

8 NOVEMBER 1930.

BUREAU OF NAVIGATION

BULLETIN

NUMBER 144.



PUBLISHED FOR THE PURPOSE OF DISSEMINATING
GENERAL INFORMATION OF PROBABLE INTEREST TO
THE SERVICE.

OFFICER PERSONNEL

AWARDS.

The Permanent Board of Awards, at a recent meeting, recommended the following officers for the award of decorations. The awards were accordingly made by the Secretary of the Navy on 23 October, 1930.

Rear Admiral Richard E. Byrd, U. S. Navy, (Retired) -
Navy Cross.

For extraordinary heroism in the line of his profession as
Commanding Officer of the Byrd Antarctic Expedition.

The following officers were awarded the Distinguished Flying
Cross:

Lieutenant Apollo Soucek, U. S. Navy -

For extraordinary achievements in duly authorized aerial
flights (high altitude).

Lieutenant Wallace M. Dillon, U. S. Navy, Executive Officer
in second command of the Alaskan Aerial Expedition, 1926.

Lieutenant Richard F. Whitehead, U. S. Navy, Photographic
Officer, Alaskan Aerial Expedition, 1926.

Lieutenant E. F. Burkett, U.S. Navy, (Posthumous Award),
Navigator, Alaskan Aerial Expedition, 1926.

Chief Radio Electrician Claude G. Alexander, Radio Officer,
Alaskan Aerial Expedition, 1926.

ENLISTED PERSONNEL

COMMENDED BY SECRETARY.

The Secretary of the Navy recently addressed letters of com-
mendation to the following Enlisted Personnel:

FISHER, Arthur Erich, S.M. 2c, U.S.S. BERNADOU, home address,
3704 Whitehall Street, Jacksonville, Fla.

RIGG, Gabriel Taylor, S.M. 2c, U.S.N., U.S.S. BERNADOU, home
address, RFD #1, Pelicase, Colo.

On 6 June, 1930, Rigg and Fisher jumped overboard in a tideway
at Charleston, S. C., and saved John I. Rustin, Fireman second class,
U.S.N., from drowning.

AUSANO, Peter, Seaman 2c, U.S.N., U.S.S. CALIFORNIA, home address, Box 363 Orchard Avenue, Redwood City, California.

For rescuing a member of a motor boat crew who had fallen overboard from his boat.

HART, Charles Boostrom, ex-C.M. 3c, U.S.N., home address, 525 Coronado Avenue, Long Beach, Cal.

For rescuing a shipmate from drowning, and applying artificial respiration successfully.

DOBSON, John Howard, C.R.M., U.S.N., Thirteenth Naval District, home address, Route #6, Franklin, Pa.

SCILACKS, Albert R., A.P. 1c, U.S.N., Naval Air Station, Pearl Harbor, T. H., home address, RFD #2, Farmington, Mich.

KACHERGIS, Anthony J., A.M.M. 1c, U.S.N., Naval Air Station, Pearl Harbor, T. H., home address, 33 Welsh Street, Pittston, Pa.

For assisting in the rescue of the members of the crew of the Army Bomber LB-5, in Alenuihaha Channel, Hawaiian Islands, on 14 May 1930.

COST OF RECRUITING.

The average cost per enlistment during the fiscal year 1930 was \$75.06. A comparison with the cost of previous years is as follows:

	<u>Total</u> <u>Enlistments</u>	<u>Average Cost</u> <u>Per Man</u>
Fiscal Year 1930	14,908	\$75.06
" " 1929	16,746	67.03
" " 1928	19,918	60.84
" " 1927	24,445	61.72
" " 1926	12,835	61.89
" " 1925	15,257	67.27
" " 1924	29,314	50.61
" " 1923	34,228	51.54
" " 1922	11,195	94.82
" " 1921	67,598	68.82
" " 1920	58,550	93.50

QUARTERLY REPORT OF MUSICIANS.

The Bureau has recently forwarded to all ships and stations having band or orchestra allowances, a supply of Forms N. Nav. 85, "Quarterly Report of Musicians". The Bureau desires that the new form be used in reporting musicians in the future, and also that only the original be forwarded.

NAVAL RESERVE

MIDSHIPMEN APPOINTED FROM THE NAVAL RESERVE.

Since the passage of the law in 1925 authorizing twenty-five appointments to the Naval Academy annually from the Naval Reserve, the following midshipmen have entered the Academy from that source.

