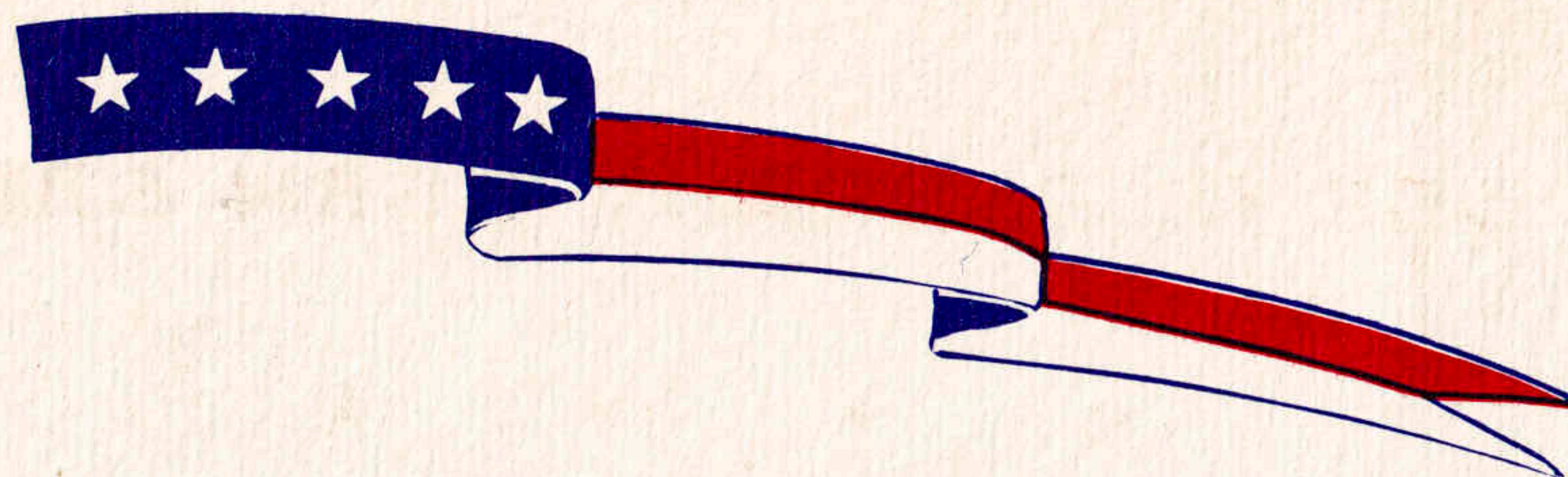






COMMISSIONING OF A NAVY SHIP

The commissioning ceremony marks the acceptance of a ship as a unit of the Operating Forces of the United States Navy. At the moment of breaking the commissioning pennant, USS U.S. GRANT (SSBN-631) becomes the responsibility of the Commanding Officer who, together with the ship's officers and men, has the duty of making and keeping her ready for any service required by our nation in peace or war.

* * * * *

The commissioning pennant is believed to date from the 17th century, when the Dutch were at war with the English. The Dutch Admiral TROMP hoisted a broom at his masthead to indicate his intention to sweep the English from the sea. This gesture was answered by the English admiral who hoisted a horse whip, indicating his intention to chastise the Dutch. The English were victorious and ever since, the narrow, or coach whip, pennant (symbolizing the original horse whip) has been adopted by all nations as the distinctive mark of a ship of war.

USS U. S. GRANT (SSBN 631)

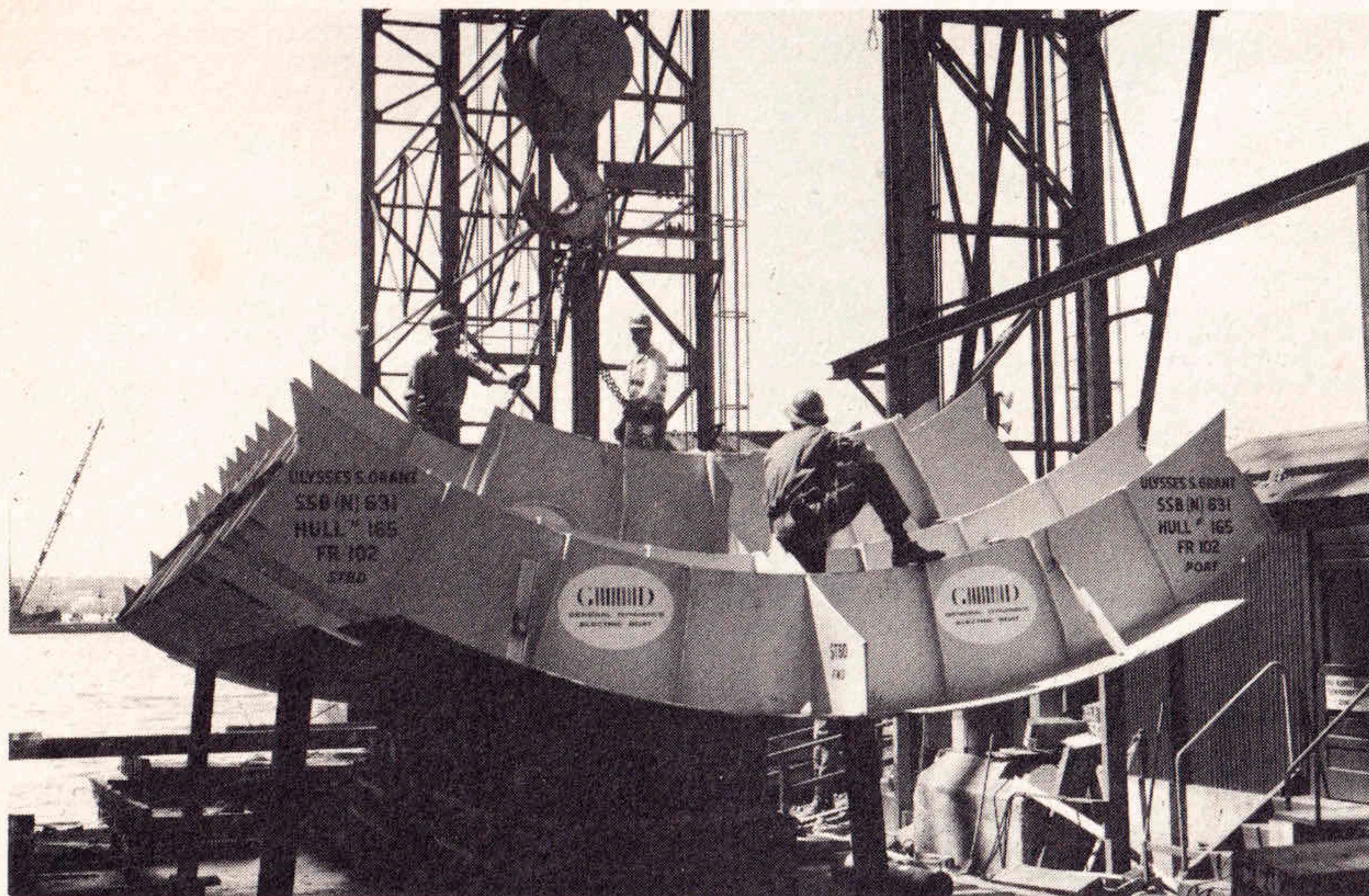


Built by
Electric Boat Division - General Dynamics Corp.
Groton, Connecticut

Keel Laid: 18 August 1962
Launched: 2 November 1963
Commissioned: 17 July 1964



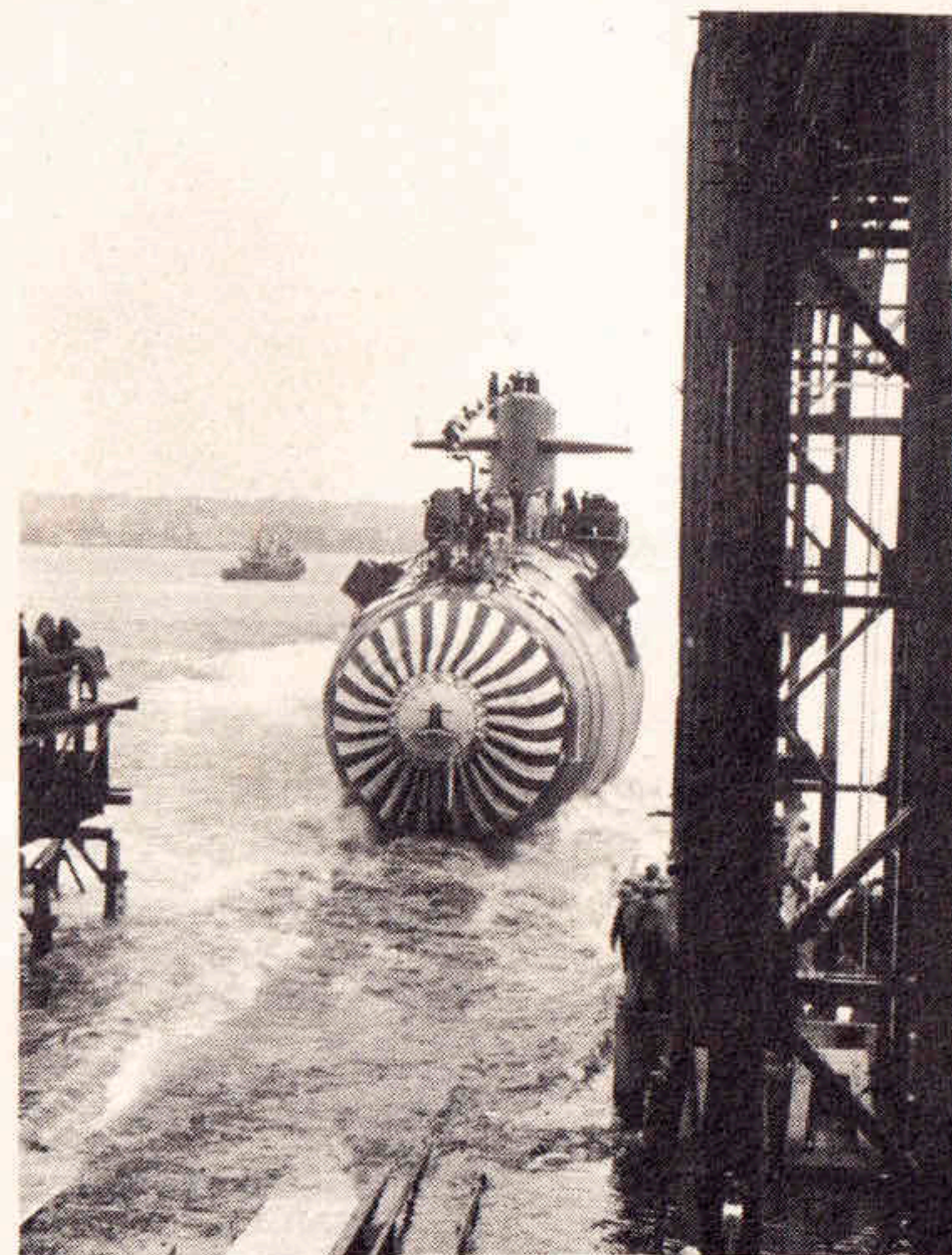
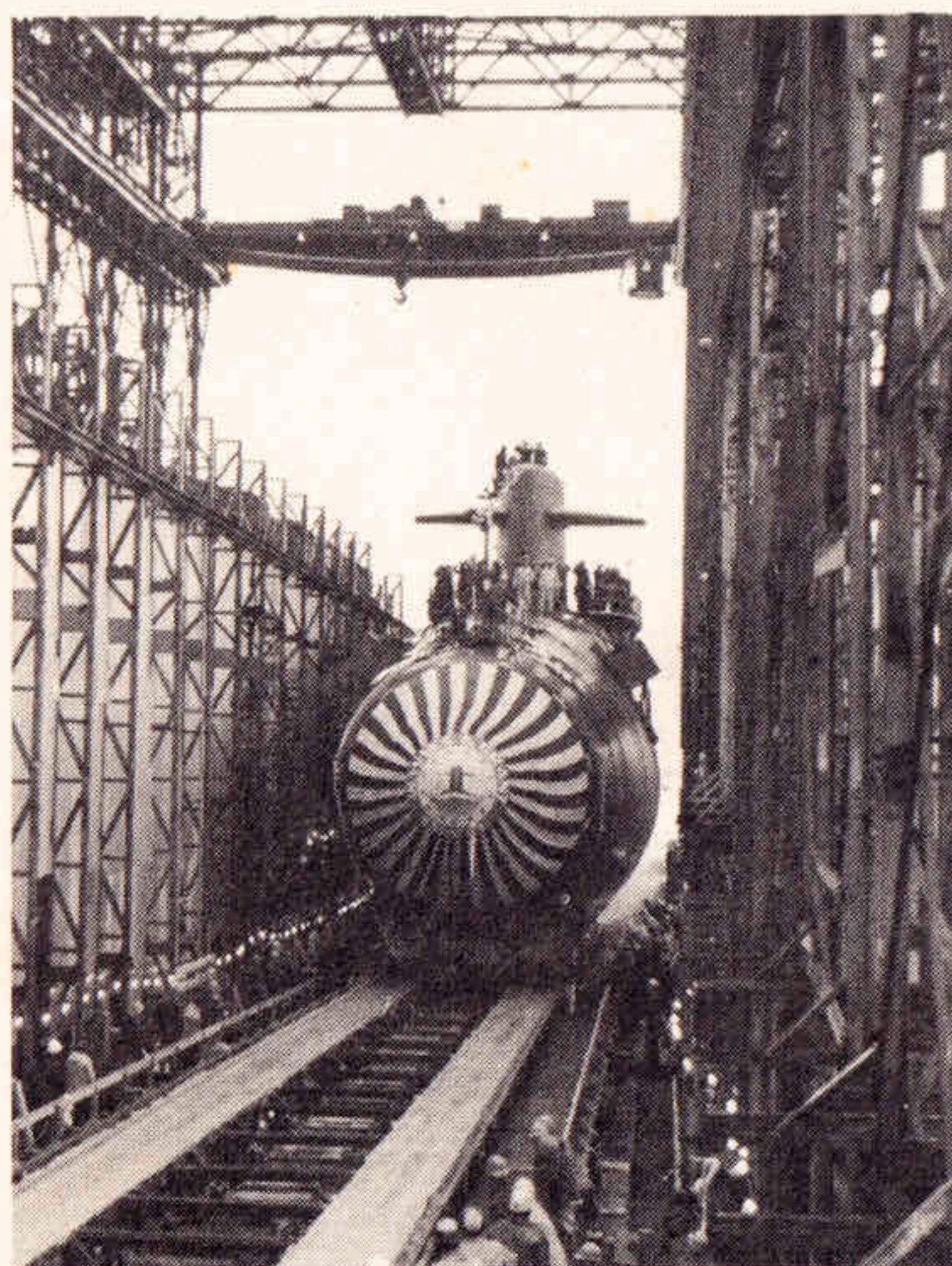
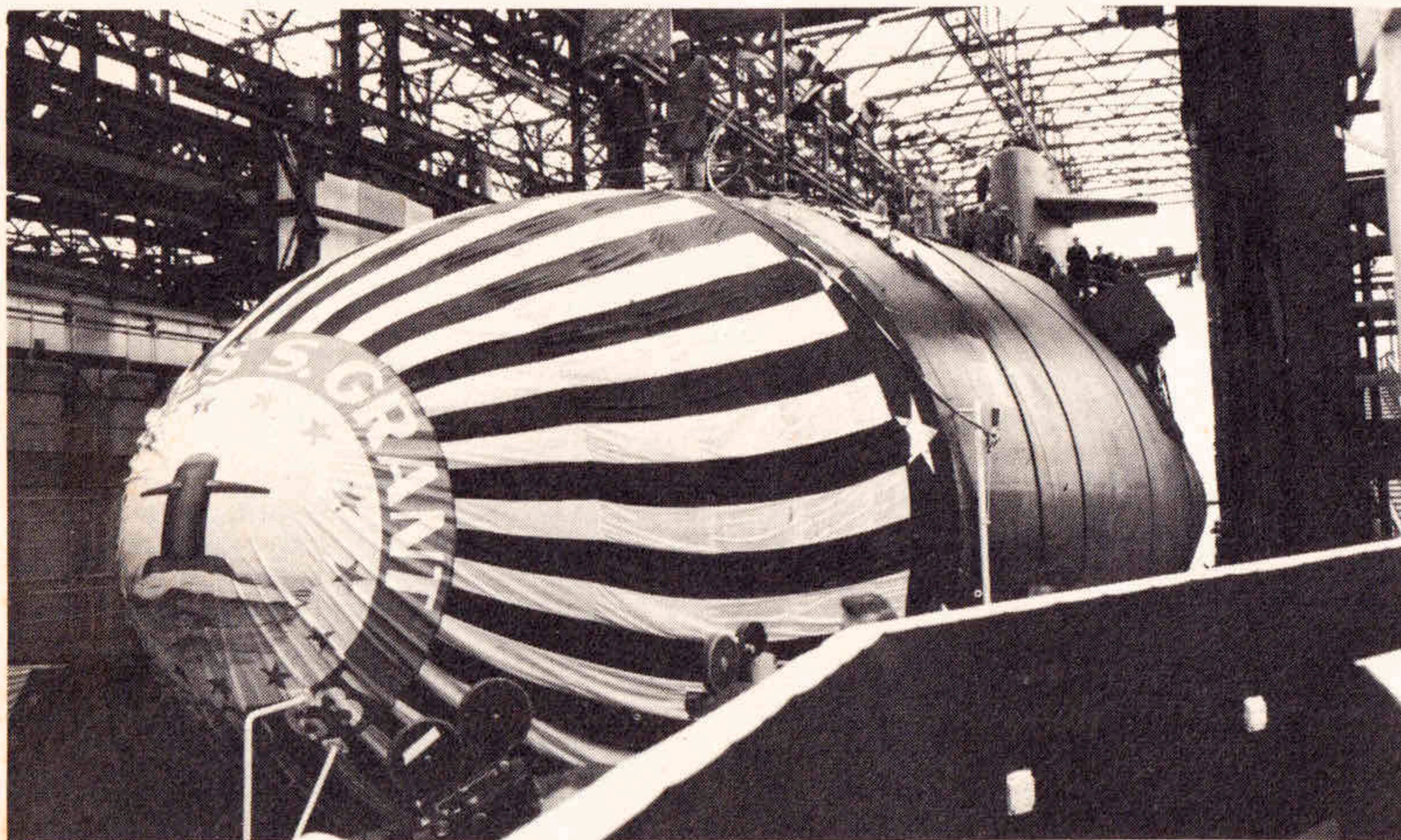
Sponsor
Mrs. David W. Griffiths



KEEL LAYING
18 August 1962

CHRISTENING
2 November 1963





LAUNCHING
2 November 1963



MRS. DAVID W. GRIFFITHS
Sponsor

USS U.S. GRANT was launched on 2 November 1963 at the Electric Boat Division of General Dynamics, Groton, Connecticut. The sponsor was Mrs. David W. Griffiths. Mrs. Griffiths is the great-granddaughter of General Ulysses S. Grant.

