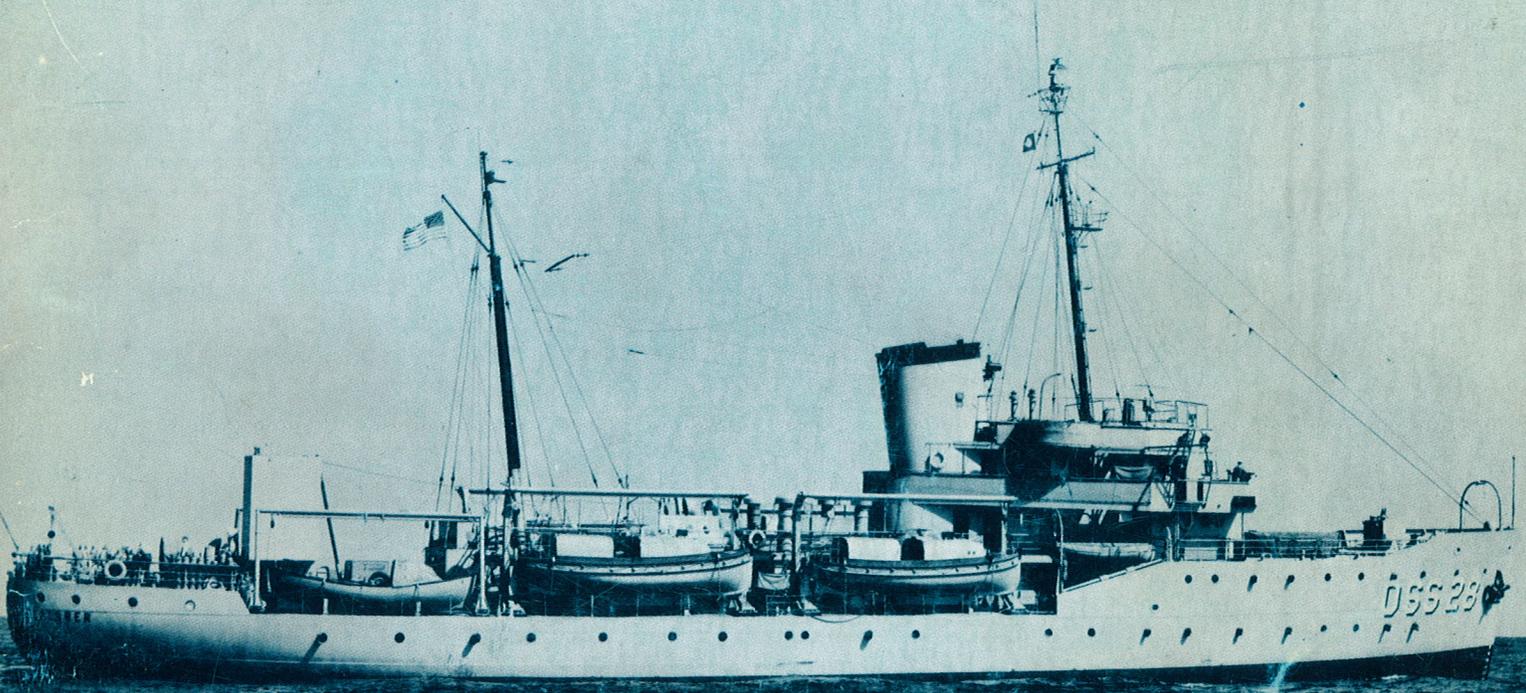
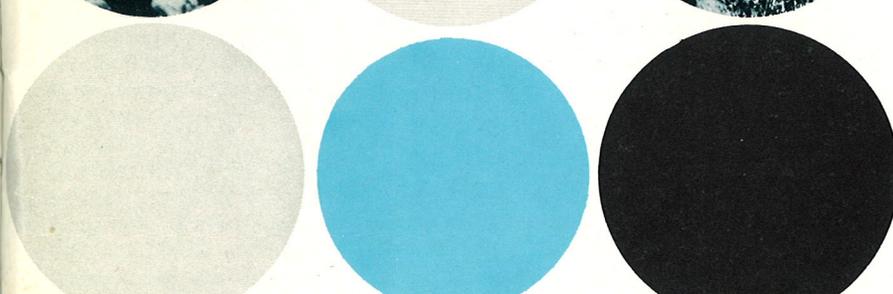
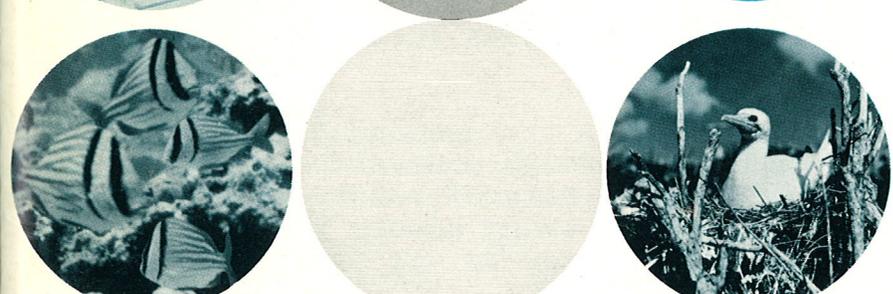
