

their storage in the yards, but it is believed they could be more advantageously stored in more convenient locations outside. The steam machinery must be repaired, constructed, and placed on board the vessel in the yard. The yards are large workshops, about equally divided between the hulls and the machinery. These cannot be separated, and are the objects of paramount importance, to which all others are very secondary. The experience of the last few years has shown that the marine engines of the navy, as well as the vessels, can be built by the department at the yards cheaper and better than by contract; and it is recommended that the yards be, as far as practicable, adapted for the execution of the largest possible quantity of such work.

I would respectfully call the attention of the department to the inadequate pay and position of the chief engineers of the navy. Marine machinery, costing enormous sums, and on whose efficient performance the national honor and interest may depend, must, of necessity, be confided to their skill for construction, repair, and proper management. The management and supervision of the engineer department of the navy yards—each of which is a first-class manufacturing establishment for steam machinery—is, and must continue to be, under their supervision and control. Not only are the highest professional talents and experience needed, but spotless integrity; for immense expenditures must be made on faith in both. The importance of the engineer to the navy is second to none in any point of view; but unless the pay and nominal position be made in some way commensurate with the responsibility and real position, the best talent of the engineer corps will continue to resign from it as fast as superior attraction is discovered on more appreciative fields, leaving only mediocrity for the service of the government. If the pay and position be below the level of the talent, the talent will inevitably fall to the level of the pay and position. I would respectfully suggest, therefore, that the pay and rank of chief engineers be made to increase more rapidly, and to a greater degree, than at present, so that the prize in this lottery will be of sufficient value to induce first-class abilities to continue through the drudgery and small pay of the lower grades, in order finally to attain it. I also suggest to the consideration of the department the appointment of fleet engineers to all the squadrons. I am certain the advantage to the government would far overbalance any inconvenience it might cause, and it would not only perfect the organization of steam squadrons, but greatly increase their efficiency. The experience of the war demonstrated the necessity of such an officer; he was then found to be indispensable; and although the omission of him in peace may not produce the disastrous results it would in war, because the squadrons are smaller, and bad management both less apparent and of less importance, yet, *pro tanto*, the loss due to a want of proper organization and selected abilities for the performance of a duty so important that its responsibilities can scarcely be exaggerated, will be theirs. I conceive the public interest absolutely requires each squadron to have a fleet engineer, wholly disconnected personally with the different steamers, and uninfluenced by their movements, to determine on the necessity of repairs, and when and how they shall be made. This is the only means of preventing the return of vessels to port, on pretexts for unnecessary or trivial repairs to the machinery, and to secure the most efficient discharge of their duties by the engineers of the respective steamers.

Respectfully submitted by, sir, your obedient servant,

B. F. ISHERWOOD, *Chief of Bureau.*

Hon. GIDEON WELLES,  
*Secretary of the Navy.*

#### BUREAU OF PROVISIONS AND CLOTHING.

BUREAU OF PROVISIONS AND CLOTHING,

October 25, 1865.

SIR: I have the honor to submit estimates marked A to E, inclusive.

#### APPROPRIATIONS.

The appropriations made at the last session of Congress for provisions, clothing and contingent, being deemed ample for the probable wants of the reduced forces of the navy for two years, no estimates are sent in except for the salaries of the chief of the bureau and its clerks, and for the small contingent fund of the bureau proper.

#### STORES ON HAND.

When the late rebellion was brought so suddenly to its end, the navy was in a better condition to continue its efforts with vigor than it had been at any previous period.

In the department under my charge there was a supply of all kinds of stores adequate to the wants of the large naval force afloat. Northern navy yards, and southern depots for the blockading fleets, were furnished with sufficient stocks of provisions, clothing and other stores. But happily they were not all needed; and immediately upon the surrender of Lee's insurrectionary forces, the work of reduction was, by your directions, commenced.

No new contracts were made, and the purchases in open market were restricted to the immediate wants of the service.

Ships returning in great numbers from their long and arduous cruises turned in their remaining stores and swelled the stocks on hand in the northern depots, while the consumption was greatly diminished by the discharge of so many men.

#### FOREIGN DEPOTS.

Soon after the commencement of our difficulties at home the depots on foreign stations were either discontinued or their stores were materially reduced. The re-establishment of our foreign squadrons has made it necessary to send storeships to various ports, where supplies are kept, under charge of the paymasters of the stationary storeships.

The old mode of hiring storehouses in foreign ports is obnoxious to grave objections. The difficulty and expense of transporting stores from the shore are much greater than from storeships. Custom-house regulations frequently cause delay and embarrassment, and duties are demanded in many ports upon goods landed only for reshipment. Our own storekeepers residing on shore have too often, in former times, made their offices a means for traffic for their individual advantage, and the public interests have been made entirely secondary to and promotive of their own. But there have been many honorable exceptions to this rule.