ULYSSES S. GRANT

ULYSSES S. GRANT was born on April 27, 1822, at Point Pleasant in Clermont County, Ohio. He attended school in Georgetown, Ohio, receiving an appointment to West Point in 1839 where he particularly excelled in horsemanship. Following his graduation from West Point in 1843 he served in various garrisons until 1854 at which time he resigned his commission and returned to civilian life. Responding to President LINCOLN'S call for volunteers at the outbreak of the War Between the States, GRANT accepted a commission as Colonel of the Twenty-First Illinois Volunteers. Shortly thereafter he was promoted by President LINCOLN to the rank of Brigadier General in the Regular Army. His record during the War Between the States was one of perseverance in the face of adversity, frequently resulting in brilliant victories. In recognition of this record he was appointed to the rank of Lieutenant General of the Armies on February 29, 1864, and placed in command of all Union forces in the field. In this capacity it was said of him that "Once he decided on a course of action, he would not turn back, no matter how great were the obstacles to victory".

His magnanimous treatment of and consideration for confederate combatants at the cessation of hostilities was most significant in limiting further deterioration of relationships between opposing forces. Following the close of the War Between the States, his abilities as a tactician and leader of men were again recognized when on July 25, 1866, he was appointed to the newly created four-star rank of General of the Armies.

During the difficult Reconstruction Period General GRANT gained a reputation as a steadfast advocate of firm, but fair, administrative action; an attitude which won him respect and admiration and was greatly responsible for his unanimous nomination as a presidential candidate in the election of 1868.

GRANT took the oath of office as our Nation's eighteenth President on March 4, 1869, and began a tenure of two terms to 1877. He successfully led the United States through the post-war depression of 1873 despite severe criticism and opposition by other members of the administration. It was during this difficult period, conscious of the heavy responsibilities which were his, that he wrote:

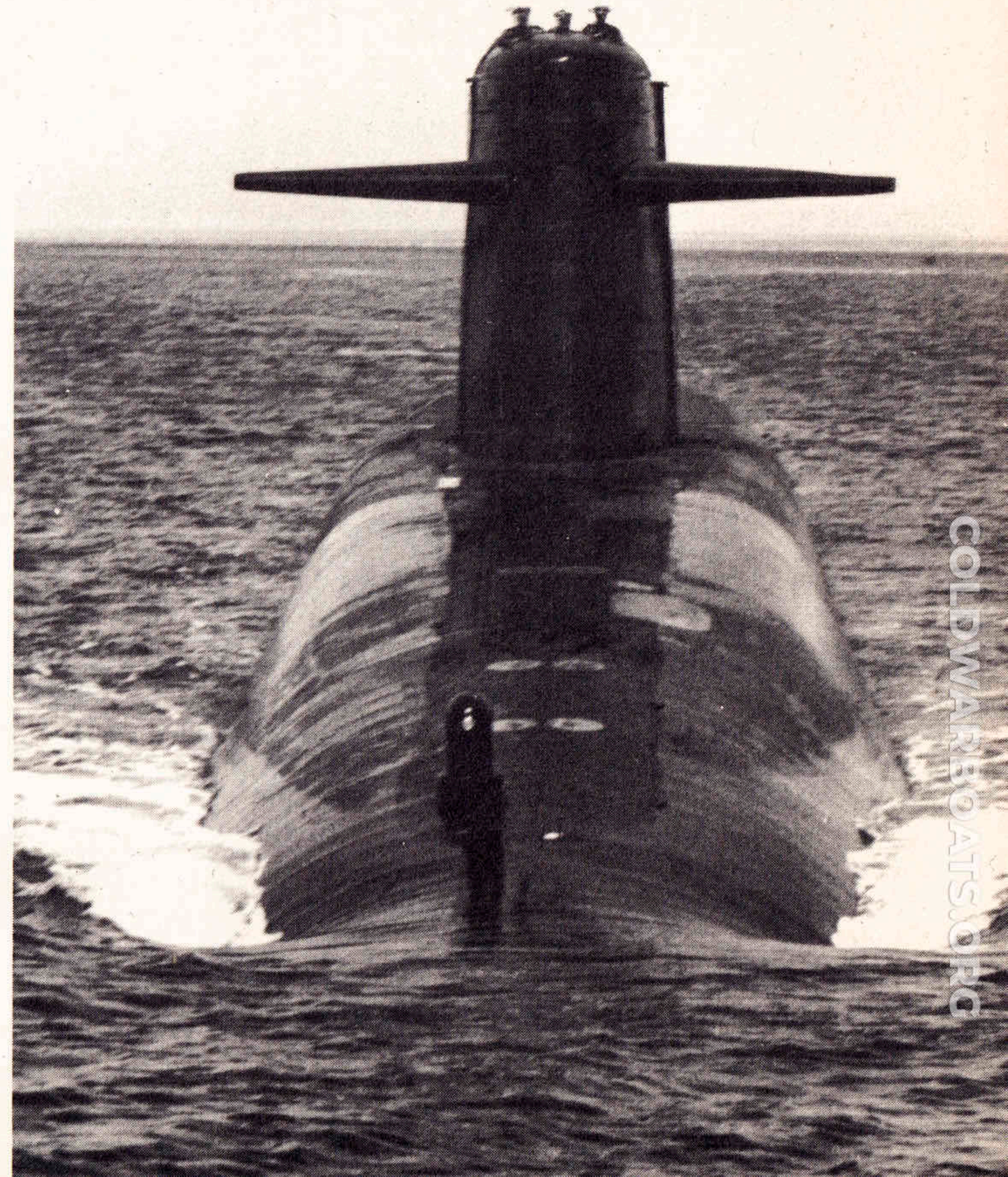
"He who undertakes to conduct the affairs of a great government as a faithful public servant, if sustained by approval of his own conscience, may rely with confidence upon the candor and intelligence of a free people — and can bear with patience the censure of disappointed men."

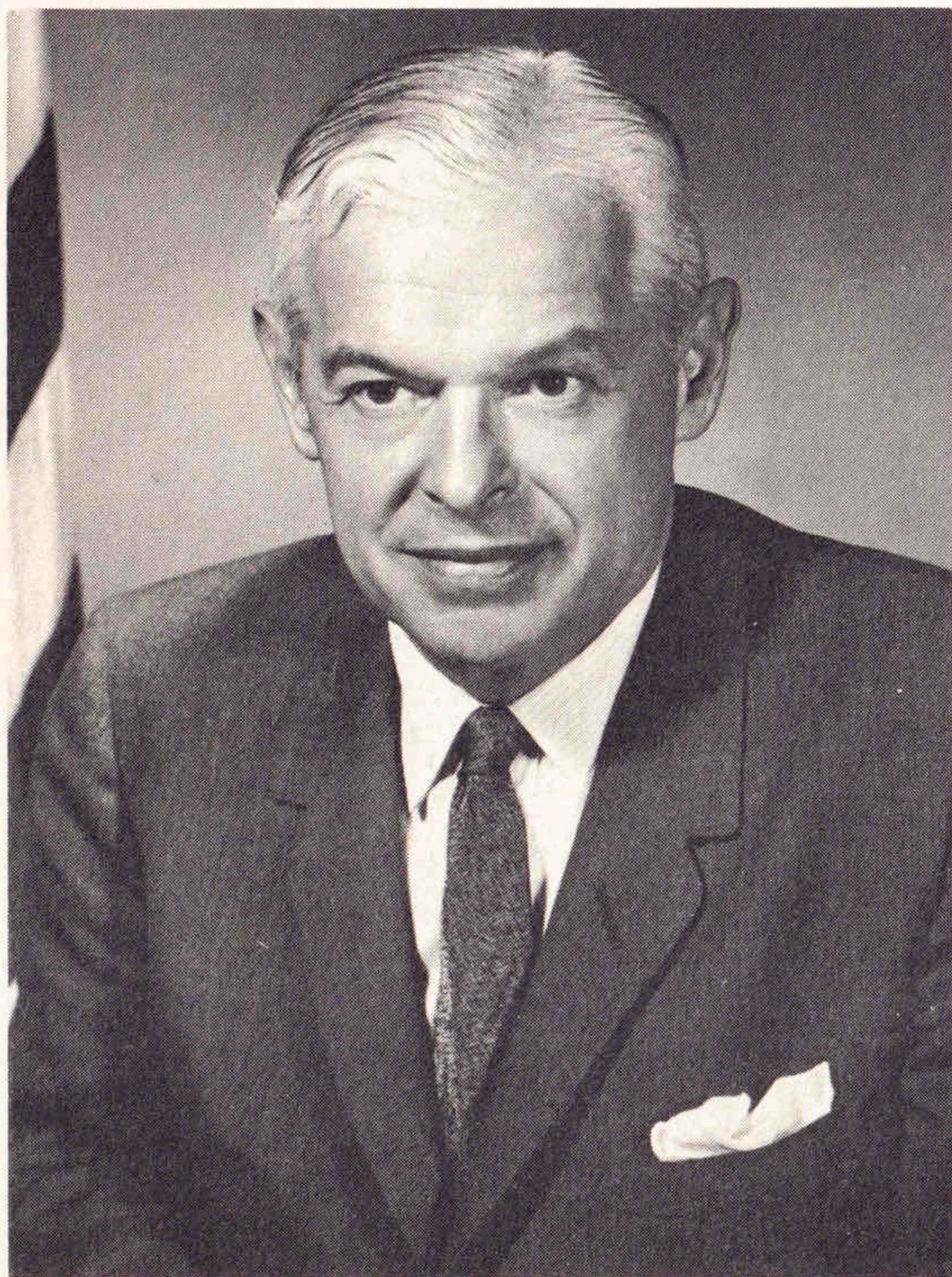
USS U. S. GRANT (SSBN 631)

U.S. GRANT is the fourteenth of the Lafayette class Fleet Ballistic Missile submarines and is the second ship of the United States Navy to bear that gallant name. The first USS U.S. GRANT (AP-29) was a troop transport which served valiantly in the Pacific during World War II, playing an especially vital role during the occupation of Attu Island.

U.S. GRANT carries 16 POLARIS missiles stowed in eight pairs of vertical launching tubes. The nuclear power plant permits extended submerged operations divorced from the earth's atmosphere. In addition to the many facilities provided for safety and habitability, there is ample air conditioning equipment to maintain ideal temperature and humidity for equipment and personnel. Special atmosphere purification equipments remove irritants from the air and maintain the proper levels of oxygen, carbon dioxide and other atmospheric elements during prolonged submerged periods. Electrolytic oxygen generators enable the ship to obtain all of its oxygen from sea water.

U.S. GRANT has two complete crews, designated Blue and Gold, of approximately 13 officers and 125 enlisted personnel. These crews alternate on the ship's deterrent patrols. The off-ship crew pursues a schedule which includes leave periods and intensive refresher training prior to re-deployment.





THE SECRETARY OF THE NAVY
WASHINGTON

7 July 1964

My dear Captain,

On the occasion of the commissioning of USS ULYSSES S. GRANT, I congratulate you on your new command and extend my sincere best wishes to you, your officers and men.

It is appropriate that your ship, fully equipped and with fully trained men, expertly able to perform assigned tasks, should be named after a man who symbolizes determination, knowledge and courage.

Although the personal sacrifices will be many, and the sentinel duty lonely, you and your crew will derive satisfaction from the knowledge that you are first line defenders of peace and freedom. I know that you, your officers and crew will meet every challenge with a professional excellence and devotion to duty that will insure success.

Sincerely yours,

Paul H. Nitze



CHIEF OF NAVAL OPERATIONS

7 July 1964

Dear Captain,

On the occasion of the commissioning of USS ULYSSES S. GRANT, I congratulate you on your new command and extend my best wishes to you, your officers and crew.

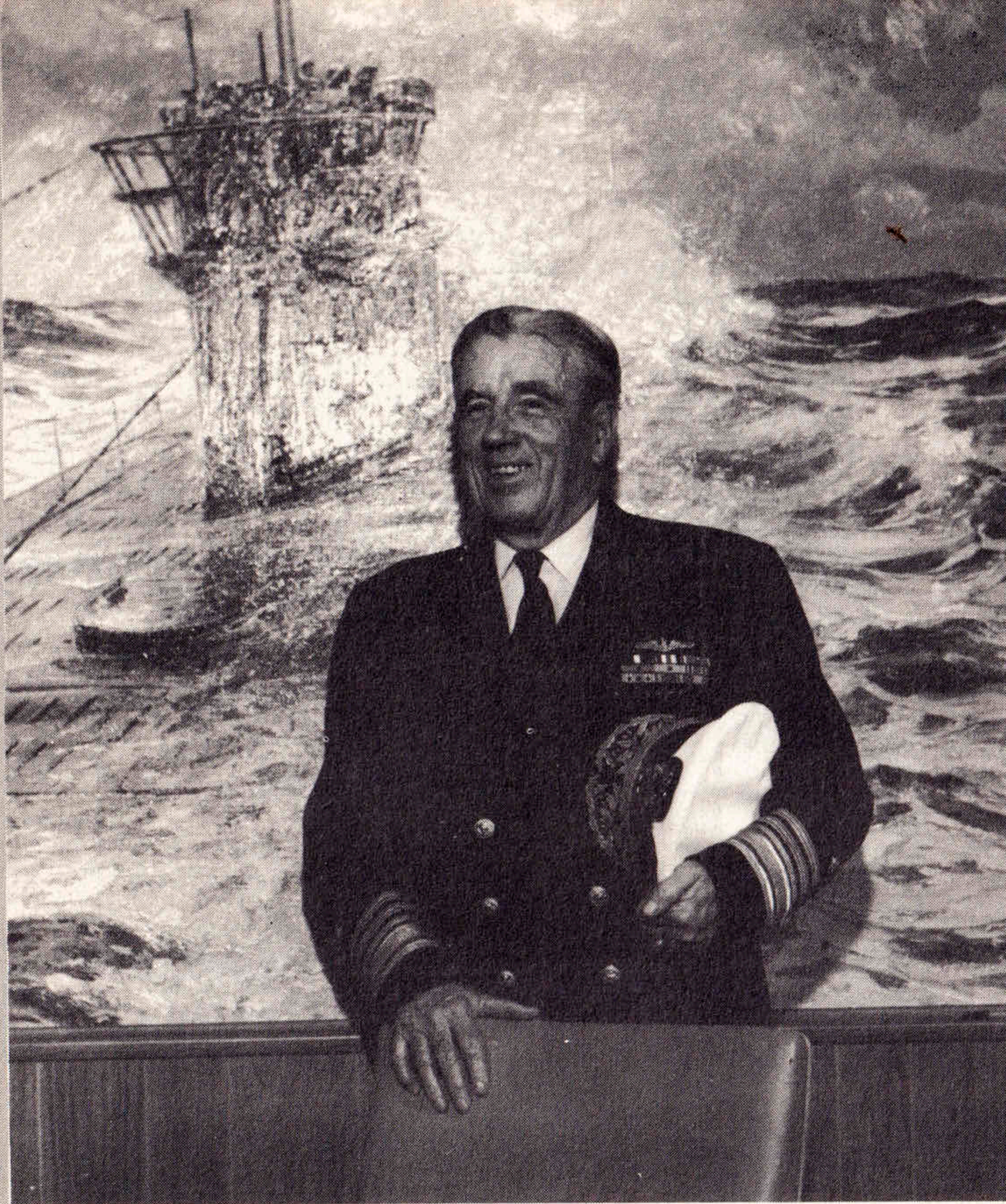
You may feel justly proud to command one of the finest ships in the greatest Navy on earth. The task before you is great. You have been selected, because of your abilities as a leader and a professional submariner, to guide and develop the officers and men into a team which will enable ULYSSES S. GRANT to fulfill its role as a guardian of peace. I am confident that you and everyone in your crew will meet the many challenges which you will encounter in the highest traditions of the naval service.

I welcome you to the fleet with a sincere wish for a most successful cruise.

Sincerely yours,

David L. McDonald
DAVID L. McDONALD





*To the Blue and Gold Crews of USS Grant:
The best of luck to our Guardians of
the Peace. VAdm E.W. Grenfell USN
Commandant*

Vice Admiral Elton W. Grenfell
Commander Submarine Force
U. S. Atlantic Fleet

Rear Admiral Vernon L. Lowrance
Deputy Commander Submarine Force
U. S. Atlantic Fleet





CAPTAIN JOHN L. FROM, JR., USN
COMMANDING OFFICER -- BLUE

Captain From graduated from the Naval Academy in 1943 and, following the completion of SUBMARINE SCHOOL in New London, was subsequently assigned to USS BATFISH (SS-310). His tour aboard BATFISH included six war patrols during which he was awarded the Navy Commendation Medal with Combat "V" and the Presidential Unit Citation. After the war he served in USS REDFISH (SS-395) and as Executive Officer in USS SEA POACHER (SS-406). He was assigned to the Naval Academy from 1953 until July, 1955, when he took command of USS CHOPPER (SS-342).

Departing CHOPPER in July, 1957, Captain From attended the NAVAL WAR COLLEGE and subsequently served in the BUREAU OF NAVAL PERSONNEL. In 1959, he was assigned to the NAVAL REACTORS BRANCH of the ATOMIC ENERGY COMMISSION. In June, 1960, he was ordered to command USS GEORGE WASHINGTON (SSBN-598) (GOLD). This assignment encompassed five POLARIS patrols, and Captain From was awarded the Navy Unit Commendation for service in GEORGE WASHINGTON.

Captain From reported for duty as Prospective Commanding Officer of U.S. GRANT (BLUE) in July, 1963.