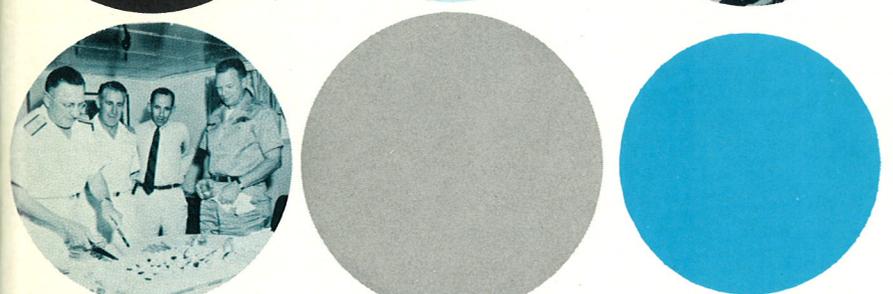
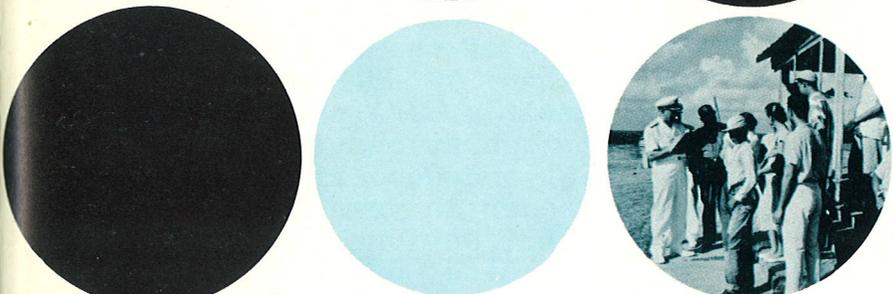
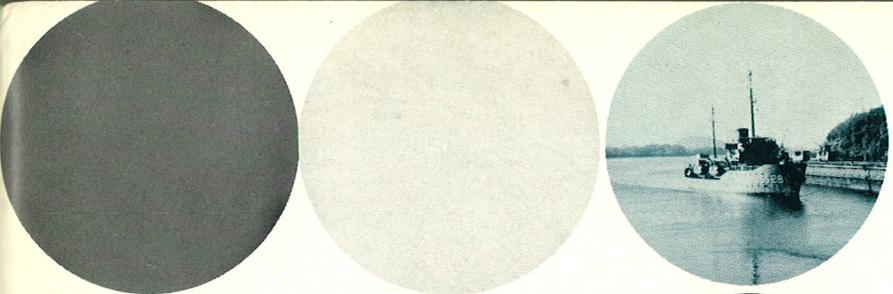