In a national point of view, we have always been indebted to the courtesy of foreign nations for allowing our stores to be kept on shore, and more than once have been required to give up our establishments and remove to other ports.

These disadvantages may all be avoided, and our independence be fully preserved in future, by establishing at convenient points stationary store-vessels whose paymasters shall perform all the duties of naval storekeepers, and whose operations will be performed under the immediate control of the commanders of

squadrons. This plan has, with your sanction, been inaugurated by sending store-vessels to remain stationary at Cadiz, Spezzia, Callao, and Rio Janeiro, and measures are in progress to substitute a storeship for the storehouse now rented at Macao.

When that shall have been accomplished, the duties of storekeepers abroad will be done by naval paymasters, and doubtless the system will prove more convenient and economical, as it will be certainly more independent, than the one formerly pursued.

#### DEPOTS AT HOME STATIONS.

Early and active measures were also taken to reduce the number of depots for supplies as well as the expenses of those which must necessarily be retained. The surplus stores at Mound City have been shipped to northern ports, and the small quantity necessary to be kept on hand has been transferred to the charge of the paymaster of the station. The stores at New Orleans and Key West have been ordered to Pensacola, or (if not needed there) to New York or Boston. From Beaufort and Newbern the supplies have been sent to Norfolk and New York, and all the stations on the southern coast have been abandoned as depots of supplies, excepting Norfolk, Pensacola, and Port Royal, at which last place there is still a small stock kept for the use of the Atlantic squadron, but it is hoped that the large amount of naval property at that point will soon be disposed of in such a manner as to authorize the discontinuance of that depot, which has been of such vital importance to the operations of the late South Atlantic squadron, and which is now the only depot which did not exist previous to the rebellion.

#### SUPPLY STEAMERS.

It is a noteworthy fact that during the long and arduous cruises of blockading vessels stationed along a hostile and insalubrious coast the health of the ships was remarkably good. This was owing, in part, to the admirable hygienic system obtaining in the navy, as well as to the vigilant care of the Bureau of Medicine and Surgery under its late able and distinguished chief, and to the attention and skill of individual medical officers afloat.

But doubtless the kinds and quality of the provisions furnished had great influence in bringing about this highly favorable result. All officers concur in their testimony as to the excellence of the ration, and especially to the marked improvement in the quality of the bread baked under naval inspection, which has entirely superseded the contract bread formerly procured.

But the great, though of course temporary, improvement in the supplies for the blockading squadron, was made through the instrumentality of supply steamers, which formed an entirely new feature in naval organizations. These steamers were large, fast vessels, provided with capacious ice-houses, which would hold 35,000 pounds of fresh beef and sufficient ice to preserve it for many weeks. The vessels also carried six or seven hundred barrels of vegetables, besides ample supplies of mess stores. They took out and brought home mails and passengers, and communicated with all vessels of the squadrons visited by them. Running almost with the regularity of steam packets between the blockading squadrons and the ports of Boston, New York, and Philadelphia, they added greatly to the comfort and health of officers and men. With some modifications, but with equally beneficial results, the same system was pursued in the Mississippi squadron. Officers whose position gave them opportunity to know and to enjoy the advantages of these regular supplies, all give their testimony to their inestimable value to officers and men.

#### INCREASE OF CORPS.

The law of March 3, 1863, ratifies and confirms the temporary acting appointments of acting assistant paymasters until the return of the vessels in which they are respectively employed, or until the suppression of the present insurrection, as may be deemed necessary. If this law be carried out great embarrassment must ensue. There are not nearly enough pay officers in the regular service to perform the duties of paymasters at stations on shore and on board vessels in commission, yet the moment the rebellion is declared to be suppressed the department will have no legal power to retain in office any acting assistant paymaster who has returned from sea, nor to appoint any others, however great may be the need of their services. There are now authorized by law, upon the active list, one hundred regular pay officers, viz: sixty-four paymasters and thirty six assistant paymasters. But the law authorizing the last provides that the whole number is to be reduced to seventy-five within six months after the expiration of the present insurrection.

It would seem to be indispensable that both the laws referred to be modified, or that the regular corps should be at once sufficiently increased to supply officers for the suitable performance of the duties of the pay department of the navy.

I beg leave to renew the recommendation made in my last annual report for the creation of the intermediate grade of acting assistant paymasters, that the pay corps may be more nearly assimilated to the medical and engineer corps in rank and pay, and that its officers may have the additional encouragement which more frequent promotions offer. The examinations which must by law precede all naval promotions would oftener give the opportunity to investigate the official record of the officers and determine upon their personal fitness for promotion. I take great pleasure in referring to the high character which the pay corps of the navy has maintained during the progress of the late rebellion. With fewer exceptions than might reasonably have been anticipated, they have performed their own responsible duties faithfully and satisfactorily, though often when surrounded by difficulties and danger. And it is believed that the officers of no other corps have shown themselves more ready to volunteer for any duty, nowever hazardous, in which their services could be made useful.