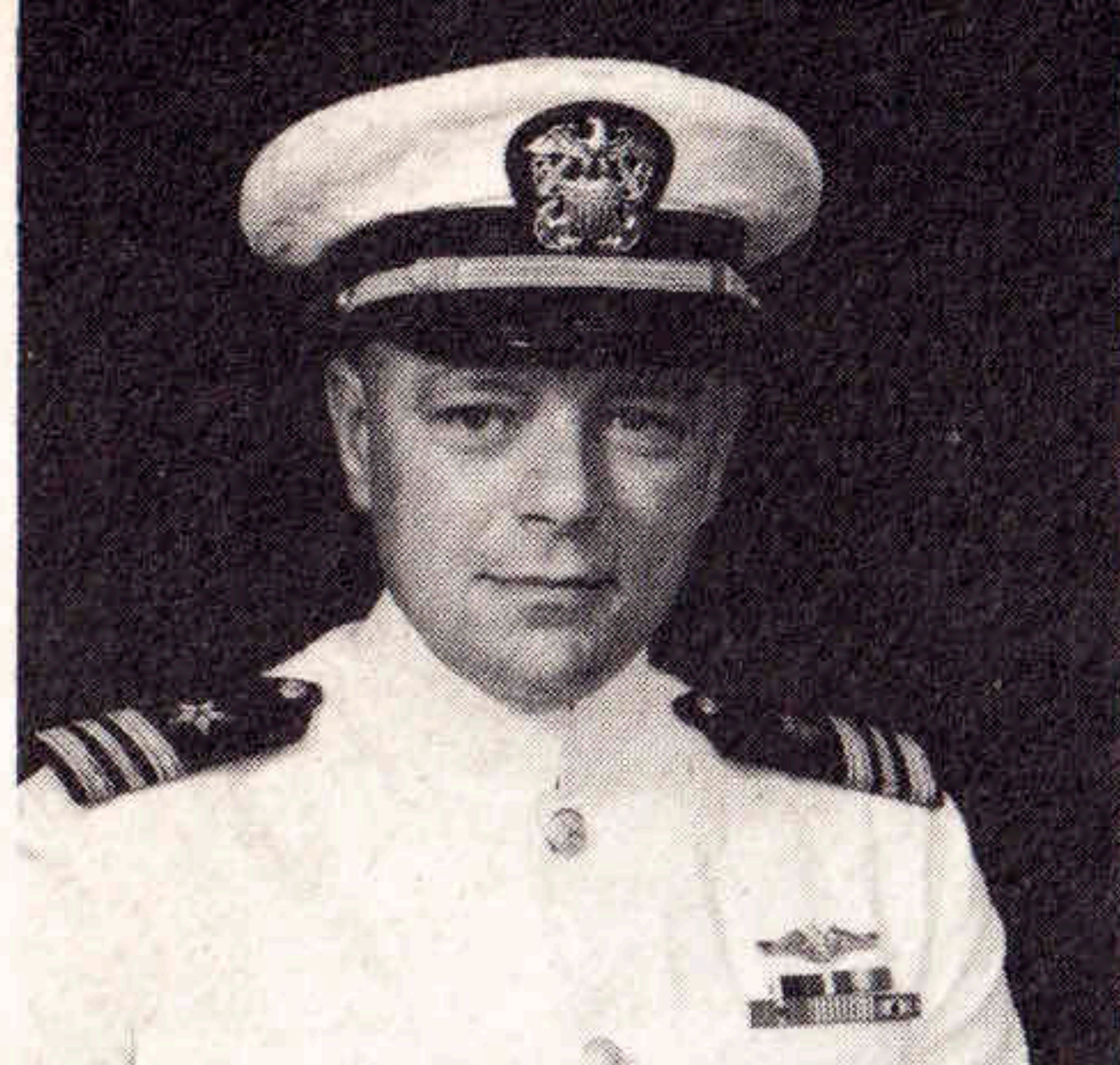
He is married to the former MARY JANE DUNN of Eugene, Oregon and has two daughters, DEBBIE and TINA; and a son, MICHAEL.

COMMANDER C. A. K. McDONALD, USN
COMMANDING OFFICER -- GOLD

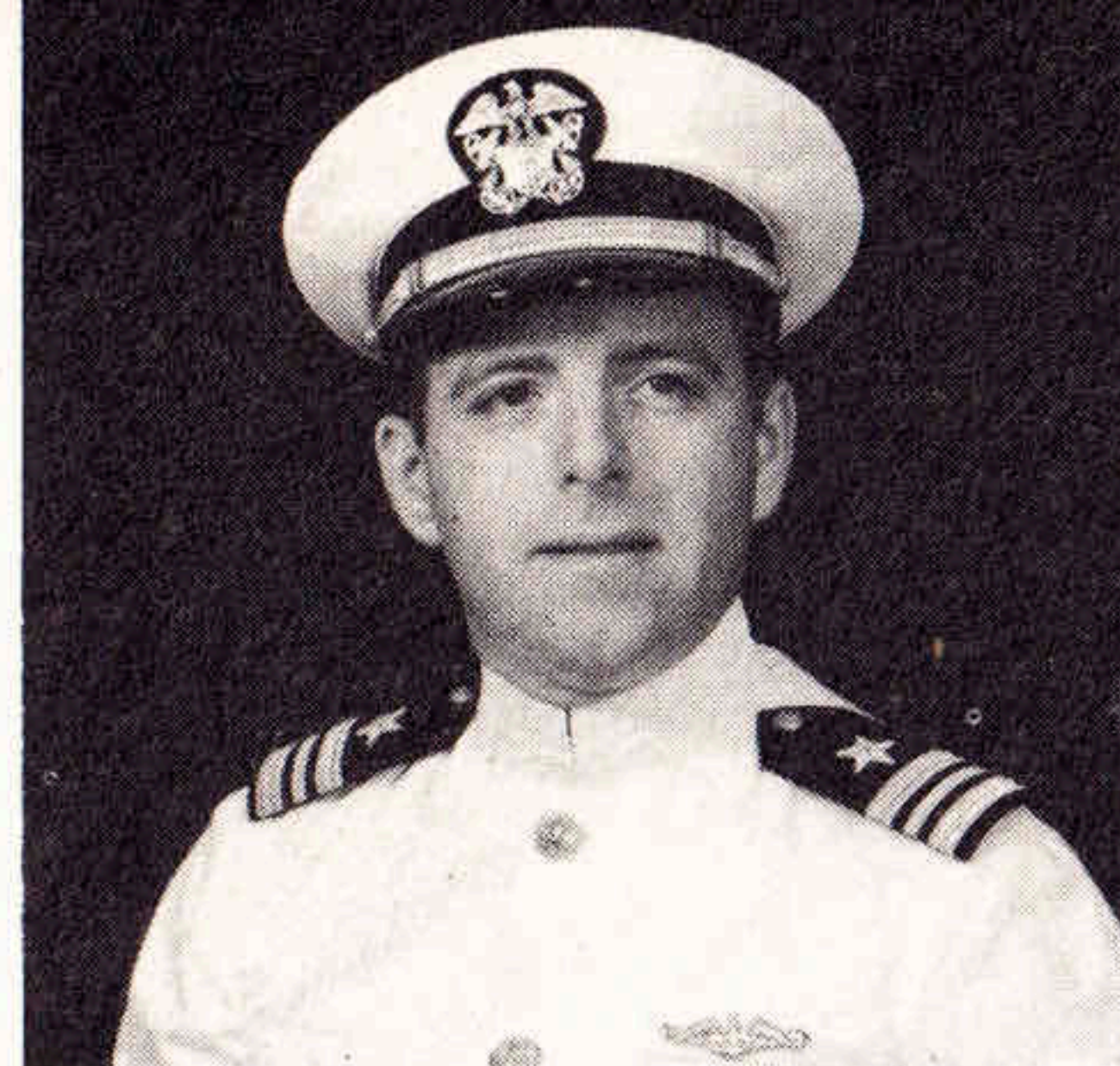
Commander McDonald graduated from the NAVAL ACADEMY in 1947. Following a two year tour of duty in USS LEARY (DDR-879) he reported to SUBMARINE SCHOOL. His first submarine duty was in USS SPIKEFISH (SS-404), following which he reported to USS SEA ROBIN (SS-407). Commander McDonald attended POSTGRADUATE SCHOOL from 1954 to 1957, and received a Master's Degree in Electrical Engineering. He spent one year as Assistant Material Officer for COMMANDER SUBMARINE FORCE, U.S. PACIFIC FLEET, and then was assigned as Executive Officer, USS STERLET (SS-392). In 1960 he reported to COMMANDER SUBMARINE SQUADRON SEVEN as ENGINEERING OFFICER. He was Commanding Officer USS BARBERO (SSG-317) from April, 1961, to June, 1962. Following courses of instruction at NUCLEAR POWER SCHOOL, MARE ISLAND, CALIF.; NAVAL REACTORS BRANCH of ATOMIC ENERGY COMMISSION; GUIDED MISSILE SCHOOL at DAM NECK, VA.; and SUBMARINE SCHOOL, NEW LONDON, CONN.; he reported as PROSPECTIVE COMMANDING OFFICER of U.S. GRANT (GOLD) in November, 1963.

He is married to the former MAVIS HUGHES FOX of Kezar Falls, Maine. They have four children, RICHARD, SALLY, SCOTT, and DAVID.

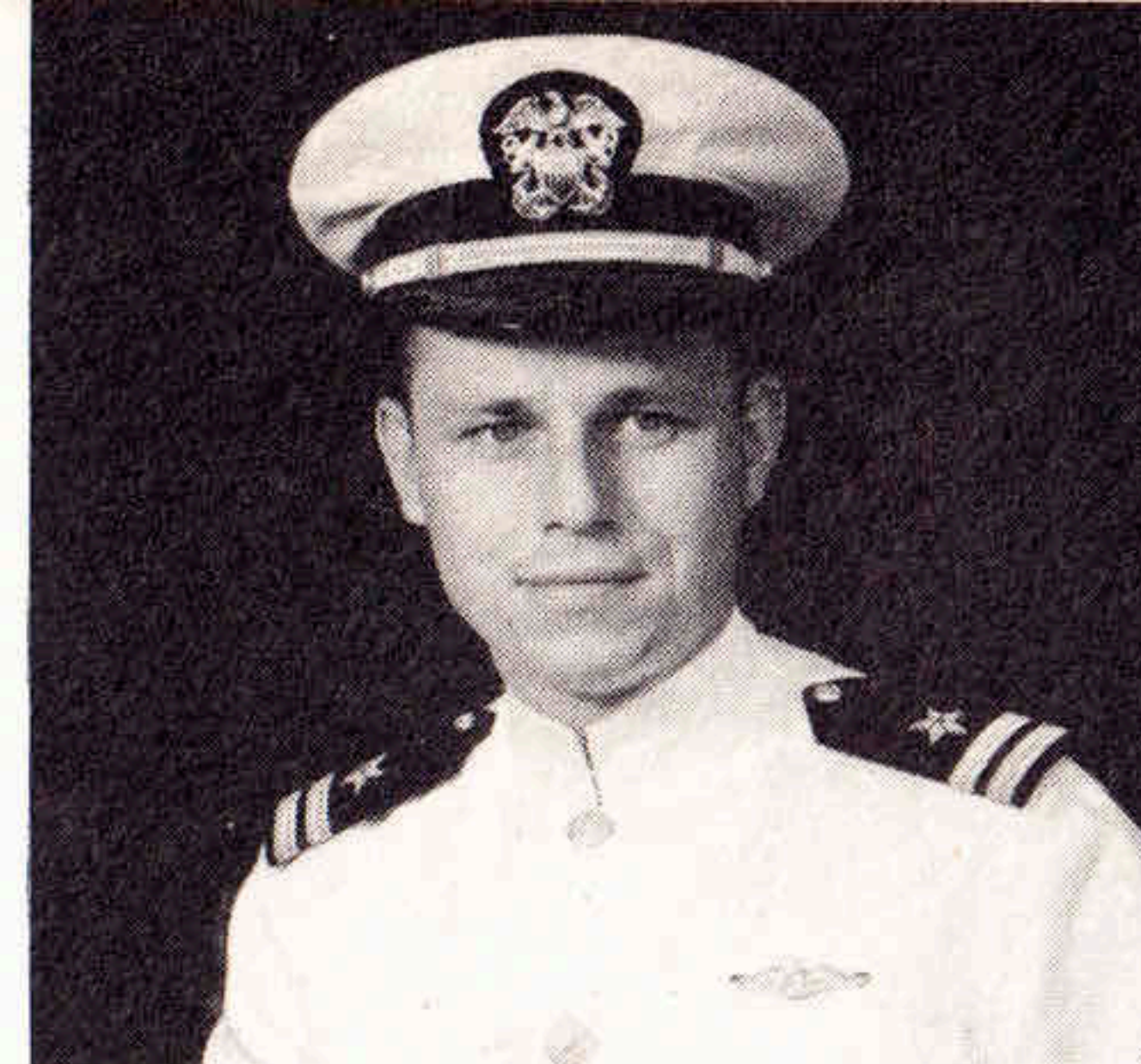




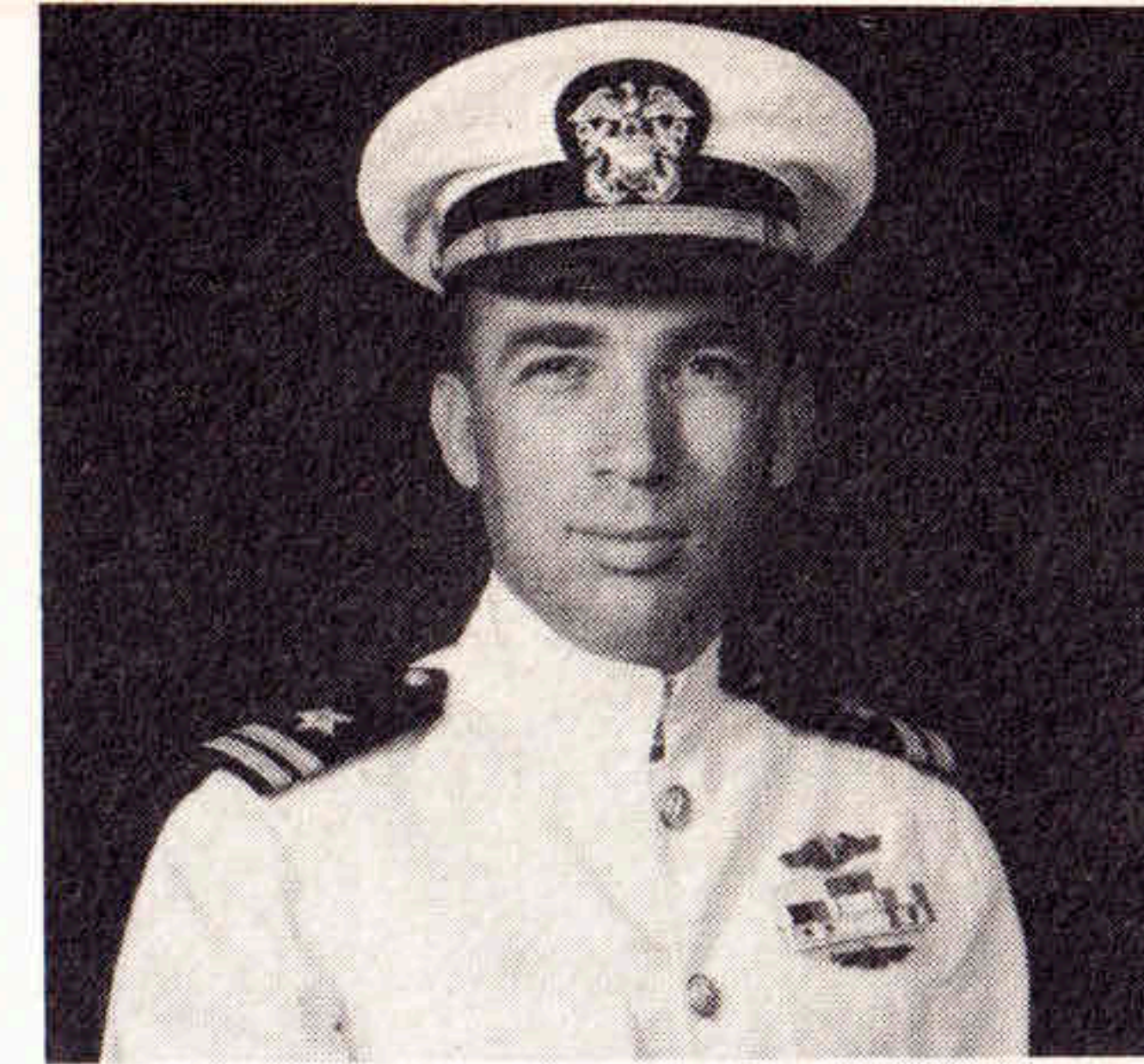
LCDR AVERY K. LOPOSER, USN
EXECUTIVE OFFICER (B)



LCDR W. W. MAC KENZIE, USN
NAVIGATOR (B)



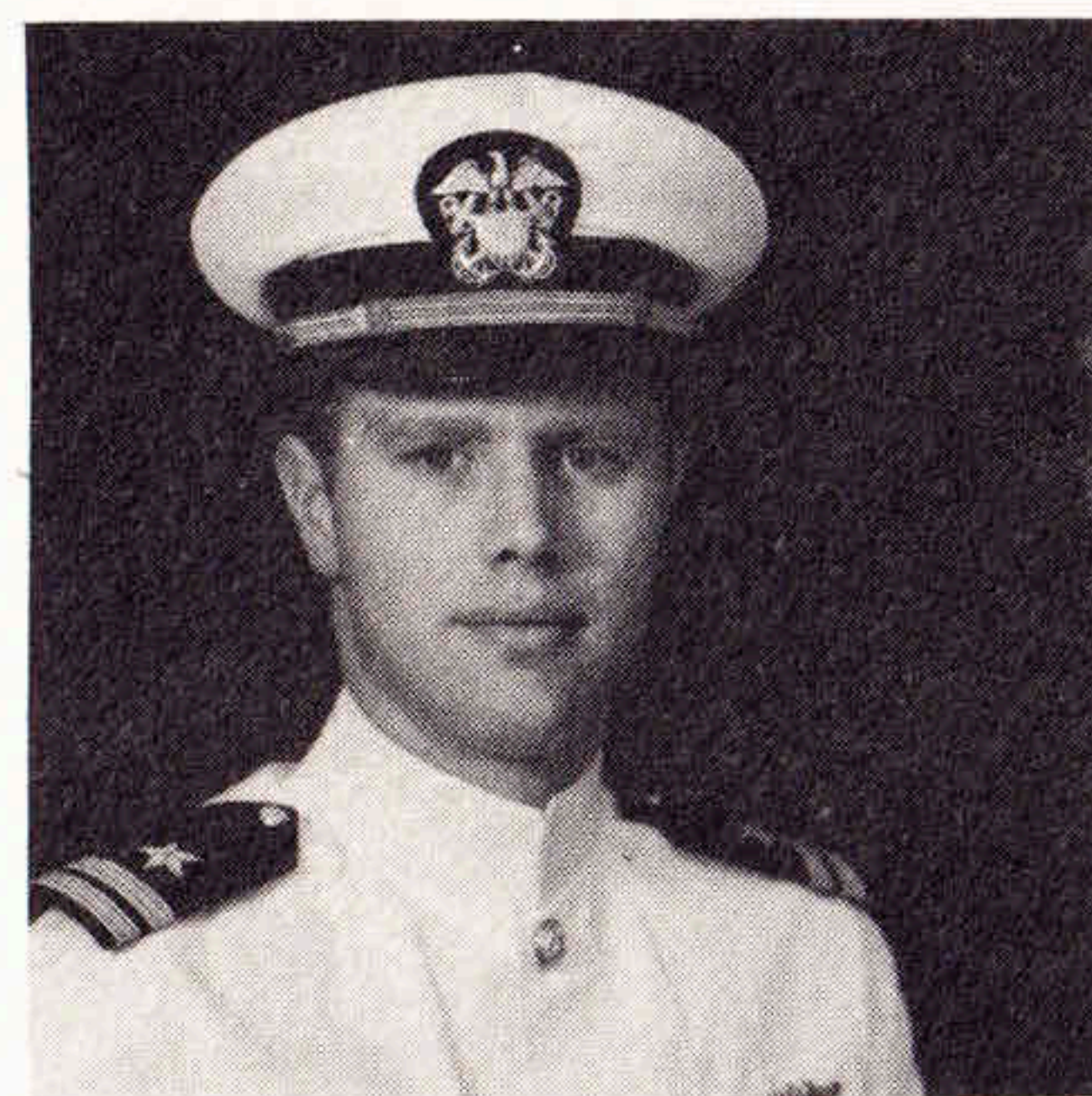
LT RICHARD A. PETERSON, USN
ENGINEER OFFICER (B)



