

ALL HANDS

THE BUREAU OF NAVAL PERSONNEL INFORMATION BULLETIN



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JUNE 1962



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Nav-Pers-O

NUMBER 545

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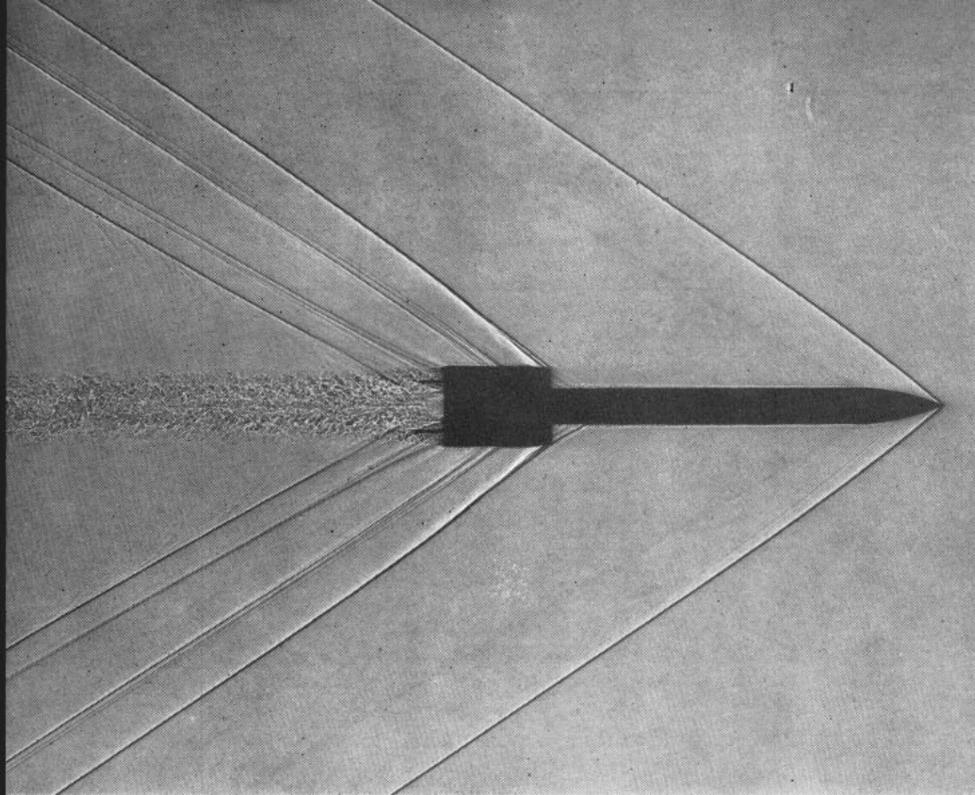
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● **FRONT COVER: SEEING THE WORLD** — Navymen in the Mediterranean, like fellow voyagers in ports of call throughout the world, get set for fun and adventure as their ship moors to a buoy at Valletta, Malta.

● **AT LEFT: REFLECTIONS** — A Navyman takes time out for reminiscences while watching the lights from a nearby ship in the harbor waters at Yokosuka, Japan.

● **CREDIT:** All photographs published in ALL HANDS are official Department of Defense photos unless otherwise designated.



SHAPE OF IT—Photo taken in pressurized ballistics tunnel shows shock waves of projectile.

nuclear antisubmarine depth charges).

In addition to the work done for the government, the scientists at NOL let their energy spill over into nearby suburban community projects that range from giving talks to parents on how to control Junior's enthusiasm for his chemistry set to advising the University of Maryland Terrapins on how to produce a bigger bang from the cannon they fire at football games during half-time.

One of the major efforts at NOL is mainly concerned with how to repel the enemy's weapons and how to make U. S. weapons "attractive" to the enemy. This is done in the magnetic laboratory.

The building in which this work is done is located in a lonely spot

Navy Gets a Bang Ou

ANY ACCOUNT of the development of naval ordnance usually leads to a reference to NOL. That is the short term for the Naval Ordnance Laboratory, at White Oak, Md.

NOL is where the genesis of many a Navy weapon begins, whether it be a bullet or a bomb, a mine or a missile, a shell or a satellite. First there is an idea. The idea may originate at NOL or it may be brought to the Naval Ordnance Laboratory with the questions, "What do you think of it?" "How can it be improved?" and "Will it work under the conditions in which we want it to work?"

These questions come primarily from the Navy. However, despite the large bronze sign in front of the laboratory which makes it clear the laboratory is the *Naval Ordnance Laboratory*, its work is not confined exclusively to research on naval weapons.

Ten per cent of NOL's 45-million dollar annual budget is furnished by, and spent upon, work which comes from the Navy's Bureau of Ships, the Army and Air Force, the Atomic Energy Commission and the Defense Atomic Support Agency.

In the past, this has included development of much of the aerody-

amic design data for *Atlas*, *Titan*, *Terrier*, *Talos*, *Tartar*, *Nike-Zeus* and *Pershing*, in addition to *Polaris*.

FOR THE NAVY the laboratory has in the last decade completed research on, and released for production, substantially more than 100 new weapons, which include a number of highly sophisticated mines, antisubmarine warfare weapons and detection devices, a radical new submarine sonar, and *Betty* and *Lulu* (two

TARTAR missile is checked out by guided missilemen while at sea on USS *Henry B. Wilson* (DDG 7).



in NOL's 875-acre reservation. When the building was constructed, it was designed to be as free from magnetism as was scientifically possible. The building is constructed of cinder block and wood. It is held together with copper nails. The floor drains are transite and the light switches are aluminum. Even the sand used in the concrete was screened to make certain it contained no minute particles of iron oxide.

THE BUILDING is surrounded by signs warning automobiles and lawn mowers to keep their distance. Despite these precautions, the scientists have had their difficulties. The building was used for a brief period by a bevy of female office workers. Their desks were placed on a hastily laid wooden floor. When the ladies were dispossessed, thousands of bobby pins, paper clips and thumb tacks which had worked their way beneath the floor boards had to be removed, in order to make the building non-ferrous, hence non-magnetic.

In this building the earth's magnetism is canceled by the use of large coils which encircle the building and surround the object being tested. In order to investigate a ship's magnetic field, the laboratory

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uses more than one hundred ship models representing all classes of ships.

In this way, NOL scientists are able to specify, before the ship is actually built, the design for the degaussing coil which makes the ship unattractive to magnetic mines. This eliminates considerable trouble and expense later.

The lab has recently used a model of *uss Nautilus* (SSN 571) with a view toward degaussing her and others of her class.

The model of *Nautilus*, like all NOL's ship models, includes every magnetic factor to be found on the actual ship. This particular model, for instance, contains approximately 7500 individual pieces of steel which represent practically everything aboard, including 144 components in the after machinery space.

SOME OF THE magnetic laboratory's projects are way out—in space,

of NOL

that is. It has tested systems which have enabled satellites to remain earth-oriented while in orbit. It also checked out NASA's satellite S-3 to determine whether it was subjected to internal magnetic influences which would upset its measurement of the earth's magnetic field and cosmic energy surrounding the earth.

Another facet of magnetics is found in the magnetism and metallurgy division at the Naval Ordnance Lab (near Washington, D. C.).



END RESULT—Naval Ordnance Lab has played an important part in the development of missile might that arms today's ships of the Fleet.

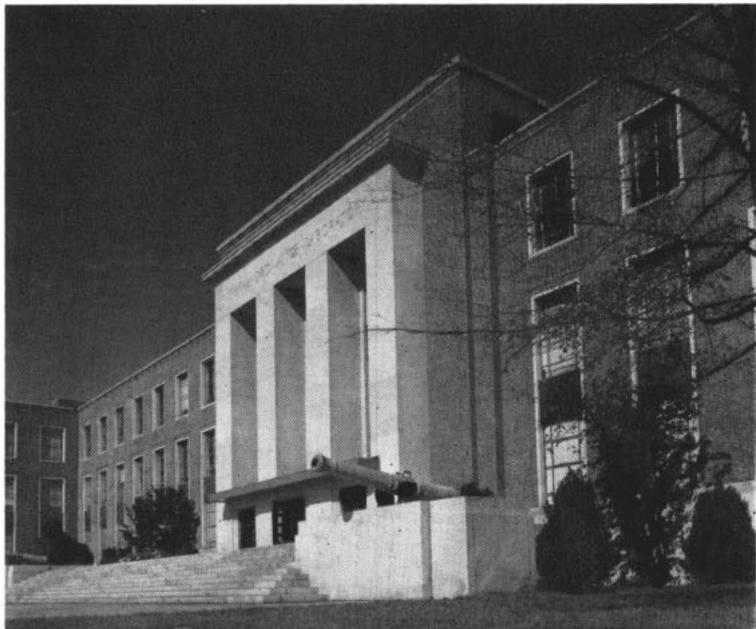
Among other things, this laboratory develops materials which can be used in weapons such as magnetically operated mines, depth charges and torpedoes. It also develops airborne detection devices which are sensitive enough to indicate the presence of a submerged submarine.

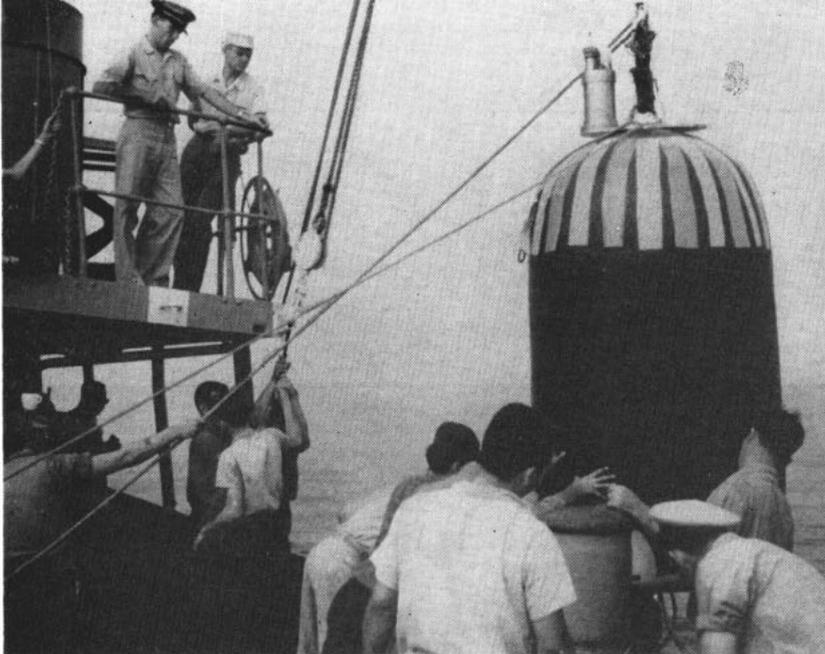
Non-magnetic materials are as important to the magnetic materials

scientists as are those with magnetic properties, perhaps more so. Science has been seeking, for some time, a non-magnetic metal which would be hard but not brittle and which would resist corrosion.

Heretofore, Navy divers working with magnetic mines have been forced to use tools which, although non-magnetic, are so soft that a pair

THE LAB—Torpedo is readied for test in pressure tank. *Rt*: Ordnance of past decorates entrance to building.





SEA DUTY — Oil-filled float for *Deep Dip* goes overboard. *Deep Dip* is an unmanned diving sphere developed by NOL for ocean research.

of pliers will bend in a man's hand. This, of course, is annoying to anyone who does a lot of plier squeezing.

NOL HAS RECENTLY developed a new alloy of nickel and titanium, both hard and non-magnetic metals, which it calls *nitinol* (for Nickel, Titanium and NOL). The alloy is hard without being brittle. It can be tempered to give one tool, a cold chisel for instance, different properties such as a hard biting edge and a shock-resistant shank and head.

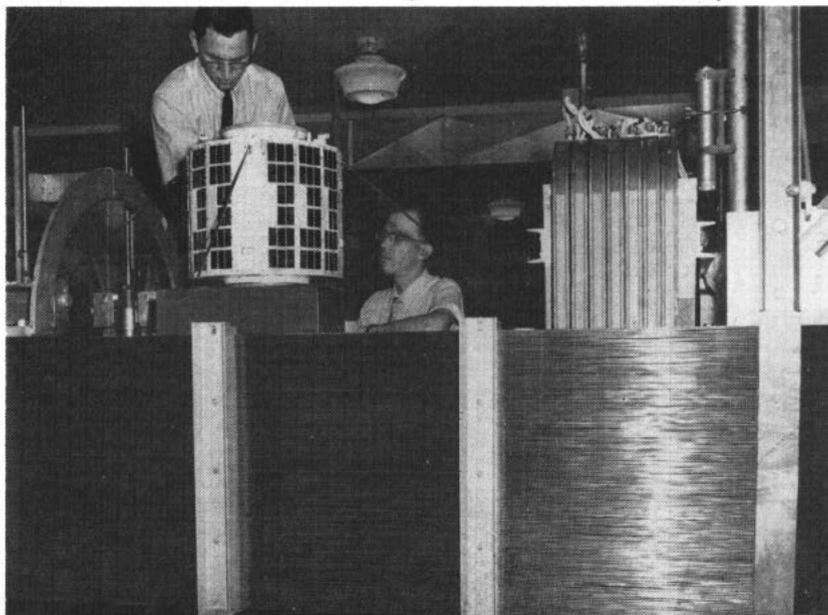
Nitinol doesn't break easily and it can be kept in sea water almost indefinitely without corroding. It takes a cutting edge which stays sharp for long periods of time under heavy use and it can be buffed to a high

polish which will not stain or tarnish — all properties which make it attractive to both civilian and military uses.

NOL also accomplished a breakthrough in the development of magnetometers by coming up with a small device sensitive enough to record the opening of a door in the next room (if it has a metal door-knob).

It was adopted by The Johns Hopkins University Applied Physics Laboratory for use in the *Transit* satellite and reduced to a package weighing only four ounces. Its power requirements are especially attractive to people in the satellite business because the little magnetometer has a power drain of only 20 milliwatts—sufficiently low to use solar cells.

SPACE WORK — Satellite *Injun*, part of a triple payload, gets magnetic checkout on electrical coil in Magnetic Facilities Laboratory at NOL.



When it is in production for the Navy, it will provide a cheap, easily portable device which can be more widely available than magnetometers now in use.

NOL HAS ALSO PIONEERED the development of magnetic amplifiers. Amplifiers which use vacuum tubes or transistors will eventually wear out. Amplifiers using magnetic materials go on ad infinitum, a quality which also makes them popular with the satellite people who find it difficult to change tubes in an orbiting satellite.

The NOL plastics division has made its influence felt throughout the services and the industrial world, too. This division came to the aid of World War II amputees by developing plastic hands which would function satisfactorily.

The first hands NOL developed were tested by a Marine colonel who had lost one of his own in the Pacific fighting. An NOL hand was issued in the midst of the grass-growing season to the colonel who spent a hard week pushing a lawn-mower. The colonel returned at the end of the week, a dissatisfied customer. There was a blister on his one good hand — and a hole in the other.

It may be said to the credit and redemption of the plastics division, however, that it developed a plastic hand which was both extremely realistic and useful.

NOL plastics are developed mainly for tests conducted elsewhere in NOL. It has developed, for instance, a plastic chamber for testing rocket fuels. The chamber is strengthened by winding it with strands of plastic-dipped glass.

The process used for making the test motor actually gives the same strength possessed by a real rocket motor and is an NOL development.

FOR THE ARMY, NOL developed a plastic cartridge case which could be injection molded yet withstand the shock of firing.

NOL experimented with several mediums, including glass-reinforced plastics but found the end products either couldn't endure shock, would gum up gun barrels or were too expensive to compete with metal casings.

When it considered the possibility of injection molding, industrial laboratories were certain the process wouldn't produce a casing with the

necessary properties. NOL, however, did develop a material which could be satisfactorily injection molded and save the taxpayers money in shipping costs and storage space.

The lab also devises plastic cases to keep electrical components operating despite extremes of temperature and humidity. It has studied the use of phenolic and epoxy resins and ceramics to protect metal from the extreme heat produced by rocket motors and, in several instances, it has come forward with developments which jolted industry into pursuing its own line of development.

The German V2 rockets and changing times were two of the factors which put NOL into the aeroballistics business. After World War II, two giant wind tunnels captured by the United States Army in Germany were shipped to NOL.

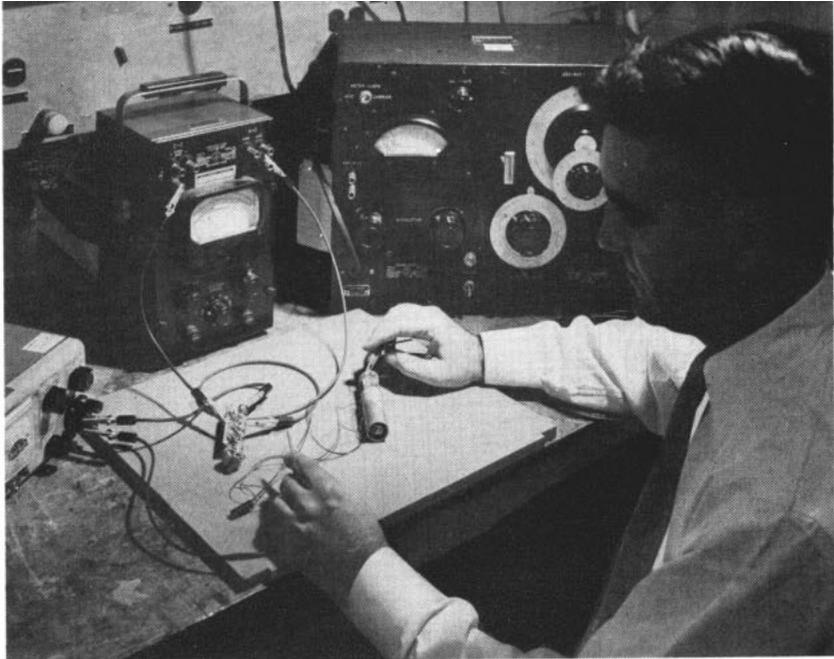
AS ROCKETS became more important to naval weaponry, a building was literally constructed around the two captured wind tunnels. The facilities among the oak trees now include supersonic wind tunnels, a centrifugal compressor plant, ballistic and hyperballistic ranges, a small hypersonic tunnel and a new, large hypersonic tunnel.

The tunnels are used to predict what a full-scale object will do aerodynamically by subjecting it to controlled conditions and then recording its actions. This technique has been applied by NOL to just about every missile in the United States arsenal.

To describe the operations of all the equipment would be beyond our scope here but let's take a look at the big hypersonic tunnel, because it is one of the largest in the country.

It can test objects designed to fly at speeds from five to ten times the speed of sound. To do this, air which is stored at high pressure is heated by gas and electric heaters to boost its temperature to 1500 degrees Fahrenheit. The air is then forced through a nickel nozzle at a pressure of 2400 pounds per square inch into the test chamber in which the model is suspended. The behavior of the model is observed by means of high-speed photographic equipment and by pressure, temperature and strain gauge instrumentation in the model.

ONE OF THE LARGEST pieces of equipment is the hyperballistics range, which consists of an under-



CHECK OUT — HASP project engineer measures pulse repetition rate of telemetering package that will go aloft in the research rocket.

ground steel tube 1000 feet long and 10 feet in diameter, from which air can be pumped to simulate altitudes up to 150,000 feet. A passageway runs alongside to give access to observers and to provide stations for a system of extremely rapid photography which supplements the cameras in the range itself. The whole thing is buried under four feet of earth.

At one end of the tube, there is an 80-foot blast chamber that surrounds the muzzle of the gun which fires the model. The model missile speeds down the range and its behavior is photographed by the 22 high-speed observation stations which straddle the tube.

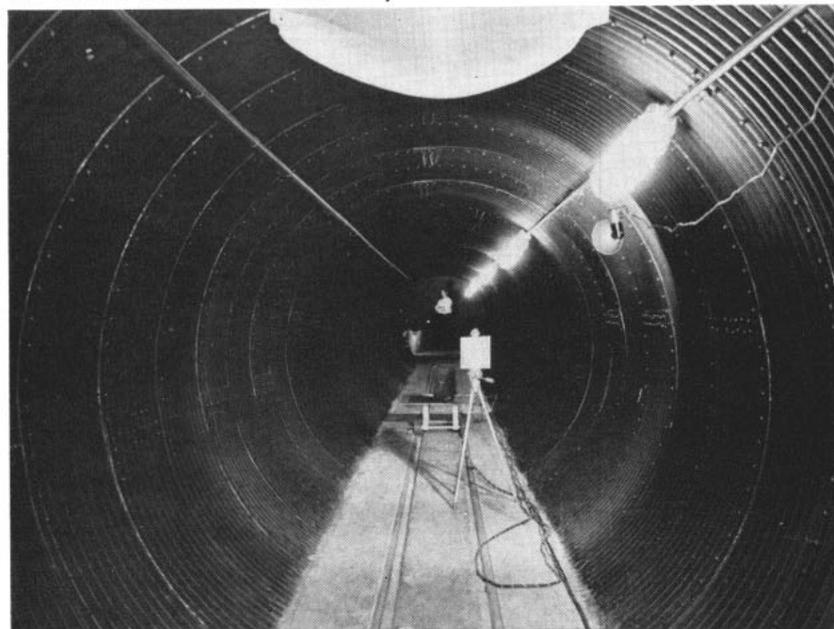
Missiles are forced at terrific speeds from a two-inch, two-stage,

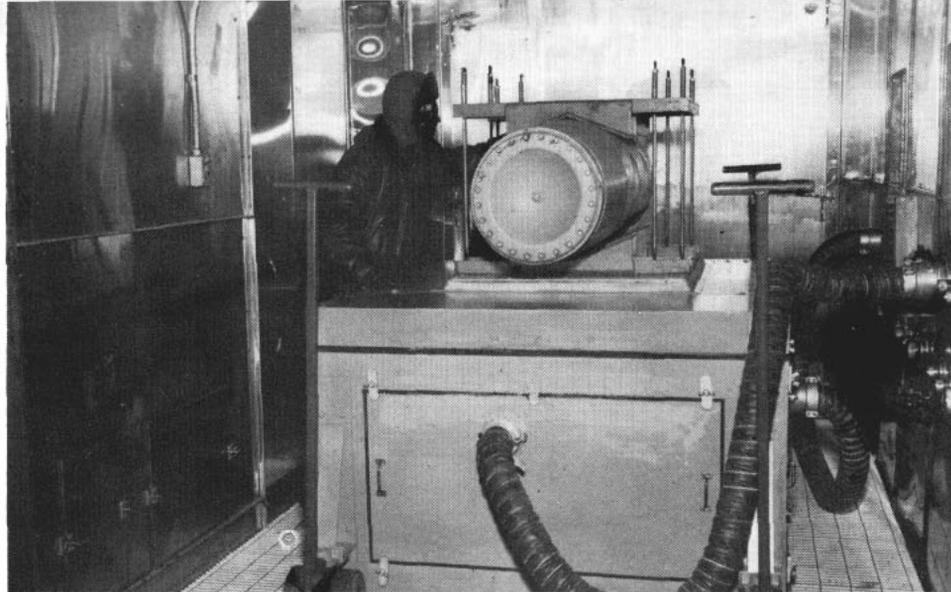
light gas gun which uses hydrogen as a propellant. The gun, which was developed at NOL, has a 40-foot, two-inch barrel. A plastic piston driven down a 30-foot cylinder by gunpowder forces hydrogen at extremely high pressure and temperature into the two-inch barrel, where it drives the test missile down range. The velocities attained are about five times the velocity produced by guns in the Fleet today.

So great is the driving force in this two-inch gun, that the breech mechanism of a 12-inch naval rifle is used to close the chamber. After the missile has flown the length of range, it hits an armorplate butt.

WEAPONS WITHOUT EXPLOSIVES are of very little use to the Navy or

PIPE THIS — This pipe-like structure is the pyrotechnical tunnel where the Naval Ordnance Laboratory tests flares and other pyrotechnics.





COOL IT — Mechanical Evaluation Division of NOL gets set to test ordnance under controlled conditions of temperature and vibration.

anyone else. At NOL, explosive research is conducted in a deserted area toward the rear of the reservation. It is characterized by small, heavily constructed buildings which are partitioned by walls, two feet thick, of concrete interlaced with steel. The interior walls are punctuated by portholes filled with thick bulletproof glass, through which technicians can view the work they do by remote control.

The explosives are made to the specifications of the users, which include not only the Navy but AEC. The charges are of different compositions. Sometimes they are even mixed and melted in a large airtight vat that looks quite a bit like a shipboard potato masher. The mixer currently in use replaced large vats once used for mixing candy.

There are two methods for pressing explosives into the shapes de-

sired. One is the hydraulic press which produces a cylindrical charge. Friction makes this dangerous, and charges have exploded while being pressed. To prevent the possibility of injury, technicians watch the operations over closed-circuit television in another part of the building.

A safer and more versatile method of achieving the desired shape and size of the charge is by compressing the explosive in the isostatic press with the help of water and compressed air.

This press is nothing more nor less than the powder chamber of a former 16-inch Navy gun, pointed muzzle downward, with a breech in both ends. It is isostatic because it exerts equal pressure on all sides. The explosive is placed in a rubber mold, the breech of the gun is closed and air pumps are used to pump water to the desired pressure. The

water presses the explosive into the shape dictated by the mold.

VARIOUS METHODS of obtaining molds are used. Sometimes they are machined by NOL's machine shop. Some of its more interesting molds, however, have been produced out of sheer ingenuity from such unlikely objects as rubber basketballs or volleyballs. As a matter of fact, practically anything made of rubber can be used, and such non-rubber objects as ping pong balls and bullet molds have been used.

One of the lab's more successful molds was made by taking a round glass flask of the type frequently found in chemical laboratories and painting it with several coats of latex. When the latex dried, it was peeled off the flask and filled with the desired explosive mixture.

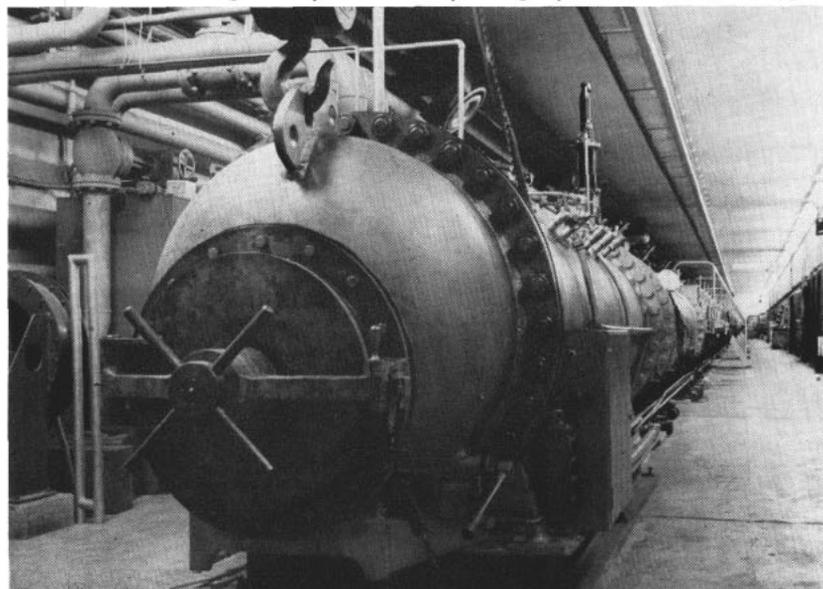
After several tries, during which the explosives were rammed or vibrated or both, a perfectly round, seamless charge emerged from the isostatic press after the latex mold was placed in a wooden brace and pressed.

This mold replaced the volleyball mold which had previously been in use — much to the satisfaction of the explosive scientists who were getting a bit weary of buying quantities of volleyballs after having measured each one with a calibrator.

Some charges must be machined on lathes or sawed to size. This is done with regular machine lathes and by a steel cutting saw which can be operated by remote control and observed through a porthole.

NOL sometimes takes up to as long as three weeks to make one explosive charge. In a test charge, as in everything else NOL does, exactness is a must. Any deviation from specifications could well nullify the entire effort.

STRANGE LOOKING gear is pressurized ballistics range that fires model missiles at great speeds and photographs behavior in flight.



NOL IS WORKING on high-temperature explosives which will tolerate temperatures generated at speeds three times that of sound. It is also working on explosive binders which not only bind the explosive together, as do the currently used nylon and teflon, but will themselves release energy.

In deference to NOL's neighbors, the explosives people limit air explosives to one-pound charges. Despite precautions, an occasional noise bugs the neighbors. One air burst was noisy on its way up and pro-

duced an angry call from a neighbor who accused NOL of producing radioactive fallout. To prove her point, she brought a saucerful of the fallout to the lab. It was oak pollen.

Despite what newscasters might describe as an explosive situation, there have been no accidents during the making of explosive charges which caused an employee to lose any time from work. There have been four explosions in the hydraulic presses but, thanks to the closed-circuit TV, nobody was hurt.

THE ENVIRONMENTAL LABORATORY at NOL can be compared to a devil's advocate. Whereas most of the scientists developing ordnance approach the problem by thinking how they can make a device work or how they can improve it, the environmental scientists adopt, to a certain degree, a negative attitude. Their thoughts are directed more along the question: "What would keep this device from functioning at the proper time?"

Fundamentally, their job is to determine whether or not the weapon has the inherent ruggedness which is required of it to withstand storage under all possible conditions and whether or not it can be jostled, dropped and doused; whether it can adapt itself to the rigors of desert sand or deep-sea barnacles. If the environmental lab finds the weapon lacking in its ability to withstand its probable environment, a great deal of time and money is saved by discovering this limitation before the weapon goes into production.

To compensate for the time factor in weapon environment, the laboratory overtests for such factors as shock, vibration, temperature, humidity and pressure.

If the weapon is to be used in hot climates, it is tested at air temperatures comparable to those at which it will be stored, plus the internal heat which will be generated.

It is well to note here that the highest natural temperature recorded on land was 136 degrees Fahrenheit at Azizia, Tripolitania. Death Valley ran a close second with 134 degrees. Missile components often reach a temperature of 400 degrees Fahrenheit.

If the weapon can stand these temperatures, it is, if you'll pardon the expression, hot to trot.

On the other side of the ledger,

temperatures of 90 to 100 degrees below zero have been recorded in Siberia and Antarctica.

GENERALLY SPEAKING, the environmental lab considers a range of temperatures from 160 degrees to minus 80 degrees to be realistic in testing.

Other factors to be considered in testing are the rapid temperature changes encountered in rocket flights into high altitudes.

In addition to the environmental hazards nature sets up for weapons, there are a few man makes himself. NOL wants to know, for instance, how a weapon will react when subjected to the sudden drag of a parachute or how it will behave when it is shocked by entry into water, and what will happen when it hits the bottom.

To get the desired effects, NOL fires its test objects in closed-muzzle, compressed air guns, drops them down elevator shafts on anvil-like devices and fires them into the water hazard of a nearby golf course.

To the old tests against the danger of prolonged vibration in freight cars, NOL has added new ones against the hazards of jet aircraft and missile vibrations. Techniques employing probability theory have been developed to simulate and measure this environment.

AFTER NOL HAS TESTED components and assembled prototypes,



TESTING—USS Norton Sound (AVM 1) fires a Tartar guided missile down the Pacific during test.



STRANGE HAPPENINGS — Lightning strikes plume of water caused by underwater explosives during test conducted by NOL.

a weapon is just about ready for the Fleet. It will be tested again under actual conditions but, by now, scientists are reasonably sure the weapon they have developed will not explode before it should and will do what is expected of it when its time comes.

There is a reason for this confidence and a reason why NOL has operated so successfully. The youthful attitude toward obstacles which NOL men maintain has contributed to a number of breakthroughs in the development of naval ordnance.

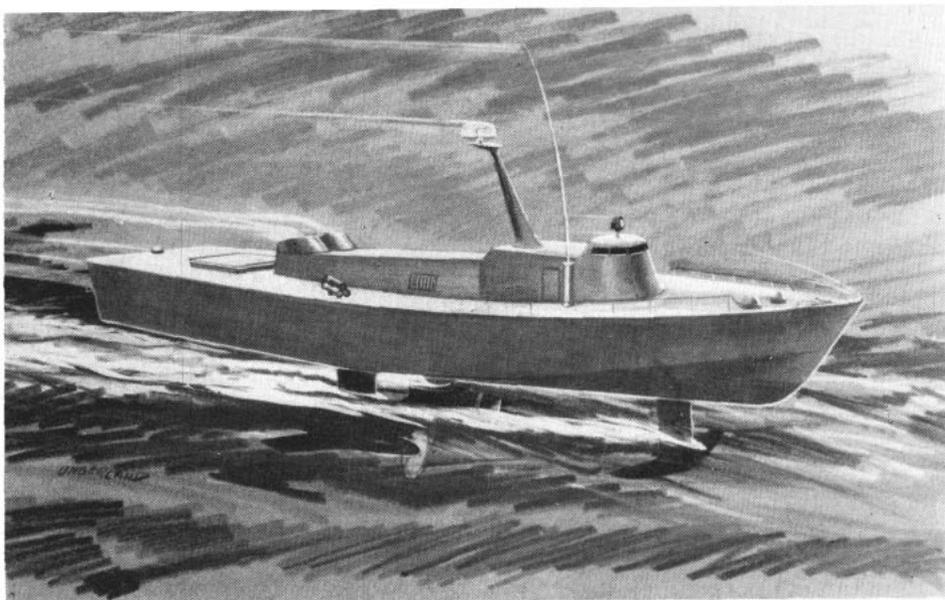
NOL men, when faced with scientific obstacles, endeavor to adopt the attitude of Sportin' Life who, in *Porgy and Bess*, sings "It Ain't Necessarily So."

NOL scientists are important to the Navyman because they furnish him the tools of his trade.

Navyman will be interested to know they have good backing. An unusual spirit of cooperation, a freedom from harassment and a freedom of thought have combined to produce an atmosphere in which research thrives.

Navyman will also be interested to know that NOL has dealt them what interests them most after the bets are made. Namely, a winning hand made up of weapons with which a man can successfully fight.

— Robert Neil.



NEW TWIST — Artist's drawing shows new craft that will be used to study hydrofoil concept.

played an important part in helping to develop radar and sonar. Now commercial ships of all sorts use sonar constantly for keeping tabs on the depth of water under their keels, and radar is commonly used for commercial ship navigation and aircraft control. The picture tube in your TV set is a direct descendent of World War II military radar scopes.

BUSHIPS HAS ALSO PUSHED BACK engineering frontiers in fields which

What's Coming Out of

In assessing the accomplishments of the Navy, its contributions to the nation as a whole through progress in naval shipbuilding and equipment are frequently overlooked. The Bureau of Ships is a major innovator of many of these developments. Here is a progress account of recent BuShips' activities. It is excerpted from a report by Rear Admiral R. K. James, USN, Chief of the Bureau of Ships. It's interesting to note how many of these developments have found themselves being adapted outside the Navy into the American way of life.

THE BUREAU OF SHIPS is responsible for designing and constructing

naval ships and most of the equipment on them. It sees to a ship's proper care and modernization until the Navy no longer needs it.

To be powerful enough to control the seas, our ships must be technically superior. This is largely the responsibility of BuShips and, in performing it, a number of by-products of direct interest to the general public result.

Before World War II, for example, the Navy developed a number of lightweight diesel engines for submarines. The railroads snapped up the diesels and today, railroading buffs are about the only people who ride a train with a steam engine.

To cite another example, BuShips

will be of tremendous economic value in the future. A prime example is the development of nuclear power. The Navy pioneered in this field, starting shortly after 1939 when a controlled chain reaction became a practical possibility.

Within an extraordinarily short time, a land-based prototype was operating successfully, basically the plant that was to drive the world's first nuclear power ship, *uss Nautilus* (SSN 571). On her first charge of uranium fuel, *Nautilus* steamed more than 60,000 miles, over half of them fully submerged. Thus, one small charge of fuel did the job that would, in conventionally powered submarines, require enough fuel oil to fill about a mile and a half of railroad tank cars.

Since then a whole family of reactors has been developed: improved reactors for submarines; reactors especially designed for large surface ships such as the aircraft carrier *Enterprise* (CVAN 65) and the guided missile cruiser *Long Beach* (CGN 9); and a plant for the two nuclear powered frigates being built. Now under development is a single reactor propulsion plant for use in even smaller destroyer type ships.

The Navy's original interest in nuclear power stemmed largely from its advantages for submarines. Conventional submarines are really surface ships able to operate submerged for a brief time—only so long as their batteries hold out. Like batteries, nuclear reactors operate in-

UP AND ATOM—Nuclear-powered *USS Enterprise* (CVAN 65) goes to sea.



ALL HANDS

dependently of the atmosphere. Unlike batteries, you can use them at full power for thousands and thousands of miles of submerged sailing. That is why *Nautilus* and other nuclear powered submarines after her have been able to cruise beneath the polar ice cap.

THE NAVY IS capitalizing to the fullest on the advantages of nuclear powered submarines. Experiments were conducted until the ideal shape for underwater operations was found, and now all but the early models are shaped something like whales. This so greatly increases their submerged speeds that we put much more responsive control sys-

BuShips?

tems aboard these nuclear subs.

BuShips has gone to great lengths to "human engineer" these ships for the benefit of the crew during long trips when they are confined aboard with not even a sight of the sun or moon.

As much space as can be spared for study and recreation is provided. Some ships have exercise machines. One submarine is trying out an inflatable gym. The gym's padded walls protect amateur wrestlers and such from the metal projections present in any submarine compartment.

For quieter moments there is a built-in hi-fi with a speaker in each compartment. There's an individual light for each bunk, and on some subs there are earphones so a man can listen to the hi-fi without disturbing his shipmates.

BuShips is coming up with improvements to nuclear powered submarines at a terrific pace, and incorporating them as fast as possible. And it is operating on a very large scale. No less than 60 nuclear powered submarines are built, building or authorized now, including the 29 *Polaris* submarines.

