survey office, the Superintendent being necessarily absent in the field much of his time. The duties of franking now thrown upon this department are extremely onerous, while it produces delay incompatible with that prompt despatch of the business of the survey always to be desired.

MISCELLANEOUS.

In pursuance of the act of the 31st August last authorizing the formation of a Light-house Board, one officer of engineers of the army and one of the topograpical engineers, two naval officers of high rank, and two civilians of distinguished scientific acquirements, have been designated by the President to form this board, and one officer of the navy and one of the engineers as secretaries. The board so constituted immediately organized and entered upon the duties assigned it by law. The clerks employed upon the light-house business—being one temporary clerk from the office of the Secretary of the Treasury, and four from the Fifth Auditor's bureau—were, as required by law, transferred to the office of the Light-house Board.

The board has been assiduously engaged in the proper duties assigned it. From the practical knowledge and high scientific and professional attainments combined in the eminent gentlemen comprising it, there is no reason to doubt that all the benefits contemplated by this new organization of that branch of the public service will be fully realized.

A detailed report of the operations of the board, comprising such changes and improvements in the present system as in its judgment have become necessary, is submitted with the present report.

Under the act of 31st August last, providing for the construction of not less than six revenue-cutters, the department advertised for proposals for the building of six vessels of designated size and finish. Proposals have accordingly been received, and the contract for the whole number has been awarded to the lowest bidder, under ample security for its faithful execution. The appropriation made will be sufficient for the construction of said vessels and their perfect equipment for service.

Of the several custom-houses authorized or in course of construction, that at New Orleans has progressed as fast as circumstances would

permit. That at Savannah has been completed and occupied. At Charleston, the foundation is progressing with all possible despatch. Sites have been purchased, and proposals publicly invited, for the erection of custom-house buildings at Mobile, Norfolk, Bangor, Louisville, St. Louis, and Cincinnati. Sites have been selected at Bath and Waldoboro', Maine, and Wilmington, in Delaware, and their purchase will be completed when the cession of jurisdiction shall have been obtained from the States in which they are respectively situated, in accordance with the requirements of the joint resolution of September, 1841. A site has been selected for the building authorized at Richmond, Virginia. So much of the appropriation, however, will be absorbed by its purchase that it has been deemed advisable to delay, for the present, any steps towards the erection of the building, with the view of requesting from Congress an additional appropriation and the removal of the existing restriction as to the amount of expenditure.

Contracts have been made for the erection of custom-house buildings at San Francisco, in California, and Pittsburg, in Pennsylvania, and the buildings will be prosecuted to completion with the utmost possible despatch. The restrictions imposed upon the department by limited appropriations in the various acts authorizing the construction of custom-houses and post offices forbid, in many, the erection of fire-proof buildings, or the adoption of plans embracing a style or material comparable with many of the local public or private buildings in the same places.

Within these limited appropriations, in many cases, accommodations must be provided for the custom-house, post office, United States courts, offices for United States marshals, and clerks of the United States courts. The great value of the papers which must necessarily collect within the buildings embracing the above-mentioned offices demands that every precaution should be taken on the part of the government to prevent their destruction by fire. Some of the appropriations at the control of the department have been reduced by the purchase of the necessary sites, or were originally so limited as to render it doubtful if the contemplated buildings, with proper accommodations, can be erected without additional appropriations being made. Special communications in relation to some of these will be made to Congress as soon as specific information can be obtained.

The contract for the extension and reorganization of the Baltimore custom-house building has been concluded, in conformity with the act of the last session.

The great distance and consequent difficulty and delay in communicating with Oregon have prevented any definite progress being made in the erection of the proposed building at Astoria.

The operations of the department arising out of the provisions made for sick and disabled seamen are becoming daily more onerous and extended.

In consequence of the rapid expansion of our commerce, both foreign and domestic, the funds arising from the monthly contributions of twenty cents from the parties for whose benefit this truly beneficent system has been established are insufficient for their relief, without the addition of direct appropriations by Congress.

The previous appropriations from the treasury for the relief of sick seamen have amounted to $969,069 34, besides $928,319 20 for the purchase of sites, the erection of hospital buildings, furniture, repairs, &c.

The department recommends the continuance of the appropriations for the relief of sick seamen and boatmen to the needful extent of supplying the deficiency in the amount received from the hospital fund; but it is not at present prepared to advise the erection of more marine hospitals. The experience of the department induces me to believe that it is in every way preferable to make an arrangement for the care of sick seamen with local hospitals of high standing, which are under the immediate and vigilant supervision of citizens of the highest respectability at the respective places. Such arrangements exist at New York, Philadelphia, Cincinnati, and at some other points, at a fixed weekly rate for each seaman—the cost of which is greatly less than it would be in a public hospital, and where the care and attention which the patients receive are fully equal to what they could possibly obtain in a government institution, and their medical treatment is also under the direction of the most eminent professional talent and experience. In all places where a similar arrangement can be made, I am of opinion it should be preferred, rather than erect other marine hospitals in addition to those already authorized, as I believe both the comfort of the sick and economy of expenditure would be promoted by the adoption of the former plan.

Under the system which has been so long and so steadily pursued by the government as regards this useful but generally improvident class of men, there is probably no instance where so much relief is granted, and so generally distributed, and with so much advantage to the parties interested, as that by the marine hospital fund, under its present regulations.

While the benefit of this fund is extended to almost all the collection districts of the United States, hospitals are completed and in full operation at Chelsea, near Boston, Massachusetts; Norfolk, Virginia; Ocracoke, North Carolina; Cleveland, Ohio; Chicago, Illinois; Pittsburg, Pennsylvania; Louisville and Paducah, Kentucky; Natchez, Mississippi; New Orleans, Louisiana; Mobile, Alabama; and Key West, Florida. Appropriations have been made and buildings authorized to be erected at Napoleon, Arkansas; St. Louis, Missouri; San Francisco; Evansville, Indiana; Portland, Maine; and Vicksburg, Mississippi.

Estimates of appropriations for the completion of the buildings at St. Louis, and for the fencing and heating the buildings and works necessary for their protection at Chicago, in Illinois; Cleveland, in Ohio; Pittsburg, in Pennsylvania; Louisville, in Kentucky; Paducah, Napoleon, and Natchez,—have been submitted.

These estimates are based upon a careful calculation of the amount and quantity of work to be done, and are deemed indispensably necessary for the buildings and grounds referred to.

A contract has been made for the buildings at San Francisco; and those at Napoleon and St. Louis are nearly completed. That at St. Louis has been delayed awaiting a further appropriation.

A site has been purchased at Evansville, but the balance of the appropriation is not sufficient to erect a suitable building; and an additional appropriation of $20,000 is respectfully requested.

A site has been selected for a hospital at Portland, Maine; but the department has not yet taken final action on the report of the commissioners appointed to select it.

The following statements connected with the subject accompany the present report, viz:

Statement T, exhibiting the whole amount received from the monthly contributions of seamen under the act of 16th July, 1798, up to 1st July, 1852.

Statement U, exhibiting the amount appropriated by Congress for the purchase of sites, erection of marine hospitals, furniture, &c., designating the respective points and the amount of appropriation for each place.

Statement V, exhibiting the present state of the hospital fund arising from the monthly contributions of the seamen, and the appropriations by Congress for their relief.

The Supreme Court, in the case of Lawrence *vs.* Caswells, decided that no return of duties could be claimed by parties who had not, at the time of making the entry, entered a written protest declaring specially the grounds on which they objected to pay the duties; and the department has felt itself bound by that decision, and has since declined to refund any duties alleged to be illegally assessed, except in cases where such written protest was made at the time, or where it evidently arose from a clerical error. This course involves great hardship in many cases, where even the same parties, having in certain entries made a regular protest, have received back the duties erroneously assessed, agreeably to legal decisions; while in other cases, precisely similar in every respect, but where the formality of a protest was not observed, no return can be made under the above decision of the Supreme Court. I would recommend these cases to the favorable action of Congress, by investing in the Treasury Department the power to return duties in all cases which may be similar to those on which the Supreme Court may have made decisions in favor of the claimants, even if no protest has been made at the time by the parties.

The attention of Congress was called at the last session to the necessity of a law—and one was framed for the purpose, but not acted on—to check the multiplicity of suits against the collectors of the customs for duties alleged to be improperly collected by obliging the same parties to consolidate all their suits of a similar kind in one action; and also, where one party had already entered a suit, that no others involving the same principle should be instituted, on the Treasury Department agreeing, upon notice from other claimants, that the decision of the suit which may have been already entered should govern in the settlement of the others. As it now is, the same parties vexatiously, and with a view to increase their costs, will enter separate and numerous suits, all precisely similar in the facts and circumstances.

It is also essential that, in all suits against collectors, there should be the right of appeal to the Supreme Court, without regard to the amount, as there are numerous decisions made in the lower courts, involving important principles, which would probably be reversed were an appeal granted, but in which the amount involved does not admit of an appeal under existing laws

Congress, at its last session, having appropriated the sum of ten thousand dollars for locating surf-boats on the coast of the United States, the department called upon the Superintendent of the Coast Survey for a report showing the points where they could be most advantageously employed for the purpose of saving life and property from shipwreck. This report has lately been received, giving twelve points, on the coast of Maine and Massachusetts, as suitable locations, and orders will immediately issue for the supplying the same with the requisite boats and their appurtenances; and as soon as other suitable locations along the coast are furnished this department from the office of the coast survey, measures will be immediately taken for furnishing them likewise.

Numerous reports have been made to the department of the great saving of life and property on our coast by means of these boats; and I would respectfully suggest that a further appropriation of ten thousand dollars be made for this laudable object, and that power be granted this department to expend, from time to time, such portions of it as may be required to keep the boats and fixtures in repairs for immediate use, and compensate persons for taking care of them.

The subject of the fisheries being one of high importance, and having recently attracted great and general attention, I transmit herewith a highly interesting and valuable report prepared for this department by Lorenzo Sabine, esq., embracing—

1. A report on the fisheries of France, Spain, and Portugal in the American seas.

2. A report on the fisheries of Newfoundland, Nova Scotia, Cape Breton, Prince Edward's Island, Magdalene Islands, Bay of Chaleurs, Labrador, and New Brunswick.

3. Report on the fisheries of the United States.

4. Review of the controversy between the United States and Great Britain as to the intent and meaning of the first article of the convention of 1818.

The following statements accompany the present report, viz:

A.—Statement of duties, revenues, and public expenditures during the fiscal year ending June 30, 1852, agreeably to warrants issued, exclusive of trust funds and treasury notes funded.

B.—Statement of duties, revenues, and public expenditures for the first quarter of the fiscal year, from July 1 to September 30, 1852, agreeably to warrants issued, exclusive of trust funds and treasury notes funded.

C.—Statement of advances from the treasury on account of the expenses of each custom-house in the United States during the year ending on the 30th June, 1852.

D.—Statement of the number of persons employed in each district of the United States for the collection of customs during the fiscal year ending June 30, 1852, with their occupation and compensation, per act March 3, 1849.

E.—Statement of the public debt on the 1st January, 1853.

F.—Statement of the redemption of treasury notes during the fiscal year ending June 30, 1852.

G.—Statement exhibiting the total value of imports, and the imports consumed, in the United States, exclusive of specie, during each fiscal

year from 1821 to 1852; showing, also, the value of the domestic and foreign exports, exclusive of specie, and the tonnage employed, during the same periods.

H.—Statement exhibiting the value of imports, annually, from 1821 to 1852, designating separately the amount of specie and free and dutiable goods, respectively.

I.—Statement exhibiting the value of certain articles imported during the years ending on the 30th June, 1844, 1845, 1846, 1848, 1849, 1850, 1851, and 1852, (after deducting the re-exportations,) and the amount of duty which accrued on each during the same periods, respectively.

K.—Statement exhibiting the amount of coin and bullion imported and exported, annually, from 1821 to 1852, inclusive; and also the amount of importation over exportation, and of exportation over importation, during the same years.

L.—Statement exhibiting the quantity and value of wines, spirits, &c., imported, annually, from 1843 to 1852, inclusive; and also showing the foreign cost per gallon, under specific and ad valorem duties.

M.—Statement showing the value of goods remaining in warehouses at the close of each quarter from the 30th September, 1847, to the 30th June, 1852, as exhibited by the quarterly returns of the collectors of the customs, under the provisions of the act of the 6th of August, 1846; and also the amount of duties payable thereon.

N.—Statement exhibiting the value of dutiable merchandise re-exported, annually, from 1821 to 1852, inclusive; and showing also the value re-exported from warehouses under the act of August 6, 1846.

O.—Statement exhibiting the value of foreign merchandise imported, re-exported, and consumed, annually, from 1821 to 1852, inclusive; and also the estimated population and rate of consumption, per capita, during the same periods.

P.—Statement exhibiting the value of merchandise and domestic produce, &c., exported, annually, from 1821 to 1852.

Q.—Statement exhibiting the quantity and value of cotton exported, annually, from 1821 to 1852, inclusive, and the average price per pound.

R.—Statement exhibiting the aggregate value of breadstuffs and provisions exported, annually, from 1821 to 1852.

S.—Statement exhibiting the quantity and value of tobacco and rice exported, annually, from 1821 to 1852, inclusive.

All of which is respectfully submitted.

THOMAS CORWIN,
Secretary of the Treasury.

Hon. D. R. ATCHISON,
President pro tem. of the United States Senate.

A.

Statement of duties, revenues, and public expenditures during the fiscal year ending June 30, 1852, agreeably to warrants issued, exclusive of trust funds and treasury notes funded.

The receipts into the treasury during the fiscal year ending June 30, 1852, were as follows:		
From customs, viz:		
During the quarter ending September 30, 1851	$14,754,909 34	
Do.....do.....December 31, 1851	9,601,509 40	
Do.....do.....March 31, 1852	12,109,761 80	
Do.....do.....June 30, 1852	10,873,146 08	
		$47,339,326 62
From sales of public lands		2,043,239 58
Miscellaneous and incidental sources, including military contributions in Mexico		345,820 69
Total receipts, exclusive of loan		49,728,386 89
Balance in the treasury July 1, 1851		10,911,645 68
Total means		60,640,032 57
The expenditures for the fiscal year ending June 30, 1852, exclusive of trust funds, were:		
CIVIL LIST.		
Legislative	1,248,017 90	
Executive	1,248,011 91	
Judiciary	718,065 44	
Governments in the Territories of the United States	77,515 58	
Surveyors and their clerks	72,528 46	
Officers of the mint and branches	55,300 00	
Commissioner of the Public Buildings	2,000 00	
Secretary to sign patents for public lands	1,500 00	
Total civil list		3,422,939 29

FOREIGN INTERCOURSE.		
Salaries of ministers	71,226 71	
Salary of minister resident to Turkey	6,000 00	
Salaries of chargés des affaires	77,278 61	
Salaries of secretaries of legation	16,518 36	
Salary of dragoman and assistant dragoman to Turkey	4,000 00	
Commissioner to reside in China	4,000 00	
Secretary and interpreter to Chinese mission	2,500 00	
Commissioner to the Sandwich Islands	3,795 90	
To Anthony Ten Eyck for salary and contingent expenses as commissioner to Sandwich Islands	1,309 11	
Contingent expenses of all the missions abroad	30,311 12	
Contingent expenses of foreign intercourse	36,725 62	
Salary of consul at London	2,000 00	
Clerk hire and office rent of consul at London	2,800 00	
Salary of consul at Alexandria	3,000 00	
Salary of consul at Beyrout	739 13	
Salaries of consuls at Kuang Chew, &c., China	3,855 50	
Office rent of consul at Basle, Switzerland	100 00	
Relief and protection of American seamen	135,844 16	
Intercourse of Barbary powers	9,312 11	
Interpreters, guards, and other expenses of consulate in Turkish dominions	1,021 78	
Compensation of commissioner and clerks, and contingent expenses of commission and treaty with Mexico	950 75	
Do do do do do Brazil	5,850 00	
Expenses of the agent of the Sublime Porte	51 81	
Instalment and interest due May 30, 1852, under 12th article of treaty with Mexico	3,180,000 00	
Awards under the 15th article of treaty between the United States and Mexico	529,980 78	
Treaty of peace, limits, boundaries, &c., with Mexico	3,500 00	
Total foreign intercourse		4,132,671 45
MISCELLANEOUS.		
Mint establishment	140,003 02	
Survey of coasts of the United States, including western coast	363,000 00	
Survey of reefs, shoals, keys, and coasts of South Florida	30,000 00	
Reimbursement of debt contracted by corporate cities of District of Columbia	60,000 00	
Relief of the several corporate cities of District of Columbia	36,868 54	
Results and account of the exploring expedition	20,000 00	

A—Continued.

Payment of horses, &c., lost in the military service of the United States	$1,053 05
Settlement of the claim of the State of Maine for interest of money borrowed and actually expended by her for protection of the northeast frontier of said State	60,610 31
Expenses incident to loans and treasury notes	11,408 33
Expenses incident to the issue of ten millions of stock for Texas indemnity	1,000 00
Salaries of assistant treasurers and additional salary of treasurer of mint at Philadelphia	12,876 44
Salaries of ten additional clerks	11,173 15
Expenses under act of 6th August, 1846, for safe-keeping, &c., of public revenue	7,783 33
Compensation to special agents to examine books and accounts in the several depositories	2,706 81
Compensation of ½ per cent. to each designated depository, under act August 6, 1846	168 24
Library for the Territory of New Mexico	4,418 37
Public buildings for the Territory of New Mexico	300 00
Erection of suitable buildings for Territory of Minnesota	10,000 00
Erection of penitentiary in Territory of Minnesota	10,000 00
Purchase of 2,000 copies of the Annals of Congress, per 1st section act March 3, 1851	60,000 00
Payment for 2d and 3d volumes of 5th series of the Documentary History	20,859 00
To pay for 102 copies of 8th volume of American Archives, at $16 83 per volume	1,418 41
To pay for 117 ..... do ..... do ..... do ..... do	1,627 00
To pay for 5,640 copies of the Congressional Globe and Appendix for 2d session 31st Congress, at $3 per copy	16,920 00
To pay for 264 copies each of Congressional Globe and Appendix, 1st session 31st Congress	1,584 00
To pay for 12 copies each of Congressional Globe and Appendix, 2d session 30th Congress, at $3 per copy	36 00
To pay for binding 5,500 copies of Congressional Globe and Appendix for members 2d session 31st Congress	3,187 50
To pay for reporting in Daily Globe 533½ columns of the proceedings of the House of Representatives for last session of Congress	4,001 25
To pay for reporting, &c., in the Daily Globe, 800 columns of the proceedings of the House, 2d session 31st Congress	6,000 00
To enable the librarian of Congress to subscribe for and purchase 1,000 copies of the works of John Adams, second President of the United States	10,000 00
Expenses of removing to the State whence they fled fugitives from service or labor	593 86
Payment of per diem of special agent and expenses to pay off Indians in old States	1,000 00
Payment on account of Cherokee Nation of Indians that remained in North Carolina	19,975 49
Purchasing, walling, and ditching a piece of land near the city of Mexico for a cemetery, &c	9,000 00
Consular receipts	388 75
Claims not otherwise provided for	9,982 38
Expenses of Smithsonian Institution, per act 10th August, 1846	30,910 14
Relief of sundry individuals	185,485 44

For mail services performed by Post Office Department for services for several departments of government	865,555 55
For transmitting through post office any papers relative to census by marshals	12,000 00
Compensation for mail services performed for the two houses of Congress and other departments of government	163,888 89
Support and maintenance of light-houses, &c	597,466 09
Building light-houses, &c	113,103 33
Marine hospital establishment	203,115 23
Building marine hospitals, including repairs, furniture, and fixtures	128,693 44
Building custom-houses and warehouses, including repairs, &c	521,491 23
Expenses of collecting revenue from customs	2,082,633 24
Payment of debentures or drawbacks, bounties or allowances	544,452 38
Refunding duties on foreign imported merchandise, per act August 8, 1846, (2d section)	138,086 41
Repayment to importers of excess of deposites for unascertained duties	846,918 86
Refunding duties, per 2d section act August 8, 1846, and act March 3, 1849	282 49
Refunding duties, per 3d and 18th sections act July 14, 1833, and 2d section act August 8, 1846	272 66
Refunding duties, per act May 8, 1846, contrary to the terms of convention between Great Britain and the United States	127 50
Refunding duties on sugar and molasses illegally exacted by collectors, refunded under a decision of the Supreme Court of the United States, acquiesced in by Treasury Department	221,985 87
Tonnage duties in Spanish vessels refunded, per 3d section act July 13, 1832, and 3d section act August 3, 1846	799 50
Refunding duties collected under act August 30, 1842	36 72
Debentures and other charges, per 2d section act October 16, 1837	14,039 27
Do ..... do ..... per 2d section act March 3, 1849	20,015 27
Do ..... do ..... per 2d section act August 8, 1846, and March 3, 1849	72,739 87
Do ..... do ..... per 2d section act Oct. 16, 1837, and 18th section act Aug. 30, 1842, and Mar. 3, 1849	1,354 96
Do ..... do ..... per 3d section act August 3, 1846, and March 3, 1849	2,890 21
Do ..... do ..... per acts July 13, 1832, June 30, 1834, and March 3, 1849	2,268 15
Salary of special examiner of drugs and medicines	5,750 45
Surveys of public lands	242,883 52
For running and marking the northern boundary of State of Iowa	13,342 31
Expenses of settling land claims in California	50,000 00
Completing the survey of the copper region of Michigan	12,780 77
Compensation of geologists, &c., and survey of mineral lands in Michigan, Wisconsin, and Iowa	3,610 51
Selection of certain Wabash and Erie canal lands in State of Ohio	1,049 97
Two per cent. to the State of Alabama	3,557 90
Three ..... do ..... Alabama	13,940 06
Three ..... do ..... Illinois	11,833 25
Three ..... do ..... Missouri	31,414 33
Five ..... do ..... Louisiana	9,472 00
Five ..... do ..... Michigan	14,643 45
Five ..... do ..... Arkansas	3,617 06

Five per cent. to the State of Florida	$1,215 77	
Five ..... do ..... Iowa	6,464 36	
Expenses of running and marking the boundary line between the United States and Mexico	85,575 48	
Repayment for lands errroneously sold	49,916 39	
Refunding moneys where certain lands have been entered at Greensburg district, Louisiana	649 91	
Expenses of collecting revenue from sales of public lands	167,082 14	
Payment of war bounty-land certificates	5,900 00	
For services, &c., heretofore performed by registers and receivers in locating military bounty-land warrants	54,515 30	
Taking seventh census of the United States, including Oregon Territory	547,385 02	
Extension of the Capitol	175,000 00	
Completing east wing of the Patent Office building	166,117 44	
Repairs and alterations of public buildings in Washington, improving streets, squares, &c	141,406 23	
Compensation and contingent expenses of Auxiliary Guard	15,295 24	
Support of penitentiary in the District of Columbia	11,920 00	
Support of insane paupers in the District of Columbia	8,700 44	
Support of twelve transient paupers	2,000 00	
Compensation to draw-keepers, repairs of bridges, &c	9,833 38	
Patent fund	99,117 00	
Miscellaneous items	1,943 29	
Support of the military asylum, per 7th section act March 3, 1851	118,791 19	
For historical painting for the rotunda of the Capitol	2,000 00	
Purchase of ground north of the General Post Office building	9,877 93	
Completing, &c., Washington city canal, passing through and along public grounds	5,000 00	
Total miscellaneous		$9,824,158 02
UNDER DIRECTION OF THE DEPARTMENT OF THE INTERIOR.		
Fulfilling Indian treaties	722,410 74	
Current expenses of Indian department, including relief and miscellaneous	2,114,841 93	
War pensions	2,134,220 87	
Navy pensions	211,002 99	
Virginia claims	16,352 41	
Total under direction of the Department of the Interior		5,198,828 94

UNDER DIRECTION OF THE WAR DEPARTMENT.		
Pay of the army	1,594,986 67	
Subsistence	1,540,288 66	
Quartermaster's department	1,989,889 71	
Forage	104,823 30	
Clothing	242,099 74	
Barracks	399,351 72	
Horses for 2d regiment dragoons	60,008 12	
Miscellaneous items	315,147 04	
Militia and volunteers	345,682 79	
West Point	164,057 17	
Armories, &c	848,057 73	
Arming militia	260,247 70	
Surveys	57,950 00	
Fortifications	285,596 71	
Harbors	17,059 86	
Total under direction of War Department		8,225,246 92
UNDER DIRECTION OF THE NAVY DEPARTMENT.		
Pay of the navy	2,707,985 89	
Provisions	530,205 83	
Increase	2,200,861 27	
Contingent	547,798 75	
Navy yards	741,692 68	
Hospitals	14,757 67	
Magazines	958 11	
Steam mail service	944,062 02	
Dry docks	671,796 91	
Nautical Almanac	17,776 00	
Relief and miscellaneous	163,239 78	
Marine corps	387,101 14	
Total under direction of Navy Department		8,928,236 05

A—Continued.

PUBLIC DEBT.		
Paying the old public debt	$1,460 31	
Interest on the public debt, including treasury notes and Mexican indemnity stock	3,750,297 80	
Interest on five million dollars five per cent. stock issued to Texas	250,000 00	
Redemption of stock of the loan of 1843	745,637 50	
Do ..... do 1846	9 74	
Do ..... do 1847	1,070,450 00	
Redemption of stock issued for fourth and fifth instalments of Mexican indemnity	287,596 76	
Premium and commission on purchase of stock loan of 1843	2,063 87	
Do ..... do ..... do ..... do 1847	167,999 55	
Reimbursement of treasury notes, per acts prior to July 22, 1846, paid in specie	50 00	
Reimbursement of treasury notes, per act July 22, 1846, of which two hundred dollars was paid in specie, and fifty dollars received for customs	250 00	
Total public debt		$6,275,815 53
Total expenditure		46,007,896 20
Balance in the treasury July 1, 1852		14,632,136 37

TREASURY DEPARTMENT, *Register's Office, November* 30, 1852.

N. SARGENT, *Register.*

B.

Statement of duties, revenues, and public expenditures for the first quarter of the fiscal year, from July 1 to September 30, 1852, agreeably to warrants issued, exclusive of trust funds and treasury notes funded.

RECEIPTS.		
From customs		$15,723,935 71
From sales of public lands		415,945 91
From miscellaneous and incidental sources		191,200 10
		16,331,081 72
EXPENDITURES.		
Civil list, miscellaneous, and foreign intercourse		3,993,086 71
Expenses of collecting the revenue from customs		556,411 09
Expenses of collecting the revenue from lands		34,469 80
Indian department	$1,918,185 56	
Pensions	887,571 38	
		2,805,756 94
Army proper, &c	2,669,662 23	
Fortifications, ordnance, arming militia, &c	216,787 04	
		2,886,449 27
Navy		2,868,760 51
Paying the old public debt	216 09	
Interest on treasury notes	43 42	
Redemption of stock of the loan of 1843	300,000 00	
Reimbursement of treasury notes, per act of 1847, paid in specie	50 00	
	300,309 51	
From which deduct repayments on account of interest on public debt	4,656 14	
		295,653 37
		13,440,587 69

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, November 30, 1852.

C.

Statement of the advances from the treasury on account of the expenses of each custom-house in the United States during the year ending June 30, 1852.

District.		Amount.
Passamaquoddy	Maine	$24,851 00
Machias	do	2,306 60
Frenchman's Bay	do	3,376 00
Penobscot	do	4,228 00
Waldoboro'	do	6,502 00
Wiscasset	do	5,164 00
Bath	do	8,339 00
Portland and Falmouth	do	12,852 00
Saco	do	1,257 00
Kennebunk	do	767 00
York	do	571 50
Belfast	do	5,465 68
Bangor	do	6,205 97
Portsmouth	New Hampshire	10,515 50
Vermont	Vermont	9,896 00
Newburyport	Massachusetts	6,130 00
Gloucester	do	3,752 00
Salem and Beverly	do	23,699 00
Marblehead	do	2,466 00
Boston and Charlestown	do	210,777 75
Plymouth	do	3,242 00
Fall River	do	4,936 00
Barnstable	do	3,958 00
New Bedford	do	7,373 00
Edgartown	do	4,153 00
Nantucket	do	2,190 00
Providence	Rhode Island	9,645 00
Newport	do	5,673 23
Bristol and Warren	do	4,493 00
Middletown	Connecticut	2,850 00
New London	do	2,085 00
New Haven	do	12,186 00
Fairfield	do	2,728 00
Stonington	do	1,657 00
Sacket's Harbor	New York	7,976 00
Genesee	do	6,938 44
Oswego	do	23,862 00
Niagara	do	5,634 00
Buffalo	do	15,963 00
Oswegatchie	do	6,393 00
Sag Harbor	do	834 00
New York	do	764,099 57
Champlain	do	8,274 00
Cape Vincent	do	5,265 00
Perth Amboy	New Jersey	4,152 00
Bridgetown	do	202 50
Burlington	do	163 50
Great Egg Harbor	do	922 00
Little Egg Harbor	do	583 00
Newark	do	1,697 00
Camden	do	292 50
Philadelphia	Pennsylvania	159,584 77
Presque Isle	do	1,241 00
Delaware	Delaware	27,984 35
Baltimore	Maryland	117,781 14
Annapolis	do	2,228 00
Oxford	do	121 08
Vienna	do	1,615 11

C—Continued.

District.		Amount.
Georgetown	District of Columbia	$4,311 00
Richmond	Virginia	6,160 00
Norfolk and Portsmouth	do	23,413 77
Tappahannock	do	1,621 00
Cherrystone	do	512 00
Yorktown	do	414 48
Petersburg	do	6,544 00
Yeocomico	do	112 50
Alexandria	do	6,428 00
Camden	North Carolina	764 00
Edenton	do	317 00
Plymouth	do	871 00
Washington	do	827 00
Newbern	do	728 00
Ocracoke	do	2,505 00
Beaufort	do	385 00
Wilmington	do	7,861 18
Charleston	South Carolina	58,861 34
Georgetown	do	464 00
Beaufort	do	250 00
Savannah	Georgia	31,428 00
St. Mary's	do	1,198 00
Brunswick	do	724 00
Mobile	Alabama	26,572 00
Pearl River	Mississippi	416 09
Natchez	do	752 00
Vicksburg	do	
Pensacola	Florida	3,223 00
St. Augustine	do	3,972 00
Key West	do	18,250 00
St. Mark's	do	6,155 00
St. John's	do	2,966 00
Appalachicola	do	5,667 00
New Orleans	Louisiana	190,984 67
Teché	do	491 00
Texas	Texas	9,590 00
Saluria	do	4,876 00
Brazos de Santiago	do	16,060 00
Miami	Ohio	2,584 00
Sandusky	do	2,344 00
Cuyahoga	do	4,030 00
Minnesota	Minnesota Territory	2,714 00
Milwaukie	Wisconsin	2,520 00
Detroit	Michigan	23,170 50
Michilimackinac	do	2,211 00
Chicago	Illinois	2,400 00
New Albany	Indiana	1,380 28
Evansville	do	496 14
Cincinnati	Ohio	3,809 00
Louisville	Kentucky	1,676 85
Nashville	Tennessee	2,245 43
Pittsburg	Pennsylvania	1,813 69
St. Louis	Missouri	5,072 00
Wheeling	Virginia	503 68
Weights and measures		2,643 50
		2,088,386 69

N. SARGENT, *Register.*

TREASURY DEPARTMENT, *Register's Office, December* 19, 1852.

D.

Statement of the number of persons employed in each district of the United States for the collection of customs during the fiscal year ending June 30, 1852, with their occupation and compensation, per act March 3, 1849.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Passamaquoddy	1	Collector	$3,006 28
	1	Surveyor	1,802 40
	7	Inspectors	1,098 00
	1	do	1,062 00
	1	do	1,080 00
	1	do	732 00
	1	do	549 00
	1	Weigher and measurer	1,106 66
	1	do do	1,056 31
	1	Deputy collector's clerk	182 00
Machias	1	Collector	869 72
	1	Inspector	732 00
	1	do	456 00
	1	do	250 00
	1	do	312 50
	1	Boatman	163 33
Frenchman's Bay	1	Collector	1,265 20
	1	Deputy collector and inspector	800 00
	1	do do	796 00
	2	do do	300 00
	1	do do	365 00
Penobscot	1	Collector	1,160 96
	1	Inspector	1,048 75
	1	do	730 00
	1	do	821 00
	1	do	150 00
	1	do	650 00
	1	Deputy collector	234 00
Waldoboro'	1	Collector	1,809 46
	3	Inspectors	1,098 00
	1	do	1,086 00
	1	do	334 25
	1	do	301 00
	1	do	430 00
	1	do	154 50
Wiscasset	1	Collector	844 07
	1	Deputy collector and inspector	1,077 00
	1	Inspector	782 00
	2	do	721 00
	1	do	248 00
	1	do	166 00
Bath	1	Collector	1,906 26
	1	Deputy collector and inspector	1,086 00
	2	Inspectors, weighers, gaugers, &c.	1,500 00
	1	Inspector	1,092 00
	2	do	500 00
	2	do	350 00
	1	do	247 00
	1	Occasional weigher	361 38
	1	do do	51 85

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Portland and Falmouth	1	Collector	$3,000 00
	1	Deputy collector and occasional weigher, gauger, and measurer	1,500 00
	1	Clerk	800 00
	6	Inspectors	1,098 00
	4	Occasional inspectors	676 50
	1	do do	466 00
	2	Weighers, gaugers, and measurers	1,500 00
	1	Surveyor	1,400 71
	2	Boatmen	300 00
Saco	1	Collector	375 78
	1	Inspector	627 00
	1	do	326 00
	1	Aid of the revenue	66 00
Kennebunk	1	Collector	229 22
	1	Inspector	600 00
	1	do	80 00
	1	do	32 00
York	1	Collector	278 68
	1	Inspector	200 00
	1	do	96 00
Belfast	1	Collector	1,409 03
	1	Inspector	1,098 00
	1	do	1,098 00
	1	do	732 00
	1	do	732 00
Bangor	1	Collector	1,723 53
	3	Inspectors	1,098 00
	1	Weigher, gauger, and measurer	568 53
	1	Deputy collector, weigher, &c.	1,136 90
Portsmouth	1	Collector	674 79
	1	Naval officer	497 16
	1	Inspector and deputy collector	732 00
	1	Surveyor	537 41
	1	Occasional inspector	732 00
	1	Inspector and deputy collector	173 91
	4	Inspectors and measurers	800 52
	3	Occasional inspectors	305 53
	2	Inspectors	500 00
	2	Occasional inspectors	107 50
	1	Weigher and gauger	1,197 27
	1	Inspector	360 00
	4	do	300 00
Vermont	1	Collector	1,090 84
	1	Deputy collector	582 50
	1	do do	518 34
	4	do do	500 00
	6	do do	360 00
	3	do do	240 00
	1	Inspector	500 00
	3	do	240 00
	1	do	160 00
	2	Boatmen	240 00
	2	do	120 00
Newburyport	1	Collector	419 96
	1	Naval officer	150 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Newburyport—Continued	1	Surveyor at Newburyport	$330 33
	1	Surveyor at Ipswich	250 00
	1	Weigher and measurer	1,171 66
	1	Gauger and inspector	840 48
	1	Inspector	999 00
	1	do	642 00
	1	do	198 00
	1	Occasional inspector	45 00
Gloucester	1	Collector	1,767 11
	1	Surveyor	740 65
	2	Inspectors	1,098 00
	1	do	300 00
	1	do	150 00
	1	Weigher, gauger, and measurer	618 74
	1	do do	496 28
Salem and Beverly	1	Collector	1,735 65
	1	Deputy collector	1,000 00
	1	Naval officer	1,282 91
	1	Surveyor at Salem	1,120 84
	3	Weighers and gaugers	1,297 45
	2	Measurers	676 22
	1	Clerk	692 00
	12	Inspectors	765 75
	2	Boatmen	300 00
	1	Laborer	457 00
	1	Surveyor at Beverly	359 15
Marblehead	1	Collector	852 28
	1	Deputy collector and inspector	365 00
	2	Inspectors	365 00
	1	Inspector at Lynn	182 50
	1	do do	365 00
	1	Measurer	30 86
	1	Surveyor	455 34
	2	Boatmen	150 00
Boston and Charlestown	1	Collector	6,400 00
	1	Naval officer	5,000 00
	1	Surveyor	4,900 00
	2	Deputy collectors	2,500 00
	1	do	1,500 00
	1	Collector's clerk	1,800 00
	3	do	1,400 00
	1	do	1,300 00
	6	do	1,200 00
	6	do	1,100 00
	7	do	1,000 00
	2	do	900 00
	56	Inspectors	1,095 00
	1	do	800 00
	1	Superintendent and messenger	1,200 00
	2	Inspectors	700 00
	21	Night inspectors	600 00
	9	Weighers	1,485 00
	4	Gaugers	1,485 00
	8	Measurers	1,485 00
	1	Appraiser at large	2,500 00
	2	Appraisers	2,500 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Boston and Charlestown—Continued.	1	Assistant appraiser	$2,000 00
	2	Appraiser's clerks	1,000 00
	1	do	900 00
	5	do	800 00
	1	Special examiner of drugs	1,000 00
	1	Storekeeper	1,400 00
	3	Assistant storekeepers	1,100 00
	1	do	1,000 00
	1	Storekeeper's clerk	1,095 00
	1	do	1,000 00
	1	do	900 00
	1	do	800 00
	1	do	600 00
	1	Deputy naval officer	1,500 00
	1	Naval officer's clerk	1,200 00
	4	do	1,150 00
	1	Messenger	480 00
	1	Deputy surveyor	1,500 00
	1	Surveyor's clerk	1,150 00
	1	do	1,000 00
	1	Messenger	500 00
Plymouth	1	Collector	540 00
	1	Inspector	1,095 00
	1	do	800 00
	1	do	600 00
	1	do	300 00
	1	do	160 00
	1	Measurer	68 00
Fall River	1	Collector	1,111 41
	1	Deputy collector, weigher, gauger, &c	1,401 08
	1	Inspector, weigher, and measurer	1,244 30
	1	do do	1,282 90
	1	Weigher and measurer	485 51
	1	Boatman	300 00
Barnstable	1	Collector	1,690 90
	4	Deputy collectors and inspectors	497 50
	3	Inspectors	397 00
	1	Weigher and measurer	143 40
	1	Deputy collector	500 00
New Bedford	1	Collector	3,000 00
	2	Inspectors	1,095 00
	1	Clerk	650 00
	1	Inspector and weigher	1,240 00
	1	do	1,359 00
	1	Inspector	300 00
	1	do	96 00
	1	do	123 00
	1	do	99 00
	1	do	108 00
	1	Boatman	420 00
Edgartown	1	Collector	1,438 86
	1	Deputy collector and inspector	600 00
	1	do	500 00
	1	Inspector	500 00
	1	Temporary inspector	338 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Nantucket	1	Collector	$840 39
	1	Inspector	1,095 00
	1	do	730 00
Providence	1	Collector	914 87
	1	Clerk	600 00
	1	Naval officer	685 43
	1	Surveyor Providence	649 80
	1	Surveyor East Greenwich	250 00
	1	Surveyor Pawtuxet	200 00
	2	Inspectors coastwise	1,098 00
	5	Inspectors foreign	243 00
	1	Inspector Pawtuxet	450 00
	1	Inspector East Greenwich	300 00
	1	Weigher	237 60
	1	Gauger	212 11
	1	Gauger	218 16
	1	Inspector foreign	240 00
	1	Measurer	186 92
	1	Measurer	1,309 79
	1	Boatman at Providence	145 83
	1	Boatman at Pawtuxet	300 00
	1	Boatman at East Greenwich	132 00
	1	Inspector at Pawtucket	300 00
Bristol and Warren	1	Collector	717 76
	2	Inspectors	549 00
	1	do	420 00
	1	do	162 00
	1	do	117 00
	1	do	108 00
	1	do	102 00
	1	do	15 00
	1	Gauger	282 72
	1	Gauger	112 08
	1	Weigher	142 60
	1	Assistant storekeeper	550 00
	1	Boatman	180 00
	1	Boatman	60 00
	2	Surveyors	250 53
Newport	1	Collector	740 13
	1	Naval officer	440 14
	1	Surveyor	402 00
	1	Surveyor at North Kingston	250 00
	1	Surveyor at Tiverton	200 00
	1	Deputy collector and inspector	552 00
	1	Inspector	552 00
	1	do	546 00
	1	do	400 00
	1	do	204 00
	1	do	198 00
	1	do	138 00
	1	do	114 00
	1	do	166 13
	1	do	58 05
	1	Gauger	391 92
	1	Weigher	12 93
	1	Measurer	28 10