#### PURCHASE OF THE RUGGLES PROPERTY

One of the most embarrassing difficulties experienced by this bureau in supplying squadrons has come from the want of storage room at navy yards and wharf accommodations for shipping and receiving supplies. This was especially felt at New York. The limited wharf room was used for the men-of-war receiving and discharging stores; for merchant vessels bringing or taking away cargoes for different departments, and for supply-steamers and store-ships. These came to the same wharves indiscriminately, and often interfered with and hindered each other. Vessels were sometimes detained weeks solely for want of opportunity to load or discharge, and heavy demurrages were paid which might have been saved had there been another wharf. By your direction, in May last, a valuable wharf and lot, with a large brick storehouse upon it, were rented at the yearly rent of six thousand dollars, and they are now most usefully employed receiving and storing the large quantity of stores returned from vessels going out of commission, and from depots where they are no longer needed. This property was rented from the executors of an estate who, in the lease, gave to the government the privilege of purchasing, at any time during the next session of Congress, at the price of \$90,000. The property includes a small lot, with a water front of fifty feet, lying on the northwest side of Little street, which is thirty feet wide. If

the government should become the owner of lots on both sides of this street, it is not improbable that the legislature of New York would allow the street to be closed as far as the government should own on both sides of it, and this would, together, give the navy yard an increased water front of about 350 feet.

I had the honor to recommend in my last annual report that arrangements should be made at navy yards to keep the storehouses and wharves to be used for provisions and clothing as much as possible separate from those of other departments. The purchase of the Ruggles property, and its appropriation to the uses of this bureau, would go far to show, practically, the advantages of the proposed plan. The wharf and buildings being beyond the present limits of the yard, and opening upon a public street, (if desired,) seem admirably fitted for the uses of a victualling establishment.

I am, sir, very respectfully, your obedient servant,

H. BRIDGE, *Chief of Bureau.*

Hon. GIDEON WELLES,  
*Secretary of the Navy.*

#### BUREAU OF MEDICINE AND SURGERY.

##### NAVY DEPARTMENT,

*Bureau of Medicine and Surgery, November 1, 1865.*

SIR: In compliance with your instructions of the 18th August last, I have the honor to submit estimates of the amount required for the support of the Bureau of Medicine and Surgery, and the medical department of the navy, for the fiscal year ending June 30, 1867.

The condition of the medical department is represented as follows:

Balance of appropriation for surgeons' "necessaries and appliances" remaining in the treasury November 1, 1865.....	\$155,559 01
Amount of hospital fund in the treasury November 1, 1865....	64,165 92
Balance of appropriation, contingent Bureau of Medicine and Surgery, remaining in the treasury November 1, 1865.....	76,040 30
Amount required for the support of the Bureau of Medicine and Surgery for the year ending June 30, 1867, (schedule A)....	11,620 00
Amount required for the medical department of the navy, on ship-board and all naval stations, with the exception of hospitals, for the year ending June 30, 1867, (schedule B) .....	168,750 00
Contingent.....	75,000 00

Pursuing the system adopted heretofore of per capita estimates, and assuming the number to be employed during the term covered by the estimates to be 22,500, an appropriation will be required of \$168,750, upon the basis of an expenditure of \$7 50 per man, for all causes involving the disbursement of the funds of this bureau.

The estimate for contingent is \$75,000, in consequence of the advanced cost of every article to which this appropriation is applied.

I submit tabular statements of sick, &c., compiled from the reports of sick from the different naval stations within the United States, and from vessels on home and foreign service, for the year ending December 31, 1864.

*Statement of sick, compiled from reports of sick from the naval stations in the United States, and from vessels in commission on home and foreign stations, for the year ending December 31, 1864.*