The Navy's work on the reactors for these nuclear ships is of inestimable value, not only for the commercial ship propulsion systems that are bound to come, but also for land-based power sources.

THE BUREAU OF SHIPS also is a leader in non-nuclear machinery developments which will in time have



A-POWERED submarines improve and grow. Here is *USS Ethan Ellen*.

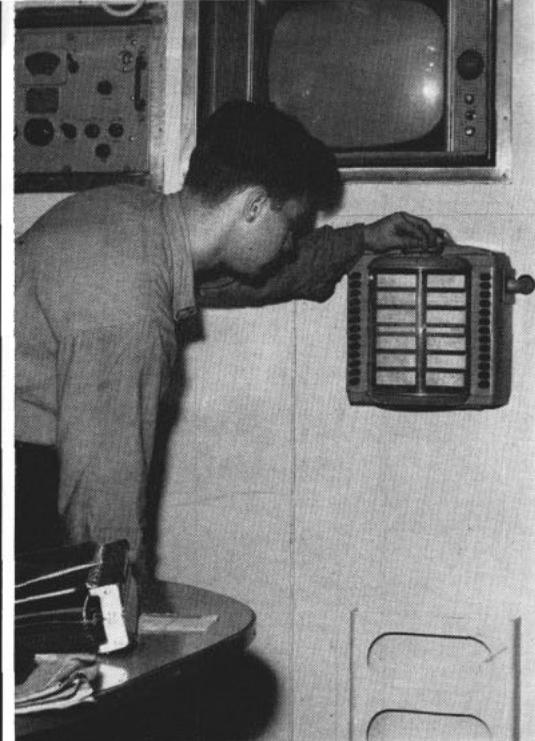
great impact on the economy. Take gas turbines. It is making them more rugged so they can withstand the rigors of the sea and combat.

BuShips is interested in gas turbines because they are light, relatively small, reliable and require

comparatively little maintenance. The main drawback in the past has been high fuel consumption. It is embarked on a joint Army-Navy development program which is expected to result in a gas turbine engine with fuel consumption comparable to die-

THE CREW TOO—BuShips tends to improve living conditions at sea.





FBM SAILOR plays juke box on board *USS George Washington* (SSBN 598) during patrol duty.

sel and better than gasoline engines.

The Bureau of Ships is busy with other developments: Contra-rotating direct drive steam turbines, pump jet installations as substitutes for conventional propellers, a propulsion system that operates on the ram jet principle, and others.

Some of the most radical engineering developments are in the

electrical and electronic fields. The Bureau of Ships handles shipboard communications and this is leading to some Buck Rogers fields. Working with the Naval Research Laboratory, it has developed a communications system which involves bouncing signals off the moon. Research is going on in several projects with active and passive satellites for development of communications.

TURNING TO OTHER FIELDS of major change, it is no secret to anyone that the Navy's fleet of guided missile ships is growing rapidly. Not counting the 29 *Polaris* submarines, but counting all other missile ships, new and converted, completed and uncompleted, there are five guided missile submarines, 30 guided missile frigates—two of them nuclear powered—12 guided missile cruisers—23 guided missile destroyers and four guided missile escort vessels—a total of 74 ships.

The Bureau of Ships now has groups of specialists whose sole assignment is to study unusual proposals to see if they will be useful to the Navy. Sometimes they come up with ideas which may or may not be useful to the Navy but are definitely useful outside the Navy.

Take the "SPAR" ship that BuShip's Design Division came up with in its advance studies section. This was a concept of a ship with a draft

of some 160 feet, so designed to get a sonar transducer down deep into the ocean. It might look like a thick, blunt knife pointed straight down, with only the top of the handle showing above water. This was conceived originally as an antisubmarine ship, but ships like this will actually be built for use in the field of oceanographic research.

THERE ARE OTHER important radical departures. For example, now a-building is a "bug battery." Recently it was discovered that certain biological organisms act as supercatalysts in promoting electrochemical reactions heretofore considered impossible. One system under study has already produced useful amounts of power.

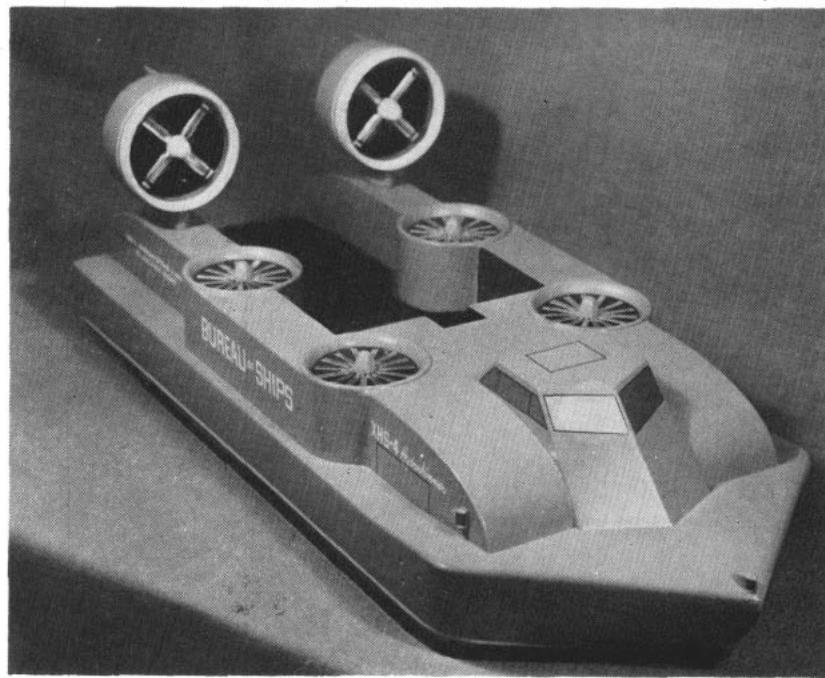
Two years ago the power from this cell would barely move a needle. Now we have a fuel cell that has produced watts, using the reaction of magnesium with sulphate ions in ocean water. The cost of the bug battery per watt-year should be about one-tenth the cost of any existing source of power for long endurance, low power devices.

Some of the projects are way out. For example, the Bureau of Ships has had a device operating for over a year that could use the waste products from reactor cores to convert gamma energy directly into electrical energy. It is also developing a thermionic device to convert nuclear energy directly to electricity. It is eager to see these projects succeed, for they would both provide new types of power sources with no moving parts. They look promising and they could give the economy a great boost if they were mass-produced. These are still in the research stages and may yet go up in smoke and disappointment, but they are cited as examples of the kind of imaginative engineering going on in the Bureau of Ships.

Pressing forward at such a rapid pace, some severe problems are encountered. Some are solved, but they won't ever leave BuShips alone altogether.

ONE PROBLEM is the difficulty of making these highly complex and often very delicate mechanisms reliable and rugged enough for naval use. Another is to engineer ships and their equipment so the number of men aboard can be reduced. Another is to find ways of reducing

TESTING—BuShips-inspired hydroskimmer will cruise at high speeds.



ship costs. Some of these are dismaying in their proportions. For example, the cost of an attack submarine has risen from five to six million in World War II to a total of 60 million today. BuShips tackled this problem with the dollar stretch—a program to examine everything with an eye to slashing non-essentials. It has been highly successful. Already the benefits returned total over \$178,000,000.

Another problem is that of increasing surface ship speeds. This is a tough order. The conventional ship is limited by a natural barrier: The wavemaking resistance a ship driven at high speed must overcome.

One big push right now is in the area of hydrofoils and hydroskimmers. The hydrofoil is the one with stilts and subsurface wings that lift the hull clear of the water. The hydroskimmer looks as if it is riding on air. That's because it is.

BUSHIPS is carrying out a continuing investigation of all phases of hydrofoil application. The Navy already had a hefty background of experience—our own and a lot of other people's both here and abroad. It then came up with a practical system for automatically controlling the height of the hull above substantial waves. This opened the door to big strides.

Since then contracts have been let for three major hydrofoil ships. Well along toward completion is the 110-ton, 117-foot hydrofoil patrol craft—the PC(H). She will be built and equipped to conduct antisubmarine patrols in harbors, harbor approaches and coastal waters. She is expected to attain speeds of over 40 knots, so she will be able to overtake modern high-speed submarines.

BuShips also has a 15-ton experimental hydrofoil craft under contract. It will test out a variety of foil configurations by suspending them from beams between her twin hulls. Through the use of special supercavitating foils, it is anticipated she will reach speeds of 100 knots.

How big a ship can the Navy put hydrofoils on? No one knows. BuShips is pushing the limits upward with the 300-ton hydrofoil research ship for which it contracted last fall. Gas turbine power transmitted through right angled drives will lift her 219-foot aluminum hull clear of the water. She will achieve speeds of 50 knots on conventional foils.



WORLD'S FIRST nuclear submarine, *USS Nautilus* (SSN 571), makes port.

If she can stand the fantastic strains and stresses, supercavitating foils will be put on to push her up to 90 knots. BuShips is using this ship to learn all it can about open-ocean use of the hydrofoil concept and its use on still larger ships.

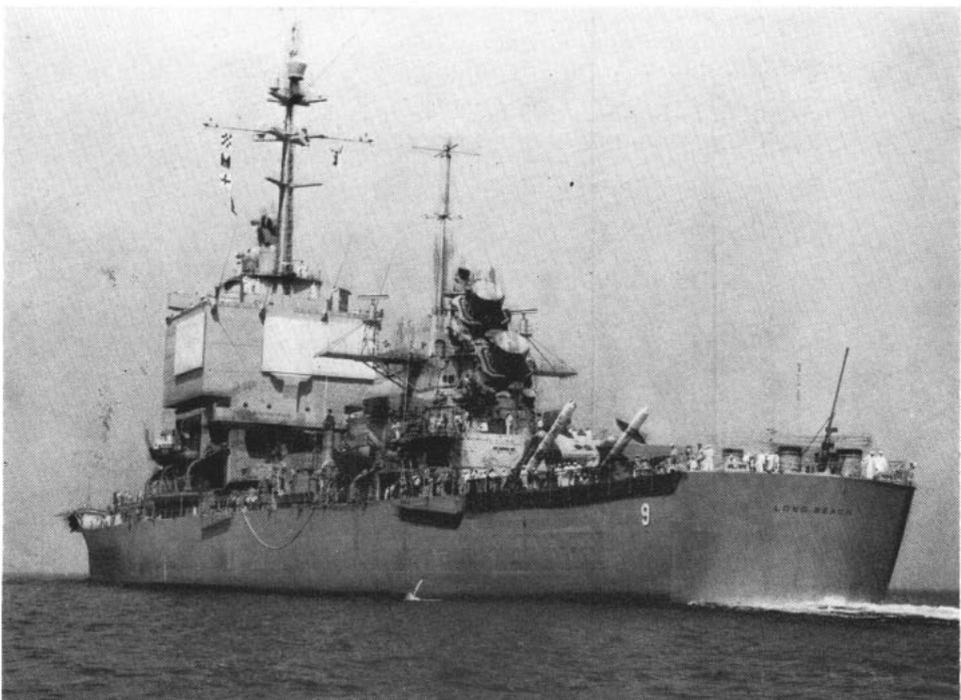
WHAT OF THE HYDROSKIMMERS? These are craft constructed to ride on a cushion of air blown under them. They are capable of very high speeds and theoretically their efficiency increases with their size. Their load carrying capacity exceeds that of helicopters by a wide margin. They could be extremely valuable as landing craft, patrol boats, mine countermeasures craft or antisubmarine warfare ships.

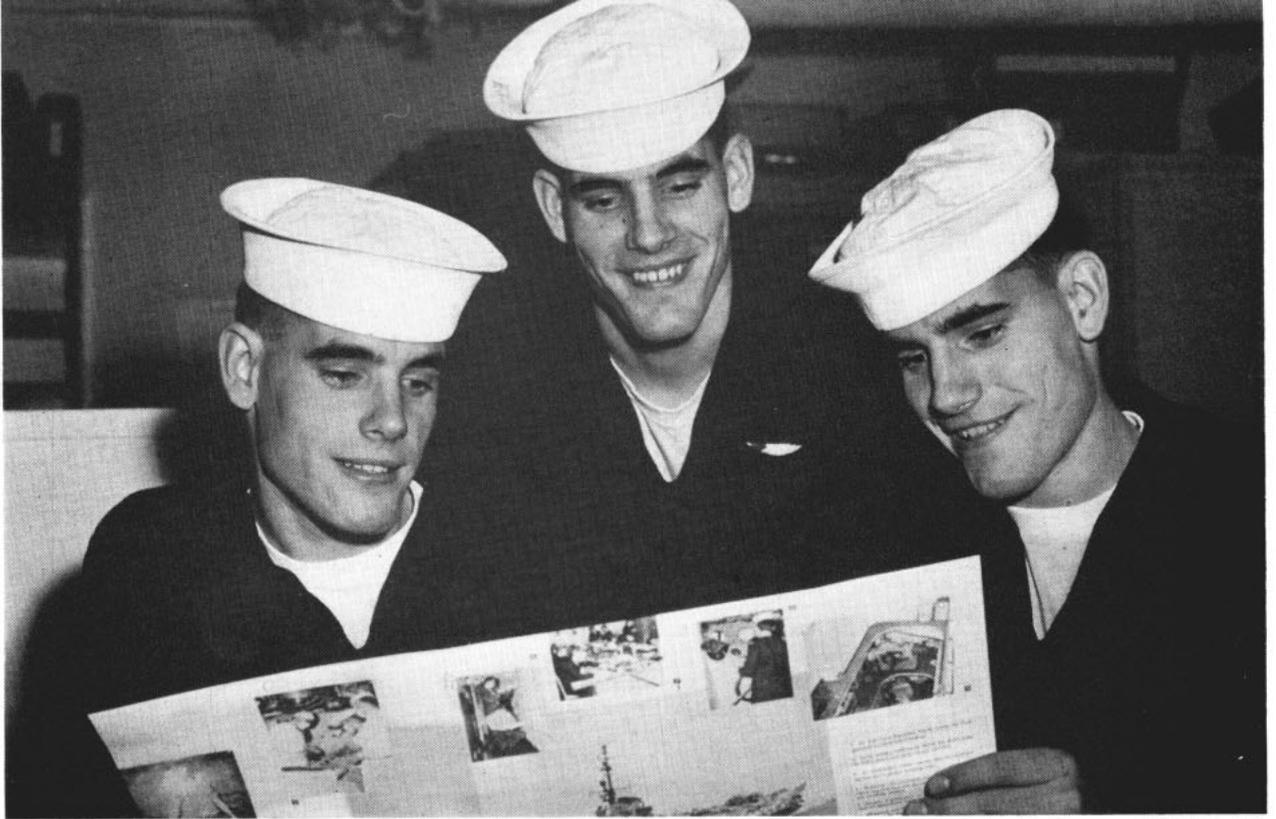
The current effort along these lines is a skimmer which weighs 22 tons and is 62 feet long. It will be the

largest air-cushion vehicle ever built in this country. Its four air-cushion fans will enable it to hover slightly more than two feet above water or ground. The large upright air fans at the rear will drive her forward at more than 70 knots. BuShips is going to use this craft to study the feasibility of applying the hydroskimmer principle to large naval ships.

The Navy is sure to learn a great deal in building these ships. They carry us to the brink of the state of several arts—including the arts of foil design and arrangement, gear train and bearing design, construction of extremely lightweight and strong structures and many others. Even if the basic concepts prove to have only very limited application, the lessons learned in these areas will be well worth the effort.

MORE ATOMS—*USS Long Beach* (CGN 9) travels on atomic power.





WHO'S WHO? — The Wutcheck brothers cause a bit of confusion aboard *USS Franklin D. Roosevelt* (CVA 42).

One Big Happy Family

OLD-TIMERS may recall the March 1953 cover of *ALL HANDS* which was graced by a photo of the Vaughn twins, Lee and Lew — or Lew and Lee, as the case may be. At the time, both were HMCs attached to the School of Hospital Administration, Bethesda, Md.

We are now pleased to offer a companion photo of the same men, taken some years later, after they achieved the more rarified status of HMCS. The occasion: the presentation of letters of appreciation from

the Surgeon General shortly before their separation and transfer to the Fleet Reserve. Their duty stations and advancement throughout their naval careers followed parallel paths.

Such circumstances, while unusual, are not unique. After all, the Navy is just one great big happy family. There are probably more brothers, fathers and sons, and sister and brother combinations on duty in the Navy than in any outfit of comparable size.

We couldn't swear as to the rea-

son but our informed guess would be that they like the Navy. Here are some case histories to support our reasoning:

- Cecil, Fred and Paul Harrison began serving together on board *uss Cone* (DD 866) in December 1958. The three brothers are all boilermen; Cecil a chief since September 1959, Fred a chief since January 1961, and Paul a PO1. The three brothers have been active in the ship's welfare and recreation program and are the nucleus of the softball team.

GREETINGS—Brothers Shadwell meet in Rota. *Rt.*: Chief H. L. Foden greets son boarding *USS Whitehurst*.





DOUBLE CAREER — Vaughn twins receive letters of appreciation on retiring. *Rt:* The chiefs in March 1953.

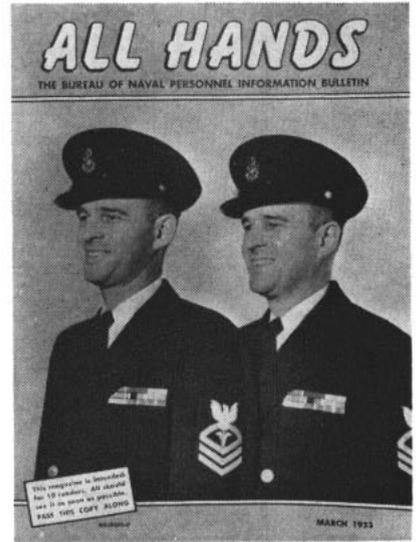
• Joseph, Francis and Daniel Wutcheck, identical triplets, have been serving together on board *uss Franklin D. Roosevelt (CVA 42)*. All three of the Wutcheck men enlisted in the Navy at different times. Francis was the first. He entered the service in July 1960, and was the last to arrive on board *FDR* (in April 1961). Dan joined the Navy in September 1960, and came aboard in November 1960. Joe must have liked the reports of the other two because he joined in October 1960, and was assigned to the heavy cruiser *Newport News (CA 148)* before reporting to *FDR* in March 1961.

• The oldest of four brothers comprising the Shadwell family cre-

ated a family tradition in 1949 which led to the eventual naval enlistment of the entire younger generation of Shadwells.

Twelve years later, Howard, the youngest Shadwell, following in the wake of his three brothers, followed the family tradition when he entered naval service. After graduation from basic training in San Diego, Calif., Howard requested duty with his two brothers Frank and Robert, who were assigned to Naval Mobile Construction Battalion Four. The other Shadwell brother, John, is stationed aboard *uss Wexford County (LST 1168)* operating from San Diego.

(How do families get together? It's reasonably easy. Art. C-5207 of the *BuPers Manual* authorizes mem-

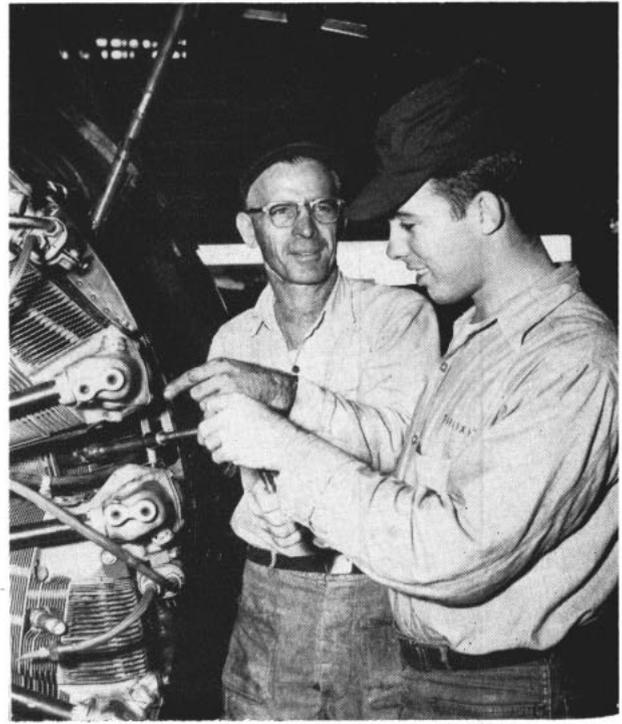


bers of the same immediate family to request duty together, son with father, brother with brother, etc. If approved, transfer orders, at no cost to the government, will be issued to those not otherwise eligible for rotation in accordance with current directives.)

• Occasionally one hears of a father and son or two brothers serving in the Navy at the same station, but rarely do you hear of a father and son serving as CPOs in the same rating at the same station. However, NAAS Kingsville, Tex., saw such a relationship when Glen T. Longstretch, AMC, USN, saw his son, William A., promoted to AMCA.

Nineteen years ago, Chief Glen entered the Navy at San Diego.

TOGETHER — Chiefs Clow, father and son, serve at same NRTC. *Rt:* R. C. Troxel, AA, gets word from dad.





TRIO — Harrison brothers sailed in *USS Cone* (DD 866). Rt: Chief A. B. Fox and son are in crew of LST.

Twelve years later, Chief William also entered the Navy at San Diego. They were both stationed with VP-48 at North Island, and made two deployments together to Iwakuni, Japan. Chief William was in the Airframes Division — the division in which his father was shop chief. It was here that Chief William was promoted from third class to second and then to first.

- Chief Engineman Andrew B. Fox and his son William, ET3, are both serving aboard *uss Tioga County* (LST 1158). Chief Fox, with 17 and one-half years' service, is the oldest crew member on board. Son Bill reported on board shortly before the ship made its Aleutian cruise last year.

- Not too long ago, William M. Davis, SDCM, recruiter in charge of

the Navy Recruiting Station, Jamaica, Long Island, N. Y., had the pleasure of recruiting his 19-year-old son Keith into the Navy. Keith took his qualifying examination at his father's station and his physical and secondary exam at the Armed Forces Examining Station, New York, N. Y.

- Seniority between any two naval officers is normally clear-cut, but when it comes to the cases of LTJG Terrence V. Gallagher and LTJG Connell J. Gallagher, of Carrier Airborne Early Warning Squadron 12, the matter of seniority is not quite so clear. Brothers, both are radar controllers in the WF-2 *Tracer* flown by VAW-12. True, Terry was commissioned six months before Connie, but on the other hand, Connie is 19 months older than Terry.

- When Vincent L. Wood, AD1,

reenlisted at the South Weymouth Naval Air Station, the photographer on hand to make an immortal recording of the ceremony was his brother Richard W. Wood, JO1. JO Wood is attached to the air station's command liaison office; AD Wood is busy on the VP/VR line of the station's aircraft maintenance department.

- When John W. Prendergast, MMC, retired while serving on board *uss Hartley* (DE 1029), he turned over to his two sons, Fred and Ronald, an oversize wrench, symbolic of his career.

Chief Prendergast joined *Hartley* in 1959. Earlier, he was engineering and damage control instructor at the OCS in Newport. Fred is an MM3, serving aboard *uss Van Voorhis* (DE 1028). Ronald has finished his eight

FAMILY AFFAIR — VADM C. V. Ricketts, USN, meets son at shipyard. Rt: Chief Oberst and son reenlist.





WOOD WORK — R. W. Wood, JO1, covers brother's reenlistment. *Rt:* J. R. Skelton, BTC, supervises sons.



weeks of sub school at New London and has moved on to the Nuclear Propulsion school.

- At Whidbey Island, both father and son reenlisted at the same time. The reenlistments were William Oberst, ADCS, and son Alan, AQ2. Chief Oberst first entered the Navy in December 1931. He was released from active duty in 1935, and reenlisted in 1942. He has had unbroken service since that date. At present, he is working in the aircraft maintenance office. Alan first enlisted in July 1957. He is attached to Heavy Attack Squadron Six as a gunner/navigator in one of the plane crews.

- Both Harold L. Foden, BTC, and his son Charles, RDI, are serving in *uss Whitehurst* (DE 634), but they didn't come to the ship at the same time or in the same way. Chief Foden, veteran of World War

II and Korea, was recalled to active duty during the Berlin crisis and reported aboard *Whitehurst* last fall. Charles, then stationed in *uss Picket* (AGR 7), heard of his father's recall to active duty and requested transfer to serve with him.

- When the word is passed for Chief Clow at the Naval Reserve Training Center at Springfield, Mass., the inevitable answer is "Which one?" Wallace G. Clow, Jr., GMC, who made chief in 1961, is a member of Surface Division 1-27, while his father Wallace G. Clow, Sr., also a GMC, is a station-keeper at the Center.

- On board *uss Randolph* (CVS 15), keeping the job within the family is easy for James R. Skelton, BTC. His two sons, James, Jr., BT3, and Dennis, FN, have been assigned to the B division, and both come

under the close supervision of their father. Chief Skelton gives them the same amount of guidance and control he gives the other men working for him, because he is well aware of the trouble that can arise from being the boss's son. But his two boys need no more supervision than the others, for they have always grown up with the voice of their leading chief in their ears..

- Marine Private First Class Wilbur H. and Timothy G. Schade are serving with the 1st Marine Brigade's I Company, 3rd Battalion, 4th Marines at Kaneohe, Hawaii. Twins, they enlisted together, took basic training together and have been side by side ever since.

And so it goes. We've barely scratched the surface, but this will provide proof that serving in the Navy is a family affair.

FAMILY STYLE — W. M. Davis, SDCM, watches son enlist. *Rt:* Schade twins serve together in the USMC.





PORT VIEW—Aerial camera portrait of Port Hueneme shows how the naval installation looks today.

Seabee's Favorite Harbor

DURING WORLD WAR II, the little harbor of Port Hueneme, Calif., became known as one of the busiest ports in the United States.

As a clearing and staging area for thousands of tons of goods and supplies earmarked for the American war effort in the Pacific, this 105-plus acres of water was called "probably the most efficient harbor in all the world."

Even though construction adding

badly-needed facilities to the waterfront was not completed until early 1944, Port Hueneme (an Indian name meaning "resting place," which seems something of a contradiction) piled up records. Incidentally, the name is pronounced "Why-nee-me."

From July 1942 through November 1945, for instance, more than 1000 ships dropped anchor in the harbor, loading almost seven million tons of material and embarking al-

most 176,000 servicemen.

The Port Hueneme harbor originated by an odd route. Mostly man-made, it was first opened in June 1940. It was built by Ventura County farmers who were looking for a way to cut transportation costs of shipping their products.

The harbor, they thought, was the answer. It didn't work out that way, and when the government took over in March 1942, the port consisted of one wharf and one transit shed, plus the newly dredged harbor. Some \$15 million and two years later, construction included wharfage, additional dredging, buildings, pavement, utilities and railroad facilities.

The month following its purchase, the Navy rounded out its harbor by establishing there an advanced base depot, since evolved into a U. S. Naval Construction Battalion. The base was developed into an assembly point, training ground and embarkation area for the Seabees. Although Port Hueneme reached its peak during World War II, it is still very much in existence.

With two of its nine deep-water

GREETINGS — Missile tracking ship *USNS Richfield* returns to port.





IN PORT — Seabee Museum is a must see at Port Hueneme. *Rt:* Ships keep things buzzing in the harbor.

berths sold, the Navy still shipped and received about 100,000 tons of gear through the harbor on board 77 ships in 1961. This doesn't include an additional 75,000 tons of equipment outloaded during Marine Corps amphibious exercises and an assortment of cargo shipped through the port to offshore island facilities.

In 1961, the harbor provided support to Antarctic stations and to Operation Deep Freeze, the first such logistic aid from the west coast. Port Hueneme was selected to save the cost of shipping some of the materials if they were to be outloaded from a west coast port. The first ship to leave the harbor as a part of this operation carried some 8400 tons of cargo that included Arctic diesel fuel, dynamite, snow and missile equipment, weasels, carryalls and sleds. The ship also carried 18,700 cases of beer.

Port Hueneme was also used for staging, outloading, embarkation and backloading as part of joint Marine Corps amphibious exercises Greenlight and Wagon Master. During these operations, some 3700 men and more than 26,000 tons of cargo were loaded on 21 ships and landing craft that arrived in the port.

In addition to transient vessels arriving to load cargo and personnel, the port is also home port for six ships and numerous small craft. One of the six, *uss Norton Sound* (AVM 1), tests prototype guided missiles and often engages in other scientific research. The remaining five are range tracking ships under operational control of the Pacific Missile Range, a few miles from the harbor.

The harbor's actual physical facilities are almost the same as in 1945, except that the two biggest wharves

have been rebuilt and improved. It is protected by two breakwaters and is entered through a quarter-mile channel that leads to the central turning basin. The six major wharves make up the perimeter of the basin.

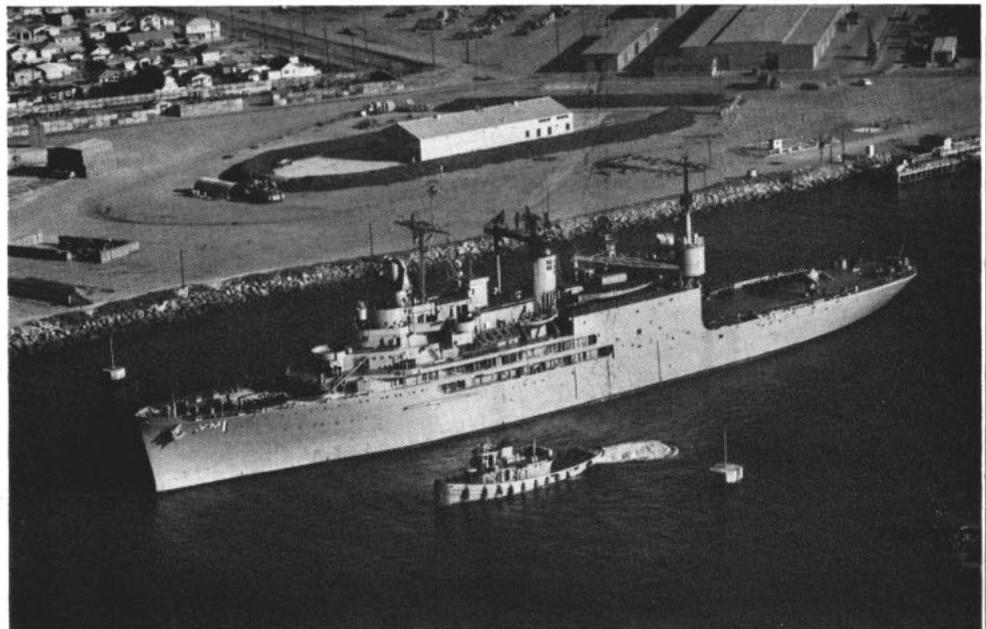
Another feature of the port is a cargo assembly area adjacent to each berth which can hold 10,000 measured tons of cargo, and two transit sheds with 30,000 square feet of space. An additional transit shed, presently being put to other uses, is available if required. Altogether, the port has a capacity to handle 330,000 measured tons of cargo a month.

With berths ranging in length from 525 to 1200 feet, the harbor can comfortably accommodate a 700-foot ship. Besides these larger berths, the harbor is fitted with two LST slips for lodging landing craft and an assortment of berths for small craft such as tugs, crash boats, picket boats, PTs and Coast Guard vessels.

— John D. Burlage, JO2, USN.



OUT TO SEA—*USS Norton Sound* leaves port. *Above:* CBs train at Center.



LETTERS TO THE EDITOR

Retirement for TARs

SIR: I would like to know if a man who has had 20 years of active duty under the TAR program is eligible for retirement pay at the time he retires or when he reaches age 65.

The man to whose case I refer has had no Regular Navy duty nor has he had any sea duty.—R.S.M., Jr., USNR.

• *There is no legislation dealing specifically with the retirement of TAR personnel. The provisions of retirement law dealing with Naval Reserve personnel apply to TAR personnel.*

Under the authority of Title 10, U. S. Code, Section 6327, an enlisted man who was a member of the Naval Reserve on 1 January 1953 may be transferred to the Retired Reserve at his own request if he has completed at least 20 years of active service in the armed forces.

His active service must have been other than active duty for training and the last 10 years must have been served in the 11-year period immediately preceding his transfer to the Retired Reserve.

Those who meet these requirements are entitled to retirement pay when they are transferred to the Retired Reserve, in the amount of 50 per cent of the basic pay to which they would be entitled if on active duty. They may also be eligible for transfer to the Fleet Reserve upon application after completion of 19 and one-half years of active duty. Fleet Reserve retainer pay is computed at the rate of two and one-half per cent of base pay for each year of active duty.—Ed.

Gold for the Non-Rated?

SIR: After studying Uniform Regulations, I still don't know if a seaman

Military Requirements Course

SIR: After reading the BuPers Instruction on the subject, I am still in the dark as to whether a graduate of a Class "A" school is required to complete his military course (Military Requirements for Petty Officers, 3 & 2) before he is allowed to take the examination for third class.

Can you give me an answer?—C. W. B., HMCM, USN.

• *The answer is yes. Even though a Navyman is an "A" School graduate, he must complete his military requirements course.—Ed.*

This section is open to unofficial communications from within the naval service on matters of general interest. However, it is not intended to conflict in any way with Navy Regulations regarding the forwarding of official mail through channels, nor is it to substitute for the policy of obtaining information from local commands in all possible instances. Do not send postage or return envelopes. Sign full name and address. Address letter to Editor, ALL HANDS, Room 1809, Bureau of Naval Personnel, Navy Dept. Washington 25, D. C.

(or any non-rated man) is authorized to wear gold seaman and service stripes.

Gold seems to be limited to petty officers. Can any non-rated man wear it?—V. C. M., YN1, USN.

• *No, non-rated men do not wear gold service stripes or gold rating marks. This distinction is limited to petty officers.*

As you undoubtedly know, the requirements for wearing gold are 12 years of continuous service and eligibility for the Navy's Good Conduct Medal.

A man who served for 12 years and who was reduced in rating to seaman, wouldn't qualify under the good conduct requirement.—Ed.

No Silver Chevrons

SIR: A Navyman at this command stated recently that there was, or still is, a rating badge with silver eagle, silver chevrons and silver specialty mark, which could be worn on the enlisted man's uniform in accordance with Uniform Regulations. I believe this to be incorrect. Can you clarify this for me?—R.W.S., SH1, USN.

• *CPOs, as you know, wear rating badges with embroidered silver eagles and specialty marks (as do other enlisted personnel who are eligible to wear the gold rating badge). However, to our knowledge, there is no rating badge with silver chevrons (embroidered or otherwise) authorized to be worn on EM uniforms. If there ever was one, we have been unable to find any record of it.—Ed.*

Ships Named for Pittsburgh

SIR: One of the articles in the January 1962 issue of ALL HANDS stated that LSTs were not named until 1956.

This interested me because I remember an LST being displayed in 1944 at Sixth Street in Pittsburgh, Pa., which, at least for display purposes, was named Pittsburgh. Pittsburghites thought the ship was named for their home town.

Can you shed any light?—E.J.A., YN1, USN.

• *Not really. We can only say there*

have been three ships named Pittsburgh, none of which was an LST.

The first was a side-wheel ironclad gunboat of Civil War vintage. The second, armored cruiser number 4, was launched in 1903 and the third was a heavy cruiser (CA 72) launched in February 1944.

We suggest that it may have been a private vessel, or perhaps a model of the cruiser which was launched in that year.

The Pittsburgh newspapers of that period would probably shed light on the subject in question. Perhaps some of our readers were there back in 1944 and can help identify it.—Ed.

Wave Fire Control Technician?

SIR: I work on the staff at Fire Control Technician School, Great Lakes. An instructor at the school says that years ago there was a Wave FT in the Navy. I haven't been able to verify this, so—could you answer the following questions for me?

Has the FT rating ever been open to Waves? Has there ever been a Wave FT? Is there any chance the rating will ever be opened to Waves again in the future?—A.M.B., SN (W), USN.

• *The FT rating has been open to enlisted women in the past, but records in this Bureau indicate that no Wave has ever held the rating.*

As for the future, FT is not now open to Waves, nor is it probable that it will be, particularly during peacetime, since the majority of the billets available are at sea.—Ed.

Typing for YN and PN

SIR: The Manual of Qualifications for Advancement in Rating does not list typing proficiency as a qualifying factor for advancement to YNC and PNC. Quite obviously, this means that YN1s and PN1s need no longer perform on the typewriter as a practical factor requirement. Why?—W. M. B., YNC, USN.

• *Advancement planners figure that men who've been punching typewriters for as many years as it takes to make chief have already proved their typing proficiency.*

Advancement qualifications include those already completed for a lower rating. In the case of YNs and PNs, typing ability is demonstrated while qualifying for 3rd, 2nd and 1st class.—Ed.

Reserve to Regular

SIR: I first enlisted in the Naval Reserve early in 1956 for six years. A few months later I volunteered for a two-year tour of active duty.

After recruit training, I extended my active duty for one more year in order to attend school. I then completed airman preparatory school at Norman, Okla., and an ADR Class A school, and was assigned to NAAS Kingsville, Tex., for duty.

After advancing in rate to ADR2, I applied for reenlistment into the Regular Navy, but was told that I could not do so without taking a reduction in rate to ADR3. I was further told, however, that if I would extend my active duty tour to coincide with my discharge date from the Reserve, I could then reenlist in the Regular Navy as second class.

I executed an agreement to extend, with the notation "For the purpose of reenlisting in the Regular Navy in accordance with BuPers Inst. 1130.4F" included in the agreement. Now that the time has actually come to reenlist, however, I am once again being told that I will have to take a reduction to ADR3 to go regular.

Somebody here is fouled up, that's for sure. I have now spent almost six years in what might be termed Regular Navy billets on active duty—the last three of these for the sole purpose of reenlisting in the Regular Navy. Can I, or can I not, ship regular as an ADR2? What is the authority which pertains?—R. J. B., ADR2, USNR (hopefully, and soon now, USN).