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Newport—Continued	1	Boatman	$324 00
	1	Boatman	144 00
Middletown	1	Collector	1,057 45
	1	Deputy collector	50 00
	1	Inspector at Middletown	500 00
	1	Inspector at Hartford	500 00
	1	Inspector at Saybrook	250 00
	1	Surveyor at Middletown	346 37
	1	Surveyor at Hartford	436 99
	1	Surveyor at Saybrook	313 85
	1	Weigher and measurer	97 43
New London	1	Collector	972 99
	1	Surveyor	250 00
	1	Inspector	600 00
	1	....do	650 00
	1	....do	250 00
	1	....do	500 00
	1	....do	100 00
	2	Weighers	11 89
	1	Boatman	300 00
New Haven	1	Collector	2,328 73
	1	Surveyor and storekeeper	827 55
	1	Deputy collector and inspector	1,098 00
	1	Inspector	1,098 00
	1	....do	989 00
	1	....do	980 00
	1	....do	129 00
	1	....do	105 00
	1	....do	78 00
	1	Inspector, weigher, and measurer	1,500 00
	1	Inspector, weigher, and gauger	1,500 00
	1	Inspector, weigher, and gauger	1,500 00
	1	Boatman	300 00
Fairfield	1	Collector	1,041 85
	1	Inspector, weigher and measurer	1,360 36
	2	Inspectors	144 00
	1	Night inspector	50 00
Stonington	1	Collector	845 85
	1	Surveyor	150 00
	2	Inspectors	500 00
	1	Boatman	216 00
	1	Boatman	72 00
Sackett's Harbor	1	Collector	717 79
	1	Deputy collector and inspector	730 00
	1	....do .... do	640 00
	1	....do .... do	365 00
	2	....do .... do	300 00
	2	....do .... do	240 00
	1	....do .... do	180 00
	3	Temporary inspectors	730 00
	1	....do	547 50
	1	....do	412 50
	1	....do	275 00
	1	Night watch	412 50
	1	....do	275 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Genesee	1	Collector	$784 20
	5	Deputy collectors and inspectors	730 00
Oswego	1	Collector	961 84
	1	Deputy collector	1,000 00
	3	Inspectors	730 00
	1	do	500 00
	1	do	300 00
	1	do	365 00
	1	do	410 62
	1	do	250 00
	4	Night watchmen	365 00
	1	do	547 50
	6	Clerks	730 00
	1	do	600 00
	1	Boatman	300 00
	1	Storekeeper	730 00
Niagara	1	Collector	1,359 14
	1	Deputy collector	900 00
	3	Inspectors	732 00
	1	Deputy collector	732 00
	1	do	400 00
	1	Aid of the revenue	172 00
	1	do	136 00
	2	Deputy collectors	366 00
	1	do	289 00
	1	do	306 00
	1	Night watch	366 00
Buffalo	1	Collector	1,950 23
	1	Deputy collector and inspector	1,000 00
	1	do	730 00
	2	do	500 00
	3	do	250 00
	1	Inspector	1,000 00
	1	do	730 00
	1	do	540 00
	1	Inspector during navigation	777 00
	1	do	870 00
	5	Night watchmen	730 00
	1	Aid of the revenue	518 00
	1	Boatman	300 00
	2	Clerks	730 00
Oswegatchie	1	Collector	1,460 10
	1	Deputy collector	900 00
	1	Inspector	732 00
	1	do	600 00
	1	do	549 00
	1	do	400 00
	2	do	366 00
	1	Watchman	394 00
	1	Boatman and night watch	240 00
	1	do do	180 00
Sag Harbor	1	Collector	604 95
	1	Surveyor	12 50
	2	Inspectors	112 50
	1	do	123 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
New York	1	Collector	$6,340 00
	5	Deputy collectors	2,500 00
	1	Auditor	3,000 00
	1	Assistant auditor	2,000 00
	1	Cashier	2,500 00
	1	Assistant cashier	2,000 00
	3	Clerks	1,500 00
	7	...do	1,200 00
	34	...do	1,000 00
	23	...do	900 00
	16	...do	800 00
	4	...do	700 00
	2	...do	600 00
	1	...do	500 00
	2	Keepers of custom-house	800 00
	6	Watchmen	549 00
	1	Sunday watchman	156 00
	1	Fireman	457 50
	1	Porter and messenger	480 00
	1	.....do	400 00
	5	.....do	360 00
	1	.....do	350 00
	3	.....do	300 00
	1	.....do	250 00
	1	.....do	200 00
		Naval Office.	
	1	Naval officer	5,000 00
	3	Deputy naval officers	1,500 00
	1	Clerk	1,500 00
	1	...do	1,200 00
	7	...do	1,050 00
	3	...do	1,000 00
	5	...do	950 00
	12	...do	900 00
	2	...do	850 00
	2	...do	800 00
	1	...do	750 00
	2	...do	600 00
	1	...do	500 00
	1	...do	400 00
	1	Porter	450 00
	1	Messenger	250 00
	1	....do	150 00
		Surveyor's Office.	
	1	Surveyor	4,900 00
	1	Deputy surveyor	1,500 00
	1	Clerk	1,100 00
	4	..do	1,000 00
	1	..do	700 00
	1	Porter and messenger	600 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
		Appraisements.	
New York—Continued....	1	General appraiser	$2,500 00
	3	Appraisers	2,500 00
	5	Assistant appraisers	2,000 00
	5	Clerks	1,200 00
	1	...do	1,100 00
	1	...do	1,050 00
	17	...do	1,000 00
	3	...do	900 00
	3	...do	800 00
	1	...do	600 00
	1	Messenger	832 00
	1	....do	800 00
	2	Samplers	780 00
	1	....do	624 00
	1	Watchman	676 00
	7	....do	520 00
	1	Laborer	780 00
	1	....do	650 00
	1	....do	624 00
	59	....do	520 00
	1	Special examiner of drugs	2,000 00
		Public warehouses.	
	1	Storekeeper	2,500 00
	1	Register	1,200 00
	1	Clerk	1,200 00
	26	Assistant storekeepers	1,000 00
	10	Clerks	900 00
	39	...do	800 00
	1	...do	700 00
	38	Watchmen	549 00
	8	....do.	546 00
	1	....do	366 00
	7	Messengers and porters	780 00
	3	.....do	520 00
	1	Marker	520 00
	3	Laborers, (foremen)	780 00
	8	....do.....do	520 00
	17	....do	390 00
	193	Inspectors	1,098 00
	3	Inspector at Albany	1,098 00
	1	Inspector at Troy	1,098 00
	1	Inspectors at Long Island	732 00
	75	Night inspectors	549 00
	19	Weighers	1,485 00
	18	Foremen	360 00
	7	Gaugers	1,485 00
	7	Assistants	480 00
	15	Measurers	1,485 00
	2	Assistants to markers	600 00
	4	Measurers of passenger vessels	941 25
	1	Watchman and porter in assistant treasurer's office	915 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
New York—Continued	1	Watchman and porter in assistant treasurer's office	$549 00
	18	Bargemen	600 00
	1	Surveyor at Troy	250 00
	1	Surveyor at Albany	150 00
Champlain	1	Collector	1,050 71
	2	Deputy collectors and inspectors	750 00
	2	do do	600 00
	3	do do	500 00
	1	do do	450 00
	5	do do	400 00
Cape Vincent	1	Collector	1,014 00
	2	Deputy collectors and inspectors	730 00
	3	do do	547 50
	1	Aid of the revenue	547 50
	1	Night inspector	547 50
Perth Amboy	1	Collector	792 72
	1	Surveyor	150 00
	1	Deputy collector	569 50
	1	Inspector	590 00
	2	do	600 00
	1	do	393 00
	1	do	504 00
	1	Bargeman	59 00
	3	do	58 00
Bridgetown	1	Collector	268 11
Burlington	1	do	161 53
Little Egg Harbor	1	do	579 09
	4	Inspectors	109 50
Great Egg Harbor	1	Collector	442 66
	1	Inspector	360 00
Newark	1	Collector	548 63
	1	Deputy collector and inspector	730 00
	1	Temporary inspector	518 00
Camden	1	Surveyor	265 95
Philadelphia	1	Collector	6,011 89
	1	Naval officer	5,000 00
	1	Surveyor	4,500 00
	2	Deputy collectors	2,500 00
	2	Deputy naval officers and surveyors	1,500 00
	2	Appraisers	2,500 00
	1	Assistant appraiser	2,000 00
	1	Examiner	1,200 00
	2	do	1,095 00
	1	Special examiner of drugs	1,000 00
	1	Weigher	1,485 00
	2	do	1,000 00
	2	Gaugers	1,485 00
	4	Measurers	1,485 00
	1	Superintendent of public stores	1,500 00
	1	Assistant storekeeper	840 00
	1	Clerk	1,600 00
	1	do	1,300 00
	1	do	1,200 00
	3	do	1,100 00
	8	do	1,000 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Philadelphia—Continued	1	Clerk	$950 00
	5	do	900 00
	3	do	860 00
	1	do	850 00
	2	do	800 00
	1	do	493 48
	3	do	760 00
	1	Inspector	730 00
	45	do	1,095 00
	17	Occasional inspectors	730 00
	2	Principal night inspectors	800 00
	26	Night inspectors	547 50
	4	Boatmen	360 00
	3	Messengers	600 00
	5	Laborers	547 50
	1	do	456 25
	1	do	400 00
	6	Watchmen	547 50
	2	do	456 25
	1	do	420 00
	1	do	360 00
	1	Sampler, (deputy)	547 50
Presque Isle	1	Collector	398 53
	1	Deputy collector	732 00
Pittsburg	1	Surveyor	2,179 37
Delaware	1	Collector	1,500 20
	3	Inspectors	1,095 00
	1	do	800 00
	1	do	500 00
	2	Messengers	365 00
	4	Boatmen	300 00
Baltimore	1	Collector	6,400 00
	1	Deputy collector	2,500 00
	1	Cashier	1,500 00
	2	Clerks	1,200 00
	3	do	1,100 00
	1	do	1,000 00
	3	do	900 00
	1	do	850 00
	1	Messenger	547 50
	1	Naval officer	4,453 48
	1	Deputy naval officer	1,200 00
	1	Clerk	900 00
	1	Surveyor	2,249 52
	1	Clerk	626 00
	26	Inspectors	1,095 00
	2	Night inspectors	638 75
	25	do	547 50
	1	Storekeeper	1,150 00
	1	do	1,095 00
	1	Assistant storekeeper	626 00
	2	Clerks	1,000 00
	3	Porters	547 50
	2	Appraisers	2,500 00
	1	Clerk	1,200 00
	1	do	1,000 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Baltimore—Continued	1	Clerk	$626 00
	1	Porter	547 50
	6	Boatmen	540 00
	1	Keeper of Lazaretto	150 00
	1	Weigher	1,500 00
	2	Deputy weighers	1,000 00
	1	Gauger	1,500 00
	1	Measurer	1,500 00
	1	Deputy measurer	1,000 00
	1	....do	600 00
Annapolis	1	Collector	254 11
	1	Inspector	1,095 00
	1	Surveyor	250 00
	1	....do	200 00
	1	....do	150 00
Oxford	1	Collector	404 28
Vienna	1	....do	560 80
Havre de Grace	1	Surveyor	151 81
Town Creek	1	....do	152 69
Georgetown	1	Collector	1,232 57
	1	Deputy collector, inspector, and weigher	1,325 14
	2	Deputy collectors and inspectors	823 50
	1	Clerk	500 00
	1	Gauger	18 24
	1	Temporary inspector	200 00
Richmond	1	Collector	2,090 68
	2	Deputy collectors and inspectors	2,190 00
	2	Inspectors, weighers, and measurers	2,190 00
Norfolk and Portsmouth	1	Collector	1,834 14
	1	Deputy collector, inspector, and storekeeper	1,095 00
	1	Clerk	500 00
	1	Naval officer	737 19
	1	Clerk	626 00
	1	Surveyor	457 23
	4	Inspectors	1,095 00
	1	....do	400 00
	1	Weigher and gauger	575 63
	1	Measurer	778 41
	1	Watchman	365 00
	1	Boatman	300 00
	2	....do	150 00
	3	Surveyors	250 00
Tappahannock	1	Collector	585 65
	1	Deputy collector and inspector	300 00
	3	Surveyors	250 00
	2	....do	150 00
Cherrystone	1	Collector	215 39
	1	Surveyor	388 00
Yorktown	1	Collector	402 77
	1	Surveyor	200 00
Petersburg	1	Collector	1,244 50
	1	Deputy collector	732 00
	1	Surveyor	500 00
	1	Weigher, &c.	1,500 00
	2	Inspectors	1,098 00
	1	Aid of the revenue	292 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Alexandria	1	Collector	$1,718 41
	1	Deputy collector and inspector	1,098 00
	1	Surveyor	300 00
	2	Inspectors	1,098 00
	1	Weigher and measurer	1,500 00
	1	Gauger	69 72
	1	Boatman	49 00
Wheeling	1	Surveyor	738 41
Yeocomico	1	Surveyor	232 80
Camden, N. C.	1	Collector	690 54
	1	Temporary inspector, gauger, &c.	316 95
	1	do do	100 08
Edenton	1	Collector	371 80
Plymouth, N. C.	1	Collector	722 58
	1	Surveyor	150 00
	1	Inspector, gauger, &c.	126 23
	1	do	110 51
Washington, N. C.	1	Collector	377 34
	1	Deputy collector, inspector, &c.	500 00
Newbern	1	Collector	466 23
	1	Inspector	250 00
	1	Gauger	2 64
	1	Weigher	18
	1	Measurer	147 78
Ocracoke	1	Collector	1,000 00
	1	Inspector	480 00
Beaufort	1	Collector	251 45
	1	Inspector	39 00
Wilmington, N. C.	1	Collector	2,332 45
	1	Naval officer	1,007 42
	1	Surveyor	899 45
	2	Permanent inspectors	600 00
	1	Temporary inspector	715 13
	1	do	799 80
	1	do	320 19
	1	Boarding officer and inspector	480 00
	4	Seamen	240 00
	1	Messenger	225 00
Charleston	1	Collector	6,000 00
	1	Naval officer	2,409 00
	1	Surveyor	1,900 00
	1	Deputy collector	1,300 00
	1	do	1,200 00
	1	do	1,000 00
	1	do	600 00
	1	Assistant naval officer	666 00
	2	Appraisers	1,500 00
	1	Weigher	1,500 00
	1	Measurer	1,500 00
	1	Gauger	1,500 00
	28	Inspectors	1,095 00
Georgetown, S. C.	1	Collector	546 56
	1	Deputy collector	125 00
Beaufort, S. C.	1	Collector	311 71
Savannah	1	Collector	3,188 68

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Savannah—Continued	1	Deputy collector	$1,200 00
	1	Clerk	800 00
	10	Inspectors	1,095 00
	2	do	250 00
	2	Appraisers	1,500 00
	1	Weigher and gauger	1,500 00
	1	Appraisers' porter	180 00
	1	Watchman	182 00
	1	Surveyor	150 00
	1	Naval officer	33 75
	1	Storekeeper	800 00
	4	Boatmen	360 00
Brunswick	1	Collector	250 00
	1	Temporary inspector	250 00
St. Mary's, Ga.	1	Collector	610 94
	1	Inspector	200 00
	2	Boatmen	60 00
Mobile	1	Collector	6,000 00
	2	Inspectors and clerks	1,500 00
	7	Inspectors	1,098 00
	1	do	948 00
	1	do	915 00
	1	do	879 00
	1	do	786 00
	1	do	741 00
	1	do	570 00
	2	Weighers and measurers	1,500 00
	1	Appraiser	840 00
	1	Gauger	32 69
Pearl River	1	Collector	303 27
Natchez	1	Collector	505 27
Vicksburg	1	Collector	511 75
Pensacola	1	Collector	1,177 70
	1	Inspector	1,095 00
	1	Surveyor St Andrew's bay	300 00
St. Augustine	1	Collector	549 96
	1	Deputy collector	730 00
	1	Inspector	500 00
	6	Boatmen	192 00
	1	Boatman	288 00
Key West	1	Collector	1,309 46
	1	Deputy collector	1,098 00
	1	Inspector	1,098 00
	1	do	550 00
	1	Temporary inspector	18 00
St. Mark's	1	Collector	797 72
	3	Inspectors	1,096 00
	4	Boatmen	300 00
	2	do	240 00
St. John's	1	Collector	710 52
	2	Inspectors	730 00
	1	Surveyor	300 00
	2	Boatmen	180 00
Appalachicola	1	Collector	2,012 40
	1	Inspector	1,095 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Appalachicola—Continued.	2	Temporary inspectors	$750 00
	1	Weigher and gauger	1,500 00
	4	Boatmen	300 00
New Orleans	1	Collector	6,400 00
	2	Deputy collectors	2,500 00
	5	Clerks	1,500 00
	9	....do	1,200 00
	4	....do	1,000 00
	3	....do	900 00
	1	Porter	730 00
	76	Inspectors	1,095 00
	1	Gauger	1,500 00
	1	Deputy gauger	1,200 00
	1	Weigher	1,500 00
	1	Deputy weigher	1,200 00
	1	Measurer	1,500 00
	1	Deputy measurer	1,095 00
	1	Naval officer	5,000 00
	1	Deputy naval officer	1,500 00
	1	Clerk	1,200 00
	1	....do	1,050 00
	1	....do	730 00
	1	Surveyor	4,500 00
	2	Deputies	1,500 00
	4	Boatmen	540 00
	11	....do	360 00
	2	Appraisers	2,500 00
	2	Assistant appraisers	2,000 00
	2	Clerks	1,095 00
	1	Messenger	900 00
	2	Porters	540 00
	2	....do	360 00
	1	Storekeeper	1,500 00
	1	Deputy storekeeper	1,095 00
	6	Laborers	480 00
	8	....do	420 00
	2	Watchmen	730 00
Teché	1	Collector	613 97
	1	Deputy collector and inspector	150 00
Texas	1	Collector	1,750 00
	1	Deputy collector	730 00
	1	.....do	1,000 00
	1	Surveyor	1,000 00
	1	Weigher and gauger	1,200 00
	1	Clerk	800 00
	2	Inspectors	1,095 00
Brazos de Santiago	1	Collector	1,750 00
	1	Deputy collector and inspector	900 00
	1	.....do.....do	1,000 00
	2	.....do.....do	1,000 00
	1	.....do.....do	700 00
	1	.....do.....do	800 00
	1	.....do.....do	700 00
	1	.....do.....do	700 00
	3	Inspectors	700 00
	2	....do	800 00
	3	Clerks	700 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Brazos de Santiago—Continued.	3	Clerks	$800 00
	1	Storekeeper	700 00
	1	....do	800 00
	1	Night watch	600 00
	1	Boatman	480 00
Saluria	1	Collector	1,250 00
	1	Deputy collector	500 00
	2	Surveyors	600 00
	2	....do	500 00
	2	Seamen	300 00
Miami	1	Collector	326 41
	1	Deputy collector and inspector	800 00
	1	.....do.....do	600 00
	1	.....do.....do	400 00
Sandusky	1	Collector	645 83
	1	Deputy collector and inspector	800 00
	1	.....do.....do	300 00
	3	.....do.....do	200 00
	1	Clerk	365 00
Cuyahoga	1	Collector	525 56
	1	Deputy collector and inspector	732 00
	2	Inspectors	600 00
	4	....do	240 00
Cincinnati	1	Surveyor	3,000 00
	1	Clerk	600 00
Detroit	1	Collector	1,693 08
	1	Deputy collector	1,000 00
	1	.....do	480 00
	1	.....do	360 00
	3	.....do	240 00
	1	.....do	180 00
	1	.....do	150 00
	1	Inspector	750 00
	1	....do	600 00
	9	....do	360 00
	6	....do	240 00
	1	Weigher and gauger	1,095 00
Michilimackinac	1	Collector	835 85
	1	Deputy collector	400 00
	2	.....do	300 00
	1	.....do	240 00
Chicago	1	Collector	835 35
	1	Deputy collector and inspector	480 00
	1	.....do.....do	360 00
	1	.....do.....do	300 00
	1	Inspector	300 00
Louisville	1	Surveyor	2,715 94
Nashville	1	Surveyor	2,540 87
St. Louis	1	Surveyor	3,000 00
	1	Clerk	732 00
	1	....do	670 00
	1	Temporary inspector	18 00
New Albany	1	Surveyor	1,456 43
Evansville	1	Surveyor	412 94
Milwaukie	1	Collector	840 00
	1	Deputy collector	480 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
Milwaukie—Continued	3	Deputy collectors	$360 00
Minnesota	1	Collector	1,200 00
	1	Deputy collector	400 00
	1	Temporary inspector	12 00
San Francisco	1	Collector	10,000 00
	1	Deputy collector	4,832 41
	1	do	4,250 00
	1	Cashier	4,000 00
	1	Clerk	3,600 00
	2	do	3,549 72
	1	do	3,532 96
	1	do	3,383 51
	1	do	3,134 13
	2	do	3,033 51
	14	do	3,000 00
	1	do	792 33
	1	Messenger	1,033 33
	1	do	1,495 00
	2	Porters	1,560 00
	1	Naval officer	8,000 00
	1	Deputy naval officer	4,000 00
	1	Clerk	3,600 00
	3	do	3,300 00
	2	do	3,000 00
	1	Porter	360 00
	1	Surveyor	7,000 00
	1	Deputy surveyor	4,000 00
	1	Clerk	3,600 00
	1	do	3,000 00
	2	do	2,400 00
	1	Messenger and porter	1,800 00
	2	Appraisers	6,000 00
	2	Assistant appraisers	3,500 00
	2	Examiners	3,000 00
	1	do	2,370 00
	2	Clerks	2,160 00
	1	Clerk	2,088 00
	1	do	1,740 00
	1	Watchman and superintendent of laborers	2,160 00
	1	Watchman	1,560 00
	7	Laborers	1,440 00
	1	Laborer	1,224 00
	1	Storekeeper	4,000 00
	1	Assistant storekeeper	3,000 00
	1	Clerk	3,000 00
	1	Inspector and clerk	3,500 00
	2	do	2,988 00
	1	do	2,591 00
	1	do	2,196 00
	1	do	1,953 00
	6	Watchmen	1,560 00
	1	do	964 29
	16	Laborers	1,440 00
	1	do	415 00
	1	Weigher and measurer	3,650 00
	1	do do	3,000 00

D—Continued.

Districts.	No. of persons employed.	Occupation.	Compensation to each person.
San Francisco—Contin'd..	1	Weigher and measurer	$500 00
	1	Gauger	3,650 00
	1	...do	3,000 00
	7	Inspectors	2,928 00
	74	....do	2,196 00
	1	Inspector	1,996 00
San Joaquin	1	Collector	3,000 00
	1	Inspector	2,190 00
	1	Deputy collector	730 00
Sacramento	1	Collector	3,000 00
	1	Inspector	2,196 00
	1	....do	1,386 00
	1	....do	528 00
	1	....do	276 00
	1	....do	108 00
San Diego	1	Collector	3,000 00
	1	Surveyor San Pedro	2 000 00
	1	Surveyor Santa Barbara	2,000 00
Senora	1	Collector	4,845 91
	1	Deputy collector	2,928 00
	1	.....do	2,400 00
	1	Inspector	2,196 00
	1	....do	1,644 00
	1	....do	882 00
	1	....do	570 00
	1	....do	504 00
	1	....do	186 00
	1	Weigher	1,627 53
	2	Boatmen	960 00
Monterey	1	Collector	3,000 00
	1	Deputy collector	2,928 00
	3	Inspectors	2,196 00
	6	Boatmen	732 00
Oregon	1	Collector	2,536 58
	1	Deputy collector	1,750 00
	3	Surveyors	1,000 00
	1	Inspector	730 00
	2	Boatmen	480 00

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, December 9, 1852.

E.

Statement of the public debt on the 1st of January, 1853.

Of the old funded and unfunded debt, payable on presentation		$114,573 40
Treasury notes outstanding, fundable or payable on presentation		121,161 64
Debt of the corporate cities of the District of Columbia, assumed per act of the 20th May, 1836, $60,000 payable annually		780,000 00
Loans:		
Six per cent. of 1842, redeemable December 31, 1862	$8,198,686 03	
Five per cent. of 1843, redeemable July 1, 1853	4,526,531 35	
Six per cent. of 1846, redeemable November 12, 1856	4,999,139 71	
Do.....1847, redeemable January 1, 1868	25,656,600 00	
Do.....1848, redeemable July 1, 1868	15,735,000 00	
Five per cent. Texan indemnity, redeemable January 1, 1865	5,000,000 00	
		64,115,957 09
		65,131,692 13
Amount of the public debt on the 20th November, 1851, as per the report on the finances of the 6th January, 1852		62,560,395 26
Add on account of the Texan indemnity, per act of September 9, 1850		5,000,000 00
		67,560,395 26
Deduct payments:		
On account of the old funded and unfunded debt	$2,143 39	
On account of city debts assumed	60,000 00	
On account of treasury notes paid in money	50 00	
Stocks purchased:		
Of the 5 per cent. loan of 1843	1,711,400 00	
Of the 6 per cent. loan of 1846	9 74	
Of the 6 per cent. loan of 1847	650,100 00	
Of the 6 per cent. loan of 1848	5,000 00	
		2,428,703 13
As above		65,131,692 13

N. SARGENT, *Register.*

TREASURY DEPARTMENT, *Register's Office, January*, 4, 1853.

F.

Statement of the redemption of treasury notes during the fiscal year ending June 30, 1852.

	Paid for in specie.	Received for customs.	Funded.	Total.
Redemption of treasury notes, per acts prior to July 22, 1846	$50	.....	$25,250	$25,300
Redemption of treasury notes, per act of July 22, 1846	200	$50	8,750	9,000
Redemption of treasury notes, per act of January 28, 1847	.....	.....	13,300	13,300
	250	50	47,300	47,600

N. SARGENT, *Register.*

TREASURY DEPARTMENT, *Register's Office, December* 11, 1852.

G.

Statement exhibiting the total value of imports, and the imports consumed in the United States, exclusive of specie, during each fiscal year from 1821 to 1852; showing, also, the value of the domestic and foreign exports, exclusive of specie, and the tonnage employed during the same periods.

Years.	Total imports, including specie, &c.	Imports consumed, exclusive of specie.	Domestic produce exported, exclusive of specie.	Foreign merchandise exported, exclusive of specie.	Total exports, including specie, &c.	Tonnage.
1821	$62,585,724	$43,696,405	$43,671,894	$10,824,429	$64,974,382	$1,298,958
1822	83,241,541	68,367,425	49,874,079	11,504,270	72,160,281	1,324,699
1823	77,579,262	51,308,936	47,155,408	21,172,435	74,699,030	1,336,566
1824	80,549,007	53,846,567	50,649,500	18,322,605	75,986,657	1,389,163
1825	96,340,075	66,375,722	66,809,766	23,793,588	99,535,388	1,423,112
1826	84,974,477	57,652,577	52,499,855	20,440,934	77,595,322	1,534,191
1827	79,484,068	54,901,108	57,878,117	16,431,830	82,324,827	1,620,608
1828	88,509,824	66,975,475	49,976,632	14,044,608	72,264,686	1,741,392
1829	74,492,527	54,741,571	55,087,307	12,347,344	72,358,671	1,260,798
1830	70,876,920	49,575,009	58,524,878	13,145,857	73,849,508	1,191,776
1831	103,191,124	82,808,110	59,218,583	13,077,069	81,310,583	1,267,847
1832	101,029,266	75,327,688	61,726,529	19,794,074	87,176,943	1,439,450
1833	108,118,311	83,470,067	69,950,856	15,577,876	90,140,433	1,606,151
1834	126,521,332	86,973,147	80,623,662	21,636,553	104,336,973	1,758,907
1835	149,895,742	122,007,974	100,459,481	14,756,321	121,693,577	1,824,940
1836	189,980,035	158,811,392	106,570,942	17,767,762	128,663,040	1,882,103
1837	140,989,217	113,310,571	94,280,895	17,162,232	117,419,376	1,896,686
1838	113,717,404	86,552,598	95,560,880	9,417,690	108,486,616	1,994,640
1839	162,092,132	145,870,816	101,625,533	10,626,140	121,028,416	2,096,380
1840	107,141,519	86,250,335	111,660,561	12,008,371	132,085,946	2,180,764
1841	127,946,177	114,776,309	103,636,236	8,181,235	121,851,803	2,130,744
1842	100,162,087	87,996,318	91,799,242	8,078,753	104,691,534	2,092,391
1843, (9 months, ending June 30)	64,753,799	37,294,129	77,686,354	5,139,335	84,346,480	2,158,603
1844	108,435,035	96,390,548	99,531,774	6,214,058	111,206,046	2,280,095

1845	117,254,564	105,599,541	98,455,330	7,584,781	114,646,606	2,417,002
1846	121,691,797	110,048,859	101,718,042	7,865,206	113,488,516	2,562,085
1847	146,545,638	116,257,595	150,574,844	6,166,754	158,648,622	2,839,046
1848	154,998,928	140,651,902	130,203,709	7,986,802	154,032,131	3,154,042
1849	147,857,439	132,565,168	131,710,081	8,641,691	145,755,820	3,334,015
1850	178,138,318	164,032,033	134,900,233	9,475,493	151,898,720	3,535,454
1851	216,224,932	200,476,219	178,620,138	10,295,121	218,388,011	3,772,439
1852	212,613,282	195,072,695	154,930,447	12,037,043	209,641,625	4,138,441

N. SARGENT, *Register.*

TREASURY DEPARTMENT, *Register's Office, January* 5, 1853.

NOTE.—In the tables laid before Congress at last session, the imports, including specie, were stated at $223,419,005; but it was afterwards ascertained that this included $7,194,073 of gold from California via New Grenada, which does not properly belong to foreign imports, and it is, therefore, dow deducted in the preceding statement, leaving the foreign imports, including specie, $216,224,932 for that year.

H.

Statement exhibiting the value of imports, annually, from 1821 *to* 1852.

Years ending—		Value of merchandise imported.			
		Specie and bullion.	Free of duty.	Paying duty.	Total.
September 30	1821	$8,064,890	$2,017,423	$52,503,411	$62,585,724
	1822	3,369,846	3,928,862	75,942,833	83,241,541
	1823	5,097,896	3,950,392	68,530,979	77,579,267
	1824	8,379,835	4,183,938	67,985,235	80,549,008
	1825	6,150,765	4,796,745	85,392,565	96,340,075
	1826	6,880,966	5,686,803	72,406,708	84,974,477
	1827	8,151,130	3,703,974	67,628,964	79,484,068
	1828	7,489,741	4,889,435	76,130,648	88,509,824
	1829	7,403,612	4,401,889	62,687,026	74,492,527
	1830	8,155,964	4,590,281	58,130,675	70,876,920
	1831	7,305,945	6,150,680	89,734,499	103,191,124
	1832	5,907,504	8,341,949	86,779,813	101,029,266
	1833	7,070,368	25,377,582	75,670,361	108,118,311
	1834	17,911,632	50,481,548	58,128,152	126,521,332
	1835	13,131,447	64,809,046	71,955,249	149,895,742
	1836	13,400,881	78,655,600	97,923,554	189,980,035
	1837	10,516,414	58,733,617	71,739,186	140,989,217
	1838	17,747,116	43,112,889	52,857,399	113,717,404
	1839	5,595,176	70,806,616	85,690,340	162,092,132
	1840	8,882,813	48,313,391	49,945,315	107,141,519
	1841	4,988,633	61,031,098	61,926,446	127,946,177
	1842	4,087,016	26,540,470	69,534,601	100,162,087
Nine months, to June 30,	1843	22,390,559	13,184,025	29,179,215	64,753,799
Year, to June 30	1844	5,830,429	18,936,452	83,668,154	108,435,035
	1845	4,070,242	18,077,598	95,106,724	117,254,564
	1846	3,777,732	20,990,007	96,924,058	121,691,797
	1847	24,121,289	17,651,347	104,773,002	146,545,638
	1848	6,360,224	16,356,379	132,282,325	154,998,928
	1849	6,651,240	15,726,425	125,479,774	147,857,439
	1850	4,628,792	18,081,590	155,427,936	178,138,318
	1851	5,453,592	19,652,995	191,118,345	216,224,932
	1852	5,503,544	24,187,890	182,921,848	212,613,282

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

I.

Statement exhibiting the value of certain articles imported during the years ending on the 30th of June, 1844, 1845, 1846, 1848, 1849, 1850, 1851, and 1852, (after deducting the re-exportations;) and the amount of duty which accrued on each during the same periods, respectively.

Articles.	1844.		1845.		1846.		1848.	
	Value.	Duties.	Value.	Duties.	Value.	Duties.	Value.	Duties.
Woollens	$9,408,279	$3,313,495	$10,504,423	$3,731,014	$9,935,925	$3,480,797	$15,061,102	$4,196,007
Cottons	13,236,830	4,850,731	13,360,729	4,908,272	12,857,422	4,865,483	17,205,417	4,166,673
Hempen goods	865,427	213,862	801,661	198,642	696,888	138,394	606,900	121,380
Iron, and manufactures of	2,395,760	1,607,113	4,075,142	2,415,003	3,660,581	1,629,581	7,060,470	2,118,141
Sugar	6,897,245	4,597,093	4,049,708	2,555,075	4,397,239	2,713,866	8,775,223	2,632,567
Hemp, unmanufactured	261,913	101,338	140,372	55,122	180,221	62,282	180,335	54,100
Salt	892,112	654,881	883,359	678,069	748,566	509,244	1,027,656	205,531
Coal	203,681	133,845	187,962	130,221	336,691	254,149	426,997	128,099
Total	34,161,247	15,472,358	34,003,356	14,671,418	32,813,533	13,653,796	50,344,100	13,622,498

I—Continued.

Articles.	1849.		1850.		1851.		1852.	
	Value.	Duties.	Value.	Duties.	Value.	Duties.	Value.	Duties.
Woollens	$13,503,202	$3,723,768	$16,900,916	$4,682,457	$19,239,930	$5,331,600	$17,348,184	$4,769,083
Cottons	15,183,759	3,769,565	19,681,612	4,896,278	21,486,502	5,348,695	18,716,741	4,895,327
Hempen goods	460,335	92,067	490,077	98,015	615,239	123,048	343,777	68,755
Iron, and manufactures of	9,262,567	2,778,770	10,864,680	3,259,404	10,780,312	3,234,094	18,843,569	5,632,484
Sugar	7,275,780	2,182,734	6,950,716	2,085,215	13,478,709	4,043,613	13,977,393	4,193,218
Hemp, unmanufactured	478,232	143,470	574,783	172,435	212,811	63,843	164,211	49,263
Salt	1,424,529	284,906	1,227,518	245,504	1,025,300	205,060	1,102,101	220,420
Coal	382,254	114,676	361,855	108,557	478,095	143,429	405,652	121,695
Total	47,970,658	13,089,956	57,052,157	15,547,865	67,316,898	18,493,382	70,901,628	19,950,245

N. SARGENT, *Register*.

TREASURY DEPARTMENT, *Register's Office, January* 5, 1853.

K.

Statement exhibiting the amount of coin and bullion imported and exported, annually, from 1821 *to* 1852, *inclusive; and also the amount of importation over exportation, and of exportation over importation, during the same years.*

Years ending—		Coin and bullion.			
		Imported.	Exported.	Excess of importation over exportation.	Excess of exportation over importation.
September 30	1821	$8,064,890	$10,478,059	.....	$2,413,169
	1822	3,369,846	10,810,180	.....	7,440,334
	1823	5,097,896	6,372,987	.....	1,275,091
	1824	8,379,835	7,014,552	$1,365,283	.....
	1825	6,150,765	8,932,034	.....	2,781,269
	1826	6,880,966	4,704,533	2,176,433	.....
	1827	8,151,130	8,014,880	136,250	.....
	1828	7,489,741	8,243,476	.....	753,735
	1829	7,403,612	4,924,020	2,479,592	.....
	1830	8,155,964	2,178,773	2,977,191	.....
	1831	7,305,945	9,014,931	.....	1,708,986
	1832	5,907,504	5,565,340	251,164	.....
	1833	7,070,368	2,611,701	4,458,667	.....
	1834	17,911,632	2,076,758	15,834,874	.....
	1835	13,131,447	6,477,775	6,653,672	.....
	1836	13,400,881	4,324,336	9,076,545	.....
	1837	10,516,414	5,976,249	4,540,165	.....
	1838	17,747,116	3,508,046	14,239,070	.....
	1839	5,595,176	8,776,743	.....	3,181,567
	1840	8,882,813	8,417,014	465,799	.....
	1841	4,988,633	10,034,332	.....	5,045,699
	1842	4,087,016	4,813,539	.....	726,523
9 months, to June 30,	1843	22,390,559	1,520,791	20,869,768	.....
Year ending June 30,	1844	5,830,429	5,454,214	376,215	.....
	1845	4,070,242	8,606,495	.....	4,536,253
	1846	3,777,732	3,905,268	.....	127,536
	1847	24,121,289	1,907,739	22,213,550	.....
	1848	6,360,224	15,841,620	.....	9,481,396
	1849	6,651,240	5,404,648	1,246,592	.....
	1850	4,628,792	7,522,994	.....	2,984,202
	1851	5,453,592	29,472,752	.....	24,019,160
	1852	5,503,544	42,674,135	.....	37,170,591

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

L.

Statement exhibiting the quantity and value of wines, spirits, &c., imported, annually, from 1843 to 1852, inclusive; and also showing the foreign cost per gallon under specific and ad valorem duties.

No. 1.—MADEIRA WINE.

Period of importation.	Gallons.	Value.	Average cost per gallon.	Duty.
9 months ending June 30, 1843	3,949	$9,075	$2 29.8	Specific.
Year ending June 30 1844	16,754	30,575	1 82.5	
Do 1845	101,176	145,237	1 43.5	
Do 1846	169,797	122,895	1 11.9	
5 months ending Nov. 30, 1846	117,117	128,613	1 09.8	
7 months ending June 30, 1847	13,806	5,717	41.4	Ad valorem.
Year ending June 30 1848	44,634	21,630	48.4	
Do 1849	193,971	105,302	54.3	
Do 1850	303,125	150,096	49.51	
Do 1851	163,941	116,008	70.76	
Do 1852	216,683	103,917	47.95	

No. 2.—SHERRY WINE.

9 months ending June 30, 1843	4,685	6,491	1 38.5	Specific.
Year ending June 30 1844	18,665	23,418	1 25.4	
Do 1845	23,616	38,289	1 62.1	
Do 1846	26,538	41,761	1 57	
5 months ending Nov. 30, 1846	14,543	26,194	1 59.5	
7 months ending June 30, 1847	77,521	56,061	72.3	Ad valorem.
Year ending June 30 1848	215,935	109,983	50.9	
Do 1849	170,794	128,510	75.2	
Do 1850	212,092	118,952	56.08	
Do 1851	259,277	154,668	59.65	
Do 1852	168,610	97,680	57.93	

No. 3.—SICILY WINE.

9 months ending June 30, 1843	14,579	6,617	60.6	Specific.
Year ending June 30 1844	31,180	15,000	48.1	
Do 1845	110,590	46,033	50.4	
Do 1846	209,131	74,000	35.4	
5 months ending Nov. 30, 1846	21,281	8,933	42	
7 months ending June 30, 1847	92,631	24,230	26.2	Ad valorem.
Year ending June 30 1848	190,294	67,364	35.4	
Do 1849	130,851	32,231	24.6	
Do 1850	91,123	24,933	27.36	
Do 1851	301,010	98,975	32.88	
Do 1852	91,746	22,563	24.59	

L—Continued.

No. 4.—PORT WINE IN CASKS.

Period of importation.	Gallons.	Value.	Average cost per gallon.	Duty.
9 months ending June 30, 1843	38,593	$25,714	$0 66.6	Specific.
Year ending June 30 1844	223,615	156,878	70.2	
Do 1845	260,593	162,358	62.3	
Do 1846	372,528	148,895	40	
5 months ending Nov. 30, 1846	80,991	62,851	77.6	
7 months ending June 30, 1847	8,075	3,791	47	Ad valorem.
Year ending June 30 1848	501,123	170,134	34	
Do 1849	711,268	272,700	38.3	
Do 1850	626,211	305,454	48.77	
Do 1851	762,967	349,849	45.85	
Do 1852	614,816	240,238	39.07	

No. 5.—CLARET IN CASKS.

9 months ending June 30 1843	873,895	134,598	15.4	Specific.
Year ending June 30 1844	993,198	218,239	21.97	
Do 1845	1,051,862	249,633	23.73	
Do 1846	951,351	249,703	26.24	
5 months ending Nov. 30, 1846	294,433	111,453	37.85	
7 months ending June 30, 1847	591,656	119,844	20.26	Ad valorem.
Year ending June 30 1848	1,227,071	221,416	18.04	
Do 1849	1,912,701	263,836	13.79	
Do 1850	1,919,766	267,445	13.93	
Do 1851	1,940,121	280,333	14.45	
Do 1852	2,702,612	405,380	15	

No. 6.—OTHER RED WINES.

9 months ending June 30, 1843.				
Year ending June 30 1844	340,387	60,096	17.65	Specific.
Do 1845	495,588	143,210	28.9	
Do 1846	954,646	316,821	33.19	
5 months ending Nov. 30, 1846	1,072,589	328,814	30.65	
7 months ending June 30, 1847	539,454	119,411	22.14	Ad valorem.
Year ending June 30 1848	781,073	180,928	23.16	
Do 1849	994,458	221,177	22.24	
Do 1850	1,469,256	265,988	18.1	
Do 1851	1,245,201	236,727	19.01	
Do 1852	1,172,316	229,350	19.56	

L—Continued.

No. 7.—OTHER WHITE WINES.

Period of importation.	Gallons.	Value.	Average cost per gallon.	Duty.
9 months ending June 30, 1843	123,832	$28,205	$0 22.77	Specific.
Year ending June 30 1844	268,414	75,090	27.98	
Do 1845	591,735	211,183	35.69	
Do 1846	705,808	310,241	43.96	
5 months ending Nov. 30, 1846	618,267	296,736	48	
7 months ending June 30, 1847	278,482	69,831	25.08	Ad valorem.
Year ending June 30 1848	840,687	193,358	23	
Do 1849	971,895	210,139	21.62	
Do 1850	1,088,801	215,353	19.79	
Do 1851	1,085,374	209,847	19.33	
Do 1852	935,379	195,870	20.94	

No. 8.—BRANDY.

9 months ending June 30, 1843	191,832	106,267	55.4	Specific.
Year ending June 30 1844	782,510	606,633	77.52	
Do 1845	1,081,314	819,540	75.79	
Do 1846	963,147	839,231	87.13	
5 months ending Nov. 30, 1846	331,108	355,451	1 07.3	
7 months ending June 30, 1847	623,309	575,631	92.35	Ad valorem.
Year ending June 30 1848	1,370,111	1,135,089	82.84	
Do 1849	2,964,091	1,347,514	65.28	
Do 1850	4,145,802	2,659,537	64.14	
Do 1851	3,163,783	2,128,679	67.28	
Do 1852	2,751,810	1,792,729	65.14	

No. 9.—GRAIN SPIRITS.