<u>Entered</u>	<u>Number</u>
1926	2
1927	4
1928	10
1929	13
1930	13
Total	42

The records of the midshipmen from the Naval Reserve at the Naval Academy have been excellent. Only one resignation has been tendered and that was for deficiencies in studies.

TRAINING

TRAINING COURSES.

Reports from ships of the fleet indicate an increasing interest in training courses. During the quarter ending 30 June, 1930, 3,826 courses were completed, involving 104 subjects. The most popular subject was that of Fireman First Class, 909 having taken this course. Next in order came the A to N, and Seaman First Class Courses, with 552 and 504, respectively.

VALUE OF TRAINING COURSES DEMONSTRATED.

In examining the reports of training courses completed during the last fiscal year, it is interesting to find that the battleship standing first in gunnery was the one that had completed the most courses for gunnery ratings, while the one standing lowest had completed the least number - less than 10% as many as the leader. In plotting these results, the others, with one exception, plotted around a line connecting these two. While the returns on courses were not complete, they are sufficient to suggest that the gunnery officer that uses all available means of training his men individually as well as in crews profits from so doing.

This suggestion is fortified when it is found that the light cruiser which stood one in engineering was the one that had completed the most engineering courses, while the one standing lowest had completed the least number.

RECRUITS UNDER TRAINING.

The following table shows the number of recruits under instruction at the various Training Stations under date of 25 October, 1930.

:	:Crest:	Hampton	: Newport	: San	:
:	:Lakes:	Roads	: R.I.	:Diego:	Total:
: Recruit Training	:	:	:	:	:
: Apprentice Seamen	: 400	: 443	: 505	: 632:	1985 :
: Seamen Second Class	: 1	: 11	: 11	: 2:	25 :
: Other Ratings	: 19	: 27	: 8	: 28:	82 :
:	: 420	: 486	: 524	: 662:	2092 :

DIVING DEVELOPMENTS.

Since its establishment in 1928, the deep diving school at the Washington Navy Yard has graduated several classes trained in diving, in the conduct of diving operations, and in underwater seamanship, including the use of devices useful in rescue and salvage work. These men are qualified in both electric and gas underwater cutting, and in the use of many special appliances; and a large part of each class qualified for depths up to 300 feet.

This is a greater depth than has been attempted by any other divers' school. These men could go deeper, but there would be little profit in so doing, since the incumbrance of the various lines from the surface hampers activities increasingly at great depths; and the long time required for the ascent in order to avoid caisson disease reduces the usefulness of such dives to the vanishing point.

The Bureau has been interested to observe the development of armored diving apparatus of one kind or another to permit prolonged diving at great depths. Such apparatus has been used in connection with the wreck of the EGYPT. Some of these undoubtedly accomplish that object; but to date they do not permit carrying on useful work to the extent required for naval purposes.

MERCHANT MARINE OFFICER TRAINING.

At the Third National Conference on the American Merchant Marine held in Washington, D. C., last April, a Committee was ap-

pointed to study the subject of training officers for the Merchant Marine. This committee is composed as follows:

Rear Admiral H. I. Cone, U.S.N., (Retired), Commissioner of the U. S. Shipping Board,
Chairman of the Committee.

H. B. Walker, President, American Steamship Owners' Assn.

Capt. J. W. Peterson, Pacific American Steamship Association.

George A. Marr, Lake Carriers Association.

Captain B. B. Libby.

C. W. Sanders, Sea Service Section, U. S. Shipping Board.

W. F. Yates, National Marine Engineers Benefit Assn.

Capt. J. F. Milliken, Neptune Association.

Andrew Furuseth, International Seamen's Union.

Capt. J. H. Tomb, U.S.N., (Ret.) New York State Merchant Marine Academy.

Robert C. Tuttle, Atlantic Refining Co.

J. W. Magill, New York Maritime Exchange.

Comdr. L. R. Rutter, U. S. Naval Reserve, Secretary.

Various meetings have been held and a questionnaire has been prepared outlining various alternative methods of training. This questionnaire will be given wide distribution including prominent civic associations and marine men as well as Naval and Merchant Marine Naval Reserve officers. It is hoped to arrive at a comprehensive view of the situation looking toward the formation of a definite policy and action thereon, which should be of vital interest to the Merchant Marine Naval Reserve.

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OFFICER PERSONNEL

ARMY INDUSTRIAL COLLEGE.

Naval Officers to be Sent for Course.

For some time past the Navy Department has occasionally sent officers to the Army Industrial College. The purpose of the college is such that the course administered can be of considerable value to Naval Officers. It is proposed, therefore, to order Line Officers for duty under instruction when it is known that their subsequent duty will be such as to make the knowledge gained of particular value to the Navy.