LT CHARLES L. COLEMAN, USN
WEAPONS OFFICER (B)



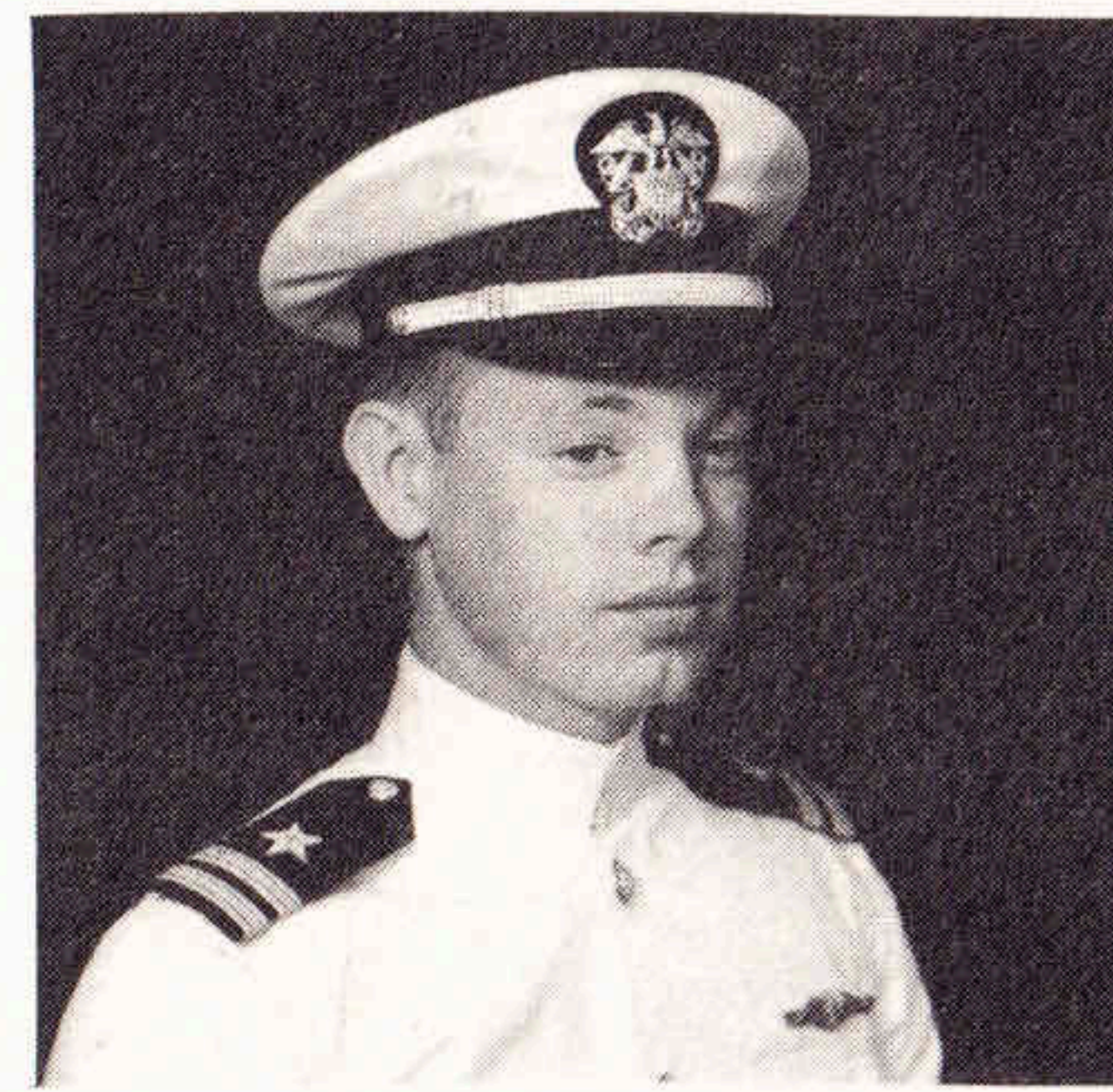
LT RICHARD D. ROGERS, USN
MAIN PROPULSION ASSISTANT (B)



LT JOHN B. GRIFFITHS, USN
DAMAGE CONTROL ASSISTANT (B)



LT ROBERT L. CHAYER, USN
ASSISTANT WEAPONS OFFICER (B)



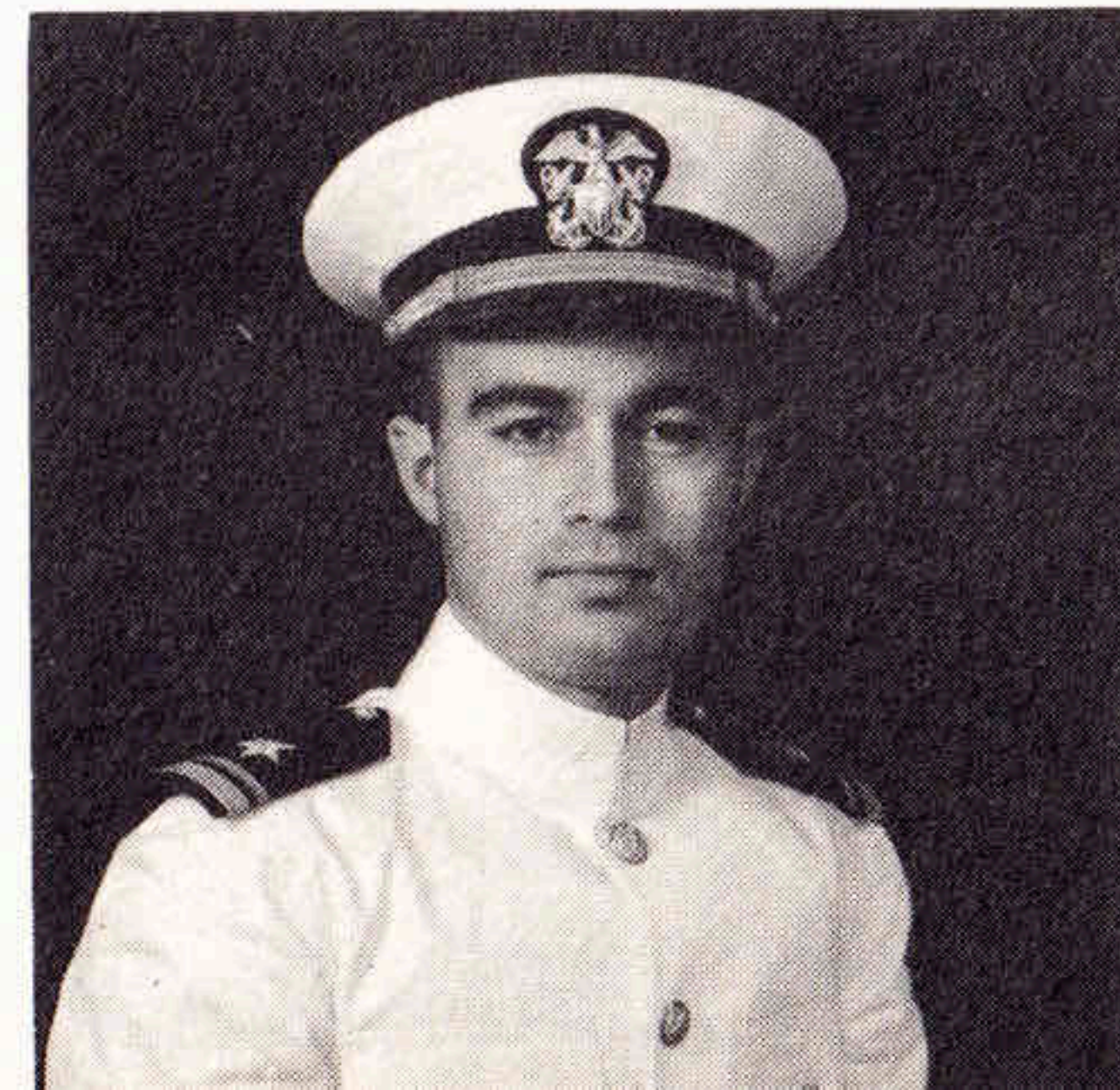
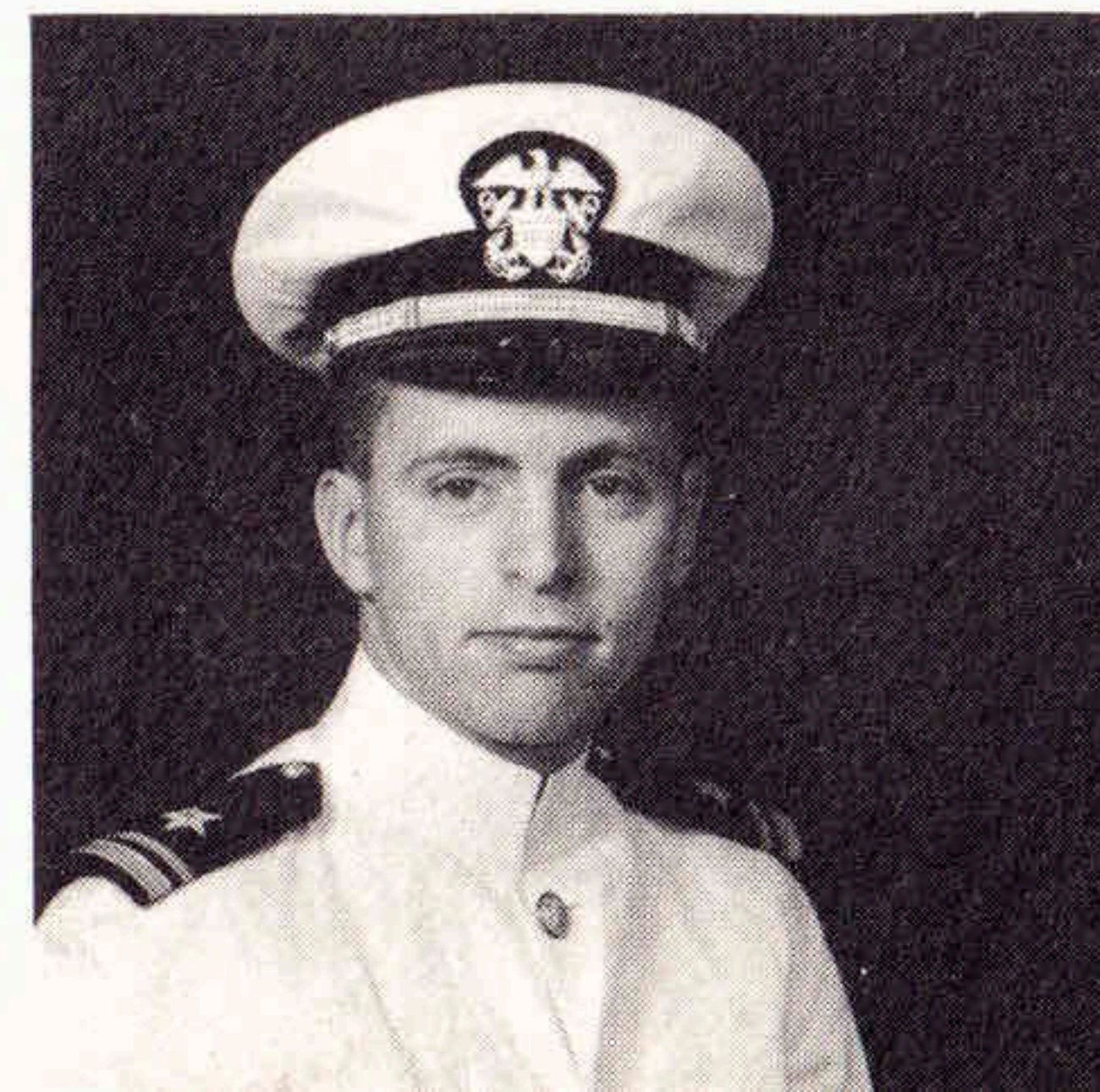
LT D. M. JOHNSTON, JR., USN
ELECTRICAL OFFICER (B)

LTJG JAMES R. WEHNER, USN
OPERATIONS OFFICER (B)

LTJG GARY R. DUKES, USN
ASSISTANT ENGINEER (B)

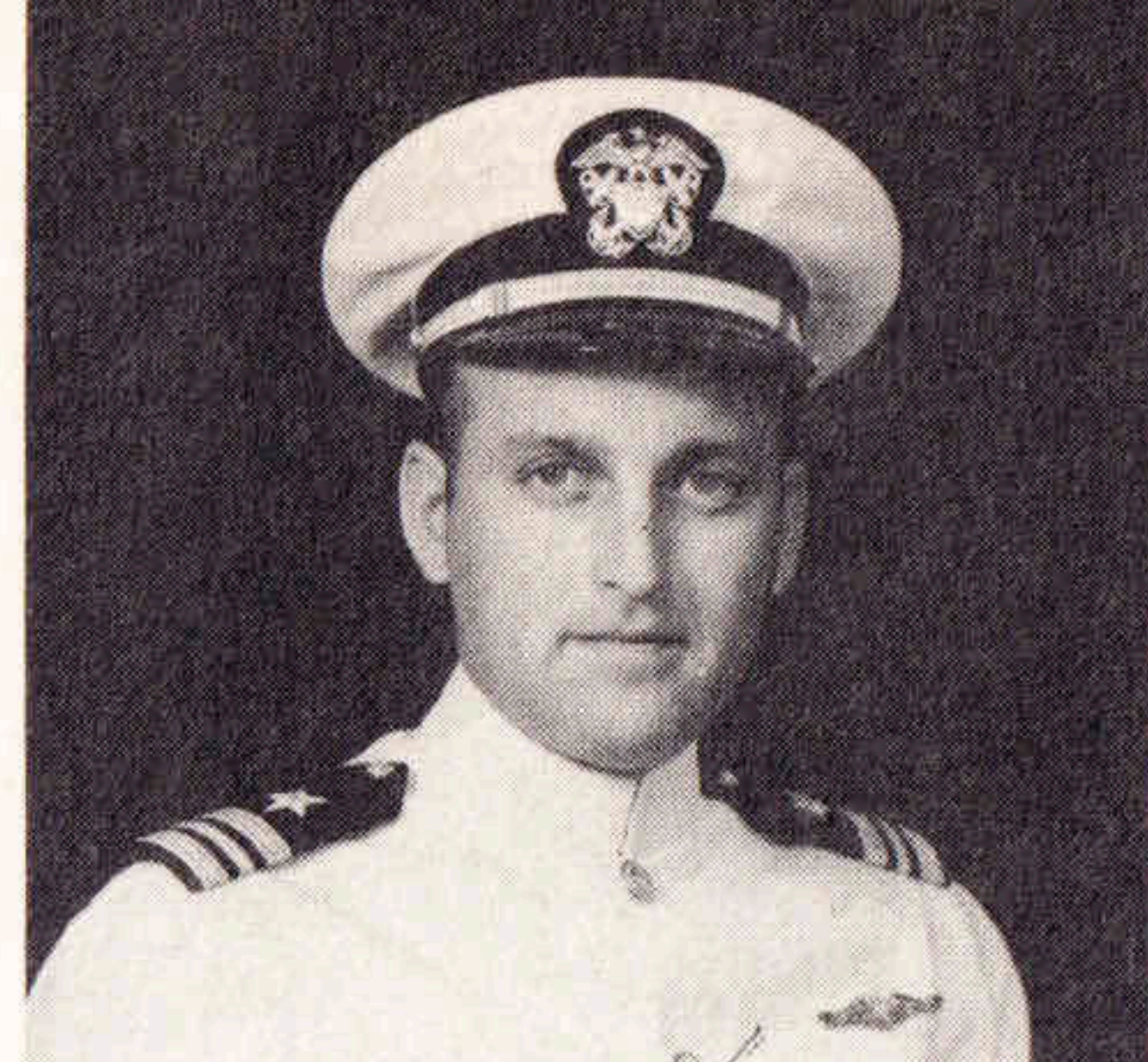
LTJG DONALD R. MC NEILL, USN
ASSISTANT ENGINEER (B)

LT R. F. SCHILLACI, (MC), USN
MEDICAL OFFICER (B)