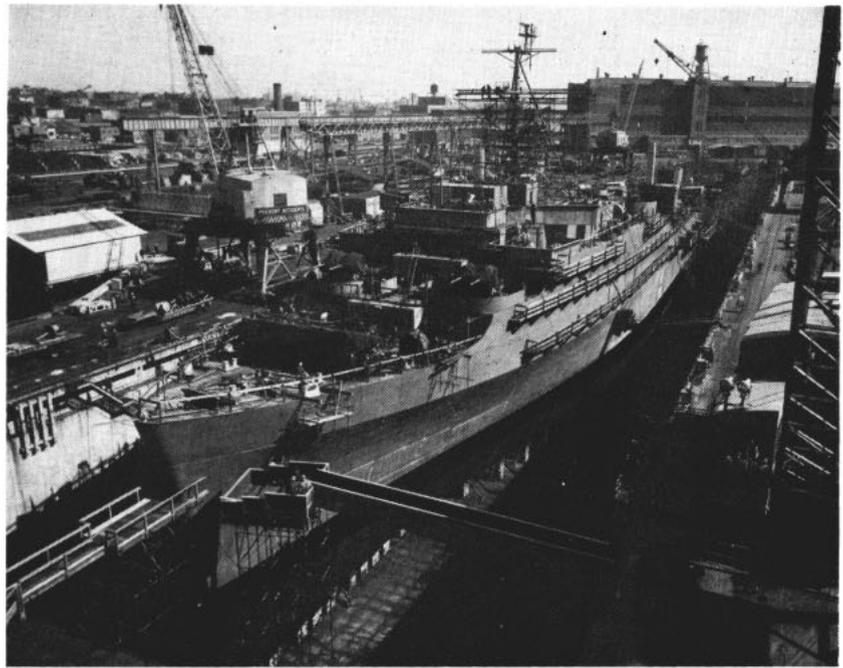
• If all of the facts are as you state them, there's no reason for any foul-up. The pertinent authority is exactly the same as you mentioned in your letter—BuPers Inst. 1130.4F. Enclosure (2) to that instruction provides that, if you are qualified in all other respects (age, physically, etc.) you may be enlisted in the U. S. Navy in the rate held at the expiration of your current enlistment, or enlistment as extended, in the Naval Reserve.

Have at it—and welcome to the Regular Navy.—ED.

Antarctica Service Medal

SIR: While browsing through a back issue (August 1961) of ALL HANDS, I noticed a listing of ships and units authorized to receive the Antarctica Service Medal. I believe this listing is not complete. How about UDT 4?—J.D.D., ENS, USN.

• Members of Underwater Demolition Team 4 who served in USS Mount Olympus (AGC 8) during the period 30 Dec 1946 through 1 Mar 1947 are authorized to wear the Antarctica Service Medal. The ALL HANDS listing to which you refer was based on SecNav Inst. 1650.14, which is the official di-



HIGH AND DRY—The amphibious transport dock USS Raleigh (LPD 1) takes shape in drydock at the New York Naval Shipyard, Brooklyn.

rective concerning the Antarctica Service Medal. In this instruction UDT 4 isn't singled out as an eligible unit. However, the word is that UDT 4 will be added to the list of eligibles when the instruction is revised.

Meanwhile, since entitlement to the award is established for the various units attached to an eligible ship, UDT 4 personnel who were on board Olympus during her period of eligibility are automatically included.

For the information of readers who aren't familiar with the award, here's a review: Navymen who have served on the Antarctic continent, or in U. S. ships or air flights operating south of latitude 60 degrees south in support of U. S. operations in Antarctica, may qualify for the Antarctica Service Medal. The period of eligibility began on 1 Jan 1946 and will end at a date still to be determined by the Secretary of Defense. No minimum time limits of participation within the qualifying period are required for eligibility.

If you spent one winter in Antarctica, you may be authorized to wear a bronze clasp with the words "Wintered Over" on the suspension ribbon of the medal. A bronze disc of 5/16-inch diameter on which an outline of the Antarctic continent is inscribed should be fastened to the bar ribbon which represents the medal.

A gold clasp and disc are authorized for a second wintering-over period, and a silver clasp and disc for three or more wintering-over periods. Not more than one clasp or disc may be worn on the ribbon.

The medal, clasp and disc portions

of the Antarctica Service Medal award are not yet available. However, the service ribbon may be purchased at your local uniform shop once your eligibility for the award has been established by your commanding officer. SecNav Inst. 1650.14, which is dated 2 May 1961, lists the ships and units which participated in expeditions below 60 degrees south since 1 Jan 1946, and gives full details on eligibility requirements.—ED.

NO HOLD-UP—Cables from crane to bow of newly launched Goldsborough (DDG 20) guide the ship as it surges back in its drydock.



Shooting Down Dux

SIR: Bos'n Douglas L. Murray's letter in the March ALL HANDS—describing the visit of *uss Duxbury Bay* (AVP 38) to Basra, Iraq, as the first and only time a U. S. Navy ship has ever stopped at that port—was inspiring to all of us who have visited there previously in U. S. Navy ships.

We are proud that he is keeping up the good work commenced by *uss Greenwich Bay* (AVP 41) in August 1957. Everything the Bos'n described was certainly worthy of a "well done," especially the people-to-people activities, which are most important indeed in that area.—E. W. Pollard, CAPT, USN.

SIR: Read with interest Bos'n Murray's letter concerning the visit of *Duxbury Bay* to Basra. However, I'm afraid it was not a "first," as *uss Valcour* (AVP 55) visited there while I was serving on board in 1949-50 as a CSSN, USN.

You will no doubt receive more than a few rebuttals on this, but I just had to get my two cents' worth in too, being an old "Middle East Navyman."—W. F. Hunter, LTJG, USCG.

SIR: I would like to point out that *uss John Hood* (DD 655) visited Basra in the fall of 1957, according to my cruise book. We also visited Aden; Saudi Arabia; Karachi, Pakistan; Bahrain Island; and Massaua, Eritrea, during that trip.

Good try, *Dux*—but *Hood*, at least, was there before you. — D. Wilkey, MMC, USN.

SIR: I am sure there are not too many ports of the world which have been visited less than Basra. However, *Duxbury Bay's* claim to being the only ship to have visited there needs to be corrected.

In January or February 1957 *uss Charles H. Roan* (DD 853) visited Basra for two days. She was accompanied, as I recall, by *uss Forrest Royal* (DD 872). The late King Faisal of Iraq paid an official call on *Roan* during our stop.

Just for the record, there are precious

few places in the world where a U. S. Navy destroyer has not visited.—R. F. Boorum, YN1, USN.

SIR: *Duxbury Bay's* claim to being the only U. S. Navy ship to visit Basra is in error. While serving in *uss Miller* (DD 535) we visited Basra in July 1957.—W. C. Long, QMCM, USN.

SIR: In your March issue *Duxbury Bay* claimed she was the first U. S. Navy ship to visit the port of Basra.

uss Hank (DD 702) stopped in Basra in September 1957. Members of the crew also made excursions to Baghdad, the ruins of the ancient city of Babylon and the city of Ur.—J. J. Johnson, EM2, USN.

SIR: I'm virtually positive this will be just one of a flood of letters you will receive in rebuttal to Bos'n Murray's claim that *Duxbury Bay* is the only U. S. Navy ship to have visited Basra.

During the winter of 1957-58 as a crew member of *uss Purdy* (DD 734), I had the pleasure of traveling up the Shatt-al-Arab to Basra, and of viewing the many sights to be seen. If I remember correctly, several other ships detached from the Sixth Fleet to independent duty with COMMDEASTFOR did the same thing around that time.

Thus I fear, with all due respect to Bos'n Murray, that the little white *Dux* is unable to claim any first, or unique, feat in this respect.—J. D. Parmiter, LT, USNR.

SIR: In your March issue Bos'n Murray states *Duxbury Bay* is the only U. S. Navy ship ever to have visited Basra.

Much as I hate to point out the Bos'n's error, I must tell you that *uss Harlan R. Dickson* (DD 708) visited Basra in March 1958. I don't claim it as a first, however, because I'm fairly certain it was not.

We may have set some sort of precedent though. During our stop some 35 to 40 Iraqi ladies came aboard as guests of the American consul's wife and of the ship's wardroom. This was highly unusual since Iraqi women, in keeping with eastern tradition, seldom appear in

public except in company with their husbands. A woman missionary from Minnesota acted as interpreter during the group's tour of our ship.

I fully agree with Bos'n Murray that Basra is an unusual and interesting port. I was wondering, too, if *Dux* had the opportunity to visit Abadan, Iran, (downriver from Basra) which was our next port of call.—D. W. Smith, LT, USN.

SIR: By the time you receive this letter you should have a basketful in answer to Bos'n Murray's erroneous claim that the city of Basra has been visited only twice by U. S. Navy ships, and that both of those visits were made by *Duxbury Bay*.

Of course, it may be that the Bos'n does not consider *Dux's* sister ship, *uss Greenwich Bay* (AVP 41) a part of the U. S. Navy, but that would be a personal, and not an official, opinion.

I was on board *Greenwich Bay* in 1960 for the regular cruise to the Persian Gulf. We left in early May and relieved *Dux* in the port of Aden in June, arriving on station at Bahrain Island about the 6th.

The trip up the Shatt-al-Arab river was one I shall always remember, since the ship had a tendency to "skid" because of the shallow water. We also had an interesting time in Basra, as we were there over the Fourth of July. Ship's company was invited to a party, the location of which is just a bit hazy in my memory now, and our skipper wanted to make sure that everyone was made aware of the nature of the date. There were not many fireworks aboard, but we took what we had, plus a locker-full of Very pistol flares, and shot them out over the garden where the party was held and toward the river. We had quite an audience for this show.

Another memorable part of our visit was the opportunity to make a trip to the ruins of Babylon. Some of us flew to the capital and then motored to the ruins—across 60 of the hottest miles I've ever traveled. It was so hot that even though I tried to hold my camera in the shade of my body, whenever the





SWAMPED—USS Weeks (DD 701) plows through storm-tossed Atlantic in this photo by R. C. Evans, PH2, USN, of USS Grand Canyon (AD 28).

Whatever Happened to Hoe?

SIR: I would appreciate it if you could give a brief report on the history of *uss Hoe* (SS 258). — J.P.W., SFCM, USN.

• USS *Hoe*, named for a dogfish shark, began life in that favorite spawning ground of submarines — Groton, Conn. — in 1942. During her war career, she made eight patrols, beginning with a sortie out of Pearl Harbor in May 1943 and ending in the South China Sea in April 1945.

Hoe's first taste of battle was in June 1943. Her radar picked up a convoy of three ships, the largest of which was a 6000-ton cargo vessel. *Hoe* fired three torpedoes and scored one hit. The escort vessels dropped depth charges around *Hoe* but none found its mark.

This skirmish was followed by another in which *Hoe's* target, a large transport, broke in the middle after being hit, and sank in flames.

When *Hoe* was on her second patrol west of Truk and south of Guam, she had one of her closest calls from Davy Jones.

Hoe had sighted two targets in the distance, one of which was a gunboat. She submerged and raised her periscope for a final bearing before firing. The skipper discovered the gunboat was headed directly toward his submarine, and the periscope framed an officer on the gunboat's deck who was pointing directly at *Hoe*.

Hoe dived. She had just passed the 220-foot mark when the first depth charge exploded near her, knocking paint and cork off the bulkheads.

Two escort vessels joined the gunboat, dropping ashcans while *Hoe's* crew simply sat and listened. For a while it looked bad, but she escaped without damage.

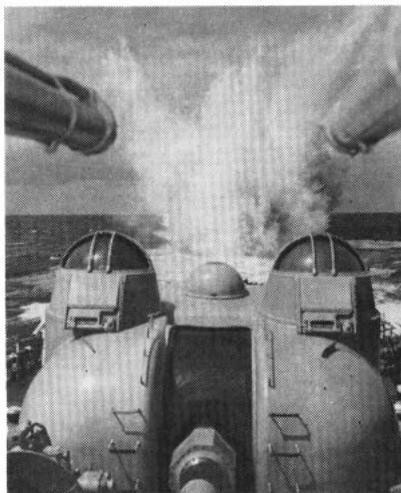
Life aboard the sub, until February

of 1944, was "routine" but not exactly dull. There were contacts but nothing spectacular happened.

In February, however, *Hoe* sighted smoke from a convoy on the horizon, submerged and closed in. She fired her bow tubes and then her stern tubes.

The radar men watching their scopes saw one large pip disappear from the screen. Shortly thereafter another pip disappeared. *Hoe* stayed with the convoy, her skipper watching a ship in trouble through the periscope. About midnight, *Hoe* was badly shaken when the disabled ship blew up, sending a fountain of flame 2000 feet into the dark sky.

A few days later *Hoe* picked up a radar contact which proved to be a group of three tankers. The sub was sighted by one of the tankers, which started exploding depth charges around



SPLISH-SPLASH — A depth charge fired from a Pacific Fleet ship sends a geyser of water skyward.

Hoe's hull at a rapid rate. *Hoe* stopped the tanker's depth charges with well-placed torpedos and the disabled ship started toward land which was about 15 miles away.

At this point, an enemy destroyer lent an unwilling hand by attempting to pass what, in the darkness, it apparently mistook for the tanker's stern and collided with her bows on, causing some damage.

Hoe administered a coup de grace to the tanker, which sank a few seconds after the torpedo hit. The surviving destroyer departed at high speed.

Hoe continued to harass enemy shipping in the spring of 1944. She attacked one convoy after having waited patiently for night to fall and had the bad luck to cause her first target to explode and light the entire area with a brightness that equaled daylight.

Despite this loss of privacy, *Hoe* hit at least two other ships in the convoy. One blew up and the other had black smoke pouring from its entire length. By this time *Hoe* was being heavily depth-charged and she withdrew.

In September 1944, *Hoe* returned from a 37-day patrol off the west coast of Luzon and was congratulated by Commander Seventh Fleet for destroying 15,000 tons and damaging an estimated 12,500 tons of enemy shipping.

When *Hoe* made her seventh patrol, many other submarines were having trouble finding a target. Not so, *Hoe*. She found and damaged a small tanker before she reached her patrol area in the China Sea. Later, on her eighth patrol, she launched an attack against a large tanker escorted by a destroyer. She blew up the destroyer.

As in the course of human events, *Hoe* was retired from the Fleet and placed in reserve in January 1947. She was stricken from the Navy lists in May 1960. — Ed.

More on Rigging Records

SIR: From time to time over the last few months, ALL HANDS has published many reports of "Rig for record" records. I refer especially to a letter from CDR. G. E. Locke which appeared in the November 1961 issue. In this letter, he challenged competition, but more important, we think, are his definitions and his explanation of the reason why destroyers attempt to rig in record time.

As a result of that letter, we suspect *uss Bigelow* (DD 942) crew members have been bombarding you with letters. So far as we know, she has the best time of any ship for rigging.

During *uss Truckee's* (AO 147) last deployment to the U. S. Sixth Fleet, records of every ship's approach, rigging, fueling and unrigging times were maintained. On 19 Dec 1959, *uss Gai-*

ard (DD 706) used only 2.3 minutes to rig aft. This was considered outstanding. In January, however, the old records came crashing down.

On 6 Jan 1960, *uss Harlan R. Dickson* (DD 708) rigged at her forward station in two minutes flat. On 10 Jan 1960, *uss Gainard* (DD 706) lowered this time to 1.8 minutes. Later that same day, *Bigelow* rigged in 1.7 minutes forward and 2.2 minutes aft. Two days later *Bigelow* came back again and rigged forward in 1.4 minutes and aft in 1.7 minutes. *Dickson* tied *Bigelow* at 1.4 minutes at her forward station on 13 Jan 1960. The final low, however, came on 31 Jan 1960 when *Bigelow* rigged forward in 1.4 minutes (83 seconds), and aft in 1.6 minutes (97 seconds).

According to records aboard *Truckee*, six other Navy greyhounds have broken the two-minute time for rigging. They are *uss Stickell* (DDR 888), *Steinaker* (DDR 863), *Massey* (DD 778), *Bristol* (DD 857), *Charles S. Sperry* (DD 697) and *William M. Wood* (DDR 715).

Also in the November 1961 issue, you state that *uss Franklin D. Roosevelt* (CVA 42) rigged in three minutes flat. Our records show that on 19 Dec 1959, *uss Saratoga* (CVA 60) also rigged in three minutes from her forward NSFO station. On 9 Feb 1960, however, she lowered this mark to 2.8 minutes at her after station.

Saratoga was particularly alert that day. Her over-all rig times would be difficult to beat. At her aviation gas station, 3.5 minutes; at her forward NSFO station, 4.5 minutes; and at her JP5 station (two hoses connected to receive fuel), 8.5 minutes.

From an oiler's bridge and deck, it has been a pleasure to see our ships of the line display their outstanding seamanship and show their esprit de corps. We oilers are proud to serve them, as *Truckee's* motto declares: "Servimus."—Officers and Crew, *uss Truckee* (AO 147).

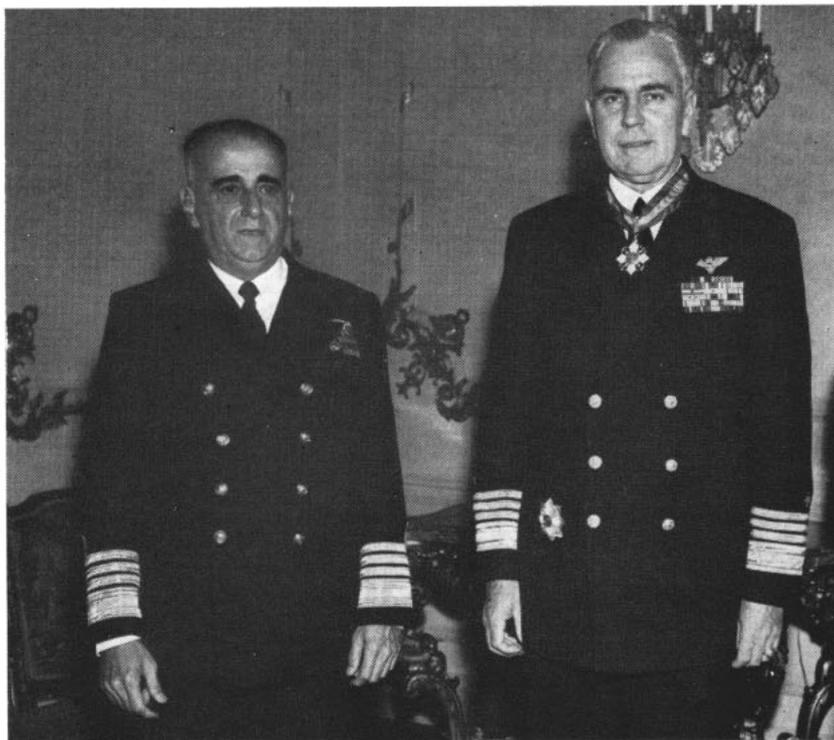
• You have presented, for the record, some rigging times that will undoubtedly prompt some record searching. We wonder if other Fleet oilers can top those you have compiled. Your times have impressed us.—Ed.

Protecting Rights of U. S.

SIR: For some time, I have served in *uss Ingraham* (DD 694) but I have never succeeded in finding a picture of Captain Duncan Nathaniel Ingraham, for whom the ship was named.

If there is a picture of the captain in your files, would you publish it in ALL HANDS so we can see what he looked like?—J. E. Y., LT, USN.

• Captain Ingraham's picture is published forthwith. The captain was born in Charleston, S. C., in 1802 and be-



ADMIRAL George W. Anderson, Jr., USN, CNO, is decorated by Fleet Admiral Ary dos Santos Rongel, Brazilian Navy Chief of Staff.

came a midshipman at the tender age of ten.

He made his first cruise in *uss Congress* and was subsequently in *Madison*, *Boxer*, *Hornet*, *Macedonian*, *Florida* and *Lexington*. He commanded *Somers*, *Cumberland*, *St. Louis* and *Richmond*.

In 1837, he began a two-year term under the Board of Navy Commissioners, looking after the Navy's light-houses, buoys and beacons.

When he was in command of *St. Louis* while the vessel was in the harbor at Smyrna, in July 1853, he demanded, and obtained, the release of Martin Koszta, a former Austrian who

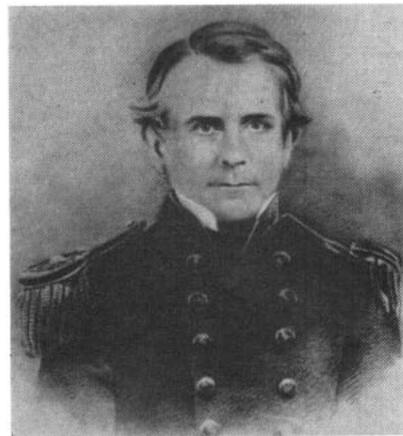
had become an American citizen. Koszta was being held on board the Austrian brig *Hussar*.

For his judicious action in the matter, Captain Ingraham was awarded a medal by Congress.

Shortly before the Civil War, Captain Ingraham was in command of *uss Richmond* in the Mediterranean. Realizing his home state, South Carolina, might secede from the Union, he requested his return to the United States, and resigned from the United States Navy on 4 Feb 1861.

During the war he served in various capacities with the navies of South Carolina and Virginia. He died at Charleston, S. C., on 16 Oct 1891.

The present Ingraham is one of three ships the Navy has named for him. The others were DD 111 (later converted to a light minelayer) and DD 444, stricken from the Navy lists in 1942.—Ed.



THE NAME of Capt Duncan Nathaniel Ingraham, USN, has been carried by DDs 111, 444 and 694.

Flight Rations

SIR: On a recent annual training cruise a group of naval officers and enlisted men, passengers in a naval transport aircraft, were refused flight rations on a six-hour flight leaving shortly after the enlisted mess hall closed. The NAS Operations Officer refused to authorize issue of the rations because the men could have eaten before departure, and were ineligible for in-flight rations provided to crew members of an aircraft when flying during meal periods.

It has always been my understanding

Ship Reunions

News of reunions of ships and organizations will be carried in this column from time to time. In planning a reunion, best results will be obtained by notifying the Editor, ALL HANDS MAGAZINE, Room 1809, Bureau of Naval Personnel, Navy Department, Washington 25, D. C., four months in advance.

- *uss Memphis* (CL 13) — The fourth annual reunion will be held at the Heidleburg Hotel, Jackson, Miss., 27-30 August. For details, write to Sam Worth, 4019 Stilmore Rd., Cleveland 21, Ohio.

- *16th Seabees* — The 10th reunion will be held 16-19 August at the Hotel Whitcomb, San Francisco, Calif. For information write to Arnold Siita, 1246 Addison St., Berkeley 2, Calif.

- *56th Seabees*—A reunion is scheduled for 1-3 September in Odessa,

Texas. For more details, write to H. C. McCulloch, 1601 East 8th St., Odessa, Texas.

- *82nd Seabees* — The 16th annual reunion will be held 7-8 September, at the Velda Rose Motel, Hot Springs, Ark. For details write to James Greenwood, 5 Main Drive, RFD #1, Box 44B, Forked River, N. J.

- *107th Seabees* — The eighth annual reunion will be held at the Belmont Plaza Hotel, New York, N. Y. over Labor Day week end. For information, write to Samuel B. Cross, P.O. Box 732, Westhampton Beach, N. Y.

- *Yeoman School, Newport, R. I.* — A reunion for those who attended during the years 1909-1919 is being planned for August. For more information, write to LT William E. Ragsdale, 2 Summer St., Newport, R. I.

same basis as they are entitled to meals in the general mess.

The determination of entitlement to flight rations rests with the station operations officer. His criteria for allowing or denying such entitlement are contained in the "Bureau of Supplies and Accounts Manual," Para. 41086. In all cases, furnishing flight rations is a local command responsibility, and any action taken by the aircraft officer to obtain rations must be in accordance with local command regulations. — Ed.

Naval Medical Research Billets

SIR: Does the Navy have any overseas medical installations which are devoted to the promotion of good will or research among the indigenous population? If so, in what countries are they located and how does a corpsman get duty in one of them?—B.P.B., HA, USN.

- *The Navy has no regular medical program in foreign countries exclusively for the promotion of good will, although it frequently gives medical assistance in areas stricken by disasters.*

There are a limited number of billets for hospital corpsmen in connection with research located at the Naval Medical Research Institute, NNMC, Bethesda, Md.; Naval Medical Research Units No. 1 at Berkeley, Calif.; No. 2 at Taipei, Taiwan; No. 3 at Cairo, Egypt; and No. 4 at the Naval Hospital, Great Lakes, Ill.

The hospital corpsmen at those activities who actively engage in medical research projects are usually highly specialized laboratory and/or blood bank technicians who have gained additional skills beyond those called for by their NECs of 8412 or 8417.

These billets are usually rather difficult to obtain owing to the highly specialized skills required and their limited number of billets available.—Ed.

that anyone working four hours or more past the evening meal is due an extra ration. The NAS Ops Officer maintained, however, that passengers in a transport aircraft, even though they were part of an organized movement of a squadron, were not working, although tools, equipment, spare parts and baggage had to be unloaded and stored upon arrival.

Please advise and cite the authority on the following questions:

1. When are enlisted men due an extra ration?

2. Are passengers in an organized movement, not on leave or liberty, considered to be in a working status en route?

3. What action can an Airlift Officer take to obtain rations for his men when he is denied them by an NAS Ops Officer?—E.A., JR., LCDR, USN.

- *Title 10, U. S. Code, Section 6085, provides that "an aircraft flight ration chargeable to the proper Navy or Marine Corps appropriation may be furnished to members of the naval service and to civilian employees of the Department of the Navy while engaged in flight operations." The flight ration is supplementary to any ration or subsistence allowance to which the Navyman or employee is otherwise entitled. However, the flight ration may not be furnished without charge to any person in a travel status, or to any person to whom a per diem allowance is granted in place of subsistence.*

Aircraft passengers are not considered to be "engaged in flight operations" and therefore are not entitled to an extra ration. However, aircraft passengers are entitled to meals on the

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Pasha Visits Navy

HIS EXCELLENCY Abdelhamid El Alaoui, Pasha of Kenitra (Port Lyautey), Morocco, visited many of his U. S. Navy friends early this year when he toured the United States as a guest of the U. S. State Department, in response to an invitation from the Under Secretary of the Navy, the Honorable Paul B. Fay, Jr.

During his U. S. tour the Pasha visited New York City; Washington, D. C.; Annapolis, Md.; Norfolk, Va.; Charleston, S. C.; Jacksonville and Pensacola, Fla.; Dallas and Fort Worth, Texas; Phoenix, Ariz.; Thermal (near Palm Springs), Los Angeles, Point Arguello, San Francisco, and Oakland, Calif.; and Chicago.

Besides visiting members of U. S. Naval Air Reserve squadrons whom he had already entertained in his home in Morocco, the Pasha saw many other phases of U. S. Navy life. He visited naval air stations; flew in Navy helicopters; toured mincraft, destroyers and aircraft carriers; saw submarines and repair ships; and visited the U. S. Naval Academy and the U. S. Naval Training Center, Great Lakes, Ill. He saw the importance of seapower to the United States.

Clockwise from top left: (1) Pasha inspects recruit company during graduation exercises at USNTC Great Lakes. (2) Pasha greets RADM Wayne R. Loud, USN, COMMINTANT at Charleston, S. C. (3) Pasha meets W. Stilk, ADR2, at U. S. Naval Air Station, Glenview, Ill. (4) Pasha debarks from *uss Alacrity* (MSO 520) at Charleston. (5) Pasha and Captain J. L. Counihan, USN (Escort Officer), sit at controls of captured submarine in Chicago Museum of Science and Industry.



PIONEERS OF THE

SOME 20 YEARS AGO the aircraft carrier USS *Wolverine* (IX 64) was perhaps the strangest training ship afloat. She was a coal-burning, steam-driven, paddle-wheel aircraft carrier which had no catapults, no hangar deck, no elevators and no armament. This ship was little more than a hull on which a flight deck had been built.

She was, however, an important member of the U. S. Navy during World War II. She had been converted from a lake passenger ship in 1942 and could steam along at over 17 knots — fast enough to launch and land planes, provided the wind was right.

Her job was simple. She was to train naval aviators. And she did, too — thousands of them during the war years. Early in 1943 *Wolverine* was joined by a second paddle-wheel bird farm called USS *Sable* (IX 81).

Both paddle-wheelers operated in the Great Lakes and gave a tremendous boost to the training programs of the U. S. Navy throughout the war. Neither saw combat, yet their service was as important to the war effort as that of their combatant sisters. The two steamers did, in fact, free their combatant sister ships for duty in combat when they were desperately needed.

Wolverine and *Sable* are two of many ships which have been impor-

tant to the U. S. Navy for reasons other than fighting battles. Some may have pioneered in a new development, or accomplished some undramatic job, but nevertheless have been significant to the U. S. Navy.

It's not possible here to describe all these ships, but we will mention some of the important ones. You may not agree with our choices, but that's your privilege.

AS A POINT OF DEPARTURE, let's go back to the very earliest days of the Navy. When George Washington took command of the Continental Army in July 1775, he needed ships to make his siege of Boston effective, and he needed ammunition and supplies. To help achieve those ends he armed a group of small ships to raid British supply ships operating near the shore.

This group, known as Washington's Fleet, consisted of the schooners *Hannah*, *Lynch*, *Franklin*, *Lee*, *Harrison*, *Hancock* and *Warren*, and the brigantine *Washington*. Although they were not outfitted and commissioned under the Marine Committee, some historians consider this small Fleet the beginning of the U. S. Navy.

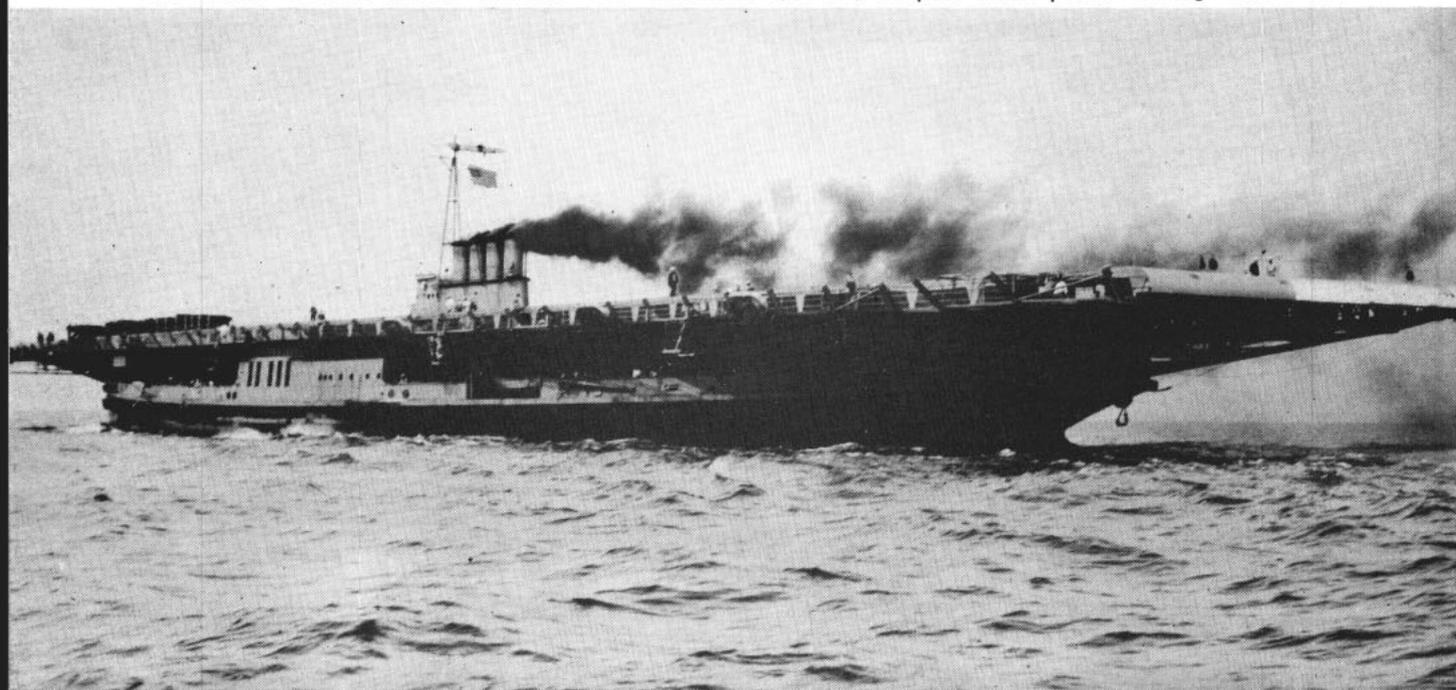
Most historians agree, however, that the original group of Navy ships came a few months later, under the Marine Committee which had

evolved from the short-lived Naval Committee. These renovated merchantmen sailed as flagship *Alfred* (30 guns), *Columbus* (28 guns), *Andrew Doria* (16 guns), *Cabot* (14 guns), *Providence* (12 guns), and three smaller craft; *Hornet* (10 guns), *Wasp* (8 guns) and *Fly* (8 guns). These eight ships and others after them would hold the line against the most powerful Navy in the world — England's — until the French Alliance brought the necessary and decisive seapower to the aid of General Washington.

WAR ALONE didn't make the U. S. Navy. Who can forget, for example, that it was John Paul Jones on board *Alfred* who raised the national colors for the first time on a regular Navy ship? Although Jones was not commanding officer at the time, he was the senior officer on board when the Grand Union flag was raised.

Jones was also on hand the first time a foreign country saluted the Stars and Stripes. (An earlier version of the American flag was saluted by the Danish fortress at St. Croix, Danish West Indies, on 25 Oct 1776.) He was commanding officer of his own ship, *Ranger*, which fired a gun salute to France upon entering Quiberon Bay on 14 Feb 1778. When the French returned the sa-

ODD BALL—Paddle-wheel carrier, USS *Wolverine* (IX 64) helped train pilots during World War II.



FLEET

lute, France became the first major power to recognize the United States as an independent country.

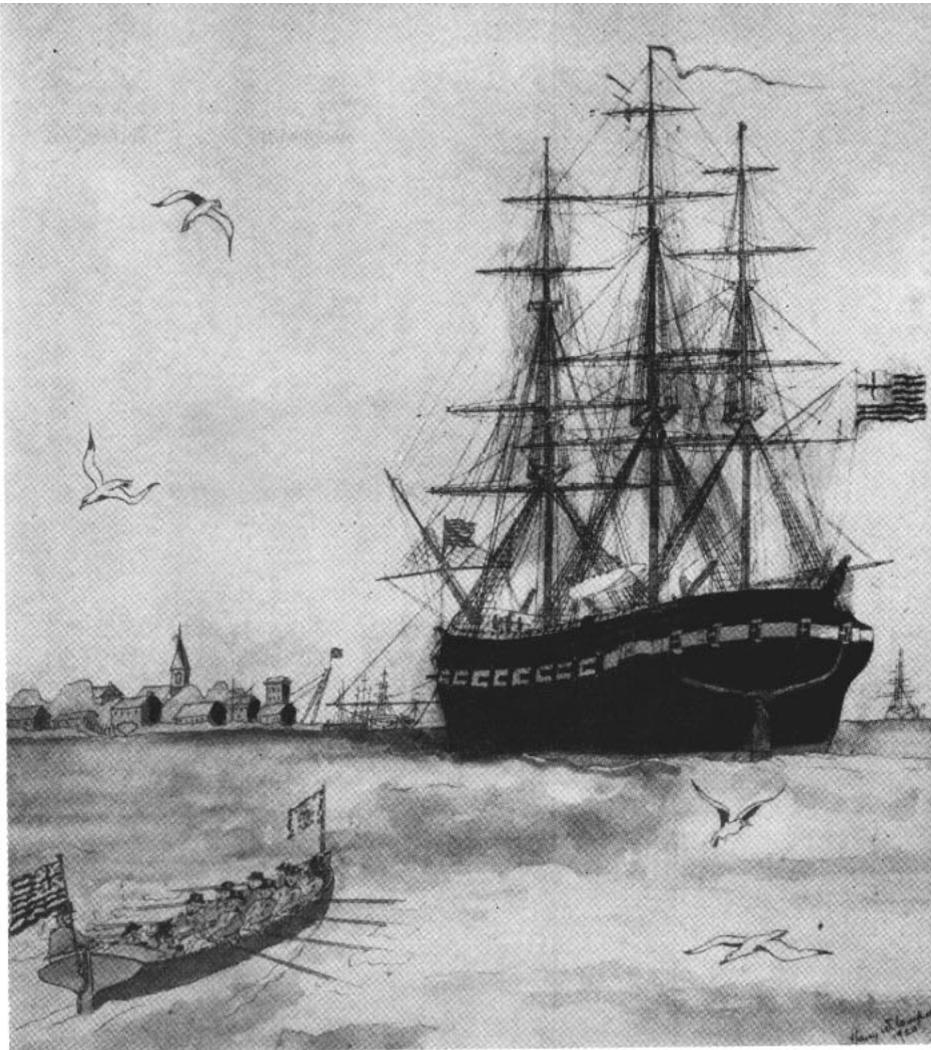
Perhaps the brig *Reprisal* did as much to bring about this salute from France as any other ship in the United States Navy. *Reprisal*, in the fall of 1776, transported Benjamin Franklin to Paris, where he joined Arthur Lee and Silas Deane in negotiations that resulted in the alliance between France and the United States.

Some four years after this, *Alliance* took much the same trip. This time the passengers were John Laurens and his aide, Thomas Paine, who went to France to seek financial aid, arms and stores for Washington's Army. Although not successful at first, Laurens did succeed in having sent to America four transports filled with arms, supplies and stores. It was support such as this from France, together with their great battle fleet, that led to ultimate victory for the United States in the Revolutionary War.