	Average number on board during the year 1864.	Remaining sick December 31, 1863.	Admitted in 1864.	Discharged in 1864.	Died in 1864.	Total treated in 1864.	Remaining sick December 31, 1864.	Percentage of deaths to the whole number of cases treated.
<b>HOSPITALS.</b>								
Chelsea.....		91	812	784	43	903	76	
New York.....		296	1,839	1,753	117	2,135	161	
Philadelphia.....		72	746	713	43	818	62	
Washington.....		38	367	353	14	405	38	
Norfolk.....		171	1,920	1,835	61	2,091	195	
Pensacola.....		19	824	740	47	843	56	
Mound City.....		190	1,146	1,015	106	1,336	215	
New Orleans.....		46	809	672	78	855	105	
Newbern.....		7	122	109	8	129	12	
Hospital barge Fitch, Smithland, Ky.....			58	17	3	58	38	
Port Royal, S. C.....			86	24	5	86	57	
Beaufort, S. C.....			31	31		31		
		930	8,760	8,046	525	9,690	1,015	.054
<b>RECEIVING SHIPS.</b>								
Portsmouth, N. H.....	520		67	59		67	8	
Boston.....	1,090	24	773	776	9	797	12	
New York.....	1,696	6	726	717	7	732	8	
Philadelphia.....	458	11	429	423	11	440	6	
Baltimore.....	279	11	222	211	11	233	11	
Mare Island, Cal.....		11	214	199	7	225	19	
	4,043	63	2,431	2,385	45	2,494	64	.018
<b>NAVY YARDS, ETC.</b>								
Portsmouth, N. H.....	33	533	550	7	566	9		
Boston.....	3	145	145		148	3		
New York.....	4	201	201	3	205	1		
Philadelphia.....	5	230	232		235	3		
Washington.....	23	527	521	7	550	22		
Norfolk.....	1	309	305		310	5		
Mound City, Ill.....	3	285	278		288	10		
Naval Academy.....	42	894	927	1	936	8		
	114	3,124	3,159	18	3,238	61		.005

RECAPITULATION.

	Aggregate number of officers and men on board of vessels in 1864.	Remaining sick December 31, 1863.	Admitted in 1864.	Discharged in 1864.	Died in 1864.	Total treated in 1864.	Remaining sick December 31, 1864.	Proportion of cases to number of persons on board.	Proportion of deaths to whole number of persons on board vessels.	Percentage of deaths to whole number of cases treated.
Hospitals	930	8,760	8,046	525	9,690	1,015	.....	.....	.054	
Navy yards, &c.	114	3,124	3,159	18	3,238	61	.....	.....	.005	
Receiving-ships	4,043	63	2,431	2,385	45	2,494	64	.61	.011	.018
Vessels in commission at sea	39,744	988	57,145	55,817	785	58,133	1,531	1.46	.014	.013
	43,787	2,095	71,460	69,407	1,373	73,555	2,671	1.67	.023	.013

At the close of the year 1863 there were reported 2,111 cases remaining under treatment. The reports of sick for 1864, however, brings forward but 2,095; a discrepancy of sixteen to be accounted for by casualties similar to the one on board the Housatonic—destroyed by a torpedo, and whose reports were therefore never transmitted to this office.

The total number of deaths from all causes reported at the Navy Department from October 1, 1864, to September 30, 1865, is 1,750.

The average force of the navy, (officers, seamen, engineer service, coast survey, &c.,) for the year was about 43,787.

The proportion of cases to the whole number in service was about 1.70, or each person was on the sick list  $1\frac{70}{100}$  times during the year.

The proportion of deaths to the whole number in the service was about  $\frac{1}{100}$ , and the percentage of deaths to the whole number of cases treated is 0.18, or less than two per cent.

Summary of prevalent forms of diseases on foreign and home service for the year 1864.

Squadron.	Average number of men.	Total.		Febrile diseases.		Diseases of digestive system.		Diseases of respiratory system.		Diseases of circulatory system.		Diseases of brain and nervous system.		Diseases of cutaneous and cellular system.		Diseases of fibrous, serous, and muscular system.		Diseases of genito-urinary organs.		Malignant diseases.		Diseases of the eye and ear.		Wounds and injuries.			
		Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.	Cases treated.	Deaths.		
North Atlantic	10,995	13,263	132	2,270	14	3,275	12	2,084	33	211	3	425	7	973	1	1,152	.....	24	1	879	6	246	6	250	.....	1,474	57
South Atlantic	6,735	7,389	84	940	12	1,269	6	1,446	33	163	4	258	2	851	1	919	4	15	1	273	.....	190	1	180	.....	875	30
East Gulf	2,190	2,605	32	661	19	507	1	318	6	95	2	92	1	307	.....	329	.....	4	.....	114	.....	22	.....	46	.....	270	3
West Gulf	6,968	8,561	137	2,168	28	2,052	17	948	27	122	1	193	6	591	.....	657	.....	12	.....	564	.....	174	2	141	.....	959	56
Mississippi	6,569	14,235	354	5,723	113	3,818	76	1,230	90	87	8	246	12	665	2	441	.....	74	3	646	.....	334	4	155	1	816	45
Pacific	1,304	2,127	23	737	5	271	2	190	7	31	2	59	2	187	.....	305	1	3	.....	153	.....	64	.....	51	.....	176	4
Potomac	1,212	1,117	11	226	.....	286	.....	185	8	6	.....	30	.....	81	.....	65	.....	1	.....	88	.....	13	.....	25	.....	100	3
Special service	3,771	3,648	29	594	11	637	3	449	11	43	1	67	.....	442	.....	308	.....	15	.....	354	.....	33	.....	83	.....	423	3

The foregoing tabular statements do not show the whole strength of the navy for the year 1864; several small vessels in every squadron were, necessarily, without medical officers, and from these no sick reports were received. We have reports from 443 vessels, with an aggregate of 39,744 officers and men.