*H. B. Stewart, Jr.*

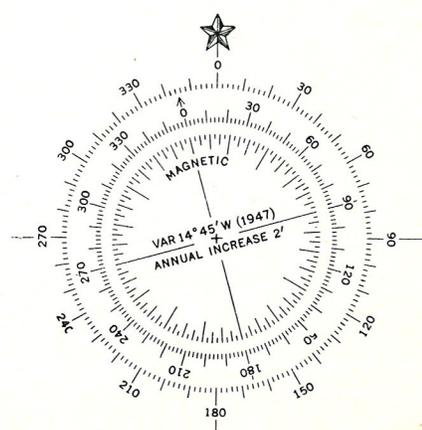
**COAST AND  
GEODETTIC SURVEY  
SHIP EXPLORER**



Published by  
**EXPLORER Ship Service**  
Coast and Geodetic Survey  
U.S. Department of Commerce



# COAST AND GEODETIC OCEAN SURVEY



H. Arnold Karo  
Rear Admiral, USC & GS



The extended scientific expedition of the oceanographic survey ship EXPLORER marks the re-emphasis of one phase of the Bureau's operations in which the Coast and Geodetic Survey was a leader in years past. Called the "National Oceanographic Cruise" due to the large number of agencies--some 15--participating in all or some phases of the operation, it demonstrates the large volume and diversification of valuable information which a cruise of this type can obtain by proper planning and coordination of effort. It has been my great privilege

to be on board for part of the cruise. I anticipate that this will be only the beginning in our increased activities in the many interesting fields of oceanography.

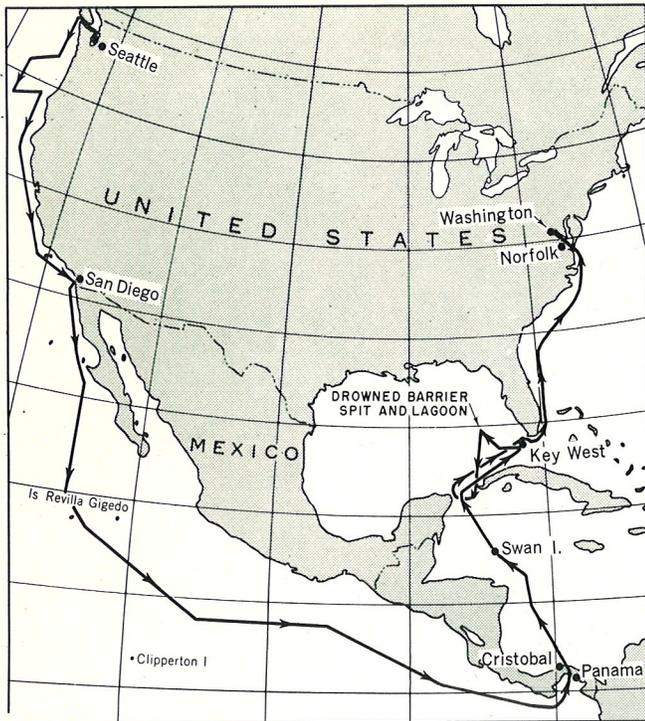
To those who understand and love her, the sea can be a most gracious friend and protector. A more thorough understanding of the sea and the utilization of her immense natural resources for the benefit of all mankind will do much to bring closer that day of universal peace and understanding for which we all strive.

I am glad to dedicate this pictorial cruise book to the members of the expedition who have contributed immeasurably to the success of the undertaking. This collection of selected photographs, representative of highlights of the historic cruise, will serve as a permanent record of a timely and important achievement of the Coast and Geodetic Survey. I deem it a privilege to have had a part in it.

A handwritten signature in black ink that reads "H. Arnold Karo". The signature is written in a cursive, flowing style.