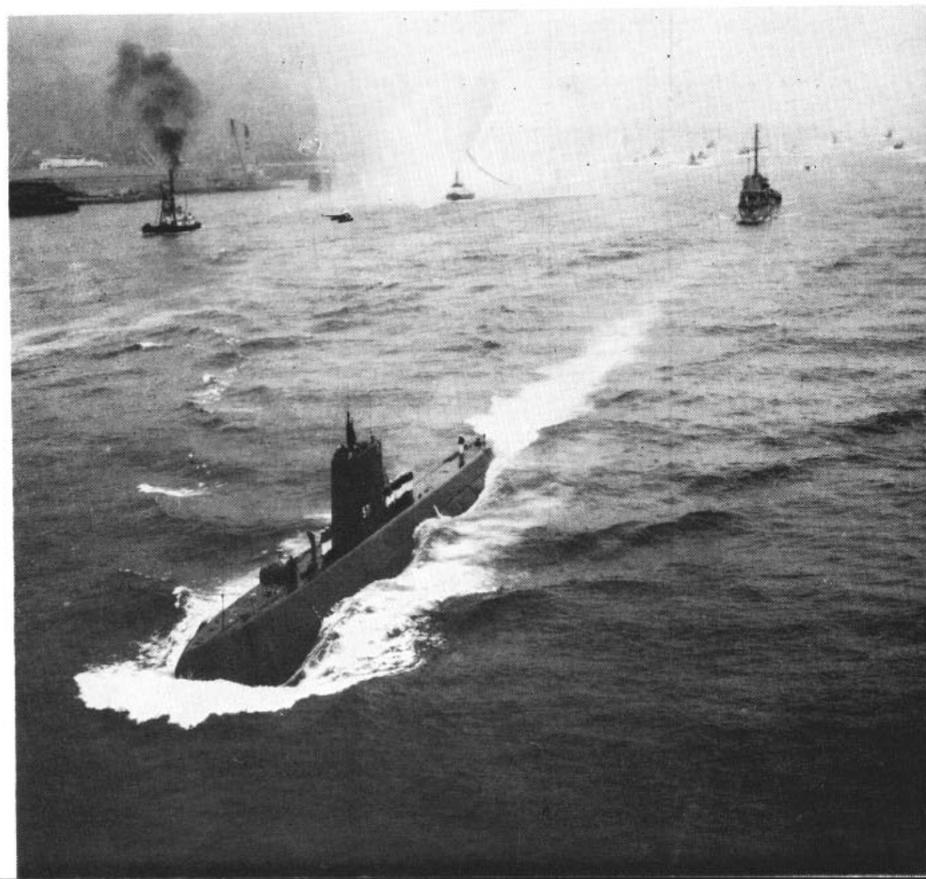
AFTER THE REVOLUTIONARY WAR, the Continental Navy died out. With the passing of the last of its ships, *Alliance*, U. S. merchant ships were left with no protection on the high seas. Then, after many years of paying protection money to the Barbary pirates, the U. S. began to reorganize its Navy. This rebirth came, however, only after a long struggle by such Navy enthusiasts as John Adams, who is considered by some to be the "Father of the U. S. Navy."

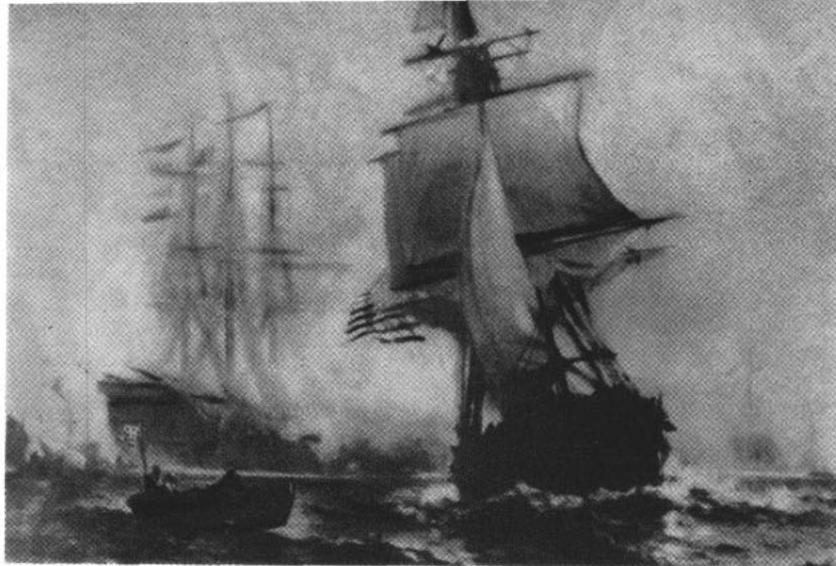
The first ships launched for the new Navy were *United States*, *Constellation* and *Constitution*. These ships were great fighters, but more important, they helped give the U. S. a new start toward a Navy. Joshua Humphries took some ideas from European shipbuilders, added his own, and produced frigates like *Constitution*, a ship that could fight, take a terrific pounding and still stay afloat, or if necessary, speed away from its enemy. These abilities were well exhibited during the active years of "Old Ironsides."

Submarines, a mainstay in today's Navy, were under consideration even before *Constitution* was built. David Bushnell, back in 1776, built a craft



FIRSTS—Alfred was first flagship and first to fly the national colors. Below: Today's USS Nautilus (SSN 571) has rung up a long list of firsts.





FIRST HONORS—First salute to Stars and Stripes is shown in painting as a French ship returns salute to *Ranger* entering Quiberon Bay, 1778.

that was perhaps too far ahead of its time. *Turtle* (sometimes called *Marine Turtle* or *American Turtle*) was submersible, had a screw-type propeller, ballast tanks, a depth gauge, self-contained propulsion and a torpedo—equipment still found in submarines today. It was designed to sink its target by boring a hole in the hull of an enemy ship and attaching an explosive. However this craft had difficulty with copper-sheathed hulls.

ROBERT FULTON, famous for developing a steamship, also tested a four-man submarine. This one, named *Nautilus*, made several successful submerged trips, succeeded in destroying at least two ships (one in England and one in the United States), but failed to gain enough support from anyone to further its development.

Although Fulton's submarine didn't catch on, his steam-powered ships did. He designed what was to become the world's first steam-powered surface warship and even built the engine and boilers in his own machine works.

The ship, first called *Demologos*

(Greek for "Voice of the People"), was launched on 29 Oct 1814. It was renamed *Fulton* when Robert Fulton suddenly died in New York on 24 Feb 1815. Captain David Porter, USN, was assigned to the war steamer and altered the original plans somewhat. She was armed with twenty-four 30-pounders and was designed to sail backward or forward. She had two massive hulls of double thickness oak and pine to make her shot-proof. The hulls were held together by gun decks below. In one hull were the two boilers, in the other a single-cylinder steam engine. Between the hulls was a paddle-wheel that was 16 feet in diameter. There were rudders at both ends of the ship and her lateen sails could be used for going either direction. Without the aid of sails, she could make over five knots, with or against the tide.

The steam frigate was delivered to the Navy at the Brooklyn Navy Yard in June 1816 but, since the war was over by then, the ship was never commissioned. She was, however, used as a receiving ship until 4 Jun 1829, when her magazine exploded. Although the cause of the

explosion was never discovered, the first U. S. Navy steam ship of war and the first steam ship of war ever built, was destroyed.

ALATER STEAM-DRIVEN paddle-wheel Navy ship, *USS Sea Gull*, operated with the West Indies Squadron in the early 1820s, and is believed to be the first naval steamer to engage in warlike operations. Although she was no more than a converted ferryboat, she did continue to develop among Navymen considerable interest in steam power.

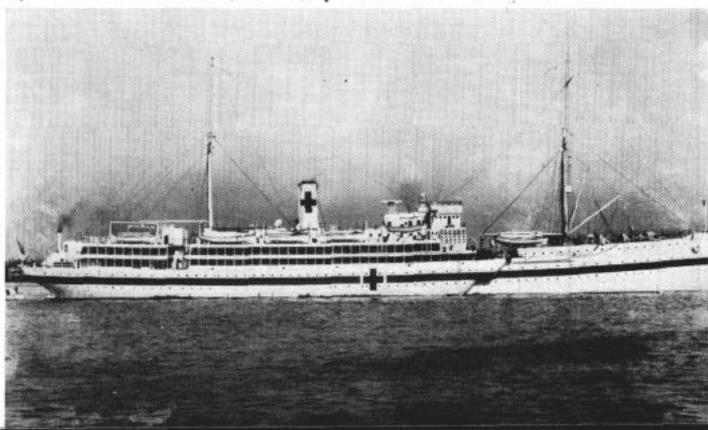
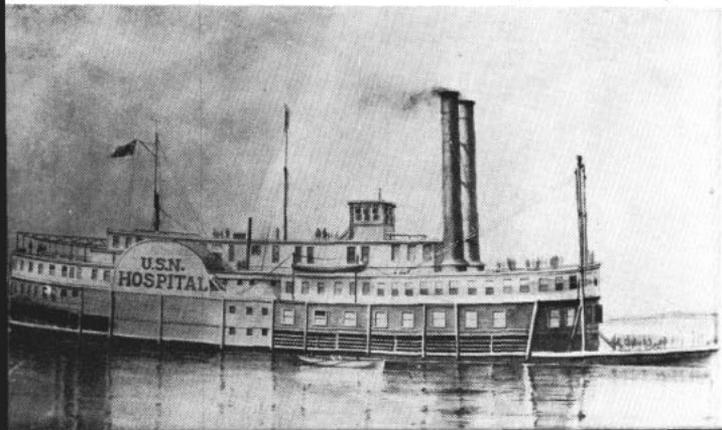
It was not until 1837 that another steam-powered ship was specifically built for the U. S. Navy. This one, also named *Fulton*, was later modified and earned a reputation as a fast ship. Within four years after *Fulton*, came the 1700-ton side-wheelers *Mississippi* and *Missouri*, the U. S. Navy's first ocean-going side-wheel steamers.

Paddle wheels and steam power created great interest, and in at least one case, overenthusiasm. LT W. W. Hunter, it seems, conceived the idea of a submerged, horizontal paddle wheel which turned in slots in the hull of a ship. He not only convinced himself that it would be superior to the vertical type paddle wheel, but he also convinced someone in authority.

As a result, *USS Union* was built. This ship could make about five knots at full throttle, and there were those who said this was only possible while going downstream. *Union* didn't convince everyone. Two smaller ships were also built and equipped with the horizontal paddle wheel. These, too, failed.

ALTHOUGH STEAM POWER did revolutionize the maritime industry, at that time everyone wasn't convinced. With sails, ships were limited only by the breeze. With steam, however, the limiting factor was the amount of fuel that could be car-

FIRST AID—*Red Rover* was Navy's first hospital ship. Rt: *USS Relief* (AH 1) joined the Fleet in 1920.



ried aboard or easily obtained. Many ships were, therefore, built with both sails and steam propulsion, as a safety measure.

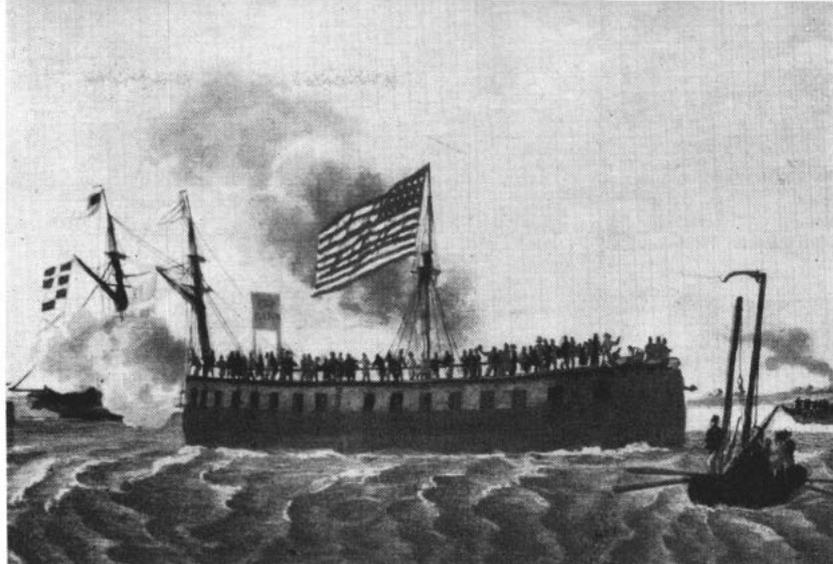
Fast wooden ships with steam power and paddle wheels were a great improvement over older ships, but they were still vulnerable. The exposed paddle wheel was perhaps the best target.

With the need came the development — screw propellers. Although progress in this field had been made in England some years before, the U. S. Navy had its first screw-driven ship in 1843 — *USS Princeton*. *Princeton* introduced other innovations besides screw propellers to Navy ships however.

Designed by John Ericsson, *Princeton* was: The first screw-driven, steam-powered warship ever built; first U. S. Navy ship with forced draft blowers (which allowed the boilers to be placed well below the waterline and out of reach of shot); the first war steamer with a single telescopic smokestack which could be lowered below the bulwarks; and the first warship with boilers designed to burn anthracite rather than bituminous coal.

Perhaps *Princeton* is as well known for the explosion which happened on board during her trials as for the significant ship developments she introduced into the U. S. Navy. A new wrought-iron gun, the *Peacemaker* (about a 12-incher), exploded aboard when it was test fired. Several dignitaries, including the Secretary of the Navy and Secretary of State, were killed by the explosion.

Although *Princeton* was an iron-hulled ship, she was not the first in the U. S. Navy. *USS Michigan*, which was later renamed *Wolverine* (not the paddle-wheel aircraft carrier), was the U. S. Navy's first. It operated in the Great Lakes from 1844 until 1924, and wasn't stricken from the Navy lists until 1927 — 83 years after her commissioning.



STEAMED UP—Old illustration shows first steam warship, *Fulton*, launched on 29 Oct 1814. Without aid of sails she could do five knots.

PLENTY OF IDEAS have come and gone over the years. One ship which never quite made it to the building ways during the war of 1812, for example, might have been a whiz in today's space research program. It was to be built like a saucer, with propellers on the edges which could turn the ship in the water. By rotating the ship, guns aboard could be fired at targets in any direction. Perhaps this ship would have been known as the Navy's first floating turret, or maybe with a more powerful engine, the Navy's first flying saucer.

With the Civil War, as in every other war, came the need for greater improvements.. Ship's armor of iron or steel was an important innovation. This development was best demonstrated during one of the most famous naval battles of the war — between *Monitor* and the former Union ship, *Merrimac*, which was re-commissioned in the Confederate Navy as *css Virginia*.

Although the battle itself was important in naval history, it is the ships which rate recognition here. Because this battle has been billed as the battle of the ironclads, many

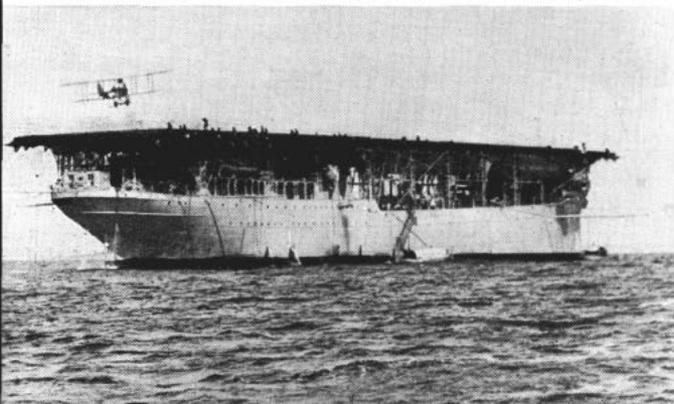
Navy men may believe both ships had iron hulls. Actually the important innovations here were armor, rather than iron hulls, and in the case of *Monitor*, a revolving gun turret.

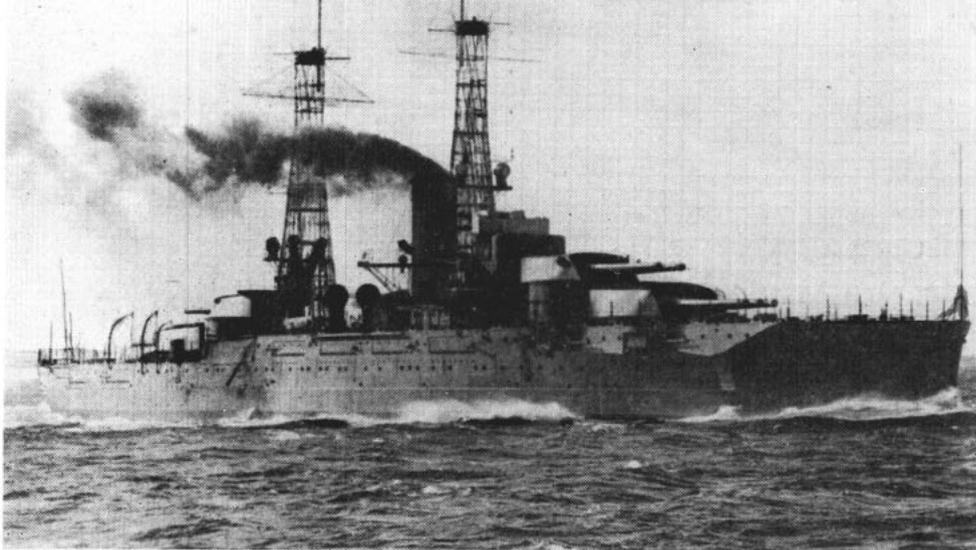
css Virginia had a wooden hull which was covered with a double layer of two-inch iron plating; one layer placed horizontally and one vertically. She had about two feet of freeboard forward, less aft, and was armed with three 9-inch Dahlgrens and two 6-inch rifles on broadsides, in addition to two 7-inch rifled guns.

Virginia's opponent from the U. S. Navy was *Monitor*. This ship was designed and built by John Ericsson, the same man who designed and built *Princeton*, our first screw-driven, iron-hulled ship.

LIKE *Virginia*, *Monitor* had very little freeboard. She had so little, in fact, that during her first days she almost foundered because water came in through the openings in the deck. Whereas *Virginia* had conventional (for that period) guns in casemates along the sides of the ship, *Monitor* had two 11-inch Dahlgrens placed side by side in a revolving

CARRYING ON—*USS Enterprise* (CVAN 65) depicts carrier development since first flattop, *USS Langley* (CV 1).





OILY START—One of the Navy's first two oil-burning capital ships, *USS Nevada* (BB 36), commissioned in 1916, makes way through sea.

turret. She was, to our knowledge, the first warship to have a revolving gun turret.

Monitor's hull was covered with four and one half-inch armor. With the turret sitting in the middle of the one-inch plated deck, *Monitor* did look like her familiar description — cheesebox on a raft.

The turret on *Monitor* was nine feet high and 20 feet in diameter. The sides were made of eight layers of one-inch-thick rolled iron plates. Turned by an auxiliary steam engine, the turret weighed 140 tons and was set on a spindle which extended to the keel of the ship.

John Ericsson's *Monitor* was the product of ideas he had mulled over for many years. Only under the pressure of war was he allowed to build it.

THE SUBMARINE reappeared during the Civil War. One so-called submarine, which was not really a submarine at all, was the steam-driven *David*. It was developed by the Confederacy, and it operated with its stack and hatches above the surface of the water. It was not very successful.

The Confederate Navy did, how-

ever, pioneer in the development of submarines. The most "successful" one used by the Confederacy was named for H. L. Hunley, under whose sponsorship it was built. It was propelled by hand-cranked, had a screw-type propeller, and actually submerged. This submarine drowned several crews before it sunk itself. *Hunley* torpedoed the Union ship *USS Housatonic* on 17 Feb 1864 with an explosive at the end of a 15-foot pole. When the underwater bomb exploded, it sank the Union ship, but also destroyed *Hunley*. The submarine was later found about 200 yards from its victim, the first ship to be sunk by a sub in combat.

Besides the many destructive ships, the Civil War also produced the U. S. Navy's first hospital ship, *USS Red Rover*. It accompanied Admiral David Porter's Mississippi Squadron from 1862 to 1865, and was the first Navy ship to carry women nurses. (*USS Relief*, AH 1, commissioned in December 1920, was the first U. S. Navy hospital ship to be designed and constructed solely as a hospital ship.)

ONE OF THE MOST DRAMATIC changes in U. S. Navy ships

came in 1867 with *USS Wampanoag*. A fast, screw-driven wooden ship, she was propelled with steam machinery designed by Benjamin Franklin Isherwood. She distinguished herself as a speedy ocean cruiser in a run from New York to Savannah, when she exceeded by two knots the speed of the fastest ocean liners of any nation at that time — all this in a mid-winter gale.

Wampanoag's propulsion gear was remarkable for that period. Isherwood coupled slow-moving machinery with a fast-moving propulsion gear. The ship had a vast appetite for fuel, she had little room for armament and she was so long (335 feet on load water line) in proportion to her depth, that she found it difficult to endure rough seas. These shortcomings outweighed the advances and *Wampanoag* never quite made the big time.

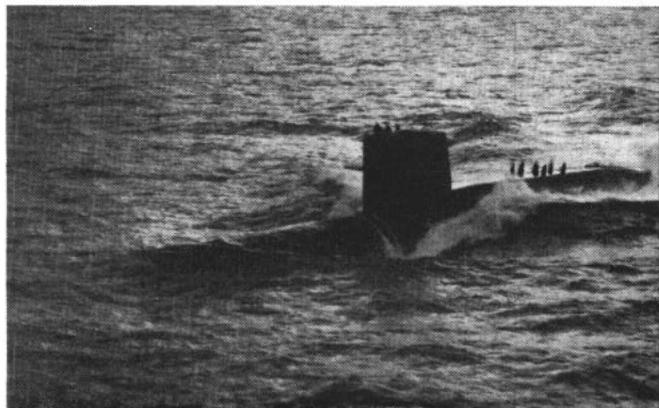
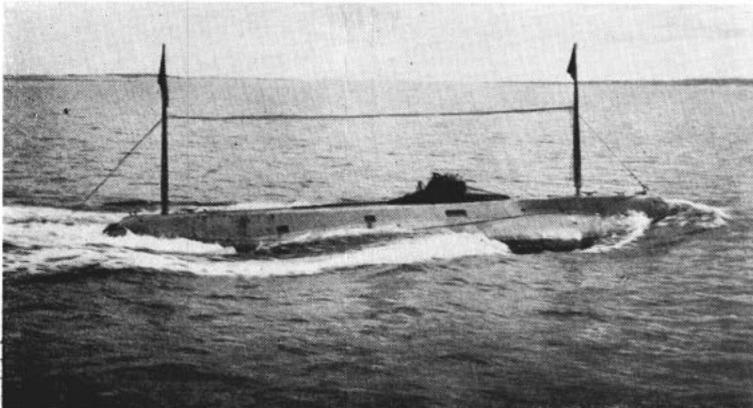
FOR A TIME, in the last decades of the 19th century, the spotlight on the Navy dimmed, but it brightened again, partly under the influence of Captain Alfred T. Mahan's writings.

Isherwood had also continued to fight for ship improvements, especially iron hulls and steam propulsion. In 1883, the steam- and sail-powered cruisers *Atlanta*, *Boston* and *Chicago* and the dispatch ship *Dolphin*, all with steel hulls, were authorized. At the same time Congress limited the amount of money which could be spent on repairs to wooden ships, thereby nudging them toward their graves.

In 1895 the Navy's first battleship, *USS Texas*, was commissioned. Thus the day of the heavily armed and heavily armored ships had arrived. Following *Texas*, three other battleships were built. They displaced some 10,000 tons, had 18-inch armor and had 13-inch guns.

Perhaps the most famous battleship of this era, however, was *USS Maine*. She was in Cuba just before

HISTORY BELOW—*USS Holland* readies for dive. Rt: *USS George Washington* (SSBN 598) was first *Polaris* sub.



the Spanish-American War, to protect American lives and property, when she suddenly exploded, killing 260 crew members.

By the end of the 19th century, battleships were the mainstay of the U. S. Fleet. Before the turn of the century, battleships displaced about 12,000 tons. By the early 1930's, BBs had grown to more than 30,000 tons. England pioneered in the development of larger and more heavily armed battleships, but other countries, including the United States, soon joined the race for bigger and better battleships.

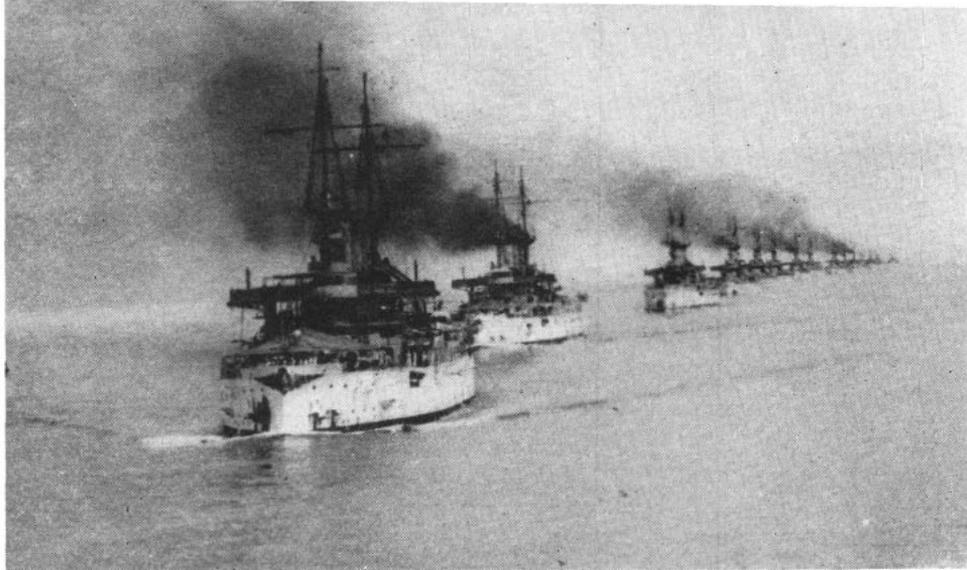
CRUISERS AND DESTROYERS came into use during the early years of the 20th century. Although some other countries began using an increased number of cruisers, the United States, for the most part, remained true to battleships.

The United States Navy's first destroyer was *uss Bainbridge*, torpedo boat destroyer number one. In 1900, destroyers such as *Dale* (DD 4), *Decatur* (DD 5), *Lawrence* (DD 8), *Paul Jones* (DD 10) and *Perry* (DD 11) were launched. They displaced a little over 400 tons and could make nearly 30 knots.

Also in 1900, the U. S. Navy's first submarine, *uss Holland* (SS 1), was commissioned. It was 54 feet long, displaced 74 tons while submerged, and had a screw-type propeller. She was driven by a gasoline engine while surfaced and by batteries while submerged.

Holland's surface speed was about seven knots, and at full throttle she could make about the same speed while submerged. *Holland* was so successful that the United States ordered several others like her. The United States had nearly 50 submarines — they had now grown to 700 tons or more — by 1914. This was a few more than Germany had on the eve of World War I.

IN THE EARLY DAYS of the 20th century the United States put together one of the most famous groups in Navy history—the Great White Fleet. Admiral Robley D. "Fighting Bob" Evans commanded this famous fleet of 16 white battleships when it left Hampton Roads, Va., on its historic "show of the flag" cruise. Later, both RADM. C. M. Thomas, USN, and RADM C. S. Sperry, USN, commanded the fleet of battlewagons, which included: *uss Connecticut*



SIGNIFICANT FLEET—Ships of Great White Fleet leave San Francisco for Honolulu in 1908 to continue their round-the-world cruise.

(BB 18), *Kansas* (BB 21), *Vermont* (BB 20), *Louisiana* (BB 19), *Georgia* (BB 15), *New Jersey* (BB 16), *Rhode Island* (BB 17), *Virginia* (BB 13), *Minnesota* (BB 22), *Ohio* (BB 12), *Missouri* (BB 11), *Maine* (BB 10), *Alabama* (BB 8), *Illinois* (BB 7), *Kearsage* (BB 5), and *Kentucky* (BB 6). (At San Francisco, after the first leg of the trip, *Maine* and *Alabama* were replaced by *uss Nebraska* (BB 14) and *Wisconsin* (BB 9).

The fleet of white ships left Hampton Roads in December 1907, and sailed around South America to San Francisco. From there they visited Honolulu, New Zealand, Australia, Manila and Japan, and then returned home via China, the Indian Ocean and the Mediterranean. In February 1909 the fleet steamed back into Hampton Roads.

AT ALMOST THIS SAME TIME in history, the Navy was beginning an era which brings ship propulsion right up to date. In January 1909

uss Cheyenne (formerly *uss Wyoming*) tested oil as fuel for large ships. Her tests along the California coast were quite successful. In 1912 the U. S. Navy's first two oil-burning capital ships, *uss Nevada* (BB 36) and *Oklahoma* (BB 37), were laid down. They were commissioned in 1916.

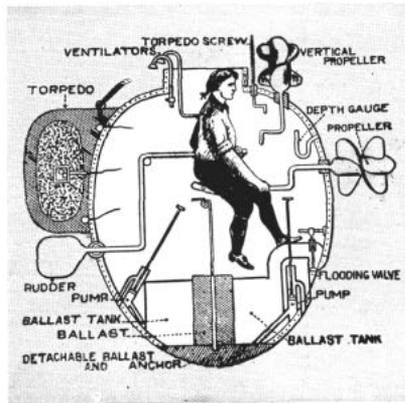
Oil had been tested in smaller ships well before the tests in *Cheyenne*. *uss Palos*, a tug in the Boston Navy Yard, was apparently the first U. S. Navy ship to test this type of fuel. As a coal burner, *Palos* did eight knots — with oil she did over 14. It was this highly successful test that led to the further testing of oil in *Cheyenne* and the building of *Nevada* and *Oklahoma*.

Ships of this period were thirsty, and didn't have the fuel capacity for extended cruises. If smaller oil-burning ships were to cruise the oceans, they must be refueled en route. To help meet this need, *uss Maumee* (AO 2) refueled a ship at sea in April 1917. This was apparently the first time oil had been passed between ships at sea. Incidentally, *Maumee's* exec and engineering officer was a young man named Chester W. Nimitz.

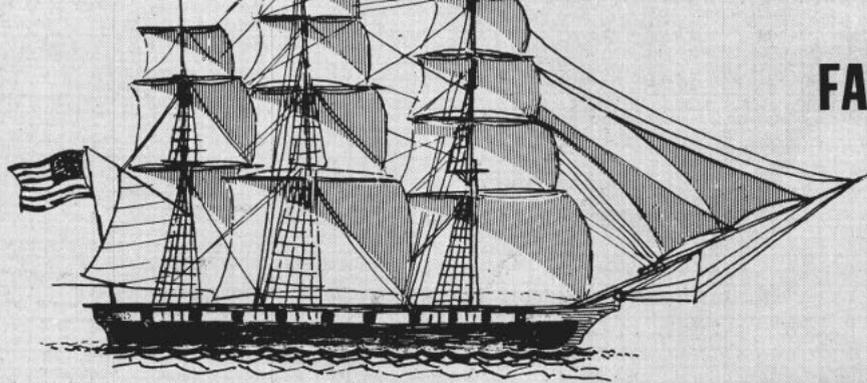
During World War I the Navy needed and built many destroyers to counteract the increased threat of German submarines.

FOLLOWING WORLD WAR I, the size and numbers of ships were regulated by the Washington Treaty of 1921. One provision stipulated that no capital ship would be built for 10 years. This stagnant period slowed

(Continued on page 34)



Bushnell's Turtle — 1776

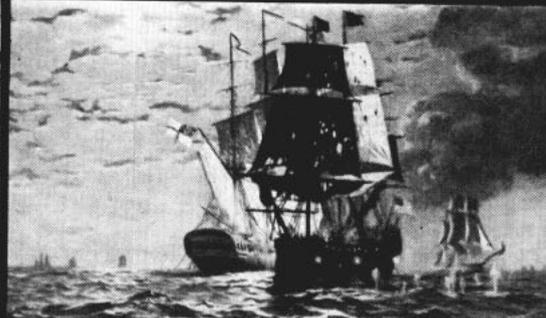


FAMOUS NAVAL BATTLES OF

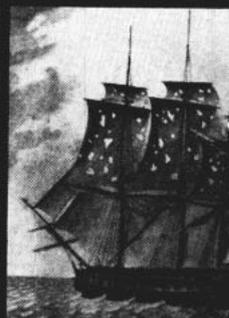
INTRODUCTION—Since the birth of engaged in many notable battles—in warfare worthy of pride. This compilation many actions which contributed to the modern era will list



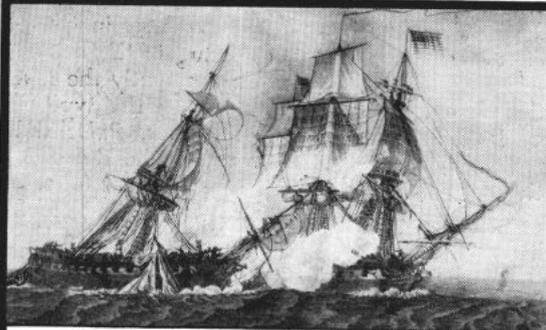
RAID ON NEW PROVIDENCE, 1776—Although the raid on New Providence didn't develop into a big battle, it was significant because it was the first amphibious operation carried on by American Navymen and Marines. The objective, which was accomplished, was to take possession of much-needed gunpowder.



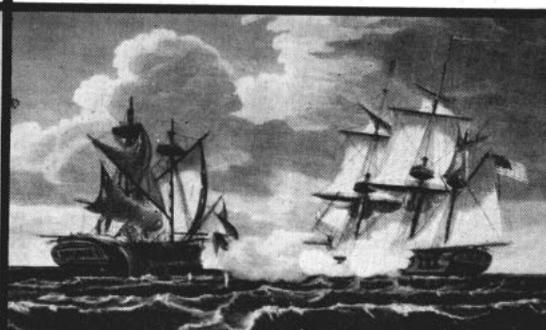
BONHOMME RICHARD vs SERAPIS, 1779—The American ship *Bonhomme Richard* was "14 years old, rotten, unhandy and slow," mounting only 42 guns against the 50 guns of the British ship *Serapis*. Although the British had the superior ship, John Paul Jones led his crew to victory with the cry, "I have not yet begun to fight."



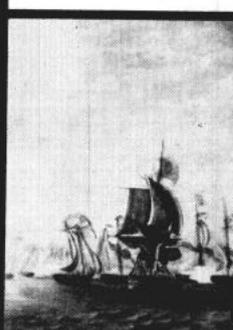
CONSTELLATION vs INSURGENTE—Two notable events of the War of 1812. The nature of *Insurgente* by engagement lasted over 70 men killed or wounded. *Constellation* was a



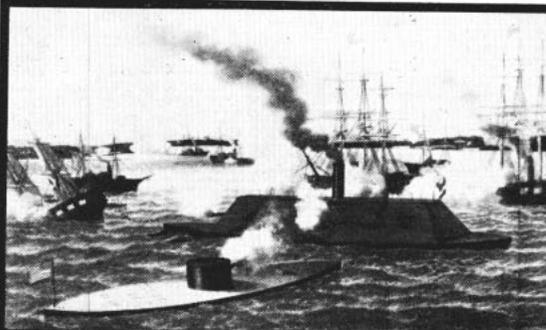
CONSTITUTION vs GUERRIERE, 1812—The first decisive naval action of the War of 1812 was a great morale builder for the Navy and the nation. "Old Ironsides" quickly proved her superiority in a broadside-to-broadside duel, and within 20 minutes of the opening shots, *Guerriere* was a beaten ship.



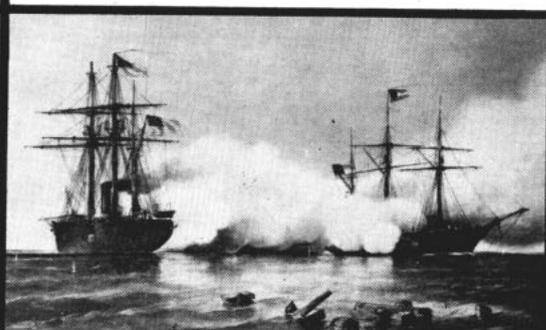
UNITED STATES vs MACEDONIAN, 1812—Another morale booster in a war that often went badly for us elsewhere was the duel between the 44-gun *United States*, under Stephen Decatur, and the 38-gun *Macedonian*. American losses included only 12 killed or wounded, while the British suffered 105 casualties.



LAKE ERIE, 1813—In this battle Commodore Oliver Hazard Perry won, and the British were defeated. The weight of fleet broadside range. After three hours Perry won, and the British were doomed.



MONITOR vs MERRIMAC, 1862—The fight between these ironclads marked the first time two armored vessels met in combat. Although the battle ended in a draw, few episodes in naval history were more dramatic. The engagement lasted about four hours, with the ships practically touching one another at times.



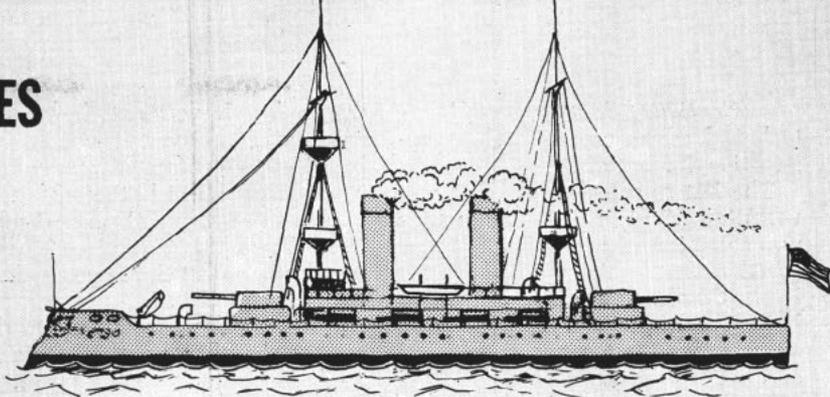
KEARSARGE vs ALABAMA, 1864—The Confederate raider *Alabama*, in a cruise of 11 months, established a record in the capture of Union commerce. As a result, she was a "much sought after" ship. Located in Cherbourg, France, by the Union sloop-of-war *Kearsarge*, her exploits were ended as she went down in defeat.