## CASUALTIES OF THE NAVY DURING THE REBELLION.

Since the termination of the rebellion I have caused to be carefully prepared a statement of the casualties incurred by the navy during the war, (see appendix No. 1,) and it cannot be otherwise than gratifying to know that the great results achieved by the navy have been brought about, as far as has yet been ascertained, with but 1,406 killed, 1,638 wounded, and 176 missing, making an aggregate of 3,220. Of the wounded, the majority have recovered and either resumed their duties on shipboard or returned to civil life.

But 71 artificial limbs have been furnished, (34 of the lower and 37 of the upper extremity,) though every means have been used to acquaint the victims of the war with the liberality of Congress in setting aside an adequate sum for the purchase of artificial limbs to supply the place of those lost in battle. Hence it would appear that the number of those who have been permanently maimed is almost incredibly small.

## NAVAL HOSPITAL FUND.

The condition of this fund is represented as follows:

Balance on hand June 30, 1864.....	\$122,264 10
Transferred to the fund by the Fourth Auditor in settlement of accounts, &c., from June 30, 1864, to October 31, 1865.....	93,566 82
Transferred to the fund on account of supplies from the naval laboratory to vessels and navy yards, from June 30, 1864, to October 31, 1865.....	193,447 61
Total amount of fund October 31, 1865.....	409,278 53
Deduct amount expended from June 30, 1864, to October 31, 1865.....	345,112 61
Balance on hand October 31, 1865.....	64,165 92

The inmates of naval hospitals are subsisted exclusively from this fund, which is maintained by a monthly deduction of twenty cents from the pay of officers, seamen and marines, by the transfer of pensions of such persons as are allowed to commute their pensions for support in the Naval Asylum and the cost price of the rations.

Government contributes little or nothing directly to the support of hospitals or their inmates; and from the enhanced price of provisions, fuel, medicines, and other articles of necessity, the hospital fund is being reduced day by day, rendering an early appropriation by Congress necessary, unless some means are adopted by which the yearly credits of the fund will at least equal the disbursements under that head.

## NAVAL LABORATORY.

The necessity for the erection of a suitable building in which to conduct the business of the naval laboratory was so cogently urged by my predecessor in his last annual report, that it is now deemed only necessary to call your attention to the matter, and say that the whole of the duties of the establishment are carried on in an unoccupied wing of the naval hospital at New York. In it the machinery, apparatus, manufacturing department, storerooms, packing and dispensing rooms are all crowded; and the whole work of providing the medical outfits of vessels during the entire war was carried on in this place.

The demands of the service are such that it is absolutely necessary to keep on hand large stocks of medical stores and appliances, to supply calls, and it is found well nigh impossible to conduct properly the daily operations of the establishment within its present contracted limits. The energies of the able director of the laboratory, and of his assistant, have been taxed to the utmost to successfully meet the demands of the navy, with the present limited means, and though their efforts have hitherto been crowned with success, I beg to submit to the department whether it may not deem it proper to ask an appropriation of the sum of \$80,000, wherewith to build a suitable laboratory. I have not included the amount in my estimates.

For repairs of the present establishment and appendages, instruments, apparatus and machinery, furniture, &c., there will be required \$3,500.

## INSANE OF THE NAVY

On the 30th September, 1864, 5 officers, 9 seamen, 1 marine, 1 fireman, 1 pensioner, 2 landsmen, 1 coal-heaver, and 1 boy, twenty-one in all, remained under treatment in the government hospital for the insane near this city.

During the year ending September 30, 1865, there were admitted 1 officer, 5 seamen, and 2 landsmen—total 8; the whole number under treatment during the year..... 29

The discharges in the course of the year were, by recovery, 3 seamen, 1 landsman, 1 fireman, 1 boy—total..... 6

By death, 1 officer, 6 seamen, 2 landsmen, and 1 coal-heaver—total.... 10

Removed by friends, (improved,) officer..... 1

Total..... 17

Leaving in the institution on the 30th September, 1865, 4 officers, 1 marine, 5 seamen, 1 landsman, and 1 pensioner—total..... 12

## NAVAL HOSPITALS.

*Portsmouth, N. H.*—During the summer the building which has so long been used for the accommodation of the sick and wounded on this station has been thoroughly repaired, at a very trifling outlay, and will for the present answer the immediate wants of the navy.