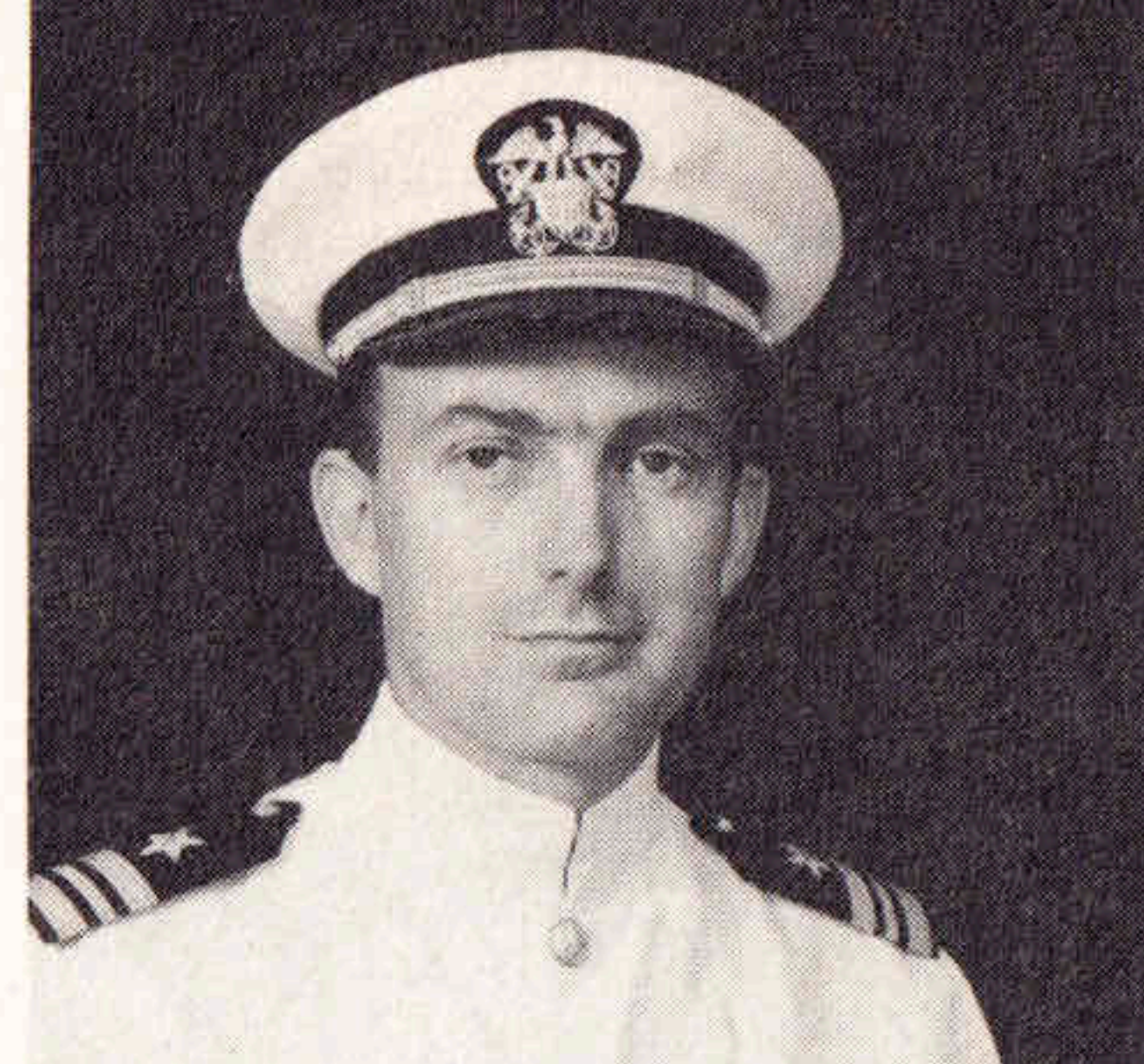




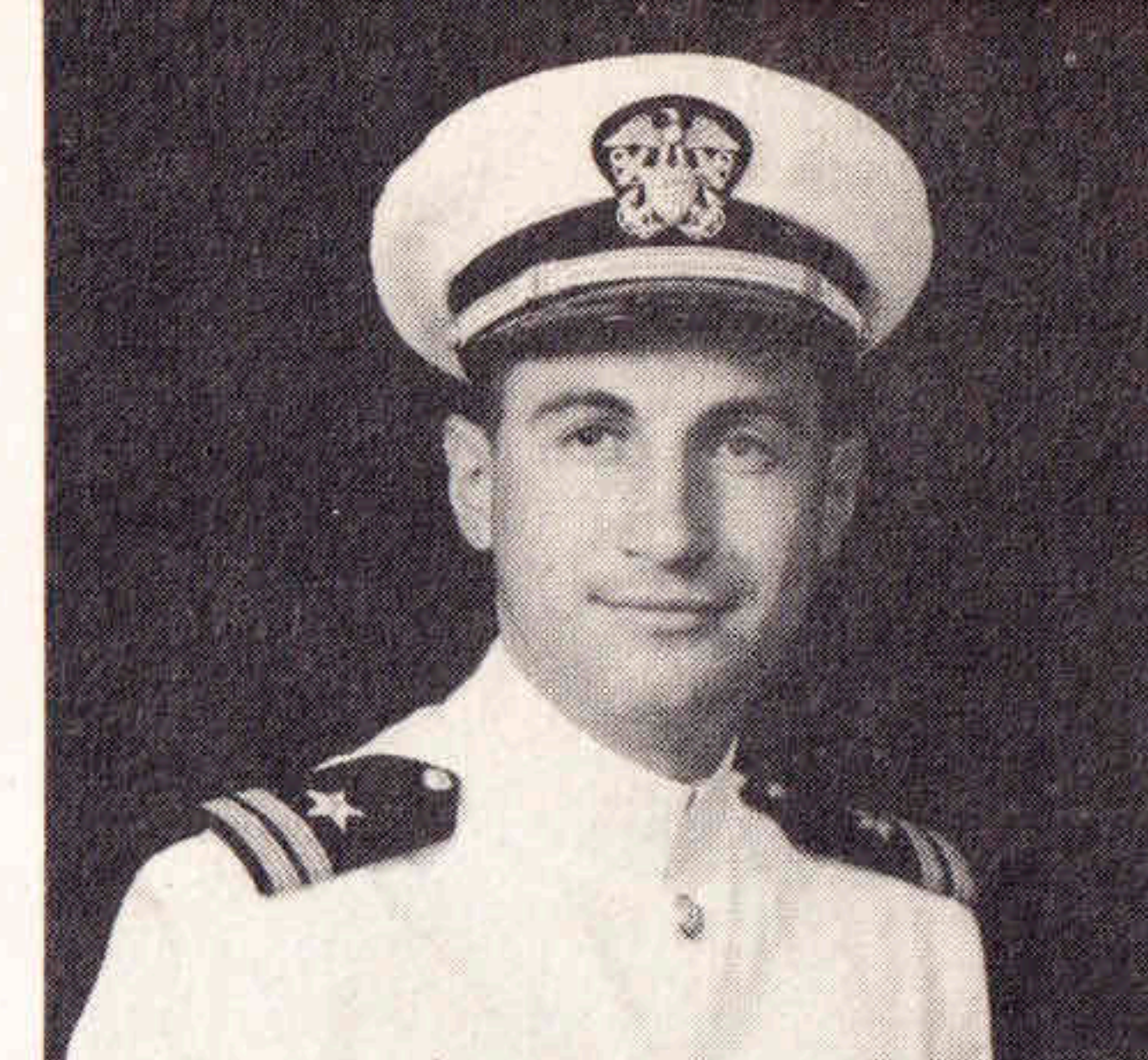
LCDR BERNARD M. KAUDERER, USN
EXECUTIVE OFFICER (G)



LCDR MORTON BOTSHON, USN
MAIN PROPULSION ASSISTANT (G)



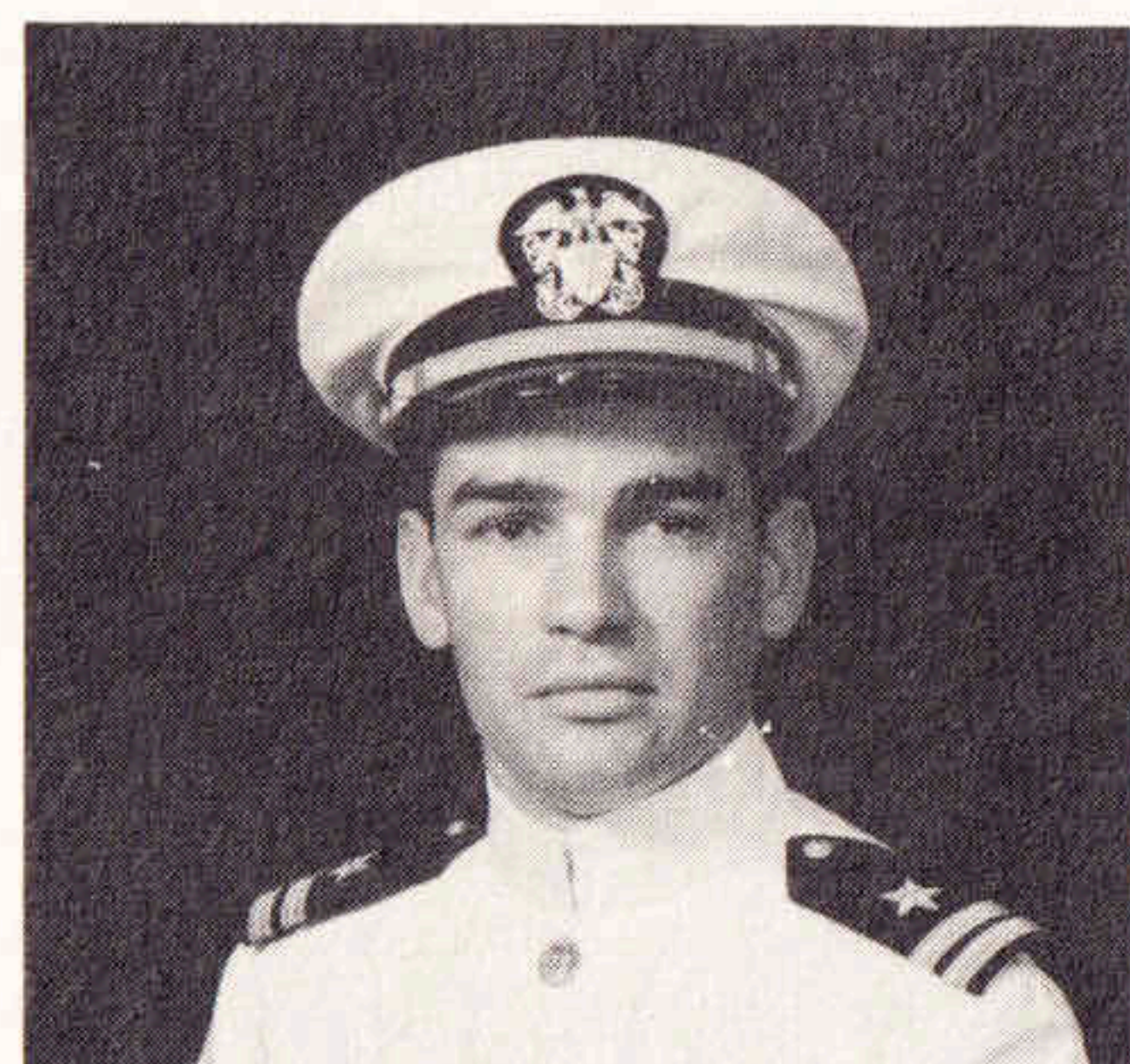
LCDR HENRY E. DRAYTON, JR., USN
NAVIGATOR (G)



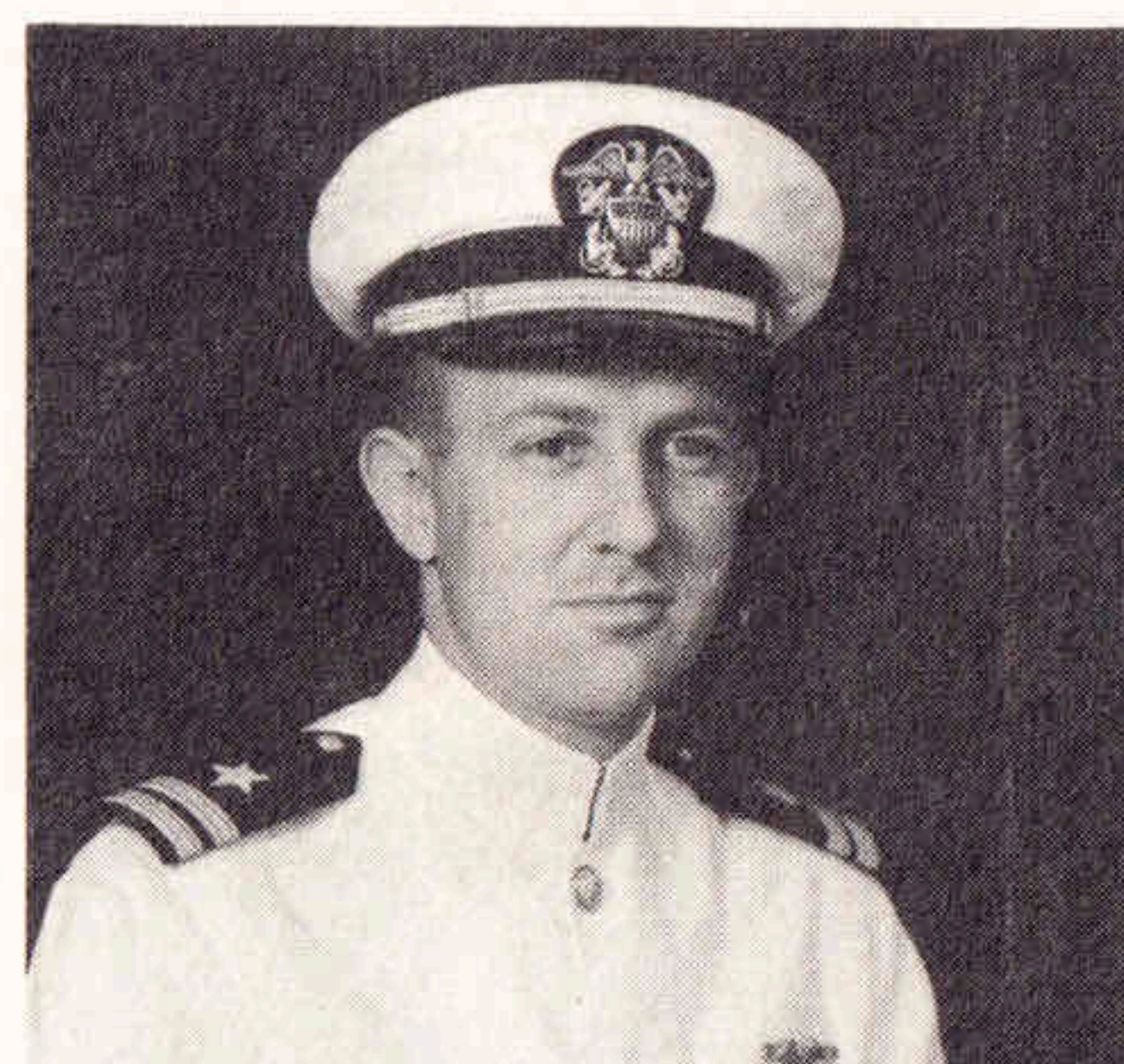
LT RICHARD E. ENKEBOLL, USN
ENGINEER OFFICER (G)



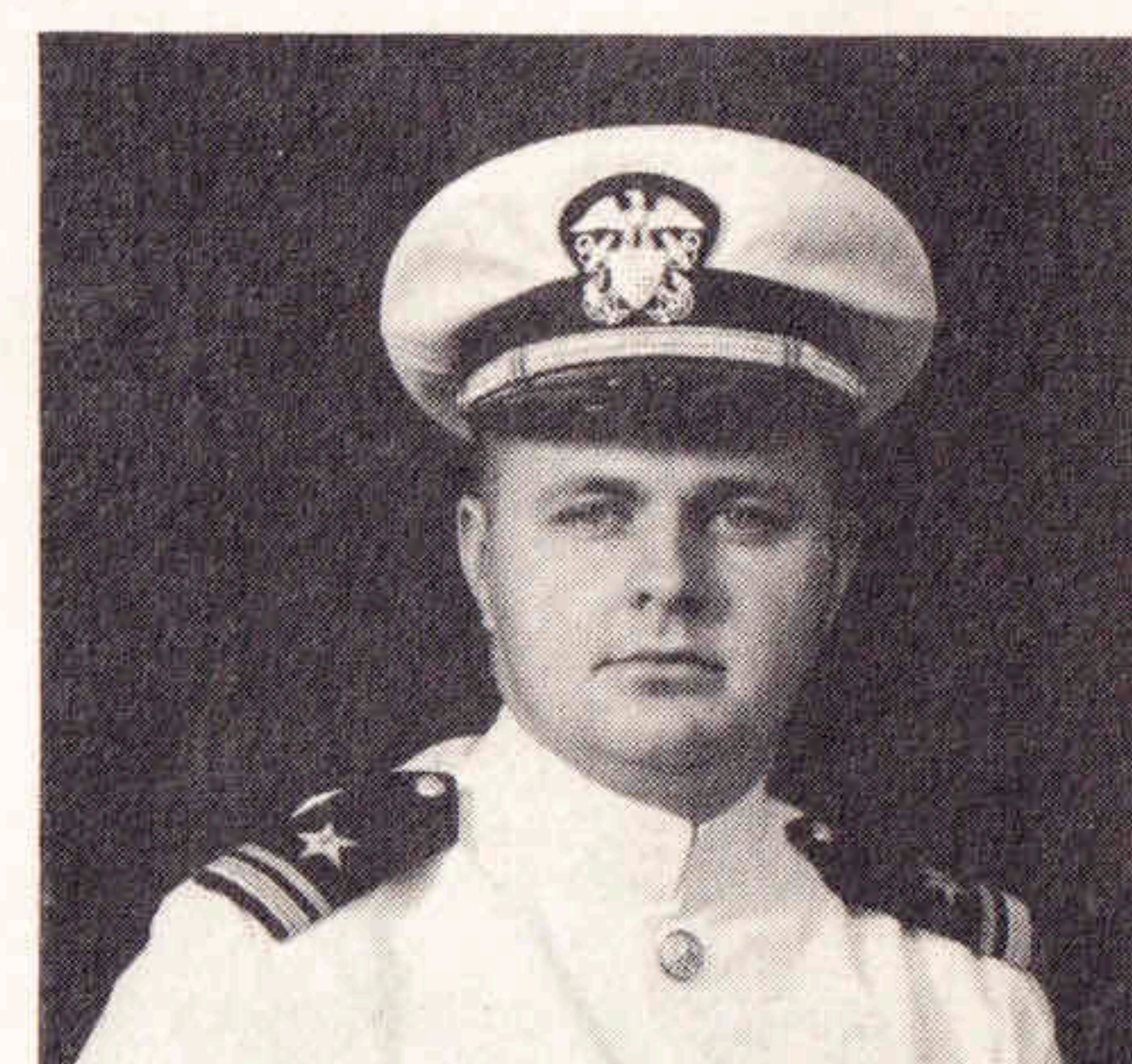
LT WILLIAM P. DUNN, USN
WEAPONS OFFICER (G)



LT RICHARD A. GRODER, USN
ASSISTANT WEAPONS OFFICER (G)



LT ROBERT T. BRANDT, USN
OPERATIONS OFFICER (G)