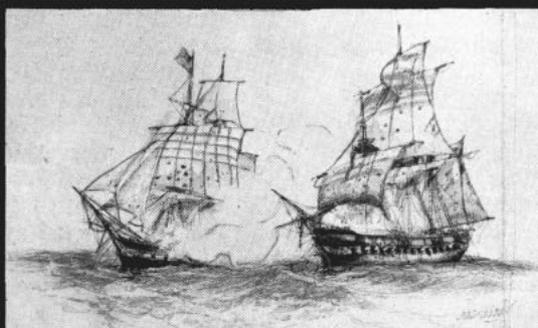
BATTLE OF MOBILE BAY—The ironclad ram *Tennessee*, a part of Navy, the ironclad ram *Tennessee*, powerful ship, met defeat in an attack on Farragut's fleet.

the 18th and 19th CENTURIES

For nation American ships and sailors have... they gave the Navy and the nation a herit... though limited to 15 battles, represents the... heritage in the Navy's first 125 years. The... covered in a later issue.



INSURGENTE, 1799—One of the most... War with France was the cap... U.S. Frigate **Constellation**. The... hour, during which the French... compared with only three for



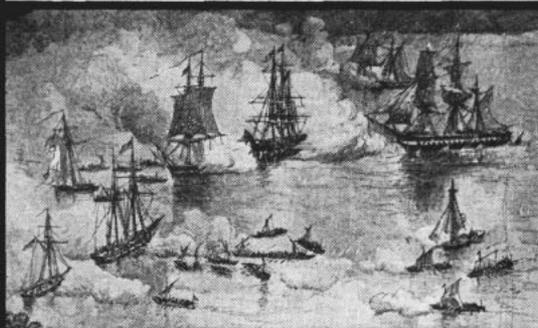
CONSTELLATION vs VENGEANCE, 1800—**Constellation** again distinguished herself in this spectacular five-hour night engagement against a much more heavily gunned French frigate. In this action, as in the fight with **Insurgente**, **Constellation's** training and organization made the difference.



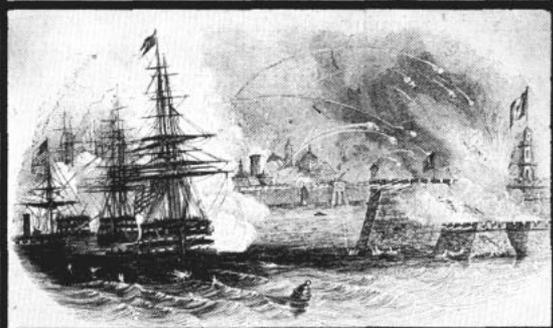
TRIPOLI, 1804—Our young Navy fought the pirates of Tripoli for years. In this action, led by Stephen Decatur, the Americans captured three enemy craft. Afterwards, the Tripolitans, who were also noted for their skill at boarding and hand-to-hand fighting, never let the Americans get within boarding distance.



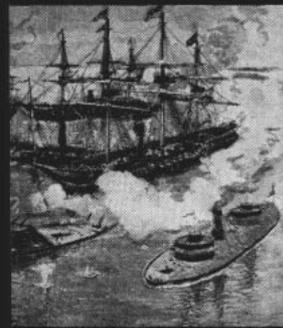
...tle the American forces, under... Perry, had the advantage in... at the British guns had longer... 15 minutes of fierce fighting, ... position around Lake Erie was



LAKE CHAMPLAIN, 1814—Lake Champlain was of great strategic importance, since it meant a jumping-off place for a British invasion that could have altered the present-day U.S.-Canadian border. After months of preparation the two fleets clashed in a two-hour-and-15-minute battle which the U.S. Navy won.



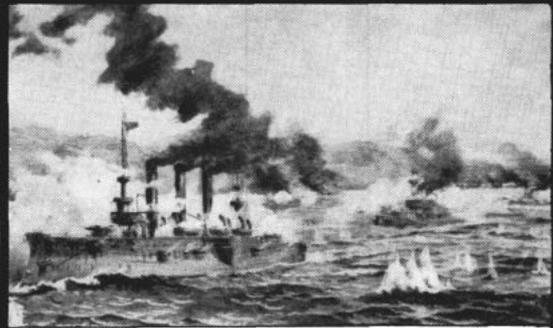
VERA CRUZ, 1847—Of the few naval engagements fought during the War with Mexico, the Battle of Vera Cruz was the most significant. It was a well organized and executed joint Army-Navy amphibious operation in which the Navy landed some 12,000 troops, plus equipment, horses and artillery.



1864—It was in the Battle of... fragat made "Damn the tor... adition. It was here too that... the Confederate Navy's most... file staging a single-handed



BATTLE OF MANILA BAY, 1898—Admiral Dewey's audacious attack on the Spanish fleet at Manila Bay caught the defending ships and shore batteries so unprepared that the battle was won in a "most astonishingly decisive manner." In the process, the United States won new respect as a naval power.



BATTLE OF SANTIAGO, 1898—As in the Battle of Manila Bay, the Spaniards were facing a superior force and were badly beaten. The one-sidedness of the victory was reflected in the casualties. American losses were only one man killed and one wounded, compared to 474 casualties for the Spaniards.

(Continued from page 31)

technical advancement in ship construction for a time.

The last so-called treaty ship was *uss West Virginia* (BB 48), which was commissioned in 1923. The new breed of battleship, typified by *uss North Carolina* (BB 52), which was built just before and during World War II, was faster, more powerful and better protected.

Perhaps the most significant ship to be born in the youthful 20th century was the aircraft carrier. The first one, *uss Langley* (CV 1), displaced about 20,000 tons, and was not much of an aircraft carrier compared to our modern supercarriers. It was a beginning, however. Following *Langley* were the carriers *uss Lexington* (CV 2) and *Saratoga* (CV 3), which were built on battle cruiser hulls.

Actually, *Langley* was the culmination of something that had started back before the beginning of World War I. Eugene Ely took off in a plane from an improvised wooden platform built on the forecastle of *uss Birmingham* (CL 2). This flight, the first from a ship, was perhaps the real beginning of flattops.

ONE OF THE MOST IMPORTANT pieces of equipment, which was to blossom during World War II,

ON DECK—FADM Nimitz, USN, and General of the Army MacArthur, USA, walk deck of *USS Missouri* (BB 63) before Japanese surrender.



was radar. It was not, however, a product of the war. The first shipboard radar equipment of the U. S. Navy was aboard the old four-stacker *uss Leary* (DD 158) back in 1937. From this first piece of shipboard equipment developed radar as we have it today.

The war also brought up to date one of the oldest and perhaps the most difficult types of warfare, the amphibious assault. A leading ship credited with making this type of warfare successful in World War II was the LST (tank landing ship). This rather slow, ugly-looking ship almost went from drawing board to combat within the space of a year. There was little time for testing. The first LST commissioned in the U. S. Navy, LST 383, was delivered in 1942, some five months after the contract was let. Before the end of the war hundreds more were built and used.

DEEDS AS WELL AS developments win wars. *uss Hornet* (CV 8), in 1942, performed a mission of great importance to morale early in the war. She carried Brigadier General Jimmy Doolittle and his raiders within striking distance of Tokyo. It was from this aircraft carrier that the United States was able to strike at the very heart of the Japanese em-

pire—a feat which the Japanese thought almost impossible. The U. S. Navy knew better.

uss Growler (SS 215) was another ship that will be noted in every history of World War II. This is the submarine which CDR Howard W. Gilmore, USN, commanded when he gave his immortal "Take her down" order. Regardless of what *Growler* did before or after this incident, she will always be known as the submarine from which CDR Gilmore was lost.

World War II started for the United States with the attack on the Navy at Pearl Harbor. The Navy was also present for the ending of the war. On 2 Sep 1945, on board the battleship *uss Missouri* (BB 63) lying in Tokyo Bay, representatives of the Japanese government signed an unconditional surrender.

War, even though a tragedy, does have its lighter moments interspersed with seriousness. The story is told of *uss Guardfish* (SS 217), for example, which was so close to the enemy's shore during World War II that the crew watched a horse race at a Japanese seaside race track through the periscope. The crew apparently made a few side bets (friendly of course), and were slightly annoyed when they couldn't get the results of the race. *Guardfish* is also one of two submarines to win a pair of individual Presidential Unit Citations. *uss Tang* (SS 306) is the other. *uss Pigeon* (ASR 6) is the only surface ship to win two such individual awards.

THE NAVY TODAY is hardly the Navy we knew as few as 15 years ago. Following other wars, the U. S. Navy had been cut back several times to almost nothing. Following World War II, however, development of the Navy continued, perhaps not in greater numbers, but in technically superior ships and equipment.

In the beginning, for example, aircraft carriers had straight decks, and about the only improvement during the war years was longer or wider flight decks. *uss Antietam* (CVS 36), however, changed all this. She introduced the angled deck (a British development) to the U. S. Navy. It was an extremely important improvement: for the first time planes could be launched and retrieved simultaneously.

Following the conversion of *Antietam*, every large aircraft carrier in

the Fleet was equipped with an angled deck. When the first of the so-called super carriers, *uss Forrestal* (CVA 59), came into existence in 1955), it was, of course, equipped with this type of deck, as well as many other innovations to make flying from a floating airstrip safer. One of the more important was the mirror landing system, another British invention introduced into the U. S. Navy by *uss Bennington* (CVA 20).

For the U. S. Navy, 1955 was a great year. *uss Nautilus* (SSN 571) the world's first nuclear-powered submarine was completed; *uss Boston* (CAG 1), our first guided missile cruiser was completed; and *uss Gyatt* (DDG 1) was converted from DD to guided missile destroyer. These ships were the forerunners of many others already commissioned, on the building ways or on the drawing boards..

THE PERIOD SINCE World War II has also been fertile for other ship types. Here are some examples: *uss Norton Sound* (AVM 1), the Navy's first guided missile and experimental test ship, was placed in service in 1948. *uss Northampton* (CC 1), the first, and so far the only, command ship arrived in 1953. *uss Mississippi* (AG 128), the BB converted to an experimental guided missile ship, introduced the *Terrier* missile in Fleet maneuvers in 1954; *uss Dewey* (DLG 14), completed in 1959, was our first guided missile frigate. Among amphibious assault ships (the first ones were converted from aircraft carriers), was *uss Iwo Jima* (LPH 2), commissioned in 1961, the first designed and constructed as an LPH. *uss Long Beach* (CGN 9), commissioned in September 1961 became our first nuclear-powered cruiser. *uss Enterprise* (CVAN 65), commissioned on 25 Nov 1961, is our first nuclear-powered aircraft carrier. Our first Fleet ballistic missile submarine, *uss George Washington* (SSBN 598), was commissioned in December 1959. Our first nuclear-powered frigate, *uss Bainbridge* (DLGN 25), was launched on 15 Apr 1961. *uss Proteus* (AS 19), is our first Fleet ballistic missile submarine tender. (*Proteus* is converted, but *uss Hunley*, AS 31, launched in September 1961, is our first newly-constructed Fleet ballistic missile submarine tender.)

There have been other new types since WW II, but the above seem to



FORERUNNER—Among Navy firsts in 1955 was the converted *USS Gyatt* (DDG 1), the first of a line of DDs to take guided missiles to sea.

be among the most significant.

Before the typewriter cools the above list will be outdated. Research and development never stops. Hydrofoil and hydroskimmer craft, for example, are under continual study. The U. S. Navy's first operational hydrofoil type is already under construction and is scheduled to be launched in June 1962. As with the hydrofoil, a number of hydroskimmer research craft have also been built. These ships could bring about the biggest and most dramatic change in ship configuration ever.

Accomplishments of Navy ships in recent years have also been noteworthy. *uss Nautilus* became the first ships to go under the North Pole and was the first ship to go

from ocean to ocean by way of the North Pole; *uss Triton* (SSN 586), became the first ship to go around the world submerged; and *uss George Washington* (SSBN 598) is the first ship to fire a *Polaris* missile while submerged. Records are being made daily and being broken almost as fast. There is no end to progress.

We have discussed ships in this article which we think are especially significant. Although we haven't mentioned every ship type that has been built for the U. S. Navy, each has been significant to a degree and each has had a part in building the Navy we have today. No Navyman; no Navy ship, is insignificant.

— Erwin A. Sharp, JOC, USN.

NEW TRICKS—Old seadog *USS Mississippi* (EAG 128), former BB 41, introduced *Terrier* surface-to-air missiles to Fleet in 1954 maneuvers.



★ ★ ★ ★ TODAY'S NAVY ★ ★ ★ ★



MINESWEEPERS USS *Thru* (MSC 204), USS *Falcon* (MSC 190) and USS *Nespelen* (AOG 55) are moored at Coco Solo, C.Z., before cruise.

Giant Torpedo Retriever

It's an unlikely designation, to be sure, but the 3700-ton, 493-foot frigate USS *John S. McCain* (DL 3) is being called the "world's largest torpedo retriever" out Pearl Harbor way these days. What's more, she's got a plaque naming her just that hanging in her wardroom for all the doubting Thomases to see.

It all came about not so long ago when the submarine USS *Gudgeon* (SS 567), also Pearl Harbor-based, conducted some torpedo-firing exercises off the 50th state. Practice torpedoes, valued at a not-inconsiderable 35,000 dollars each, are designed to float upon completion of their runs, so that they can be recovered and used over and over again during training exercises.

Recovery of these torpedoes is

normally handled by 35- to 70-foot torpedo retriever boats. In this particular case, however, one of *Gudgeon's* practice shots went astray, and, despite an exhaustive search hampered by darkness, the wayward fish was eventually pronounced lost.

Back in port some four days later, however, *Gudgeon* got a surprise. Seems *McCain* had passed through the torpedo practice area some time later on her way into Pearl Harbor. Her alert lookouts had spotted the floating torpedo, and it was speedily hauled aboard.

The ornate plaque reads thus:

"Presented with gratitude to USS John S. McCain (DL 3), World's Largest Torpedo Retriever by USS Gudgeon (SS 567) for recovering a torpedo which was missing in action and presumed lost."

Deep Cruising Sub

Pollack (SSN 603), sixth submarine of the *Thresher* class, has been launched at Camden, N. J.

The 3700-ton ship can be controlled in a three dimensional course by a single man. An automatic feature is also included in the control system which keeps the ship at the ordered depth.

Living quarters on board *Pollack* have been designed for about 90 men to live comfortably while totally submerged for extended periods of time. The ship will be equipped with a continuously monitored air-conditioning system and an air-purification system.

Many design features have been incorporated in *Pollack* to decrease underwater sound emission. She will be equipped with the latest electronic equipment and the most advanced weapons control equipment, including semi-automatic loading and firing gear for the most modern submarine weapons. She will be able to cruise the oceans at greater depths than submarines of any previous class.

Successor to Bronstein

Bronstein (DE 1073) was launched at Westwego, La., in March. She will be followed this month by *McCloy* (DE 1038) which will be launched at the same yard.

Bronstein is the first escort ship to be equipped with the drone anti-submarine helicopter (DASH) and the antisubmarine rocket (Asroc). Her antisubmarine warfare capabilities are further increased by a bow-mounted long range sonar and anti-submarine torpedo launchers. She also carries 3-inch/50's.

Bronstein is 371 feet long and has a 40-foot beam. She displaces 2600 tons. She was named for LTJG Ben Richard Bronstein who died on board USS *Jacob Jones* (DD 130) in 1942.

The new *Bronstein* is the second ship to bear the name. The first was DE 189 which received the Presidential Unit Citation for outstanding combat service against German submarines during World War II.

YESTERDAY'S NAVY



On 3 Jun 1898, an attempt was made to close the harbor of Santiago de Cuba by sinking the collier *Merrimac* across the entrance. On 4 Jun 1805, a treaty of peace was concluded with Tripoli. All prisoners were to be returned and no more tribute was to be paid. On 18 Jun 1812, the United States declared war on Great Britain. On 19 Jun 1878, the office of Solicitor and Naval Judge-Advocate-General was abolished by Congress. On 22-23 Jun 1898, U. S. troops landed at Daiquiri, Cuba. On 30 Jun 1834, Congress passed an act for reorganization of the Marine Corps.

Big Job for Grasp

After weeks of pondering, planning, pulling and panting, *uss Grasp* (ARS 24) finally freed the 400-ton Japanese ship *Hiroshima Maru No. 2* from the sand, rock and coral that make up Ala Moana Reef, midway between Honolulu and Waikiki Beach. It was no easy task. *Hiroshima Maru*, loaded with 300 tons of tuna fish, had run aground one stormy day earlier this year when heavy winds and surf tossed her from the marginal waters that mean safe passage into Honolulu Harbor.

As the days passed, attempts to free the beached ship became more and more futile. Each day she was washed further up the reef. By 14 February she had become so firmly grounded her owners instructed the skipper to abandon her. The hulk then became the responsibility of the U. S. Army Corps of Engineers.

After sizing up the situation the Army requested help from the Pacific Fleet's Service Force — conveniently headquartered near Pearl Harbor, just a few miles away. The salvage ship *Grasp* was assigned the job of removing the grounded ship — which by then appeared hopelessly landlocked. Navy and city officials agreed the ship had to be removed as quickly as possible. It was feared another storm would break the ship in two, leaving not only a navigational hazard but a health menace as well.

On 24 February *Grasp* went to work. Divers inspected *Hiroshima Maru's* hull and tested her compartments before pumping out the flooded spaces. After much figuring, measuring, and talking, it was decided that the best method of removal was through the use of a pulling barge equipped with two sets of beach gear. *Grasp* was also rigged with beach gear.

The pulling barge was anchored about 100 feet seaward from the hulk. *Grasp* was stationed 500 yards seaward. Then followed weeks of frustrating delays. Each time the hulk was pulled over one of the ridges of the reef, its position changed and a new survey of the ocean floor was necessary before further progress could be made.

Toward the end of the second had been pulled some 340 feet seaward, with a mere 25 feet to go be-

CAPT Sanders Selected to Head Waves

Commander Viola B. Sanders, USN, has been named to succeed retiring Captain Winifred Q. Collins, USN, as Director of the Waves. Commander Sanders will be pro-



CAPT Winifred Q. Collins, USN.



CDR Viola B. Sanders, USN

moted to captain when she assumes her new post as Assistant Chief of Naval Personnel for Women in August 1962.

Commander Sanders comes to her new post from Norfolk, Va., where she was Director of Naval Personnel on the staff of the Commandant, Fifth Naval District. She will be the sixth director of the Waves since their establishment in 1942.

Since being commissioned as ensign in October 1943, Commander Sanders has served in numerous staff positions in Washington, has been Regimental Commander with

the Recruit Training Command (Waves) at Great Lakes, Ill., and Bainbridge, Md., and has served in Japan.

Captain Collins will retire from the Navy 1 Sep 1962 after 20 years' service. Throughout her naval career, she has been a leader among Waves. She was in the first group to enter the Waves in 1942 as an ensign and she graduated with the first officer indoctrination class at Smith College, Northampton, Mass., in Sep 1942; she was one of the first two Wave officers sent overseas (late in 1944, to make plans for the assignment of the 4000 Wave officers and enlisted women who were sent to Hawaii); and she was one of the first Waves to transfer to the Regular Navy in 1948.

She was awarded the Bronze Star Medal for her meritorious service while assigned to the 14th Naval District, from 30 Oct 1944 to 11 Apr 1946.

She was Senior Assistant to the Chief of Staff (Administration) at the headquarters of the Commander in Chief, Naval Forces, Eastern Atlantic and Mediterranean, London, when she was named as Director of the Waves.

fore reaching water deep enough to float her. Then, weakened by 11 days of constant tension, two of the beach gear pulling wires snapped and the *Grasp* tow wire bridle parted, causing still another delay while new gear was installed.

Finally, on 11 March, *Grasp* freed the hulk and pulled her to deep water. The following afternoon, after 17 days on a tough assignment, she headed back to Pearl Harbor, pausing just long enough to see *Hiroshima Maru* safely towed into Honolulu Harbor for delivery to the Army — a little the worse for wear but still in good shape.

— Dann Grant, JO2, USN.

Back with Middle East Force

uss Valcour (AVP 55) has taken over as flagship of the U. S. Middle East Force in the Persian Gulf and Indian Ocean area — a part of the world to which she is no stranger. The veteran (launched during World War II) seaplane tender has been there 12 times before. In April,

Valcour relieved *uss Duxbury Bay* (AVP 38) as Mid East flagship during ceremonies at Aden (southeast tip of the Arabian peninsula).

Many of *Valcour's* 220 officers and enlisted men are also old hands in the Mid East. One crew member — George W. Ailstock, BT3, is on his seventh cruise of the area, and 17 others are chalking up their fourth deployment.

Nuclear Power School Moves

New London's Nuclear Power School will soon move to a new home — The Naval Training Center at Bainbridge, Md.

Overcrowding occasioned by expanding intercontinental ballistic missile training and the increasing requirements of the Submarine School at New London were given as reasons for the move. The buildings vacated by this move of the nuclear school will be utilized by the Submarine School and the FBM Team Training Center.



SHORT STOP—An A4D Skyhawk makes arrested landing on 4200-foot runway in test at MCAS Quantico, Va.

Morest is the Most

U. S. Marine pilots landing at Quantico, Va., these days are operating their A4D *Skyhawk* jet aircraft from the air station's 4200-foot runway. Normally, jet aircraft of this type require eight to 10 thousand-foot runways.

This is possible because of "MOREST," (for MOBILE aRESTing equipment) a special type of arresting gear specifically adapted for short airfields. The equipment closely resembles the arresting gear used aboard aircraft carriers. When more advanced equipment of this type is developed, these same planes will be able to use 2000-foot-long airstrips.

Landing is only half the job of operating from an airfield. You must also be able to take off in a short area. Otherwise, your arresting gear is only useful for emergencies. Currently, two methods of takeoff are being used — catapults and JATO (Jet-Assisted Takeoff). At the present time all Marine Corps attack aircraft are equipped, or are being equipped, with JATO. With this assist at takeoff and with MOREST for landing, jet planes can operate virtually anywhere in the world.

The short airfield method will allow hastily constructed and rehabilitated airstrips to be used for jet aircraft, whereas under normal conditions only slower, propeller-driven planes would be able to use them.

Formal tests on these ideas were initiated at the Marine Corps Landing Force Development Center at Quantico, Va., in 1955. The first actual airfield test of the gear was conducted four years later at the

Marine Corps Air Station in Beaufort, S. C.

First operational tests of a completed airstrip were made in 1960 in an amphibious assault environ-

ment on Formosa. For this test, a 3400-foot runway was established on the site of an abandoned Japanese fighter strip in some 70 hours.

In February 1961, the arresting gear was tested at Vieques, Puerto Rico.

Originally this type of arresting equipment was used primarily for field carrier pilot training and emergency landings. Well over \$100 million has been saved in emergency landings alone by the use of this type of equipment.

New Nurse Corps Chief

The Navy Nurse Corps was given a new director this month in the person of Captain Ruth A. Erickson, Nurse Corps, USN.



Captain Erickson received her training at the Methodist-Kahler School of Nursing at Rochester, Minn., and received a BS degree in nursing education from Indiana University.

During her Navy career, Captain Erickson has served as Chief of Nursing Service in various naval hospitals, on the staff of the District Medical Officer, 12th Naval District, and as Personnel Detail Officer in the Bureau of Medicine and Surgery, Washington, D. C. She also had duty as Chief of Nursing Service on board the hospital ship *Uss Haven* (AH 12) and accompanied the first war casualties evacuated to the United States from Pearl Harbor in *Uss President Coolidge* in 1941.

Captain Erickson was Chief of Nursing Service at the U. S. Naval Hospital, Bethesda, Md., before she took over her new duties. She relieved retiring Nurse Corps Director, Captain Ruth A. Houghton, USN.

Amphibious Assault Ship

The first ship of the Fleet to bear the name of the historic World War II battle site of Okinawa was commissioned at Philadelphia in April.

The 592-foot ship *Uss Okinawa* (LPH 3), is one of the first amphibious assault ships designed specifically for vertical envelopment assault tasks. She is designed to carry 2000 assault troops and 24 large amphibious transport helicopters in addition to her regular crew of approximately 525 men.

She displaces 18,000 tons and is propelled by a 22,000-horsepower steam plant.

She carries four twin 3-inch 50-caliber anti-aircraft gun mounts.

The Navy currently has five amphibious assault ships in commission: *Uss Boxer* (LPH 4), *Uss Princeton* (LPH 5), *Uss Thetis Bay* (LPH 6), *Uss Valley Forge* (LPH 8) and *Uss Iwo Jima* (LPH 2). *Uss Guadalcanal* (LPH 7) is now under construction at the Philadelphia Naval Shipyard and will be launched late this year. The Philadelphia Naval Shipyard has been awarded a contract for still another LPH starting in early 1963.

Finalists in Ney Competition

By the time this issue reaches you, the 1962 Ney Awards selections will have been made. The finalists have been chosen by the committee and the traveling inspection team has started its visits to the finalists to determine the winners afloat and ashore and the runners-up.

The Secretary of the Navy established the Ney Memorial Awards Program in 1958 to commemorate the late Captain Edward F. Ney, SC, USN, who was head of the Subsistence Division, BuSandA, during World War II. The award is jointly sponsored by the Secretary of the Navy and the Food Service Executives Association, (formerly the Executive Stewards and Caterers Association).

General messes are judged for food preparation, serving techniques, sanitation, management practices, and use of existing facilities in the best possible manner. Command interest, it has been found, is an important factor in building up a winner. Training and interest in work are also important, as is careful choice of men for strikers and messmen.

Results will be announced in a later issue. The following is a list of nominees and the commands that nominated them — as received in the Subsistence Office up to press time. Asterisk denotes those commands that were also nominated last year.

From the candidates nominated by naval commands ashore and



HOMEPORT BOUND—After completing seven-month tour with the Seventh Fleet, *USS Los Angeles (CA 135)* sails for Long Beach, Calif.

afloat, the following seven ships and stations have been selected by the Ney Awards Committee as finalists:

ASHORE: Naval Air Station, Miramar, Calif.; Naval Station, Argentia, Newfoundland; and Naval Air Station, Patuxent River, Md.

AFLOAT: *uss Kawishiwi (AO 146)*, *uss Decatur (DD 936)*, *uss Northampton (CC 1)* and *uss Helena (CA 75)*.

From these top seven, the best mess ashore and the best mess afloat will be chosen for the Ney Award.

Fleet Ballistic Missile Subs

Names have been chosen for three Fleet ballistic missile submarines to be launched in mid-1963. They are *James Madison*, *Tecumseh* and *Daniel Boone*.

James Madison, the name assigned to SSBN 627 is, of course, also the name of the fourth president of the United States, who also served as a member of Congress and Secretary of State.

Madison was also one of the authors of the Federalist Papers and, as such, influenced public opinion in favor of ratification of the United States Constitution.

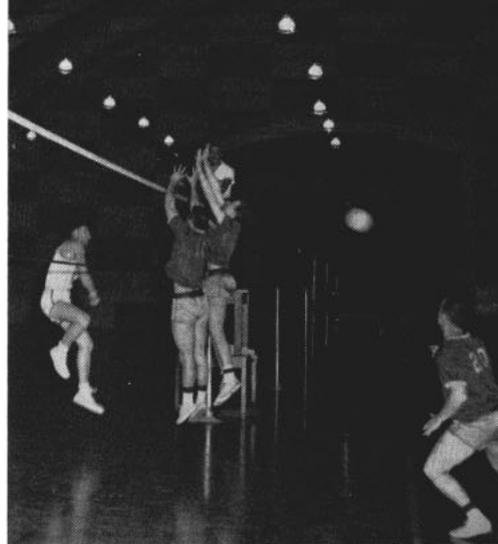
Tecumseh (SSBN 628), bears the name of a Shawnee Indian chief who was one of the outstanding Indian leaders in the history of North America.

He attempted to persuade the United States to recognize his principle that all Indian land was common possession and could not be disposed of by individual tribes.

When the government rejected this principle, he tried to unite the tribes of the northwest, south and eastern Mississippi Valley, but failed. He died in the Battle of the Thames fighting with the British during the War of 1812.

Daniel Boone (SSBN 629), as everyone knows, carries the name of the 18th century frontiersman who explored parts of Florida, Kentucky and Missouri in pioneer times.

Nominee	Nominated by	Nominee	Nominated by
Naval Air Station, Johnsville, Pa.*	COMFOUR	Naval Communication Station, Guam, M.I.*	COMMARIANAS
Naval Weapons Station, Yorktown, Va.	COMFIVE	Naval Communication Station, San Miguel, P.I.	COMNAVPHIL
Naval Communication Station, San Francisco (Stockton), Calif.	COMTWELVE	Naval Security Group Activity, Kami-Seya, Japan*	COMNAVFORJAPAN
Naval Station, Adak, Alaska	COMSEVENTEEN	<i>uss Yorktown (CVS 10)*</i>	COMNAVAIRPAC
Naval Air Station, Patuxent River, Md.*	COMPRNC	Naval Air Station, Barbers Point, Hawaii	COMFOURTEEN
Naval Station, Annapolis, Md.	COMSRNC	Naval Air Station, Glynco, Ga.*	COMSIX
Naval Station, Rodman, C.Z.	COMFIFTEEN	Bremerton Group, Pacific Reserve Fleet, Bremerton, Wash.	COMTHIRTEEN
Naval Construction Battalion Center, Davisville, R.I.	COMONE	<i>uss Harder (SS 568)</i>	COMSUBLANT
<i>uss Iwo Jima (LPH2)</i>	COMPHIBPAC	<i>uss Constant (MSO 427)</i>	COMMINPAC
Naval Station, Argentia, Newfoundland*	COMAIRLANT	<i>uss Helena (CA 75)</i>	COMCRUDESAPAC
<i>uss Independence (CVA 62)*</i>	COMAIRLANT	Naval Air Facility, Naples, Italy	COMNAVEUR
<i>uss Sperry (AS 12)</i>	COMSUBPAC	Naval Station, Guantanamo Bay, Cuba	COMTEN
<i>uss Gen. William Mitchell (AP 114)</i>	COMSTSPAC	Naval Training Center, Great Lakes, Ill.	COMNINE
		<i>uss Northampton (CC 1)</i>	COMCRUDESANT



CRULANT PLAY-OFF—USS Newport News team plays USS Boston (left) and takes on USS Northampton (rt.).

Volleyball and Boxing Champs

THE NAVAL AIR RESERVE Training Unit (NARTU) of NAS Alameda has retained the All-Navy Volleyball championship on the Pacific Coast for a second straight year.

Playing on their home grounds (the NAS Alameda gym) the slick NARTU spikers, who had earlier swept through 12th Naval District and Pacific Coast Region-level competition to earn their way into All-Navy play, downed three straight opponents en route to the crown.

Representing other Regions were:

Atlantic Fleet — CRUDESANT, composed entirely of sailors from the tactical command ship *uss Northampton* (CC 1) and the heavy cruiser *USS Newport News* (CA 148).

North Atlantic — NAS Quonset Point, R. I., augmented by players from NAS Patuxent River, Md.; NAS Olathe, Kans.; and NAS Brunswick, Maine.

Western Pacific — Airborne Early Warning Barrier Squadron Pacific (Det. A) from NAVSTA Midway; augmented by Navymen from VR-21, Mobile Construction Battalion 11 and SUBPAC.

South Atlantic — NAS Pensacola, including players from NAS Jacksonville, Fla.; NAS Memphis, Tenn.; NAAS Whiting Field, Fla.; and NAAS Meridian, Miss. Results:

First day: SOLANT—15, 15; NORLANT—8, 9. PACCOAST—15, 15; WESTPAC—7, 10. SOLANT—15, 15; LANTFLT—9, 5. NORLANT—15, 16; WESTPAC—9, 14.

Second day: PACCOAST — 15, 15; SOLANT — 9, 6. NORLANT — 15, 15; LANTFLT—10, 5. SOLANT—15, 6, 15; NORLANT—5, 13, 5.

Third day: PACCOAST—11, 15, 14; SOLANT—13, 13, 10.

The three-day tourney was conducted under USVBA rules which call for 15 points or a total of eight minutes of playing time for each game. The PacCoast entry barely worked up a sweat in copping its first two starts, but was forced to the wire in a grueling finale by an inspired South Atlantic Region crew which had worked its way back through the loser's bracket.

Members of the title-winning squad were:

Ed Lee, ADJ1, USN, NARTU Alameda

Barry Greenhalgh, RMI, USN, NARTU Alameda

John Smith, ADJ2, USN, NARTU Alameda

Jay Hauk, AN, USN, NARTU Alameda

Bob Reading, AMH3, USN, NARTU Alameda

Marty Magi, LT (MC), USN, Oak Knoll Naval Hospital

John McCaull, LT, USN, VP-19

Jerry Hren, AN, USN, PhibPac

Al Price, ENC, USN, PhibPac

Ron Arndt, LTJG, USN, NavShip-Yd San Francisco

NORTH ATLANTIC REGION's talented ringmen captured seven of 10 titles, three 1961 champions retained their crowns and three former titleholders regained theirs in the 1962 All-Navy Boxing Tournament which took place at Naval Station, Norfolk, Va.

Three bristling sessions of Katie-bar-the-door mitt-slinging on 4, 5, and 7 April saw only 14 of the 29

bouts go the maximum three-round distance, as nine TKOs and six KOs kept capacity crowds in an almost constant uproar. And in the end, the Navy possessed one of the strongest sets of champions ever to carry its colors into subsequent interservice ring wars. They were:

112 lbs — SN Joe Gaiter, *uss Kitty Hawk* (CVA 63), PACCOAST Region.

119 lbs — AN Larry Stubbs, *uss Midway*, (CVA 41), PACCOAST Region.

125 lbs — SA Bill O'Bannion, VR-1, NAS Patuxent River, NORLANT Region.

132 lbs — CS3 John Dixon, NAS Patuxent River, NORLANT Region.

139 lbs — HA Mickey Jones, Bethesda Naval Hospital, NORLANT Region.

147 lbs. — HN Ralph Pellicia, Bethesda Naval Hospital, NORLANT Region.

156 lbs — SN Jim Rosette, *USS Myles C. Fox* (DDR 829), LANTFLT Region.

165 lbs — SN Richard Nelson, *USS Lake Champlain* (CVS 39), NORLANT Region.

178 lbs — SH3 John Hunter, CBC Davisville, R. I., NORLANT Region.

Heavy — YN3 Richard Pettigrew, Bethesda Naval Hospital, NORLANT Region.

Successfully defending titles they won a year ago at Newport, R. I., were Gaiter, Rosette and Hunter. Gaiter, who won his way into the finals with a first-night TKO, had the easiest time of the trio, winning by default when his scheduled opponent for the 112-lb crown, LANTFLT's Romy Perpetua, was refused

permission to enter the ring because of a sprained wrist.

Rosette, the classy LANTFLT southpaw, continued his Navy-wide dominance of the light-middleweight ranks for the fourth consecutive year, with a second-round TKO over NAVSTA Treasure Island's YN2 Billy Smith, a veteran of more than 250 Navy bouts. Meanwhile, Hunter, the fighting Seabee from Davisville via *uss Lookout* (YAGR 2), blasted Pearl Harbor's Larry High to sleep at 1:35 of the first round in a spectacular defense of his 178-lb championship.

Bantamweight Stubbs, lightweight Dixon and heavyweight Pettigrew were the three former champs who climaxed comeback campaigns with title-winning efforts.

Stubbs, the speedy little airman who was both All-Navy and Interservice 119-lb champion in 1960, but who did not compete last year, outsped his LANTFLT antagonist, Garland Hayes of *uss Boston* (CAG 1), for a clear-cut decision.

Dixon, pride of NAS Pax River's 1961 Ney Award-winning commissary, decisioned NAS Oceana's Art Brown, another LANTFLT standard-bearer. Pettigrew, who had beaten Vern Casimir for 1960 All-Navy heavyweight laurels then bowed to that worthy in a regional encounter a year ago, gained his revenge this time around by besting the equally huge NAVSTA Pearl Harbor slugger in the in-fighting through three bruising rounds.

VR-1's O'Bannon gave away ex-

perience, but nothing else, in decisioning still another LANTFLT representative, Bobby Nichols of *uss Little Rock* (CL 93), for the 125-lb title. Nichols, another long-time Navy scrapper who reigned as All-Navy champion in 1953-54-55, gave it his best, but couldn't keep the pace against his younger and speedier foe.

For Bethesda's Pellicia, his smashing third-round TKO triumph over PACCOAST's Henry Wade of *uss Currituck* (AV 7) for welterweight honors was especially sweet. The hustling hospitalman was well on his way toward winning the All-Navy 139-lb crown at Newport last year when a cut handed him a tough-luck TKO loss in the finals.

Nelson, who came off *Lake Champlain* to battle his way to a First Naval District championship and grab a spot on the NORLANT Region squad, out-toughed Jim Smallwood of *uss Northampton* (CC 1) (the fifth member of the LANTFLT delegation to gain the final round) for a unanimous decision in their 165-lb go. Bethesda's Jones entered the 139-lb throne room by bombing Pearl Harbor's WESTPAC Region champ, Andy Johnson, for a first-round TKO.

WITH THE 1962 Interservice bouts also scheduled for the NAVSTA Norfolk gym, Navy mitters were on familiar ground—and they posted the best performance any Navy squad has managed since the inception of Interservice boxing back in 1953.