*Boston, Mass.*—The extension of the building at this place was completed early last summer, and on the 1st June, 1865, was ready for occupancy. The heating, cooking, and laundry apparatus was also completed early in the season and has been working with entire satisfaction. The total number of sick treated during the year was 903, and daily average sick  $90\frac{3}{8}$ .

For various repairs, improvements, furniture, &c., there will be required the sum of \$10,000.

*New York.*—During the year the accommodations of this hospital, owing to the large number of vessels and invalids arriving from the Gulf, have been taxed to its utmost capacity. The daily average sick during the year 1864 has been  $229\frac{9}{16}$ ; the whole number treated, 2,135.

There will be required for the various incidental repairs, renovations of building, grounds, roads, cemetery, &c., \$10,500.

*Naval Asylum, Philadelphia.*—The erection of additional accommodations for the sick, as authorized by act of Congress, has not yet been commenced, although the architect is preparing plans at this time. The sick and wounded of the navy on the station continue to be treated in one wing of the Naval Asylum. During the year, the daily average sick was  $69\frac{5}{8}$ ; the whole number treated, 818.

*Annapolis.*—The re-establishment of the Naval Academy at Annapolis necessitated numerous repairs, which were consequently made, and also the re-furnishing of the hospital building. It was re-occupied on the 30th ultimo.

For necessary repairs, renovations, furniture, &c., there will be required \$5,000.

*Washington.*—The work of erecting the hospital building is progressing with as little delay as practicable, though many interruptions have occurred which prevented its being completed as rapidly as was desirable. Owing to the enormous increase in the price of labor, material, &c., the amount hitherto appropriated has proved totally inadequate to complete the work, and although the building is a plain brick structure, devoid of ornament or other costly features, the further sum of \$30,000 will be required to finish properly the main buildings, to surround the entire lot with a suitable wall, to grade the sidewalk, and to erect the necessary outbuildings.

*Norfolk.*—When this establishment was re-occupied, after having been deserted by the rebels, it, together with its appendages, was found in a most dilapidated condition; all parts of the building and appurtenances had been abused, and in many instances the destruction was total. The wharves, seawall, enclosure, &c., all require thorough repair, and in some instances to be entirely rebuilt; for these purposes the sum of \$20,000 will be required.

*Port Royal, S. C.*—The hospital at this place answers all the wants of the navy. The number of patients admitted during the year was 349; the daily average sick, 43+.

*Pensacola, Fla.*—During the year 843 patients have been admitted into this establishment; the daily average sick has been  $58\frac{211}{366}$ .

For various repairs, improvements, furniture, &c., \$10,500 will be required.

*Key West, Fla.*—The Treasury Department generously continues to the navy the use of the marine hospital at this place, which, with the frequent visits of the supply steamers, meets all the medical wants of this part of the Gulf.

*Memphis, Tenn.*—In consequence of the reduction of the Mississippi squadron, the necessity for a naval hospital at Memphis ceased to exist, and orders were given to close the establishment the 1st of August last, and to notify the owner of the building that he could resume possession of it on that day.

*Mare Island, Cal.*—Owing to the present scarcity and high price of labor and all building material, and also to the derangement of the currency, causing a depreciation of government funds in California, it has not been deemed advisable to commence the erection of the hospital at this place, for which Congress appropriated \$100,000. A temporary building is being used at the navy yard for hospital purposes, and will answer the object until it is deemed expedient to erect the more permanent establishment.

For repairs of building and appendages, painting, glazing, furniture, &c., there will be required \$7,500.

*New Orleans, La.*—Orders were issued on the 5th June to Acting Rear-Admiral Thatcher to close the hospital at this place as soon as the fleet was reduced to its minimum number; the great reduction of the west Gulf squadron rendering an establishment of the kind unnecessary.

#### COMPARATIVE HEALTHINESS OF IRON-CLADS AND WOODEN VESSELS.

The recent introduction into the navy of the monitor class of vessels, which must for all fighting purposes completely supplant the wooden walls that heretofore protected our coast and commerce, has thrown on this bureau a most important inquiry.

The advantages of the floating forts of the monitor pattern have been demonstrated by practical experience beyond a doubt, and their superiority for attack and defence over all other vessels is now conceded by the ablest and most skillful commanders. It has been doubted, however, whether it is possible, looking

at the construction and the mode of fighting of the iron-clads, to preserve the health of the men on board, and, therefore, to maintain the fighting material in that condition, without which alone actual naval success must be problematical. Two questions are hence presented for solution:

1st. What is the sanitary condition of an iron-clad as compared with a wooden vessel?

2d. What is the best mode of ventilating iron-clads and preserving the health of those on board?