H. ARNOLD KARO  
Rear Admiral, USC&GS  
Director, U. S. Coast and Geodetic Survey

# SHIP'S LOG



## STATISTICS Oceanographic Project 08700 Ship EXPLORER 2 February to 20 April 1960

Ship Run, nautical miles.....	10,068
Trackline Hydrography, nautical miles.....	9,228
Oceanographic stations occupied.....	50
Bathythermograph Observations.....	684
Oxygen Analyses.....	750
Phosphate Analyses.....	198
Nitrite Analyses.....	54
Salinity samples bottled.....	754
Suspended sediment samples (bottled).....	11
Bottom Sediment Cores & Samples (6).....	53
Cores for USPHS, Radioactivity studies.....	8
Deep Sea Camera stations.....	9
Current Drift Bottles Released.....	4,706
Second-Velocity Meter lowerings.....	34
Biological Net Tows.....	58
Biological Dredge Hauls.....	15
Geological Dredge Hauls.....	7
Magnetometer Towed (miles).....	7,662
Weather Balloons Released.....	59
Synoptic Weather reports.....	162
Current Meter Observations (hours).....	7
Launch Hydrography, (miles).....	142
Magnetic Stations Observed.....	2
Current Observations—Pole (hours).....	32
Tides Observed (days).....	6
Scuba Dives.....	10
Photogrammetric Field Work; Tellurometer and Theodolite Traverse; Geographic Names Investigation	
Rock Samples collected.....	89
Live Iguanas collected.....	18
Small Lizards collected.....	12
Iguanas prepared and preserved.....	2
Representative collection of Plants and Insects; Fish and Marine Invertebrates collected and preserved	
Special Philatelic Mail Cancelled.....	5,100
Census Taken (1960) persons, Swan Island.....	28

2 FEBRUARY  
DEPARTED C&GS SHIP BASE, SEATTLE.

4 FEBRUARY  
BEGAN TRACKLINE ABEAM CAPE FLATTERY. ROUGH SEAS AND WINDS OF GALE FORCE CONTINUED FOR FIVE DAYS.

12 FEBRUARY  
ARRIVED SAN DIEGO. BERTHED AT BROADWAY STREET PIER.

17 FEBRUARY  
DEPARTED SAN DIEGO.

22 FEBRUARY  
EXPLORER HAS ITS UPS AND DOWNS. WEATHER BALLOON MONITORED ATMOSPHERE UP TO HEIGHT OF 118,090 FEET WHILE OCEANOGRAPHIC OBSERVATIONS MADE TO DEPTH OF 12,060 FEET.

28 FEBRUARY  
FOUND THERMAL DOME WITHIN 27 FEET OF SURFACE 200 MILES OFF COSTA RICA IN PACIFIC.

20-21 FEBRUARY  
PHOTOGRAPHED THE OCEAN BOTTOM AT 9 CAMERA STATIONS IN GENERAL VICINITY OF REVILLA GIGEDO ISLANDS, PACIFIC IN DEPTHS OF 12,000 FEET.

2 MARCH  
TIED UP TO PIER 15, BALBOA, CANAL ZONE.

4 MARCH  
ADMIRAL KARO ABOARD.

9 MARCH  
DEPARTED BALBOA FOR CANAL TRANSIT.

11 MARCH  
DISCOVERED 4 BY 7 MILE SHOAL WITH LEAST DEPTH OF 15 FATHOMS SURROUNDING DEPTHS OF 300-900 FATHOMS 90 MILES NORTH-EAST OF HONDURAS.

12 MARCH  
ANCHORED OFF SWAN ISLANDS.

15 MARCH  
TOOK CENSUS OF SWAN ISLANDS.

19 MARCH  
DATE OF CANCELLATION OF EXPLORER-SWAN ISLANDS PHILATELIC MAIL.

19 MARCH  
DEPARTED SWAN ISLANDS.

22 MARCH  
ARRIVED AT KEY WEST. BERTHED AT NAVAL STATION ANNEX. DIRECTOR DEPARTED KEY WEST.

29 MARCH  
DEPARTED KEY WEST.

31 MARCH  
ROCK DREDGED ON DROWNED BARRIER SPIT OFF WEST COAST OF FLORIDA.

5 APRIL  
ARRIVED AT KEY WEST.

8 APRIL  
DEPARTED KEY WEST.

9 APRIL  
CURRENT BUOY TOWED UNDER IN STRAITS OF FLORIDA AND LOST.

18 APRIL  
ENTERING VIRGINIA CAPES.

20 APRIL  
ARRIVED WASHINGTON, D. C. OCEANOGRAPHIC EXPEDITION TERMINATED.

21-25 APRIL  
SHIP OPEN TO PUBLIC. 2781 VISITORS VIEWED EXHIBITS.