Navy's past showings—in this an-



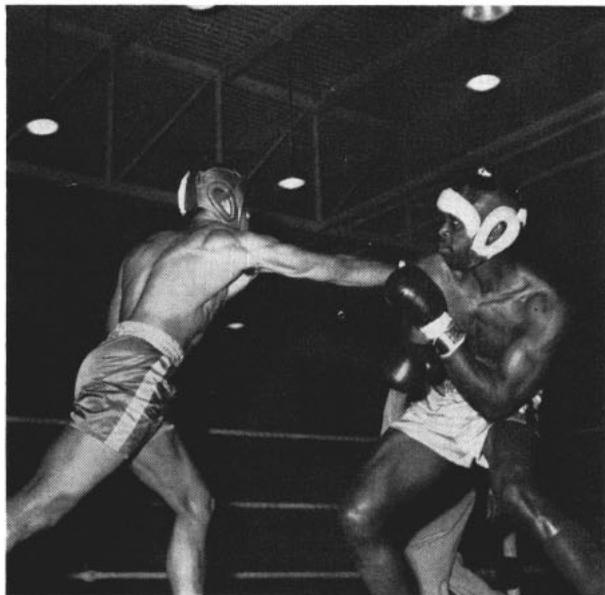
TITLE BOUT — David Smith, AN, (left) and Bob Nichols, BM3, slug it out for the 125-pound title.

nual fistic carnival matching the cream of the Army, Air Force, Navy and Marine Corps inside the squared circle—have been, at the very least, unfortunate. Navy ringmen have managed only 10 individual wins in nine tourneys. Army has won five team titles, Air Force three, the Marines one; the Navy—nary a one.

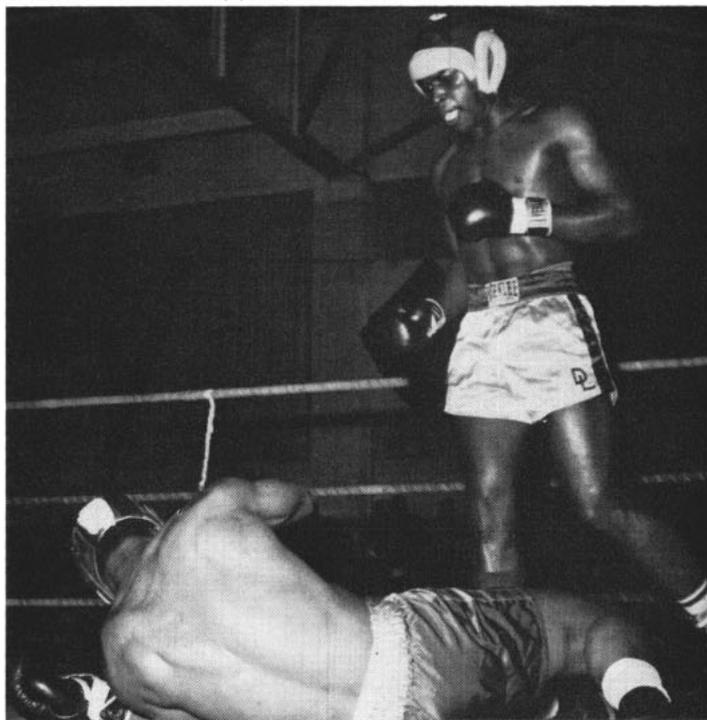
They didn't win this year either—but they did give the strong Army and Air Force clubs a real run for the money. Six Navymen—Stubbs, Dixon, Pellicia, Nelson, Hunter and Pettigrew—whipped first-round foes to reach the championship flight, and the muscular Pettigrew capped a fine year by decisioning the Marine Corps' Percy Price for the Interservice heavyweight title. Army, with four individual champions and a total of 10 points, took team honors, while Navy's seven points tied them with Air Force for second place.

— Jerry McConnell, JO1, USN.

FOURTH TIME All-Navy champ, Jim Rosette, SN, dodges right and decks opponent in Atlantic Fleet matches.



JUNE 1962



SERVICESCOPE

Brief news items about other branches of the armed services.

THE AIR FORCE has launched a "Project Star Gazer" high-altitude balloon system from Chico, Calif., to an altitude of approximately 88,000 feet.

The unmanned balloon was released by Air Force scientists in a successful test of instrumentation preliminary to the launching of two men and a specially stabilized telescope to an altitude of more than 16 miles. The balloon responded well to all commands transmitted to it by radio from the ground. Winds carried it westward over the Pacific Ocean. Approximately 60 miles southwest of San Francisco the balloon released its test vehicle on radio command to float on a parachute to the water's surface.

★ ★ ★

COMBAT BOOTS AND WOMEN'S exercise clothing will be standardized for all the services when present stocks are exhausted. This has been ordered by the Department of Defense as an economy measure.

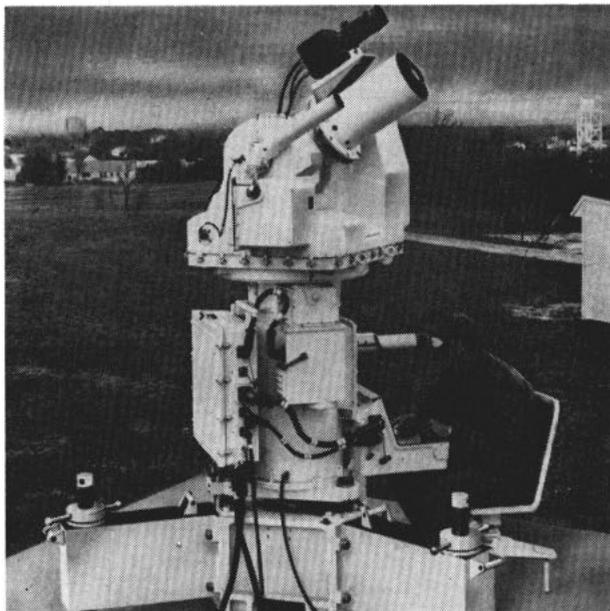
The new boots will be of the black leather, hard toe variety. Except for the type of closure, they will be identical for all the services. Army, Navy and Air Force boots will have eyelets; the Marines will have hook closures. (Marines must be able to release their boots quickly — if plunged into deep water during an amphibious landing, for example. Hooks, however, would be a possible hazard to Army paratroopers.)

Women's exercise clothing will be of blue material with standard design and sizes for all services.

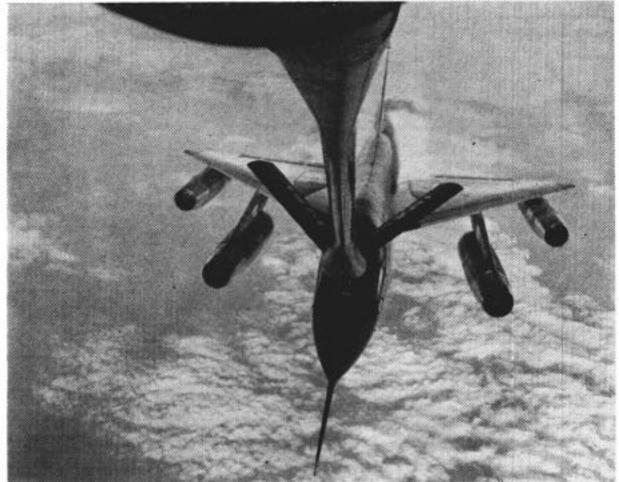
Standardization of boot types will mean an annual saving of \$846,000, and the standardized exercise clothing will save another \$115,000.

★ ★ ★

THE DEFENSE COMMUNICATIONS AGENCY established an area communications control center at Fort Carson, Colo., last month. It is the fourth such center to be



ARMY'S electric-optical system is used to track and record the flight of missiles and satellites.



FLYING GASSER — Air Force's B-58 Hustler bomber refuels from KC-135 tanker over Front Royal, Va.

established since mid-1960 (the first in the continental United States). The others are located in Hawaii, Europe and Alaska.

The Defense Communications Agency exercises operational and management control over the Defense communication system.

★ ★ ★

IN THE GLACIAL WASTELANDS of northern Greenland and Canada, airport facilities are few, far between — and often inaccessible, owing to heavy blankets of fog. Over the years, as military and commercial air traffic across the area has increased, the need for emergency airfield sites has become more and more apparent.

Since 1956, Air Force explorers have been scouring millions of square miles of the northern ice lands in search of suitable landing strips. The search may be about over. More than 100 promising locations have been found — many of which are natural strips that need little or no preparation before landings and take-offs can be made safely. Ground parties, working with the cooperation of officials in Greenland and Canada, have found that many miles of northern glacial areas are smooth, hard, and ice-free.

At last report, the Air Force had located more than 50 potential airstrips in northern Greenland. A study of one million square miles of northern Canada located another 50.

★ ★ ★

THE AIR FORCE and the Atomic Energy Commission have pooled their resources in an attempt to solve one of the major problems of interplanetary travel. Scientists of the two groups are looking for a source of power that will keep the electrical propulsion engines of space ships and the electrical components of satellites operating over a long period. They believe nuclear energy may be the power source that's needed.

As a starter, nuclear-electrical power units developed by the AEC will be tested by the Air Force in orbiting satellites to see if they can function over extended periods. Success of this program, known as *Snapshot*, may lead to the testing of more powerful units.

A RADIO-SOUNDING TECHNIQUE developed by the U.S. Army Signal Corps has been used to measure the depth of an enormous glacier in the far-north region of Canada.

The radio-sounding method consists of measuring the time it takes for signals to penetrate ice and return to a receiver after reflecting off the underlying soil, rock or water.

Radio sounding of ice is comparable to, but possesses advantages over, the seismic soundings now widely used. In seismic sounding, explosives are set off on the surface, the sound waves picked up from the bottom by interlinked microphones, and the results analyzed. However, the process is expensive, time-consuming and requires skilled seismologists. It is claimed that radio soundings can be made quickly with relatively simple equipment by operators who require little special training.

★ ★ ★

THE AIR FORCE thinks it has whipped the problem of jet fuel icing, which has been an annoyance since jets first flew.

The solution sounds simple—just add an anti-icing compound to the fuel. However, it was necessary to find the one best suited to military needs.

After evaluating more than 300 commercial additives, test of the most promising began in August 1960. Since then, more than 45,000,000 gallons of fuel with the additive have been used for more than 16,000 flight hours without a single report of icing.

It is anticipated that the additive will become a standard part of armed forces jet fuel specifications some time this year.

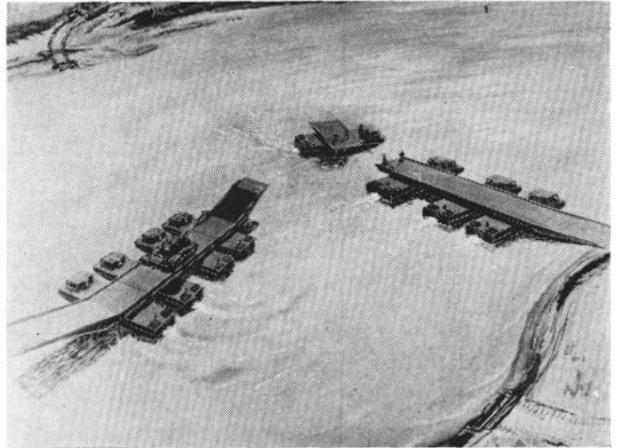
★ ★ ★

THE U. S. COAST GUARD has introduced RATAN, its latest electronic aid to small-boatmen, at a test installation at the Coast Guard Lifeboat Station, Sandy Hook, N. J. This installation represents the first time that television has been incorporated into an aids-to-navigation system for civilian maritime use.

RATAN, which stands for Radar and Television Aid



UNDER ITS WINGS — USAF B-52H *Stratofortress* has been equipped with *Sky Bolt* air-launched missiles.



SECTIONAL — Drawing shows U. S. Army's mobile assault bridge being assembled to span a river.

to Navigation, uses an image provided by a high definition shore-based radar which is then transmitted by UHF television for reception aboard ships and boats in the general area. The picture received would be interpreted by the navigator so as to maintain a continuous position fix and to know his location with respect to the movements of other vessels in the vicinity.

The present RATAN project is purely experimental and is not intended for use by the public in its existing status.

★ ★ ★

THE ARMY HAS DEVELOPED a new space tracker named PIM (Precision Instrument Mount) — which is reported to be as rugged as an artillery piece and as accurate as an astronomer's telescope.

PIM has the basic features of a sighting telescope and camera to record the course of objects in space, in addition to new capabilities in both optical and electronic tracking, including television.

Even under adverse conditions, PIM records the position of objects to an angular accuracy of 180th of a degree and marks the time within one-thousandth of a second. It follows the course of missiles and satellites moving several miles per second, and keeps equally close track of manned and drone aircraft meteorological or special-purpose balloons, or any other moving target. It can detect and track objects unseen by its operator.

PIM can track automatically, semi-automatically or manually. During manual operation the operator aligns the target against the crosshairs of the sighting telescope. He follows the flight path by use of a "crystal ball" control device (the ball type control is actually made of steel) on the power-assisted turret.

Special tracking heads, either optical or infrared, are used for completely automatic operation. When set for automatic operation, the tracker uses any standard 35 mm or 70 mm still or motion picture camera. The camera photographs targets and records their position and time on the pictures. At the same time, the system records angular data in digital form which can be stored on tape or fed directly into a computer.

THE BULLETIN BOARD

Families May Now Join Navymen Serving on Duty in Western Europe

The restrictions on dependents' travel to Western Europe have been removed. Your dependents can again travel to Europe at government expense.

Announcement that the ban has been lifted was greeted as good news by Navymen in Europe, many of whom had been separated from their families since last fall.

The ban — imposed during the Berlin crisis—allowed for the stepped-up transportation of emergency troops and supplies. It was also maintained as a step toward reducing the flow of gold and dollars overseas.

What amounts to a token travel ban is still in effect, but this does not apply to the Navy. At present, the Army is working on a system of rotating small support units for short European tours of 13 months or less. Men in these units will not be accompanied by dependents.

Official announcement that the ban had been lifted was made Fleet-wide in AINav 9-62 on 26 April. In general, this is the situation.

- Men who have been in Europe the longest will be the first to have their families join them.

- Only men who will have 12 months or more remaining on their overseas tours at the time their dependents would arrive are eligible to apply for transportation.

- All transportation for dependents is subject to the availability of approved non-transient family housing in the area of assignment. (Transient-type hotel accommodations are not approved for this purpose.)

- Priority of assignment of family housing is determined by the date the Navyman departed the U. S., not the date his dependents arrived in Europe. (This avoids giving any advantage to those whose dependents traveled to Europe, at their own expense, during the ban.)

- U. S. "non-recognition" of dependents in Western Europe has been lifted. Dependents who paid their own way and have been living

off base can move into government quarters. When the serviceman concerned finishes his tour, his dependents will be eligible for passage home at government expense.

The steps to be taken by Navymen concerned with the lifting of the ban are spelled out in special instructions.

Eight Thousand Navymen Advance to Grade of Chief

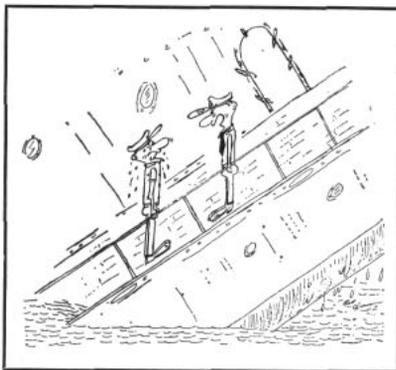
Approximately 8000 PO1s who went up for chief last February will be doffing their white hats in favor of the CPO variety between now and next January. The 8000 new chiefs are being advanced in five increments, the first of which — and by far the largest — was scheduled to be processed in May. The advancement-to-CPO statistics look like this:

Month	Approximate No. To Be Advanced
May 1962	3600
July 1962	1500
September 1962	1200
November 1962	950
January 1963	750

The 8000 chiefs-to-be represent 81.5 per cent of the PO1s who last February passed the service-wide CPO exams. A total of 27,920 men and women took the exams.

The advance-after-passing percentage is up 15.1 over last year. In 1961, 66.4 per cent of those who passed were advanced.

All-Navy Cartoon Contest Peter A. Hansen, EN2, USN



"... and after we get this little ballasting error corrected Chief, I suggest we discuss your E-9 prospects."

Navymen Who Were Extended Involuntarily Are Returning to Inactive Duty

Officers and enlisted men who were involuntarily extended on active duty as a result of the cold war flare-up last year are now being released to inactive duty. A large number will go out before 30 June 1962.

Navymen will, however, have some voice in deciding their own dates of release. The Navy doesn't plan just to turn men out to pasture, so to speak, with no warning.

There are several categories of men affected.

Naval Reserve officers whose original release-from-active-duty date was before 30 June 1962, and who were involuntarily extended beyond June 1962 as a result of Public Law 87-117, may:

- Be released in June 1962.
- Be released on any date between June 1962 and the date to which they were involuntarily extended. (A specific date must be chosen in this case.)

- Voluntarily extend on active duty in accordance with BuPers Inst. 1926.1C.

Year group 1959 NROTC Regular Navy officers with basic obligated service expiring before 30 June 1962, who have submitted resignations to be effective within one month after completion of basic obligated service and who have been notified of effective dates after 30 June 1962, may:

- Be released in June 1962.
- Be released on any date between June 1962 and the date to which involuntarily extended. (A specific date must be chosen in this case.)

- Withdraw resignation and continue on active duty.

The effective dates for resignation and retirement of Regular Navy officers, other than the NROTC Regulars mentioned above, will continue to be dictated by the needs of the service. The current shortage of experienced officers will undoubtedly necessitate adjusting dates in many cases where reliefs are required:

Enlisted men retained on active duty as a result of Public Law 87-117 will serve out their involuntary extensions if these extensions expire before 30 June 1962. EMs involuntarily extended beyond 30 June 1962 by this law will be released on 30 June 1962 if they choose. (This does not apply to involuntarily extended Reservists who were involuntarily recalled to active duty with their units.) Enlisted personnel (including those holding authorizations for transfer to the Fleet Reserve) who have been involuntarily extended beyond 30 June 1962, and whose separation by 30 June would upset personal plans, may, by signing a page 13 entry in their service jackets, be retained on active duty until the expiration of the involuntary extension. In such cases, they should voluntarily extend their enlistment and/or active duty agreement for the number of months necessary to serve out the involuntary extension.

Full information may be found in CNO message 172250Z of April 1962.

BuPers Manual Revises Rules On Service Record Entries

Navy men who work with service records will find recent alterations to the *Bureau of Naval Personnel Manual* of particular interest. (The changes were transmitted with BuPers Notice 1070 of 12 Mar 1962.)

One change in the manual eliminates the use of page 10 which was used in recording inactive personnel gains to active duty strength and extensions of active duty of Naval Reserve, Fleet Reserve, retired personnel and USN inductees.

Current personnel accounting procedures don't require such distinction.

New service record pages and procedures have been included. They are designed to reduce the number of pages in the service record and to improve its reference value by consolidating entries.

The Bureau's effort to improve the administrative remarks section has manifested itself in the changes to the administrative remarks page.

The emphasis is now on remarks which have lasting value and are not of primary interest to the Navyman's current duty station.

The Bureau's analysis of service

record remarks resulted in a list of entries frequently recorded which the Bureau considers to be unnecessary. The list is included as an enclosure to the Notice.

The changes became effective the first of this month. The initial distribution of the Transfers and Receipts and Administrative Remarks forms was limited. Additional supplies are now available at all forms and publications distribution points.

Three New Courses Offered To Officers and Enlisted Men

Three new correspondence courses — one officer and two enlisted — are now available from the Navy Correspondence Course Center at Scotia, N.Y. Four others, meanwhile, have been discontinued.

Enlisted courses are administered (with some exceptions) by your lo-

cal command instead of the Correspondence Course Center.

Officer courses, on the other hand, are administered directly by the Center. Courses for both officers and enlisted personnel on inactive duty are also handled in this fashion.

New courses available are:

Course	NavPers No.
OCC Supply Duties for General Line Officers	10412
ECC Basic Electricity, Part II	91226
ECC Aviation Structural Mechanic 5 2, 3	91364

Discontinued courses are *OCC Blood Transfusion, Methods and Procedures* (NavPers 10998-1); *ECC Aviation Structural Mechanic 3, Vol. I* (NavPers 91625-A); *ECC Aviation Structural Mechanic 2, Vol I* (NavPers 91626-A); and *ECC Navy Mail, Vol. II* (NavPers 91460).

WAY BACK WHEN

Navy's First Doctors

The story of early Navy doctors is as old as the Navy itself. When the Continental Congress authorized a naval force in 1775, provisions were made to include medical professionals in the ships' complements. Ships which carried 20 or more guns had surgeons who ranked below the master and above the chaplain; smaller ships carried surgeon's mates who held the status of warrant officers.

Early appointments of surgeons and surgeon's mates were made hastily and without much formality. Sometimes the ships' captains appointed surgeons without reference to other authority. In 1777, Congress ruled that no one was to be appointed a surgeon or surgeon's mate without a certificate of examination which attested to his professional qualifications.

The earliest Continental Navy medical officers were paid between \$21 and \$25 a month, depending on the size of the ships in which they served. Surgeon's mates on board ships of 10 to 20 guns were paid from \$21 to \$23; surgeons on ships of 20 guns and upwards received \$25 (later raised to \$30).

Some early Navy doctors who served on board ships commanded by John Paul Jones between 1775 and 1781 were Joseph Harrison, in *Alfred*; Ezra Green, in *Ranger*; and Lawrence Brooks, in *Bonhomme Richard*.

Until 1799, Navy medical professionals acted independently of each other. There were no provisions for the coordination and supervision of their activities. However, in

March 1799, the first step toward the organization of military medicine was taken by Congress. It provided for the appointment of a physician general who was charged with the supervision of all military hospitals and the general supervision of all Army and Navy medical functions and personnel.

In 1842 the Bureau of Medicine and Surgery was established, and, to this day, its responsibilities are fundamentally the same as those it held 120 years ago — safeguarding the health of the Navy, caring for sick and injured naval personnel, keeping health and medical records, and setting professional standards for the Navy's physicians, dentists, nurses and other specialists.



**Uniform Changes Include
New Sports Model Shirt,
Lightweight Raincoat**

If you're an enlisted man, the day may not be far off when you can discard your conventional-type dungaree shirts for a new "sports" model.

If you're a male officer or chief petty officer, you may soon, if you wish, add a lightweight, single-breasted raincoat to your wardrobe.

These, and other notes on uniform items, are contained in the latest change to *U. S. Navy Uniform Regulations*. The change has been circulated Navy-wide in the form of BuPers Notice 1020 of 12 Mar 1962.

The new style dungaree shirt is described as "blue cotton chambray, convertible sport style collar, long sleeves, two patch pockets, squared off bottom, matching blue stitching and no shoulder yoke." The shirt will not be authorized until it is distributed through the Navy supply system (it will be sold in small stores) when the old type is depleted.

The raincoat, not yet available or authorized for wear, is "lightweight, single-breasted, box style; fly front; set-in sleeves; beltless; shoulder loops; dark blue synthetic fabric." The new raincoat will be an optional article when the effective date for wearing is established.

Women officers may now wear, as appropriate, the Dinner Dress Blue Jacket Uniform or Dinner Dress White Jacket Uniform. These consist of mess jacket, dress skirt, and cummerbund, dark blue and white, respectively; dress shoes and handbag (black, white); white dress shirt; black dress necktie; service hat (or tiara, optional); beige stockings; and miniature medals. The uniform is optional for all women officers until 1 Jul 1964, when it becomes mandatory for commanders and captains.

Another new item for women is a redesigned white plastic handbag. The new bag will replace the current white handbag when available and on a date yet to be announced. The handbag will be of white plastic; embossed with a leather grain pattern; envelope style; not more than 11 inches wide and 7½ inches deep; with detachable shoulder strap. The bag may be used with or without the strap.

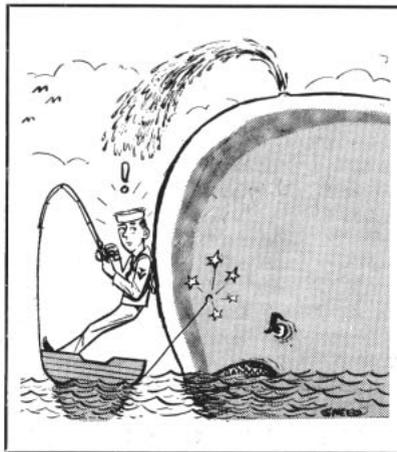
In the case of aviation cadets and



"Isn't there something else for Tiny to do besides chip paint?"

aviation officer candidates, the aviation green working uniform has been deleted from their minimum outfits; working khakis will be prescribed instead.

Of general interest to all naval personnel is a spelled-out version of regulations which govern the wearing of hats during outdoor ceremonies. A portion of Article 1110.2 of *Uniform Regs* now reads: "Out of doors, personnel should remain covered at all times except when ordered to uncover, or during religious services not associated with a military ceremony. Thus, unless ordered to uncover, personnel shall remain covered during the invocation or other religious portions of ceremonies which are primarily military in



"Chief wasn't kidding when he said this was a whale of a fishing spot!"

nature, such as changes of command, ship commissionings and launchings, military burials, etc. The chaplain conducting the religious portion of the ceremony will be guided by the customs of his church with respect to wearing of head covering.

**Now You Can Frame That
Good Conduct Award,
Certificates To Be Distributed**

A handsome, suitable-for-framing certificate has been added to the honors you receive when you earn a Good Conduct award. The certificate, which became an official part of the Good Conduct award in February, is issued by the Chief of Naval Personnel. BuPers Notice 1650 of 5 Mar 1962 laid out policy guidelines for issuing the certificate. In general:

- If you have earned a Good Conduct award for which entitlement has not been determined by the Chief of Naval Personnel, your commanding officer may submit a request to this Bureau for a certificate—and a medal, if you've earned only one award. You will also be notified of other awards earned for which a determination of entitlement has not already been made.

- A Good Conduct Award Certificate will also be issued, upon request, to members whose entitlement to the last award earned was determined by the Chief of Naval Personnel before February 1962, provided they do not have sufficient obligated service to earn another award before the current enlistment expires. Your commanding officer, upon request, will submit your name and eligibility date to the Chief of Naval Personnel if you are eligible to receive a retroactive certificate. The forwarding of these certificates may take several weeks because of the workload involved. However, they will be sent as soon as possible, and a follow-up request should not be made.

The Good Conduct Award Certificate is prepared in the Bureau of Naval Personnel and forwarded to your commanding officer for his signature. The certificate displays your name, rate, branch of service, the number of the award (first, second, third, etc.), and the date on which service for award was completed.

To rate the Good Conduct Medal

at present you must serve three years of continuous active duty with a clean record — no convictions by courts-martial, no non-judicial punishment and no sick misconduct. You must also maintain a mark of at least 3.0 in each of the traits on which you are evaluated twice a year (professional performance, military behavior, leadership and supervisory ability, military appearance and adaptability).

Effective 1 Nov 1962 you'll have to serve longer before you can become eligible for a Good Conduct award; four years of continuous active duty will be required instead of three.

Funds Allocated for Tuition Aid for Courses at High School or College Level

Funds have been allocated to headquarters of all naval districts, the Potomac and Severn River Naval Commands and naval commands in Europe, Japan and the Marianas for tuition aid in an educational program for active duty personnel.

The funds will be used at the discretion of these commands to make partial payment of tuition for voluntary off-duty courses taken by military personnel who have their commanding officer's concurrence.

To participate in the program the prospective student must be a member of the Regular Navy or Naval Reserve or a member of another service assigned to duty with the Navy.

Students in service schools are discouraged from making application unless their commanding officers feel participation in the program will not interfere with their training.

Officers who participate must agree to serve in the Navy for two years after completion of the course.

The courses taken by applicants are subject to approval. They must be taken for credit (including extension credit). They can be high school level in a program leading to a high school diploma or to meet college entrance requirements.

College undergraduate courses may be taken if they contribute to qualifications for a degree. Courses taken by an individual who already has a bachelor's degree and who is working toward an additional bac-

calaureate are also likely to be approved.

Other courses that may be taken are high school or college courses which will contribute to professional qualifications.

Graduate courses which will contribute to qualifications for an advanced degree in education, engineering, international relations, management, mass communications, mathematics or physical science are also encouraged.

Courses in foreign languages at any level will be approved, but no correspondence courses of any kind will find approval. The courses must be given by an accredited institution. High schools should be listed in *Public Secondary Day Schools* (1958-59 or later issue).

Colleges, universities and junior colleges must be listed as accredited by their regional accrediting associations in the Department of Health, Education and Welfare's *Education Directory, Part 3 — Higher Education*.

Study at foreign colleges and uni-

versities is also permissible in cases individually approved by the Chief of Naval Personnel.

When requesting approval of a foreign school, you should explain the academic level of the course or degree desired, the possibility of your completing the degree requirements before your transfer and the unavailability of similar degree opportunity through U.S. schools.

Those who are selected are eligible to receive up to 75 per cent of the tuition cost, provided it does not exceed \$13.50 per semester hour, \$9.00 per quarter hour or, for high school courses, \$40.50 per Carnegie Unit. All other costs must be borne by the individual.

So far as the Navy is concerned, the student can take as much work as he feels he can carry. However, the Navy will not subsidize more than seven semester hours in any semester, seven quarter hours in any quarter or two Carnegie Units in any academic year.

Full details concerning the program are in BuPers Inst. 1560.10C.

HOW DID IT START

Ice-Skating in the Antarctic

It sounds suspiciously like a case of hauling coals to Newcastle to us — but according to late word received from way down south, crew members of the attack cargo ship *uss Arneb* (AKA 56) have built an ice-skating rink. In Antarctica, yet.

Christened "No-Squaw Valley," *Arneb's* rink has been constructed on an ice shelf of the Ross Sea, near the Navy's *McMurdo Station* Antarctic base. It is, say its creators, only the forerunner of a much more ambitious winter sports center they plan to build if *Arneb* returns next year.



LTJG James A. Treanor engineered the rink. Machinist's Mate Third Class Bill Kuepper, Radarman Third Class Robert Sullivan and Storekeeper Third Class Gordon Bushman straw-bossed the crews which formed, cleared and sprayed the ice. Forming ice, as you might well suspect, was no problem whatsoever — but blizzards howling down from the South Pole plateau drove the workers back to the safety of their ships on three separate occasions.

Ice skates issued to those desiring to use the rink were rented from an indoor rink in Christchurch, New Zealand, which had closed down for the summer. And just to prove they're not in the least bit selfish, the *Arnebbers* have invited crewmen of two neighboring icebreakers — *uss Glacier* (AGB 4) and the Coast Guard's *uscg Eastwind* (WAGB 279) — to share the facilities with them.

They haven't neglected the needs of the inner man, either.

Alongside the rink, and hard by the ship itself, they've built a small refreshment stand. A large sign adorns the outside of this stand — the mute voice, as it were, of someone crying in the wilderness. It reads, simply, "Waitress Wanted — No Experience Necessary."

Latest List of New Motion Pictures Available to Ships and Overseas Bases

The latest list of 16-mm feature movies available from the Navy Motion Picture Service is published here for the convenience of ships and overseas bases.

Movies in color are designated by (C) and those in wide-screen processes by (WS). They are available for ships and bases overseas.

Pocketful of Miracles (1901) (C) (WS): Comedy; Bette Davis, Hope Lange.

Secret of Deep Harbor (1902): Melodrama; Ron Foster, Merry Anders.

Fear No More (1903): Melodrama; Jacques Bergerac, Mala Powers.

Price of Silence (1904): Melodrama; Gordon Jackson, June Thorburn.

Colossus of Rhodes (1905) (C) (WS): Melodrama; Rory Calhoun, Lea Massari.

Bachelor Flat (1906) (C) (WS): Comedy; Tuesday Weld, Richard Beymer.

Saintly Sinners (1907): Comedy-Drama; Don Beddoe, Ellen Corby.

Mysterious Island (1908) (C): Melodrama; Michael Craig, Joan Greenwood.

Flower Drum Song (1909) (C) (WS): Musical; Nancy Kwan, James Shigeta.

Tender is the Night (1910) (C) (WS): Drama; Jennifer Jones, Jason Robards, Jr.

The George Raft Story (1911): Drama; Jayne Mansfield, Barrie Chase.

The Happy Thieves (1912): Comedy-Drama; Rita Hayworth, Rex Harrison.

The Two Little Bears (1913) (WS): Drama; Eddie Albert, Jayne Wyatt.

Madison Avenue (1914) (WS): Drama; Dana Andrews, Eleanor Parker.

Gun Street (1915): Western; James Brown, Jean Willes.

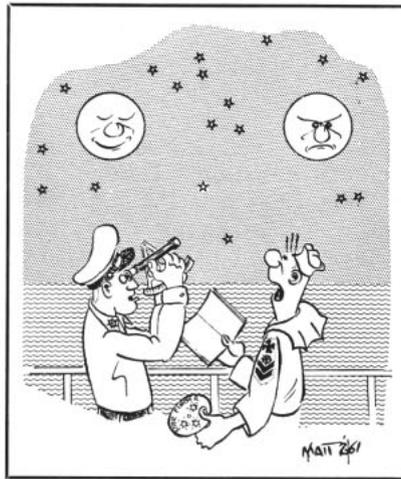
Sail a Crooked Ship (1916): Comedy; Robert Wagner, Dolores Hart.

By the Light of the Silvery Moon (1917) (Re-Issue): Musical; Doris Day, Gordon MacRae.

April in Paris (1918) (Re-Issue): Musical; Doris Day, Ray Bolger.

His Majesty O'Keefe (1919) (Re-

All-Navy Cartoon Contest
LCDR George P. Matherson, USN



"Which one do we shoot tonight, sir?"

Issue): Melodrama; Burt Lancaster.

Jim Thorpe All American (1920) (Re-Issue): Biographical Drama; Burt Lancaster, Charles Bickford.

Dial "M" for Murder (1921) (Re-Issue): Drama; Ray Milland, Grace Kelly.

Force of Arms (1922) (Re-Issue): Drama; William Holden, Nancy Olson.

West Point Story (1923) (Re-Issue): Musical; James Cagney, Virginia Mayo.

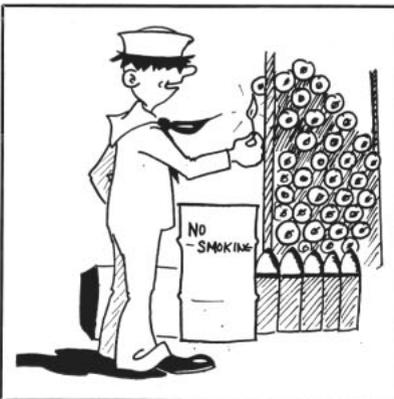
I'll See You in My Dreams (1924) (Re-Issue): Musical; Doris Day, Danny Thomas.

Bullfighter and the Lady (1925) (Re-Issue): Drama; Robert Stack, Joy Page.

Lady for a Night (1926) (Re-Issue): Melodrama; Joan Blondell, John Wayne.

Lover Come Back (1927) (C):

All-Navy Cartoon Contest
John R. Leszewski, SN, USN



"Hey Joe, you in here?"

Rock Hudson, Doris Day.

The X-15 (1928) (C) (WS): Drama; David McLean, Charles Bronson.

Cash On Demand (1929): Melodrama; Peter Cushing, Andre Morell.

3 Stooges Meet Hercules (1930): Comedy; 3 Stooges.

One, Two, Three (1931) (WS): Drama; James Cagney, Horst Bucholz.

Summer and Smoke (1932) (C) (WS): Drama; Laurence Harvey, Geraldine Page.

The Outsider (1933) (C): Drama; Tony Curtis, Jim Franciscus.

Deadly Duo (1934): Melodrama; Craig Hill, Marcia Henderson.

Woman Hunt (1935) (WS): Melodrama; Steven Piccaro, Lisa Lu.

September Storm (1936) (C) (WS): Melodrama; Joanne Dru, Mark Stevens.

Underwater City (1937): Melodrama; William Lundigan, Julie Adams.

Lad: A Dog (1938) (C): Drama; Peter Breck, Perry McCay.

Light in the Piazza (1939) (C) (WS): Drama; Olivia de Havilland, Rossano Brazzi.

Swinging Along (1940) (C) (WS): Musical Comedy; Pete Marshall, Tommy Noonan.

A Majority of One (1941) (C): Comedy-Drama; Rosalind Russell, Alec Guinness.

The Roman Spring of Mrs. Stone (1942) (C): Drama; Vivien Leigh, Warren Beatty.

Television Programs

5244: TV-1 *Perry Mason* - Petulant Partner. TV-2 - *Stagecoach West* - Not in Our Stars.

5245: TV-1 *Perry Mason* - Watery Witness. TV-2 *Stagecoach West* - House of Violence.

5246: TV-1 *Perry Mason* - Fandancer's Horse. TV-2 *Stagecoach West* - The Outcasts.

5247: TV-1 *Perry Mason* - Shattered Dream. TV-2 *Stagecoach West* - El Carnicero.

5248: TV-1 *Perry Mason* - Bedeviled Doctor. TV-2 *Stagecoach West* - Arsonist.

5249: TV-1 *Perry Mason* - Artful Dodger. TV-2 *Rawhide* - Long Shake Down.

5250: TV-1 *Perry Mason* - Bartered Bikini. TV-2 *Rawhide* - Black Sheep.

5251: TV-1 *Perry Mason* - Spurious Sister. TV-2 *Rawhide* - Lost Tribe.

5252: TV-1 *Perry Mason* - Blushing

Pearls. TV-2 *Rawhide* — Hondo Seco.
 5253: TV-1 *Perry Mason* — Buried Clock. TV-2 *Rawhide* — Inside Man.
 5254: TV-1 *Perry Mason* — Stuttering Bishop. TV-2 *Rawhide* — The Send Off.
 5255: TV-1 *Perry Mason* — Gallant Grafter. TV-2 *Rawhide* — Rio Salado.
 5256: TV-1 *Perry Mason* — Frantic Flier. TV-2 *Rawhide* — Black Storms.
 5257: TV-1 *Perry Mason* — Wayward Wife. TV-2 *Rawhide* — Incident of Fear: In The Streets.
 5258: TV-1 *Perry Mason* — Glittering Goldfish. TV-2 *Gunslinger* — Road of the Dead.
 5259: TV-1 *Perry Mason* — Perjured Parrot. TV-2 *Gunslinger* — The Recruit.
 5260: TV-1 *Perry Mason* — Bashful Burro. TV-2 *Gunslinger* — Appointment in Cascabel.
 5261: TV-1 *Perry Mason* — Corresponding Corpse. TV-2 *Gunslinger* — Buried People.
 5262: TV-1 *Perry Mason* — Borrowed Brunette. TV-2 *Gunslinger* — Die Hard.
 5263: TV-1 *Perry Mason* — Violent Village. TV-2 *Gunslinger* — Hostage Fort.
 5264: TV-1 *Perry Mason* — Prudent Prosecutor. TV-2 *Gunslinger* — John Sergeant.
 5265: TV-1 *Perry Mason* — Mythical Monkeys. TV-2 *Gunslinger* — New Savannah Story.
 5266: TV-1 *Perry Mason* — Spanish Cross. TV-2 *Gunslinger* — Golden Circle.
 5267: TV-1 *Perry Mason* — Jaded Joker. TV-2 *Gunslinger* — The Zone.