Feeling the importance of these inquiries, I have caused a careful examination to be made of the quarterly report of sick, from the beginning of 1863 to the end of June, 1865, of all the iron-clads employed in active service from James river, Virginia, to Mobile, Alabama, and tables to be prepared therefrom, (see appendix No. 2.) and compared the results with those derived from reports of wooden vessels upon the same stations, engaged in the same labor, and whose complements were identical.

These comparisons have been instituted—

1st. By taking the eleven (11) iron-clads of 1863, with an aggregate complement of fifteen hundred, (1,500), and comparing the total sick, deaths, daily average, &c., with that of twelve (12) wooden vessels of the same squadron, with an aggregate complement of fifteen hundred and thirty-nine, (1,539); the eighteen (18) iron-clads of 1864, with complement of twenty-four hundred and fifty-eight, (2,458), and eighteen (18) wooden vessels, with complement of twenty-four hundred and seventy-one, (2,471); and seventeen (17) iron-clads of 1865, (first six months,) with complement of twenty-three hundred and seventy, (2,370,) and fourteen (14) wooden vessels, with twenty-four hundred and thirty-five (2,435) all told.

2d. By tabulating the diseases said to be of most frequent occurrence on board the iron-clads, taking each vessel by herself, and giving the number reported in each quarter, year by year; doing the same with twelve (12) wooden vessels of 1863, twenty-seven (27) of 1864, and twenty-seven (27) of 1865.

3d. By a consolidated statement showing the numbers of these diseases in all the iron-clads, quarterly and yearly; forming comparison with a similar statement from the wooden vessels first selected on account of average complement.

The iron-clad frigate *New Ironsides* has been included in these statements, although not of the monitor pattern, and possessing, indeed, some advantages over those vessels, such as being enabled, when fighting one battery, to keep the ports on the other side open, &c.; but as she does not appear to have enjoyed any greater immunity from disease, I have thought it well to include her on the one side, as well as the dry, well-ventilated frigate *Wabash* on the other.

In an interesting report from the iron-clads off Charleston, made during the month of May, 1863, to the fleet-surgeon of the South Atlantic blockading squadron, the medical officers of those vessels complain, 1st, of the ventilation of the vessels, and, 2d, of the dampness.

Up to this time the iron-clads were an experiment, and more attention had been given, in their construction, to their fighting qualities than to their fitness for keeping men on board in first-rate physical condition. The ventilation was no doubt imperfect and based in a wrong principle, that of forcing fresh air through the hold, instead of pumping out the foul air and allowing the fresh air to rush in from all the openings above.

The dampness complained of is probably inevitable in an iron vessel submerged to within two feet of the surface of the water.

With time and experience, however, the means of ventilation were improved, and instead of having the air-ports closed when at anchor, with a sea just sufficient to wash the deck, iron tubes, some three or four feet in height, were provided, that could be trimmed to the wind and thus send a steady stream of cool, fresh air, below.

By this means the health of those on board was greatly improved, as will be seen by referring to the table No. 1, where it will be found that the average percentage sent to hospitals in 1863 was .25+; in 1864 was .10+; and in 1865 was .05+.

In the report above alluded to it is said, "the principal diseases we have to deal with are rheumatism, debility, fever, and pleurisy." I have, accordingly, tabulated those diseases, for both monitors and wooden vessels, for two and a half years, from January 1, 1863, and find, contrary to my own expectations, that the iron-clads had the greater number, only in the instance of debility, in the fourth quarter of 1864.

In the daily average of sick for the thirty (30) months above stated, we find the advantage again with the monitors, the proportion being 4.04 in 1863; 3.4 in 1864; and 2.9 in 1865; to the wooden vessels 4.9 in 1863; 4.6 in 1864; and 5.7 in 1865.

In looking over the quarterly reports of sick of different vessels, it is found that the armed schooner T. A. Ward, with a complement of forty, (40,) had, in the third quarter of 1864, two hundred and sixty-nine (269) "sick days," or entries, on the journal; whilst the Patapsco, with eighty-eight (88) men, had two hundred and sixty (260) "sick days;" the Passaic, of eighty, (80,) had one hundred and sixty-seven, (167,) and the Sangamon, of eighty, (80,) had one hundred and thirty-one (131) only; yet the T. A. Ward, with her daily average of  $2\frac{3}{2}$ , was not considered an unhealthy vessel.

In the fourth quarter of 1864 the T. A. Ward, with fifty-five (55) men, had two hundred and thirty-one (231) "sick days," a daily average of  $2\frac{1}{2}$ ; the brig Perry, of sixty-nine (69) men, had four hundred and ninety-nine, (499,) or an average of  $5\frac{3}{2}$ ; while the Lehigh, with one hundred (100) men, had one hundred and thirty (130) "sick days;" and the Sangamon, of eighty (80) men, had only seventy-two (72) in that quarter.