The Industrial College was established "for the purpose of training Army Officers in the useful knowledge pertaining to the supervision of procurement of all military supplies in time of war and to the assurance of adequate provision of mobilization of material and industrial organization essential to war-time needs". The course covers a period of approximately ten months, from September to June. Students are given lectures on pertinent subjects not only by the operating staff, but by experienced officers in the Office of the Assistant Secretary of War and Supply Branches, and competent civilians engaged in the banking industry, commerce, and manufacturing.

COMMISSIONED OFFICER APPOINTMENTS.

Examinations to be Conducted.

Existing Statutes permit the commissioning of not more than twelve Ensigns from Chief Boatswains, Chief Gunners, Chief Electricians, Chief Radio Electricians, Chief Machinists, Boatswains, Gunners, Electricians, Radio Electricians, and Machinists of the Navy. Candidates to be eligible for the examination must be under thirty-five years of age on 1 July, 1931, and must have served for a period of at least four years as a warrant officer.

Existing Statutes also permit the appointment of Chief Pay Clerks and Pay Clerks to the grade of Assistant Paymaster, to fill existing vacancies. Candidates to be eligible must not be over thirty-five years of age at the time of appointment. The Bureau requires that in order to be fully eligible the candidates' records since appointment in the grade of Pay Clerk must be above average.

Competitive examinations for the two appointments above referred to will be conducted on or about 1 April, 1931. Applications to compete must be received in the Bureau not later than 1 February, 1931. The Bureau proposes to issue a circular outlining the scope of the examinations, in the near future.

COMMENDED BY SECRETARY.

The Secretary of the Navy recently addressed commendatory letters to the following officers, and to the ship's company of the U.S.S. GREEBE, in recognition of their part in the relief work following the devastation of the tropical hurricane which swept the Dominican Republic early in September, 1930:

Lieut. Emil H. Petri, U.S.N., Commanding Officer,
home address, Route 3, Round Rock, Texas.

Chief Boatswain W. W. Dyer, U.S.N., home address,
87 Carlton Street, Portland, Maine.

Chief Machinist T. F. Morris, U.S.N., home address,
2201 Crocket Street, Houston, Texas.

The Secretary likewise forwarded commendatory letters to a number of officers, as follows:

Lieutenant (jg) Harold B. Miller, U.S.N., Naval Air Station, Pensacola, Fla., home address, 925 West Eighth Street, Los Angeles, Cal.

For prompt decision which resulted in saving the life of First Lieutenant H. D. Boyden, U.S.M.C. Lieutenant Miller, observing a seaplane in a tailspin which resulted in a crash, promptly landed his plane so that a student passenger, Ensign George W. Ashford, might swim to the assistance of the personnel of the crashed plane.

Ensign George W. Ashford, U.S.N., Naval Air Station, Pensacola, Fla., home address, 125 Milledge Avenue, Athens, Georgia.

For disregard of personal danger in extricating First Lieutenant H. D. Boyden, U.S.M.C., from the cockpit of a wrecked seaplane which was submerged.

Lieutenant (jg) Harry B. Heneberger, U.S.N., U.S.S. EVANS, home address, 6102 Glen Towers, Hollywood, Cal.

For initiative and courage displayed in rescuing Morris M. Black, Seaman second class, from drowning in Mare Island Strait.

Lieutenant (jg) John A. Marsh, U.S.N., U.S.S. HALE, home address, 114 Fuller Street, Dorchester Center, Boston, Mass.

For exemplary behavior under unusual and trying circumstances on board the Steamship Fairfax when that vessel was in a collision with the Oil Tanker Pinthis. Marsh rendered great assistance in calming passengers and dressing the burns of others, despite the injuries to members of his own family and to himself.

Lieutenant (jg) Augustus S. Mulvanity, U.S.N., (Deceased),
home address, 21 Spring Street, Nashua, N. H.

For calm deportment, self-sacrifice, and disregard of personal danger under unusual and trying circumstances while a passenger on board the Steamship Fairfax, which was in collision with the Oil Tanker Pinthis. Mulvanity rendered great assistance in calming passengers, rendering first aid, and in saving the Quartermaster of the Fairfax, J. V. Hubank, from drowning, despite the loss of his entire family in the catastrophe.

ENLISTED PERSONNEL

COMMISSARY STEWARD RATING ABOLISHED.