USAFI Observes Twentieth Birthday This Year

The United States Armed Forces Institute (USAFI) — the medium through which thousands of Navy-men have continued, supplemented and/or completed their education while serving on active duty — is celebrating its 20th birthday this year.

In that 20 years more than five million students have enrolled in USAFI's correspondence courses in high school, college, technical and vocational subjects, as well as thousands of courses from the extension divisions of its 43 participating colleges and universities. Millions of others have attended group study classes in these subjects and in USAFI's elementary level and spoken language courses.

USAFI was originally called the Army Institute when it opened its Madison, Wis., headquarters on 1 Apr 1942. It offered 64 courses purchased from a commercial corre-

spondence school, and hundreds of high school and college courses. By the end of 1943 it had expanded to include all branches of the armed forces, and in February 1943 it was renamed USAFI.

Since its inception, USAFI has worked in close cooperation with the University of Wisconsin, one of the major forces in university correspondence education for more than half a century. USAFI headquarters at Madison remains today the permanent repository for records of educational achievement by active duty servicemen, and is the only USAFI authorized to report this achievement to educational institutions and other interested agencies.

Navy Needs Candidates for Nuclear Power Training

If you can qualify and are eligible for nuclear power training, the Navy wants you to apply for such train-

ing — now. The need is urgent.

The nuclear power training schools at New London, Conn. (moving soon to Bainbridge, Md.), and Mare Island, Calif., plus the subsequent six months' operational training at a nuclear prototype site — Idaho Falls, Idaho; West Milton, N. Y.; or Windsor, Conn. — have recently been designated as equivalent to Class "B" schools for Navymen in the MM, EN and BT ratings. This schooling can be guaranteed to eligible Navymen reenlisting under the STAR program. Star reenlistees in pay grade E-4 will be advanced automatically to pay grade E-5 upon graduation. Enginemen completing this training will be changed in rating to MM in the equivalent pay grade.

Engineering ratings and the STAR program aren't the only potential sources the Navy hopes to tap either. If you're not in one of the source ratings now, you can, if eligible, request conversion in accordance with

WHAT'S IN A NAME

Master-at-Arms

There are few enlisted men in the Navy who haven't, at one time or another, had at least a minor disagreement with a master-at-arms. On the other hand, there are just as few men who haven't, at one time or another, been aided in some way by MAAs. They seem to have a knack for being available when they're needed.

No one seems to know when the first master-at-arms appeared in a Navy, but we suspect MAAs are as old as navies themselves. Records show, for example, that the Royal Navy had masters-at-arms as early as the reign of Charles I (1625-49). At that time, however, they were called sea corporals.

In those days they were custodians of all the swords, pistols, carbines and muskets. Among other duties — of which they had many — they had to see that the bandoleers were filled with fresh powder before the crew went into battle. They also had to be qualified in close-order fighting under arms, and they led drills under arms for the seamen.

Records of our own early Navy show that a master-at-arms rating was established by an Act of 1 Jul 1797 and remained in effect until 1 Apr 1893, when the rating was broken down into three pay grades of chief, first class and second class.

The related rating of ship's corporal first appeared in the 1835 *Navy Register*, only

to be abolished by an Executive Order in 1893.

As a specific rating, master-at-arms was officially disestablished on 1 Jul 1921, but most of the duties remained, being taken over by other petty officers. Today's *Navy Regulations* state that there shall be assigned under the executive officer a chief master-at-arms, and such other masters-at-arms as may be required as his assistants, for the maintenance of good order and discipline."

Normally men are assigned to the MAA force for several months at a time, and are relieved of most of their other duties during that period.



Para. 11.31a of the *Enlisted Transfer Manual*.

Eligibility for nuclear power school requires a GCT/ARI test score combination of 110 or more, or ATT Math of 53 or more. In addition, all requirements listed in Para. 11.3 of the *Transfer Manual* apply.

Navy men graduating from nuclear power training will in most cases be assigned duty in nuclear submarines and surface ships. Those not submarine qualified will also have to volunteer for, and complete, submarine school if they desire submarine duty. Surface personnel who are not assigned initially to nuclear billets will return to sea in the surface forces, forming a pool of qualified operators for eventual assignment to nuclear billets as needs increase.

So if you're interested in getting in on what can still be considered the ground floor of the nuclear Navy, see your CO. His endorsement will be needed on your request.

Here Are the Revisions Now in Effect on Officer Fitness Reports

Several changes in the officer fitness report program are now in effect throughout the Navy. In general, the changes involve:

- **New Report Form**—A new form—different in composition and content—became effective on 30 April.

- **Fewer Submissions**—For most officers, the new form is submitted normally only once a year. Warrant officers, ensigns and lieutenants junior grade will, as in the past, submit two reports each year. (Also, a report is submitted each time an officer or his reporting senior is detached.)

- **Staggered Reporting Dates**—A staggered schedule has been established for the submission of regular reports as follows:

Flag officers—When officer or reporting senior is detached.

Captains—30 April.

Commanders—31 May.

Lieutenant commanders—30 June.

Lieutenants—31 July.

Warrant officers, ensigns, lieutenants (junior grade) 28 Feb and 31 August.

- **Extended Reporting Periods**—Reporting seniors may now extend

the reporting period for a maximum of 60 days if the officer reported on or the reporting senior is to be detached from, or reports to, the duty station involved before or after a periodic reporting period.

Increased emphasis is being placed on each officer's qualities of personal leadership. The new form contains exact definitions for terms used in the evaluation—"outstanding" is defined as "one in a hundred," and "exceptional" is "one of the next top few." Other terms are "superior," "excellent," "acceptable" and "marginal."

The form also contains space for comments on the adaptability of the officer to the varying conditions of naval service, recommendations for future assignments and remarks regarding individual accomplishments. These comments will assist the Chief of Naval Personnel in the assignment of officers.

Annual submission of the report is expected to give officers involved a fair shake at demonstrating their abilities before any formal evaluation is made. At the same time, reporting seniors will have more time to observe the officers before making judgments.

Extended reporting periods, in cases of officers who check into or are detached from commands, eliminate administrative reports which cover periods so brief they may not truly represent the officers' capabilities, or may simply repeat evaluations submitted in regular reports.

In the future, each officer will receive from the Chief of Naval Personnel a receipt which acknowledges receipt of the form in BuPers.

Incidentally, the changes in periodic submission dates were the re-

sult of an effort to gear performance reporting more closely to the usual convening dates of selection boards in order to ensure each board's having before it a more recent performance evaluation than was usually the case in the past.

The detailed procedure for completion and submission of the reports is contained in BuPers Inst. 1611.12.

Here's Latest List of Correspondence Courses

Five new enlisted correspondence courses have been issued by the Navy Correspondence Course Center and 12 courses have been discontinued.

New Courses

- Personnelman 1 and C* (NavPers 91422-1C)
- Radarman 3 and 2, Vol. 1* (NavPers 91267-1C)
- Disbursing Clerk 3 and 2* (NavPers 91436-3A)
- Aviation Ordnanceman 3 and 2* (NavPers 91665-1)
- Construction Electrician 3 and 2* (NavPers 91569-2)

Discontinued Courses

- Personnelman C* (NavPers 91422-1B)
- Personnelman 1* (NavPers 91421-1A)
- Radarman 3* (NavPers 91266-1B)
- Radarman 2* (NavPers 91267-1B)
- Disbursing Clerk 3* (NavPers 91435-3)
- Aviation Ordnanceman 2, Vol I* (NavPers 91661-A)
- Aviation Ordnanceman 2, Vol II* (NavPers 91665-A)
- Aviation Ordnanceman 3, Vol I* (NavPers 91659-A)
- Aviation Ordnanceman 3, Vol II* (NavPers 91656-A)
- Construction Electrician's Mate 3* (NavPers 91568-1A)
- Construction Electrician's Mate 2* (NavPers 91569-1A)
- Disbursing Clerk 2* (NavPers 91436-3)

Selection Boards Convene For Promotion of WOs

Selection boards which considered Regular and Reserve warrant officers for promotion during fiscal year 1963 convened in Washington, D. C., on 15 May 1962. The boards considered warrant officers who met the following date of rank cutoffs:

Grade	Date of Rank for Eligibility
W-1 to W-2	30 Jun 1961 or earlier
W-2 to W-3	30 Jun 1959 or earlier
W-3 to W-4	30 Jun 1959 or earlier

The announcement of the selection boards' convening date is contained in BuPers Notice 1421, which is dated 14 Mar 1962. Detailed regulations governing WO promotions are contained in SecNav Inst. 1421.2.

All-Navy Cartoon Contest
Howard L. Allen, RM2, USN



"Hey Boats, yuh make Third?"

Here's a Taste of Navy Duty on the Aleutian Island of Adak

LET'S FACE IT: Adak is no paradise flowing with milk and honey. On the other hand, it isn't nearly so grim as your startled imagination might picture it. After all, people have been living there for years.

To help protect yourself during going-away parties, here's the story on living conditions aboard the Navy's Aleutian outpost, as told to ALL HANDS through the courtesy of Adak Naval Station. We can't vouch for the facts personally, as Adak is a little off our beat.

Adak, on which the Naval Station is located, is an island of the Andreanof Group, located in the southernmost part of the Aleutian chain. The country is rugged and mountainous, and although the island is covered with grass, it has no trees. There is neither a native population nor a civilian settlement or village on the island.

It has an average winter temperature of 33°F. The summer months of June, July and August are relatively mild, with the average temperature at about 44°F. The thermometer rarely climbs into the 70s. We suggest this would be a good season to write your friends in Guantanamo Bay and Panama.

The average rainfall is some 67 inches per year—which our correspondent assures us is less than in some states—but there are long wet spells. During the winter, snow and sleet flurries occur almost daily, although heavy snows are rare at the base. The mountains are covered with snow about eight months of the year.

The most disturbing part of Adak weather is the high wind. Gusts occasionally reach 40 to 60 knots or higher. Though these winds may sound extreme, they affect station life very little.

There are about 125 miles of roads on Adak. Most of them are not paved, but they are in fair to good condition. Buses cover all major parts of the station and run on schedule.

Autos—If you have a family you need an automobile and, under any circumstances, a car is highly desirable. No matter what your status, you are encouraged to bring your car, as other forms of transportation are limited. Climate and roads be-

ing what they are, choose one that has a minimum of chrome and gingerbread and that is in good mechanical condition. Repair and maintenance facilities are limited and if you can't get parts through normal mail order sources, you're going to walk. Snow or heavy-duty tires are recommended, and it is also advisable to have your car undercoated before it is shipped. Try to see that it is as waterproof as possible because it is going to sit out in the weather the year round.

Regular gasoline now costs about 21 cents per gallon.

Transportation—You and your family may travel to and from Adak by government air or sea transportation at no expense to you. Dependent travel is authorized by the Commandant, 17th Naval District, when government quarters are available. Concurrent travel is rare because of the limited number of government quarters and absence of other accommodations for dependents on Adak.

The Commandant, 13th Naval District, will decide the method of transportation when your family's entry has been approved.

Housing—Married officers and married enlisted personnel of pay grades E-6 and E-7, and E-5 with eight years' or more active federal service, are eligible for government quarters. Waiting periods vary from three to six months. Two- and three-bedroom family units are available. Three-bedroom units are intended primarily for families with three or more children.

You'll find these items of furniture

in your government quarters:

Living Room: One divan, two end tables, two lamps with shades for end tables, two upholstered chairs (lounge type), two occasional chairs, one to three floor lamps with shades, coffee table, bookcase in some quarters, writing table or desk and rug with pad.

Dining Room: A gateleg table (dropleaf) or a dining table equipped with extension leaves, six to eight dining chairs, one built-in china cabinet or buffet, and one rug with pad.

Dinette: One dinette table and four chairs.

Hall: One telephone shelf and telephone, and rug with pad.

Bedrooms: One double bedframe with spring and mattress or twin beds with springs and mattresses, chair, chest of drawers, night stand, lamp with shade, vanity in master bedroom, large mirror, and rug with pad.

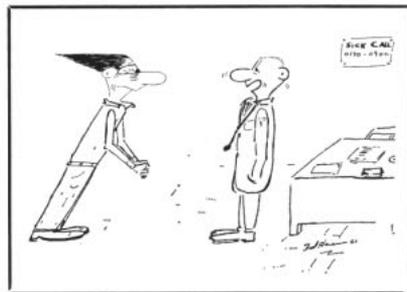
Laundry: One washer and dryer. Family rental quarters are limited and certain of these quarters are assigned to key billets. Waiting periods for others vary from six to 18 months depending on the rate of turnover. No waiting period exists for bachelor rental quarters.

Household Goods—Because of the lack of storage space, it is not possible to furnish storage for either government-owned or personal furniture, goods, or appliances, except in the quarters themselves.

All items you bring must be stored in your own quarters, and no government furniture allocated to those quarters may be removed. Most families consider that there is not enough room for both a deep freeze unit (preferably upright models) and an automatic ironer, although some find room for one or the other (usually in a bedroom). Couples without children can plan on having some extra space in the "spare" bedroom.

It is generally agreed that room can be found for one or more of the following items: Sewing machine, vacuum cleaner, record player, tape recorder. All these items, except sewing machines, are stocked at the Navy Exchange. It's a good idea to bring along sleds for children.

All-Navy Cartoon Contest Peter A. Hansen, EN2, USN



"What makes you feel bow lookout watches are affecting you, Cornwell?"

The surfaced areas, other than thoroughfares, are limited, a factor which should be considered in deciding whether or not to bring tricycles, bicycles and similar items. Personal furniture and appliances which are similar to government-furnished items, and other items for which you will not have room should be placed in storage in the United States. Such storage is furnished at government expense.

A limited quantity of china, kitchen utensils and bedding is available until your own arrives. Bring: Table silver, linens, wastebaskets, TV set, kitchen utensils, drapes, radio (regular broadcast and/or short-wave), curtains, ironing board, table china-ware, small kitchen appliances, pictures, blankets, pillows, and vacuum cleaner.

You should contact the Household Goods Section of the nearest supply activity for information regarding transportation of dependents and the shipment and storage of personal effects and household goods. Ask for Bureau of Supplies and Accounts Publication 380, entitled "It's Your Move!" The Household Goods Section will be glad to give you the latest information regarding entitlement and such other advice and suggestions as you may desire.

Household goods are normally shipped through the Naval Supply Depot, Seattle. Authorization from Commandant, 17th Naval District, is required.

When permission has been received, the nearest Household Goods Section should again be contacted for the latest information regarding movement of your goods to Adak and/or to non-temporary storage. In general, three separate shipments are authorized:

- Expedited shipment, including the things needed upon your arrival — essential household goods and seasonal clothing.
- Shipment to non-temporary storage including furniture and items not required.
- Freight shipment to Adak, in which you should include the balance of small appliances, extra clothing and household goods.

The shipments destined for Adak, particularly the advance shipment, should be made available to the packers as soon as possible after you



"No! No! No! Seaman Bulkhead! . . . And we worked so hard to get it!"

receive authorization to travel, so that they will arrive at Adak at the earliest possible date.

Personal Clothing — Adak is not a perennial icebox. Your present clothes, with a few exceptions, should prove adequate. Emphasis should be on water and wind repellent fall-weight clothing, because the summer is comparatively cool and the winters only moderately cold. A warm overcoat or parka is a must, as are heavy-soled shoes, raincoats, galoshes and headgear. Heavy clothing is not needed for daily routine living, but bring woolen suits, sweaters, heavy socks and warm gloves. For the children, ski suits and parkas are ideal, and extra mittens are advisable. Bring summer clothes, slacks, pedal pushers, swimming suits, and hats. Evening gowns and dinner jackets are desirable for occasional formal parties.

The local shopping center is limited to a Navy Exchange and only limited stocks of clothing are available. However, a women's and children's ready-to-wear section has recently been established. Ranges of styles and sizes of shoes are quite limited. Yard goods are stocked with zippers, buttons, thread and other notions.

Mail Order Service — Mail order service from the Washington-Oregon area is available and widely used. Shipping time by this service is approximately four to six weeks.

School — Schooling extends from kindergarten through the 12th grade. Diplomas issued from the high school are acceptable in any state institution of higher learning in other states. Courses not offered by the high school are furnished by correspondence courses.

The quality of instruction in both the elementary and high school grades is considered excellent, and there are seldom as many as 30 students in a class.

The school building is modern and warm and is located near most of the housing areas. Transportation is furnished. The Naval Base makes several of its facilities, such as the gym and the swimming pool, available for school use during school hours. Alaska law requires a child to be five years old before 1 November of the school year in order to enter kindergarten any time during the school year. To enter the first grade, the child must be six before 1 November or have already entered first grade in a public school in another state and arrive on Adak after 1 January.

Churches — There are Protestant and Catholic chaplains on Adak and religious services are held regularly. Complete programs of religious education are offered.

Recreation — Recreational facilities are widespread and varied. Special Services offers a 10-lane bowling alley, gym, roller skating rink, weight-lifting room, indoor archery range, motion picture theater, swimming pool, hobby shops, billiard and table tennis rooms, library, ski lodge and indoor rifle range. A new gym and an eight-lane bowling alley were recently completed.

Special Services also has appropriate athletic gear available for issue for the following activities: Archery, badminton, basketball, bowling, skiing, snowshoeing, softball, table tennis, tennis, tumbling, wrestling, volleyball and assorted games. For year 'round swimming, an indoor pool is located in the Bering Recreation Building. The Fletcher Library boasts more than 14,000 volumes with a wide distribution of subject matter, as well as current popular magazines. The Bering Theater offers a matinee on Saturday and Sunday and two shows nightly. A new ski lodge is to be constructed.

There are several clubs for the use of authorized personnel, including an Officer's Club (Hammerhead Lodge); Club Caribou (CPO and Civilian); Enlisted Men's Club (Club Bayview); and Marine Barracks (Tundra Tavern).

There are two package liquor stores for the convenience of authorized personnel, one operated by the Navy Exchange, and one by Hammerhead Lodge.

A popular recreational activity on Adak is the Hobby Shop. There are automobile repair, photographic, leathercraft and carpentry sections. Model making and lapidary work are also performed there.

Hunting and Fishing—Other than for ptarmigan and a few geese and ducks, there is very little hunting on Adak. Fishing is fair to good in the area, with salmon and trout fishing very popular. Recreational leave may be taken to the mainland of Alaska for abundant hunting and fishing.

Radio and Television—Adak has an Armed Forces Radio and Television outlet which broadcasts not only important local announcements and events, but also many of your favorite stateside radio and television programs. In addition, many stateside programs may be received on short-wave radio.

Pets—It is strongly recommended that pets not be brought. All cats and dogs must have shots and must be registered with the Security Officer. Dogs must be leashed except when in private quarters.

Medical Care—Medical facilities are available to military and dependent personnel on Adak. For dependents there is a maternity clinic and general medical clinic, but laboratory tests and drugs are limited. De-

pendents under special medical care are advised that there are no specialists on Adak.

Necessary dental work is performed by appointment for military personnel. Dental treatment is also available for military dependents, but on a deferred priority basis.

U. S. Mail Service—Adak has a Navy Post Office which provides all services available in any U. S. Post Office except Postal Savings and COD service. First Class and Air Mail arrive on the island at least weekly; newspapers, magazines, and parcel post packages are received once or twice a month by ship.

Navy Exchange—The Navy Exchange operates a retail store, a commissary which is well-stocked, a tailor shop, cobbler shop, various snack bars, barber shop, beauty shop, laundry and dry cleaning plant, garage and service station. The Exchange also offers radio, television, and watch repair service.

DIRECTIVES IN BRIEF

This listing is intended to serve only for general information and as an index of current Alnavs and NavActs as well as current BuPers Instructions, BuPers Notices, and SecNav Instructions that apply to most ships and stations. Many instructions and notices are not of general interest and hence will not be carried in this section. Since BuPers Notices are arranged according to their group number and have no consecutive number within the group, their date of issue is included also for identification purposes.

Alnavs apply to all Navy and Marine Corps commands; NavActs apply to all Navy commands; BuPers Instructions and Notices apply to all ships and stations.

Alnavs

No. 8 — Announced forthcoming

instructions for the preparation and submission of officers' fitness reports.

No. 9 — Removed restrictions on travel of Department of Defense sponsored dependents to Western Europe.

Instructions

No. 1520.20B — Announces eligibility requirements and invites applications for heavier-than-air flight training of commissioned officers and officer candidates leading to designation as naval aviator.

No. 1560.10C—Supersedes BuPers Inst. 1560.10B, and updates details of the operation of the Navy's Tuition Aid Program for active duty personnel.

No. 1611.12—Details new instructions for the completion and submission of reports on the fitness of officers.

No. 1412.6A—Announces the temporary appointment of certain ensigns to the grade of lieutenant (junior grade).

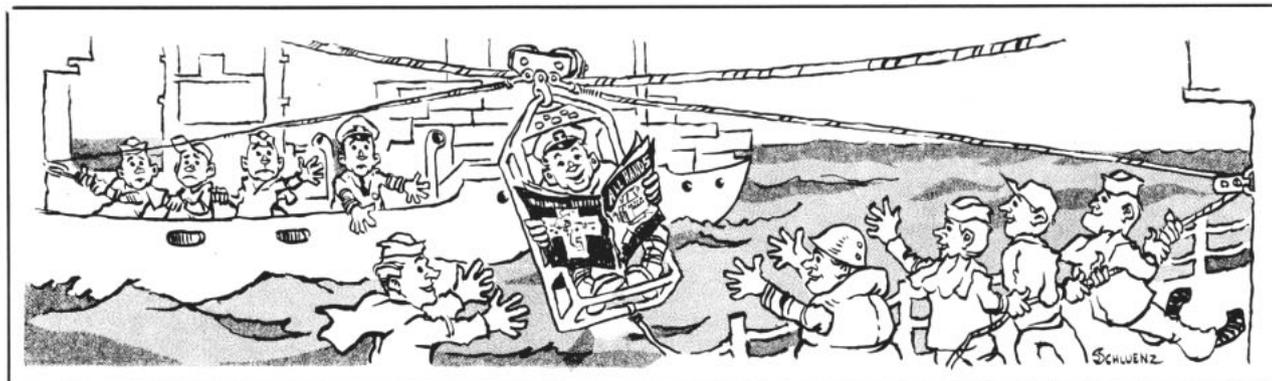
Notices

No. 3590 (30 March)—Announced the schedule, rules and procedures for the 1962 Navy championship rifle and pistol competitions.

No. 1440 (3 April) — Outlined changes in the Navy Enlisted Rating Structure involving disestablishment of the Oceanographer (SOO) Service Rating, and provided advance information concerning the Aviation Antisubmarine Warfare Technician (AX) General Rating.

No. 1430 (4 April) — Announced advancements to chief petty officer, acting appointment.

No. 1520 (17 April) — Discussed the scope of the Academic Year 1963-64 Postgraduate Educational Program.



DON'T HOLD UP the line—Nine other eager Navy men are pulling for this copy of ALL HANDS magazine.

DECORATIONS & CITATIONS



"For exceptionally meritorious conduct in the performance of outstanding service to the Government of the United States..."

★ DE VICQ, David C., LT, CEC, USN, for service from 1 Jul 1960 to 20 May 1961 as officer in charge of a special detail, Summer Support Activities, Construction Battalions, U. S. Atlantic Fleet. Assuming duties of great responsibility in deploying with 60 men on a polar ice cap to begin construction of the Marie Byrd Station in Antarctica, LT de Vicq, along with his men, worked for 72 hours without sleep, in temperatures 35 degrees below zero, in order to provide water, food, and shelter for the unit after arrival at the ice cap. In addition, assembly of a 138,000-pound Peter Snow Miller was accomplished, without machinery to repair damaged parts, or power equipment to handle parts weighing up to 10 tons. The world's largest Jamesway hut was then constructed by original field design when specially ordered material failed to arrive. Through LT de Vicq's excellent leadership, technical ability, and skilled supervision, Marie Byrd Station became available for limited operations in less than six months after his arrival on the site.

★ KINGSTON, James R., CAPT, MC, USN, for service from 1 Jan 1959 to 31 Dec 1961 as Head of the General Medicine and Surgery Research Branch, Bureau of Medicine and Surgery, Washington, D. C. Recognizing the serious loss of training time engendered by epidemics of respiratory diseases among recruit populations, CAPT Kingston conceived, planned, organized and directed a scientific study of the U. S. Marine Corps Recruit Depot, Parris Island, S. C. As a result, the Eaton Agent was identified as the prevalent causative organism in primary atypical pneumonia. It was also established that administration of demethylchlor-tetracycline provided an effective treatment. This knowledge will materially reduce the time lost due to illness during recruit training.

★ TUCKER, Robert F. LT, USN, for service from August 1959 to April 1961 while serving with Heavy Attack Squadron Three, Naval Air Force, U. S. Atlantic Fleet. Exercising unusual initia-

tive and technical skill, LT Tucker achieved signal success in the vital field of airborne radar prediction by designing and building a radar prediction device, the use of which immeasurably increases the bombing capabilities of all heavy attack squadrons. With production models reaching the Fleet in the short span of 16 months after the production of his prototype, LT Tucker has contributed materially in advancing the capabilities of heavy attack squadrons to achieve their missions.

Gold Star in Lieu of Third Award

★ MENDENHALL, William K., Jr., RADM, USN, for the performance of outstanding service from August 1960 to January 1962 as Deputy Chief of Staff, U. S. European Command. In carrying out his responsibilities, Rear Admiral Mendenhall made a significant contribution to the successful accomplishment of the many joint activities of the U. S. European Command, attaining a high degree of coordinated effort among the divisions of the command. In developing inspection procedures for the Military Assistance Advisory Groups and Missions under the jurisdiction of the U. S. European Command, and in his active participation in the inspections, he displayed unusual ability. His personal and official relationships with the military and government officials of the host countries during his inspection visits were marked by cordiality, confidence and great respect, resulting in an enhancement of the prestige of the United States and her armed forces.



NAVY AND MARINE CORPS MEDAL

"For heroic conduct not involving actual conflict with an enemy..."

★ CRESCITELLI, Peter A., DT3, USN, for heroic conduct on the early morning of 26 Mar 1961, while serving with Marine Air Base Squadron 26, Marine Aircraft Group 26, MCAF, New River, Jacksonville, N. C. Upon learning that one of the homes in the vicinity was on fire, Crescitelli immediately rushed to the scene and discovered that two small boys were trapped in the blazing structure. Although warned that the roof might collapse at any moment, he entered the house and managed to grope his way through the dense smoke

until he located and removed to safety the unconscious form of a six-year-old boy. He then skillfully administered artificial respiration to the victim until normal breathing was restored. By his prompt, skillful, and courageous actions in an emergency, Crescitelli was directly responsible for saving a life.

★ HARRISON, Joseph J., BMI, USN, for heroic conduct on 2 Dec 1961 while in a liberty status from the U. S. Naval Security Group Activity, Bremerhaven, Germany. When a shipmate accidentally stepped into a silted mud hole while duck hunting, and was slowly being engulfed in a quicksand-like action, Harrison immediately went to his aid, fully realizing the personal danger involved. During the following two hours, he singlehandedly struggled to release the stricken man, finally succeeding a short time before darkness fell and the tide began to flood. By his prompt and heroic efforts, Harrison undoubtedly saved the life of his companion.



BRONZE STAR MEDAL

"For heroic or meritorious achievement or service during military operations..."

★ CLAPPER, Lloyd R., BUI, USN, for meritorious service as Assistant Fire Chief and Second in Command of the Fire and Rescue Crash Crews at the Naval Air Facility, Tinian, Marianas Islands, during the year 1945. With the crash crews called upon frequently during this period of intensive air operations, Clapper carried out his responsibilities with outstanding courage and resourcefulness, contributing materially to the saving of lives and equipment. On one occasion when a B-29 aircraft crashed and was in imminent danger of exploding, Clapper, along with an assistant, chopped through the back of the burning plane and succeeded in rescuing a victim who was trapped in the forward upper gun turret. On another occasion, when a crew member of a burning aircraft parachuted and landed in a swamp a few seconds after his parachute opened, Clapper and two of his men rushed to the scene and saved the man from drowning. By his prompt and effective rescue efforts throughout this period, he contributed greatly to the success of his unit.

BOOKS TRUTH, FICTION AND MYTHOLOGY INCLUDED IN THESE SELECTIONS

LOTS OF NEW BOOKS, of all types, have rolled off the presses. From this group a sizable number have been chosen for ship and station libraries. You'll find they have some exceptionally good selections. A few of the new titles available are listed here.

We can't think of a better lead than *Navy Diver*, by Joseph S. Karneke and Victor Boesen. Karneke is a veteran of 20 years of Navy diving and he and Boesen know how to make the most of them. Relaxed and irreverent, *Diver* tells of salvaging wrecks at Pearl Harbor, fighting sharks in Australia and the Philip-pines, and participating in the Bikini bomb tests. Karneke was master diver when the U. S. Navy found the unsinkable Japanese cruiser *Nachi* at the bottom of Manila Bay. He tells how he and his diving crew inspected the sunken ship to learn its remarkable construction, then found war plans and diaries that changed the course of the war in the Pacific. Fascinating reading, and guaranteed to increase requests for diving duty. Try it. You'll find the names of a number of ships you may have served on at one time or another.

Hazard, by Marc Parrott, is also a brisk little number. Ever since their founding—so it is said—in a Philadelphia bar in 1775, the Marines have always been good box office. Parrott has selected the cream of the many incidents which make up Marine lore and, at the same time, manages to avoid telling for the umpteenth time the story of the island invasions of World War II. Parrott begins with the adventures of Marines captured by Barbary pirates, tells of the wanderings of sea-soldiers on the frigate *Essex*, Fremont in California, Haitian bandit days, a little-known spy incident in the Pacific and, of course, the fabulous Lou Diamond. All this sounds like mythology, but it isn't. It's for real.

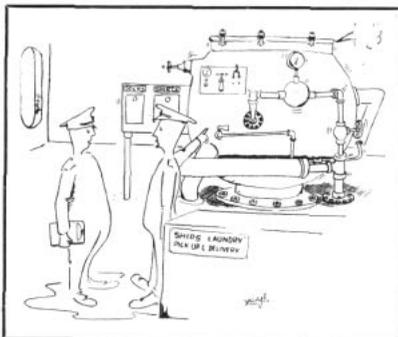
This provides a logical tie-in for the next title—*The Medal* (which is, of course, the Medal of Honor), by Frank Donovan. In 1862, Congress established the Medal of Honor to be given for "a deed of personal bravery or self-sacrifice above and beyond the call of duty while a member of the armed forces in actual

combat with an enemy of the nation." The rules have been changed somewhat but Donovan tells the story of the Medal and the exploits of some of the men who won it. From the Civil War through Korea, deeds of courage have been performed by drummer boys, messengers, soldiers, sailors, pilots and Marines. He doesn't try to cite them all, but he gives good coverage.

Fiercest Battle, by Ronald Seth, is another hair-raiser. It's the story of a convoy across the Atlantic at the peak of the U-boat warfare. The passage of ONS 5 is reconstructed hour by hour as it made its slow way through raging seas, dense fog and ice floes and, all the way, fought its way against the U-boats. Against this convoy Admiral Doenitz concentrated the full operational strength of his U-boat fleet. Losses were great on both sides, but by the end of the journey the menace had finally become contained. Why this particular convoy should have made history is the theme of the book.

Enough of violence. Let's become thoughtful for a moment. *The Rich Nations and the Poor Nations*, by Barbara Ward, will give you reason for plenty of thought. Among all the revolutions that have changed ideas, she sees four as most important—the revolution of equality, the concept of material progress, the biological revolution, and the application of science and capital to the economic progress of nations. These the rich nations have achieved, but not the "emerging" nations. They have come to identify these factors with freedom but, as they see it, only

All-Navy Cartoon Contest Stanley J. Rudge, ADJ2, USN



"... and this is the machine that pulls the buttons off the shirts and shoots them through the socks."

Communism promises to make these available to them within a reasonable time. They fail to realize the penalties attached to such promises. The richer Western nations can do something about this, and author Ward suggests a possible course. Pro-vocative.

It is easy for the have-not nations to forget that the wealthier, more stable nations have had their growing pains, too, and that from earlier travail has come present-day respectability. *The Last Plantagenets*, by Thomas B. Costain, is a reminder of that period of English history which can be best described as "tumultuous." It is the fourth and concluding volume of his *The Pageant of England*, and covers the period from 1367, when Richard II was born, to 1485, when Richard III was killed on the field of Bosworth. As those who have read his earlier works know, Costain is a sound scholar, but he is not interested in the matters such as rent rolls, feudal legal practices, trade guilds and the monastic system, which appear to attract so many of his colleagues. He prefers the color, drama and pageantry of the period and is more eager to describe the personalities and triumphs and disasters of hero and villain, whoever they may be. This he does with superb skill—as he should. He's been at it for years.

Another historical number with greater emphasis on the fictional treatment is *The Bull From the Sea*, by Mary Renault. This is something of a continuation of her earlier *The King Must Die*, and carries along the story of Theseus' adventures from the time of his return to Athens after slaying the Minotaur. Instead of interpreting Theseus as an opportunistic gangster, as many of her predecessors have done, she depicts him as an intelligent, rational being as well as a great warrior and a fabulous hero. A painless introduction to one of humanity's great myths.

The Sea Officer, by Showell Styles, is in a somewhat more popular vein, based upon the career of Edward Pellew, one of England's 18th century sea dogs. In it you can follow his brisk fortunes from midshipman to admiral with sea fights galore.

A note to history buffs: Volume 15, the supplement and general index of Samuel Eliot Morison's (RADM, Ret. USNR.) *History of U. S. Naval Operations in World War II*, has been published recently.



WW I SPEEDBOAT CREW — As member of the First Squadron, Machinist's Mate Hildreth poses at right.

OVER THERE - WORLD WAR I

ALL HANDS SPECIAL SUPPLEMENT

During World War I, a U. S. Naval Air Station was established at Dunkirk, France. Because of the frequent crashes of the early type planes used, the forerunner of our more modern crash boats was introduced. The author of this journal, Alanzo O. Hildreth, was a machinist's mate on one of these boats, and his comments provide an excellent picture of the role of the unsung heroes of an earlier day.

The following report is excerpted from the original journal of Alanzo O. Hildreth. It was made available to ALL HANDS through the courtesy of LTJG Robert Carlson, Jr., USNR-R, Minneapolis, Minn., and Reed Hildreth, St. Paul, Minn., the son of the author. Credit is also due to CDR Arthur E. Solberg, USNR, of NAS Minneapolis, Minn., who lent valuable assistance.

Alanzo Hildreth entered the Navy as a landsman, advancing rapidly to the rating of machinist's mate, scheduled to be attached to an aviation unit. After a stint as a military driver in France, he was attached to a crash boat unit assigned to rescue downed airmen and salvage aircraft. He was promoted to machinist's mate first class before the end of the war.

Because of the nature of his assignments Hildreth saw more of the air war in World War I than the average military man. Typically, he discusses little of his daily work, but provides an interesting picture of what he saw about him. This account therefore represents a rarely to be seen personal document of a Navyman in the first World War.

It should be noted that personal journals and daily

diaries in time of armed conflict are now prohibited because of the possibility of their falling into the hands of enemy personnel.

Oct. 26, 1917—3:45 P. M.—Left Aberdeen, South Dakota, over the P & N. W. R. R. for Omaha, Nebraska. Ate supper at Huron, South Dakota, at 7:30 P. M. Left Huron at 10:00.

Oct. 27 — Arrived at Sioux City, Iowa, at 5:30 A. M. Omaha at 10:00 A. M. Enlisted at induction center in Omaha. Left Omaha for Chicago, Ill., at 3:55 P. M.

Oct. 28 — Ar: Chi at 7:25. Took a little walk out on the lake front. Was again on my way at 10:45 A. M. over the B & O R. R. Ar: at Akron, Ohio, at 7:05 P. M. Pittsburgh, Pa., at 12:02 A. M. Shenandoah Junction, W. Va., at about 7:00 A. M.

Oct. 29 — Went through Harpers Ferry, W. Va., at 9:00. Also saw the old canal and the place where the first shots of the Civil War were fired. Our train ran within sight of the Cumberland River for nearly an hour. Ar: at the Navy Yard at Philly at 1:30 P. M. Got my exam at once. Also my uniform.

Oct. 30 — Raining. Rope drill until 10:30. Nothing doing all the rest of the day.

Oct. 31 — Nice and clear. But a little cold. Drilled about an hour. Reported at Hdqt and signed up for a draft going to Liverpool, England.

Nov. 1 — Getting ready to sail. Have drawn everything I need.

Nov. 2 — Weather fair. Reported at Hdqt and got Red Cross sweater and gloves. Went into town tonight. I suppose it will be the last time for several days too.

Nov. 3 — Packed our bags at 5:00 A. M. Ate at 6:00 A. M. Left Philly at 8:15 A. M. Ar: at New York at 10:00. Went on board ss *St. Paul* at once. Sailed at 12:30. Saw our last sight of good old U.S.A. at about 4:00 P. M.

Nov. 4 — Fairly calm weather cloudy and cool. Am just a little sea sick, not bad tho.

Nov. 5 — Storm, and sea running high. Altho the ship is rolling bad I am not sick, just feel funny.

Nov. 6 — It is still storming — everything all O. K. tho.