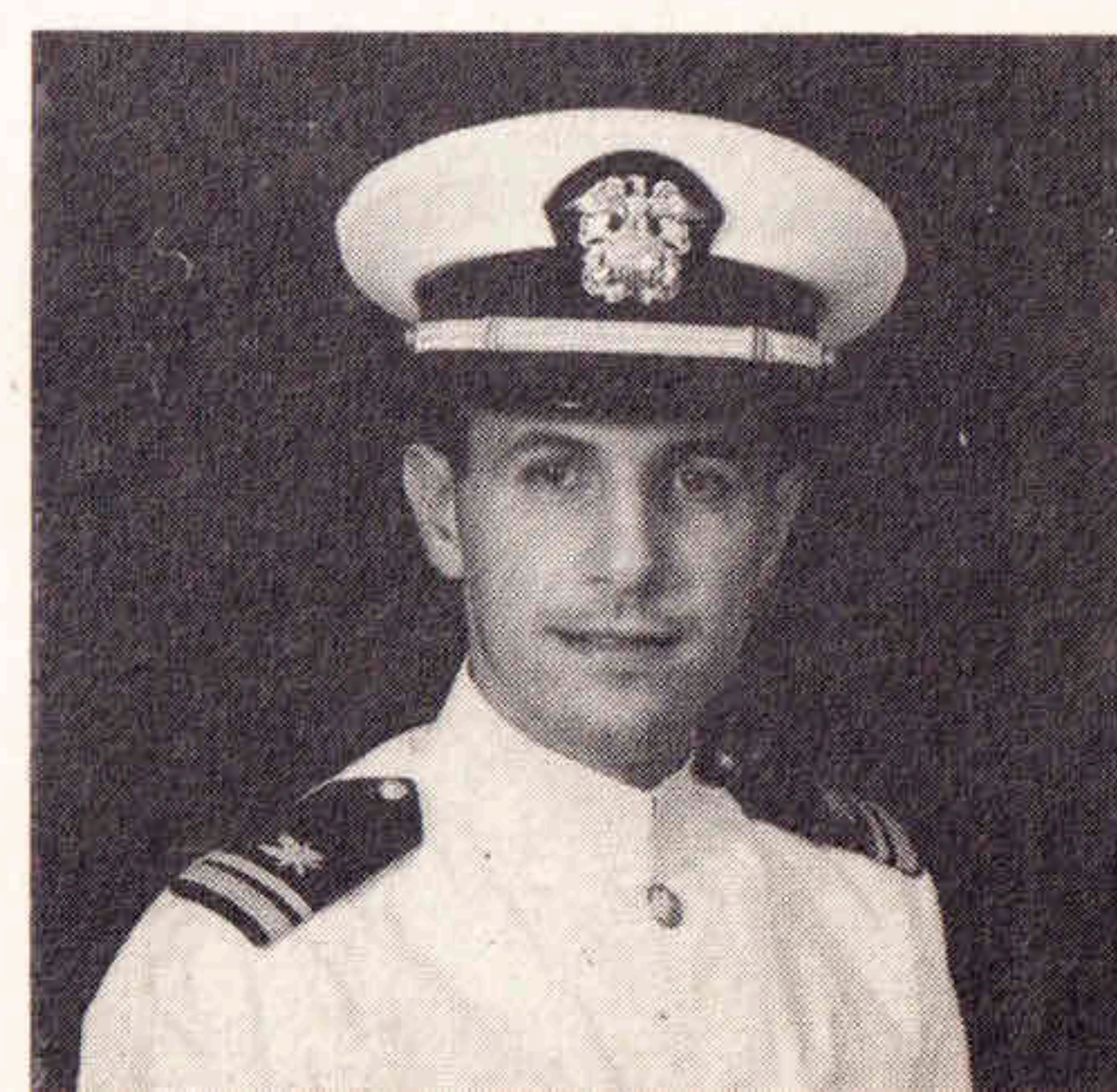
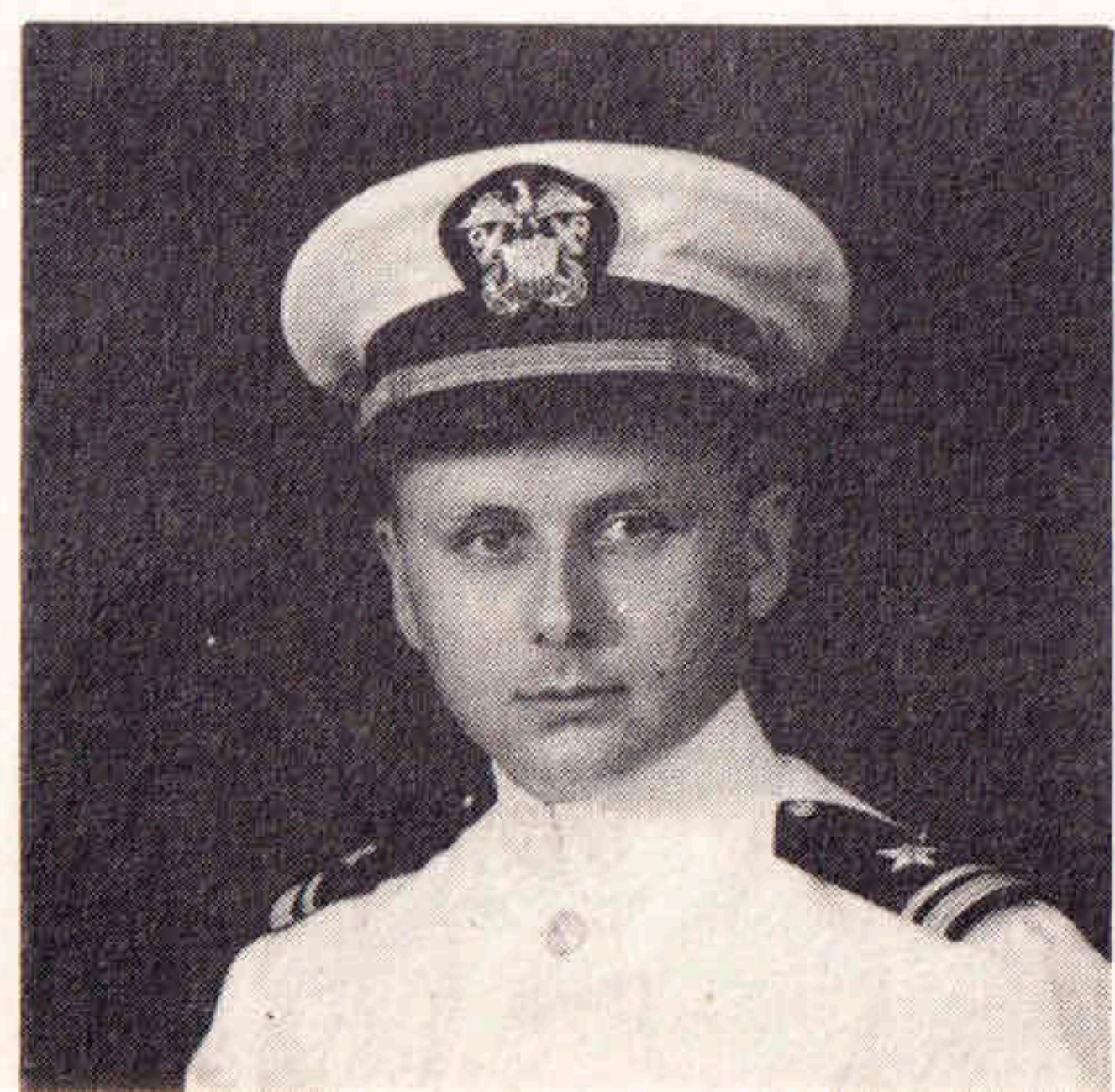
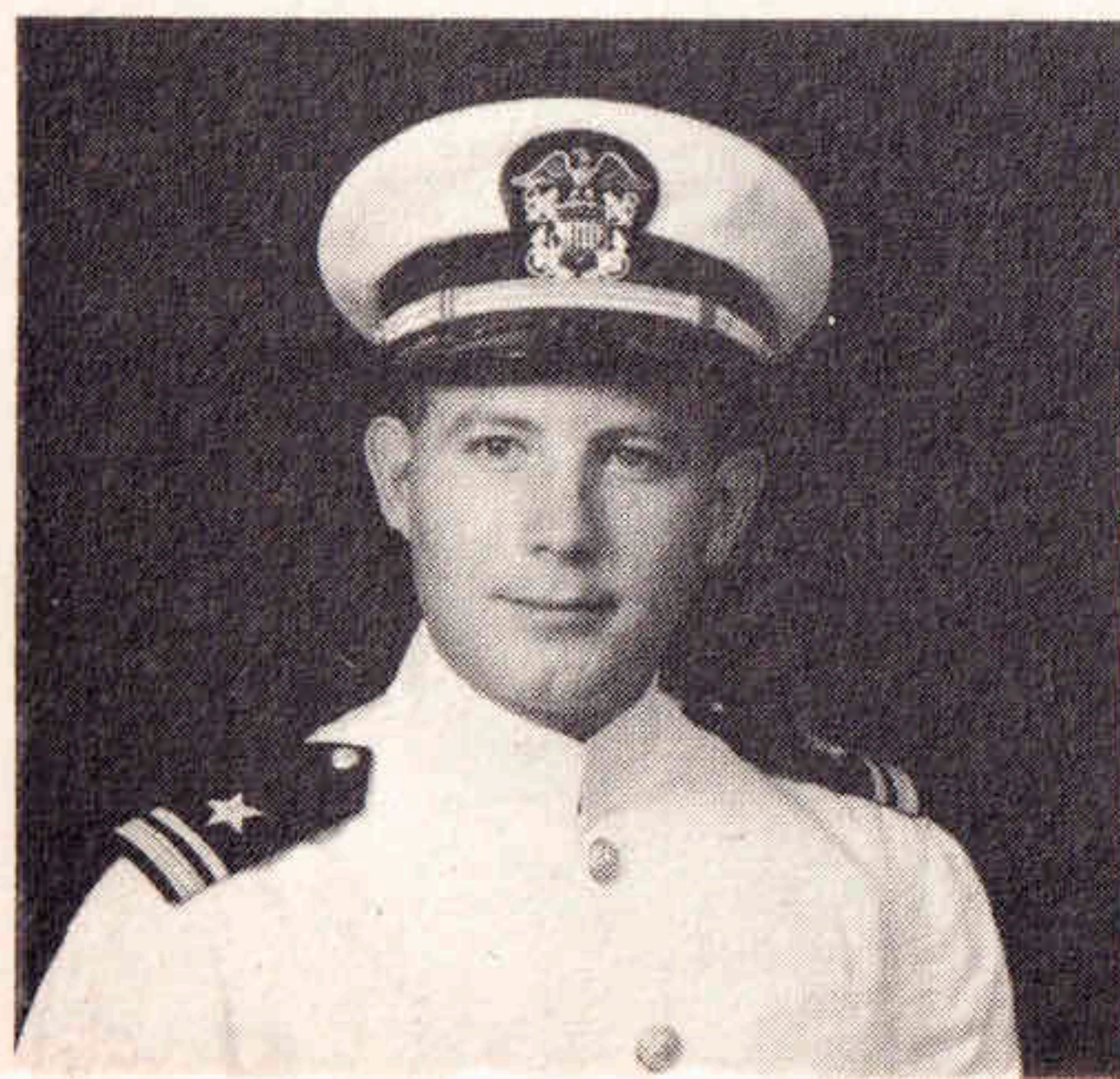
LTJG ROBERT S. FITCH, USN
DAMAGE CONTROL ASSISTANT (G)

LTJG JAMES A. ROSS, USN
ASSISTANT ENGINEER (G)

LTJG FRANKLIN D. SNOW, USN
ELECTRICAL OFFICER (G)

LT ANDREW N. URBANC, (MC), USN
MEDICAL OFFICER (G)

LTJG A. E. DI FILIPPO, (SC), USN
SUPPLY OFFICER (G)