Effective on the date of issue of the Bureau's Circular Letter No. 66-30, it was announced that no further advancement will be made to the rating of Commissary Steward, and that on and after 30 June, 1931, the rating will be abolished. Selection for acting appointment as Chief Commissary Steward in the future will be made from the ratings of ship's cook first class, and baker first class. Although the completion of the course at the Cooks and Bakers School will not be required for advancement from the present rating of Commissary Steward to the rating of Chief Commissary Steward, acting appointment, it will be required before a permanent appointment is issued.

All Commissary Stewards may be advanced prior to 30 June, 1931, to the rating of Chief Commissary Steward, if qualified by examination. Those who do not qualify will revert to the rating previously held.

PERSONNEL LOSSES COMPARED.

During the fiscal year 1929, the percentage of losses for all causes in the first year of enlistment of personnel was .1574. During the fiscal year 1930, this percentage was reduced to .0767. These losses were distributed among recruiting districts, as follows:

1929					
District	Applicants	First Enlistments	Total Losses	Percentage	
Southeastern	10413	1441	132	.0916	
Southern	10515	1648	233	.1414	
Northeastern	25481	4096	685	.1672	
Western	14636	2394	403	.1683	
Central	19795	4140	407	.1703	

1930					
District	Applicants	First Enlistments	Total Losses	Percentage	
Southeastern	12090	1271	56	.0441	
Southern	10719	1516	91	.0600	
Northeastern	15531	2277	145	.0637	
Western	31014	3257	273	.0847	
Central	25624	3791	361	.0952	

TRAINING

NAVAL ACADEMY CANDIDATES.

Enlisted Men Ordered to Preparatory School.

A total of one hundred and forty-nine enlisted men of the Navy and Marine Corps have been ordered to the Naval Academy Preparatory School, Naval Operating Base, Hampton Roads, Va., where instruction in preparation for the annual entrance examinations is under way. The enlisted candidates selected are distributed in the following ratings:

Seaman 2c	67	Radioman 3c	1
Apprentice Seaman	32	Yeoman 3c	1
Fireman 3c	22	Signalman 3c	1
Private, USMC	11	Electrician's Mate 3c	1
Trumpeter, USMC	1	Seaman 1c	4
Hosp. Appren. 1c	1	Fireman 2c	3
" " 2c	5		

APTITUDE STANDARDS AVAILABLE.

Vessels Equipped for Making Tests.

For more than two years Naval Training Stations have made use of various standard tests in selecting recruits for training in Class A Schools. This practice has resulted in greatly reducing the number of failures in Class A Schools and in increasing the number of graduates these schools are able to supply to the Fleet.

Recently the Commander-in-Chief of the Battle Fleet and the Commander of the Scouting Fleet requested the Bureau to supply certain designated ships of their commands with tests and instructions for testing men sent to Class B Schools. In the Battle Fleet, the Medusa, Melville, Altair, Holland, and Argonne are now supplied with the materials necessary for administering the same standard tests used at training stations in selecting men for Class A Schools. In the Scouting Fleet, the Vestal, Dobbin, and Whitney are prepared to administer these tests.

When practicable, men in the Battle Fleet and Scouting Fleet who are under consideration for assignment to Class B Schools are sent to one of the ships equipped to conduct the standard tests, where they are tested and their Commanding Officers informed of the results. Commanding Officers should take these results into consideration in recommending men for the schools.

These tests do not supersede existing instructions relating to the assignment of men to Class B Schools and a man's test marks should never be taken as a full measure of his suitability for assignment. His record, efficiency, and interest in the work of the school concerned should also be considered. The purpose of the standard tests is to provide commanding officers with additional information concerning the ability of men to succeed at the school and in the rating for which the school prepares them.

Experience at Class A Schools has led to the establishment of a rather definite set of test standards to be followed in assigning recruits to the various schools. It has been found that men who fall below a certain minimum on certain tests seldom succeed in doing the work of a given school successfully. The tests that are of most value and the marks that should be made on them vary, of course, for different schools. In the school for Machinist's Mates, for example, a high test mark in arithmetic or mechanical aptitude is important and the marks made in spelling or English are comparatively unimportant, but in selecting men to be trained for radiomen or yeomen their marks in spelling and English are of considerable importance.

It will require some experience however, to arrive at a set of standards that will be a desirable requirement for each of the Class L Schools. The Bureau has supplied ships that are to conduct the tests with a tentative set of standards which should be regarded by officers as a guide, and not as a rigid requirement. With the cooperation of officers afloat and of officers in charge of Class B Schools, data upon which definite standards may be based will gradually be accumulated in the Bureau.