Nov. 7 — Well our storm is over and it is as calm as a mill pond. We are on board one of the fastest ships of the White Star Line altho she is an old-timer. No other ships with us. Since the beginning of the war she has made more trips than any other ship in the mail service.

Nov. 8 — Fair and calm again. The ship had target practice today for about an hour. Haven't seen anything that looks like a sub. Haven't seen anything but water for five days.

Nov. 9 — Cloudy and a fair wind blowing. Saw a tramp steamer today. It was a freighter. It is only the second one we have seen but couldn't tell what the other one was.

Nov. 10 — Clear and calm. Passed another ship at noon today. Our convoy met us at 4:00 P. M. today and it sure did seem good to see our flag on them. There were two, the *J. Jones* and *Cunningham*.

Nov. 11 — Clear, calm and a little colder than it has been. Think it is because we are getting near land. When I got up this morning there were nine subchasers around us. We have an idea that they saw a sub, as they were bunched up. Subs don't stick around long where they are. I suppose they were going to meet some other Allied ship. And again they may have just been scouting. Nothing of interest, as usual.

Nov. 12 — This morning saw the first land for eight days, and it looked good too. Could see lights on shore about 4:00 A. M. We came into Liverpool by the St. George Channel, just off the noted rock-bound coast of Wales and South of Ireland. Liverpool is sure a quaint-looking old city. Nothing like our cities, no skyscrapers. The streets would break a snake's back to follow them. Two-story street cars, and R. R. trains that look like toys. Women doing at best half of the work every place outside, and altogether in the stores. The traffic is nothing like ours. I suppose the war has a great deal to do with that tho. Altho it does not look to me like they could handle it at any time. We landed at 11:30 A. M. We marched from the docks to the R. R. station, where all of the seamen who were with us left for Queenstown, Ireland. Then they let the rest of



DUNKIRK HARBOR—Picture taken from DD flying boat gives bird's-eye view of hangars and planes.

us see what we could of the city till 11:00 P. M. At 11:55 we left for Southampton, England, over the London & Northwestern R. R. by way of London. Some cold in this train too.

Nov. 13 — Ar: at London 8:15 A. M. Got off the train at the first stop in London, and took the famous underground tube to the main station. Ar: at 9:15. Had a Red Cross lunch there. At 11:50 we are again on our way toward France. We arrived at Southampton in about two and one-half hours. We went on board a ship at once for Le Havre, France. Sailed in about an hour. Went out a little way and anchored just outside of the harbor. Stayed there all night on account of fog.

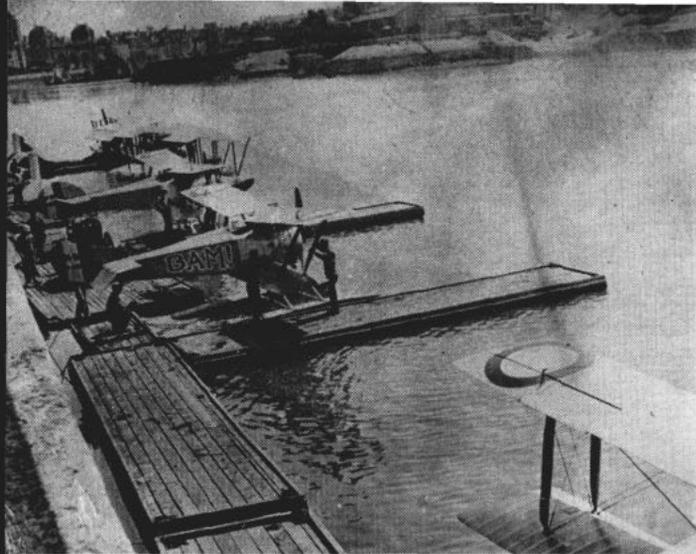
Nov. 14 — Still in channel this morning when we got up. Got very little sleep tho. We had short eats too, canned bill and hardtack. Went back to the docks at Southampton at 11:00. Let us go ashore for about an hour. Sailed for Le Havre again at 4:30 P. M. We can see the searchlights playing over the city. They are sure powerful. There are about 200 English troops, 300 American soldiers and 50 of us on board. It's some sight to see all the troops of different countries on their way to France.

Nov. 15 — Landed at Le Havre this morning at 7:00 and marched about two miles to No. 2 rest camp. If this is what they call a rest camp I don't think I care to rest. Got a little bread and tea for dinner. Haven't had a good meal since I left the States. Put up our hammocks in an open shed and had a real good sleep. Saw my first aircraft guns at practice and airships in the air. We have orders to leave here at 3:45 A. M. this morning for Paris.

Nov. 16 — Left rest camp this morning at 4:00. Marched two miles to station. 6:00 A. M. we are on our way to the great city of Paris. Ar: at Paris at 3:15 P. M. Twenty-five of us stayed here and 25 went on to Dunkirk. We are staying at Hotel de Strasbourg. Am at the U. S. Navy Club writing letters home for the first time in three weeks.

Nov. 17 — Reported at Headquarters at about 11:00 A. M. Came downtown, had supper, then went to the soldier's club and heard Miss Johnson, an American girl, sing. She has sung in the trenches. The club is on the Palais Royal. Our Hq is at the old Palama Hotel. We can see the Eiffel Tower from there. Weather clear and warm today.

Nov. 18 — Reported as usual. Looked all over town for the Y. M. C. A. Hotel so I could get some money changed. Found it at last. It's a long ride on the sub-



BAM! FOR LUCK — Almost every plane had some good-luck charm or mark to assure a safe mission.

way to HQ from our hotel. Think I will stay in tonight.

Nov. 19 — Reported at 9:00 A.M. and have been taking in some of the city this forenoon. Am on as extra driver at Area HQ but have not had any work as yet.

Nov. 20 — Everything as usual. Went to the Y. M. C. A. Hotel and got some smoking (tobacco). Cloudy and damp.

Nov. 21 — Raining today. Haven't done a thing since I landed here but eat and sleep. We expect to go to some aeroplane shop or rather a school. Don't know when, altho I may stay here and drive a car.

Nov. 22 — Same old thing. Raining again.

Nov. 23 — Did nothing but sleep and look around the city a little.

Nov. 24 — Moved from the Hotel Strasbourg to a new place run by an American woman. It is a fine place. Hotel Pension de Famille on the Rue Camarosa. Ten francs per day. There were a bunch of American girls staying there.

Nov. 25 — Sunday. Reported at 10:00 A.M. Reported to LT Van der Veer and started driving a Ford. Drove all day. Reported after supper and went to the Gare du Nord station. It was about 12:00 when I got to bed.

Nov. 26 — Reported at Hdqt at 9:00 with car for duty. Drove all day till 7:30 P.M.

Nov. 27 — Drove Lieut Howes to the Chergit Blin Aero shops. Saw my first scout planes in the air today. Drove Paymaster McKay this afternoon. Helped him transfer 100 men from one station to another all the way across the city.

Nov. 28 — Drove out to the Haurue Aero factory where they assemble the bodies of the Clergit planes. Also went to the Clergit factory. Received orders to get ready to go to Dunkirk, France. They say it is some live place. Get bombed every night. Left gay Paris at 7:25 P.M. on our way for the land of air raids and bombs.

Nov. 29 — Ar: at Calais at 7:25 A.M. Only stopped there for a few minutes. Are on our way again at 7:35. Ar: Dunkirk at about 10:00 A.M. Marched to the camp and had Thanksgiving dinner. Some dinner too: Hardtack and canned bill. Coffee while the siren blew, but we had no raid.

Nov. 30 — Friday — Got up at 6:15 A.M. We are quartered at an old hotel, but everything is a wreck here. Sure looks like something has hit this town. Well, guess something has — bombs and big shells. It is about a mile from our barracks to the camp. It is on the docks and the wind from the north is sure cold and damp. We are putting up hangars. There are two already.

Dec. 1 — Everything about as yesterday only it is raining a little. No planes in the air. Yesterday it was full of them. Two big gunboats came in today. This is a base for subchasers and fast motorboats. We are about 16 miles from the front here. Can hear the guns from camp all day.

Dec. 2 — This is Sunday and we had a half day off. It is cold. Some of the boys went out to a little town near the lines. They say it is not torn up near as bad as this city. And the people haven't left there like they have here. Think it is on account of this being a seaport. Our camp is very near a shipyard and they are building a big ship. It is nearly finished.

Dec. 3 — Windy again today. Started to blow the canvas off one of our hangars. I worked all the morning fixing that. This afternoon I saw a big church that was hit by a bomb. It was a wreck. It doesn't look like there is a whole window in town.

Dec. 4 — Cold and clear . . . Snowed for about ten minutes. The first snow since we have been here. This is a wonderful harbor. Went through the locks today in a motorboat. [*Hildreth was undergoing indoctrination in preparation for his assignment to a crash boat crew.*]

Dec. 5 — We had a real raid last night. Had alarms at 2:00 A.M. and again at 5:00 A.M. Only heard five bombs. It is reported that there were five or six killed and some damage done. There were several French planes up.

Aerial attacks on the naval base at Dunkirk were frequent. The bombers usually carried two 50-pound bombs mounted in wing brackets, or one 100-pound bomb mounted in the same manner under the fuselage. The bombsight consisted of two cross hairs mounted above each other on the side of the plane. When a bomb run was started, the observer armed the bombs manually by pulling out their cotter pins. When the cross hairs matched over the target, the bombs were released by opening the brackets with a lever. As of 4 Jul 1918, 159 bombings of Dunkirk had been recorded.

The attackers took such a liking to strafing that the Navymen at Dunkirk set up machine guns on the docks to catch them as they made their low-level passes after they had dropped their bombs.

Dec. 6 — Fritz kept us so busy that we didn't sleep much. Got us up at 3:00 A.M. and again at 5:00 A.M. At noon today a German plane came over taking pictures. The only danger is from the falling pieces of bursting shells that are shot at him. Our camp is called the "Bull's-eye" because the guns are all centered over here. We are getting shelled now.

Dec. 7 — Nothing to bother us last night as it was cloudy, so got some real good sleep. Cloudy and windy today. We have about 15 planes here now.

There are five big DD bombing boats and 10 HD scouts. Was going to try one out today but it was too windy. Raining tonight.

The single-seat French Oriole was a scout plane used extensively by the First Naval Air Squadron at Dunkirk. Its top speed was about 120-130 mph. It was armed by two Vickers machine guns firing forward through the propeller. At this stage of the war, aviation had progressed well beyond the rock-throwing stage, and synchronized firing had become a reality, although every now and then a prop was shot away. These aircraft were used primarily for scouting missions with or without cameras. The remainder of the squadron was made up of the French DD flying boats.

Almost every plane had some special marking or good-luck charm attached to it somewhere. LT Bam-berry, for example, had a large "BAM" stencilled on the fuselage of his plane.

Some pilots were quite reluctant to fly if they lost their good-luck charm. They needed all the luck they could get. LT Wardwull had his charm with him, and escaped with only a good wetting after he was catapulted out of his plane when an outgoing freighter set up a wave that caught one of his pontoons while he was landing. Others were not so lucky.

Dec. 8 — It was cloudy and rainy last night. Were going to try out a plane but had motor trouble. I was outside of the city walls today. It sure has got some walls and forts around it. It looks as if it had been a beautiful city in peacetime, but the parks and buildings are all torn up from bombs and shells. One of the pilots at the French base about a quarter of a mile from us was killed. He was trying to land and hit the mast of a ship. He was not killed at once, but died as they got him out of the water.

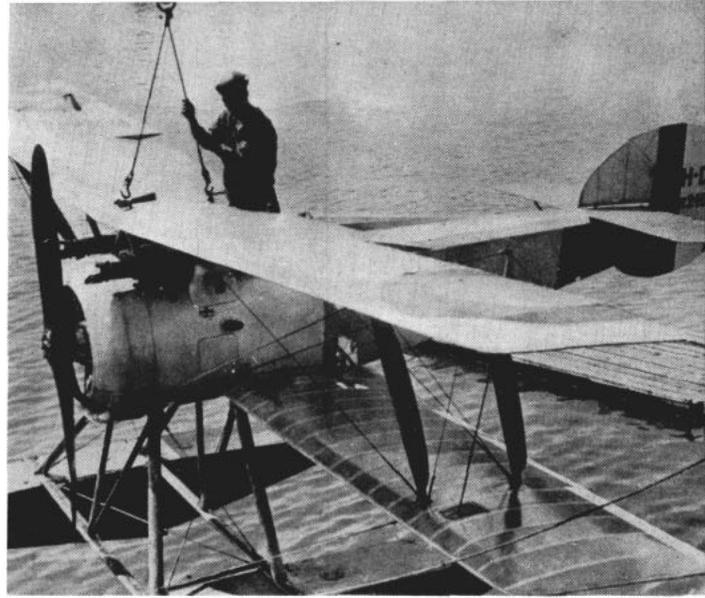
Dec. 9 — Sunday again. It rained today, so didn't get out of the barracks much. One good thing tho — don't think we will have a raid.

Dec. 10 — Nice and clear today — warm too. Took a ride to town this morning. We are building some dugouts at camp. Two other boys and myself were going up town while there was an air raid, and we saw a woman and a little child on the street. Just as we got up to them the woman fell in a faint on the very street. It was so dark that we couldn't see anything, but at last we found a drug store and a doctor and we carried her there. She had fainted from fright of the raid. It certainly was a mournful sight.

Dec. 11 — Had three alarms in 45 minutes last night. Lots of firing but don't think there were any bombs dropped here.

Dec. 12 — Last night was clear and still but no raid. Things have been pretty busy at the front for the last three days. We can hear the firing real plain. It's just a steady roar. We had an early raid tonight. The siren blew at 7:00 P.M. The AA guns put up a barrage for about 15 minutes, altho there were no bombs dropped near us. Suppose they will be back before long. Saw some German prisoners today at a prison camp. Most of them were very young. Some looked as young as 15 or 16, and they must have been taken at least six or eight months ago.

Dec. 13 — We had another of those raids last night,



MACHINIST'S MATE HILDRETH works in the cockpit of French Oriole scout, used extensively by Navy.

or rather two of them. One at 7:00 P.M. and again at 2:45 A.M. No damage done that I have heard of. It is reported that there were nine bombs dropped at St. Pol a small town just outside of this place and some damage was done. Don't know how much tho.

Dec. 14 — Nothing doing last night. Cloudy. The French are bringing in a lot of small scout planes that have been wrecked at the front and are loading them on flat cars at our station to be shipped somewhere to be repaired. There are at least 15 or 20 of them. They are sure wrecks too.

Dec. 15 — Weather cold and windy. Drove out to a sawmill. It's funny to see how they do things here. Nearly everything done by hand. Two raids last night.

Dec. 16 — Sun. Didn't get up till 7:30 this morning. Was out sight-seeing today and took in an English movie shown here in town for men in the service. The pictures were all American. Had a Charlie Chaplin comic.

Dec. 17 — Nothing doing of importance. No raids. Weather cold and windy. Had a real South Dakota snowstorm. It lasted from 4:00 P.M. till 5:30. Raid alarm at 7:15 P.M. It was all noise tho. At least nothing happened. Don't think they came over.

Dec. 18 — This was a real winter morning. The ground was frozen hard, but by noon it had warmed up a great deal. Another raid tonight and a real one too. The worst one we have had. The French seaplane was set on fire. Three or four hangars were burnt. We went over to help put it out, and it was raining steel all the while from the guns.

Dec. 19 — There were several bombs dropped in the shipyard across from our camp last night. Seems to be getting nearer to us every time now. I am engineer on a speedboat now. It will be several days before we get it running.

Dec. 22 — Cleared up about noon today. We had a motorboat out for a speed run this afternoon. Worked fair. Fritz came over just as we finished supper. Dropped a bomb about 20 rods from us on a water main, and stopped all our water. Also our lights at the same time. Three Englishmen were killed just across the docks from us.

Dec. 23 — Clear and cold. Worked on the water



LT GATES, commander of the Dunkirk squadron, distinguished himself in both World Wars I and II.

main so we could have water to cook with. Had the rest of the day to ourselves.

Dec. 24— Cloudy and rainy. Still on motorboat. No raid, but the siren blew at 10:00. This doesn't seem like Xmas Eve to me. Most of the boys are singing and making all the noise they can.

Dec. 25— Well, this seems to be just any other day. Only it is snowing by spells. Had a fairly good dinner. No work.

Dec. 26— Ground white with snow. Snowed all day. Fritz is getting to be a real stranger here.

Dec. 27— The sun has shone most of the day. A little cold tho. Sounds like a big battle at the front.

Dec. 28— Cold and cloudy and snowing at times. Still firing at the front.

Dec. 31— Windy and cloudy. Expected to fly today but it was too windy.

Jan. 1, 1918— Old Glory went up this morning over our camp for the first time, and it looks for sure as if we mean business. It is on a 75-foot pole and can be seen all over the city. Expect to fly tomorrow if the weather will permit.

Jan. 2— Cloudy and rainy. No flying. We intended to try out one plane, but water pump broke.

Jan. 3— A German came over at noon today. He sure was up some. Could only make out a tiny silver speck. Was reported to be up 20,000 feet. There was a heavy AA fire put up. He was reported shot down at the lines. He was in sight for at least 15 minutes.

Jan. 4— Ran motor all day charging batteries, otherwise nothing doing.

Jan. 7— Fritz paid us another visit last night, or rather this morning at 3:15. Don't think he dropped any pills tho. A bad wind and snow today.

Jan. 13— Went out to the Handley-Page base. They are large night bombing planes. A young Canadian pilot showed us the planes. He has been at the game two years. They bomb anywhere from 4000 to 9000 feet. Mostly about four or five thousand feet.

Jan. 14— Our first plane went up today. It was a scout. One of the big bombing boats started up but didn't get off the water. Had engine trouble.

Jan. 19— LT Gates went up in a DD [flying boat] this afternoon. Cloudy, but that didn't stop Fritz from coming over. Dropped a few pills near the French seaplane base.

Lieutenant Artemus Gates was commander of the Dunkirk squadron from the spring of 1918 until forced down behind German lines in the fall of that year.

He was Hildreth's favorite commanding officer. According to Hildreth, LT Gates never asked his men to do anything that he wouldn't do himself. For this reason, he never failed to get about twice as many men as he needed whenever volunteers were needed for a sticky mission. He almost always led such operations himself.

In October, LT Gates was forced down behind German lines. He made a poor prisoner and escaped only to be recaptured just short of the front lines. After the Armistice was signed, he made a special trip down to his old unit and spent an entire day getting letters and messages from his men to be taken back to their families. He also wrote a letter to the family of every man who had been under his command.

During World War II, he became Under Secretary of the Navy for Air.

Jan. 20— Raining again today. Fritz hit the French base again last night and set it on fire. Some of our boys went over to help put it out. He also came pretty near to us, dropping three about 100 feet outside of our camp. Every barracks had holes in it from flying pieces of the bomb, and nearly every bunk in ours was torn up, but we were all in the dugout at the time.

Jan. 22— Fritz came over last night and dropped a bomb in our mess hall. It sure is a wreck too. Two more fell just outside of camp.

Jan. 23— Our planes are flying every day, now that the weather will permit.

Jan. 25— Today looks and feels like summer. Guess Fritz thought so too. Got the alarm at 6:40 P.M., and this time it was a real raid too. Dropped three about 10 rods from our hangars. Kept us up until 10:00 P.M. Then at 1:00 A.M. he opened up on us with his 15-inch, long-range gun from 22 miles away, and in a few minutes he started to shell us from the sea, but this didn't last long. Got six shells from the big boy and only a few shells from sea. Isn't so bad for one night—air, and land and sea raids.

Jan. 27— Received my first mail from the States today. The first I have had in over three months. Sure am happy to hear from folks and friends.

Jan. 29— Another one of those things tonight. Just a few bombs, no damage to speak of.

Jan. 30— Big raid on Paris last night. Dropped about 80 pills. Killed about 50 persons, wounded about 90 more.

Feb. 2— A bright, sunny day. Very warm for February. A French HD (flying boat) fell today about 15 rods from our camp. I was sitting in our speedboat, and we were all ready to shove off as one of our

planes was in the water ready to go out. It hit the water upside down and sank before we could get to it. The pilot was killed. He was still in the plane when it sank. We dragged for it, got hold of it in about 20 minutes. A big minelayer pulled it up. The pilot was still in his seat. He had been killed in the fall.

Because all the squadron's planes were of an amphibious type, naval speedboats were used when the planes crashed in the harbor. Heavy motor launches, with a maximum speed of 35 mph, the crash boats were also used extensively to pick up survivors of crashes in the English Channel. Hildreth served in one of these speedboats.

Feb. 15 — Today has been a real day again. Seems like everything that can fly was up. A French DD fell at about 3:30 P.M. We were a quarter of a mile or so from it. No one hurt bad. We were the first one to it, but a French motorboat was right near and they got the men off. They were lying on the wings and were hardly wet.

Feb. 16 — Clear, crisp. A great day for flying. Had two HD's up.

Feb. 17 — Goldman and I were out to sea today after a French HD that came down. Also, four of our planes started for Calais on a test flight. One came in with engine trouble at once. The others made the trip O.K. Air raid tonight — not bad.

Feb. 19 — Four of our planes started for Dover, England — 35 miles. One had motor trouble and didn't go.

Feb. 20 — Bad weather, and machines couldn't get back today. Still at Dover.

Feb. 21 — Cloudy and windy. Planes came in at 3:30 P.M. They had lost one HD at sea. Had to land and his pontoons filled with water and it sank. Gates came in with four men in his DD. He had landed and picked up the HD's pilot.

Feb. 26 — Well, everything seemed to go wrong today. Ensign Read was killed, also one of his observers. Read was lying on a piece of the tail when we got there. He died shortly after we got him to camp. The observer couldn't be found. He fell about 500 feet in a nose dive. Read just came here for duty on the 24th. His first flight here. Also had three planes hit sea wall and bust up.

Feb. 27 — Clear and warm. A report came in that the observer's body had been sighted, floating just off the Malo Beach about three miles from here. We went out but could not see a thing.

Feb. 28 — Went out to Read's funeral this morning. A French plane crashed but no one was hurt. He was landing and the wind got under his tail and he went over on his nose.

Mar. 4 — Yesterday British planes bombed Ostend and did damage. Haven't learned how much. Weather still cold and damp.

Mar. 6 — Clear and fair. Started flying at 9:30 and flew all day — both scouts and boats. Smoky Joe Huttelson took a DD up and got up about 1000 feet when the rudder wires came loose, and the only way he could come down and land was cut his motor until it started to nose over, then speed up and level off again until he landed. But he landed too near the beach and the plane was wrecked on the rocks.



BACK FROM THE FRONT — Many planes were brought back for repair after combat or accidents.

Mar. 9 — We had a fellow accidentally shot today. He was combing his hair and the bullet came through the wall of our barracks. Our hut is next to the armory where one of the observers was cleaning his machine gun when it accidentally went off.

Mar. 15 to 21 — Camp quarantined for the mumps. Weather fair. Just our usual camp life. A little flying.

Mar. 21 — Last night was a real one — air raid. At 9:15 P.M. and at 4:30 this morning we had everything from air raid to big shells, sea raid and all. Fritz lost five of his raiding ships and the fight lasted into the forenoon. The English lost one destroyer, which was torpedoed by mistake. Fritz also lost four Gothas, night bombing planes. They were met by some of our fighting scouts just at daylight as they were going home. We got reports that the long-expected German drive started this morning at daybreak.

Mar. 22 — Rather quiet here, but things are going some at the front. Tonight at 5:15 P.M. the big gun opened up on us, and getting rather close too. Saw a German scouting plane shot down tonight by French scouts from seven or eight thousand feet, but at that the pilot didn't lose control of the machine and was not badly hurt, altho the plane was a total wreck. It is certainly wonderful to see the falls that men get out of alive.

Mar. 23 — Well, Fritz is still at us with the big gun (Big Bertha). Otherwise things are quiet.

Mar. 24 — 5:00 P.M. and Jerry is still trying to move us out of our happy home with his 15-inch toy. The shells come about an hour apart. They do very little damage for their size. Are supposed to weigh a ton.

Mar. 25 — Fritz is still throwing big shells at us. Ten or 12 have hit near us. One hit last night at 9:15 P.M., within 100 feet of our barracks, and rock and brick came through the wall while we were all sleeping, but no one was hurt. A French soldier was hit with a rock and had his leg broken. He was about 200 yards from where it hit. Haven't had an air raid for several nights.

Mar. 26 — Weather bad, windy, although the shells are still coming. Three hit since supper. No flying.

Mar. 27 — Well, we are still under fire. We have reports of hard fighting on a 50-mile front at and near Cambria. Although we are getting all kinds of rumors, don't know how many of them are true.



HANDLEY-PAGE, manufactured by the British, was one of the largest combat planes in World War I.

Mar. 28 — Jerry stopped firing at daylight today as usual, but suppose he will start again this afternoon as he always does. I am leaving here for a while. Don't know how long. Eight are going to an auto repair base (English).

Mar. 29 — We are close to the Handley Page night bombing base. We are repairing and testing trucks. This is one of the largest English transport bases in France.

Apr. 1 — This is Sunday and we are not working. I am back in camp for a visit. Am going to stop in town on my way back and get supper. Have found a place where one can get a real good feed.

Apr. 2 — Well, just as I got back to our new place with the English last night about 6:30 they wanted someone to drive a car down near the line after a bunch of A.F.C. pilots. An English boy went with me. Sure had some trip. Couldn't find the place, and were gone until 8:30 this morning. Drove almost all night. Stayed at a place called Aire. Got back to camp about night today. We were within sight of the line and guess, in fact, that we were about a mile from the front trenches for a long time last night. Drove for several miles just behind the lines. Could see the flame of the guns.

Apr. 2 to 11 — Still at the same place, but expect to go back to our old camp soon. Have had no raids to speak of and only a shell now and then. Weather has been unusually good.

Apr. 11 — Came back to the old place today. Am back at my old job on speedboat. An English sub-chaser caught fire and burned up right in front of our camp. No men hurt that I could see.

Apr. 12 — One of our HD scouts fell in a nose-dive. Pilot was killed, or died a few minutes after a car from the camp got to where he fell. It was on land. The plane was a total wreck, not a whole thing on it.

Apr. 12 to 22 — Weather fair, altho it could be better. We get very little news from the fighting. We know the Germans are still driving. But we should worry. They are going to hit something solid soon, and before fall they will be the ones who are retreating.

May 4 — One of our patrols started to go out at 6:00 A.M., but out of the five planes only one got off the water safe. One DD flying boat started to get off, and just off the water the wind caught it and turned it completely over. It fell about 15 feet, but

none of the three men in it was hurt at all (Pilot Carson). Also an HD fell about 15 minutes later as it was getting off. It was up about 300 feet over town, but made a canal in the town. The pilot (O'Connor) was not hurt, altho the machine was wrecked beyond repair.

May 5 — Nothing doing. Patrol this afternoon. Got paid.

May 6 — A patrol of two DDs started out at 9:30 A.M., and at about 11:00 a pigeon came in from the west with the news that one of the planes was down. We started out with the speedboat and LT Gates with a DD. He found them at 12:30 P.M. We got there at 1:30. When we arrived we found two men of the plane that fell in the other DD and Gates standing by. Red Smith, the pilot, was badly hurt. The gunner was not hurt much. When we got back to camp they had sent out a scout plane to look for us and he had not returned. We got more gas, had lunch and went out to look for him. Saw no sign of him. Got back at 10:00 P.M. There, we got the report that he was 150 miles south at Le Havre, France. O.K. Got lost.

May 7 to 18 — Nothing of importance. Air raid on 5th from 10:30 to 12:00 P.M. Several morning patrols are getting out at about 3:00 A.M. Sure is early and it is always cold too.

May 18 — Patrol at 5:30 A.M. and also a fighting patrol of seven HDs at 9:30 A.M. One, after being up about five minutes, started to land. Something must have gone wrong. As he hit a house in town the machine caught on fire. The pilot was alive when we got to the place, but died before we could get him to the hospital. Just as we were going to supper a French HD hit the mast of a ship. We as usual were the first ones to it. The plane was lost but the pilot was not hurt at all.

May 19 — One of our HDs, which went out on patrol this morning, is lost somewhere. O'Connor pilot. Weather fair. Returned.

May 20 — G. M. Marshburn was killed this A.M. in a fall with a scout plane as he was starting on patrol. He fell in about 20 feet of water. We have been dragging for him but haven't found pilot or plane yet.

May 31 — Clear but very windy. A patrol started out this afternoon. Elliot hit a boat as he was leaving the water. He wasn't hurt at all, altho the machine was a total wreck.

Jun. 1 to 6 — Lost two planes in one day — an HD and a DD. One was wrecked while landing and the other while being towed in. No one was hurt, just a good wetting is all.

Jun. 5 to 15 — Well, Fritz has been rather busy around here of late, altho he has not bothered us at all. He came very near putting the British night bombing base out of the game a few nights ago. But they have been going over the lines every night since. A bunch of our boys are helping them build the base up. We expect to move from this base but don't know when or where.

Jul. 4 — We had sort of a field meet. Ball game, foot races and other sports, and some dinner too. We had a very nice time at night — a show of camp talent and of course an air raid.

Jul. 7 — The day of days. A patrol went out in the

morning about 8:30. At about 10:30 we got the word that one of the DDs was down about 25 miles out. At the time we were picking up an HD that had wrecked. As soon as we got in we started out. In the meantime a French boat had gone after the plane. When we were out about 18 miles one of our scouts signaled to us that the French boat had picked up the plane, so we started in. Our compass went wrong and we missed our base, and when we hit the coast we thought we were west of Dunkirk. Instead, we were east, and thinking that we were west. We started east, and the first we knew that we were wrong was when a shore battery started to shell us. We had gone about a mile by the German lines at Nieuport. The boat was hit about 10 minutes after the first shot and it started to sink. We left the boat then. That was at 4:30 P.M. At that time we were about three miles offshore. We started to swim in to shore inside of the German lines. Two observers—Coash and Bailey—and I made up our minds we would try to get inside the Allied lines before we tried to get ashore. We saw two of the boys taken prisoner by the Germans. I was picked up by a French seaplane between 6:30 and 7:00 P.M. The two boys who started out with me got ashore a few minutes later, behind Allied lines. Two of the boys never got ashore—that is, as far as we can learn. We were being shelled all the time in the water. Also, the plane that picked me up was shelled all the time it was on the water. We had a real old-time raid that night after I got back to camp, and the bed that I had been sleeping in was wrecked about two minutes after I got up and went to the dugout. A bomb hit about 20 feet from it.

Jul. 8 to 20—Have been resting up ever since my little run-in with Fritz. We had a very heavy raid on the 19th. I am expecting to take leave in a few days.

Jul. 21—Started on my leave today. Went to Calais to get leave boat. Had to stay there all night, and it sure looks as if Fritz has it in for me. There was a raid, and a bomb hit within 20 feet of the hotel where I was sleeping. There wasn't a window left in the place. Several pieces of the bomb came through the window of the room I was in.

Jul. 31—Today was a big day, or rather we had a big man with us [Franklin Delano Roosevelt, the Assistant Secretary of the Navy], but only for a very few minutes. Just before he got here a German picture machine came over. There was a very heavy barrage put up, and he had to come down and land about a mile from here in the sea. Fritz also started firing in here with his big gun.

Aug. 1 to 10—Just the same old story. Very few patrols of late. The Allied drive still going fine. Weather very bad for flying.

Aug. 11—Sunday. One of our patrols started out at 4:30 A.M., but only one boat got off. The other had motor trouble. DD 817 was the one that got away, with Ensign DeCerema as pilot. In about an hour they came in and reported that they had sunk a sub. We learned there wasn't any doubt about it.

Aug. 12—Monday. Oil still coming up at the same place. Light air raid last night.

Aug. 13—Another sub. One DD (Flying Boat) went out alone again this morning at 5:00 A.M. Sighted a sub out a few miles lying on the water. The DD must have gotten real close before the sub sighted



DISTINGUISHED VISITOR—Assistant Secretary of the Navy, F. D. Roosevelt, addresses men at Dunkirk.

it. They didn't have time to dive and opened up on the DD with 5-inch guns. The two gunners in the plane cleared the sub's decks in short order with machine guns (DD 825—Pilot Carson, Gunners Chord and Siler), killing two men. Just as the sub dived the plane dropped two bombs real close to it.

Aug. 14—Weather fine and warm. Mr. DeCerema fell this afternoon in a DD (No. 812). He was just testing out the plane. He had two men with him. A fellow by the name of Lauren was in the forward cockpit and was killed. DeCerema was hurt badly, but not fatally. The other fellow was not hurt at all.

Aug. 22—Land bombardment last night—eight shots from big gun. Commander Gates went out this morning and got two men who fell, or rather had their plane shot down just off Ostende. They were in a Handley Page night bomber. They fell at 1:30 A.M. and were picked up off the floating parts at 9:00 A.M.

Aug. 23—Sea bombardment at 1:10 A.M. Also air raid at same time.

Aug. 27—Went to Calais after new speedboat. Mr. Read, Wardwell, Carson and myself. Boat was still on the docks, and we didn't get there until 3:30 P.M.—too late to start back—so we came back to camp in the car. It's not a new boat, but it is in A-1 shape.

Sep. 1 to Oct. 15—Nothing of interest. Went into Ostende, Belgium, one day in speedboat. Went through minefield at mouth of harbor. Our flying boat sank at the dock. Repaired plane that had pontoon wrecked. Had to stay two days. Got back on French minesweeper. Had very little to eat while there.

Came to Zeebrugge Mole on November 4 to prepare to make air raids on German cities with big air, sea and land planes. Had quarters in ship and railroad station on mole.

We were stationed at Zeebrugge on Nov. 11, 1918, having been sent there intending to start raids on some of the large German cities—Berlin included.

Left the front Jan. 2, 1919. Sailed for the States Jan. 8, 1919. Landed in States Jan. 24, 1919.

NAVY CHAPLAIN LCDR Marvin H. Howard is a man who deals in matters of faith, but many of his friends and shipmates at Pensacola's Ellyson Field were convinced he was misplacing some of his when he announced his intention to drive a 30-year-old auto to San Diego.

There were few indeed who believed he'd even make it out of Florida — much less the 2000-plus miles to the west coast. Chaplain Howard, though, had faith in his 1932 vintage car, named Jezebel. He bought her in New York City in 1955 for a mere 35 dollars, and she has served him well ever since. He flatly stated that he expected to make the trip in six days.

He and Jezebel did even better than that, as it turned out. When they chugged into North Island — 2152 miles from Pensacola — just five days had elapsed since their departure.

During the cross-country trek Jezebel had used but three quarts of oil, and averaged just about 22 miles to the gallon of gasoline. And what's more, she had gotten Chaplain Howard to San Diego in plenty of time to report for further transportation to his new duty station — the Seventh Fleet antisubmarine warfare carrier *uss Bennington* (CVS 20).

★ ★ ★

When a spry old gentleman and a bevy of curious youngsters descended upon the drydocked aircraft carrier *uss Essex* (CVS 9) at the New York Naval Shipyard not long ago, even the normally blasé shipyard workers stopped to gawk.

The nimble visitor wasn't just any rubber-necking tourist. He turned out to be the famed poet Robert Frost, out with a clutch of his grandchildren and great-grandchildren for "something really different" in the way of a tour.

Poet Frost said he was there to see the ship, and he wasn't kidding. Eighty-eight years old, the famed bard proved as agile and enthuasistic as any of his youthful kin — tramping over, through and around *Essex* from bow to stern. In the process they managed to leave several escorting officers, plus a group of civilian cameramen (who were shooting some footage to be included in an upcoming documentary on Mr. Frost's life) panting in their wake.

★ ★ ★

Storekeeper First Class William J. Kirby, USN, of NTC Bainbridge, Md., we've learned, likes greyhounds.

Now if a sailor says he likes greyhounds, it usually isn't news. Your first assumption would naturally be that he's a dyed-in-the-wool destroyer man, and that he's merely referring to his favorite ships by their long-time nickname. In Kirby's case he really means greyhounds — the four-legged variety.

Kirby, it seems, was introduced to greyhound racing some years back while stationed in London, and soon decided to become a racing dog owner himself. His dogs have won some, lost some, in English competition since that time, but the big prize, winning the annual Greyhound Derby (English dogdom's equivalent of the Kentucky Derby) has thus far eluded him.

When SK1 Kirby completes his twenty he plans to head back for the British Isles. His current standard-bearer, the strangely named Irish Horse, is rated a hot favorite for the upcoming 1962 Derby.

The All Hands Staff

The United States Navy

Guardian of our Country

The United States Navy is responsible for maintaining control of the sea and is a ready force on watch at home and overseas, capable of strong action to preserve the peace or of instant offensive action to win in war.

It is upon the maintenance of this control that our country's glorious future depends. The United States Navy exists to make it so.

We Serve with Honor

Tradition, valor and victory are the Navy's heritage from the past. To these may be added dedication, discipline and vigilance as the watchwords of the present and future. At home or on distant stations, we serve with pride, confident in the respect of our country, our shipmates, and our families. Our responsibilities sober us; our adversities strengthen us.

Service to God and Country is our special privilege. We serve with honor.

The Future of the Navy

The Navy will always employ new weapons, new techniques and greater power to protect and defend the United States on the sea, under the sea, and in the air.

Now and in the future, control of the sea gives the United States her greatest advantage for the maintenance of peace and for victory in war. Mobility, surprise, dispersal and offensive power are the keystones of the new Navy. The roots of the Navy lie in a strong belief in the future, in continued dedication to our tasks, and in reflection on our heritage from the past. Never have our opportunities and our responsibilities been greater.

ALL HANDS

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● AT RIGHT: FISH STORY—Qualified submariner, G.E. Brewer, RM1(SS), receives his dolphins from LCDR C. Winkler, Jr., skipper of *USS Redfish* (SS 395) as other new dolphin receivers look on. Ceremonies took place on board the Seventh Fleet sub at Yokosuka.



U. S. NAVYMAN



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RESPONSIBILITY