9 months ending June 30, 1843	259,129	121,547	46.91	Specific.
Year ending June 30 1844	416,918	171,015	41.02	
Do 1845	606,311	262,543	23.2	
Do 1846	677,785	345,352	50.95	
5 months ending Nov. 30, 1846	136,323	86,073	63.14	
7 months ending June 30, 1847	327,635	143,549	43.81	Ad valorem.
Year ending June 30 1848	676,683	327,493	48.4	
Do 1849	796,276	327,957	41.19	
Do 1850	751,183	361,078	48.07	
Do 1851	984,417	364,204	36.99	
Do 1852	865,301	294,386	34.02	

L—Continued.

No. 10.—OTHER SPIRITS.

Period of importation.	Gallons.	Value.	Average cost per gallon.	Duty.
9 months ending June 30, 1843.....	135,399	$32,095	$0 23.7	Specific.
Year ending June 30 ....1844.....	210,477	78,027	37.07	
Do.....1845.....	270,484	78,957	29.12	
Do.....1846.....	221,344	81,713	36.92	
5 months ending Nov. 30, 1846.....	65,477	28,862	44.08	
7 months ending June 30, 1847.....	160,747	57,806	35.96	Ad valorem.
Year ending June 30 ....1848.....	228,671	75,943	33.21	
Do.....1849.....	542,492	145,784	26.87	
Do.....1850.....	339,169	113,779	33.57	
Do.....1851.....	309,214	100,850	32.61	
Do.....1852.....	359,677	98,940	27.51	

No. 11.—BEER, ALE, AND PORTER, FROM ENGLAND.

9 months ending June 30, 1843.....	62,612	57,098	89.76	Specific.
Year ending June 30 ....1844.....	107,489	102,157	95.04	
Do.....1845.....	79,302	73,729	92.97	
Do.....1846.....	117,621	110,397	94.71	
5 months ending Nov. 30, 1846.....	46,146	42,987	93.15	
7 months ending June 30, 1847.....	132,157	67,305	50.93	Ad valorem.
Year ending June 30 ....1848.....	130,008	101,171	77.82	
Do.....1849.....	146,473	118,233	80.72	
Do.....1850.....	156,735	129,957	82.92	
Do.....1851.....	275,336	189,010	68.64	
Do.....1852.....	262,838	186,964	71.13	

No. 12.—BEER, ALE, AND PORTER, FROM SCOTLAND.

9 months ending June 30, 1843.....	7,423	6,335	85.34	Specific.
Year ending June 30 ....1844.....	19,236	18,343	95.36	
Do.....1845.....	26,711	21,294	79.72	
Do.....1846.....	38,464	39,831	1 03.55	
5 months ending Nov. 30, 1846.....	2,151	1,895	88.1	
7 months ending June 30, 1847.....	15,375	8,657	56.31	Ad valorem.
Year ending June 30 ....1848.....	39,282	21,533	54.05	
Do.....1849.....	52,297	30,088	57.53	
Do.....1850.....	52,856	41,790	79.07	
Do.....1851.....	88,179	56,736	64.34	
Do.....1852.....	110,752	67,804	61.22	

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

M.

Statement showing the value of goods remaining in warehouses at the close of each quarter from September 30, 1847, *to June* 30, 1852, *as exhibited by the quarterly returns of the collectors of the customs, under the provisions of the act of August* 6, 1846; *and also the amount of duties payable thereon.*

Periods ending—	Goods remaining in warehouses.	
	Value.	Duties.
September 30, 1847	$3,618,758 00	$1,264,624 55
December 31, 1847	4,863,591 00	1,524,887 16
March 31, 1848	5,291,179 00	1,669,067 39
June 30, 1848	6,272,275 00	1,936,464 00
September 30, 1848	5,419,676 00	1,649,182 85
December 31, 1848	7,201,246 00	2,152,544 50
March 31, 1849	5,450,593 00	1,702,639 37
June 30, 1849	7,830,010 00	2,501,394 35
September 30, 1849	6,021,627 00	1,927,754 72
December 31, 1849	6,163,151 00	1,997,536 75
March 31, 1850	5,600,318 00	2,009,165 33
June 30, 1850	8,247,055 00	3,077,129 80
September 30, 1850	8,162,721 00	2,930,035 49
December 31, 1850	7,307,623 00	2,384,419 50
March 31, 1851	7,127,751 00	2,293,090 13
June 30, 1851	10,047,061 00	3,172,328 08
September 30, 1851	12,049,892 00	3,748,594 48
December 31, 1851	11,897,493 00	3,575,930 61
March 31, 1852	9,819,475 00	3,169,553 74
June 30, 1852	8,723,056 00	2,866,564 75
Total	147,024,551 00	47,552,907 55
Average quarterly value	7,351,227 55	2,377,645 38

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

N.

Statement exhibiting the value of dutiable merchandise re-exported, annually, from 1821 *to* 1852, *inclusive; and showing also the value re-exported from warehouses under the act of August* 6, 1846.

Years.	Dutiable value of merchandise re-exported.	Value re-exported from warehouses.
1821	$10,537,731	.....
1822	11,101,306	.....
1823	19,846,873	.....
1824	17,222,075	.....
1825	22,704,803	.....
1826	19,404,504	.....
1827	15,617,986	.....
1828	13,167,339	.....
1829	11,427,401	.....
1830	12,067,162	.....
1831	12,434,483	.....
1832	18,448,857	.....
1833	12,411,969	.....
1834	10,879,520	.....
1835	7,743,655	.....
1836	9,232,867	.....
1837	9,406,043	.....
1838	4,466,384	.....
1839	5,007,698	.....
1840	5,805,809	.....
1841	4,228,181	.....
1842	4,884,454	.....
1843	3,456,572	.....
1844	3,962,508	.....
1845	5,171,731	.....
1846	5,522,577	.....
1847—5 months, to November 30 ..... $2,333,527 1847—7 months, to June 30 2,020,380	4,353,907	$651,170
1848	6,576,499	2,869,941
1849	6,625,276	3,692,363
1850	7,376,361	5,261,291
1851	8,552,967	5,604,453
1852	9,501,138	6,752,536
Total in 32 years	319,146,636	24,831,754
Average per annum	9,973,332	4,138,626

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

O.

Statement exhibiting the value of foreign merchandise imported, re-exported, and consumed, annually, from 1821 *to* 1852, *inclusive; and also the estimated population and rate of consumption, per capita, during the same period.*

Years ending—	Value of foreign merchandise—			Population.	Consumption per capita.
	Imported.	Re-exported.	Consumed and on hand.		
September 30.....1821	$62,585 724	$21,302,488	$41,283,236	$9,960,974	$4 14
1822	83,241,541	22,286,202	60,955,339	10,283,757	5 92
1823	77,579,267	27,543,622	50,035,645	10,606,540	4 71
1824	80,549,007	25,337,157	55,211,850	10,929,323	5 05
1825	96,340,075	32,590,643	63,749,432	11,252,106	5 66
1826	84,974,477	24,539,612	60,434,865	11,574,889	5 22
1827	79,484,068	23,403,136	56,080,932	11,897,672	4 71
1828	88,509,824	21,595,017	66,914,807	12,220,455	5 47
1829	74,492,527	16,658,478	57,834,049	12,543,238	4 61
1830	70,876,920	14,387,479	56,489,441	12,866,020	4 39
1831	103,191,124	20,033,526	83,157,598	13,286,364	6 25
1832	101,029,266	24,039,473	76,989,793	13,706,707	5 61
1833	108,118,311	19,822,735	88,295,576	14,127,050	6 25
1834	126,521,332	23,312,811	103,208,521	14,547,393	7 09
1835	149,895,742	20,504,495	129,391,247	14,967,736	8 64
1836	189,980,035	21,746,360	168,233,675	15,388,079	10 93
1837	140,989,217	21,854,962	119,134,255	15,808,422	7 53
1838	113,717,404	12,452,795	101,264,609	16,228,765	6 23
1839	162,092,132	17,494,525	144,597,607	16,649,108	8 68
1840	107,141,519	18,190,312	88,951,207	17,069,453	5 21
1841	127,946,177	15,499,081	112,447,096	17,612,507	6 38
1842	100,162,087	11,721,538	88,440,549	18,155,561	4 87
9 mo's, to June 30, 1843	64,753,799	6,552,697	58,201,102	18,698,615	3 11
Year, to June 30..1844	108,435,035	11,484,867	96,950,168	19,241,670	5 03
1845	117,254,564	15,346,830	101,907,734	19,784,725	5 15
1846	121,691,797	11,346,623	110,345,174	20,327,780	5 42
1847	146,545,638	8,011,158	138,534,480	20,870,835	6 60
1848	154,998,928	21,132,315	133,866,613	21,413,890	6 25
1849	147,857,439	13,088,865	134,768,574	21,956,945	6 13
1850	178,138,318	14,951,808	163,186,510	23,246,301	7 02
1851	216,224,932	21,698,293	194,526,639	24,250,000	8 02
1852	212,613,282	17,273,341	195,339,941	24,500,000	8 00

NOTE.—See note to statement G.

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

P.

Statement exhibiting the value of foreign merchandise and domestic produce, &c., exported, annually, from 1821 *to* 1852.

Years ending—	Value of exports, exclusive of specie, &c.					Specie and bullion.
	Foreign merchandise.			Domestic produce, &c.	Aggregate value of exports.	
	Free of duty.	Paying duty.	Total.			
September 30 1821	$286,698	$10,537,731	$10,824,429	$43,671,894	$54,496,323	$10,478,059
1822	374,716	11,101,306	11,476,022	49,874,079	61,350,101	10,810,180
1823	1,323,762	19,846,873	21,170,635	47,155,408	68,326,043	6,372,987
1824	1,100,530	17,222,075	18,322,605	50,649,500	68,972,105	7,014,552
1825	1,088,785	22,704,803	23,793,588	66,809,766	90,603,354	8,932,034
1826	1,036,430	19,404,504	20,440,934	52,449,855	72,890,789	4,704,533
1827	813,844	15,417,986	16,431,830	57,878,117	74,309,947	8,014,880
1828	877,239	13,167,339	14,044,578	49,976,633	64,021,210	8,243,476
1829	919,943	11,427,401	12,347,344	55,087,307	67,434,651	4,924,020
1830	1,078,695	12,067,162	13,145,857	58,524,878	71,670,735	2,178,773
1831	642,586	12,434,483	13,077,069	59,218,583	72,295,652	9,014,931
1832	1,345,217	18,448,857	19,794,074	61,726,529	81,520,603	5,656,340
1833	5,165,907	12,411,969	17,577,876	69,950,856	87,528,732	2,611,701
1834	10,757,033	10,879,520	21,636,553	80,623,662	102,260,215	2,076,758
1835	7,012,666	7,743,655	14,756,321	100,459,481	115,215,802	6,477,775
1836	8,534,895	9,232,867	17,767,762	106,570,942	124,338,704	4,324,336
1837	7,756,189	9,406,043	17,162,232	94,280,895	111,443,127	5,976,249
1838	4,951,306	4,466,384	9,417,690	95,560,880	104,978,570	3,508,046
1839	5,618,442	5,007,698	10,626,140	101,625,533	112,251,673	8,776,743
1840	6,202,562	5,805,809	12,008,371	111,660,661	123,668,932	8,417,014
1841	3,953,054	4,228,181	8,181,235	103,636,236	111,817,471	10,034,332
1842	3,194,299	4,884,454	8,078,753	91,799,242	99,877,995	4,813,539

P—Continued.

Years ending—	Value of exports, exclusive of specie, &c.					Specie and bullion.
	Foreign merchandise.			Domestic produce, &c.	Aggregate value of exports.	
	Free of duty.	Paying duty.	Total.			
9 months, to June 30, 1843	$1,682,763	$3,456,572	$5,139,335	$77,686,354	$82,825,689	$1,520,791
Year ending June 30, 1844	2,251,550	3,962,508	6,214,058	99,531,774	105,745,832	5,454,214
1845	2,413,050	5.171,731	7,584,781	98,455,330	106,040,111	8,606,495
1846	2,342,629	5,522,577	7,865,206	101,718,042	109,583,248	3,905,268
1847	1,812,847	4,353,907	6,166,754	150,574,844	156,741,598	1,907,024
1848	1,410,303	6,576,499	7,986,802	130,203,709	138,190,511	15,841,616
1849	2,015,815	6,625,276	8,641,091	131,710,081	140,351,172	5,404,648
1850	2,099,132	7,376,361	9,475,493	134,900,233	144,375,726	7,522,994
1851	1,742,154	8,552,967	10,295,121	178,620,138	188,915,259	29,472,752
1852	2,535,905	9,501,138	12,037,043	154,931,147	166,968,190	42,674,135
Total	94,340,946	319,146,636	413,487,582	2,867,522,488	3,281,010,070	265,671,195

TREASURY DEPARTMENT, *Register's Office, January* 5, 1853.

N. SARGENT, *Register.*

Q.

Statement exhibiting the quantity and value of cotton exported, annually, from 1821 *to* 1852, *inclusive, and the average price per pound.*

Years.	Sea Island.	Other.	Total.	Value.	Av. cost per lb.
	Pounds.			Dollars.	Cents.
1821	11,344,066	113,549,339	124,893,405	20,157,484	16.2
1822	11,250,635	133,424,460	144,675,095	24,035,058	16.6
1823	12,136,688	161,586,582	173,723,270	20,445,520	11.8
1824	9,525,722	132,843,941	142,369,663	21,947,401	15.4
1825	9,665,278	166,784,629	176,449,907	36,846,649	20.9
1826	5,972,852	198,562,563	204,535,415	25,025,214	12.2
1827	15,140,798	279,169,317	294,310,115	29,359,545	10
1828	11,288,419	199,302,044	210,590,463	22,487,229	10.7
1829	12,833,307	252,003,879	264,837,186	26,575,311	10
1830	8,147,165	290,311,937	298,459,102	29,674,883	9.9
1831	8,311,762	268,668,022	276,979,784	25,289,492	9.1
1832	8,743,373	313,471,749	322,215,122	31,724,682	9.8
1833	11,142,987	313,555,617	324,698,604	36,191,105	11.1
1834	8,085,937	376,631,970	384,717,907	49,448,402	12.8
1835	7,752,736	379,606,256	387,358,992	64,961,302	16.8
1836	7,849,597	415,781,710	423,631,307	71,284,925	16.8
1837	5,286,971	438,924,566	444,211,537	63,240,102	14.2
1838	7,286,340	588,665,957	595,952,297	61,556,811	10.3
1839	5,107,404	408,516,808	413,624,212	61,238,982	14.8
1840	8,779,669	735,161,392	743,941,061	63,870,307	8.5
1841	6,237,424	523,966,676	530,204,100	54,330,341	10.2
1842	7,254,099	577,462,918	584,717,017	47,593,464	8.1
1843	7,515,079	784,782,027	792,297,106	49,119,806	6.2
1844	6,099,076	657,534,379	663,633,455	54,063,501	8.1
1845	9,389,625	863,516,371	872,905,996	51,739,643	5.92
1846	9,388,533	538,169,522	547,558,055	42,767,341	7.81
1847	6,293,973	520,925,985	527,219,958	53,415,848	10.34
1848	7,724,148	806,550,283	814,274,431	61,998,294	7.61
1849	11,969,259	1,014,633,010	1,026,602,269	66,396,967	6.4
1850	8,236,463	627,145,141	635,381,604	71,984,616	11.3
1851	8,299,656	918,937,433	927,237,089	112,315,317	12.11
1852	11,738,075	1,081,492,564	1,093,230,639	87,965,732	8.05

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

R.

Statement exhibiting the aggregate value of breadstuffs and provisions exported, annually, from 1821 *to* 1852.

Years ending—		Amount.
September 30	1821	$12,341,901
	1822	13,886,856
	1823	13,767,847
	1824	15,059,484
	1825	11,634,449
	1826	11,303,496
	1827	11,685,556
	1828	11,461,144
	1829	13,131,858
	1830	12,075,430
	1831	17,538,227
	1832	12,424,703
	1833	14,209,128
	1834	11,524,024
	1835	12,009,399
	1836	10,614,130
	1837	9,588,359
	1838	9,636,650
	1139	14,147,779
	1840	19,067,535
	1841	17,196,102
	1842	16,902,876
9 months ending June 30,	1843	11,204,123
Year ending June 30	1844	17,970,135
	1845	16,743,421
	1846	27,701,121
	1847	68,701,921
	1848	37,472,751
	1849	38,155,507
	1850	26,051,373
	1851	21,948,651
	1852	25,857,027

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

S.

Statement exhibiting the quantity and value of tobacco and rice exported, annually, from 1821 *to* 1852, *inclusive.*

Years.	Tobacco.			Rice.		
	Hogsheads.	Value.	Av'age cost per hhd.	Tierces.	Value.	Av'age cost per tierce.
1821	66,858	$5,648,962	$84 49	88,221	$1,494,307	$16 94
1822	83,169	6,222,838	74 82	87,089	1,553,482	17 84
1823	99,009	6,282,672	63 45	101,365	1,820,985	17 96
1824	77,883	4,855,566	62 34	113,229	1,882,982	16 63
1825	75,984	6,115,623	80 48	97,015	1,925,245	19 84
1826	64,098	5,347,208	83 42	111,063	1,917,445	17 26
1827	100,025	6,577,123	65 75	133,518	2,343,908	17 55
1828	96,278	5,269,960	54 73	175,019	2,620,696	14 97
1829	77,131	4,982,974	64 60	132,923	2,514,370	18 92
1830	83,810	5,586,365	66 66	130,697	1,986,824	15 20
1831	86,718	4,892,388	56 41	116,517	2,016,267	17 30
1832	106,806	5,999,769	56 17	120,327	2,152,631	17 89
1833	83,153	5,755,968	69 20	144,163	2,744,418	19 04
1834	87,979	6,595,305	74 96	121,886	2,122,272	17 41
1835	94,353	8,250,577	87 44	110,851	2,210,331	19 94
1836	109,042	10,058,640	92 24	212,983	2,548,750	11 97
1837	100,232	5,795,647	57 82	106,084	2,309,279	21 76
1838	100,593	7,392,029	73 48	71,048	1,721,819	24 23
1839	78,995	9,832,943	124 47	93,320	2,460,198	26 36
1840	119,484	9,883,957	82 72	101,660	1,942,076	19 10
1841	147,828	12,576,703	85 07	101,617	2,010,107	19 78
1842	158,710	9,540,755	60 11	114,617	1,907,387	16 64
1843	94,454	4,650,979	49 24	106,766	1,625,726	15 23
1844	163,042	8,397,255	51 50	134,715	2,182,468	16 20
1845	147,168	7,469,819	50 75	118,621	2,160,456	18 21
1846	147,998	8,478,270	57 28	124,007	2,564,991	20 68
1847	135,762	7,242,086	53 34	144,427	3,605,896	24 97
1848	130,665	7,551,122	57 78	100,403	2,331,824	23 23
1849	101,521	5,804,207	57 17	128,861	2,569,362	19 94
1850	145,729	9,951,023	68 28	127,069	2,631,557	20 71
1851	95,945	9,219,251	96 09	105,590	2,170,927	20 56
1852	137,097	10,031,283	73 17	119,733	2,470,029	20 63

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 5, 1853.

Report of the Light-house Board.

TREASURY DEPARTMENT, OFFICE LIGHT-HOUSE BOARD,
January 15, 1853.

SIR: The Light-house Board has the honor respectfully to submit to you, for your information and that of Congress, the first annual report of its proceedings under the organization provided by the act of Congress approved August 31, 1852.

Under this law the members of the board were appointed by the President, and, having convened at the Treasury Department on the 9th of October last, were duly organized by their president, the Hon. Secretary of the Treasury.

Since that date the board has executed, under the direction of the Treasury Department, all the administrative duties relating to the management of the light-house establishment.

Having been so recently charged with the execution of these duties, the board is unable to present at this time the full and detailed account of the condition and wants of this important branch of the public service, for the information of the department and of Congress, which is desirable, and which, on a future occasion, it will be prepared to submit.

It proposes to present now a brief account of its proceedings since its organization, and of the measures already taken, or in prospect, for the reform of the system, under the provisions of the new law; of the progress made in executing recent or former laws in relation to the construction of light-houses and beacons, and to light-vessels, and to providing buoys and other aids to navigation.

The light-house board organized by the law of March 3, 1851, to inquire into the condition of the establishment, was in a very different position in reference to the system from the present board. Its duty was one of inquiry, while that of the present board is one of reform.

It was necessarily obliged to judge of causes from observed effects, and had not the advantage possessed by the present board of seeing every part of the internal machinery of the establishment, and of estimating its action, separately, or as combined in the system. With this improved opportunity of examination is also joined the control necessary to apply remedies to observed defects. It may, perhaps, be considered the duty of the board to show the present condition of those parts of the system to which their predecessors had not access, with the opportunities which it possesses of a thorough examination into every detail, however minute; and this may even be necessary, in order to give a reason for the changes which it is compelled to introduce, or for the legislation which it may have to suggest.

An entire reform is needed, and is in progress, in regard to estimates, to disbursements, (ordinary and from emergency,) and to accounts of expenditure. The board is determined that no further waste which can be prevented shall occur, but that the means placed at its disposal shall be effectively and economically applied, and that resistance to such reforms, or want of co-operation in the system, shall be fully represented to the department having the control of the establishment.

The new law furnishes responsible officers, of knowledge and expe-

rience, as judges of the necessity of expenditures, and of their proper amount; and the board has already had occasion to see the advantage thence resulting.

The abuses in reference to purchases, repairs, and incidental expenses of all kinds cannot be corrected in a day, but may, the board trusts, after a time, be entirely eradicated. Most of these have resulted from the employment of sub-agents not known to the department, entirely irresponsible to the government, and but slightly so to their immediate employers, and from control vested where there was not the necessary knowledge to direct. Imposition is a necessary consequence of such a cause, and the remedy is an obvious one. In cases where contracts have been made according to previous usage, and for a term of years, there is difficulty in applying an immediate remedy; but it is hoped that, by a close adherence to their terms, and a rigid enforcement of their obligations, the reform may be at least commenced under them.

The expenditures for the same objects in the different light-house districts, as now constituted, vary very much, and without adequate reasons. This results, in a degree, from the employment, in some districts, of irresponsible agents to make repairs, without previous report, examination, and estimate from disinterested and competent persons; from the unauthorized employment of persons connected with the collection of customs to perform duties in the light-house establishment; from the large sums periodically recommended and disbursed by these unauthorized agents on account of the light-house establishment, without proper supervision; from the purchase of articles, the making repairs, &c., &c., without proper authority, and without previously approved estimates of expense; from allowances for travel in visiting light-houses in districts provided with ample means of transportation belonging to the government; and especially from contracts, under names recommending them as essential to the interests of navigation, the obligations of which are permitted to be so imperfectly fulfilled that the places degenerate almost into sinecures.

For these abuses, the system of inspection by responsible officers, and the systematic control of the board, will gradually furnish the remedy. This control the board is empowered to exert over every part of the system, and it is essential to economy and to efficiency that it should be exercised most thoroughly. The whole system of sub-contracts for placing and keeping buoys and for rationing crews of light-vessels, for inspections by persons not responsible to the government and unknown to the department, for estimates of construction and repairs to keepers' dwellings and to light-houses by such persons, or, worse, by those interested, must be replaced by one of regular control and responsibility. Estimates of expenditure made and authorized must be regarded as binding, and the same authority invoked for an increase necessary from new circumstances as for the original expenditure. It is not remarkable, but is to be regretted, that the burden of the applications for incidental expenditures are for matters which concern the personal convenience of the employees of the establishment, and not for improvements of public concern.

While the Light-house Board desires and expects, through its inspectors, to know the wants of those employed in this important branch of

the public service, and to consider them in a proper spirit, it relies upon the officers to direct their first attention to the fulfilment of the wants of the navigator, for whose benefit the establishment exists. The board is satisfied that, by enabling it to exercise a judicious economy in these matters, the new system of inspection will more than pay for itself in means saved which now run to waste.

Since the organization of the board, the current routine duties of the entire establishment has been carried out uninterruptedly by them. The division of the board into committees, the executive duties discharged under their direction by the secretaries, and in general the arrangement of business, will be found in the journal and in the rules and regulations for the establishment, approved by the Hon. Secretary of the Treasury October 22, 1852, and appended to this report. (Appendix, No. 1.) The arrangement is such as to secure prompt executive action, with the requisite professional examinations of subjects by committees, and consultative action by the whole board.

Under the law of August 31, 1852, the coast has been divided into twelve inspection districts, of which seven are on the Atlantic coast, two on the lakes, two on the Gulf of Mexico, and one on the Pacific. It will be necessary hereafter to increase the number of these districts, especially as the necessary lights are provided for the western coast; but this division is sufficient for the present.

Six officers of the army and six of the navy have been detailed by the Hon. Secretaries of War and of the Navy, on the application of the board, for these districts, the limits and assignment of which are stated in the appendix, No. 2. The inspectors have already received their orders, and are in general on their way to their stations, where they will receive specific instructions to guide them. General instructions in regard to their duties are in the course of preparation. As time was necessary to procure the detail of these inspectors, and to liberate them from other duties on which they were generally engaged, such special inspections as have been required have been made, as far as practicable, by officers of engineers of the army, who have, upon the application of the board, through the Treasury Department, been detailed to perform the necessary service, and which has already been found to be greatly to the advantage and economy of the light-house establishment.

The damage reported to have been done during the last hurricane months to the light-houses and their buildings along the shores of the Gulf of Mexico called for and received, in this way, the prompt action of the board. Officers of engineers of the army employed near the respective localities requiring examination were instructed to visit the different points, and report upon the works necessary to be done to restore the public buildings to their proper condition.

The buoy service has been greatly complained of by navigators and others interested in the subject, and the board regrets to believe that these complaints are in the main well-founded. The system of contracting with individuals, at large annual salaries, for keeping the buoys in their places, has not proved satisfactory even to the minds of some of those contractors themselves.

In some cases these contractors, owing to their remoteness from the

locality demanding their personal attendance, have failed to attend to the duties required of them. Many cases have been reported of great neglect of this kind. The inspectors will, under the present organization, have the general supervision and management of these important aids to navigation; and the best results are anticipated from their watchfulness and energy.

The first executive duty of importance the board was called upon to perform was to procure the requisite supplies of oil, cleaning-materials, &c., &c., for the lights along the southern coast. Every effort was made to obtain the articles of supply best adapted to their respective uses; and to render this effectual, all the known tests were applied, by competent persons, under the personal direction and supervision of the engineer secretary of the board.

The master of the supply-vessel was furnished with the instructions and directions prepared by the board and approved by the Treasury Department for the guidance and instruction of the light-keepers in the performance of their duties, for distribution. These instructions point out in detail the duties to be performed by the keepers, and the accompanying directions describe as minutely as possible the mode of executing them; and from which the board anticipates the best results with reference to both efficiency and economy, when sufficient time shall have elapsed to enable them fully to be comprehended. (Appendix, No. 3.)

Light-keepers will be required henceforth to keep a journal of the expenditures of oil and other supplies, and to make returns quarterly, through the district inspectors, to the board.

The great difference in the annual consumption of oil, glass chimneys, &c., &c., at the different light-houses, renders this a duty of much importance. While it has been usual to estimate for thirty-five gallons of oil per lamp per annum, the actual returns vary from about nineteen gallons in some light-houses to nearly sixty gallons in others. The keeper who only consumes nineteen gallons of oil per lamp must necessarily exhibit a light wholly inefficient. If the keeper who returns as his consumption sixty gallons of oil actually consumes that quantity in each lamp, his light will be as bad as that of the one who only consumes one-third the quantity. In both cases the lights will be unreliable, and of but little value to the mariner. In an economical point of view it is of equally great importance. This subject has occupied the attention of those charged with the management of European lights for many years; and they have determined that the only sure remedy is to be found in frequent and rigid inspections, and a close examination of the daily expenditures, as recorded in the journals.

Small differences in the quantities of oil and other supplies consumed must necessarily arise, growing out of the various causes which combine to produce a good and bad light. The light-keeper who consumes the well-established maximum quantity of oil required for the lamps under his care, other things being equal, must be supposed to keep a more efficient light than the keeper who falls below the mean average quantity; but there is a point, both above and below that average, which, upon being reached, affords unmistakable evidence against the keeper. The daily record of the quantity of oil consumed will, it is not doubted,

exercise a most salutary influence hereafter, by serving to teach the keepers their duty, as well as to prevent any improper use of supplies, should any be found capable of such misconduct.

This subject has already been brought to the notice of superintendents of lights, with the view to apprize keepers that the subject is well understood by the board. It is hoped the notice already taken will be sufficient to produce some improvement in this respect.

The board found itself called upon, immediately after its organization, to cause the annual estimates for the support of the light-house establishment for the fiscal year ending June 30, 1854, to be prepared. In performing this duty for the first time, and so immediately after being organized, there was no alternative but to adopt the data and basis of past years. The data of reference usually employed for this purpose having been prepared, the board adopted the estimates of the last fiscal year for the same service, and *pro rata* estimates made for the objects authorized by Congress at the sessions ending 1851 and 1852.

The board thus assumed that the expenditures of a period long antecedent would be ample for the next fiscal year, notwithstanding it was aware of the fact that the general fund for maintenance during the year ending June 30, 1852, had fallen very far short of the demands upon it, and that the deficiency had been necessarily supplied from other services. The board considers it proper, in this connexion, to express its disapproval of the principle of preparing estimates for the information of Congress based wholly upon the expenditures of periods long antecedent to that wherein the sums asked for will be required for specific objects in this branch of the public service, and without reference to the peculiar necessities of the service, and to the mode of using the funds. Such a system is based upon the assumption that the expenditures of an antecedent period will serve as correct data for a succeeding one, without reference to casualties, which might and ought to be taken into consideration. Estimates, to be of any value, should be based upon a faithful examination of the different works by competent and disinterested persons; but so long as it is considered necessary to expend certain annually increasing sums in certain localities, the appropriations will be increased annually, without any guaranty that the service will derive commensurate benefits from them.

This will, it is hoped, be corrected by the system of rigid examinations which will hereafter be made, and by the estimates of cost of the necessary repairs based upon them by the inspectors and engineers charged with the districts and with the repairs, immediately previous to the time for submitting them to the board.

The board had its attention called to the rations furnished to the crews of light-vessels soon after it was organized. The subject was examined with the care which its importance demanded, and a table was substituted, with the approval of the department, in its opinion better calculated to give satisfaction and secure health to the crews. (Appendix, No. 4.)

The table marked A will show the condition of the objects for which appropriations had been made, and which had not been commenced or completed prior to the organization of the Light-house Board, with a

column showing the action in each case by the board since the 9th of October last.

Table B will show all the objects for which appropriations were made at the last session, and the action on each case taken by the board since its organization. Preliminary action has been had in every case where the localities could be reached, or where the season would allow any steps to be taken.

Officers of the corps of topographical engineers are now engaged in examining and selecting sites on the lakes, making repairs of piers, &c., in that quarter.

Officers of the coast survey are engaged, and have been since the passage of the appropriation bill, examining localities, and selecting sites for objects which had not been recommended specially before the passage of the law, either by the coast survey or by some competent person known to the board.

By referring to table B, it will be seen that many of these objects have already been reported upon, and now only await plans, deeds of cession, &c., to enable the board to advertise for proposals to execute the works, and which will be speedily commenced.

Buoys have been placed by the superintendents in all cases where the points were sufficiently well defined to admit of its being done by them. Delays, arising from various details connected with the purchase of land for the towers and buildings, after the sites have been selected, and the procuring of title-deeds and of cessions from the States, are common, and there is no remedy for the evil. It sometimes happens, by the failure of the owner of the land to agree to dispose of it immediately on application being made to him, that the appropriation is entirely lost, owing to the legislature of the State holding its sessions only biennially. The law in this case is not only explicit, but essential. Many difficulties now exist, owing to the neglect hitherto to require from the agents of the establishment the strict fulfilment of these requirements of the law.

The lights authorized to be built on the Pacific coast were transferred to the management of the board on the 22d of December, 1852. Those contracted for under the immediate direction of the Secretary of the Treasury, it is understood, will be commenced immediately after the party organized on this side by the contractor reaches California. The illuminating apparatus, lanterns, &c., for the two lights in San Francisco bay, it is understood, are ready for shipping.

The officer charged with the purchase of the illuminating apparatus for the remainder of the lights contracted for on the western coast having received his instructions from the Secretary of the Treasury direct, it remains for the board to see that they are faithfully carried out, and that the lights be supplied with them without unnecessary delay.

The remaining lights to be built on the Pacific coast will be commenced so soon as the necessary preliminary steps are taken, in conformity to the law in relation to sites, &c.

An appropriation was made on the 28th September, 1850, of $4,000 for a light to be placed on the breakwater at Bass river, Massachusetts. The officer of the revenue marine who was sent to examine and report

upon this site condemned it as unnecessary. It is apparent, however, to the board, from the information received from various reliable sources—among which may be included that of the officer of the coast survey who was charged with examining this locality with reference to another object—that a small light is required at or near the Bass river breakwater. A small light is now kept up by private means at this point. Four thousand dollars is recommended as the necessary sum to place an economical light, and build a keeper's house, at this point.

An appropriation was made on the 28th of September, 1850, of $30,000 for a light-house to be erected on the rocks called the "Sow-and-pigs," near the entrance to Buzzard bay. So far as this board is informed and can ascertain, no surveys have been made, or other steps taken, to ascertain the practicability of executing the wishes of Congress in this case. A light-vessel is now kept moored near these dangerous rocks; but it is wholly inefficient, even as an aid, to accomplish the purpose designed by authorizing this structure, and is kept up at a great expense. The acknowledged importance of this light induces the board to recommend that the sum may be reappropriated for the erection of a light-house at, or sufficiently near, the danger known as the "Sow-and-pigs," to mark it efficiently, in place of the present expensive light-vessel.

In 1850 an appropriation was made for erecting two beacon-lights near Fort Hamilton, New York, to serve as a range for the main channel. In 1851 the appropriation for this purpose was increased to six thousand dollars. Sites were selected by officers of the coast survey, and efforts were made to purchase the necessary land for the one to be placed near the beach, without success. The other was to have been located on the land belonging to the United States in the rear of the fort. After renewed efforts by the Light-house Board, without success, to procure the necessary land for placing the beacons, it determined to recommend that the appropriation be made applicable to the erection of two beacons on the New Jersey shore, at the other extremity of the range, as they will there answer the purpose contemplated as a back range. The coast survey chart of New York bay accompanying this report will show the practicability of this plan, and also the advantages arising from the placing of the other beacons authorized to be built by act of 31st August, 1852.

An appropriation was made at the last session of Congress of $5,000 for a harbor-light west of the entrance to Bucks harbor, in Brooksville, Maine. The officer detailed under the law by the Superintendent of the Coast Survey to select and report upon a proper site recommends that authority be asked to place it on the northern extremity of Pumpkin island. As this light cannot be built without further legislation, it is respectfully requested.

The board has been called upon to recommend, or approve recommendations for, the following appropriations for supposed necessary aids to navigation at this time. In nearly all of these cases, the objects required can be recommended on the personal information of those whose ability to judge of their importance and disinterestedness cannot be questioned. The objects are given in detail in the table appended marked C.

In Maine.—For buoys, beacons, and spindles, to complete the aids in the harbors and bays, and to mark important channels, hitherto neglected, of great importance to the coasting and general trade, $2,000.

Many of these aids are pointed out in a report by the coast survey officer charged with locating aids provided at the last session of Congress for this coast, and also in a report from the superintendent of lights from Portland to the northeastern boundary. A reference to the charts of these bays and harbors will suffice to explain fully the necessity for these additional objects.

In Massachusetts.—For buoys, &c., to mark the channels in Taunton river, Massachusetts, $500.

Lieutenant Rosecrans, of the corps of engineers, has called the attention of the board to this subject, and will furnish, with the result of his surveys, now in progress, all the necessary detailed information.

For a beacon to be placed on "Deep Hole rock," in the Vineyard sound, $600.

A petition, numerously signed, asks for this beacon. The board is not in possession of all the necessary detailed information relating to this locality, but it believes that there will be no risk in making the appropriation, guarded as all appropriations for these objects are.

In Rhode Island.—For buoys to be placed as specified in table C, $500.

These buoys have been asked for on the authority of the superintendent of lights of the district, and at the instance of those specially interested in the local navigation of Narragansett bay and tributaries.

In Connecticut.—For buoys, $350.

For beacon on Race rock, $7,000.

The buoys have been asked for, and it is believed are essential. The Race rock, in Long Island sound, not far distant from Fisher's island, is one of the most dangerous obstructions to navigation on the coast.

Various efforts have been made, and numerous appropriations expended, in endeavoring to place an efficient and permanent mark on this point. Buoys cannot be kept on it, and spindles have hitherto only remained until the breaking up of the ice in the spring. To place a permanent mark, of some material which will resist the action of the sea and ice, an appropriation of not less than $7,000 will be required. The urgent necessity for this appropriation will be too apparent, it is believed, to be questioned in any quarter, by a simple reference to the coast survey chart of Fishers' Island sound.

In New York.—For a small light on or near Carleton Head, and for thoroughly refitting or rebuilding Tibbett's Point light, (Lake Ontario,) $5,000.

These two objects have been brought to the notice of the board by a correspondence on the subject some months since, by the report of an officer of the corps of topographical engineers who has recently visited the locality and reported in detail, and also by a numerously signed petition from those interested particularly in the commerce of Lake Ontario and the river St. Lawrence.

The appropriation is considered to be highly necessary, in view of the increasing trade with the Canadian shores, and the notoriously inefficient light long neglected on Tibbett's point. The board respectfully recom-

mends this case to the particular attention and consideration of the Committees of Commerce and of Congress.

For a fog-bell or whistle, to be worked by machinery, to be placed on the south pier near the light-house at Buffalo, $2,500.

For a fog-bell or whistle, to be worked by machinery, to be placed on Thunder Bay island, at the light-house, Michigan, $2,500.

These two fog-signals have been strongly recommended by the superintendent of lights on the lakes, and the board believes them to be very important. The one for Buffalo is undoubtedly of much importance to the commerce of the place, especially in consideration of the fact that these are pier harbors.

For a beacon to be placed at the west end of Lake Erie, on a reef of rocks in the channel way, (Ohio,) $3,000.

This is strongly recommended by the superintendent of lights. The accompanying chart will show its importance.

In New Jersey.—For buoys for Absecum bar and inlet, (harbor of refuge for coasting vessels,) $800.

These buoys are urged upon the attention of the board. The large number of coasters, freighted with coal, lumber, &c., &c., which are compelled to seek shelter in this little harbor, although at present difficult of access for want of artificial aids for marking it, renders it an object well worthy of the favorable consideration of the Committees of Commerce.

In Delaware.—For beacons and buoys to complete the proper marking of the channels, shoals, &c., of Delaware bay, $5,000.

These objects were recommended during the last session of Congress; and, although very liberal appropriations were made for the "Joe Flogger," and for the channels in the vicinity of Mahon's river," yet the system is very incomplete, and requires to be perfected in that respect.

The channels of this river and bay, it will readily be seen by a reference to the coast survey chart, are not properly marked; and, until a sufficient number of buoys are placed, the great loss of life and property in it must continue. It is hoped that the favorable consideration of the committee may be directed to this point.

In Virginia.—For beacons and buoys in Chesapeake bay, on Sand shoal, in Hog Island inlet, and in Potomac and Rappahannock rivers, as per table C, $23,000.

The buoy of the first class proposed for the Upper Middle Ground shoal in Chesapeake bay is represented to be of great importance to the commerce of the bay. It is a dangerous shoal, and, from its distance from the land, can at present only be avoided by the constant use of the lead. It is of more importance to those navigating the Chesapeake bay than to any local or general interests of the State to which it belongs. The buoys for the Potomac have been recommended by citizens, through the superintendent of lights; and, as there are fewer buoys and other aids to navigation in this river than any other of its importance, shipping, &c., in the country, it is hoped that the small sums asked for will not be refused.

The aids for the Rappahannock have been petitioned for through the superintendent of lights. The sum is small; and, inasmuch as the

authority of Congress has been given to make surveys with a view to the improvement of its navigation, it is believed to be a reasonable and legitimate object to recommend.

In South Carolina.—For large-class iron buoys for Charleston bar and harbor, to replace those now there, $3,000.

For an iron bell-buoy to be placed just outside of Charleston bar, $5,000.

For a buoy to be placed on Middle Ground shoal, Charleston harbor, $500.

For a light-vessel to be placed on Rattlesnake shoal, $20,000.

For rebuilding beacon on Morris island, Charleston harbor, $3,000.

These objects have been petitioned for; and, from information in possession of the board, derived from officers of the coast survey recently employed in the vicinity, and others, it is impressed with the great importance of these aids to the commerce of Charleston, and also to that of adjacent ports—the light-vessel serving as a guide to passing vessels.

In Florida.—For a pile light-house of iron to take the place of the present inefficient and very expensive light-vessel placed near Key West, $12,000.

The Sand Key light-vessel was removed from her station and sold during the last summer, before this board was organized. The consequence has been, great disadvantage to vessels passing and hitherto accustomed to find that important aid as a departure. The board considered it of much importance to have the place of that vessel supplied by another, and accordingly instituted inquiries with a view to having the light-vessel known as the Key West light-vessel transferred to Sand key; but the superintendent of lights made such representations of the condition of that vessel as to induce the board, very reluctantly, to abandon the intention.