The Bureau does not desire to issue complete sets of testing equipment to ships generally, due to the difficulty in administering them and in keeping the various forms of tests, keys, etc., from getting mixed up. More uniform results will result from having the testing done on a few designated ships well prepared to do it. In the case of first enlistment men, the scores on the standard tests will be found in the service record.

RECRUIT TRAINING.

The following table shows the number of recruits under instruction at the various training stations under date of 15 November 1930.

:	:	Great	: Hampton:	Newport:	San	:	:
:	:	Lakes	: Roads	: R.I.	: Diego:	Total	:
: Recruit Training	:	:	:	:	:	:	:
: Apprentice Seamen	:	266	: 374	: 370	: 370	: 1380	:
: Seamen Second Class	:	0	: 3	: 24	: 4	: 31	:
: Other Ratings	:	14	: 26	: 7	: 19	: 66	:
:	:	280	: 403	: 401	: 593	: 1477	:

NAVAL OBSERVATORY

ECLIPSE REPORTS.

Excellent Results Obtained.

The following reports have been received from the Eclipse Expedition under command of Commander Chester H. J. Keppler, U.S.N., describing the successful outcome of the observations:

"No clouds, sky of very good quality. Direct photographs entirely satisfactory, good flash photometer and Einstein. Corona midway in type. Fairly bright. Two fairly long streamers, one at 300° and one at 120° . Six medium streamers (directions were not given, or if given message was so garbled it could not be understood). Bailey's beads seen at edge of sun at beginning of eclipse. Natives not alarmed by the eclipse but much interested. The New Zealand parties were successful. All members of our party in good health. Forty-one coronal pictures plus Einstein and spectrographs obtained. Short showers one hour before totality."

"Expect packing eclipse equipment including radio complete 27 October. Will embark on TANAGER as rapidly as weather permits. Strong northeasterly swells running last three days. Nine plates from 63 foot camera show exceptional beauty and detail. Professor Marriott vastly gratified. Professor Mitchell's spectrographs show exquisite definition through a large range in wave length from 3200 in violet to 7800 angstroms in red. Altogether coronium lines are visible in the spectra of which one at wave length 6770 is a new discovery. This line is of considerable strength and shows itself on two different photographs. The green coronium line and the red one at 6374 show much structural detail. Both spectrograph and photograph coronal disturbances on east and west edges of sun which took their origin in eruptive prominences. These details as shown in coronium lines do not resemble that exhibited by the prominences. The changes in coronal forms shown by successful spectra indicate violent motions in corona. These disturbances can be traced to heights of 100,000 miles over the sun's surface. Similar phenomenon has never been observed before. Coronal streamers on Einstein plates extend more than two diameters beyond the edge of the sun."

SEXTANT ILLUMINATION.

Lieutenant E. H. McMenemy, of the S-46, has submitted a system for illuminating the scale of a sextant, developed and used by him with success. In describing the scheme, Lieutenant McMenemy wrote:

"A small well known flashlight of the type known as 'Snap Lite' was secured to the sextant arm by means of a piece of shim brass making a sleeve for the flashlight to fit in. The shim brass is secured by the post for the vernier reading magnifying glass through two holes in the brass located so that the brass makes a snug fit around the body of the flashlight. The cover end of the flashlight is directed on

the vernier scale which is illuminated by snapping open the cover of the flashlight which acts as the switch.

"This inexpensive arrangement requires no alteration to the sextant itself and cannot impair its accuracy. The navigator is able to use both hands while reading the altitude and another person with a flashlight is not required. During a cruise to Honolulu and return two sextants fitted as described were used for continuous navigation on this vessel and simplified immensely the taking of star sights. No renewal of the batteries was required during the cruise."

HYDROGRAPHIC OFFICE

PORTO RICAN AERIAL SURVEY PLANNED.

At the request of the Governor of Porto Rico, the United States Navy is making arrangements to take aerial photographs of the Island for the purpose of making a topographic map. Three OL planes with the necessary personnel and equipment have been detailed for this work which is expected to start about 15 December 1930.

The Hydrographic Office is assisting in this matter with the detail of Mr. Guillermo Medina, Associate Engineer of the Office, who is now on the Island of Porto Rico undertaking preliminary ground work in the way of decorating prominent points of terrain together with stations that were used in the hydrographic survey of the island several years ago.

Upon completion of the aerial photography, the government of Porto Rico will make the topographic maps. The Hydrographic Office will be the depository of the original negatives and will use the material in the preparation of its aviation chart of that country which is one of a series of aviation charts for the West Indies and other islands of the Caribbean Sea now in the process of publication.