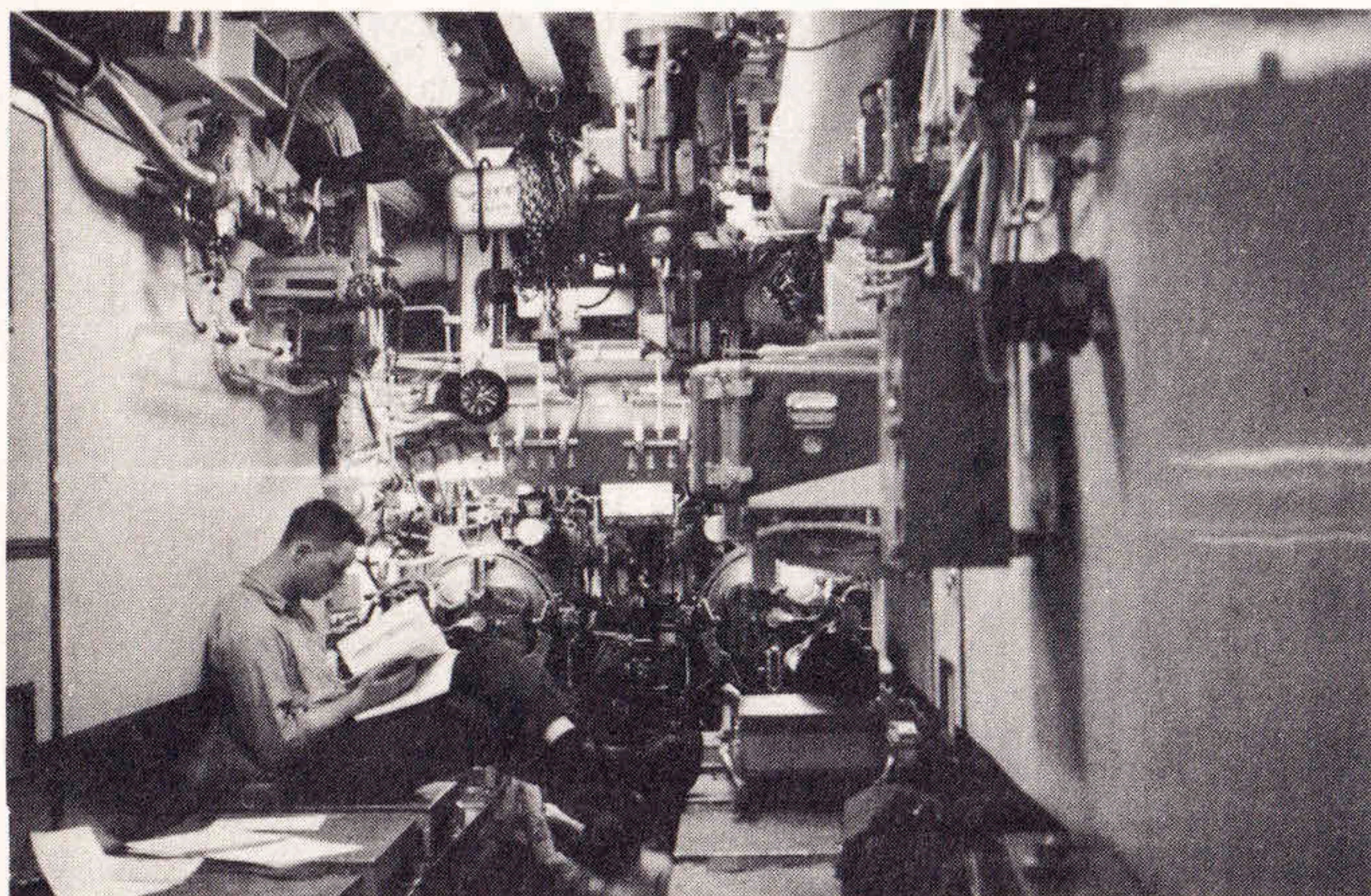




Crew's Mess — Making Coffee



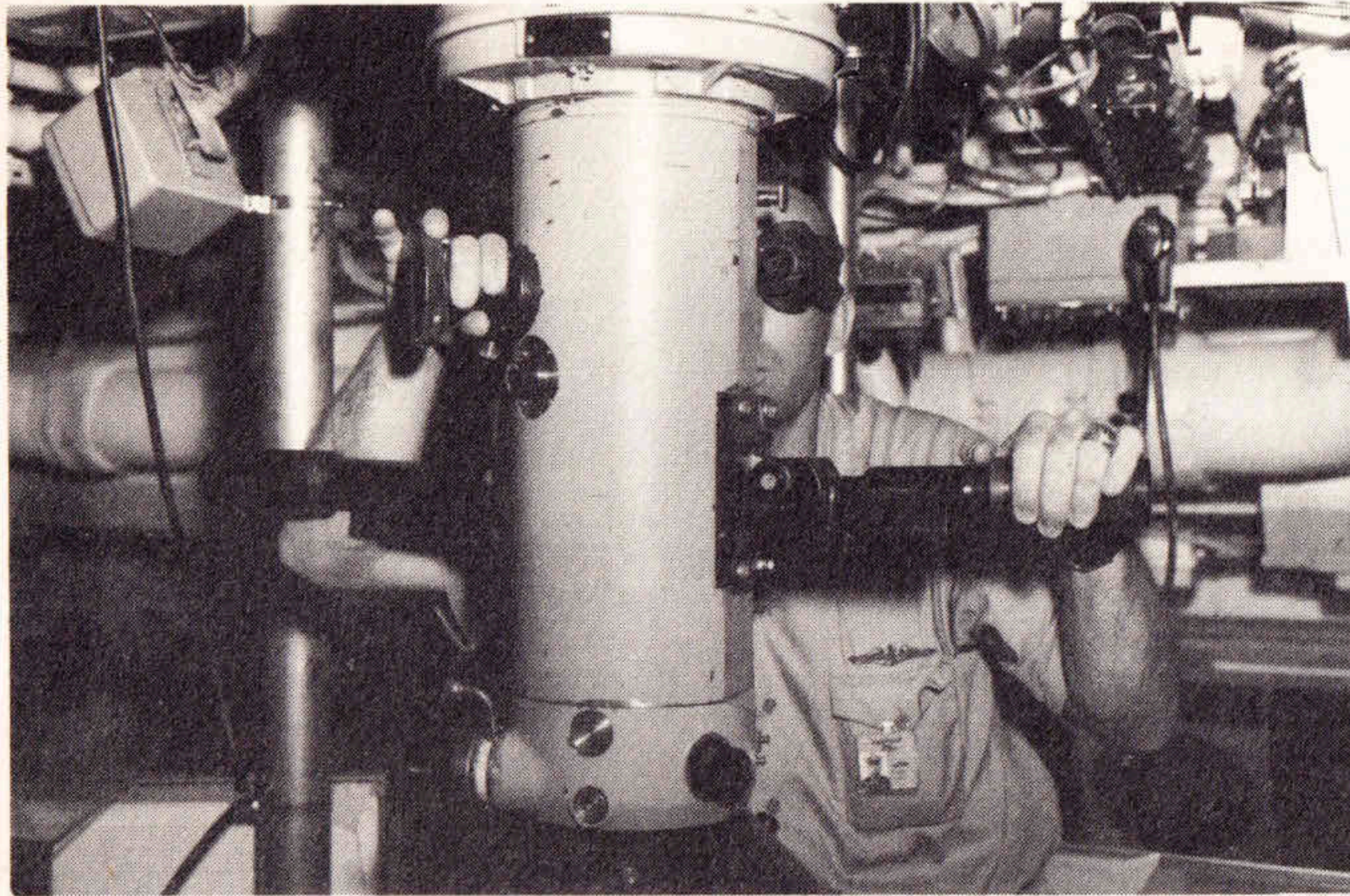
Crew's Lounge



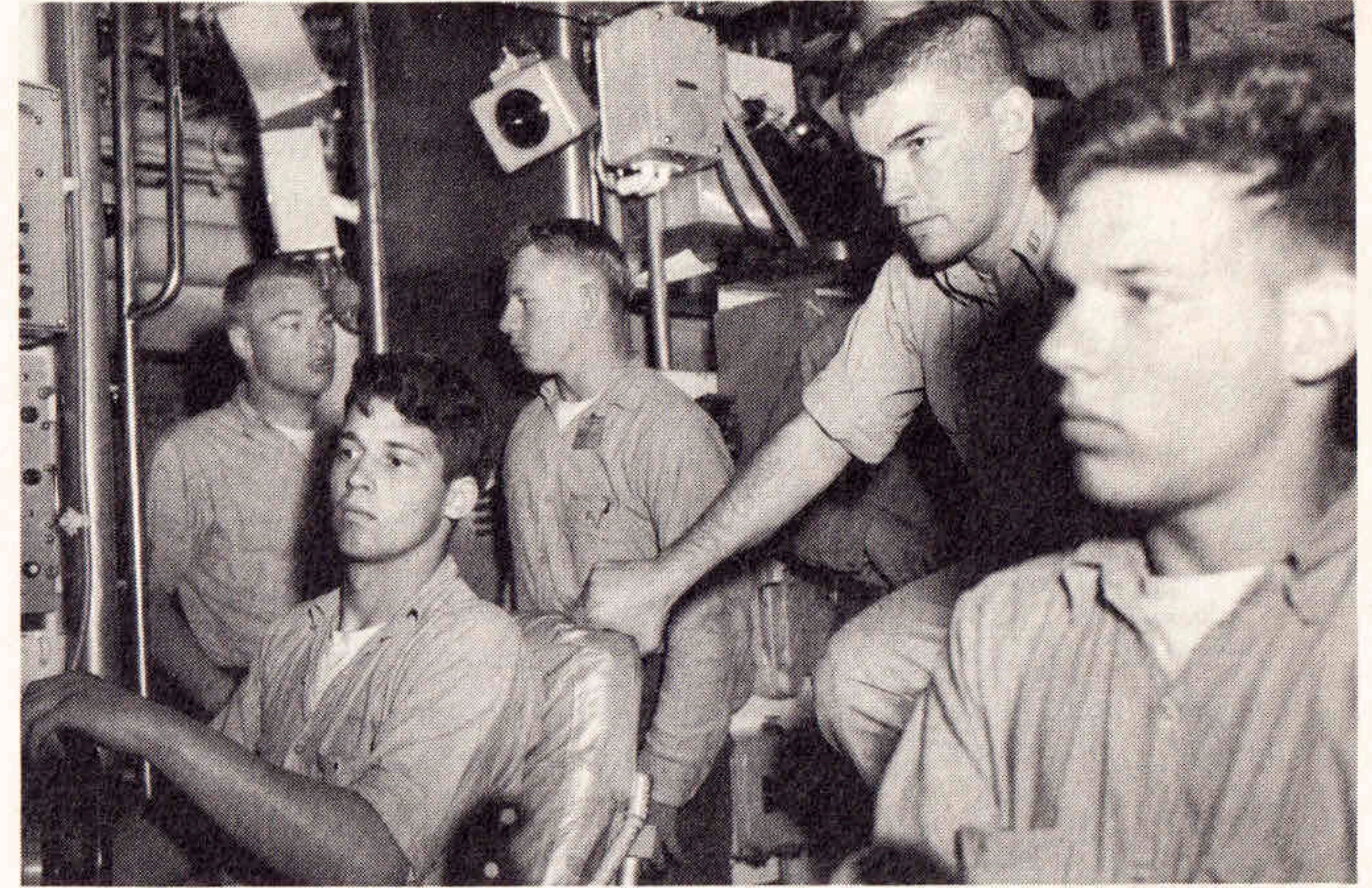
Bow Compartment — Study Time at Sea



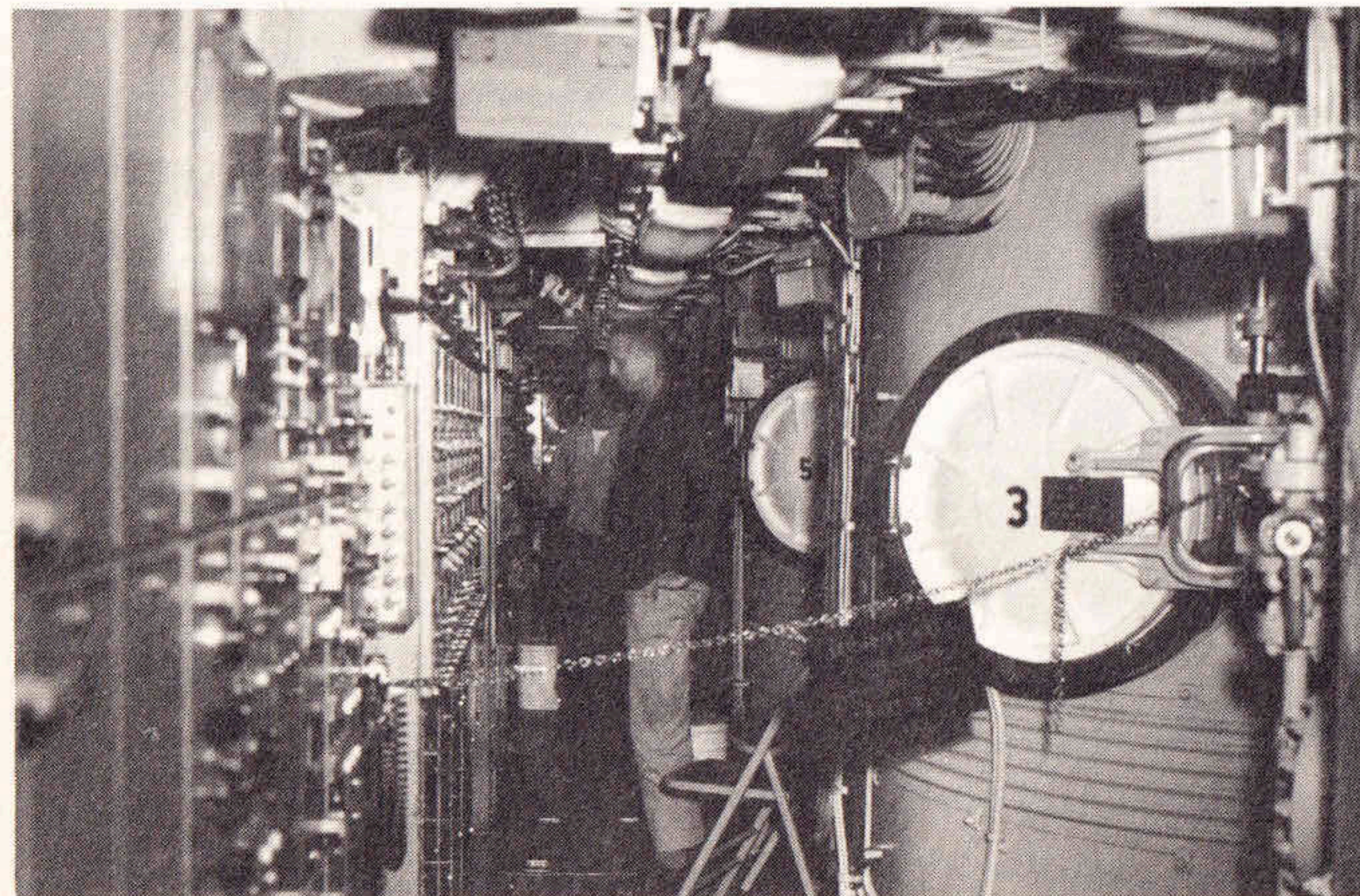
Galley — Preparing the Evening Meal



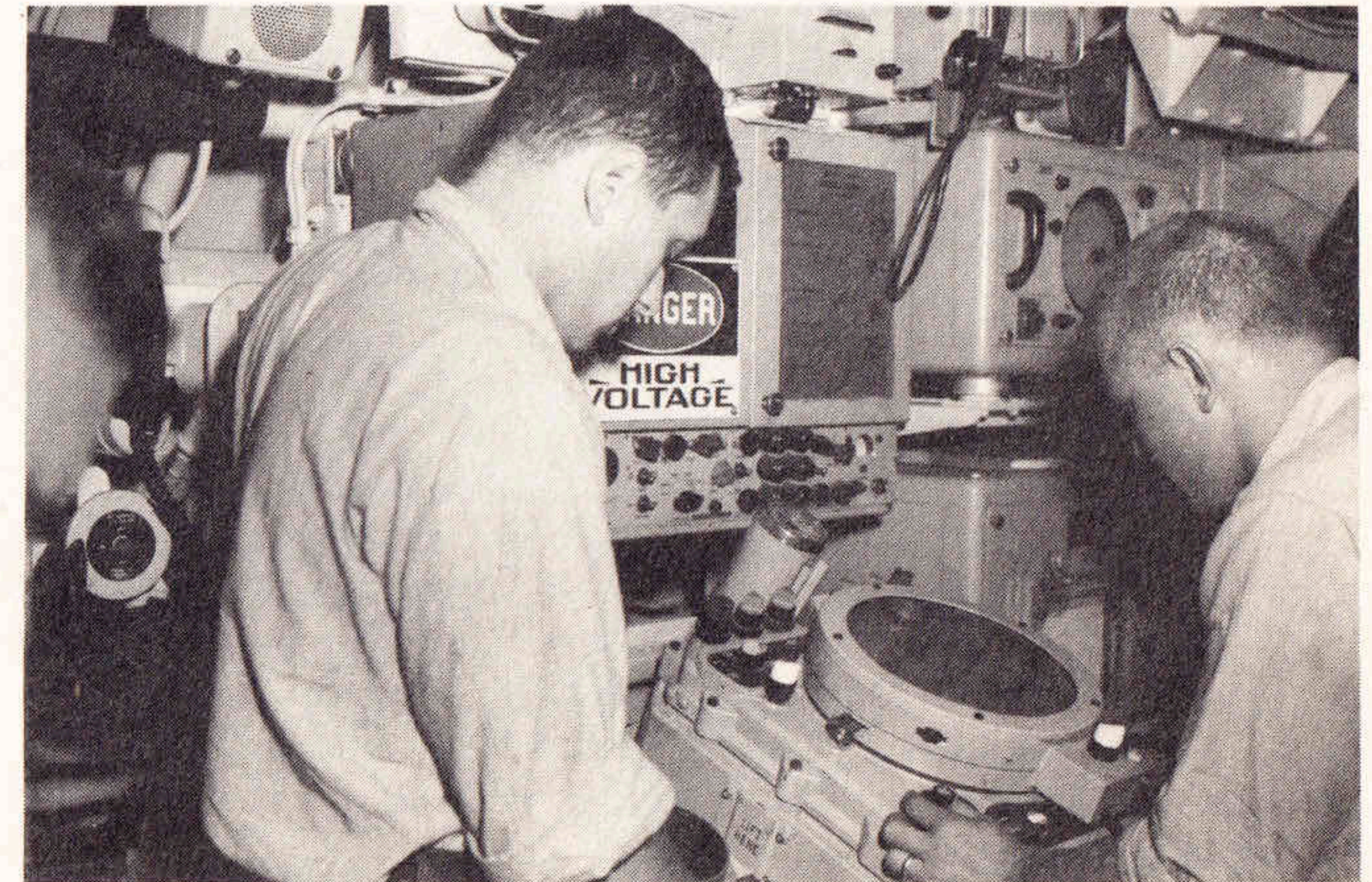
Periscope Stand — “Bearing - - - Mark!”



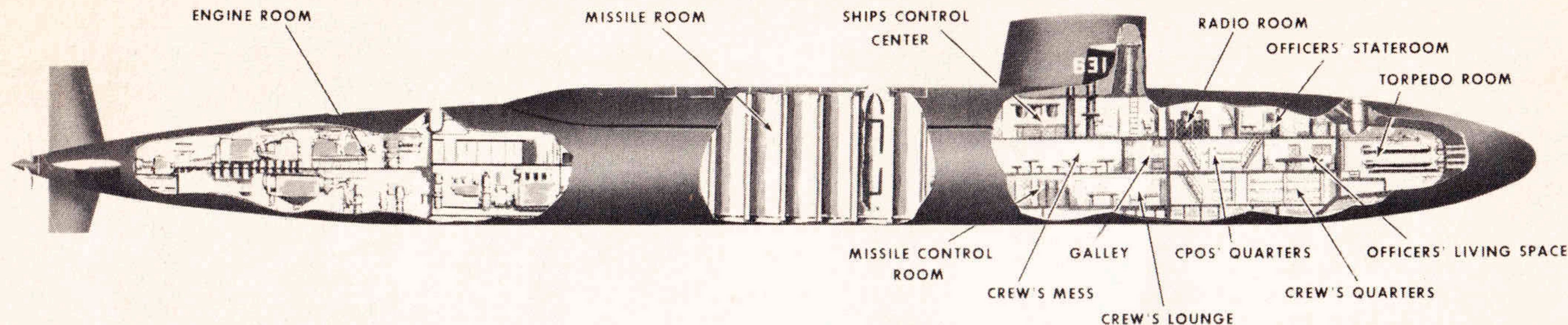
Diving Stand — “Make Your Depth 100 Feet”



Missile Compartment — “Sherwood Forest”



Contact Delta Now Bearing - - - -



NAVIGATION SYSTEM

Two positions must be known for success in missile launching — target and launcher. This places great importance on navigation since the position of the launcher is the position of the ship and is continuously changing. Several navigational methods complement each other in the FBM submarine to provide a very high order of accuracy in determining ship's position.

At the heart of the system is the Ship's Inertial Navigation System (SINS) which integrates ship motion, speed, and headings to give a continuous report of ship's position.

The ship has three SINS, each checking the others. Similar systems guided NAUTILUS and SKATE on their historic voyages beneath the polar ice in 1958, TRITON on her 84 day underwater cruise around the world, and more recently, SEA-DRAGON and SKATE in their rendezvous at the North Pole in the summer of 1962.

TRAINING

The average pre-commissioning training period of U.S. GRANT personnel is about 18 months. From several weeks to a year is devoted to formal schooling in radio, sonar, navigation, fire control, weapons or engineering. After a thorough grounding in such items as transistors, electronic circuitry, Boolean logic, digital computer theory, hydraulics, and nuclear physics, U.S. GRANT personnel receive intensive training in the maintenance of integrated systems. The training program continues at sea, and on shore, off-crews are provided with training facilities in the home ports of the various SSBN Squadrons.

COMMUNICATIONS

Radio communications with submerged submarines have been possible for a number of years. The systems used have been devised with special care to protect the locations of the submarines and leave the advantage of concealment unimpaired. Recent tests have again demonstrated that the Navy's worldwide communication system has the power and coverage necessary to exercise command of the always-submerged Fleet Ballistic Missile submarine.

SUPPLY

To support the intricate systems in U.S. GRANT the Supply Department maintains a variety of spare parts which number about 95% of the range of different spares stocked aboard an aircraft carrier. The Supply Department also stores and prepares the variety and quality of food and baked goods normally found in a good hotel. All of these jobs are done with a handful of men and in very limited space.

FIRE CONTROL

The fire control system feeds a wealth of coordinated information to the missile guidance system. Ship location, local vertical, true north heading, target location and trajectory to be flown are continuously supplied until the very instant of firing.

FLEET BALLISTIC MISSILE

The Fleet Ballistic Missile Weapon System, better known by the name of its missile, POLARIS, has been operational since November, 1960. USS GEORGE WASHINGTON (SSBN-598) was the first POLARIS submarine to deploy on an operational patrol. The next four to join her were of the same class and carried the 1,200 nautical mile range A-1 missiles. The later construction FBM submarines carry the second generation POLARIS, the 1,500 nautical mile range A-2 missile. U.S. GRANT will carry the new third generation, 2,500 nautical mile A-3 missile.

THE MISSILE

POLARIS, named for the North Star, is a two-stage ballistic missile powered by solid rocket motors.

The 2,500 nautical mile range operational missile is designated the POLARIS A-3. It is about 32 feet long, about four and one-half feet in diameter, and weighs about 35,000 pounds. Each motor exerts thrust through four nozzles in the motor base.

MISSILE GUIDANCE

The inertial guidance system used in POLARIS is a refinement of earlier inertial systems and is the smallest in use in U. S. ballistic missiles. The guidance system puts the missile on correct course at the time of launch and automatically computes a new correct course should the missile deviate from its path. At the precise instant required, the guidance system shuts off the rocket motors and triggers separation of the re-entry body from the missile. The re-entry body then follows a ballistic trajectory to the target.



MISSILE LAUNCHING

POLARIS missiles are launched by a gas-ejection system which forces the missile from its launching tube and propels it up through the water to the surface. At that point the rocket motor ignites and sends the missile on its way. The system takes advantage of the reliability of solid propellant fuel used in POLARIS. The result is increased safety for the submarine

and crew. Vital parts of each missile are accessible for inspection and maintenance even when loaded in the launching tubes and while the submarine is underway at sea. Monitoring and necessary repairs are accomplished by the ship's crew so that the missiles are always ready.