It is now reported to the board that a new vessel must be built, (the present one being very defective,) or some other means employed to mark this important channel. An iron pile light-house, it is believed, will fulfil best the wants of this case; and the board respectfully recommends the appropriation to be made. In every view of the case it commends itself to the board—by the necessity for a mark, the inefficiency of the one formed by the light-vessel, its great annual expense and rapid decay, on the one side; and by the durability, efficiency, and comparative economy of the light-house proposed, on the other.

The signals placed along and on the Florida reefs by the coast survey have been found to be very important aids to the navigator. Owing to the limited means and temporary purposes for which they were used by the coast survey parties in that vicinity, many of them have disappeared, and numerous petitions from seafaring men have been sent to Congress, asking that they may be made permanent. It is believed that $7,000 will suffice for this purpose.

In Alabama.—For a beacon to be erected on a shoal produced by a wreck in the channel in Mobile bay, $500.

This small appropriation is asked to enable the board to relieve the underwriters in Mobile from an onerous tax now voluntarily paid by them for marking this spot. It is recommended in the strongest terms by the superintendent of lights of the district.

In Louisiana.—For first-class iron buoys to mark the entrances to the passes of the Mississippi river, $3,000.

The passes of the Mississippi are not marked, either artificially or naturally, sufficiently well to enable the navigator to run with security boldly for the entrances. The peculiar conformation of the delta of the Mississippi renders it difficult, in approaching it from sea, to determine the exact position of the vessel; and, since the channels have become obstructed, it is very necessary to provide additional aids. These aids are now proposed at a very small cost.

Towards the construction of a first-class light-house to be placed as may be determined upon by the Light-House Board, after the completion of the survey now in progress in the vicinity of Ship shoal, or Racoon point, in place of the light-vessel now there, at great annual expense, and without producing equivalent benefits, $20,000.

In Texas.—For a first-class light-house to be placed near the mouth of the river Sabine, $30,000.

This light is urged on the score of the amount of commerce along the coast and into and up this river. The board has as yet no means of knowing anything in relation to this point, further than that it is marked as one of the points for a first-class seacoast light in the programme of the temporary light-house board. That this light must be authorized at no distant day, if not now, the board believes to be certain.

The increasing importance now attached to these aids along this low coast is but the necessary consequence of an increasing commerce.

The fewness of the aids south of the Mississippi is a strong argument in favor of liberal appropriations to meet present demands.

It must be remembered that these aids, when once established, if the appropriations are sufficient to make them such as a true economy demands, will be of comparatively little expense hereafter.

In California.—For a light-house to be placed on Point Boneta, San Francisco, $25,000.

For buoys, &c., for San Francisco bay, Sacramento river, Mare Island straits, Suisun, Umpqua, Humboldt harbor, &c., $4,800.

The proposed light-house at the entrance to the bay of San Francisco is necessary to the safety of navigators entering that port and bay. The small light authorized to be placed on Battery point is to serve as a mere harbor or range light, while this is to mark from seaward the entrance to the bay. The distance of the Farrallones, nearly twenty-nine miles, forbids its being of any further use than as an off-shore seacoast light, and of the greatest importance in that respect.

The buoys are recommended by the revenue officers and others on that coast; and, from the local knowledge of those who have made representations to the board, there can be no doubt of the propriety of making the appropriation.

In Oregon.—For buoys for Columbia river, $1,500.

The increasing commerce, and the daily increasing necessity for meeting the wants of that commerce, render this appropriation one of much concern to those interested in that distant portion of our country. It is hoped that the appropriation will be made. A small sum expended a few years since under the direction of the Superintendent of the Coast

Survey is all that has, up to this time, been devoted to that object in Oregon.

The superintendent of lights on the upper lakes recommends three small lights, viz:

Point Betsey, Lake Michigan, $5,000.

Grand Island harbor, Lake Superior, $5,000.

Rock harbor, Isle Royal, Lake Superior, $5,000.

Although the board is not possessed of the requisite detailed information to recommend these lights as being absolutely necessary, yet there can be no risk of a misappropriation of funds, inasmuch as the law provides that their necessity shall be reported on by the Topographical bureau before constructing them; and as the commerce of this rich mineral region is rapidly increasing, and is subjected to many natural obstacles, it is deemed just to recommend them to the favorable consideration of Congress.

The first item under the head of miscellaneous is to test the practicability of rendering the buoy guides of Mr. Jabez Stone useful for narrow channels and rivers. The small sum of $250 is asked for this purpose.

The item for testing Mr. Babbage's plan of distinguishing lights by occultations is fully explained in the report of the temporary light-house board, and it is considered unnecessary to repeat here its details. The importance of the subject in every respect must commend itself to the favorable consideration of Congress, but in none more than in the generous and disinterested manner in which the distinguished inventor presented it to the board, to be used for the benefit of mariners.

To test this ingenious plan on a proper scale, it will require, in the opinion of the board, about $5,000, which is respectfully asked.

Without designing to make a general recapitulation of the recommendations contained in the programme in the report of the temporary light-house board made to Congress at its last session, this board considers it proper at this time respectfully to recall the attention of the department and of Congress to objects referred to in that report as of great importance to the navigating interests, but more particularly to the external commerce of the country, and of the great cities of the Atlantic, Gulf, and Pacific coasts.

To carry out gradually and with a proper economy the general features of the programme alluded to, it may be assumed that it was the design of Congress to authorize, from time to time, such a filling-in of the proposed system of lights of major importance on the seacoast, and renovating and improving others, (taking them in the order of their supposed importance,) as will at no distant day complete the entire plan, by which the interests of commerce will be greatly subserved, and Congress relieved from the annual demands for new structures.

If it be the pleasure of Congress further to confirm the recommendations of that board by appropriating funds for gradually executing its programme, the following are the objects considered of greatest importance next to those already provided, and which are placed rather in geographical order than in that of importance:

Maine.—1. To elevate, improve, and fit with first-order illuminating

apparatus the light-house at Seguin, one of the most important positions on the eastern coast, $15,000.

Massachusetts.—2. To elevate, improve, and fit with first-order illuminating apparatus the light-house at Truro highlands, Cape Cod, being an important seacoast position to mark the approaches to Boston bay, $15,000.

3. To refit and improve Gay Head light, $13,000.

New York.—4. To erect a first-class seacoast light-house tower, and fit it with the most approved apparatus for illumination, near Great West bay, Long Island, $30,000.

New Jersey.—5. For elevating, improving, and refitting with proper illuminating apparatus the light-house at Barnegat, New Jersey, $12,000.

6. For a first-class light-house, to be fitted with the most approved illuminating apparatus, to be placed in the vicinity of Absecum inlet, to guide navigators clear of Absecum and Brigantine shoals, $30,000.

South Carolina.—7. For changing the present small and useless light at Cape Romain into a first-class seacoast light, required to guide vessels clear of the dangerous shoals distant from six to seven miles, and in the track of vessels bound south of Charleston, South Carolina, $20,000.

Florida.—8. For the erection of a first-class light-house tower, and for fitting it with first-order illuminating apparatus, near Jupiter inlet, to mark the dangerous shoals lying off that point, and to guide vessels along that coast, $35,000.

The board has sought to point out the most important objects requiring the consideration of the Committees of Commerce and of Congress at this time. The information, so far as it is offered, is from the most reliable, and it is believed disinterested, sources.

No doubt there are a great many objects worthy of the special consideration of Congress at this time, and probably of much more importance to the interests of commerce and navigation than some of those now presented; but the board has had no means of discovering them, nor of knowing what means to take to seek them out, to be in time to be presented in this report.

All superintendents have been instructed to point out such aids as they deemed of importance. In most cases no answers have been received, and in others they have reported that nothing is required.

The board may be permitted to say, in this connexion, that, in its opinion, it is not so much an increase in the number of the aids to navigation that is required as to improve those now existing; and it is the firm determination of the board to avail itself of all the means at its command to effect that object.

The attention of the board has been specially called to the destruction of wood buoys along the southern coast, rendering it imperative that hereafter, if a proper economy is practised, none but metal buoys be employed in those waters where the worm is found. In a recent case, the buoys authorized by one Congress had scarcely been placed before the next session of Congress was called upon to supply their places.

Independently of this destructive marine animal, it is believed that iron

buoys, properly constructed and well moored, are, in the end, much cheaper than wooden ones. This is reported to be the experience in Europe, and the difference in price of iron in this country is not sufficient to turn the beam.

The special attention of the board has been called to the necessity for building a better class of light-vessels for exposed stations, and for endeavoring to prevent these important aids to navigation from being taken from their stations at a time when they are most needed. It has become necessary to exert a proper influence to prevent the total disregard of consequences growing out of the abandonment of a light-ship station now daily manifested. Pretexts are always at hand when impunity is the reward.

The four first-class light-vessels to be built immediately will be constructed upon the best models and of the best materials. Every effort will be made to render them safe and comfortable to those who are to remain on board of them, and the board expects to be able to have them kept at their stations until relieved.

While the board desires to spare no efforts to improve and render efficient all the lights and other aids to navigation under its direction as rapidly as the means at its command will permit, it is persuaded that the seacoast lights and exterior aids to navigation demand their first attention.

The smaller lights in our bays, rivers, sounds, and harbors, with their accessory aids, facilitate greatly those engaged in navigation; but it is to our seacoast lights, and the buoys in our bays, and to mark the outside channels, that the voyager must trust for safety of life and property.

By the gradual introduction of a better description of illuminating apparatus, the superiority of which is no longer to be questioned, by adopting a system of construction founded upon scientific attainments and practical knowledge, by improving the models and employing better materials in our light-vessels, and by introducing a rigid system of accountability, supervision, and inspection in every branch of the service, the board expects to place the light-house establishment of this country on a proper footing of efficiency and economy.

The short time the board has had charge of the financial concerns of the establishment has been ample to satisfy it that more will be accomplished at an early day than was anticipated.

Should Congress be of opinion that the important seacoast lights contained in the system of the temporary light-house board should be gradually improved by the introduction of better illuminating apparatus, or by the renovations which the ordinary annual appropriations for that object will allow, the important results, although certain to be attained in the course of time, will be but little perceptible from year to year, in so extensive a system of lighting as ours has grown to be.

If, on the contrary, Congress, in view of the interests concerned, should authorize the small additional appropriations recommended, for a few years, for the purpose of fitting those seacoast lights of greatest importance first, and leave the small inland lights to be renovated from the annual savings from the appropriations for that object the benefits

which would result from the change would soon be apparent in the increased efficiency and economy of the system.

The economy of the smaller lights is much greater, in proportion to numbers, than that of the larger. There are many lights, fitted with lamps and reflectors, consuming 600, 500, 400, 300, &c., &c., gallons of oil, which, with proper apparatus, would only consume from 183 to 48 or 50 gallons of oil each, and produce better lights.

But there are positions at which it will be advantageous to employ the old apparatus—as, for example, in channels and other situations requiring but little range and small arcs of the horizon to be illuminated.

As a system, it may be asserted that the dioptric fulfils more perfectly all the requirements of the service; yet the parabolic reflector, and the Bordier Marcet, and Sidereal apparatus, used chiefly for small beacons in France, cannot be abandoned, when all the interests of a varied service are considered.

By order of the board.

Very respectfully submitted:

W. B. SHUBRICK, *Chairman.*

THORNTON A. JENKINS,
EDMD. L. F. HARDCASTLE, } *Secretaries.*

A.

Table showing objects belonging to the light-house establishment for which appropriations had been made prior to the 31st August, 1852, and the action in each case before and since the organization of the board, on the 9th October, 1852.

State.	Locality.	Description of object.	Sum appropriated, or balance.		Date of appropriation.	Action prior to organization of Light-house Board.	Action since organization of the Light-house Board.
Maine	Ledge east of Boon island.	One buoy	Amount,	$150 00	Sept. 28, 1850		Buoy ordered to be placed.
	Black Saddle-back island	Light-house		4,000 00	Sept. 28, 1850	Condemned by Capt. Walden, U. S. revenue marine.	
	White and Thom's ledges and Pond island reef, Kennebeck river.	Buoys		300 00	Mar. 3, 1851	No buoy placed, the appropriation being deemed too small.	To be included in additional appropriations since made so soon as the season will permit.
	Naraguagus, (Pond island.)	Light-house		4,000 00	Mar. 3, 1851	Under contract to be done by October 15, 1852.	Reported finished; waiting for contractor to furnish illuminating apparatus.
Rhode Island	Brenton's reef	Light-vessel		15,000 00	Mar. 3, 1851	Under contract	Ready for being moored.
Massachusetts	In the channel to Commercial Point and Neponset river.	Buoys	Balance,	560 00	Mar. 3, 1851	Eleven buoys placed	This sum to be employed to complete the marking of this channel.
	Breakwater at Bass river	Light-house	Amount,	4,000 00	Sept. 28, 1850	The site being condemned by Captain Walden, U. S. revenue marine.	Board recommends a reappropriation of $4,000 to place a light at or near this place.
	Reef of rocks, called the "Sow-and-pigs."	do		30,000 00	Sept. 28, 1850	No report	Board recommends reappropriation to commence a light-house at this point.
	Egg rock	do		5,000 00	Sept. 28, 1850	Condemned by Capt. Walden.	
	Newburyport	Buoys or beacon		500 00	Sept. 28, 1850	No action	Ordered to be placed.
New York	Near Fort Hamilton, to guide to Narrows.	Two beacons		6,000 00	Mar. 3, 1851	No title obtained to land	Sites cannot be obtained; recommends change of sites to other end of the channel, on the New Jersey shore.

A—Continued.

State.	Locality.	Description of object.	Sum appropriated, or balance.	Date of appropriation.	Action prior to organization of Light-house Board.	Action since organization of the Light-house Board.
New York—Continued.	Horse-shoe reef, Niagara river.	Light-house	Amount, $45,000 00	Mar. 3, 1851	Under contract to be done by June 1, 1853.	The board has no information, except report from the engineer officer charged with this work at the time he was relieved.
	Sodus bay	do	6,000 00	Mar. 3, 1851	Condemned by General Swift.	
	Gardner's Island	do	6,000 00	Mar. 3, 1851	No contract; the deeds approved; sum insufficient.	The board has caused the foundations to be examined, and will commence the structure immediately.
New Jersey	Newark light-house	Fog-bell	250 00	Mar. 3, 1851	Appropriation insufficient	Additional appropriation made; bell to be procured.
	Conaskonk point	Light-house	4,500 00	Sept. 28, 1850	Site condemned by Captain Walden, U. S. revenue marine.	
Delaware	Indian river	do	5,000 00	Sept. 28, 1850	Condemned by Capt. Walden, U. S. revenue marine.	No information obtained yet by the board.
Ohio	On Green island, in Lake Erie.	do	5,000 00	Mar. 3, 1851	Title not obtained	Title-deeds obtained, and in hands of Attorney General for decision.
	Mouse island	do	5,000 00	Mar. 3, 1851	Condemned by Gen. Swift.	The board has no information on this subject.
Maryland	Fishing battery	do	5,000 00	Mar. 3, 1851	Authorized to be built by Fifth Auditor.	Cannot be received or paid for in consequence of title being defective and deed of cession not made.
	Jane's island	Light-boat	8,000 00	Sept. 28, 1850	Under contract to be done by December 1, 1852.	Light-vessel completed and sent to her station.
	Seven-foot knoll	Light-house	27,000 00	Mar. 3, 1851	Under contract to be done by the 1st July, 1853.	The board has no official information in relation to this structure.
Virginia	South end of Hog island	do	Balance, $204 81	Sept. 28, 1850	Light-house completed	Obstructions removed and improvements made to render the light useful.

North Carolina ..	Middle Ground shoal, Beaufort harbor.	Buoy		200 00	Mar. 3, 1851	Not placed.....	Superintendent asked for information.
	On Hatteras inlet, near the south breakers.	Buoys		500 00	Sept. 28, 1850	Spars directed February 10, 1851.	These aids are only known to have been placed by the receipt of accounts.
	Cape Channel, opposite Hatteras light-house, and one at Bog channel.	..do.....		250 00	Sept. 28, 1850	.....	Information asked; the account of superintendent shows they have been placed recently.
	Beacon island.....	Light-house ...		6,000 00	Mar. 3, 1851	Light-house completed, but not fitted up.	Lighted October, 1852.
	Ocracoke channel.....	Light-boat		15,000 00	Mar. 3, 1851	Light-boat under contract.	Lighted October, 1852.
	Diamond shoal, off Cape Hatteras.	Iron buoy.....		800 00	Mar. 3, 1851	Not placed	Placed December, 1852.
	Cape Hatteras, outer shoal.	Floating bell-beacon.		8,000 00	Mar. 3, 1851	Not placed	Placed December, 1852.
	Upper jettee, Cape Fear river.	Light-house . ..		13,000 00	Mar. 3, 1851	Asked for report, &c.....	Engineers charged with submitting plan and estimates.
Mississippi	At or near Pascagoula river.	....do.....		3,000 00	Sept. 28, 1850	Site condemned by Captain Evans.	No action.
	Ship island	....do.....		12,000 00	Sept. 28, 1850	Site reserved; superintendent directed to contract.	Contracted for and recently completed.
Georgia	Savannah river.....	To purchase signal light.		150 00	Sept. 28, 1850	Not reported by Captain Evans.	No action; fund not available.
Florida	Entrance of Mosquito harbor.	Buoys	Balance,	320 00	Mar. 3, 1851	The buoys placed.....	Buoys replaced by iron ones.
	Sea-horse key.....	Light-house . ..		8,000 00	Sept. 28, 1850	Sum insufficient.....	Additional appropriations. To be commenced without unnecessary delay.
Texas	Bolivar point	....do.....	Balance,	1,394 88	Mar. 3, 1847	Light house completed, but not fitted up.	Lighted, but notice not received officially.
	Matagorda island.....	....do.....		1,172 24	Mar. 3, 1847	Light-house completed, but not fitted up.	Lighted, but notice not received officially.
	Aransas Pass	....do.....	Amount,	12,500 00	Mar. 3, 1851	.....	Additional appropriation of $2,500 at last session. Plans in preparation.
	Brazos Santiago.....	Light-house and beacon.		15,000 00	Sept. 28, 1850	Contracted for.....	Completed and nearly ready for lighting.
	Red Fish bar.....	Light-house . ..		5,000 00	Sept. 28, 1850	No action	Additional appropriation—preliminary steps taken.
Michigan.....	Marquette	....do.....		5,000 00	Sept. 28, 1850	Light-house completed October 1, 1852.	Ready for lighting when season opens.

A—Continued.

State.	Locality.	Description of object.	Sum appropriated, or balance.	Date of appropriation.	Action prior to organization of Light-house Board.	Action since organization of the Light-house Board.
Michigan—Cont'd	Ottawa Point, Saginaw bay,	Light-house	Amount, $5,000 00	Sept. 28, 1850	Light-house completed October, 1852.	No report from superintendent.
Wisconsin	Twin rivers	do	3,500 00	Sept. 28, 1850	Light-house completed October, 1852,	Light ready for lighting at the opening of the season.
California and Oregon.						All the lights on this coast under the special direction of the Secretary of the Treasury until transferred, December 22, 1852, to the Light-house Board.

B.

Table showing the objects belonging to the light-house establishment for which appropriations were made August 31, 1852, *with the action taken by the board on the several cases since its organization, October* 9, 1852.

State.	Locality.	Description of object.	Sum appropriated.	Action in the case.
Maine	Nubble	Light-house	$5,000 00	Superintendent and inspector of district directed to procure deeds for the site.
	Haddock's ledge	Beacon	500 00	Will be commenced so soon as the season will permit.
	Cape Elizabeth	Fog-bell	2,500 00	All of these bells are to be, according to law, on Jones's patent. The proprietor has been requested to submit his proposals, with detailed specications, to enable the board to contract for placing them at the several points designated by Congress.
	Seguin	do	2,500 00	
	Whitehead	do	2,500 00	
	West Quoddyhead	do	2,500 00	
	Logey's ledge	Beacon	500 00	Constructed.
	Eastern and Western Sisters	Two buoys	160 00	Inspector instructed in relation to them.
	Boon island	Light-house	25,000 00	Examinations in progress with reference to the procuring materials.
	Steel's ledge	Beacon	1,000 00	Inspector directed to examine site and report.
	Between New Haven and Vinal Haven, or on Heron neck.	Light-house	5,000 00	Site selected by Coast Survey on Heron neck; work to be commenced immediately.
	Kennebeck river	Beacons, buoys, and spindles.	5,000 00	District inspector charged with the selection of the points and execution of the work.
	Petit Menan	Fog-bell	2,500 00	Jones's patent; embraced in correspondence relating to others.
	Old Man's ledge	Buoys	500 00	District inspector charged with this duty, to be executed without delay.
	Entrance of Camden harbor	Beacons	1,000 00	Do do do.
	Narraguagus harbor	Beacons and buoys	1,000 00	Do do do.
	Brooksville	Light-house	3,500 00	Site selected by Coast Survey on Pumpkin island. (Further legislation required.)
	Between Owlshead and Whitehead light-houses.	Beacons	4,000 00	Sites selected by Coast Survey, and district inspector directed to execute work.
	Goldsborough	Four buoys	200 00	District inspector charged with placing these objects on the points designated by law.
	Buck ledge	Beacon	500 00	The repairs of this beacon to be made so soon as season opens sufficiently.

B—Continued.

State.	Locality.	Description of object.	Sum appropriated.	Action in the case.
New Hampshire..	Wiley's ledge and Half-way rock.	Beacon and buoy....	$800 00	Plans made, and work to be commenced as soon as the season will permit.
Massachusetts ...	Succonesset	Light-vessel	12,000 00	Site determined by Coast Survey; model and plans in preparation for advertising for proposals.
	Holmes's hole.....	Three buoys.....	300 00	Superintendent of lights instructed to procure and place them.
	Newburyport.....	Beacons and buoys...	2,000 00	Engineer secretary of Light-house Board charged with the duty of submitting plans and specifications for beacons and spindles, and the work to be advertised for without delay; the buoys to be procured by contract, and placed by inspector of district.
	Fawn bar.....	Beacon	1,000 00	
	Graves.....	Spindles.....	6,000 00	
	Kill Pond bar.....	Light-vessel or light-house.	12,000 00	Site selected by Coast Survey; model and plans in preparation for advertising for proposals.
	Bibb rock.....	Buoy.....	75 00	Coast Survey to have placed as recommended.
	Great ripp.....	Buoy-boat.....	500 00	Do do do.
	Sand shoal.....	....do.....	500 00	Do do do.
	Off Nantucket.....	Light-vessel.....	30,000 00	Model, plan, and specifications adopted, and proposals advertised for.
	Baker's island.....	Fog-bell.....	2,500 00	Jones's patent; in the condition of those for other points.
	Race point.....	....do.....	2,500 00	Do do do.
	Point Gammon light-house..	Buoy	120 00	Coast Survey charged with placing buoy, with others authorized for this vicinity.
	Succonesset point.....	..do.....	120 00	Do do do.
	Minot's ledge	Light-house	80,000 00	Plans advertised for by Topographical bureau, in conformity to the law.
	New Bedford.....	Four buoys.....	300 00	Constructed and placed under direction of superintendent of lights, by order of Light-house Board.
	Minot's ledge.....	Light-vessel	16,000 00	Model, plan, and specifications adopted and proposals advertised for. The appropriation believed to be too small; $6,000 required to complete the vessel and fit her with proper moorings, illuminating apparatus, &c.
Rhode Island	Channel leading from Narraganset bay to Wanaquacket pond.	Buoy	250 00	Inspector of district charged with placing these buoys.
	Goat island.....	..do.....	150 00	Do do do.

	Do	Preservation of light-house, &c.	3,500 00	This work well advanced under direction of an officer of the corps of engineers.
Connecticut	New Haven	Light on wharf	500 00	Superintendent of lights negotiating for purchase of site.
New York	Point au Roche	Light-house	5,000 00	District inspector instructed to mark the site and report on the jurisdiction.
	Hudson river	Six buoys	480 00	District inspector charged with placing these buoys, on the opening of navigation.
	Black Rock pier	Beacon	600 00	District inspector charged with the construction of this beacon.
	Oswego	Light-house repairs	5,000 00	Temporary repairs made by officer of topographical engineers, and will be be completed so soon as the season opens sufficiently to do it economically and properly.
	Sandy Hook	Fog-bell	----------	Jones's patent; will be placed so soon as the necessary arrangements can be made with the patentee.
	Throg's Neck	do		
	Sandy Hook	Light-vessel	20,000 00	Model, plan, and specifications adopted, and proposals invited.
	Gardiner's island	Light-house	1,000 00	An officer of the corps of engineers instructed to examine and report upon the foundations, to enable the board to have plans prepared and to invite proposals.
	Sag harbor	Beacon	450 00	
	Stony Brook harbor	Three buoys	300 00	Inspector of district charged with placing these buoys, so soon as they can be made.
	Mouth Genesee	Beacon, &c	2,600 00	Referred to Topographical bureau for report.
	Hudson river	Three small beacons	1,500 00	Inspector of district charged with placing these on sites selected by engineer secretary.
	Bay of New York	Ten buoys	500 00	Inspector of district charged with procuring them to be placed as the board will direct.
	Long Island	Beacon	3,000 00	Inspector directed to report to the board the kind of structure required.
New Jersey	Mill reef	Monument	4,000 00	Plan in preparation, preparatory to inviting proposals by advertisement.
	Inlet Little Egg harbor	Buoys	1,000 00	District inspector to report the classes of buoys adapted to this locality.
	West Oyster bed, N. A. bay	Beacon, bug-lights, and fog-bell.	3,000 00	Sites selected by Coast Survey; engineer secretary charged with making plans and specifications to enable the board to advertise for proposals.
	Elbon beacon; Set-off			
	Point and Passaic river			
	Great Egg harbor and Herreford.	Four buoys	200 00	District inspector will place these buoys so soon as they can be made.
Maryland	Seven-foot knoll	Fog-bell	2,500 00	The light-house not in a condition to receive the bell; will be procured in time.
	Pocomoke sound	Six buoys	480 00	Superintendent of lights directed to place these buoys from general stock.
	Fort Carrol	Beacon	1,500 00	Necessary information from officer of engineers received, and work to be commenced at once.
	Hooper's straits	Buoy	80 00	Coast Survey has constructed and placed.
	Chesapeake bay	Bell	200 00	District inspector charged with the examination, and to report the proper vessel on which to place this bell.

B—Continued.

State.	Locality.	Description of object.	Sum appropriated.	Action in the case.
Michigan	Saginaw bay	Buoys	$600 00	Inspector of district instructed; buoys to be placed on opening of navigation.
	Round island	Beacon	4,000 00	Referred to Topographical bureau; necessary steps in progress to procure deed to site and cession of jurisdiction.
	Mouth Clinton river	Light-house	5,000 00	An officer of topographical engineers now employed in making necessary examinations.
	Mouth of South Black river	do	5,000 00	Referred to Topographical bureau to report on site, &c.
Wisconsin	Neenah, on Fox river	Buoys	500 00	Inspector of district charged to procure and place these buoys on opening of navigation.
	Winnebago lake	Light-house	5,000 00	Referred to Topographical bureau for report on site, &c.
	Milwaukie	Removal of light-house, &c.	5,000 00	This case is now in course of examination.
Ohio	Mouth Maumee river	Light-house	5,000 00	Referred to Topographical bureau.
	Ledge between western Sister and entrance to Maumee bay.	Buoys	300 00	Inspector directed to procure and place these buoys on opening of navigation.
	Huron	Rprs. light-house, &c.	6,000 00	Referred to Topographical bureau to be reported upon.
	Vermilion harbor	Renewing light-house, &c.	3,000 00	Do do do.
Delaware	Delaware bay	Six buoys	480 00	Inspector of the district charged with this duty.
	Brandywine shoal	Two ice-breakers	3,600 00	An officer of the topographical engineers has reported on this work. Now under consideration.
	Joe Flogger shoal	Buoys	3,000 09	Coast Survey to place.
Virginia	Chincoteague inlet	Two buoys	160 00	District inspector charged with this duty.
	Metomkin inlet	do	160 00	Do do.
	Pungoteague creek	Light	10,000 00	Coast Survey has reported in favor of this object. Work to be commenced at once.
	Jones's point	Light-house	5,000 00	Site examined by Coast Survey and report made. Under consideration.
	Apateague	Fog-bell	2,500 00	Jones's patent, included with others at other points on the coast.
	Smith's island	do	2,500 00	
	Cape Henry	do	2,500 00	Do do do.

	White shoal (James river)	Beacon	1,000 00	All the aids authorized for James river have been examined into. Sites have been selected by Coast Survey, and the superintendent of lights in the district is negotiating for the purchase of the land, to enable the board to obtain an act of cession before the legislature adjourns its present session.
	Day's point	Beacon-lights	5,000 00	
	Point of shoals	Beacon-light	5,000 00	
	Lyon Creek shoals	------do	5,000 00	
	Horseshoe shoal	Buoy	500 00	District inspector will procure and place this buoy without delay.
	White point and Elbow point	Two buoys	160 00	Do do do.
	Occahannock creek	----do	160 00	Do do do.
North Carolina	Baldhead light-house	Fog-bell	2,600 00	Inspector of the district directed to examine location and report on it.
	Bogue banks	Light-house	5,000 00	Recommended by Coast Survey. Inspector charged with examining foundations.
	Albemarle sound	Two buoys	200 00	Coast Survey to place.
	Falker's shoal	Buoy	80 00	
	N. River, county Currituck	Buoys	100 00	
	Fryingpan shoals	Light-vessel	30,000 00	Model, plan, and specifications adopted, and proposals invited for building.
	Two channels over Fryingpan shoals.	Four buoys	1,600 00	Coast Survey to have placed.
	Main and Oak island channels.	----do	1,000 00	Do do do.
	Cape Fear river	Six buoys	1,320 00	District inspector charged with this duty, and furnished with plans.
South Carolina	Cape Romani shoal	Bell-boat	3,500 00	To be constructed on plan of Light-house Board, and placed.
	Charleston	Harbor-light	700 00	Engineer officer instructed to examine and report on this subject.
	Georgetown	Three buoys	630 00	Coast Survey to place, after completion of survey.
	South and North Isl'd points	Three beacon-lights	5,000 00	Sites to be selected by Coast Survey, after survey of harbor is completed.
Alabama	Mobile bay	Bell-buoy	4,000 00	Coast Survey to have placed.
	Middle ground	Six buoys	2,100 00	Do do.
	Northwest Pelican shoal	Buoy	200 00	Do do.
	Sand island and Mobile point	Four beacons	4,000 00	Plans in preparation, and work to be commenced without delay.
	Revenue point	Screw-pile beacon	3,000 00	Do do do.
Mississippi	East Pascagoula river	Light house	5,000 00	Referred to Coast Survey for examination and report.
	Ship island	----do	12,000 00	Under contract to be completed February 1, 1853.
	Cat and Ship Island harbors.	Nine buoys	1,800 00	Coast Survey to have placed.
Louisiana	Ship shoal and Racoon point	Examination and survey of.	3,000 00	Survey in progress, under direction of Superintendent Coast Survey.
	Horn Island pass	Three buoys	240 00	Coast Survey to have placed.
Florida	Sand Bore and Boca Grande	Four buoys	840 00	Do do.
	Coffin's patches	Light house	35,000 00	An officer of the topographical engineers directed to visit the site and report a plan.
	Seahorse reef	Buoy	250 00	Coast Survey to have placed.

B—Continued.

State.	Locality.	Description of object.	Sum appropriated.	Action in the case.
Florida—Cont'd..	Ten miles south of Cape Florida.	Three buoys.....	$700 00	Coast Survey to have placed.
	Rebecca shoal.....	Beacon	10,000 00	Plans prepared, and the subject under consideration.
	Mouth of St. John's river...	Securing light-house .	10,000 00	This work in progress, under the care of an officer of the corps of engineers.
Texas	Aransas pass.....	Light-house or light-vessel.	2,500 00	Site determined by Coast Survey, and plans in preparation for asking proposals.
	Galveston bay.....	Three small light-houses.	5,000 00	Sites determined by Coast Survey, and work about to be commenced.
California.	Bay of San Francisco.....	Buoys.	1,000 00	Coast Survey to have placed.
	Humboldt harbor	Beacon	5,000 00	Sites to be selected by Coast Survey, and plans prepared without delay.
	La Pointe, Lake Superior..	Light-house	5,000 00	Referred to Topographical bureau for a report.
	Santa Cruz.....	....do.....	30,000 00	Referred to Coast Survey for examination and location of site.
	California and Oregon.....	Completion of light-houses.	120,000 00	These lights transferred to the care of the board December 22, 1852.
	Coast United States.....	Life-boats, &c	10,000 00	Coast Survey charged by Secretary of the Treasury with selecting sites.
	Illuminating apparatus.	Testing Wilson and Meacham's.	1,000 00	Correspondence had on the subject. No definite action taken as yet.
Michigan.....	Otter creek.....	Sale of light-house...	.....	Superintendent of lights directed to execute the law.
Massachusetts ...	Holmes's Hole.....	Three beacon-lights in place of one.	.....	Superintendent of lights at Edgartown directed to obtain deeds of conveyance and cession of sites.
New York.....	Gedney channel range.....	Two beacons.....	*30,000 00	Preliminary steps taken, and the board hopes to have the deeds to land, &c., to enable them to commence erecting these beacons with the opening of spring.
	Swash channel	....do.....	.....	
	Flinn's knoll.....	Bell-beacon	.....	
Florida.	Sand key.....	Light-house	44,127 81	In rapid progress, under the direction of an officer of topographical engineers.
	Seahorse key.	.....do.....	12,000 00	Site selected by Coast Survey.
	Cape St. Blas.....	.....do.....	12,000 00	Inspector charged with examination of foundation and location of site.
Illinois.....	Chicago.....	.....do.....	6,300 00	In charge of officer of topographical engineers, and in progress.
California.	Point Loma, San Diego....	.....do.....	15,000 00	The erection of these eight light-houses was contracted for by the Treasury Department prior to their superintendence being transferred to the board. This contract contains modifications providing for the enlargement of the structures at the option of the department. The date of
	Point Conception.....	.....do.....	15.000 00	
	Monterey	.....do.....	15,000 00	

	Farrallones island	do	15,000 00	the appropriations for these lights is anterior to that of all other objects embraced in this table; but, never having been under the superintendence of the Fifth Auditor, they were not included in the table corresponding with the dates of appropriation. A special transfer of all works connected with the light-house establishment on the Pacific coast was made to the board on December 22, 1852. Instructions are in preparation to the light-house inspector on that coast in reference to all these works.
	Battery Point	do	15,000 00	
	Alcatraz island	do	15,000 00	
	Humboldt harbor	do	15,000 00	
Oregon	Cape Disappointment	do	15,000 00	
	Cape Flattery	do	15,000 00	
	New Dungenness	do	15,000 00	
	Umpqua	do	15,000 00	

* Transferred from Flinn's knoll light-house appropriation.

Table C.

The Light-house Board respectfully submits the following recommendations, which are fully explained in its report to Congress, and requests the favorable consideration of the Committees of Commerce.

Maine.—That the appropriation of $5,000, made August 31, 1852, for a harbor-light on a point of land lying west of the entrance to Buck's harbor, in Brooksville, may be changed to the northern extremity of Pumpkin island, in conformity to the recommendation of the coast survey officer who reported on the site, in obedience to the act of Congress.

That the sum of $2,000 be appropriated for buoys, beacons, and spindles to be placed on important points specified by superintendent of lights at Portland and persons interested in commerce and navigation, in addition to sums appropriated at the last session of Congress.

Massachusetts.—For buoys to be placed in Taunton river, to render the navigation safe and easy, $500.

That the sum of $30,000, appropriated September 28, 1850, for a light-house on the "Sow-and-pigs" entrance to Buzzard's bay, be reappropriated to enable the board to commence a light-house at or near that place, to take the place of the light-vessel now employed to mark that dangerous position.

That the sum of $4,000 be reappropriated for a light-house to be placed on or near the breakwater at Bass river—this sum having been appropriated in 1850, and the site condemned.

For a beacon on "Deep Hole rock," Vineyard sound, $600.

Rhode Island.—For buoys to be placed on the following points: "Old Newton," "The Sisters," (Narraganset bay,) "Sandy point," (Block island,) "Tuarsett point," (near Wickford,) and on "Brig ledge," (Narraganset bay,) $500.

Connecticut.—For buoys in New Haven harbor, $200.

For buoy on Pennfield reef, $150.

For beacon on Race rock, Long Island sound, $7,000.

New York.—For a small light on or near Carlton head, and for repairing or rebuilding Tibbetts Point light-house, $5,000.

For a fog-bell, or whistle, to be worked by clockwork-power, to be placed on the end of the south pier at Buffalo, near the light-house, $2,500.

For authority to change the location of the two beacons authorized to be placed near Fort Hamilton to the other end of the range line of the main channel, on the Jersey shore.

Michigan.—For a light-house on Point Betsy, Lake Michigan, $5,000.

For Grand Island Harbor light, Lake Superior, $5,000.

For a light-house at Rock harbor, Isle Royal, Lake Superior, $5,000.

For a fog-bell for Thunder Bay Island light-house, Lake Huron, $2,500.

Ohio.—For a beacon of solid masonry to be placed on a reef lying in the track of vessels at the west end of Lake Erie, near the south shore off Bois Blanc, and near Touissaint river, $3,000.

New Jersey.—For buoys to be placed on Absecum bar and in the inlet, (a harbor of refuge,) $800.

Delaware.—For beacons and buoys recommended at the last session of Congress for Delaware bay, to complete the necessary beaconage and buoyage in the lower part of the river and bay, $5,000.

Virginia.—For a first-class buoy to be placed in the "Upper Middle" in Chesapeake bay, and buoys for Sand Shoal and Hog Island inlets, Atlantic coast, $800.

For buoys to be placed in the Potomac river as follows: lower end "Jones's point," lower end "Occoquon flats," off "Marlow's creek," lower part of "Wade's bay," off "Jenifer's quarters," "Matthias's point," and "Dent's shoal," $560.

For a small light at Stingery point, Rappahannock, $250.

For a beacon at Naylor's hole, Rappahannock, $150.

For twelve buoys for Rappahannock river, $600.

South Carolina.—For six large iron buoys for Charleston bar and channels, $3,000.

For a large bell-buoy for the entrance over Charleston bar, $5,000.

For a buoy to be placed on Middle Ground shoal, Charleston harbor, $500.

For a light-vessel to be placed on Rattlesnake shoal, $20,000.

For rebuilding beacon on Morris island, Charleston harbor, $3,000.

Florida.—For an iron pile light-house to supply the place of the light-vessel stationed near Key West, $12,000.

For a first-class light-house to be located near the entrance to Pensacola bay, in place of the one now improperly located, $30,000.

For making permanent the signals placed by the coast survey along the Florida reef, $7,000.

Alabama.—For a beacon to mark a shoal in Mobile bay caused by a wreck, $500.

Louisiana.—For largest-class iron buoys to mark the approaches to the principal passes at the mouth of the Mississippi, $3,000.

Towards the erection of a first-class light-house to serve as a substitute for the light-vessel at "Ship shoal," to be determined upon and located after the completion of the survey of that locality authorized by the act approved August 31, 1852, and now in progress, $20,000.

Texas.—For a first-class light-house at the mouth of Sabine river, $30,000.

California.—For a buoy to mark "Commission ledge," in Mare Island straits, $500.

For a buoy to mark "Middle Ground" in Suisun bay, $500.

For a largest-class buoy to mark entrance to bar at San Francisco, $800.

For buoys to mark the channels of the Sacramento river, $2,000.

For buoys for Humboldt harbor, $500.

For buoys for Umpqua, $500.

For second-class light at Point Boneta, San Francisco bay, $2,500.

Oregon.—For additional buoys for Columbia river, $1,500.

Miscellaneous.—To test the adaptation of Jabez Stone's patent buoy as a guide to river and other narrow channels, $250.

To enable the Light-house Board to procure the necessary machinery and test practically the plan for distinguishing lights submitted by Charles Babbage, esq., and which was communicated to Congress at its last session, $5,000.

Table D.

The following are the objects considered by the Light-house Board of greatest importance, next to those already provided, embraced in the general programme of the board under its temporary organization, and which are placed in geographical order, commencing at the north-eastern boundary of the United States:

Maine.—1. To elevate, improve, and fit with first-order illuminating apparatus the light-house at Seguin, one of the most important positions on the eastern coast, $15,000.

Massachusetts.—2. To elevate, improve, and fit with first-order illuminating apparatus the light-house at Truro highlands, Cape Cod being an important seacoast position to mark the approaches to Boston harbor, $15,000.

3. To refit and improve Gay Head light, $13,000.

New York.—4. To erect a first-class seacoast light-house tower, and fit it with the most approved illuminating apparatus, near Great West bay, Long Island, $30,000.

New Jersey.—5. For elevating, improving, and refitting with proper illuminating apparatus the light-house at Barnegat, $12,000.

6. For a first-class light-house, to be fitted with the most approved illuminating apparatus, to be placed in the vicinity of Absecum inlet, to guide navigators clear of Absecum and Brigantine shoals, $30,000.

South Carolina.—7. For changing the present small and useless light at Cape Romain into a first-class seacoast light, required to guide vessels clear of the dangerous shoals distant from six to seven miles from it, and in the track of vessels bound south of Charleston, $20,000.

Florida.—8. For the erection of a first-class light-house tower, and for fitting it with a first-order illuminating apparatus, near Jupiter inlet, to mark the dangerous shoals lying off that point, and to guide vessels along that coast, $35,000.

APPENDIX—NO. 1.

List of the members of the Light-house Board of the United States, organized in conformity to the act of Congress approved August 31, 1852.

EX OFFICIO PRESIDENT.

Hon. Thomas Corwin, *Secretary of the Treasury.*

CHAIRMAN.

Commodore W. B. Shubrick, *U. S. Navy.*

MEMBERS.