During the fourth quarter 1864, and the first quarter 1865, the monitors, under Admiral Porter, had a severe experience; twice they were in battle under the walls of Fort Fisher, with an interval of unusually bad weather off Beaufort, North Carolina; yet we find with them, as with those further south, a marked freedom from disease.

The Saugus, from November 25 to December 23, 1864, had but one entry upon the journal, reporting "none sick" for twenty-six (26) consecutive days; from December 23, 1864, to January 7, 1865, but one case, that of an accidental contusion; from January 7 to January 12, "none sick;" and from January 13 to January 20, but two patients, both wounded by the bursting of a gun in action against Fort Fisher. From January 20 to February 12, but three (3) patients, two of whom had for years suffered from epilepsy and asthma. From February 13 to March 7, twenty-two (22) days, "none sick," when the case of asthma again presented itself, daily, until the 15th. From that date to the 22d of March, six days, "none sick;" and from March 22 to April 1, but one patient.

The Montauk, one of the three that in the early part of 1863 had "already sent 20 per cent. of their respective complements to hospitals," is found in such improved sanitary condition as to have, from December 16, 1864, to February 16, 1865, no entries upon the journal of practice other than two men who had come on board with diseases unfitting them for duty, and were immediately sent to the hospital-ship, and one man of the old crew who had returned, still disabled, from hospital-ship, with an injured hand. With the exception of this last, the surgeon reports, under date of March 15, 1865, "up to to-day have had a clear list." Still, from that date until the 29th May, 1865, the ship remained without a case of disease or injury worthy of notice, save one of accidental gunshot wound, and one of varioloid. This last was the only case of disease occurring on board (in all likelihood contracted ashore) for the last one hundred and sixty-

five (165) days of the Montauk's cruise, and that in the unhealthy region of Charleston roads, South Carolina, and in presence of the enemy.

On board the Lehigh there appeared no case worth recording from February 11, 1865, to March 2, 1865, when one of consecutive syphilis presented itself. In the latter part of this (first) quarter, the Lehigh came north and joined the squadron in James river, near Richmond, Virginia; yet we find in the journal of practice no evidence of the great inconvenience and suffering endured by those who first served on board the monitors. Her record, indeed, shows that for the second quarter of 1865 there was a daily average sick of 1.06, and this on board a monitor in the miasmatic region of James river, with a crew presumed to be somewhat debilitated by long continued active service in the waters of South Carolina.

On board the Sangamon we find "all well" from February 16, 1865, to the 28th of the same month, when a case of primary syphilis presented itself as the only patient, until March 16. From that date until June 3 we meet only with one case of sore throat and three cases of injury—one resulting in inflammation of the brain, with recovery, on board. From June 3 to July 23, fifty (50) days, there are no sick reported. From July 24 until August 17, (end of cruise,) there were but seven (7) cases admitted, none of a grave aspect.

The Passaic, from the 1st of June, 1865, off Charleston, South Carolina, until her going out of commission at Philadelphia, June 15, had but two (2) sick men; and while at sea, for five days, reports upon each day, "no sick."

There are, probably, no wooden vessels in any squadron throughout the world that can show such immunity from disease as the foregoing.

In concluding this subject it is proper to refer to the fact, well known to the department, that the order, issued in the summer of 1863, providing for the periodical transfer of men on board the iron-clads of the South Atlantic blockading squadron to wooden vessels, was not availed of by their officers and crews; they preferred remaining on board the vessels to which they were attached to being transferred elsewhere.

#### NAVAL PENSIONS.

The intimate relation that subsists between this bureau and the Pension Office induces me to ask your attention to an interesting and important subject. In order that the extent of that intimacy may be understood, it may be well to state that during the year ending October 31, 1865, not less than 337 cases were referred from the Commissioner of Pensions to this office; and that during the same period not less than 254 cases were finally adjusted by this bureau, and the necessary certificates forwarded to the claimants.

The act of Congress by which naval pensions are regulated was enacted prior to the rebellion, and, therefore, prior to the creation of the new grades of vice-admiral, rear-admiral, commodore, lieutenant-commander, &c.

The highest grade recognized by that act was that of captain, whose family was allowed a pension of only \$30 per month, and which was the amount also allowed the families of commanders, lieutenant-commanders, lieutenants, and masters commanding; so that, by the provision of the law as it now stands, the family of a vice-admiral is allowed a pension no greater than the family of a master commanding; and that sum was reduced \$20 upon the amount previously allowed the family of a captain.

As by law pensions are only granted in cases wherein it is satisfactorily established that death has resulted from exposure in the performance of duty, it would seem but just that a better provision should be made for the widows and orphans of those who have lost their lives in their country's service, than that now made by the act of Congress referred to. Thirty dollars a month to the family of such an officer is certainly not adequate.