MISSILE CONCEPT

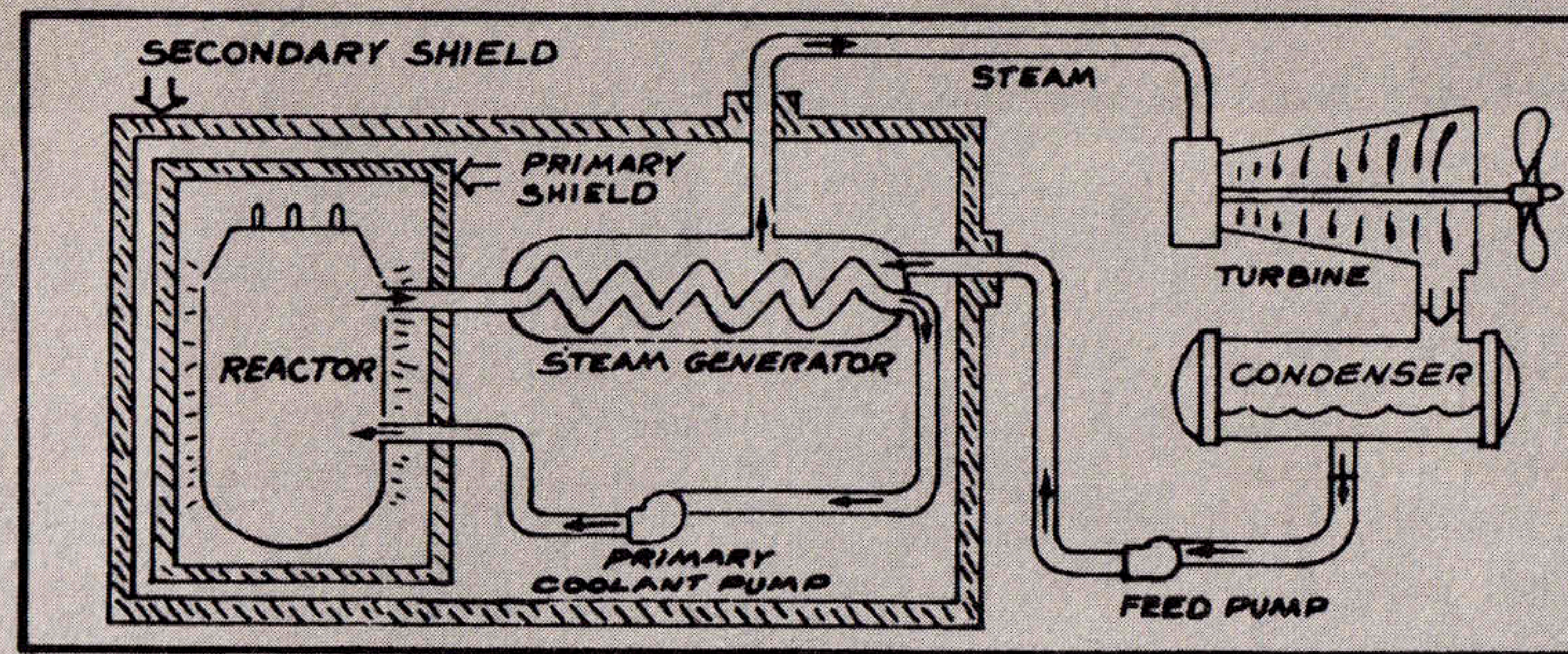
With almost unlimited cruising range and with endurance limited only by the crew, the Fleet Ballistic Missile Submarine is capable of extended submerged operations in the international waters of the world which comprise about 70 percent of the earth's surface. Free of the need to surface or extend a snorkel above the surface, FBM nuclear submarines remain hidden by the ocean, their locations unknown to any poten-

tial enemy. The POLARIS missile, powered by solid propellant, is ready to launch within minutes of receiving the comand without the need for a long count-down. Mobile, hidden, ready for instant action (or carefully considered delayed action), the Fleet Ballistic Missile system provides the United States with a powerful deterrent to those who might start a global war.

VITAL STATISTICS

Keel Laid	18 August 1962
Launched	2 November 1963
Length	425 Feet
Beam	33 Feet
Commissioned	17 July 1964

Displacement surfaced	about 7000 tons
Displacement submerged	about 8200 tons
Speed submerged	over 20 knots
Diving depth	over 400 feet
Built by	General Dynamics/Electric Boat



THE POWER PLANT

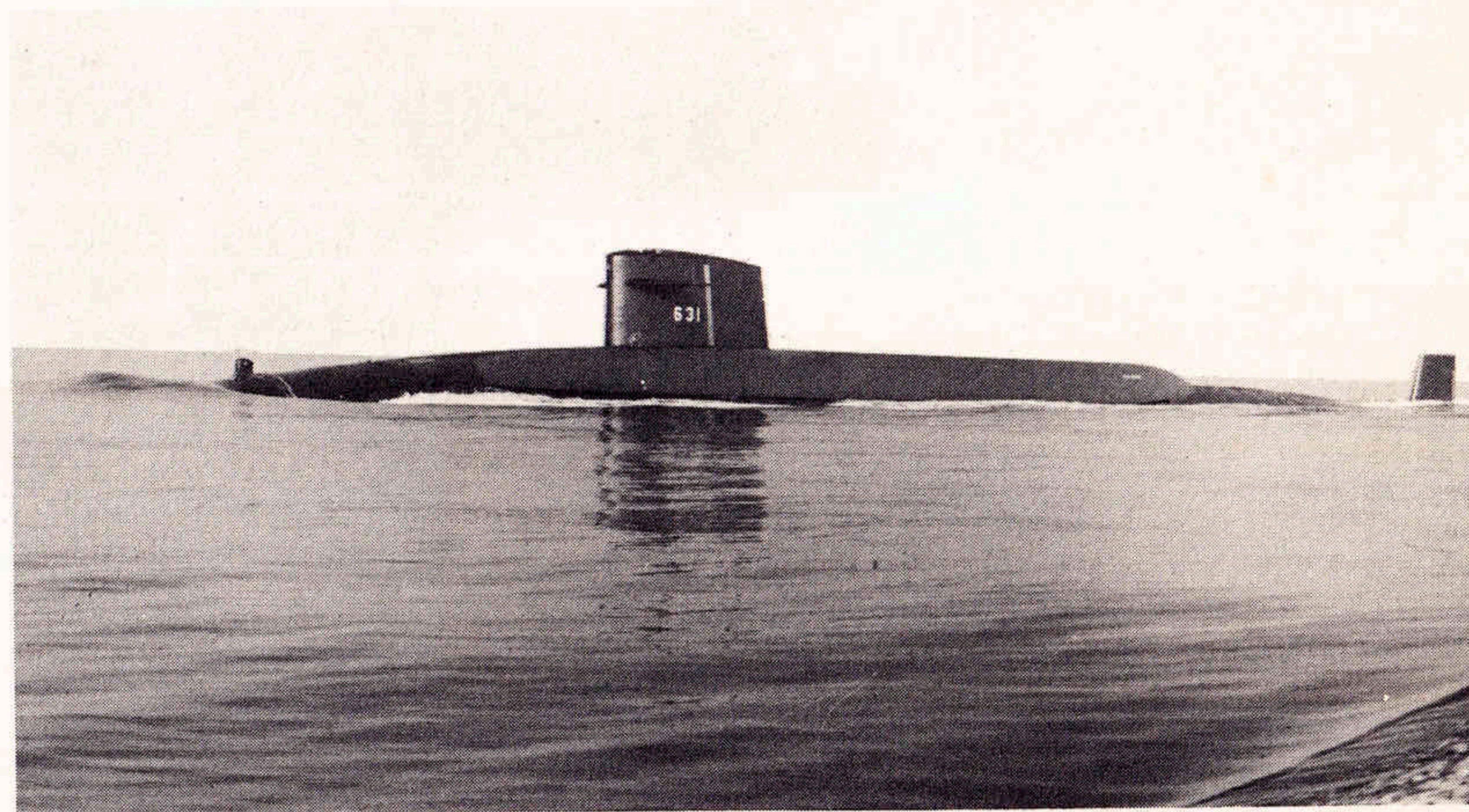
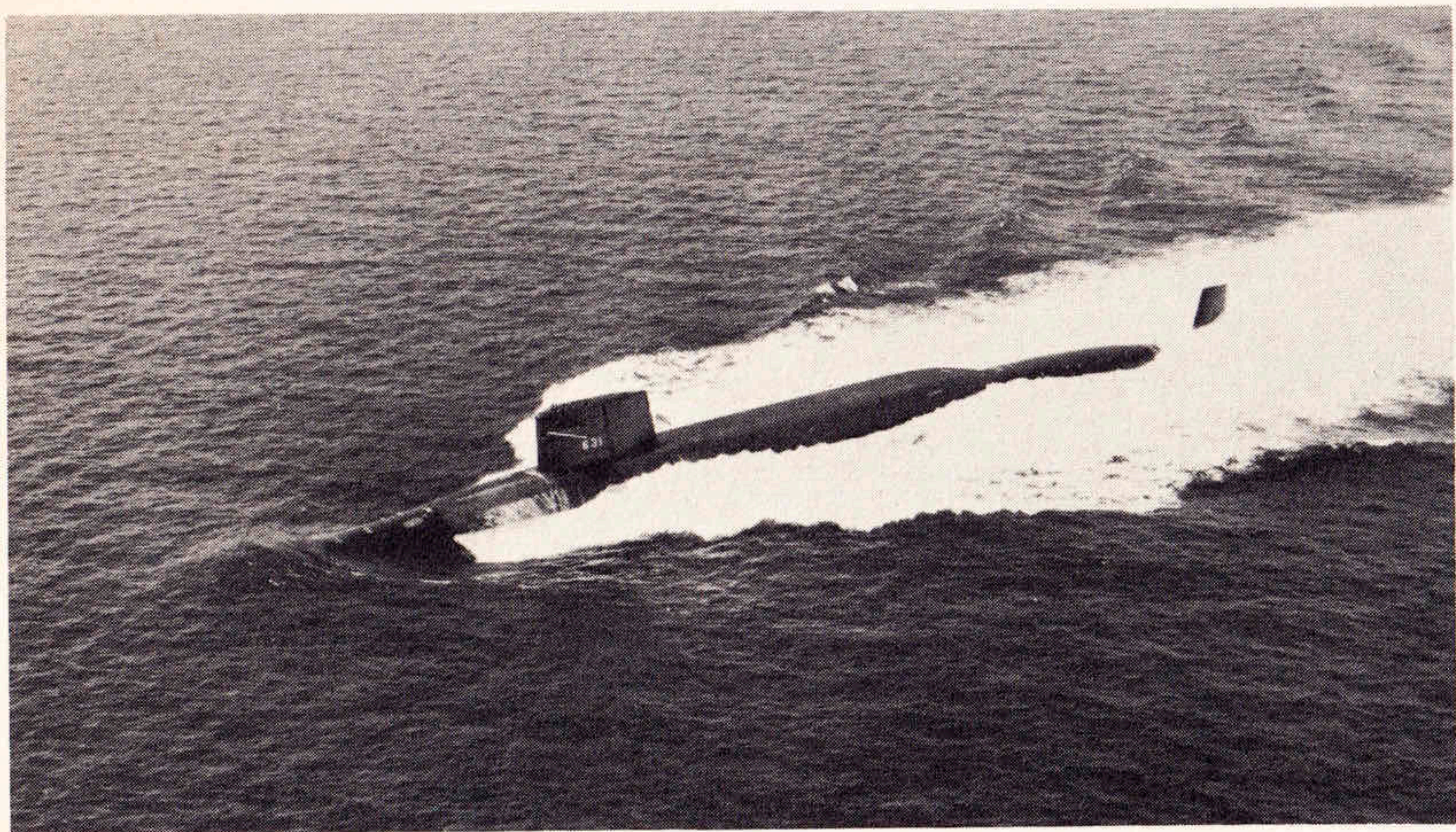
U.S. GRANT is powered by a nuclear power plant consisting of a nuclear reactor which provides heat for the generation of steam to drive the main propulsion turbines and the ship's turbo generators for electric power.

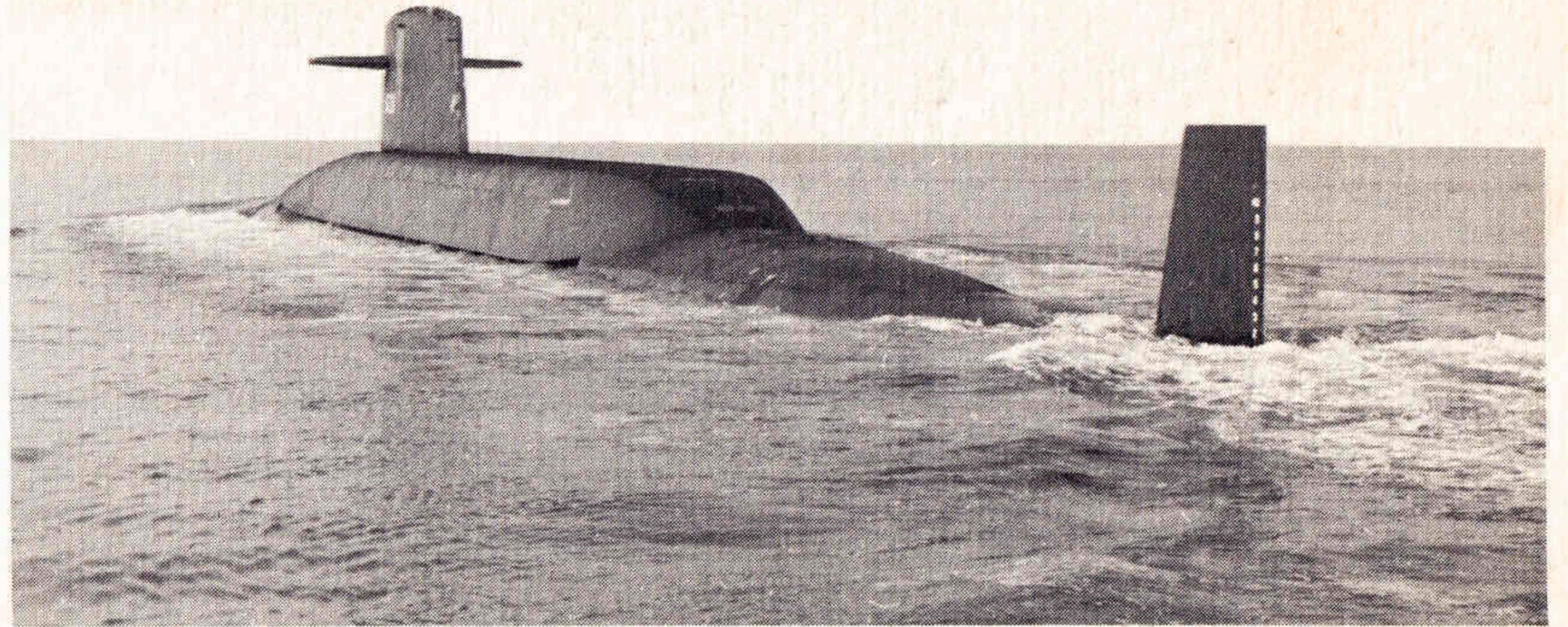
The primary system is a circulating water cycle and consists of the reactor, identical port and starboard loops of piping, primary coolant pumps and the tubes of the steam generators. Heat is produced in the reactor by nuclear fission and is transferred to the circulating primary coolant water which is pressurized to prevent boiling. This water is then pumped through the steam generator tubes where it transfers its heat to the shell or the secondary side of the steam generators and boils water to form steam. It is then pumped back to the reactor by the primary coolant pumps and reheated for the next cycle.

The secondary system is the steam producing cycle and is made up of the shell side of the steam generators, turbines,

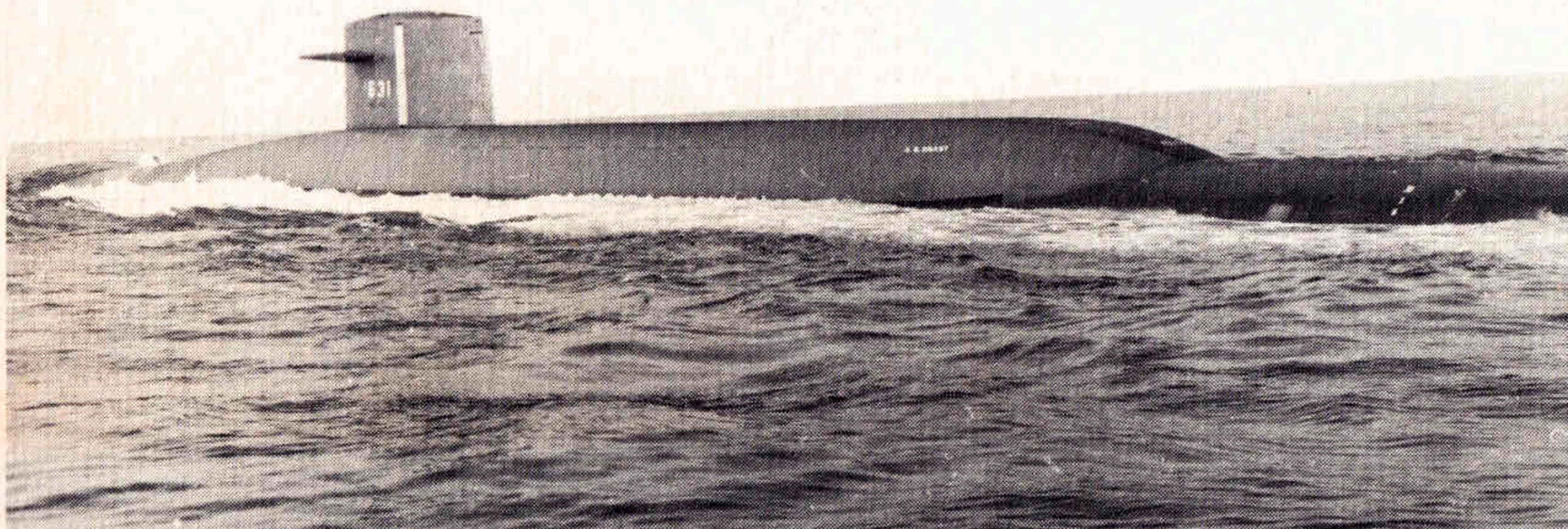
condensers, and steam generator feed pumps. It is completely isolated from the primary system since the primary water goes through the tubes of the steam generator while the water which is boiling to make steam is on the shell side of the steam generator. Steam rises from the steam generators, then flows to the engine room where it drives the ship's service turbo-generators which supply the ship with electricity and the main propulsion turbines which drive the propeller. After passing through the turbines, the steam is condensed and the water is fed back to the steam generators by the feed pumps. There is no step in the generation of this power which requires the presence of air or oxygen. This fact alone allows the ship to operate completely divorced from the earth's atmosphere for extended periods of time.

During the operation of the nuclear power plant high levels of radiation exist around the reactor and personnel are not permitted entrance into the reactor compartment until after the reactor is shut down. Heavy shielding is used to protect the crew so that the average crew member receives less radiation than he would receive from natural sources ashore.





SEA TRIALS
24 May - 29 June 1964



**THE INSIGNE OF
USS U. S. GRANT (SSBN 631)**

The insigne is composed of features representing both the ship itself and the man for whom the ship is named. The thirteen red and white stripes in the furls and the shield represent the thirteen original states, while the twenty-three stars in the border represent the additional states in the Union at the conclusion of the War between the States. The eagle is symbolic of the Nation, Presidency and Federal Government. Four stars are located in the upper portion of the shield to commemorate General Grant's appointment to the newly created four-star rank of General of the Armies in July, 1866.

The background colors of blue and gold, normally shown, represent the two crews which will alternately man the ship. The outline of the insigne and the lettering of the ship's name are reminiscent of a style frequently associated with the era of the eighteen-sixties.