Brevet Brig. Gen. Joseph G. Totten, *Chief Engineer, U. S. Army*
Lieut. Col. James Kearney, *U. S. Corps Topographical Engineers.*
Professor A. D. Bache, LL. D., *Superintendent Coast Survey.*
Professor Joseph Henry, LL. D., *Secretary of Smithsonian Institution.*
Commander S. F. Du Pont, *U. S. Navy.*

SECRETARIES.

Lieutenant Thornton A. Jenkins, *U. S. Navy.*
Brevet Captain Edmund L. F. Hardcastle, *U. S. Corps Topographical Engineers.*

Synoptical index to the laws relating to the light-house establishment of the United States.

1789, August 7.	Expenses of light-houses, beacons, buoys, &c., to be paid from public treasury	Vol. 1,	p. 54
" "	Secretary of the Treasury to contract for keeping light-houses, &c., in repair; for furnishing same, &c	1,	54
1820, May 15.	No light-house, &c., to be erected till jurisdiction over ground be ceded to United States	3,	600
1828, May 23.	Compensation of light-house keepers,	4,	284
1844, June 17.	Commissions allowed when salary is less than $2,000	5,	696
1850, Sept. 28.	System of coloring and marking buoys prescribed	9,	504
" "	Commissions allowed to collectors acting as superintendents	9,	504
1851, March 3.	Certain duties on the seaboard to be performed by Superintendent of the Coast Survey, and on the lakes by Colonel of Topographical Engineers	9,	628
" "	The lens or Fresnel system of lighting adopted	9,	629
" "	Officers of the engineer corps to superintend the construction of light-houses	9,	629

Pamphlet laws, 1851–'52, page 119:

SEC. 8. Light-house board constituted—members—secretaries—their power and duties—to be attached to the office of the Secretary of the Treasury—their duties.
SEC. 9. President of the board—chairman.
SEC. 10. Meetings of the board.
SEC. 11. Certain clerks, archives, &c., to be transferred to such board
SEC. 12. Light-house districts—officer of the army or navy to be assigned to each—his pay.

Page 120:

SEC. 13. Rules and regulations to be established and distributed.
SEC. 14. Preparation of plans, estimates, &c.—bids, how acted on.
SEC. 15. Materials, how contracted for—works, how to be executed.
SEC. 16. Board to furnish estimates of expenses to be laid before Congress.
SEC. 17. Inconsistent acts repealed—other acts continued in force—1851, chap. 37, secs. 2, 3, continued in force—no additional salary to be paid—members of the board not to be interested.

Approved August 31, 1852.

Laws of the United States relating to light-houses, buoys, beacons, &c., &c.

Statutes at Large, vol. 1, page 53:

Expenses of support and repairs after 15th August, 1789, to be paid out of the United States treasury.

SEC. 1. That all expenses which shall accrue from and after the 15th day of August, 1789, in the necessary support, maintenance, and repairs of all light-houses, 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.

Secretary of the Treasury to contract for building, repairing, &c., when necessary.

SEC. 3. That it shall be the duty of the Secretary of the Treasury to provide, by contracts, which shall be approved by the President of the United States, for building a light-house near the entrance of Chesapeake bay, and for rebuilding, when necessary, and keeping in good repair, the light-houses, beacons, buoys, and public piers in the several States, and for furnishing the same with all necessary supplies; and also to agree for the salaries, wages, or hire of the person or persons appointed by the President for the superintendence and care of the same.

Approved August 7, 1789.

Volume 3, page 600:

SEC. 7. No light-house, beacon, or land-mark shall be built or erected on any site previous to the cession of jurisdiction over the same being made to the United States.

Approved May 15, 1820.

Volume 4, page 284:

SEC. 4. That, from and after the passage of this act, the Secretary of the Treasury be, and he is hereby, authorized and empowered to regulate and fix the salaries of the respective keepers of light-houses, in such manner as he shall deem just and proper: *Provided*, The whole sum allowed shall not exceed an average of four hundred dollars to each keeper.

Approved May 23, 1828.

Volume 5, page 696:

Provided, That no superintendent shall receive any of the commissions whose compensation may exceed two thousand dollars per annum.

Approved June 17, 1844.

SEC. 6. *And be it further enacted*, That hereafter all buoys along the coast, or in bays, harbors, sounds, or channels, shall be colored and numbered, so that in passing up the coast or sound, or entering the bay, harbor, or channel, red buoys, with even numbers, shall be passed on the starboard hand, black buoys, with uneven numbers, on the port hand, and buoys with red and black stripes on either hand; buoys in channel-ways to be colored with alternate white and black perpendicular stripes.

SEC. 7. *And be it further enacted*, That there shall be allowed collectors, when acting as superintendents of light-houses, beacons, light-boats, and buoys, the same rate of commission on the disbursements of the aforesaid appropriations as were allowed and paid for the year ending fourth of March, 1849: *Provided*, That no collector shall receive for his services as superintendent aforesaid over the sum of four hundred dollars per annum: *And provided further*, That the Secretary of the Treasury shall assign to the collectors the superintendence of such light-houses, beacons, light-boats, and buoys as he may judge best and most convenient for the public interest.

Approved September 28, 1850.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following appropriations be, and the same are hereby, made, and directed to be paid out of any money in the treasury not otherwise appropriated, to enable the Secretary of the Treasury to carry the provisions of this act into effect: *Provided, however*, If a good title to any land which it may be necessary to use cannot be obtained on reasonable terms, or the exclusive right to such land cannot be acquired by cession, when the interest of the United States demands it, before the appropriation would by law fall into the surplus fund, in any and all such cases the appropriation shall be applicable to the objects for which they are made at any time within two years after the first meeting of the legislature in any State wherein such land may be situated subsequent to the passage of this act, to wit:

* * * * * * * *

SEC. 2. *And be it further enacted*, That if such person as the Secretary of the Treasury shall designate shall report, in any of the cases herein provided for, that preliminary surveys are necessary to determine the site of a proposed light-house or light-boat, beacon, or buoy, or to ascertain more fully what the public exigency demands, the Secretary of the Treasury shall thereupon direct the Superintendent of the survey of the coast of the United States to perform such duty on the seaboard, and the Colonel of the Corps of Topographical Engineers to perform such duty on the northwestern lakes.

SEC. 3. *And be it further enacted*, That the officers so directed shall forthwith enter upon the discharge of the duty, and, after fully ascertaining the facts, shall report: First, whether the proposed facility to navigation is the most suitable for the exigency which exists; and, second, where it should be placed, if the interests of commerce demand it: third, if the thing proposed be not the most suitable, whether it is expedient to make any other kind of improvement: fourth, whether the proposed light has any connexion with other lights, and, if so, whether it cannot be so located as to subserve both the general and the local wants of trade and navigation: and, fifth, whether there be any, and, if any, what, other facts of importance touching the subject.

SEC. 4. *And be it further enacted*, That all such reports shall, as speedily as may be, be laid before the Secretary of the Treasury; and, if such as to authorize the work without further legislation, he shall forthwith proceed with it: otherwise, such reports shall be laid before Congress at the next ensuing session. But in all cases where the person designated by the Secretary of the Treasury, under the second section of this act, does not report such preliminary examination as expedient, the provisions of this act shall, without delay, be carried into execution.

SEC. 7. *And be it further enacted*, That hereafter, in all new light-houses, in all light-houses requiring new lighting apparatus, and in all light-houses as yet unsupplied with illuminating apparatus, the lens or Fresnel system shall be adopted, if, in the opinion of the Secretary of the Treasury, the public interest will be subserved thereby.

SEC. 9. *And be it further enacted*, That the President be, and he is hereby, required to cause to be detailed from the engineer corps of the army, from time to time, such officers as may be necessary to superintend the construction and renovating light-houses.

Approved March 3, 1851.

SEC. 8. *And be it further enacted*, That the President be, and he is hereby, authorized and required to appoint, immediately after the passage of this act, two officers of the navy of high rank, one officer of the corps of engineers of the army, one officer of the corps of topographical engineers of the army, and two civilians of high scientific attainments, whose services may be at the disposal of the President, and an officer of the navy and an officer of engineers of the army as secretaries, who shall constitute the Light-house Board of the United States, and shall have power to adopt such rules and regulations for the government of their meetings as they may judge expedient; and the board so constituted shall be attached to the office of the Secretary of the Treasury, and, under his superintendence, shall discharge all the ad-

ministrative duties of said office relating to the construction, illumination, inspection, and superintendence of light-houses, light-vessels, beacons, buoys, sea-marks, and their appendages, and embracing the security of foundations of works already existing, procuring illuminating and other apparatus, supplies and materials of all kinds for building and for rebuilding when necessary, and keeping in good repair the light-houses, light-vessels, beacons, and buoys of the United States.

SEC. 9. *And be it further enacted*, That the Secretary of the Treasury shall be ex officio president of the Light-house Board of the United States; and the said board, at their first meeting, shall proceed to ballot for one of their members as chairman, and the member who shall receive the majority of ballots of the whole board shall be declared by the president to be chairman of the Light-house Board, who shall, in the absence of the president of the board, preside over their meetings, and do and perform such acts as may be required by the rules of the board.

SEC. 10. *And be it further enacted*, That the Light-house Board shall meet four times in each year for the transaction of general and special business, each meeting to commence on the first Monday in March, June, September, and December; and that the Secretary of the Treasury is hereby authorized to convene the Light-house Board whenever, in his judgment, the exigencies of the service may require it.

SEC. 11. *And be it further enacted*, That the Secretary of the Treasury be, and he is hereby, required to cause such clerks as are now employed on light-house duties in the Treasury Department to be transferred to the Light-house Board, without any change of salary, and to provide the necessary accommodations for the secretaries and clerks, for the preservation of the archives, models, drawings, &c., &c., and for holding the meetings of the board; and that he cause to be transferred to the proper officers of the Light-house Board all the archives, books, documents, drawings, models, returns, apparatus, &c., &c., belonging to the light-house establishment of the United States.

SEC. 12. *And be it further enacted*, That it shall be the duty of the Light-house Board, immediately after being organized, to arrange the Atlantic, Gulf, Pacific, and lake coasts of the United States into light-house districts, not exceeding twelve in number; and the President is hereby authorized and required to direct that an officer of the army or navy may be assigned to each district as a light-house inspector, subject to and under the orders of the Light-house Board, who shall receive for such service the same pay and emoluments that he would be entitled to by law for the performance of duty in the regular line of his profession, and no other, except the legal allowance per mile when travelling under orders connected with his duties.

SEC. 13. *And be it further enacted*, That the said Light-house Board, by and with the consent and approbation of the Secretary of the Treasury, be authorized and required to cause to be prepared and distributed among the light-keepers, inspectors, and others employed in the light-house establishment, such rules, regulations, and instructions as shall be necessary for securing an efficient, uniform, and economical system of administering the light-house establishment of the United States, and to secure responsibility from them; which rules, regulations,

and instructions, when approved, shall be respected and obeyed until altered and annulled by the same authority.

SEC. 14. *And be it further enacted*, That it shall be the duty of the Light-house Board to cause to be prepared, by the engineer secretary of the board, or by such officer of engineers of the army as may be detailed for that service, all plans, drawings, specifications, and estimates of cost of all illuminating and other apparatus, and of construction and of repair of towers, buildings, &c., connected with the light-house establishment; and no bid or contract shall be accepted or entered into except upon the decision of the board, at a regular or special meeting, and through their properly authorized officers.

SEC. 15. *And be it further enacted*, That hereafter all materials for the construction and repair of light-houses, light-vessels, beacons, buoys, &c., &c., shall be procured by public contracts, under such regulations as the board may from time to time adopt, subject to the approval of the Secretary of the Treasury; and all works of construction, renovation, and repair shall be made by the orders of the board, under the immediate attendance of their engineer secretary, or of such engineer of the army as may be detailed for that purpose.

SEC. 16. *And be it further enacted*, That it shall be the duty of the Light-house Board to furnish, upon the requisition of the Secretary of the Treasury, all the estimates of expense which the several branches of the light-house service may require, and such other information as may be required to be laid before Congress at the commencement of each session.

SEC. 17. *And be it further enacted*, That all acts and parts of acts inconsistent with the provisions of this act are hereby repealed, and all acts and parts of acts relating to the light-house establishment of the United States not inconsistent with the provisions of this act, and necessary to enable the Light-house Board, under the superintendence of the Secretary of the Treasury, to perform all duties relating to the management, construction, illumination, inspection, and superintendence of light-houses, light-vessels, beacons, buoys, sea-marks, and their accessories, including the procuring and testing of apparatus, supplies, and materials of all kinds for illuminating, building, and rebuilding when necessary, maintaining, and keeping in good repair the light-houses, light-vessels, beacons, buoys, and sea-marks of the United States; and the second and third sections of the act making appropriations for light-houses, light-vessels, buoys, &c., approved March third, eighteen hundred and fifty-one,—are hereby declared to be in full force, and shall have the same effect as though this act had not passed: *Provided*, That no additional salary shall be allowed to any civil, military, or naval officer who shall be employed on the Light-house Board, or who may be in any manner attached to the light-house service of the United States under this act: *And provided further*, That it shall not be lawful for any member of the Light-house Board, inspector, light-keeper, or other person in any manner connected with the light-house service, to be engaged, either directly or indirectly, in any contract for labor, materials, or supplies for the light-house service, nor to possess, either as principal or agent, any pecuniary interest in any patent, plan,

or mode of construction or illumination, or in any article of supply for the light-house service of the United States.

Approved August 31, 1852.

Rules and regulations for the light-house establishment, approved by the Treasury Department October 22, 1852.

LIGHT-HOUSE BOARD.

1. At all meetings of the board, five members shall constitute a quorum for the transaction of business.

2. In the absence of the president and chairman from any meeting of the board, one of its members shall be appointed temporary chairman.

3. Notice shall be given to the president and members of the Light-house Board of all meetings, regular or special, and of adjourned meetings, between the periods of holding which more than a day elapses.

4. The secretaries shall prepare a list of the items of business, to be placed before the chairman at the regular and special meetings.

5. All orders and communications shall proceed generally from the board through one or other of the secretaries, and all communications to the board shall be transmitted through them, including estimates, plans, suggestions, reports, returns, accounts, vouchers, requisitions, &c.

The exceptions to this routine, if any, will be indicated by the board from time to time.

6. Communications to Congress, or to the departments of the executive, shall pass through the Secretary of the Treasury, and shall be signed by the chairman or presiding officer of the board and secretaries.

7. Informal communications with the committees of Congress, for advice or information, may take place through the chairman, secretaries, or committees of the board.

COMMITTEES.

1. There shall be the following standing committees of the Light-house Board, to consist of two members each, viz:

I. Committee of Finance.
II. Committee on Engineering.
III. Committee on Light-vessels, &c.
IV. Committee on Lighting.
V. Committee on Experiments.

2. The chairman and secretaries shall be ex officio members of all committees.

3. All committees shall, unless otherwise determined by the board, be named by the chairman, who shall appoint annually the standing committees, and fill, from time to time, any vacancies which may occur in them.

4. The several committees will annually, at the meeting in December, submit to the board reports on the several subjects confided to them, to be used in preparing the annual report to the Secretary of the Treasury.

5. The committees may originate business to be submitted to the board, but can take no final order unless specially authorized so to do by the board.

COMMITTEE OF FINANCE.

The Committee of Finance shall pass upon the estimates of all other committees, presenting them as approved to the board. They shall have charge of all matters relating to accounts, (including the administrative examinations,) to appropriations, returns of property, contracts, and title deeds.

COMMITTEE ON ENGINEERING.

The Committee on Engineering shall have charge of all matters relating to construction, renovation, and repairs of light-houses, beacons, and permanent sea-marks, including plans, drawings, estimates, contracts, locations, materials, and modes of building.

COMMITTEE ON LIGHT-VESSELS, ETC.

This committee shall have charge of all subjects relating to light-vessels, floating-beacons, and buoys, including plans, models, estimates, contracts, materials, modes of construction, improvement, moorings, fog-signals, and other accessories, and the keepers, seamen, and others employed. Questions of the necessity for new light-boats, floating-beacons, buoys, &c., shall be examined by them.

COMMITTEE ON LIGHTING.

1. The Committee on Lighting shall have charge of all matters relating to illuminating apparatus, including classification, power, and distribution, kinds of lights, divergence, &c.; to materials for illumination, for cleansing and preserving apparatus; to fog-signals, and their accessories; to keepers of light-houses, and their assistants.

2. This committee shall also examine into the necessity for new light-houses, beacons, and permanent sea-marks.

COMMITTEE ON EXPERIMENTS.

This committee shall test the value of oils and other materials used in illuminating, and of lighting apparatus; the modes of distinguishing lights and light-houses, beacons and sea-marks, buoys, &c.; shall investigate the relative value of signals by sound, &c.; the ventilation of light-houses and light-vessels; their protection from lightning; the modes of preventing corrosion or decay; and in general shall take charge of all matters requiring experiments or observations to determine their value, application, or economy.

SECRETARIES.

1. The secretaries shall prepare annually a descriptive list of light-houses, light-boats, beacons, buoys, and sea-marks, to be submitted to the board, and printed for the use of navigators—the lists to be accompanied by the necessary maps.

2. They shall give due notice to mariners of all changes and casualties in the lighting establishment—causing printed notices to be promptly issued, and copies to be supplied to all the custom-houses, to be publicly posted and distributed to navigators, and furnished to all commercial newspapers on the seaboard and lakes.

3. Each secretary shall keep a journal of all business which he may transact, in writing or otherwise, to be open to the members of the board, and to be submitted at their regular or special meetings.

4. The secretaries shall attend to all details in the execution of the orders of the board, receive all reports, attend to current business and correspondence, and in general to all administrative details not otherwise provided for, referring matters of special importance to the chairman of the board, to one of the standing committees, or to the board at a regular or special meeting.

5. They shall submit a digest of the reports of superintendents, inspectors, and keepers, to the board, at their regular meetings; and any portions of such reports as may require special attention, without delay, to the appropriate committees.

6. They shall have authority to convene the committees of the board.

7. They shall prepare papers, reports, &c., and collect information, desired by or necessary to the action of the committees or of the board.

8. They shall prepare regulations, instructions, and directions for inspectors, superintendents, light-keepers, &c., to be submitted to the board.

9. They shall prepare forms of contracts, returns, accounts, and others, to be submitted to the appropriate committees and to the board.

10. They shall prepare estimates for the committees and the board, and a docket of business for the meetings of the committees and of the board.

11. They shall arrange and direct the labors of the clerks and messengers of the offices.

12. In case of the absence of either secretary, his duties in the office will devolve upon the other, and, in case of the absence of both, upon a member of the board, to be appointed by the chairman.

NAVAL SECRETARY.

1. The naval secretary of the board shall keep the journal of its proceedings. He shall have charge of the office, and of those employed in it, except so much and such as may be assigned to the engineer secretary. There shall be under his charge the details relating to—

The light-vessels, floating-beacons, buoys, and sea-marks.

The supplies of stores of oil and other materials of illumination.

The salaries of keepers, attendants, &c., and all other current expenses of light-houses, light-vessels, beacons, buoys, &c.
The records, books, papers, and stationery of the board.
Office and other legal expenditures.
Accounts for inspections, &c., &c.
General estimates, &c., &c.

ENGINEER SECRETARY.

1. The engineer secretary of the board is specially charged with all the duties of the engineering branch of the light-house service, and with the care and preservation of the property belonging to that branch.
2. He shall prepare the plans, estimates, contracts, and specifications for the construction, renovation, and repairs of light-houses, permanent beacons, and sea-marks, and shall prepare for the Committee on Engineering all projects, &c., which they may require.
3. He shall examine the reports of the inspectors, and submit to the board such suggestions and remarks made by them in relation to construction, repairs, &c., as he may deem important.

INSPECTION DISTRICTS.

The following twelve inspection districts are constituted:
First district.—Embracing all lights, &c., from the northeastern boundary, Maine, to Hampton harbor, New Hampshire.
Second district.—Embracing all lights, &c., from Hampton harbor, New Hampshire, to Gooseberry Point, Massachusetts.
Third district.—Embracing all lights, &c., from Gooseberry Point, Massachusetts, to Squam inlet, New Jersey, including Lake Champlain and Hudson river.
Fourth district.—Embracing all lights, &c., from Squam inlet, New Jersey, to Metomkin inlet, Virginia, including Delaware bay and tributaries.
Fifth district.—Embracing all lights, &c., from Metomkin inlet, Virginia, to New River inlet, North Carolina, including Chesapeake bay and tributaries, Albemarle and Pamplico sounds.
Sixth district.—Embracing all lights, &c., from New River inlet, North Carolina, to Mosquito inlet, Florida.
Seventh district.—Embracing all lights, &c., from Mosquito inlet, Florida, to Egmont key, Florida.
Eighth district.—Embracing all lights, &c., from St. Mark's, Florida, to Barataria bay, Louisiana, including Mississippi river, and all lakes and bays adjacent to the coast between these limits.
Ninth district.—Embracing all lights, &c., from Barataria bay, Louisiana, to Rio Grande, Texas.
Tenth district.—Embracing all lights, &c., on Lakes Erie and Ontario, and the rivers St. Lawrence and Niagara, and their tributaries.
Eleventh district.—Embracing all lights, &c., on Lakes St. Clair, Huron, Michigan, and Superior, and Green bay, and their tributaries.
Twelfth district.—Embracing all lights, &c., on the coast of California and Oregon.

INSPECTORS, ETC.

1. The board will apply for the detail of officers of the army and navy to be assigned to light-house duty, and will distribute them in the districts above named. Vacancies which may occur in either class of inspectors will be supplied by similar applications.

2. The inspectors will make their visits at such times and in such manner as may be indicated by the board, inspecting by night as well as by day.

3. Special instructions, indicating the frequency of their inspections, the objects to be examined, the reports to be made, and in general including all matters relating to this subject, will be prepared by the secretaries and submitted to the board.

4. Special inspections will be made by the secretaries and by members of the board by its order.

ESTIMATES AND ACCOUNTS.

1. The board will require from the inspectors and others, in their estimates. specifications of the several objects for which funds are required, with detailed reasons for each expenditure.

2. The estimates, in duplicate, and accounts, when received from inspectors, local superintendents, and others, shall be examined by one of the secretaries, and, if according to previous orders of the board or the routine established by them, be approved by their order; if defective, or irregular, or wanting in economy, shall be suspended, or referred to the appropriate standing committee, or to the board. The estimates and accounts, when approved, shall be transmitted by one of the secretaries to the proper officers of the Treasury.

3. The vouchers of accounts shall be signed in triplicate, and duplicates be sent to the office of the Light-house Board.

4. The inspectors and other officers who may be charged with such duty shall send to the board, within the first week of each quarter of the fiscal year, estimates for expenditures required during the quarter for works committed to their charge, and for renovations, repairs, &c.; but no advances will be made on such estimates until accounts and vouchers for the preceding quarter have been received for adjustment.

NEW LIGHT-HOUSES.

1. Memorials in relation to the erection of new light-houses, when made or referred to the board, shall be examined by the secretaries, and be referred to the Committee on Lighting, who will report on them to the board.

2. The board will determine which of the light-houses, &c., require under the law a preliminary survey or examination.

3. The following routine will be observed in regard to new light-houses for which appropriations are made under provisions of law:

I. If advisable, a report is to be procured (as provided by law) of the necessity of the light, &c.

II. The site is to be designated and obtained by purchase, or otherwise, and the jurisdiction of the United States over it to be secured.

III. Plans and estimates for construction, &c., are to be made, limited by the amount of the appropriation.

IV. The buildings, &c., are to be inspected before being received.

V. Provision is to be made for lighting, and a suitable keeper to be obtained.

4. When the erection of a light-house, &c., appropriated for, is determined upon, the secretaries shall direct the superintendent of the district in which the locality is to ascertain to whom the land belongs, to make the purchase, forward the deeds, duly authenticated and recorded, with the brief of title of the United States district attorney, and his opinion of the validity and regularity of the papers, to be submitted to the Attorney General of the United States.

5. After the approval of the Attorney General is had, the secretaries shall direct the local superintendent to obtain an act of cession of the jurisdiction of the site to the United States by the State legislature; and in no case shall any payment be made on account of work until this routine has been complied with, and the limits of the property have been set off by proper metes and bounds.

CONTRACTS.

1. Due public notice will be given of all contracts for construction, supplies, &c., by public advertisement.

2. The originals of all contracts shall be sent to the board in duplicate—one copy to be transmitted to the proper officer of the treasury, and the other to be preserved in the archives of the board.

LIGHT-HOUSE KEEPERS.

1. The light-house keepers will be nominated, as heretofore, by the local superintendent; and such nominations, when approved, will be sent to the Secretary of the Treasury.

2. The Secretary of the Treasury will forward letters of appointment through the board.

ADMINISTRATIVE DETAILS.

The board is authorized to arrange all administrative details confided to them by law or by the department, provided that their rules are in harmony with existing laws, with these regulations, and with the general rules for the transaction of business by the Treasury Department.

W. B. SHUBRICK, *Chairman.*

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Office Light-house Board, October 22, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

No. 2.

Inspection Districts.

First district—embracing all lights, buoys, beacons, &c., from north-east boundary, Maine, to Hampton harbor, New Hampshire.—Lieutenant W. B. Franklin, United States Corps of Topographical Engineers.

Second district—embracing all lights, buoys, beacons, &c., from Hampton harbor, New Hampshire, to Gooseberry Point, Massachusetts.—Commodore John Downs, United States Navy.

Third district—embracing all lights, buoys, beacons, &c., from Gooseberry Point, Massachusetts, to Squam inlet, New Jersey, including Lake Champlain and Hudson river.—Lieutenant Simon Fraser Blunt, United States Navy.

Fourth district—embracing all lights, buoys, beacons, &c., from Squam inlet, New Jersey, to Metomkin inlet, Virginia, including Delaware bay and tributaries.—Lieutenant Charles H. McBlair, United States Navy.

Fifth district—embracing all lights, buoys, beacons, &c., from Metomkin inlet, Virginia, New River inlet, North Carolina, including Chesapeake bay and tributaries, Albemarle and Pamplico sounds.—Lieutenant A. M. Pennock, United States Navy.

Sixth district—embracing all lights, buoys, beacons, &c., from New River inlet, North Carolina, to Mosquito inlet, Florida.—Lieutenant D. P. Woodbury, United States Corps Engineers.

Seventh district—embracing all lights, buoys, beacons, &c., from Mosquito inlet, Florida, to Egmont key, Florida.—Commander James Glynn, United States Navy.

Eighth district—embracing all lights, buoys, beacons, &c., from St. Mark's, Florida, to Barataria bay, Louisiana, including Mississippi river, and all the lakes and bays adjacent to the coast between these limits.—Captain D. Leadbetter, United States Corps Engineers.

Ninth district—embracing all lights, buoys, beacons, &c., from Barataria bay, Louisiana, to Rio Grande, Texas.—Lieutenant M. Hunt, United States Navy.

Tenth district—embracing all lights, buoys, beacons, &c., on Lakes Erie and Ontario, and the river St. Lawrence, and their tributaries.—Lieutenant J. C. Woodruff, United States Corps Engineers.

Eleventh district—embracing all lights, buoys, beacons, &c., on Lakes St. Clair, Huron, Michigan, Superior, and Green bay, and their tributaries.—Captain L. Sitgreaves, United States Corps Topographical Engineers.

Twelfth district—embracing all lights, buoys, beacons, &c., coast of California and Oregon.—Brevet Major H. W. Halleck, United States Corps Engineers.

No. 3.

Instructions for light-keepers of the United States.

STATIONS WITH TWO OR MORE KEEPERS.

1. The lamps shall be lighted punctually every day at sunset, and extinguished at sunrise.

2. The lamps shall be kept burning bright and clear every night from sunset to sunrise; and in order that the greatest degree of light may be uniformly maintained, the wicks must be trimmed every four hours, or oftener if necessary, and clean glass chimneys fitted on; and special care must be taken to cut the tops of the wicks exactly even, to produce a flame of uniform shape, free from smoky points.

3. The light-keepers shall keep a regular and constant watch in the light-room throughout the night; the first watch to commence at sunset. The light-keepers are to take the watches alternately, in such manner that he who has the first watch one night shall have the second watch the next night. The length or duration of the watch shall not, in ordinary cases, exceed four hours; but during the period between the months of September and March, (both inclusive,) the first watch shall change at eight o'clock. The watches shall at all times be so arranged as to have a change at midnight.

4. The principal keeper will be particular to note on his journal the time at which all lights usually visible from the lantern of his tower are lighted up; he will also specify the hour of the disappearance of any of them, and note at such times the condition of the weather and atmosphere.

5. At stations where there is only one light-room, the daily duty shall be laid out in two departments, and the light-keepers shall change from one department to the other every Sunday night.

First department.—The light-keeper who has this department shall, immediately after the morning watch, cleanse and polish the reflectors or refractors; he shall also thoroughly cleanse the lamps and carefully dust the chandelier. He shall supply the burners with wicks, the lamps with oil, and shall have everything connected with the apparatus in a state of readiness for lighting up in the evening.

Second department.—The light-keeper who has this department shall cleanse the glass of the lantern, lamp-glasses, copper and brass work, and utensils, the walls, floors, and balcony of the light-room, and the apparatus and machinery therewith connected, together with the tower stairs, passage, doors, and windows, from the light-room to the oil-cellar.

6. For the more effectual cleansing of the glass of the lantern, and management of the lamps at the time of lighting, both light-keepers shall be upon watch throughout the first hour of the first watch every night during the winter period, between the first day of September and the last day of March, when they shall jointly do the duty of the light-room during that hour. These changes to and from the double watch must be noted by the keepers in the monthly returns for September and April. The light-keepers must return to the light-house on all occa-

sions, so as to be in time to attend the double watch at lighting time during the period above specified.

7. At those stations where there are two light-rooms and two keepers, each light-keeper shall perform the entire duty of both departments in the light-room to which he may be specially assigned. But after the first hour of the first watch, the light-keeper who has charge of this watch shall perform the whole duty of trimming and attending the lights of both light-rooms till the expiration of his watch; and, in like manner, his successor in the watch shall perform the whole duty of both light-rooms during his watch.

8. At stations where there are a number of lights requiring more than two keepers, the duties shall, in the absence of special instructions, be apportioned in such manner as to equalize, as nearly as possible, the duties of all the keepers.

9. No light-keeper shall be exempted from keeping a regular watch, and performing a full share of duty, except for sickness; in which case the fact must be entered on the journal, and reported to the district inspector without delay.

10. The plate-glass must be cleaned within and without, by night as well as by day, particularly from the drift snow and sleet, and the moisture which is liable to accumulate in the interior of the lantern.

11. The light-keeper on duty shall on no pretence whatever, during his watch, leave the light-room and balcony, except to call his relief, and at stations where there are two or more lights which require his visits during the watch.

12. The principal keepers of revolving lights are required to give their particular attention to the MOVABLE MACHINERY; to see that it is well cleaned in every part, and kept free from dust; well oiled with clockmakers' oil; uniform in its motions, without unnecessary friction of its parts; performs its revolutions regularly within the prescribed period of time; wound up at the expiration of regular intervals of time; the motive-weight rests during the day upon a support to relieve the machinery and cord; and that the CORD is not in danger of parting from long use.

13. When the frame on which the lamps and reflectors are placed is movable, care must be taken to place the lights in the same position every night, leaving the dark side towards that portion of the horizon which does not require to be lighted; and the reflectors and lamps must be kept firmly screwed to the frame, with the lips of the reflectors perpendicular to the horizon, except in cases where it is specially required that they should be slightly inclined.

14. Strict attention must be given to the ventilation of the lantern, taking care to keep the leeward ventilators sufficiently open to admit the requisite quantity of air to produce steady, clear, and bright lights.

15. The principal light-keeper is held responsible for the safety and good order of the stores, utensils, and apparatus of every description, and for everything being put to its proper use, and kept in its proper place. He shall take care that none of the stores or materials are wasted, and shall observe the strictest economy and the most careful management, yet so as to maintain, in every respect, the best possible light.

16. The principal light-keeper shall daily serve out the allowance of oil and other stores for the use of the light-room. The oil is to be measured by the assistant in sight of the principal light-keeper. The light-keepers are on no account to leave the turning-keys attached to the cranes of the oil-cisterns after drawing oil, but shall remove and deposite them on the tray beside the oil-measures, or hang them up in some safe and convenient place.

17. The light-keepers shall keep a daily journal of the quantity of oil expended, the routine of duty, and state of the weather, embodying any events of interest or importance relating to his duties that may occur. These shall be written in the journal-books to be kept at each station for the purpose, at the periods of the day when they occur, as they must on no account be trusted to memory. At the end of each quarter they shall make up and transmit to the district inspectors, under cover to the collector of the district, who is superintendent of lights, a return, which shall be an accurate copy of the journal for the preceding quarter.

18. The light-keepers are also required to take notice of any shipwrecks which shall happen within the vicinity of the light-house, and to enter an account thereof, according to the prescribed form, in a book furnished to each station for this purpose; and in such account they shall state, if practicable, whether the light was seen by any on board the shipwrecked vessel, and recognised by them, and how long it was seen before the vessel struck. A copy of this entry shall form the shipwreck return, and be forthwith forwarded to the inspector.

19. A book containing a note of the vessels passing each light-house shall be kept, and an annual schedule, showing the number of vessels in each month, shall be sent to the district inspector.

20. The quarterly and shipwreck returns are to be written by the assistant, and the accompanying letters by the principal keeper. The whole shall be carefully compared, and the addition of the columns tested by both light-keepers, who shall also sign the same as correct, according to the printed form; and the principal keeper shall transmit the same to the district inspector as prescribed, without unnecessary delay.

21. The principal light-keeper is held responsible for the regularity of the watches throughout the night, for the cleanliness and good order of the reflecting or refracting apparatus, machinery, and utensils, and for the due performance of the whole duty of the light-room or light-rooms, as the case may be, whether performed by him personally or by the assistant.

22. The principal light-keeper is also held responsible for the good order and condition of everything belonging to the light-house establishment at the station under his charge, including the cleanliness of the apartments, passages, stairs, roofs, water-cisterns, wells, storerooms, workshops, privies, stables, ash-pits of the dwelling-houses, &c., &c.

23. The principal and assistant shall take especial care, at all times, that neither lucifer matches, nor anything else which is easily ignited, lighted lamps, candles, or fires, be left anywhere in the premises, so as to endanger the public property by fire. The fire-buckets are to be kept in the most convenient place for use, and, when the weather will

permit, filled with water ready for use, and they are on no account to be used for household purposes.

24. The light-keepers shall, under no circumstances, use tripoli powder for cleaning the refractors, or silvered parts of the reflectors, nor any other cleaning materials than the rouge, whiting, buffskins, and cleaning-cloths, &c., furnished by direction of the Light-house Board, and for the purposes designated in the directions to light-keepers.

25. Each package or parcel of rouge and whiting must be examined by the keeper before using it, by rubbing between his fingers, to ascertain that it is free from grit and other impurities; and should it be found to be of bad quality, and calculated to injure the apparatus, it must not be used. The tripoli powder shall be employed exclusively for cleaning the backs of the reflectors, and other brass work of the apparatus.

26. The light-keepers shall endeavor to keep in good order and repair the dikes enclosing the light-house grounds, the landing-places and roads leading from thence to the light-house, and the drains therewith connected, together with all other things placed under their charge.

27. When stores of any kind are to be landed for the use of the light-house, the light-keepers shall attend and give their assistance. The principal light-keeper must, upon these occasions, satisfy himself, as far as possible, of the quantity and condition of the stores received, which must be duly entered in the store-books and quarterly-return book.

28. The light-keepers are to make a report of the quality of the stores in the quarterly return for the quarter immediately succeeding their receipt, and earlier should circumstances render it necessary, and also for the fourth quarter annually; and this report must proceed upon special trial of the several cisterns of oil, and the other stores in detail, both at the time of receiving them and after the experience of sufficient time to test them fully.

29. Should the supply of light-house stores at any time appear to the principal light-keeper to be getting short, so as thereby to endanger the regular appearance of the light, he shall immediately inform the district inspector, and, by prudent management of the lights, guard against a total consumption of the supplies before others can be received.

30. The light-keepers are prohibited from carrying on any trade or business whatever which will take them from the premises, or in any other manner cause the neglect of their public duties.

31. The light-keepers have permission to go from home to draw their salaries, and also to attend public worship on Sunday, but on no other occasion without the permission of the district inspector. The assistant light-keepers, on all occasions of leave of absence, must consult the principal light-keeper as to the proper time for such leave, and obtain his consent; in like manner, the principal light keeper shall duly intimate his intention of going from home to the assistant light-keeper; it being expressly ordered that only one light-keeper shall be absent from the light-house at one and the same time.

32. While the principal light-keeper is absent, or is incapacited for duty by sickness, the full charge of the light-room duty and of the premises shall devolve upon the assistant, who shall, in that case, have ac-

cess to the keys of the light-room stores, and be held responsible in all respects as the principal light-keeper.

33. The light-keepers are required to be sober and industrious, and orderly in their families. They are expected to be polite to strangers, in showing the premises at such hours as do not interfere with the proper duties of their office; it being expressly understood that strangers shall not be admitted to the light-room after sunset. Not more than three persons shall have access to the light-room at one and the same time during the day, and no stranger visiting the light-house shall be permitted to handle any part of the machinery or apparatus. The light-keepers must not, on any pretext, admit persons in a state of intoxication into the light-house.

34. The principal light-keeper is prohibited from selling any malt or spirituous liquors, and from allowing any to be sold on the premises under his charge.

35. In the event of any neglect of duty on the part of any light-keeper, the other light-keeper or light-keepers at the station shall give immediate notice of the circumstance to the district inspector, the party offending being permitted to send with the notice or report any explanations he may desire to make.

36. The light-keepers are to observe that the above general regulations are without prejudice to any more special instructions which may be made applicable to any particular light-house, or to such orders as may, from time to time, be issued by the Light-house Board.

37. All official communications for the Light-house Board must be transmitted through the district inspector, except in cases of emergency, when they may be sent direct to one of the secretaries of the Light-house Board, under cover to the honorable Secretary of the Treasury.

38. These instructions are to be hung up in a conspicuous place in the light-houses, and in the dwelling of the keepers, and the keepers and assistants are required to make themselves perfectly acquainted with them.

The breach of any of the foregoing instructions will subject the offending light-keepers to the serious displeasure of the department, and, in the absence of extenuating circumstances, to dismissal.

By order of the Light-house Board:

W. B. SHUBRICK,
Chairman.

THORNTON A. JENKINS,
EDMUND L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Office Light-house Board, Washington city, October 14, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

LIGHT STATIONS WITH ONE KEEPER.

1. The lamps shall be lighted punctually every day at sunset, and extinguished at sunrise.

2. The lamps shall be kept burning bright and clear every night from sunset to sunrise; and in order that the greatest degree of light may be uniformly maintained, the wicks must be trimmed every four hours, or oftener if necessary, and clean glass chimneys fitted on; and special care must be taken to cut the tops of the wicks exactly even, to produce a flame of uniform shape, free from smoky points.

3. The keeper is held responsible for the careful watching and trimming of the light throughout the night, and is expected to be in attendance during the day, never absenting himself from duty without permission from the district inspector, except in the cases hereinafter provided for, in which cases he must furnish an efficient substitute. Any negligence will subject him to the severest displeasure of the department.

4. The keeper will be particular to note in his journal the time at which all lights usually visible from the lantern of his tower are lighted up. He will also specify the hour of the disappearance of any of them, and note, at such times, the condition of the weather and atmosphere.

5. The plate-glass must be cleaned within and without, by night as well as by day, particularly of the drift snow, sleet, and the moisture which is liable to accumulate in the interior of the lantern; and must polish and clean the reflectors, or refractors, and lamps, trim the lamps, and put the light-room in perfect order, by 10 o'clock a. m. daily, and be very particular with the order and cleanliness of the buildings, apartments, and premises.

6. Strict attention must be given to the ventilation of the lantern, taking care to keep the leeward ventilators sufficiently open to admit the requisite quantity of air to produce steady, clear, and bright lights.

7. The keepers of revolving lights are required to give their particular attention to the MOVABLE MACHINERY; to see that it is well cleaned in every part, and kept free from dust; well oiled with clockmakers' oil; uniform in its motions, without unnecessary friction of its parts; performs its revolutions regularly within the prescribed period of time; wound up at the expiration of regular intervals of time; the motive-weight rests during the day upon a support, to relieve the machinery and cord; and that the CORD is not in danger of parting from long use.

8. When the frame upon which the lamps and reflectors are placed is movable, care must be taken to place the lights in the same position every night, leaving the dark side towards that portion of the horizon which does not require to be lighted; and the reflectors and lamps must be kept firmly screwed to the frame, with the lips of the reflectors perpendicular to the horizon, except in cases where it is specially required that they should be slightly inclined.

9. The keeper is held responsible for the safety and good order of the stores, utensils, and apparatus of every description, and for everything being put to its proper use and kept in its proper place. He

shall take care that none of the stores or materials are wasted, and shall observe the strictest economy and the most careful management, yet so as to maintain, in every respect, the best possible light.

10. He is on no account to leave the turning-keys attached to the cranes of the oil-cisterns after drawing oil, but shall remove and deposite them on the tray beside the oil-measures, or hang them up in some safe and convenient place.

11. He shall keep a daily journal of the quantity of oil expended, and state of the weather, embodying any events of interest or importance that may occur. These shall be written in the journal-books to be kept at each station for the purpose, at the periods of the day when they occur, as they must on no account be trusted to memory. At the end of each quarter, he shall make up and transmit to the district inspectors, under cover to the collector of the district, who is superintendent of lights, a return, which shall be an accurate copy of the journal for the preceding quarter.

12. He is also required to take notice of any shipwrecks which shall happen within the vicinity of the light-house, and to enter an account thereof, according to the prescribed form, in a book furnished to each station for this purpose; and in such account he shall state, if practicable, whether the light was seen by any one on board the shipwrecked vessel, and recognised by him, and how long it was seen before the vessel struck. A copy of this entry shall form the shipwreck return, and be forthwith forwarded to the inspector.

13. A book containing a note of the vessels passing each light-house shall be kept; and an annual schedule, showing the number of vessels in each quarter, shall be sent to the district inspector.

14. The light-keeper is also held responsible for the good order and condition of everything belonging to the light-house establishment at the station under his charge, including the cleanliness of the apartments, passages, stairs, roofs, water-cisterns, wells, storerooms, workshops, privies, stables, ash-pits of the dwelling-houses, &c., &c.

15. The light-keeper shall take especial care, at all times, that neither lucifer matches, nor anything else which is easily ignited, lighted lamps, candles, or fires, be left anywhere in the premises, so as to endanger the public property by fire. The fire-buckets are to be kept in the most convenient place for use, and, when the weather will permit, filled with water ready, and they are on no account to be removed for household purposes.

16. The light-keeper shall, under no circumstances, use tripoli power for cleaning the refractors, or silvered parts of the reflectors, nor any other cleaning materials than the rouge, whiting, buffskins, and cleaning-cloths, &c., furnished by direction of the Light-house Board, and for the purposes designated in the directions to light-keepers. Each package or parcel of rouge and whiting must be examined by the keeper before using it, by rubbing between his fingers, to ascertain that it is free from grit and other impurities, and, should it be found to be of bad quality, and calculated to injure the apparatus, it must not be used. The tripoli powder shall be used exclusively for cleaning the backs of the reflectors, and other brass work of the apparatus.

17. The light-keeper shall endeavor to keep in good order and re-

pair the dikes enclosing the light-house grounds, the landing-places and roads leading from thence to the light-house, and the drains therewith connected, together with all other things placed under his charge.

18. When stores of any kind are to be landed for the use of the light-house, the keeper shall attend and give his assistance. He shall satisfy himself, upon these occasions, as far as possible, of the quantity and condition of the stores received, which must be duly entered in the store-books and quarterly-return book.

19. The light-keeper is to make a report of the quality of the stores, in the return for the quarter immediately succeeding their receipt, and earlier should circumstances render it necessary, and also for the fourth quarter annually; and this report must proceed upon special trial of the several cisterns of oil, and the other stores in detail, both at the time of receiving them and after the expiration of sufficient time to test them fully.

20. Should the supply of light-house stores at any time appear to the keeper to be getting short, so as thereby to endanger the regular appearance of the light, he shall immediately inform the district inspector, and, by prudence in the management of the lights, guard against a total consumption of the supplies before others can be received.

21. The light-keeper is prohibited from carrying on any trade or business whatever, which will take him from the premises, or in any other manner cause the neglect of his public duties.

22. He has permission to go from home to draw his salary, and also to attend public worship on Sunday, but on no other occasion without the permission of the district inspector. In case of sickness he must provide a temporary keeper, and report the fact, without delay, to the district inspector or superintendent of lights.

23. The light-keeper is required to be sober and industrious, and orderly in his family. He is expected to be polite to strangers, in showing the premises at such hours as do not interfere with the proper duties of his office; it being expressly understood that strangers shall not be admitted to the light-room after sunset. Not more than three persons shall have access to the light-room at one and the same time during the day, and no stranger visiting the light-house shall be permitted to handle any part of the machinery or apparatus. The light-keeper must not, on any pretext, admit persons in a state of intoxication into the light-house. He is prohibited from selling any malt or spirituous liquors, and from allowing any to be sold on the premises under his charge.

24. The light-keeper is to observe that the above general regulations are without prejudice to any more special instructions which may be made applicable to any particular light-house, or to such orders as may, from time to time, be issued by the Light-house Board.

25. All official communications for the Light-house Board must be transmitted through the district inspector, except in cases of emergency, when they may be sent direct to one of the secretaries of the Light-house Board, under cover, to the honorable Secretary of the Treasury.

26. These instructions are to be hung up in a conspicuous place in the light-house, and in the keeper's dwelling. The keeper is required to make himself perfectly acquainted with them.

The breach of any of the foregoing instructions will subject the offending light-keeper to the severest displeasure of the department, and, in the absence of extenuating circumstances, to dismissal.

By order of the Light-house Board:

W. B. SHUBRICK,
Chairman.

THORNTON A. JENKINS,
EDMUND L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Office Light-house Board, Washington city, October 14, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

Instructions to keepers of light-vessels of the United States.

1. The lamps shall be lighted punctually every day at sunset, and extinguished at sunrise.

2. The lamps shall be kept burning bright and clear every night from sunset to sunrise; and, in order that the greatest degree of light may be uniformly maintained, the wicks must be trimmed every four hours, or oftener if necessary, and clean glass chimneys fitted on; and especial care must be taken to cut the tops of the wicks exactly even, to produce a flame of uniform shape, free from smoky points.

3. The keeper is held responsible for the careful watching and trimming of the light throughout the night, and is expected to be in attendance during the day, never absenting himself from duty without permission from the district inspector, (except in the cases hereinafter provided for,) in which cases he must furnish an efficient substitute. Any negligence will subject him to the severest displeasure of the department.

4. The keeper will be particular to note in his journal the time at which all lights usually visible from the vessel under his charge are lighted up; he will also specify the hour of the disappearance of any of them, and note at such times the condition of the weather and atmosphere.

5. The keeper must clean the glass of the lantern within and without, by night as well as by day, particularly of the drift snow, sleet, and the moisture which is liable to accumulate in the interior of the lantern, and polish and clean the reflectors and lamps; trim the lamps, and put the vessel in perfect order by 10 o'clock a. m. daily; and be very particular with the order and cleanliness of the apartments, holds, storerooms, and the berths of the crew.

6. The routine duties of cleaning the lamps, filling and trimming them, polishing the reflectors, &c., must be arranged in such manner by the keeper as to give each one of the crew his fair proportion of duty.

7. The upper deck of the vessel must be thoroughly washed down every morning, and, when necessary to keep it clean, sand and stiff brooms may be used; but *holystones* must not be used more than once a month. The between-decks are only to be wetted occasionally, and in the forenoon, in good weather.

8. A log-book shall be kept on board of each light-vessel, in which all the incidents of interest or importance shall be recorded daily, embracing specially the times at which the lamps are trimmed during the night; the length of time which intervenes between lowering the lantern and again hoisting it, after the lamps are trimmed; the number of men on watch; the direction and strength of the wind, and the state of the weather at noon, 8 p. m., midnight, and 8 a. m.; and during gales as much oftener as circumstances may require; also the times at which the moorings are examined, and the condition in which they are found, &c., &c.

9. The keeper must take an inventory of all anchors, cables, sails, boats, and all furniture, materials, stores, and supplies of all kinds, immediately on taking charge of a new light-vessel, or on succeeding a keeper; a copy of which, duly signed, must be transmitted through the proper channel to the Light-house Board, and a corrected list made out on the first day of July and January annually, specifying at the bottom, in detail, those articles which have been expended, and what are required for the next half year.

10. The keeper is held responsible for the safety and good order of the stores, utensils, and apparatus of every description, and for everything being put to its proper use and kept in its proper place. He shall take care that none of the stores or materials are wasted, and shall observe the strictest economy, and the most careful management, yet so as to maintain, in every respect, the best possible light.

11. He is on no account to leave the turning-keys attached to the cranes of the oil-cisterns after drawing oil, but shall remove and deposite them on the tray beside the oil-measures, or hang them up in some safe and convenient place.

12. He shall keep a daily journal of the quantity of oil expended, and state of the weather, embodying any events of interest or importance that may occur. These shall be written in the journal-books to be kept at each station for the purpose, at the periods of the day when they occur, as they must on no account be trusted to memory. At the end of each quarter he shall make up and transmit to the district inspectors, under cover to the collector of the district, who is superintendent of lights, a return, which shall be an accurate copy of the journal for the preceding quarter.

13. He is also required to take notice of any shipwrecks which shall happen within the vicinity of the light-vessel, and to enter an account thereof in the log-book; and in such account he shall state, if practicable, whether the light was seen by any one on board the shipwrecked vessel, and recognised by him, and how long it was seen before the vessel struck. A copy of this entry shall form the shipwreck return, and be forthwith forwarded to the inspector.

14. A book containing a note of the vessels passing each light-vessel

shall be kept, and an annual schedule, showing the number of vessels in each quarter, shall be sent to the district inspector.

15. The light-keeper shall take especial care, at all times, that neither lucifer matches, nor anything else which is easily ignited, lighted lamps, candles, or fires, be left anywhere in the vessel, so as to endanger the public property by fire. When the weather is such as to require fire to be kept in the stove at night, every precaution must be taken by the watch on deck and by the keeper to prevent accidents from it. The fire-buckets are to be kept on deck in the most convenient place for use, and, when the weather will permit, filled with water at sunset every day, and they are on no account to be kept between decks at night. Two draw-buckets must be kept properly strapped and fitted, one on either side, and the end of the bucket rope made fast to the vessel. The wash-deck pump must be examined frequently, and kept in good order.

16. The light-keeper shall, under no circumstances, use tripoli powder for cleaning the refractors, or silvered parts of the reflectors, nor any other cleaning materials than the rouge, whiting, buffskins, cleaning-cloths, &c., furnished by direction of the Light-house Board, and for the purposes designated in the directions to light-keepers. Each package or parcel of rouge and whiting must be examined by the keeper before using it, by rubbing between his fingers, to ascertain that it is free from grit and other impurities, and, should it be found to be of bad quality, and calculated to injure the apparatus, it must not be used. The tripoli powder shall be used exclusively for cleaning the backs of the reflectors, and other brass work of the apparatus.

17. A regular watch must be kept on deck at all times; and the vessel must be sounded at least once during every watch at night, and in bad weather every hour, and the result reported to the keeper, should it be necessary.

18. The keeper must see that the watch is set, and everything in good order, every night before leaving the deck. The lightning conductors must be rigged out and led fair, clear of all iron and the ship's side, every day at sunset, and rigged in at daylight, except in bad weather, when they must be kept rigged out during its continuance. In bad weather he is required to give his personal attention to the duties of the vessel. During bad weather the spare anchor must be kept ready for letting go, and a proper range of cable on deck, bitted and stoppered, to bring the vessel up in the event of dragging, and a sufficient watch to be kept constantly on deck to meet any emergency. The deep-sea lead must be kept overboard, and a careful hand stationed by it whenever the weather is such as to endanger the safe riding of the vessel. Should the vessel drag her anchors, the keeper is carefully to consider whether she has driven to such a distance, or in such a direction, as to make it dangerous to shipping to continue to show her lights; and if the distance or direction be not such as to endanger the safety of vessels running on their course, the lights and day-marks are to be continued in the usual manner; but should the light-vessel have driven so as to be dangerous or useless as a guide to shipping, the usual lights and day-marks must in that case be discontinued, and the lanterns and other distinguishing marks be carefully masked.

19. The moorings must be examined at least once a month, by heaving in the chain, selecting such times as are best adapted to the purpose, but particularly after heavy gales; and in every instance a strict and careful examination of the chains, shackels, swivels, &c., must be made by the keeper, and the result noted in the log-book; and if he has any reason to doubt their good condition he must report the fact, without delay, to the district inspector directly, or through the collector, who is superintendent of lights, to the board.

20. The keepers of light-vessels *must not slip their moorings;* nor will they be permitted to leave their stations except by written permission from the inspector of the district, and after due notice shall have been given of such intention.

21. The ballast must be removed, and the hold thoroughly cleaned and whitewashed at least once in six months. Water must not, under any pretence, be let into the hold; but, on the contrary, the vessel must be pumped out every day, before 8 a. m., as dry as the pumps will make her; and in the event of water settling forward or aft, which the pumps will not reach, it must be bailed out with buckets.

22. During the summer months the wind-sails are to be kept up and the awnings spread whenever the weather will permit; and every precaution must be taken to keep the vessel dry, cool, and comfortable between decks. Wet clothes or bedding must not be kept below. During the stormy season the sails must be kept bent, and frequently loosed to dry when the weather will permit. Every effort must be made to keep the between-decks and holds dry and thoroughly ventilated; and once a month in summer, and as often as the weather will permit in winter, not oftener than once a month, the bedding of the crew must be aired and shaken on deck.

23. The life and other boats must be examined frequently, and every care bestowed upon them to insure their preservation and usefulness in case of need.

24. When stores of any kind are to be received on board for the use of the light-vessel, the keeper shall attend and give his assistance. He shall satisfy himself, upon these occasions, as far as possible, of the quantity and condition of the stores received, which must be duly entered in the store-books and quarterly-return book, and see that the oil is emptied immediately into the cisterns.

25. The light-keeper is to make a report of the quality of the stores in the return for the quarter immediately succeeding their receipt, and earlier should circumstances render it necessary, and also for the fourth quarter annually; and this report must proceed upon special trial of the several cisterns of oil, and the other stores in detail, both at the time of receiving them and after the expiration of sufficient time to test them fully.

26. Should the supply of light-vessel stores at any time appear to the keeper to be getting short, so as thereby to endanger the regular appearance of the light, he shall immediately inform the district inspector, and, by prudence in the management of the lights, guard against a total consumption of the supplies before others can be received.

27. The light-keeper is prohibited from carrying on any trade or business whatever, which will take him from the light-vessel, or in any other manner cause the neglect of his public duties.

28. He has permission to go from the vessel to draw his salary, and also to attend public worship on Sunday, but on no other occasion without the permission of the district inspector. In case of sickness, or anything else happening to endanger the proper management of the light, he must report the fact, without delay, to the district inspector or superintendent of lights.

29. The light-keeper is required to be sober and orderly; to exact from the crew the strictest obedience to his orders, and treat persons who visit the light-vessel with civility. He is prohibited from selling any malt or spirituous liquors, and from allowing any to be sold on board the light-vessel under his charge.

30. The keeper must hail all steam or other vessels which hover about the vessel under his charge and prevent the lights from being seen, and request them to keep off; and under no pretence shall he allow any vessel to make fast alongside or astern. The seamen and others constituting the crews of light-vessels are required to conduct themselves in an orderly and subordinate manner, obeying, promptly and cheerfully, all the orders from the inspector and keeper. Any neglect of duty, or disobedience of orders, must be reported immediately to the district inspector, who will inquire into and report the circumstances of the case to the board.

31. The keeper must see that the buoys to the anchors of the light-vessel watch, and that they are always in good floating condition.

32. The light-keeper is to observe that the above general regulations are without prejudice to any more special instructions which may be made applicable to any particular light-vessel, or to such orders as may, from time to time, be issued by the Light-house Board.

33. All official communications for the Light-house Board must be transmitted through the district inspector, except in cases of emergency, when they may be sent direct to one of the secretaries of the Light-house Board, under cover, to the honorable Secretary of the Treasury.

34. These instructions are to be hung up in a conspicuous place in the apartments of the vessel, and the keeper is required to make himself perfectly acquainted with them, and to have them read on the first Monday of every month to all the crew.

35. The breach of any of the foregoing instructions will subject the offending light-keeper, or others, to the severest displeasure of the department, and, in the absence of extenuating circumstances, to dismissal.

By order of the Light-house Board:

WM. B. SHUBRICK,
Chairman.

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Office Light-house Board, Washington city, Oct. 14, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

Directions to the light-keepers of the United States.

The lights must be extinguished every day at sunrise, the *curtains* put up around the interior of the lantern, and, as soon after as practicable, the keeper or keepers shall commence the process of cleaning the lamps, trimming the wicks, and polishing the reflectors or refractors, (as the case may be,) wiping off the plate-glass, &c., &c., observing strictly the following directions:

TO CLEAN AND TRIM THE LAMPS OF REFLECTING LIGHTS.

2. The reservoirs, tubes, and burners must be thoroughly cleaned, and occasionally rinsed out with clean hot oil. When necessary, the burners must be supplied with new wicks, taking care to cut their tops perfectly even. At least once in two weeks the reservoirs, tubes, and burners will require to be cleaned with hot ley, to remove the gummy matter which is liable to accumulate and disturb the perfect and uniform flow of oil to the wicks. When the weather is cold enough to cause the oil, if put in the lamps in the morning, to become thick during the day, they must not be filled until a short time before sunset, when the oil must be warmed, and the heaters applied, to aid in keeping it in a liquid state. Oil containing sediment must be carefully strained before putting it into the reservoirs; and should any be found unfit for use in the lantern, it must be used for the house lamps.

TO CLEAN, POLISH, AND ADJUST THE REFLECTORS AND LAMPS.

3. The reflectors must be removed, one at a time, from the frame, and carried carefully into the room next below the lantern. If the back or copper part be tarnished, place it on the table or stand provided for that purpose, with that side up; mix a small quantity of tripoli powder in waste oil, and apply it with a cloth, rubbing it until all the tarnish is removed; then clean it off with dry powder and another cloth. This operation will be required once or twice a week, according to the state of the weather and the condition of the lantern. The reflector must then be placed on the stand, with the front or silvered part up, and *polished with the greatest care*, as upon this the brilliancy and efficiency of the light mainly depend. Having wiped off the dust and burnt particles of wick with a soft cloth, moisten a small quantity of *rouge powder*, which has been previously found to be free from gritty particles, with spirits of wine, (not more than enough for one day's use,) and apply it with a soft leather, or small soft brush, to the silver, rubbing it all over in right lines, up and down, with the apparent grain, and, before it is quite dry, polish it with a dry leather and a small quantity of dry rouge powder, rubbing it briskly until it becomes brilliant, and perfectly free from tarnish and stains. The gritty particles found in rouge powder, or whiting, may be separated from the fine powder by mixing it with a small quantity of water, and thoroughly working it into a paste; then put it into a sufficient quantity of water to make a clear mixture; when well mixed, let it stand a few moments, and then pour off the liquid, leaving the heavy particles at the bottom. After the liquid has settled

for half an hour, pour off the water, and the fine rouge or whiting remaining at the bottom will be ready for use, and to which spirits of wine may be added if necessary. The reflectors will ordinarily be required to be cleaned in this manner about once a week; at other times, when the silver is not much discolored, it will be sufficient to apply a little dry rouge powder in a soft bag lightly, breathing on it at the same time, and then polish it off with a clean dry leather. The silvered part of the reflectors must be cleaned with the *rouge powder*, whiting, and spirits of wine, authorized by the instructions of the Light-house Board, and in the manner indicated in the *directions*. The *tripoli powder* must be used exclusively for the brass work.

4. The glass chimneys must be made perfectly clean and free from stains, and to fit into their sockets steadily and perfectly upright, (parallel to the axis of the burner,) to prevent the sides from being smoked or injured by being unequally heated by the flames.

5. The screws for raising and lowering the wicks and chimneys must be tried, to ascertain if they can be moved without difficulty, and the tubes of the burners examined, to see if the oil stands at the proper level to supply the wicks with regularity; but the lamps must never be tilted to regulate the flow of oil. Defective lamps must be removed, and spare ones substituted at once.

6. The reflectors should be as close to each other, both the lower and the upper tiers, as possible, their lips perpendicular to the horizon, and the burners in the focus of each. Too much care cannot be observed in performing this part of the keeper's duty, to insure the strongest ray of light being directed to those points of the horizon of most importance to the mariner, and to prevent, as far as possible, any waste of light, by allowing it to be transmitted to points where it is not required. The adjustments of the lamps and reflectors can be easily made by the aid of the eye, a foot-rule, and a plummet.

7. The leathers, cloths, linen rags, and polishing powders, must be kept in tight cases, well wrapped up, free from damp and dust. In using the leathers great care must be taken to fold them smooth, free from crease or uneven surface, and that no grit or other hard substance adheres to them to injure the silvered surface of the reflectors; and no leather, which has been wetted or washed with water, shall be used, on any account, to clean the silvered part of the reflectors.

8. Having completed the cleaning of the lamps, burners, and reflectors, and placed them properly on their frames, and the whole illuminating apparatus being in every respect ready for lighting, the cover kept for that purpose must be placed over the lamps and reflectors carefully, so as to prevent any dust from settling on them during the cleaning of the lantern-floor and platform, both of which must be carefully washed and wiped with cloths when necessary. When the interior of the dome, chandelier, astragals, &c., &c., require to be cleaned with water, or in any other way than by the use of brushes and dry cloths, it must be done early in the day, and before the lamps and reflectors are cleaned, that the whole may be thoroughly dry before sunset.

9. Previous to lighting the lamps in the evening, the curtains must be taken down carefully and put away in a clean place, and all the reflectors wiped off with a soft, clean cloth, to remove any dust that

may have settled on them during the day. Care must be taken, at all all times, to prevent dust and sand from getting into the lantern. When there is sufficient wind to move the dust and sand, the lantern-door should be kept tightly closed.

10. In lighting the lamps the keeper must light them one after another as rapidly as possible, taking care to have the tops of the wicks ignited all round, and screwed down to the lowest point at which they will burn before leaving them, and the glass chimney raised as high as possible. Having in this manner lighted all the lamps, he must commence with the one first lighted, and raise the wick gradually until the flame is about three-fourths of an inch high, and at the same time lower the chimney gradually in the same proportion; continue the operation with each one in succession, until the first one lighted is again reached. Each light must now be raised in succession to its greatest height, and the chimney lowered to its proper point, to produce the brightest and whitest light, though very gradually, taking care that the wicks are not elevated so rapidly as to cause them to char or smoke. The flames should be from *one and a quarter to one and a half inch in height* when properly lighted and attended. Good lights can only be produced by being frequently examined and carefully attended to, and kept perfectly free from smoky points, with clean chimneys and refractors or bright reflectors of proper shape and in perfect adjustment.

VENTILATION.

11. One of the most important duties of the light-keeper is to be watchful and attentive in keeping the lantern well ventilated. When there is very little wind a portion of all the ventilators placed in the lower part of the lantern may be opened, having due regard to the clear and steady burning of the lights. When there is much wind the leeward ventilators only must be opened, and only so much of them as is necessary to allow the lights to burn bright, steady, and clear. Irregular currents of air, produced either by the trap or balcony-door, or by the windward ventilators, are injurious to the lights, when the means employed are in other respects good. Before leaving the lantern, even for a moment, the keeper must be certain that the ventilators are sufficiently open to admit the necessary quantity of air to produce good combustion.

12. The paint-work of the interior of the lantern must be kept washed clean and white. The whole interior of the dome, sashes, and astragals, must be painted white. Soot, iron rust, and dust must not be permitted to accumulate in the lantern; and in the event of the plate-glass becoming discolored by the iron rust, &c., from the dome and frame-work of the lantern, it must be thoroughly cleaned off, without delay, with spirits of wine and rouge if necessary.

13. When ice, sleet, or drift snow settles on the outside, or when the ice forms in cold weather on the inside of the glass of the lantern, a strong brine applied to it will cause its removal without difficulty, and, in extreme cases, a small quantity of spirits of wine may be employed with advantage for the same purpose. Storm panes of glass

must be kept clean and ready for replacing any that may be broken during the night.

14. Cleaning rags, chimneys, trimming scissors, brushes, oil-measures, chairs, stools, and the like, must be removed from, and kept out of, the lantern while the lights are burning. Utensils of all kinds must be kept in their proper places, in the room immediately below the lantern.

15. When the weather becomes sufficiently cold to require fire to be kept in the stove, the temperature of the interior of the lantern must not be raised more than is absolutely necessary to keep the oil in a liquid state. The oil-heaters should be warmed in the stove of the dwelling-house before being placed in the reservoirs, and just before lighting the lamps

16. Every effort must be made by the keeper to keep the towers, buildings, and premises, clean and in good order. Lime for whitewash, and paints, will be furnished in proper quantities, which must be used economically. The stairs, floors, and railings must be kept free from oil, soot, and dirt.

LIGHTNING RODS.

17. Keepers are particularly cautioned not to neglect the electrical conductors attached to the towers and dwellings. Care must be taken to ascertain that they are not in contact with iron girders, bands, or other metal employed in the construction of the buildings; that they are not injured by being cracked or broken, and that they lead out from the building, either into the water, or sufficiently outward and downwards into the ground to reach the wet earth; the part in the ground to be surrounded by powdered charcoal.

REVOLVING MACHINERY.

18. The revolving machinery requires the especial care and attention of the light-keepers. Every part of it must be carefully cleaned with small brushes, furnished for the purpose, and with pieces of soft white pine, cut to the proper size and shape, to remove the dust and gummy oil which are liable to adhere to its different parts. When it is thoroughly cleaned, the pivots must be oiled, either with olive oil, neat's foot oil, or the best quality of sperm oil; and if the fly is driven by an endless screw, that screw must be oiled also. This operation must be performed at stated periods, and always when, upon examination, it is found necessary. The *fly*, or *regulator*, must be adjusted by testing the machinery in motion with the aid of a good time-piece. The duration of the revolutions must be strictly in conformity to the stated periods in the light-house list, and to directions from the proper officers of the board. The time occupied in performing the revolutions must be frequently tested, and in case of any deviation from that prescribed, the *fly* must be readjusted.

FOG SIGNALS.

19. These essential aids to navigation demand the same care and attention, on the part of the keepers, that the lights do. Whistles, bells, or gongs, fitted with the necessary machinery, require to be examined daily, to see that all is in working order and adjustment. The bells must be kept clean and bright at all times, and nothing permitted to be in their vicinity which will tend to destroy or lessen their usefulness to the mariner, by deadening the sound or deflecting it from its proper direction.

During thick or foggy weather these signals must be made at the prescribed periods of time, to enable those within the limits of their sound to distinguish them from others in their vicinity.

Bells, whistles, and gongs, must be sounded with as much regularity as possible during the existence of foggy or thick weather, whether worked by hand or by machinery.

DAY SIGNALS AND DISTINGUISHING MARKS.

20. No change in the color of towers, buildings, or their appendages, must be made, except by the positive written directions of the Light-house Board to the inspector of the district. In all cases where tide-signals are required to be made, the keepers will be specially instructed on the subject.

By order of the Light-house Board:

WM. B. SHUBRICK,
Chairman.

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Office Light-house Board, Washington city, Oct. 14, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

Exhibit showing the component parts of the ration to be served to the crews of the light-vessels of the United States for each day of the week, and the value at which they are to be commuted.

DAYS OF THE WEEK.	POUNDS.					OUNCES.					FRACTIONS OF A PINT.		
	Beef	Pork.	Flour.	Rice.	Raisins or dried fruit.	Biscuit.	Sugar.	Tea.	Coffee.	Butter.	Beans.	Vinegar.	Molasses.
Sunday	*1	...	...	...	...	14	2	¼	1	...	...	...	...
Monday	...	1	...	...	...	14	2	¼	1	...	½	...	...
Tuesday	1	...	...	...	...	14	2	¼	1	2	...	...	...
Wednesday	...	1	...	1	...	14	2	¼	1	...	½	...	...
Thursday	1	...	1	...	½	14	2	¼	1	...	...	½	½
Friday	1	...	...	...	...	14	2	¼	1	2	...	...	...
Saturday	...	1	...	...	...	14	2	¼	1	...	½	...	...
Weekly quantity	4	3	1	1	½	98	14	1¾	7	4	1½	½	½

VALUATION OF THE WEEKLY QUANTITY, ETC.

3	pounds of pork, at 7½ cents per pound	22½ cents.
4	pounds of beef, at 6 cents per pound	24 do.
1	pound of flour, at 4 cents per pound	4 do.
1	pound of rice, at 3 cents per pound	3 do.
½	pound of raisins, &c., at 13 cents per pound	6½ do.
98	ounces of navy biscuit of best quality, at 4 cts. per pound	24½ do.
14	ounces of sugar of good quality, at 8 cents per pound	7 do.
1¾	ounce of tea, at 80 cents per pound	8¼ do.
7	ounces of coffee, at 20 cents per pound	8¾ do.
4	ounces of butter, at 23 cents per pound	5¾ do.
1½	pint of beans, at 24 cents per gallon	4½ do.
½	pint of molasses, at 64 cents per gallon	4 do.
½	pint of vinegar, at 20 cents per gallon	1¼ do.
1	peck of Irish potatoes	16 do.
	Averaging 20 cents per day, or weekly	$1 40

* Or fresh beef and vegetables.

Regulation.

TREASURY DEPARTMENT,
Office of the Light-house Board, December 28, 1852.

The foregoing exhibit of the component parts of the rations to be served to the crews of the light-vessels of the United States must be strictly observed by superintendents, inspectors, contractors, and keepers of light-vessels.

The board will make such modifications from time to time as may be considered necessary.

One pound of fresh beef, with half a pound of green vegetables, per man, for making soup, must be served to the crews of light-vessels, in lieu of one pound of salt beef on one day of each week, on one day of every two weeks, or on one day of every four weeks, as may be determined upon in each case by the board.

The allowance of Irish potatoes for each man must be delivered on the respective days on which the fresh beef is delivered.

The board will direct what shall be the smallest quantity of salt provisions which shall be kept on board, at all times, of each light-vessel, having reference to her location.

The Light-house Board will give instructions in all cases requiring special regulations. The foregoing ration list will take effect in all the districts in which light-vessels are located at the expiration of the present contracts for supplying rations, and where commuted at the end of the quarter.

It shall be the duty of the master or keeper of the light-vessel to examine all provisions sent on board, either by the government or by a contractor, to see that they are of good quality, and that they are regularly and properly served to the crew, and in his absence the mate or assistant keeper shall perform this service.

The quantities received shall be entered by the master of the vessel in a provision-book to be kept for that purpose, and a regular return of expenditure made quarterly to the inspector.

Commutations of rations can only take place by authority of the board, and when it is considered that the interest of the service will be injured by permitting it, the board will require the keeper and all the crew to receive the ration in kind, and the sum of $60 in that case will be deducted from the annual pay of the keeper as an equivalent for the ration.

No keeper, superintendent, or inspector, will be allowed to contract for the rations for the crew of a light vessel.

No contractor, superintendent, or inspector, will be allowed to change the parts of the salt ration, nor the times that may be determined upon for the delivery of the fresh provisions and vegetables, without authority of the board.

In all cases where the special permission of the board is given for commuting the ration, twenty cents per day per man will be allowed in lieu thereof.

All the articles constituting the ration for the crews of light-vessels must be examined and their quality approved by the superintendent or

inspector of the district, or by such other person as may be assigned to perform that duty.

These regulations must be placed in the apartments of all light-vessels.

By order of the Light-house Board:

W. B. SHUBRICK,
Chairman.

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

Approved:

WM. L. HODGE,
Acting Secretary of the Treasury.

Instructions and directions for the management of lens lights.—Disposition of the lamps and illuminating apparatus.—General views.

ORDERS OF FRESNEL LENS APPARATUS.

I. The Lens or Fresnel illuminating apparatus employed in the light-houses of nearly all the commercial nations of the world at the present day, is divided into three principal and three minor orders, taking rank according to their dimensions and the sizes of their lamps and burners.

They are denominated:

1st order, with a lamp of four or five concentric wicks;
2d order, with a lamp of three concentric wicks;
3d order, with a lamp of two concentric wicks.

The three minor orders are:

3d order, smaller size, with one or two concentric wicks;
4th order, with one wick and mechanical lamp, or large Argand fountain lamp; and
4th order, smaller size, with one wick, as in the larger size.

Note.—These INSTRUCTIONS and DIRECTIONS, modified in some respects to meet the wants of the light-house service of the United States, have been compiled and arranged mainly from the latest published authorities on this subject for the government and management of the French lights—the joint productions of the distinguished engineers, Monsieur Léonor Fresnel and Monsieur L. Reynaud.

The three minor orders are now generally called 4th, 5th, and 6th orders.

OPTICAL PORTIONS AND FRAME.

II. The optical parts of this apparatus are composed of glass lenticular panels, and of catadioptric panels, or of mirrors. These pieces are united and assembled together by means of a metallic frame, having a cast-iron column for a support.

			M.	C.	Ft.	In.
The interior diametre of a 1st order apparatus is			1,	84=	6	00.44
2d	"	"	1,	40=	4	07.11
3d	"	"	1,	00=	3	03.371
4th	"	"	0,	50=	1	07.68
5th	"	"	0,	375=	1	02.76
6th	"	"	0,	30=	0	11.81

MECHANICAL LAMPS.

III. Each lens light of the three largest orders is usually illuminated by a mechanical lamp, placed in the common focus of the optical parts. Hydraulic and pneumatic lamps are occasionally employed for the same purpose. All of these lamps are furnished with multiple wicks, varying in size and number according to the order of the apparatus.

IV. Three kinds of mechanical lamps are employed at present, viz:

1. The clock-work movement lamp;
2. The lamp of Henry Lepaute; and
3. The Wagner lamp.

These lamps differ only in their mechanical parts, all of them having the same object, to cause the oil to flow at an estimated ratio to the amount of oil consumed, to the burner, by means of the pumps, which are put in motion by the different kinds of machinery employed in them. The motive power is a weight which descends in the interior of the column supporting the frame of the apparatus.

V. The mechanical lamps are composed of five different parts:

The oil-cistern, or reservoir;
The machinery;
The body of the pumps;
The burner;
The glass chimney.

THE OIL-CISTERN.

VI. The *reservoir*, or *cistern*, is a vessel mode of copper or tin occupying the centre of the mounting of the lamp. It should be large enough to contain double the quantity of oil necessary to burn fifteen or sixteen hours.

VII. The machinery is composed, according to its system, of the following pieces:

THE CLOCK-WORK MOVEMENT LAMP.

1. Is composed of a wheel and axle, carrying the master cog-wheel; two horizontal shafts or beams, the first of which carries the centre and the second a side wheel; a vertical shaft, provided with another side wheel at its lower extremity, which traverses the oil-cistern and puts the feed-pumps in motion, by means of the four small wheels which gear into each other.

The regulator of this machine is a simple fly.

THE LAMP OF HENRY LEPAUTE.

2. Is composed of a wheel and axle, carrying a wheel fitted upon its two faces with roller-pins, which form the escapement with four points of bent levers. These levers communicate by cranks to two vertical shafts which traverse the oil-cistern, and which, by means of two fixed levers at their upper extremity, put the four feed-pumps in motion.

This machinery has a small orifice pierced in a diaphram, placed in the upper part of the body of the pumps, through which the oil passes to reach the burner, for a regulator. In some lamps of this description a small screw, terminated by a point, is added to the body of the pumps, which, in penetrating the regulator-orifice, allows the flow of the oil to be regulated at will.

THE WAGNER LAMP.

3. Is composed of a wheel and axle, carrying the master wheel, and two horizontal beams or shafts, fitted with the ordinary clock-work movement gearing; the second of which transmits the motion to two vertical beams or shafts, by means of cranks. These last beams traverse the oil-cistern, and put the four feed-pumps in play, by the intermediary of two fixed levers at their upper extremity.

The regulator is, as in the case of the first lamp, a simple fly.

This lamp has, besides, as in the case of the Lepaute lamp, an apparatus designed to regulate at will the excess of flow of oil to the burner. It consists of a small screw placed upon the body of the pumps, which being tightened reduces the opening left for the passage of the oil.

BODY OF THE PUMPS.

VIII. *The body of the pumps* communicates with the reservoir of oil by means of a *suction pipe* fitted at its lower extremity with a small filter. The *pistons*, to the number of three or four, are formed of *valves* of calfskin, and the *suckers* are simple washers of the same leather.

BURNERS.

IX. *The burner of the lamp* is fitted with *concentric wicks* to the number of two, three, or four, according as it belongs to the 3d, 2d, or 1st order.

The lower part of each of these wicks is fixed by a ring upon a circular support, which is elevated or lowered by means of a small hand-screw.

The oil reaches the wicks by a tube which forms the stem of the burner, and which is adjusted on the body of the pumps by means of a regulating screw fitted with a leather washer.

GLASS CHIMNEY.

X. *The glass chimney* is supported by a cylindrical gallery, which is elevated or lowered accordingly, as it is turned to the left or to the right.

Upon the summit of the chimney is placed a sheet-iron tube, in the interior of which is fitted a REGISTER or DAMPER, which serves to regulate at will the opening of the tube. In some light-houses, where the chimneys are very short, this tube is sustained by an iron collar fixed to the apparatus; in others, it is made to rest simply on the chimney, to which it is loosely fitted.

XI. The consumption of oil of a mechanical lamp, producing its full effect, reaches per hour, as follows:

In a lamp of the 1st order, 750 grammes = 1 lb. 10 oz. 7¾ dwts.
In a lamp of the 2d order, 500 grammes = 1 lb. 1 oz. 10½ dwts.
In a lamp of the 3d order, 190 grammes = 0 lb. 6 oz. 11½ dwts.

XII. To enable the flame to produce its full effect, and that at the same time the crown of the burner be kept sufficiently cooled, it is necessary that the pumps elevate nearly four times as much oil per hour as the lamp consumes, viz:

For the 1st order, 3 kilogrammes = 6 lb. 9 oz. 15 dwts.
For the 2d order, 2 kilogrammes = 4 lb. 6 oz. 10 dwts.
For the 3d order, 760 kilogrammes = 1 lb. 10 oz. 14 dwts.

The excess of oil is discharged by the burner, and it falls back into the cistern.

MOTIVE WEIGHT.

XIII. *The motive weight* of the lamps ought to be regulated in its descent by a tackle, that is, suspended to the hook of the lower block of a small tackle.

When the machinery has been well made, and is properly attended to, the tackled weight necessary to cause it to perform its proper function will not exceed—

In lamps of the 1st order, 75 pounds.
In lamps of the 2d order, 65 pounds.
In lamps of the 3d order, 45 pounds.

REVOLVING MACHINERY.

XIV. In revolving lights the movable part of the illuminating apparatus is put in motion by a *rotary machine*, which has a simple fly, or pendulum fly, for its regulator.

PLACING LENTICULAR APPARATUS AND THEIR LAMPS.

ADJUSTMENT OF THE LENTICULAR AND CATADIOPTRIC PANELS.

XV. The lenticular and catadioptric panels of the lights are solidly fixed in their frames by means of screws and bolts, and cannot be displaced or put out of adjustment except by extraordinary accidents, which it would seem unnecessary to speak of here.

In regard to the mirrors placed in horizontal courses upon circular bars, their mounting does not present the same stability as that of the lenses; and it may happen that they may become displaced either by a slight jar or by simple friction, when in cleaning them they are not held in their places.

It will be perceived that one of these mirrors has been disturbed when, in looking from the focus of the apparatus, the horizon is not seen in the centre of the mirror. To restore it to its original position, it is sufficient to adjust the screws and counter-screws of the three brass feet which support its frame.

This operation, which requires to be executed by two persons, must never be undertaken except under the direction of the engineer or the inspector of the district.

TO PLACE THE SERVICE LAMP.

XVI. *The service lamp* of a lens light is generally supported on a tripod, having three vertical threaded stems, and which are fitted with screws and counter-screws. These stems fit in the feet of the lamp, and the adjustment presents sufficient play to allow the *centring* to be made at pleasure.

For the lamp to be properly placed, it is requisite—

1. That the centre of the burner correspond exactly with the axis of the *centre or focus* of the lens apparatus.

2. That the crown of the burner be placed immediately below the centre of the lenses, at a distance determined by the height of a gauge furnished for the purpose. (1)

3. That the top of the crown of the burner be perfectly level.

XVII. The several operations necessary to satisfy these three conditions are generally executed in the following order:

1. The central position of the apparatus is determined by passing two threads across each other at right angles from the centres of the four uprights of the frames of the lenses.

2. On the burner is adjusted the gauge which has already been mentioned, the centre of which is marked in a manner not to be mistaken.

3. By means of the regulating screws of the tripod, the lamp is brought nearly to its proper height; on the crown of the burner is then placed a small spirit level, and from its indications the lamp is regulated so that the top of the burner shall be horizontal.

4. To *centre* the burner—that is, to make the centre of the gauge correspond with the intersection of the two threads—the nuts of the upper screws are then loosened, and the lamp is moved horizontally as much as it may be found necessary to put it into its proper position.

5. Finally, the small spirit level is replaced on the crown of the burner, and if it is found to be no longer horizontal, it is restored to this position, observing at the same time not to neglect the two first conditions relative to the centring and to the height.

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(1) NOTE.—This vertical distance is generally regulated as follows:
For lights of the 1st order, 1.1 inch.
For lights of the 2d order, 1.0 inch.
For lights of the 3d order, 0.94 inch.
When the height of the towers is such as to require the inclination of their lenses, the burner is elevated proportionally to this inclination.

SPARE LAMPS.

XVIII. Two spare mechanical lamps should always be kept in reserve to supply, if necessary, the place of the service lamp.

MANAGEMENT OF MECHANICAL LAMPS.

XIX. When it is required to prepare a mechanical lamp for lighting, it is necessary to proceed in conformity to the following directions:

TO PLACE THE WICKS.

The burner is first supplied with wicks; in doing which, for each of them, proceed as follows:

The wick-holder, being detached from the burner, is placed upon that part of the mandril designed to receive it, (article 77;) the wick is placed on this mandril, and it is lowered to the bottom of the wick-holder, where it is firmly fixed by a ring; the lower edge being cut evenly, and regularly covered by the ring, so as not to impede the passage of the oil. (1)

TO TRIM THE EDGES OF THE WICKS.

The wicks being placed, they are lowered to their lowest point; then, with very sharp *curved scissors*, their upper edges are cut even with the burner.

If the crown of the burner should present any points or projecting threads, these inequalities would cause the flames to smoke, and the burner would soon be covered with collections of carbonized wick, called *mushrooms*. It is, therefore, very essential that the wicks should be regularly trimmed, (snuffed,) as well in this first operation as in all successive trimmings.

TO FILL THE RESERVOIR AND WIND UP THE WEIGHT.

Having supplied the burner, pour into the reservoir about one and a half time the quantity of oil necessary for the consumption of the night; then wind up the motive-weight of the machinery, by the aid of its crank or key. After a lapse of a few moments, the oil which is sucked and forced up by the pumps will saturate the wicks, and the remainder pass over the crown of the burner into the dripper.

VERIFICATION OF THE PRODUCT OF THE PUMPS.

XX. To ascertain if the oil is raised in sufficient quantity, a vessel of the capacity of 250 grammes is placed under the dripper, and the time required to fill it is noted. After what has been said above, the time necessary to fill this vessel before lighting the lamp ought to be:

Five minutes for a lamp of the first order.

(1) NOTE.—If any of the wicks are found to be of too great diameter, they are reduced to the proper dimensions by removing carefully a sufficient number of the threads of the chain.

Seven and a half minutes for a lamp of the second order.
Nineteen and three-fourths minutes for a lamp of the third order.

TO LIGHT A BURNER WITH CONCENTRIC WICKS.

XXI. When the wicks are sufficiently saturated with oil, the lighting may be performed in observing the following precautions:

The central wick, No. 1, is raised about three-tenths of an inch, and with a lighting-lamp ("*lucerne*") two opposite points of the wick are lighted, and then lowered to the lowest point at which it will burn. Proceed in the same way with the wicks two, three, and four, and hasten in each case to lower them so soon as they are lighted, so as not to smoke the apparatus. That being done, place the glass chimney on the burner, and surmount it with its regulator of sheet-iron.

REGULATOR AND DAMPER.

XXII. During the first moments of the lighting, the key of the damper should be inclined at an angle of 45°, and the curve of the chimney raised to its greatest height, so as to prevent its being broken by a too sudden heating. Then lower the chimney gradually to the point which will permit the flame to reach the development prescribed in article 25, which will give it its greatest effect. If too low, it will prevent the flame from reaching the desired height; if too high, it will produce a red and dull flame.

MANAGEMENT OF THE LAMP DURING THE FIRST HOUR AFTER LIGHTING.

XXIII. During the first hour of combustion, the height of the wicks above the burner ought not to exceed one-fifth of an inch; and care should be taken that the flames do not rise too rapidly, which might cause the fracture of the chimney and carbonize the wicks.

MANAGEMENT OF THE REGULATOR AND DAMPER.

XXIV. As the combustion becomes more active, the damper should be opened as much as necessary, and the wicks elevated to three-tenths of an inch, which it will be rarely necessary to exceed. In opening the damper, the flame will fall and whiten; in closing it, the flame will rise, redden, and become smoky.

MEAN HEIGHT OF FLAME IN FULL EFFECT.

XXV. At the expiration of an hour, the flames, thus managed, ought to be found at their full power, and to have attained the mean heights, as follows:

For a lamp of the first order, four to four and one-third inches.
For a lamp of the second order, three to three and one-half inches.
For a lamp of the third order, two and three-quarters to three inches.
The flames are to be maintained at the desired height by the proper use of the key of the damper.

THE ALARM-BELL.

XXVI. To aid the vigilance of the keepers, an alarm-bell is attached to the service lamp of lens lights. The escapement of this instrument is retained by the end of a lever, supporting at its other extremity a cup pierced with a small hole. This cup is placed under the spout of the dripper of the burner, and, as long as it is kept full of oil, it sustains its counterpoise; but if the ascending oil should fail, the cup will soon become empty, and the counterpoise, descending, raises the stop of the hammer of the alarum, which is then set in motion.

HYDRAULIC LAMP WITH MULTIPLE WICKS.

This lamp is composed of a reservoir, or cistern, of the proper capacity to hold the requisite quantity of oil for use during one night; a supplying-cistern, which is placed with its top horizontal to the bottom of the reservoir; and a burner, whose crown is horizontal to the bottom of the cistern. From the bottom of the reservoir a tube is led into the side of the supply-cistern; and in the end of this tube, in the cistern, is a movable stop, to which is attached, by a curved piece of metal, a hollow metallic ball, which serves to regulate the flow of oil into the cistern, closing or shutting the tube as the oil in the cistern increases or diminishes, and consequently to the burner.

The oil is conducted from the supply-cistern through a tube from the bottom of the cistern leading downwards, and then horizontally to the burner placed in the centre of the lens; thence up to and through the several branch-tubes connected with the several concentric wicks.

The surplus or overflow of oil passes off, as in the case of the mechanical lamp, into the overflow-cistern. The precautions to be taken in the management of this lamp are to draw off the oil in the morning from the overflow-cistern, and either put it into the reservoir or make some other disposition of it; and, half an hour before lighting, lower the regulating ball into the supply-cistern, to allow the oil to flow and thoroughly saturate the wicks before lighting them. The burner is in every respect similar to that of the mechanical lamp, and is managed in the same way, so far as the wicks are concerned.

This lamp can only be used for fixed lights, requiring only a part of the horizon to be illuminated.

MANAGEMENT OF THE HYDRAULIC LAMP.

Stop the flow of oil by raising the regulating balance ball, and extinguish the light by turning down the wicks in succession, commencing with the exterior one. Replenish the upper reservoir with oil. In addition to the usual precautions to be taken with multiple wick-burners, in cleaning, supplying with wicks, &c, the union joints must be carefully examined, to see that they are secure and in good order. The internal parts of the lamp and cisterns require to be thoroughly cleaned about once in six months. To execute this duty in an effectual manner, it will be necessary to unscrew all the union joints, and have the entire interior cleaned with the flexible brushes provided for the pur-

pose. The oil in the overflow-chamber must be drawn off, and, in lowering the regulating ball, care must be taken to place it so that it will preserve its previous level.

THE PNEUMATIC LAMP.

This lamp is placed in the focus of the illuminating apparatus, as in the case of the mechanical lamp. It is composed of a reservoir, which is filled with oil, a chamber for overflow of oil from the lamp, a supplying-cistern filled with oil, and an air chamber.

A tube fitted with a stop-cock passes from the bottom of the reservoir through the overflow-chamber and supply-cistern into the air-chamber, around which is placed a receiver for the oil with its top near the top of the air-chamber, over which the oil passes into the air-chamber.

A tube from the top of the air-chamber, on the opposite end from the one the tube from the reservoir enters, passes up into the supply-chamber. The main stem or tube leading to the burner passes from a cock at the centre of the bottom of the supply-cistern, up through the supply cistern and reservoir, to the branches leading to the different wick-holders of the burner.

The pressure of the oil from the reservoir into the air-chamber will force the air into the supply-cistern, and cause the oil to flow to the burner, so long as there is any oil in the reservoir.

In the management of this lamp, before extinguishing the light, the cock to the tube conducting the oil from the reservoir to the air chamber must be closed.

Draw off the oil from the air-chamber; take off the reservoir; fill the supply-cistern with oil through the proper tube, having previously shut the cock connecting the reservoir and air-chamber. Having filled the supply-cistern, shut the cock, and then fill the reservoir and replace it, with its valve over the tube and cock, connecting it with the air-chamber.

Half an hour before the time for lighting, the cock of the tube between the reservoir and air-chamber must be opened to allow the oil to flow to the wicks a sufficient time before lighting.

MANAGEMENT OF THE PNEUMATIC LAMP.

Having stopped the flow of oil, extinguish the light in the usual manner, with multiple wicks; remove the upper reservoir; fill the supply-cistern with a funnel, through the tube and cock, having a common straight handle, the other having been previously closed; when this cistern is full, close the tube by turning the cock; fill and replace the upper reservoir. Keep the tube connecting the upper reservoir and air-chamber closed by its cock during the day, to prevent the oil from overflowing the burner and being wasted. No oil must be left in either the air or overflow chamber. The interior parts of the lamp must be thoroughly cleaned as often as once in six months, by unscrewing the union joints and removing all gummy oil, dirt, &c., by means of flexible brushes and the other ordinary means employed for cleaning the tubes and burners of lamps.

This lamp is used in apparatus for fixed lights, illuminating the whole arc of the horizon, and also in movable lens lights.

DOUBLE-WICK CONSTANT LEVEL LAMPS.

The application of double wicks to the ordinary Argand lamps has been successfully tested.

The only difference in the management will be to develop the flame more slowly, during the first hour of combustion, than in the single-wick lamps.

ATTENDANCE UPON THE LIGHTS.

EVENING AND NIGHT SERVICE.

XXVII. *The night service* of lens lights is performed by two or three keepers, divided into successive watches of four hours' duration.

EVENING SERVICE.

XXVIII. Every evening, half an hour before sunset, the keepers, provided with a lighting lamp, will ascend to the lantern of the tower; (article 76.) If the daily routine has been regularly and faithfully performed, the following will be the condition of things:

1. The lamp of the apparatus, ready for lighting, will be capped with its cover.

2. The motive-weight, raised to its greatest height, will be held by an iron pin on a level with the table of the frame.

3. The glass chimney, deposited in a small box, will be placed on this stand, as well as its damper, if it is not attached to the apparatus, and also the service basket containing the ordinary implements of the service.

4. Four glass chimneys, and a spare burner fitted with *dry wicks*, will be held in reserve in one of the cases of the table of the frame, or in the small closet of the light-room.

5. In one of the closets of the light-room will be found the two spare lamps, capped with their covers and fitted with their cords. The one of the two lamps which, in case of necessity, is to be placed in the apparatus, will, in addition, be fitted with a spare block of the motive-weight.

6. A vessel filled with filtered oil will be found in the light-room.

7. If there is a revolving machine, the motive-weight will be raised to its greatest height, and the master-wheel will be held by its bolt, and the side-wheels will be ungeared.

8. To prevent the failure of a light in the light-house, a taper will be kept lighted in the light-room, and near by, a lantern will be placed, ready to be lighted in case it should become necessary to trim or change the service lamp.

9. The blinds of the lantern will be lowered, and the pieces of the optical parts of the apparatus will be covered with the curtains provided to protect them from the action of the sun.

TO LIGHT THE LAMP.

XXIX. Commence lighting up at sunset, so that the light may have its full effect by the time twilight ceases.

XXX. In executing that duty, and in managing the lamp, the previous instructions will be followed.

TO PUT THE REVOLVING MACHINERY IN MOTION.

XXXI. If it is a movable light, put the revolving machinery in motion immediately after lighting up. To do this it is sufficient to lower the pivot of the connecting-wheel, so that the side-wheels gear properly, and then remove the bolt of the master-wheel.

TO TRIM THE WICKS OF THE LAMP.

XXXII. If, after a long combustion, the wicks are found to be too much carbonized to allow their flames to be kept at a proper height, by closing the damper one-half, and also in raising the wicks about one-tenth of an inch higher, they then can be trimmed.

This operation should be executed in observing the following precautions:

1. Suspend in the middle of the apparatus the lantern kept in the light-room for this purpose, and place the lighting lamp on the service stand, with two spare, clean and dry, glass chimneys.

2. Extinguish the service lamp by lowering the wicks; take down the damper, if it is not fixed to the apparatus, and then remove the chimney by applying a piece of very dry cloth around it, which will allow it to be handled without inconvenience from its heat; wrap it up in that cloth, and place it in its box, where it will cool gradually, and thus prevent its breaking.

3. Stop the machinery by winding up the motive-weight and placing it on a level with the frame, resting it on its support; then trim the wicks as rapidly as possible; after which, remove the support of the weight and relight the wicks, raising them at once to the height of about a quarter of an inch. Having completed this operation, replace the chimney, which is still warm, and in a few minutes the flames will reach their original height. Should the service chimney break, it must be replaced by one of the two spare chimneys. In this case it will be necessary to keep the flames down for some moments, so as not to heat the new chimney too rapidly.

XXXIII. It may be necessary to trim the wicks again, if carbonized particles (called mushrooms) form on them, and produce a red and smoky flame.

These collections of carbonized particles are ordinarily occasioned by the points or threads left on the edges of the wick, or by the dust or dirt which may adhere to them, and which obstruct some part of the openings intended to preserve a proper circulation of the air, or by the bad quality of the oil used.

TO CHANGE THE SERVICE LAMP.

XXXIV. When in the course of the night any accident happens to the lamp, and requires that it should be replaced by a spare one, the following directions must be observed:

Bring the spare lamp (which, fitted with its cord and pulley and its cistern filled with oil, had been previously prepared as directed in article 28, section 6) and place it on the service table. Hang in the centre of the apparatus the lantern designed and kept for that purpose in the light-room. Deposite on the stand, or on the service gallery, two glass chimneys, the service basket, the lighting lamp, and the spare burner fitted with its wicks, if the service burner is to be replaced. After having gradually lowered the wicks of the lamp of the apparatus for extinguishing them, remove the chimney, observing the precautions indicated above; wind up the weight to its greatest height, and suspend it at the level of the table of the frame by an iron bolt; unhook the block, and then remove the lamp of the apparatus, and replace it by the spare one.

That being done, adjust upon it the old burner, if it will answer, or the new one, if it be necessary, after having plunged it into the oil to saturate the new wicks, and proceed as rapidly as possible to verify the position of the crown of the burner.

If the crown of the burner is found not to be level, it must be made approximately so by the use of the screws.

Then pour the oil from the oil-vessel into the cistern of the new lamp. The spare lamp having been thus placed with the greatest rapidity, it must be put in motion and lighted with the greatest celerity compatible with the precautions necessary to prevent the chimney from being broken.

When the light is extinguished next morning, proceed at once to rectify the placing of the lamp with care.

XXXV. When there is more than one keeper, the one on watch must call assistance before commencing the exchange of a lamp.

NECESSARY PRECAUTIONS TO BE OBSERVED IN WINDING UP THE MACHINERY WHILE THE LAMP IS BURNING.

XXXVI. Whenever it becomes necessary during the night to wind up the motive-weight of the lamp in use, after every third turn of the crank, press it back for a moment in the opposite direction, to allow the pumps to force the oil up, and prevent the flames from increasing too greatly, and smoking the chimney.

MEASURES TO BE TAKEN IN CASES WHEN THE BURNER OF THE LAMP IS NOT SUFFICIENTLY SUPPLIED WITH OIL.

XXXVII. In case the keeper on watch has neglected the lamp of the apparatus, and is warned by the alarm-bell that the ascension of the oil has diminished or ceased, he ought to enter immediately into the apparatus, and hasten the action of the pumps by a gentle effort applied to the crank in the direction of the pressure of the motive-weight.

He must then examine whether it be necessary to change the burner or even the lamp in use.

HEATER.

XXXVIII. When the cold is sufficiently intense to render the oil too thick for burning, the following precautions should be observed in performing the evening duties:

1. An hour before sunset, the oil to be used in the lamp must be heated until it reaches a temperature too great for the hand to remain in it; after which pour it into the cistern.

2. Unscrew the burner, pour hot oil through a funnel into the orifice of the bodies of the pumps; then, after having held the burner in hot oil for some minutes, it should be replaced and lighted.

3. Then prepare and light the lamp of the *double tube heater*, and, after having screwed on the washer of this little apparatus so as to make it tight, plunge it into the reservoir of the service lamp. It will be necessary to observe that the wick of the heater lamp does not rise higher than a quarter of an inch above the burner; otherwise it will be extinguished by the dense smoke which will be produced.

MORNING DUTIES.

XXXIX. The principal duties to be performed in the morning must be executed in the following manner:

EXTINGUISH THE LAMP.

1. At sunrise, extinguish the lamp of the apparatus by commencing with the exterior wick, and proceed gradually, to prevent exposing the chimney by a too rapid change of temperature.

RAISING THE MOTIVE-WEIGHT.

2. Wind up the motive-weight of the lamp level with the service table, and fix it as before directed.

RAISING THE WEIGHT OF THE REVOLVING MACHINERY.

3. If it is a movable light, raise the weight of the machinery, and stop the master-wheel by means of its bolt. Throw the wheels out of gear to prevent accidents from shocks.

4. Lower the blinds and arrange the curtains of the lantern, which double precaution is necessary to prevent the sun's rays from melting the burner of the lamp and injuring the lower mirrors of the apparatus.

5. Remove the damper and also the glass chimney, and place them temporarily on the table of service.

6. Trim the wicks of the lamp exactly even with the burner, as before directed at article 19.

7. Clean the interior of the burner with a small bottle or phial brush, and all of the exterior of the lamp with a cloth.

TO CLEAN THE RESERVOIR AND RENEW THE OIL.

8. Allow the oil to drip from the reservoir into a vessel, which must be set on one side.*

9. The reservoir should be rinsed out with newly-filtered oil, (which should afterwards be again filtered,) and, with a new piece of linen attached to a small stick, remove all the dirt which may have remained after the rinsing.

10. If the filter of the suction tube be obstructed, it should be removed and cleaned, and then replaced.

11. The reservoir should then be filtered with oil filtered the preceding evening.

CLEANING THE GLASS CHIMNEY.

12. The glass chimney in use should be cleaned with great care, in the manner indicated in article 50, and then deposited, as well as the damper, in one of the cases, or in the closet of the light-room.

RENEWING THE WICKS.

XL. Whenever a part, or all, of the wicks of the burner of the lamp in use are renewed, it will be necessary immediately to work the pumps for one hour, so as to soak them well with oil.

COVERING OF THE SERVICE LAMP.

XLI. After having completed the morning duties, so far as the lamp is concerned, it should have its cover placed over it, so as to protect the burner, the body of the pumps, and the reservoir from dust until the time for lighting.

SUPERINTENDING MECHANICAL LAMPS.

PERIODICAL CHANGES OF THE SERVICE LAMP.

XLII. After fifteen days of continued service, the lamp of the apparatus should be changed for one of the two spare ones; and this rotation must take place regularly between the three lamps, so that all three may be kept in condition for service.

XLIII. The change should be made in the morning; and it must not be neglected to set the new lamp in motion for several hours, to see that it performs well. Care should be taken to have it previously filled with oil.

TO CLEAN THE MECHANICAL LAMP AFTER FIFTEEN DAYS' SERVICE.

XLIV. The lamp having been taken from the apparatus, it should be examined and cleaned with care. Observe to disconnect the body of

* NOTE.—Having allowed this oil to settle for a few hours, it should be poured into a filter with some fresh oil. This filtering is indispensable, even for new oil, to remove from it the small particles of cotton which it nearly always contains.

the pumps, so as to remove from them all remaining oil, which, becoming old, interferes with the play of the valves. The suction tube should be unscrewed and its filter cleaned. The lamp, being readjusted and covered, should be deposited in one of the closets of the light-room.

TO USE AND PRESERVE THE MULTIPLE-WICK BURNERS.

XLV. Of the six burners belonging to the three mechanical lamps of a lens light, one must remain mounted and fitted to the lamp of the apparatus; another, fitted with dry wicks, must be kept as a spare one in one of the closets of the light-room.

The four others, entirely without wicks, well cleaned, perfectly dry, and having their racks slightly greased with lard, should be kept wrapped up in a closet free from dampness, and they should not be used except when one of the two first must be repaired.

The burners kept in reserve are to be examined from time to time, and cleaned when necessary. It should be particularly noticed if their racks play freely, and, having wiped them, they should be again greased.

THE ORDINARY MANAGEMENT OF MECHANICAL LAMPS.

XLVI. To keep in good condition the mobility of the machinery of the lamps, care should be taken that from time to time a little clockmaker's oil be applied to the pivots of the several movable pieces, as also to the escapement pivots of the Lepaute lamp. This oil should be applied more frequently to the pivots of the fly, to those of the master-wheel, and to the endless screw of lamps with clockwork movement, than to any of the other pieces. Care must be taken, however, not to apply this oil but in very small quantities, and after having carefully removed, with a new piece of linen attached to a stick, all of the old oil adhering to the several parts of the machinery.

DISMOUNTING AND COMPLETE CLEANING OF THE MECHANICAL LAMPS.

XLVII. Each mechanical lamp ought to be dismounted and completely cleaned as often as it may be necessary to do so, and at least once every year.

XLVIII. To clean the brass pieces of the machinery, they should be entirely covered with tripoli mixed with spirits of wine, and then rubbed with a silver-plater's brush until they are handsomely polished.

The pieces in steel must be cleaned with tripoli mixed with a little clockmaker's oil.

Before replacing the mechanism, the holes of the pivots of the wheels, as also the screws and the threads of the screws, should be cleaned with a small stick of soft wood; and care must be taken that every particle of tripoli employed in the cleaning be removed.

DERANGEMENT OF THE MECHANISM OF THE MECHANICAL LAMPS, AND THE MEANS FOR REMEDYING IT.

XLIX. When a mechanical lamp, after having performed for some time, ceases to act well, the keeper must search for the cause of this disturbance, so that he may remedy it, as far as possible.

To facilitate this search, the principal causes which may serve to prevent the regular performance or injure the effect of the different kinds of lamps may be enumerated, as follows:

IRREGULAR FLOW OF THE OIL.

1. When the oil flows irregularly, the flames fall and rise alternately, without the power of being maintained at a constant height.

In the clockwork-movement lamps this inconvenience may arise from the fact that the wheels which put the pistons of the pumps in motion* do not gear in such a position that the direction of these pistons presents a regular succession of movements.

This can be remedied by restoring the gearing to the positions indicated by the marks.

In the *Lepaute lamps* the irregular flow of the oil may arise from a transposition of the cranks which transmit the motion to the vertical beams by a simple loosening of the screws which sustain the escapement levers, or from some alteration in the form of the escapement pieces in consequence of wearing.

In the first case it will be necessary to restore the cranks to the places indicated by the marks; in the second case, tighten the loosened screws; and in the third case, the lamp should be sent to the clockmaker to be repaired.

As for the *Wagner lamps*, they do not appear to be liable to that inconvenience, except in consequence of the wearing of the pieces after long-continued use.

THE PLAY OF A VALVE ARRESTED.

2. It may happen that one of the valves may cease to perform, owing to the derangement of the steel wire, or of the metallic cloth (if it happen to a Wagner lamp) which it sustains, and which it will be sufficient to restore to its place.

3. Whenever a mechanical lamp remains long without being used, and it has been neglected to clean it to the bottom of the body of the pumps, its valves lose their pliability by the viscosity which the coat of oil adhering to their surface takes on becoming old. It is necessary to clean valves found in this condition by washing them in tepid oil, or replace them by new ones made by the instrument designed for that purpose.

4. Whenever one of these valves becomes cracked, the flow of oil will be no longer regular, nor in sufficient quantity. It is discerned immediately by the loss of oil which ensues, and it is remedied by replacing

* NOTE.—This observation is not applicable to lamps of the new model, in which the pumps are put in play by two cranks.

the valve by a new leather, the proper form of which is given by means of the cast-iron mould.

The renewing the valves of the mechanical lamps is an operation in which the keepers of lens lights ought to be exercised. It is necessary, in proceeding in it, to observe not to stretch too tightly the calfskin over the body of the pumps, for it will result at times in stopping the movement of the pistons, and consequently in the irregular flow of the oil. There will be the same irregularity of the movements if the valves are too much developed.

If a valve becomes ruptured in the course of the night service, and the flame cannot be sustained at two-thirds of the prescribed height, it will become necessary to change the lamp.

SUCTION TUBE OBSTRUCTED.

5. If it be neglected to renew the service lamp every fifteen days, or to filter the oil before putting it into the cistern, or finally to clean the metallic cloth of the suction tube at least once a week, it may happen that the small holes of that cloth may be found to be obstructed to the extent of intercepting, or at least of interfering greatly with, the flow of the oil.

To prevent, in such a case, the necessity for replacing the lamp during the service of the night, the difficulty may be attempted to be obviated by increasing the motive weight, or by opening the wings of the fly in lamps provided with that description of regulator.

6. Whenever the burner of a mechanical lamp is not supplied with a sufficient quantity of oil, the wicks become carbonized, the flame reddens and rises in smoking; and, if the flow of the oil ceases entirely, the crown of the burner, being no longer protected by the oil, melts, or at least becomes unsoldered.

If, on the contrary, the oil flows in excess, it opposes itself to the development of the flames.

The first perturbation may take place either from the obstruction of the filter of the suction tube (which may have been neglected in cleaning) or from the obstruction of the orifice of the diaphragm of the body of the pumps. In the one or the other case, it will be necessary to hasten to increase the flow of the oil to the burner by turning off the screw of the body of the pumps, the point of which partially closes the orifice of the diaphragm, if it happen to a lamp provided with that mechanism, and, if it happen to another lamp, by pressing slightly on the crank of the windlass of the motive power in the direction of the action of the motive weight.

As to an excess of oil, that may be remedied in the Lepaute lamp by turning the regulating screw (when there is one) in a manner to re uce the orifice; in the clockwork-movement lamps, and in the system of Wagner, in opening the wings of the fly; and in all, in diminishing at will the motive weight.

TO CLEAN THE GLASS CHIMNEYS.

L. The glass chimneys, soiled by smoke or by drops of cooked oil, must be cleaned by rubbing them, until all the stains disappear, with a

rag or a small piece of soft wood dipped in oil, after which wipe them off and clean them with Spanish whiting. A chimney will in this way be restored to its perfect cleanness and transparency.

SUPERINTENDENCE AND MANAGEMENT OF REVOLVING MACHINERY, AND ITS ACCESSORIES.

LI. Every effort should be made to prevent, as far as possible, the introduction of dust into the interior of the cage of the moveable machinery of a revolving light, and the wheel-works and pivots of the machinery should be cleaned, as often as necessary, with a small feather brush and soft clean linen. To perform this cleaning, the case, or cage, surrounding the machinery must be removed.

LII. A small quantity of clockmaker's oil should be applied, from time to time, to the pivots of the fly, to the joints of the moveable wings, (if it is acted on by a *flying pendulum*,) and also to the pivots of the cylinder upon which the cord of the motive weight is wound. The pivots of the other pieces should be oiled also, but less frequently. Before applying the new oil, it will be necessary always to see that the thick oil has been carefully removed from the parts.

LIII. To prevent the oxydation of the polished iron and steel pieces, they must be rubbed, as often as may be found to be necessary, with a piece of cloth covered over with lard or some other description of unsalted grease. It must also be observed not to spread that grease upon any of the pieces of copper, bronze, or brass.

DISMOUNTING AND CLEANING THE REVOLVING MACHINERY.

LIV. Once a year, (in the month of July,) the revolving machinery ought to be taken down and thoroughly cleaned by the keeper.

To perform this duty of cleaning the machinery, it will be necessary to proceed in the manner indicated for the mechanical lamps.

VERIFICATION OF THE MOVEMENT.

LV. After having restored all the pieces of the revolving machine to their proper places, it must be put in operation, to see if it performs properly by means of the ordinary weights, and that each revolution of the apparatus is made in the prescribed interval of time.

In case the revolution should be either too slow or too fast, it may be properly modified by closing or straightening out the wings of the fly.

If the regulator is a *flying pendulum*, the movement may be increased at pleasure by raising the moveable balls, or diminished by lowering them upon their stems.

The greater or less opening of these balls will indicate the resistance which the moveable frame will oppose to the action of the machine.

PRESERVATION OF THE SPARE FLY.

LVI. The spare fly must be enclosed in a box, placed where dampness cannot reach it. It must be examined from time to time, taking

care to grease the polished steel pieces, and observing at each time to wipe them off before doing so.

TO CLEAN THE CIRCULAR CARRIAGE OF THE MOVABLE MACHINERY.

LVII. The large and small rollers of the carriage, the rollers of the revolving part, as well as the road on which they run, must be wiped off daily; the pivots of the rollers must be cleaned and oiled as often as may be found necessary.

TO DISMOUNT THE CIRCULAR CARRIAGE.

LVIII. Whenever it becomes necessary to dismount the circular carriage of the movable frame, for the purpose of cleaning it, commence by raising the frame a little by means of three small screw-cranes (verins) specially provided for that purpose, and which must be replaced in succession by regularly squared ledges of wood. That being done, raise the exterior rollers, withdraw the forelocks of the iron circle of the carriage, and then take the two pieces apart immediately, observing to take care to sag the pivots.

This duty, as well as the remounting of the carriage, will require the united services of two persons.

LIX. The three screw-cranes designed to raise the movable frame at pleasure ought to be kept constantly in good condition and ready for use, as well as the other tools and implements. All the tools and implements, in steel or iron, which are only required occasionally, ought to be kept constantly greased with lard, and enclosed in a case free from dampness.

OIL-FILTER.

LX. Independently of the ordinary cleaning, the oil-filter must be an object of especial care. Once a month the piece of cloth fitted to it must be washed with soap, and the sand must be cleansed with boiling water. They must not be replaced until all dampness has been removed—to do which, the sand must be heated in a pan or other vessel. Sea sand must never be used for this purpose, even after having been washed in fresh water.

ATTENDANCE UPON THE LENSES, THE CATADIOPTRIC RINGS, AND THE MIRRORS.

DAILY CLEANING, ETC.

LXI. It is necessary to dust the lenses daily, and also the catadioptric rings, or the mirrors, of the apparatus, and then wipe them off with a piece of soft clean linen.

It is proper to say that, if these pieces were wiped before being dusted, their surfaces would be exposed to the danger of being injured.

TO REMOVE OIL SPOTS FROM THEM.

LXII. If oil should get on any part of the surfaces of the lenses, the catadioptric rings, or mirrors, it ought to be cleaned off immediately with a piece of linen wetted with spirits of wine.

LXIII. Once in every two months the entire surfaces of the glass of the lenses and the mirrors must be washed with spirits of wine, after which each piece must be carefully wiped in the manner directed.

LXIV. These same pieces ought to be polished with rouge once a year.

That operation should be executed as follows: Break up a small quantity of rouge (say 12 or 14 ounces) in water, and form a clear mixture with it. This mixture must then be put into about a pint of water, and, after having stirred it up well with a stick, let it rest for a few moments. Then pour off the liquid mixture into another vessel carefully, to separate the small gritty particles which it may contain, and which, by this means, will remain at the bottom of the first vessel. That being done, leave it to settle about half an hour, when pour off the water until the rouge appears on the edge of the vessel.

This liquid rouge must be spread lightly, by means of a pencil or piece of soft linen, over the entire surface of the glass to be cleaned.

When this coat of rouge becomes dry, rub it with a piece of buffskin until all of it is entirely removed.

The rouge, thus prepared, should be entirely consumed, as it will be unfit for future use for cleaning.

TO PRESERVE THE POLISHING ROUGE.

LXV. The polishing rouge ought to be carefully wrapped up and enclosed where dust cannot reach it. If it is not soft to the touch, and free from gritty particles, it ought not to be employed, inasmuch as, instead of preserving the polish of the glass, it will greatly injure it.

LXVI. The metallic reflectors employed as additional pieces in some of the lens lights should be rubbed daily, first with a soft linen, and then with a buffskin solely designed for that purpose.

LXVII. Once in two months these metallic reflectors ought to be cleaned with Spanish whiting.

This whiting should be prepared in the same way the polishing rouge is, and the same precaution should be observed in its use. That is so much the more essential, inasmuch as the polish of the silver plate is more susceptible to injury than glass.

ATTENDANCE UPON THE GLASS, AND THE GLAZING OF THE LANTERN.

DAILY CLEANING OF THE GLASS OF THE LANTERN.

LXVIII. The glass of the lantern must be kept always in a state of perfect cleanliness.

To insure this, it will be necessary to wipe it off daily inside with a clean rag, free from oil, and also in the same manner outside, if required.

Any discolorations which remain upon the panes of plate glass after this cleaning must be removed by using a little water, and spirits of wine if necessary.

ATTENDANCE UPON AND KEEPING UP THE POLISH OF THE PLATE GLASS OF THE LANTERN.

LXIX. Independently of these daily cleanings, the plate glass of the lantern must be cleaned every year with the polishing rouge, both inside and out, always observing the same precautions as have been prescribed for cleaning the optical parts of the apparatus.

GLAZING.

LXX. The glazing of the frames of the glass, and of all the joints of the lantern through which the rain may penetrate, ought to receive the greatest possible attention and care.

The putty should be made of two parts of Spanish whiting and one part of white lead—the whole pulverized and reduced to a stiff paste, well mixed with equal parts of linseed and boiled oil.

RENEWING THE GLASS.

LXXI. As keepers of lights are required, when the glass of the lantern is broken, to replace it themselves without delay, it will not be amiss to enter into some details on the subject.

To detach the piece after having used the diamond, strike lightly the opposite side of the plate with the end of the handle of the instrument. This will develop the slit, and a slight effort will suffice, ordinarily, to detach the piece to be removed.

If the section presents any irregularities, they must be removed by means of a glazier's pincers.

The glass, thus cut according to the requisite dimensions, ought to be ground obliquely on its two sides, and square upon its horizontal joints.

This work is executed by rubbing the edge of the glass upon a cast-iron plate covered with sharp sand, which is kept constantly wetted during the operation.

PLACING THE PLATES OF GLASS.

It is highly important to leave about one-twelfth of an inch play all around the glass in putting it into its frame. If it touch against the frames, it will be greatly exposed to the risk of being broken, during high winds, by the effect of the oscillation of the lantern; and, besides, if less than one-twelfth of an inch space be left between the glass, the putty will fill such thin joints only imperfectly. Thin strips of lead are employed to rest the glass upon in this glazing.

Whenever it becomes necessary to repair the glazing of a frame in which the frames are divided into several plates of glass resting upon each other, to renew a lower or intermediate plate, it will be necessary to remove every piece above it belonging to that frame.

To fit the joint of two pieces of glass, cover the lower edge with putty one-tenth to two-tenths of an inch in thickness, and then place on it two small wedges of lead, upon which let the edge of the upper plate of glass rest, the weight of which will press out the excess of putty beyond the thickness of the two leaden wedges. This excess of putty must be removed immediately by the glazing knife, taking care to preserve the edges smooth and intact through the whole extent of the line.

The glazing of the contour or exterior of the frame should cover the edges of the slats and beadings.

In replacing the outside slats, it must not be forgotten to put a small quantity of putty over the head of each screw, which serves to retain it in its place.

TOOLS, IMPLEMENTS, AND THE VARIOUS ARTICLES RELATING TO THE ILLUMINATING SERVICE.

TIN WARE.

LXXII. A suction-pump is used for transferring the oil from one vessel to another.

OIL-FILTER.

LXXIII. The oil to be used in light-house lamps ought always to be filtered previously by the keeper.

The filter is composed of two parts. The upper part is the filter, properly so called; the second is a reservoir, designed to receive the filtered oil, and fitted with a cock.

The filter consists of a plate of tin pierced with holes, upon which is placed a piece of cloth and a layer of fine sand one-tenth of an inch in thickness.

It is necessary to place this apparatus upon a stand, or small wooden table, of a proper height, to allow the oil vessel to pass under the cock.

LXXIV. Copper vessels should be used exclusively for transporting the oil from one part of the tower to another.

LIGHTING-LANTERN.

LXXV. The lighting-lantern contains, besides a fixed lamp, two small hand-lamps, called "*lucernes*," which serve for the purpose of lighting the lamps of the light-house. In the centre of the lucerne is a screw-button, made of copper, which is removed to introduce the oil and wick. Near the ring which serves as a handle is an air tube, upon which the thumb is placed to prevent the oil from running out when it is inclined to light the wicks of the lamp.

HEATER.

LXXVI. The heater of the mechanical lamp consists of a small lamp, enclosed in an oblong box, with two tubes. Upon one of the

sides of that box is made, for the passage of the lamp, an opening, which closes hermetically by means of a screw-washer.

SERVICE BASKET FITTED.

LXXVII. The service basket is in the shape of a handle-box, with a cover, in two parts.

It is divided into three compartments. One of them receives a flat box, in which the greasy rags and wick trimmings are placed for the moment; upon that box are placed the clean rags for wiping the glass chimneys.

The second ought to contain the following objects:

1. A *triangular scraper* to remove the cooked oil remaining on the edges of the burner.

2. A *horse-hair bottle-brush* to clean the air tubes of the burner of the service lamp.

3. A pair of *curved scissors* to snuff the wicks of the lamp.

Finally, the third compartment is designed to receive—

1. A pair of *straight scissors* to cut the length of the new wicks to supply the burner.

2. A *calibre* which determines that length.

3. The *mandrills* designed to place the wicks. They are of a conical form, except a small part at their base, which is cylindrical, and a little receding to receive the wick-holder.

DRIPPING-PAN.

LXXVIII. The dripper is a square vessel, flat, and having a double bottom. The upper bottom is moveable, and pierced with holes; the other carries a small tube for pouring off the liquid.

It serves also as a dripper for the burner, when it is necessary to remove the service lamp, the lamp-feeders, oil-measures, &c., &c.

MEASURE OF TWO HUNDRED AND FIFTY GRAMMES.

LXXIX. The measure of 250 *grammes* serves to determine the quantity of oil which is thrown out by the burner, following the indications given in article 20, and finally to regulate the flow conformably to the prescription of article 12.

LAMP-FEEDERS.

LXXX. These lamp-feeders contain a small quantity of oil, and serve the purpose of filling the small lamps and hand-lanterns.

ROUGE BOX.

LXXXI. The polishing rouge ought to be carefully preserved out of the way of dust. It is, for that purpose, enclosed in a double box. Above the smallest box the buffskins designed to rub the pieces with rouge are placed.

ORDINARY HAND-LAMP.

LXXXII. The keeper of the watch ought always to be assured that the hand-lantern is placed in the light-room, ready to be lighted. This lamp must be suspended in the interior of the apparatus, if the service lamp is extinguished, either for the purpose of changing it or trimming the wicks.

LXXXIII. The keepers are provided with lamps for their special use.

INSTRUMENTS AND IMPLEMENTS.

OIL GAUGES.

LXXXIV. Two gauges, divided into hundredths and thousandths of a metre, upon a scale of 0*m.* 30*c.* in length, serve to measure the height of the oil contained in the reservoir of the lamp in use, and consequently to determine the weight of that oil by means of the gauging table of the lamp.

SCREW CRANES, (VERINS.)

LXXXV. The "verins," to the number of three, made of iron or bronze, are specially designed to raise at pleasure the moveable frame of revolving lights. Each "verin" is formed by a stem or bolt, the extremities of which, threaded in opposite directions, screw into two small moveable plates. The stem is increased in size at its centre, and pierced with holes, in which a pin is passed to work them.

SPIRIT LEVEL.

LXXXVI. All light-houses are furnished with a small spirit level, which is designed to verify the level of the crown of the burner of the lamp in use. Another level, larger, is furnished to revolving lights, to verify the horizontality of the surface upon which the rollers of the carriage move, as also that of the connecting wheel of the revolving machinery.

LXXXVII. The mould to form the valves consists of two pieces of cast iron, forming a kind of matrix, by means of which the best form for the play of the pumps is given to the valves of these pumps.

VALVE-PUNCH, OR CUTTING-OUT TOOL.

LXXXVIII. This is an instrument of steel, formed for the purpose of making the leather valves used in the body of the pumps of mechanical lamps.

SCISSORS.

LXXXIX. A pair of straight and a pair of curved scissors constitute a part of the supplies of every light-house, (article 77.)

TRIANGULAR SCRAPERS.

XC. Are designed for cleaning the lamp burners, in the manner described above.

GLAZIER'S PINCERS.

XCI. These pincers may be necessary whenever it is required to replace broken glass. To reduce a small quantity of the dimensions of a plate of glass, place the pincers in such a way that the bills may take hold of the edge of the plate, making at the same time a sharp angle with it.

By pressing a little upon the handle of the pincers, and turning the hand a little out, the small pieces of glass are cut off. This should be executed slowly and with great care, removing a very small portion of the glass at a time.

KEY OF THE REVOLVING MACHINERY.

XCII. This key is made of polished steel, and must be used exclusively for winding up the revolving machinery.

HAMMER, PINCERS, SPLIT KEY, FILES, HAND-VICE, FLAT PINCERS, SCREW-DRIVERS, AND SOLDERING IRONS.

XCIII. All of these implements are indispensable, either for mounting or dismounting the mechanical lamps and the revolving machinery or for making pins when required, and also to execute the little soldering required to the dome of the lantern and to the utensils of tin, &c., &c.

XCIV. All the keys and screw-drivers which were used in placing the lantern, setting up the illuminating apparatus, the service gallery and its stand, the ladders, and the balustrade of the platform, as well as the spare bolts, screws, nuts, &c., should be left at the light-house, and preserved with care. Other implements furnished in accordance with the requirements of the work of placing lanterns and illuminating apparatus may also be kept at the light-houses, and form a part of their inventories; but they are not indispensable, and do not require to be renewed.

BRUSHES.

HORSE-HAIR BRUSHES.

XCV. To sweep the different parts and the stairs of the interior of the lantern.

WOLF'S HEAD.

XCVI. Rounded hair brush, mounted on a long handle, to sweep the platforms and the cage of the stairs of the tower.

FEATHER BRUSHES.

XCVII. The feather brushes ought only to be used to dust the illuminating apparatus and the glass of the lantern. It is necessary always to dust the optical pieces of the apparatus before wiping them off, (article 61.)

BAKER'S BRUSHES.

XCVIII. These brushes, with handles and long hair, serve to sweep the frame table, the gallery, and the step-ladder.

SILVER-PLATER'S BRUSHES.

XCIX. These brushes have handles also, but smaller and shorter than the baker's brushes. They serve to clean the lamps and utensils, and to remove the Spanish whiting or the tripoli, which it would be difficult, without their assistance, to remove from the cavities and entering angles.

PENCILS.

C. Are designed to paint the iron of the lantern and of the illuminating apparatus; and one of them ought to be kept to spread the rouge upon the surfaces of the optical pieces and the plate glass of the lantern.

BOTTLE-BRUSHES.

CI. The bottle-brushes are made of horse-hair, mounted upon a wire stem, (article 77.)

MISCELLANEOUS.

CALFSKIN.

CII. One calfskin, to make valves and washers.

CHAMOIS SKINS.

CIII. Two chamois (or buff) skins, the sole use of which is to serve to rub the pieces covered with polishing rouge and the reflectors.

CLOCKMAKER'S OIL.

CIV. This oil is exclusively designed to grease the mechanism of the lamps and the revolving machinery, and to destroy the effect of the tripoli employed to clean the pieces of polished steel and of the mechanism.

SPIRITS OF WINE.

CV. Spirits of wine is employed—

1. To wash the optical pieces of the apparatus, and to remove the grease and discolorations which resist a simple rubbing, as well on those pieces as the glass of the lantern.

2. To destroy the effect of the tripoli employed for cleaning the utensils and pieces in copper of the mechanism of the lamps and of the revolving machinery.

POLISHING ROUGE.

CVI. The polishing rouge is specially employed in the operation prescribed once a year at least, and which has for its object to preserve the polish of the pieces in glass of the apparatus, as well as the plate glass of the lantern. (For that purpose it ought to be prepared with the greatest care, as indicated in article 64.)

SPANISH WHITING.

CVII. The Spanish whiting, prepared in the same manner, and with the same care, as the polishing rouge, serves for the prescribed duties, every two months, (article 68,) to preserve the polish of the silver-plated reflectors.

Mixed in oil, it is employed to clean the utensils in tin; it enters also into the composition of putty, for glazing the lantern.

TRIPOLI.

CVIII. The tripoli is employed for cleaning, in the manner indicated in articles 104 and 105.

LINSEED OIL, BOILED OIL, AND UNGROUND WHITE LEAD.

CIX. The ordinary supplies of these substances are designed, by the addition of Spanish whiting to them, to make the putty necessary to the glazing of the lantern, (article 70.)

The foregoing instructions and directions are designed to guide the engineers, inspectors, and light-keepers in the performance of their respective duties, and they are required to follow them in all cases in which they are applicable to the light-house service of the United States.

By order of the Light-house Board:

W. B. SHUBRICK, *Chairman.*

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Washington, December 18, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

Instructions and directions for the management of beacon-lights with one keeper—embracing the different systems of illuminating apparatus and lamps in most general use in Europe and America.—General views.

ILLUMINATING APPARATUS.

I. The illuminating apparatus employed in beacons and other small-class lights are arranged according to several different systems.

The most general are—

1st. The catadioptric or lens apparatus, of 11.81 inches, 14.76 inches, and 19.68 inches, of interior diameter, illuminated by an ordinary Argand fountain, Carcel, or hydrostatic lamp.

2d. The parabolic reflector, illuminated by an ordinary Argand fountain lamp.

3d. The sidereal apparatus, formed of two reflecting surfaces, both generated by the revolution of a parabola about its parameter, illuminated by an Argand fountain lamp.

II. The lenses or catadioptric apparatus are placed upon cast-iron pedestals or tripods. They are fixed, ordinarily, on a central pivot, and rest upon rollers in such a manner as to allow them to turn with ease upon their axis.

Sometimes the sidereal and reflector apparatus are placed similarly; but most usually each kind is enclosed in a small movable lantern, which is raised upon a wooden scaffold.

Note.—These INSTRUCTIONS and DIRECTIONS, modified in some respects to meet the wants of the light-house service of the United States, have been compiled and arranged mainly from the latest published authorities on this subject for the government and management of the French lights—the joint productions of the distinguished engineers, Monsieur Léonor Fresnel and Monsieur L. Reynaud.

CONSTANT LEVEL (OR ARGAND FOUNTAIN) LAMPS.

III. Constant level (fountain) lamps, are formed of two parts—the body of the lamp, and the reservoir or fountain. The reservoir is provided at its lower part with a valve, which is raised when the stem which is attached to it comes in contact with the bottom of the body of the lamp. A communication is thus established between the reservoir and the burner of the lamp.

To insure that these lamps will be regularly fed with oil, it is necessary—

1st. That the extremity of the lower addition of the reservoir should be one-tenth or one-twelfth of an inch lower than the crown of the burner.

2d. That the external air should reach the lower orifice of the reservoir without obstruction, to replace the oil as it is consumed. An opening is made for that purpose in the envelope of the lamp.

LAMPS OF LENS AND REFLECTOR BEACON-LIGHTS.

IV. The burners of lamps used in lens and reflector beacon-lights are covered with glass chimneys formed with elbows or shoulders.

The lower part or base of the chimney rests in a moveable gallery, which is formed ordinarily of two concentric circles. It encloses the burner by a slight pressure, which is increased at pleasure by gently bending inwards, with a flat pincer, the elastic plates of the interior circle.

HEIGHT OF THE FLAME.

V. The height of the flame, corresponding to the full effect of lamps of this description, is from 1½ to 1⅝ inch. It is obtained by elevating to a proper point the moveable gallery which holds the chimney. If that point is exceeded, the flame may assume a great development, but it will be dull and red; if the error is on the contrary extreme, the flame will continue to be maintained white, but without its attaining such a height as is desired.

CONSUMPTION OF OIL.

VI. Two sizes of burners are used in these lamps—one of them .94 inch, and the other .87 inch in diameter, measured at the centre of the annular space occupied by the wick. The estimated mean consumption of oil (colza) for the larger burner is 60 grammes, (1 oz. 18.06 dwts. troy,) and the smaller one 45 grammes (1 oz. 8.95 dwts. troy) per hour.

A small number of lens apparatus is illuminated by ordinary constant level lamps, fitted with a burner of two concentric wicks.

The general management of these lamps is the same as of the preceding ones, and their consumption per hour reaches to about 115 grammes, (3 oz. 14 dwts. troy.)

TO FILL THE RESERVOIR.

VIII. To fill a constant level lamp with oil, remove the reservoir from its envelope or case; turn it up, and fill it through the hole left in the lower part of it for that purpose; then replace it, taking care to close the valve by means of the small iron stem attached to it, in a manner to prevent the oil from being spilt in turning it down.

TO PLACE THE WICKS.

IX. To fit a wick in its place, raise the wick-holder to its greatest height; remove it, and introduce the tin or wooden mandril designed to receive the wick; then shove down the wick to the bottom of the wick-holder, and secure it there by means of a tin ring supplied for that purpose. Should the ring be missing, its place must be supplied by a thread.

It is very important that the edge of the wick should be cut very regular, and covered, so that no projection of a nature to intercept the

passage of the oil may be presented. The wick being placed, lower it to its lowest point, and cut the upper edge even with the top of the burner, in the neatest and most regular manner possible, with the sharp curved scissors supplied for the purpose.

TRIMMING.

X. To trim (snuff) a wick while it is burning, raise it to a height to bring the lower part of the carbonized wick even with the edge of the burner; then proceed to trim as before directed.

HEATERS.

XI. When the temperature is such as to cause fear of congelation of the oil, a heater is placed under the body of the lamp.

This implement is composed of a cup filled with oil, and a floating taper placed in it. It is fixed to the base of the body of the lamp in the place of the moveable portion, similar in shape to the bottom of the lamp, by means of the upper ring of its support.

LAMPS FOR SIDEREAL APPARATUS.

XII. The lamps for sidereal apparatus differ from other lamps in the following respects:

1st. The wick, instead of being fixed at its lower edge, is free, in a double openwork basket, above which it ought to project one-fifth or one-sixth of an inch. This basket is called the *wick-holder*.

2d. The form of the chimney is nearly cylindrical, and is sustained about half an inch above the burner by two supports and two elastic rings fixed to a vertical stem.

3d. The heater is formed of a plate of iron, the lower part of which rests in a fixed sheath upon the reservoir; the upper part is curved, and rests above the chimney.

CONSUMPTION OF OIL.

XIII. The burners of these lamps are 1.1 inch in diameter. Their average consumption is fifty grammes of oil per hour; and the height of the flame, to produce its full effect, is about $1\frac{1}{2}$ inch.

FILLING THE RESERVOIR, AND PLACING AND TRIMMING THE WICKS.

XIV. The reservoir of these is filled in the same manner as of those already described.

To put a wick in its place, after having cut the desired length upon the tin former, introduce it between the two cylinders by means of a mandril placed upon the wick-holder, and then lower down to the bottom. It is then cut very regularly with the curved scissors; afterwards elevate it by means of the end of the *presser*, which covers four plates, to about three-tenths of an inch above the burner; it then serves

for the other end of the same instrument to bring it back again to the proper height—that is, about one-sixth of an inch above the burner.

When it is necessary to trim the wick, it is raised a little by means of the *presser;* then, after having trimmed it with care, replace it, proceeding in the manner before described.

LAMPS TO ILLUMINATE THE WHOLE HORIZON.

XV. Constant level (fountain) lamps cannot be used to illuminate the entire arc of the horizon. To accomplish that object, recourse must be had either to hydrostatic or mechanical (Carcel) lamps. All these lamps are managed in the same manner that the ordinary constant level lamps are, in so far as relates to chimneys, placing and trimming the wicks, dispositions, &c., described in articles 9 and 10.

HYDROSTATIC LAMPS.

XVI. The hydrostatic lamp, or the lamp of Thilorier, (the name of the inventor,) is composed of two reservoirs—the one, lower, filled with oil, the other filled with a solution of sulphate of zinc, the density of which is properly regulated. These two reservoirs are put in communication by a tube starting from the bottom of the upper reservoir and terminating a little above the bottom of the oil-cistern. A second tube, starting from the cone of the lower cistern, conducts the oil to the burner of the lamp.

The cone of the upper reservoir is traversed by the *regulating tube.* This tube must be carried down to the point which is necessary to make the column of saline solution immediately below that level balance a column of oil raised to the top of the burner.

The wick of a hydrostatic lamp ought to be kept at from one-fourth to one-third of an inch above the level of the burner, and the flame, when fully developed, at a height of 1¾ to 2 inches.

CONSUMPTION OF OIL.

XVII. The diameter of the burner is eight-tenths of an inch, and its consumption estimated at the average of 55 grammes per hour, (about 2 ounces troy.)

TO FILL THE RESERVOIR.

XVIII. To fill a *hydrostatic lamp* with oil, it is necessary to proceed as follows:

The stopper which closes the burner, the neck, and the chimney-holder are removed, and the funnel is placed upon the burner; remove also the *air tube,* designed to regulate the height of the oil; pour the oil, which should be filtered, in the funnel, until its level reaches the summit of that apparatus; restore the *air tube* to its proper place, taking care to replace the pin to its crank; raise up the funnel a little, turning it about, to make any oil which it may still contain run out; after which place it upon the oil-can, having previously allowed it to drip for a few moments over the burner; finally, replace the neck, the

chimney-holder, and the stopper, and empty the lamp-cup of the oil which has passed over from the top of the lamp.

Before removing the lamp filled with oil, it will be necessary to close the orifice of the *air tube* with a stopper; if this precaution is not observed, the liquid will run over.

HEATERS.

XIX. When there is risk of the oil congealing, two heaters are employed to prevent it. One of these heaters is placed under the lower, and the other under the upper reservoir, in each of which a floating taper is placed. The lower one is fitted in a cavity made in the plate or support of the lamp; the upper one is formed by a vase hollowed out on one side to fit the barrel or rounded side of the lamp, and is secured by four wires through the holes of the neck, which cover over the upper reservoir.

MECHANICAL LAMPS, (CALLED MODERATOR LAMPS.)

XX. The mechanical lamps in general use in small lens lights are *moderator lamps.*

The machinery placed in the reservoir of the lamp is formed by a spiral spring, the base of which is attached to a piston. The piston is made of a sheet-iron disk, fitted with a leather washer, and is traversed by the tube which feeds the burner. The foot of the crank which serves to raise the spring is fixed upon the piston. The lower part of the burner is supplied with a tube, having a leather box at its base, and an iron stem which passes through the tube traversing the piston.

To wind up one of these lamps, turn the key fixed at the top of the button of the rack until it is arrested. It will be necessary to commence winding up at the moment of lighting the lamp, and it will be necessary to renew it afterwards at the end of about six hours' combustion.

TO FILL THE RESERVOIR.

XXI. To fill the reservoir of the *moderator lamp* with oil, proceed as follows:

The movable gallery, which holds the glass chimney, and the neck are removed, when pour the oil through the opening of the lamp until it flows to the upper part of the reservoir.

TO PLACE THE BURNER IN THE CENTRE OF THE APPARATUS.

XXII. To make an illuminating apparatus produce its greatest effect, it is necessary that its axis should be horizontal, and that the flame be placed in the focus. In reflector and sidereal apparatus, the lamp is so arranged that the removal of the burner out of its focus may not be reasonably feared; but it is essential to be assured, from time to time, that the axis of the reflector is perfectly horizontal, (except in special cases, which will be treated of elsewhere.) This can be tested

by a simple plummet and line—determining if the opening of the reflector is included in one vertical plane.

In lens apparatus it is necessary to examine if the burner is placed exactly in the axis of the apparatus, and at the proper distance below the focus—that is to say, .87 inch below it. To determine this, draw two threads across each other, at right angles, using the small copper buttons placed in the interior of the uprights; the burner will be properly placed when its centre corresponds with the point where the two threads cross, and even with these threads in apparatus where the buttons are placed at .87 inch below the focal plane, or that distance below the threads when the buttons are placed in the centre of the uprights of the apparatus.

TO LIGHT THE LAMPS.

XXIII. To light a lamp, commence by raising the wick about one-third of an inch above the top of the burner, and light it at two opposite points of its contour, using for that purpose a small hand-lamp, specially designed for lighting, called a "*lucerne*."

From the moment the flame commences to rise, and before it commences to smoke, lower the wick, and place the chimney in its holder. At first keep the wick low and the chimney high; afterwards raise the wick to its proper height, and lower the chimney to its position, in succession, until a clear white flame is obtained, with such a development as the description of lamp will allow.

These directions are not applicable to the constant level lamps used in sidereal apparatus; for, as has been already said in article 12, the wicks of these lamps are fixed in a wick-holder, at the proper height. It is indispensable to raise the chimney about $2\frac{1}{3}$ inches above the burner; afterwards it is lowered (after the wick has been lighted) to the supports upon which it rests.

To light lamps with two concentric wicks, commence with the central one, which should be lowered as much as possible (without risk of extinguishing the light) immediately afterwards; follow the same course with the outer wick; having lighted both wicks, commence raising them gradually, and lower the chimney at the same time. The flame of a burner of two concentric wicks requires about half an hour to enable it to reach its full development.

TO EXTINGUISH THE LAMPS.

XXIV. A lamp is extinguished by lowering its wick, or by blowing it out when it belongs to a sidereal light. To extinguish lamps having two concentric wicks, commence by lowering the centre one and the outer one. The chimney ought not to be removed for several minutes after, and until it is sufficiently cool to prevent its breaking by too rapid contraction of the glass.

REVOLVING MACHINERY.

XXV. Beacon and other small lens lights are sometimes varied by flashes. That characteristic distinction is imparted to them by lenses

of cylindrical elements, which a revolving machine turns around the apparatus.

The revolving machinery consists of a clockwork movement, with a fly for its regulator, and which is put in play by a weight. Its motion is retarded or accelerated by opening or closing the friction wings of the fly, or by increasing or diminishing the motive weight.

The motion of this machinery is communicated to the frame which sustains the moveable lenses by means of two cog-wheels, which are thrown into gear at pleasure.

LIGHTING DUTIES.

MORNING ROUTINE.

XXVI. The keeper must commence the following course of duties every morning immediately after extinguishing the lights:

If the light is one of short ellipsis, the motive weight of the revolving machinery must be wound up to its greatest height, and then fixed; the machine must then be stopped, and the connecting wheel thrown out of gear.

If the lamp is mounted on a moveable table on the apparatus, the table must be lowered. If the apparatus is raised upon a scaffolding, it must be lowered until it rests upon the service table designed to receive it.

The foregoing directions must be observed in extinguishing the lamp; and the glass chimney must be carefully wiped inside and out, and then wrapped in a dry piece of linen and placed out of the way of dust. If it is a constant level lamp, it must be removed from the apparatus and placed on its service stand.

The apparatus must be dusted with a feather brush, and wiped off with a piece of clean soft linen and entirely free from dust. If any part of the apparatus is greased, it must be washed with spirits of wine until the grease is entirely removed. When this is completed, the covers must be placed over the apparatus.

The plate glass of the lantern must be carefully wiped inside and out, and, should it be found to be necessary to do so, cleaned with Spanish whiting.

The curtains of the lantern must then be spread.

The service table, the chandelier, and the interior walls and sides of the dead-lights of the lantern, must be dusted, and the stairs swept.

Having completed these duties, the lamp must be taken down to the storeroom, where it is emptied, and the oil it contained measured, to ascertain the quantity consumed during the night; after which, that oil must be passed through the filter for future use.

The oil which overflowed the burner and ran into the lamp-cup during the night must be poured into the vessel reserved for that special purpose, and it must be kept for the exclusive use of the hand-lanterns and lamps for the keeper's house.

The burner of the lamp must be carefully cleaned within and without. The cooked or gummy oil must be removed from the edges of the burner by means of a *scraper;* a *bottle-brush* must be passed through

the *air tube* to the interior, and the outside must be carefully wiped with a cloth.

The body of the lamp must undergo such cleaning as its condition may demand.

Finally, fill the lamp, renew or trim the wick, and replace the lamp in its apparatus, so that it will be, in every respect, ready for lighting at sunset.

Examine carefully into the condition of the spare lamp, which must be kept in the light-room of the tower; and be sure it is in perfect order, and ready to be filled for use.

An oil-can or vessel must be kept filled with filtered oil in the light-room, to be used in the spare lamp in case it should be required.

EVENING ROUTINE.

XXVII. The keeper must go into the lantern every evening at or before sunset, having previously provided himself with a hand-lantern and a lighting-lantern, ("lucerne.")

When the morning duties shall have been regularly and properly performed, the following will be found to be the condition of things:

The lamp of the apparatus will be in its place and ready to be lighted; its chimney, with a spare lamp, burner, two spare chimneys, and the service basket containing the various utensils, will be found arranged in the service closet or storeroom. The weights of the revolving machinery in the lights varied by flashes will be wound up to their greatest height, the main or master wheel will be retained by its bolt, and the connecting wheels will be ungeared.

Remove the cover from the lamp and burner, and commence lighting up at sunset, so that the light may reach its full power by dark, following the directions heretofore given in the execution of that duty. If the apparatus is on a moveable chandelier or rollers, place it in the position which it ought to occupy during the night, and, for the purpose of keeping it there, stop it with its pin or key.

Remove the blinds, if there are any, fold them up, and return them to the same closet, if the apparatus is placed in a permanent lantern.

If the apparatus is placed in a lantern to be hoisted and lowered, it must be hoisted to the top of the scaffold.

If the beacon is a revolving or flashing light, the revolving machinery must be put in motion immediately after the light is lighted. To do this, it will only be necessary to put the two cogged wheels in gear, withdraw the bolt which retains the master wheel, and remove the stop which supports the motive weight.

When the temperature is so low as to cause fear that the oil will congeal, it will be necessary to take the following precautions in the evening duties:

1st. An hour before sunset, remove the lamp, empty it, and heat the oil until it reaches such a temperature that the hand cannot be held in it; then plunge the burner in it, and let it remain several minutes. It must then be returned to its place, and the oil restored to its cistern.

2d. Prepare the heater and put it in its place.

NIGHT DUTIES.

XXVIII. The light must be visited by the keeper at least once during the night for the period embraced between the first April and the first October, and twice each night during the remainder of the year, and oftener if there should be any reason to fear the light may go out, or that its intensity may become perceptibly diminished.

These visits during the night must be made in the summer months near midnight, and in the winter months at about eleven o'clock p. m. and two o'clock a. m. At each visit the keeper must be provided with a lighting-lamp.

When the keeper finds that the wicks are carbonized and require to be trimmed, (snuffed,) he will proceed as follows, according to the description of the lamps under his charge:

If it is an ordinary fountain, (constant level lamp,) hydrostatic, or mechanical lamp, he must substitute the spare lamp immediately after having supplied with oil and lighted it outside of the apparatus, resting it on the service stand during the operation. If it is a sidereal apparatus lamp, remove the wick-holder and replace it with one of the wick-holders already fitted, which may be lighted at the same time. All these operations ought to be executed as rapidly as possible.

When a lamp has been removed and a substitute placed, it must be placed on the service stand or table, and the wick trimmed and put in perfect order for use in case of necessity.

The springs of the moderator lamp must be wound up at each visit.

In the hydrostatic lamps the level of the oil becomes gradually lower as the combustion continues, and during the long nights it may get so low as to injure the development of the flame perceptibly. The keeper will perceive this by the carbonized part of the wick being near the burner. It will then become necessary to raise the air tube a little, so as to elevate the oil to its proper level. To perform this operation without running the risk of causing the oil to overflow, which would extinguish the lamp, turn the air tube very slowly to the right and to the left, observing attentively the movement of the oil.

MANAGEMENT—CLEANLINESS.

TOWER AND BUILDINGS.

XXIX. Every part of the tower and buildings must be kept in the most perfect state of cleanliness and neatness; they must be swept and dusted every day, and washed as often as there may be any necessity for doing so.

XXX. The glass of the lantern must be wiped off every morning inside and out; once a week it must be washed off outside.

PREPARATION OF THE POLISHING ROUGE.

XXXI. This operation should be executed as follows: Break up a small quantity of rouge (a few ounces) in clean water, and form a clear mixture with it. This mixture must then be put into about a pint of

clean water, and, after having stirred it up well with a stick, let it rest for a few moments; then pour off the liquid mixture into another vessel carefully, to separate the small gritty particles which it may contain, and which, by this means, will remain at the bottom of the first vessel. That being done, leave it to settle about half an hour, when pour off the water until the rouge appears on the edge of the vessel.

This liquid rouge must be spread lightly, by means of a pencil or piece of soft linen, over the entire surface of the glass to be cleaned. When this coat of rouge becomes dry, rub it with a piece of buffskin until all of it is entirely removed.

The rouge thus prepared should be entirely consumed, as it will be unfit for future use for cleaning.

SPANISH WHITING.

XXXII. The Spanish whiting in habitual use for cleaning the glass of the lantern and the silvered portions of the reflectors must be prepared in the same manner as the polishing rouge, but in larger quantities, according to the necessity.

GLAZING.

XXXIII. The glazing of the frames of the glass and all the joints of the lantern through which the rain may penetrate ought to be attended to with the greatest care.

XXXIV. The putty employed should be composed of three parts of Spanish white and one part of white lead, both well pulverized and reduced to a paste a little stiff, and well beaten up with equal parts of boiled and common linseed oil.

TO REPLACE THE GLASS.

XXXV. As the keepers of beacon-lights may be required to replace a broken pane of glass, it may not be amiss to enter into some details on the subject. Having unscrewed the slats, and removed the pieces of broken glass, the old putty must be carefully cleaned from the frames.

Try the new pane of glass, to see that it will not touch any part of the frame, and that there will be a play of about one-twelfth of an inch all around, and particularly around the notches made to the right of the bolts fixed to the uprights.

If any portion of the glass touches its frame, it must be carefully and gradually removed by using a pair of glazier's pincers. Having done so to all parts of the glass which do not fit, the necessary dimensions will be obtained.

A coating of spirits of turpentine must be spread on the frames, and the putty is then applied. Three small blocks of soft wood, of about one-twelfth of an inch in thickness, are to be placed between the lower border of the glass and the frame, one being situated in the middle and the other two at about two inches and a half from the uprights. Without this precaution, the weight of the glass would start the putty, and it would come in contact with the hard surface of the lower border of the frame. Blocks of the same thickness must be placed on the putty

throughout the whole length of the uprights, and between the vertical edges of the new pane and the edges of the two adjacent ones. The slats must then be replaced and the putty applied.

The putty must not project beyond the perpendicular and upper slats but it is to be bevelled along the lower one, so as to permit the water to run off.

CATADIOPTRIC APPARATUS.

XXXVI. Should any of the putty of the rings or prisms of the apparatus be started, it must immediately be replaced with new putty, in the manner already explained.

Once each month the glasses must be washed with spirits of wine.

The apparatus must be cleaned once a year with polishing rouge. This must be done as described in article 31.

METALLIC REFLECTORS.

XXXVII. The parabolic and sidereal reflectors must be wiped at first with a soft linen to remove the dust, then rubbed with a buff leather designed for this purpose until their polish is restored.

At the end of every two months these reflectors must be polished with Spanish whiting, and the precautions indicated in article 39, must be observed during this operation. It is the more essential to use these precautions, as the polish of silver is much more easily affected than that of glass.

LAMPS.

XXXVIII. At the end of every fifteen days the service lamp of the lighting apparatus must be removed and replaced by one of the spare lamps.

CONSTANT LEVEL LAMPS.

XXXIX. Should a burner be injured by use or accident, it must be replaced immediately by one of the spare burners. This can easily be done by unscrewing the junction joint. Before placing the new burner, the junction must be furnished with a leather washer.

LEVEL OF THE OIL.

XL. The level of the oil in the new burner must be attended to; it must be maintained at about one-twelfth of an inch below the upper edge. Should the level be too high, the oil would overflow; if, on the contrary, it be too low, the flame would be too near the burner, whose edges would soon be burned. When the level of the oil is too high, a small plate of tin must be soldered over the notch on the small cylinder at the bottom of the reservoir of the lamp; then, with a file, a new notch is made to the cylinder, care being taken not to make it as low as the first. When the level is too low, the notch is enlarged in the manner above stated.

CLEANSING.

XLI. All the brass work of the service lamp must be cleansed every eight days with tripoli dissolved in spirits of wine. When a lamp is withdrawn from the apparatus to be placed in store, its wicks must be removed, the lamp emptied and drained, and cleansed outwardly with tripoli. It is cleansed inside by rinsing it several times with boiling water, or a weak lye of ashes.

CONSTANT LEVEL LAMP.

XLII. The body of the pumps of the lamps and the outside of the burners must be cleansed at the end of every eight days with Spanish whiting mixed in a little oil.

When the inside of a lamp or of a burner is clogged with oil, it must be cleansed in the manner just stated.

MODERATOR LAMPS.

XLIII. At the expiration of every eight days the exterior of the lamps must be cleansed with tripoli mixed with spirits of wine, and the small filter of metallic cloth below the burner must be removed and washed with boiling water.

When a lamp is removed from the apparatus to be placed in reserve, the wick must be withdrawn and the oil poured on the filter; the machinery is then slightly wound up, and the lamp reversed over the drain.

The outside of the lamp is rubbed with tripoli, and the burner cleansed.

HYDROSTATIC LAMPS.

XLIV. The principal care required for a hydrostatic lamp is to keep it constantly clean.

The burner, the chimney holder, the neck, the body of the lamp, and the draining cup, must be cleansed daily.

The same with regard to the stopper of the burner and of the stopper of the funnel.

When a lamp, after being used fifteen days, is withdrawn to be placed in reserve, a wire must be passed through the air tube to remove any particles of crystallized sulphate which may have been formed there. Should this tube become clogged, the oil could not reach the burner. Should the lamp, in consequence of the crystallization of the salt, or from any other cause, cease to work properly, by the following process it can be cleansed:

1stly. The air tube is removed in order to drain the oil into the cup.

2dly. When the drainage has ceased, the lamp is reversed to empty out the oil and liquid sulphate; the stopper placed at the bottom is removed, and the remainder of the oil and liquid is received in a vessel with a large mouth. When the lamp is entirely empty, the stopper is replaced.

3dly. The lamp must be rinsed several times with boiling water, and shaken in every direction, until it is ascertained that no crystallization remains in it. The lamp is then emptied and drained.

4thly. The oil is separated from the solution of sulphate of zinc, and both the specific weight and volume of the latter are ascertained by means of the areometer and the tin measure gauged to contain the quantity necessary for one lamp. The density and volume are augmented, if necessary, by dissolving some crystallized sulphate in a small quantity of hot water, which is afterwards poured slowly into the measure. Should the liquid become too heavy, a small quantity of pure water is added to it; if, on the contrary, it be too light, some concentrated liquid sulphate is added to it.

When the weight and the volume have been ascertained to be correct, the liquid is poured into the lamp by the orifice of the leather box, whose air tube has first been removed.

The lamp will be supplied with oil in the manner described in article 18; then it must be placed in reserve to await its turn of service.

CLEANSING THE GLASS CHIMNEY.

XLV. When the chimney of a lamp is stained with cooked oil, the spots are removed by rubbing it with a cloth dipped in oil; then it is wiped with care, and rubbed with Spanish whiting.

REVOLVING MACHINERY.

XLVI. The revolving machinery of moveable lights is cleaned and kept in order in the following manner:

Every morning the cage, the wheel communicating the movement, and that of the carriage must be dusted.

The large vertical rollers, the small horizontal rollers, as well as the railway on which they run, must be wiped off.

Every eight days these rollers must be removed, their axles wiped, a small stick covered with linen passed through the openings which receive them, and a small quantity of clockmaker's oil poured into them before they are replaced.

Care must be taken not to remove more than one roller at a time.

Occasionally the pivots of the machinery must be lubricated with clockmaker's oil.

Yearly, in July, the revolving machinery must be taken apart by the keeper to be thoroughly cleansed.

To cleanse the brass parts of the machinery, their surfaces are coated with tripoli mixed in spirits of wine, and they are then rubbed with a small soft brush until they receive a fine polish.

Should it be found impracticable to remove any stains with the brush, a small spatula of soft wood and tripoli must be used for this purpose.

The iron and steel parts must be rubbed with a spatula of soft wood dipped in oil.

A stick covered with a piece of linen may be used to cleanse the holes of the pivots of the axles, as well as the screw holes.

Before putting the machinery together again, a small quantity of clockmaker's oil must be poured into the holes in which the axles work, and all the different parts of iron and steel coated with tallow.

CLEANSING OF THE INSTRUMENTS.

XLVII. All the tin utensils used in the light-house service must be rubbed with Spanish whiting twice a year, or oftener if necessary.

NOMENCLATURE AND USE OF THE UTENSILS USED IN LIGHT-HOUSES.

FILTER.

XLVIII. The oil used in the lamps of light-houses must be filtered by the keeper.

The filter is in two parts; the upper part contains the filter, properly so called, and the lower part is a reservoir to receive the filtered oil.

The filter consists of a tin plate pierced with holes, over which is placed a piece of cloth and a layer of fine sand about one-tenth of an inch in thickness.

Once a month the cloth must be washed with hot water and soap, and the sand passed through boiling water. They must not be again used until they have been perfectly dried; to effect this, the sand must be dried over a fire.

Care must be taken not to use sea sand, even after it has been washed in fresh water.

SERVICE BASKET.

XLIX. The service basket is in the form of a box, with a handle and cover in two parts.

It is divided into three compartments. The smallest contains a flat box to receive the greasy cloths and ends of wicks; under this box are placed clean cloths used in wiping the glasses.

In the second part are placed one or two spare chimneys.

The third part must contain the following articles:

TRIANGULAR SCRAPER.

A triangular scraper, used to remove cooked oil from the edges of the burners.

BOTTLE-BRUSH.

A horse-hair brush to cleanse the inner air tube of the burner.

CURVED SCISSORS.

Curved scissors to trim the lamp-wicks.

CALIBRE.

A *calibre* of tin, curved at its extremity, to enable the keeper to cut the wicks the proper length.

MANDRIL, OR WICK-MOULD.

A conical mandril, of tin or wood, to facilitate the fitting of the wick on the holder.

TIN DRIPPING-PAN.

L. The dripping-pan is flat and square; it has a double bottom; the upper portion is moveable, and pierced with holes; the lower portion has a spout by which to pour off the liquid; it is used to drain the burners, the lamps, &c.

THE HAND-LANTERN.

LI. This lantern is used for the double purpose of giving light to the keeper and to enable him to light the light-house.

One of the sides of this lantern is fixed to receive a small hand-lamp, called a "*lucerne.*"

LUCERNE.

LII. The *lucerne* is used to ignite the wick of the light-house lamp. In the centre is a screw stopper, which is removed when it is necessary to renew the wick or fill it with oil; near the handle is a small air tube, on which the thumb is placed to prevent the escape of the oil when the *lucerne* is used to light the wick of the lamp.

OIL-CAN.

LIII. The oil-can is used to fill the reservoir of the lamps. It must be placed every night, filled with oil, on the service table of the light-house chamber, so that, if required, the reservoir of the spare lamp may be filled without delay.

LAMP STAND.

LIV. The shape of the lamp stand varies with that of the lamp which it has to support. Each light-house is furnished with two of these articles. One must always be kept on the table of the lantern chamber; the other in the storeroom of the light-house.

ROUGE BOX.

LV. This box contains another, in which is kept the rouge, in cake or in powder.

On the top of the inside box is placed the buff leather used only to rub the rouge when it is employed to clean the apparatus and the glasses of the lantern.

TRIPOLI.

LVI. The tripoli must be enclosed in a box, and used exclusively to clean the brass and copper utensils.

PENCILS.

LVII. These are used, ordinarily, for putting the polishing rouge upon the surfaces of the glass to be cleaned.

HAND-BRUSHES.

LVIII. The hand-brush, or baker's brush, is of a half-round shape, and has a handle ten to fifteen inches long; it is used for the lantern frame, interior walls, the four or five last steps of the stairs, &c. Accidents might occur from the use of the ordinary broom, in consequence of the length of the handle.

SILVER-PLATER'S BRUSH.

LIX. This brush serves to rub the pieces of copper on which tripoli has been used. It is particularly designed for those parts of the revolving machinery made of copper.

FEATHER BRUSH.

LX. The feather brush is used to dust the illuminating apparatus, the glass of the lantern, the frame and rollers, and the cage of the revolving machinery.

GLAZIER'S PINCERS.

LXI. These pincers may perhaps become necessary when broken glass is required to be placed in the lantern. To reduce, by small quantities, the dimensions of a plate of glass, place the pincers in such a manner that the bills may seize the edge of the glass, making a very short angle with them. In pressing a little on the branches of the pincers, and in turning the hand out, the small particles of glass will be removed. That operation ought to be executed very slowly, and with much care, observing to remove but a very small quantity at a time.

SCREW-DRIVER, KEY, AND HAMMER.

LXII. Screw-drivers and keys are used for mounting and dismounting the revolving machinery. After they have been used, they ought to be rubbed with a piece of cloth, smeared with tallow or hog's lard, and kept in a dry place.

SPECIAL IMPLEMENTS CONNECTED WITH HYDROSTATIC LAMPS.

LIQUID-MEASURE.

LXIII. This measure is of the exact shape of the ordinary oil-can; it is gauged to contain the quantity of dissolved sulphate of zinc necessary to charge a lamp.

OIL-CAN.

LXIV. This oil-can does not differ from the ordinary oil-can but in its upper part, which is arranged to receive the funnel-stopper which was described in article 18.

AREOMETER.

LXV. This very fragile instrument is enclosed in a paper box. It serves to test the density of the dissolved sulphate of zinc. The proper density will be indicated by this instrument being inserted in the liquid, and the scale maintaining itself even with the surface.

IMPLEMENTS FOR THE USE OF SIDEREAL LAMPS.

CIRCULAR SCRAPER.

LXVI. Is formed of a small iron stem, having at its extremity a small iron circle to scrape the outside of the wick-holder, and at the other end a small disk to scrape the interior.

BURNER-DRIPPER, OR CUP.

LXVII. The burner-dripper, or cup, is a small tin vessel, with a rim.

The foregoing INSTRUCTIONS and DIRECTIONS are designed to guide the engineers, inspectors, and light-keepers in the performance of their respective duties, and they are required to follow them in all cases in which they are applicable to the light-house service of the United States.

By order of the Light-house Board:

W. B. SHUBRICK, *Chairman.*

THORNTON A. JENKINS,
EDM'D L. F. HARDCASTLE, } *Secretaries.*

TREASURY DEPARTMENT,
Washington, December 18, 1852.

Approved:

THO. CORWIN,
Secretary of the Treasury.

TREASURY DEPARTMENT,
Register's Office, January 15, 1853.

SIR: I have the honor to transmit the following statements, required by the resolution of the Senate of the 30th ultimo, in relation to the marine-hospital fund, viz:

T. Statement of the hospital money collected annually under the act of the 16th July, 1798.

U. Statement of the appropriations by Congress for marine hospitals, sites, furniture, walls, and repairs.

V. Statement of the marine-hospital fund on the 1st July, 1852.

I have the honor to be, sir, your obedient servant,

N. SARGENT, *Register.*

Hon. THOMAS CORWIN,
Secretary of the Treasury.

T.

Statement of the amount of marine-hospital money collected annually from seamen under the act of July 16, 1798.

Years ending—		Amount collected.
December 31	1802	$109,954 56
	1803	54,933 21
	1804	58,210 98
	1805	58,005 98
	1806	66,820 01
	1807	61,474 47
	1808	36,515 44
	1809	*74,192 42
	1810	54,309 31
	1811	54,586 34
	1812	42,421 46
	1813	21,789 58
	1814	10,280 73
	1815	28,374 74
	1816	43,864 21
	1817	46,630 59
	1818	49,239 58
	1819	50,405 84
	1820	48,765 01
	1821	48,569 99
	1822	51,923 72
	1823	53,062 91
	1824	51,895 38
	1825	57,032 39
	1826	58,112 51
	1827	58,254 26
	1828	56,223 31
	1829	58,361 34
	1830	59,492 21
	1831	59,182 17
	1832	58,942 56
	1833	62,901 15
	1834	64,532 98
	1835	66,621 77
	1836	67,961 02
	1837	27,021 24
	1838	35,233 92
	1839	66,311 83
	1840	71,878 73
	1841	73,568 29
	1842	72,462 98
Six months, to June,	1843	37,417 18
Year ending June 30,	1844	85,017 71
	1845	88,074 34
	1846	88,630 60
	1847	95,199 05
	1848	99,948 14
	1849	101,904 15
	1850	117,981 98
	1851	122,438 62
	1852, as far as ascertained	132,573 55
		3,219,506 44
Deduct received by R. Arnold, late collector of Perth Amboy, and not paid into the treasury		2,045 08
		3,217,461 36

* Of this amount $38,513 96 was received from the Navy Department, per act Mar. 3, 1799.

TREASURY DEPARTMENT *Register's Office, January* 14, 1853. N. SARGENT, *Register.*

U.

Statement of the appropriations by Congress for marine hospitals, sites, furniture, walls, and repairs.

Years.	At what ports.	Amount.	Total.
1830	Charleston, S. C.	$25,000 00	
1832	do	4,360 00	
1834	do	1,000 00	
1838	do	2,000 00	
			$32,360 00
1833	Norfolk, Va.	3,875 00	
1840	do	4,000 00	
1849	do	1,600 00	
			9,475 00
1835	Boston, Mass, (see note)		500 00
1837	Washington, D. C.		100 00
1837	New Orleans, La.	70,000 00	
1844	do	30,000 00	
1848	do	21,696 00	
1849	do	7,500 00	
1851	do	5,500 00	
			134,696 00
1837	Mobile, Alabama	10,000 00	
1839	do	15,000 00	
1842	do	15,000 00	
1849	do	7,500 00	
1851	do	2,330 00	
			49,830 00
1842	Ocracoke		10,000 00
1845	Key West	25,000 00	
1851	do	600 00	
			25,600 00
1842	Cleveland, Ohio	12,000 00	
1849	do	10,000 00	
1850	do	6,657 00	
1851	do	24,011 00	
1852	do	2,000 00	
			54,678 00
1842	Pittsburg	10,253 00	
1849	do	10,000 00	
1850	do	11,667 00	
1851	do	28,753 42	
1852	do	1,563 48	
			62,236 90
1842	Louisville, Ky	6,000 00	
1849	do	10,000 00	
1850	do	11,667 00	
1851	do	19,000 00	
1852	do	2,000 00	
			48,667 00
1842	Paducah	1,000 00	
1849	do	10,000 00	
1850	do	20,000 00	
1851	do	7,625 00	
1852	do	2,000 00	
			40,625 0)

U—Continued.

Years.	At what ports.	Amount.	Total.
1842	St. Louis, Mo.	$7,468 00	
1849	....do	10,000 00	
1850	....do	20,000 00	
1851	....do	1,871 30	
1852	....do	2,000 00	
			$41,339 30
1842	Napoleon	1,000 00	
1849	....do	10,000 00	
1850	....do	20,000 00	
1851	....do	10,250 00	
1852	....do	2,000 00	
			43,250 00
1842	Natchez, Miss.	7,000 00	
1849	....do	10,000 00	
1850	....do	20,000 00	
1851	....do	2,250 00	
1852	....do	2,000 00	
			41,250 00
1849	Chicago	10,000 00	
1850	....do	20,000 00	
1851	....do	19,712 00	
			49,712 00
1850	Evansville	10,000 00	
1851	....do	15,000 00	
			25,000 00
1851	Vicksburg		10,000 00
1850	San Francisco	50,000 00	
1852	....do	130,000 00	
			180,000 00
1852	Portland		30,000 00
1837	Sites for marine hospitals—		
	On the Mississippi and Ohio rivers and Lake Erie		15,000 00
	At Pittsburgh, Louisville, and Cleveland		25,000 00
	Total		929,319 20

NOTE.—In 1837 a marine hospital was built at Chelsea, Massachusetts, and paid for out of the general fund, $27,603 39; and there was repaid, being from the sale of the old hospital, $12,875.

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 14, 1853.

V.

Statement of the marine hospital fund on the 1st July, 1852.

Amount of receipts, per statement A		$3,217,461 36
Received from the sale of the old hospital at Chelsea, Massachusetts		12,875 00
Appropriations by Congress for the relief of sick and disabled seamen		969,069 34
		4,199,405 70
Payments from the treasury, for the relief of seamen, to the 30th June, 1852	$3,891,229 59	
Carried to the surplus fund prior to 1833	537 33	
		3,891,766 92
Balance of the fund, July 1, 1852, subject to any variation on the settlement accounts not reported to this office, and to payments not yet ascertained for furnishing the five marine hospitals provided for out of the appropriation of *200,000 "for the relief of sick and disabled seamen," per act of the 30th September, 1850—(page 539, Little & Brown's edition)		307,638 78

*NOTE.—By the act of 31st August, 1852, there is an additional appropriation of $100,000.

N. SARGENT, *Register.*

TREASURY DEPARTMENT,
Register's Office, January 15, 1853.