26 APRIL  
DEPARTED WASHINGTON, D. C.

27 APRIL  
ARRIVED AT NORFOLK, VIRGINIA.



**CDR John C. BULL**  
Exec. Off., until 3 April 1960  
Alexandria, Virginia



**CDR David M. WHIPP**  
Exec. Off., from 3 April on.  
Romney, West Virginia



**CDR William F. DEANE**  
Baltimore, Md.



**CDR Raymond M. STONE**  
Nav. O.  
Bethesda, Md.



**CAPT Edmund L. JONES**  
Commanding Officer  
Virginia Beach, Virginia

## **SHIP'S OFFICERS**



**CDR Locke L. CRANFORD**  
Ch. Eng.  
Norfolk, Va.



**LCDR Harry D. REED, Jr.**  
Seattle, Washington



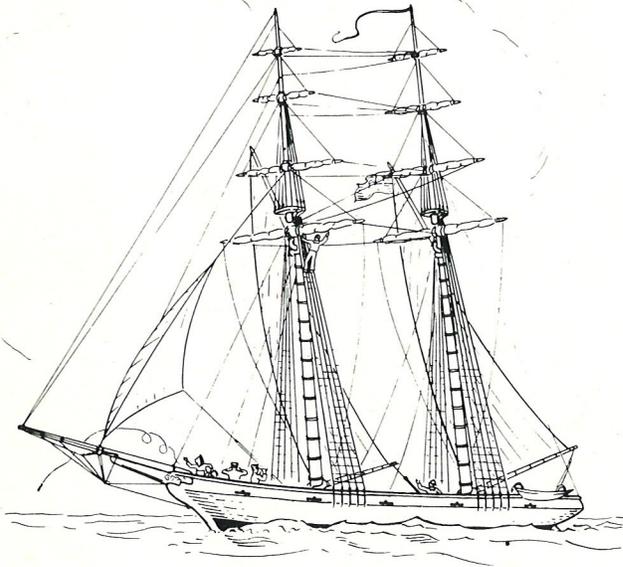
**LTJG K. William JEFFERS**  
Seattle, Washington



**ENS Glenn De GROOT**  
Edgerton, Minnesota

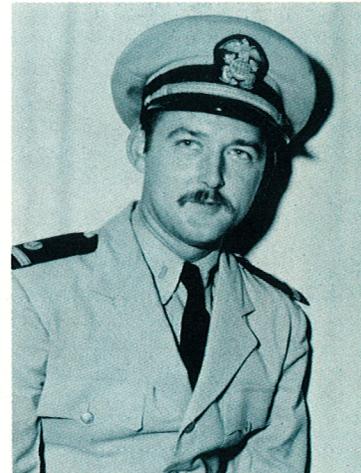


**ENS Martin T. EGAN**  
San Jose, Calif.



**EARLY SURVEY SHIP EXPERIMENT**

This sailing vessel, one of the first ships used by the Survey, performed hydrographic work in New York Bay in 1835.



**ENS James B. ALLEN**  
Carmi, Illinois



**ENS Will CONNELL**  
Los Angeles, Calif.

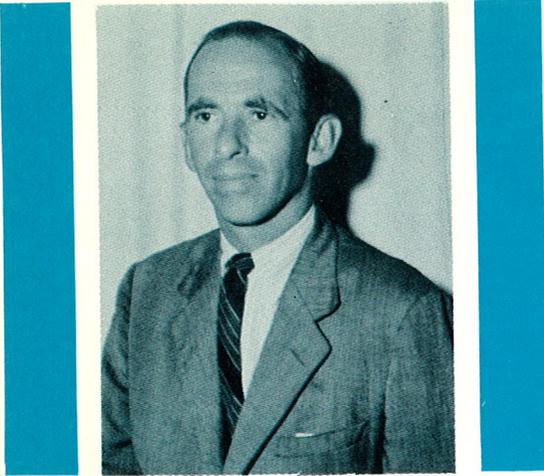


**ENS Richard L. HESS**  
Montebello, Calif.



**ENS Ray E. MOSES**  
Williamsburg, Ky.

## Scientists and Technicians



Dr. Harris B. STEWART Jr.  
Ch. Oceano. C&GS  
Washington, D. C.



Mr. Arthur D. RAFF  
Assoc. Engr. NEL  
San Diego, Calif.



Mr. Bernard D. ZETLER  
Oceano. C&GS  
Chevy Chase, Md.



Mr. Bruce WYATT  
Res. Assoc. State College  
Corvallis, Oregon



Mr. Anthony J. GOODHEART  
Oceano. C&GS  
Alexander, Virginia



Mr. Ronald K. REED  
Oceano. C&GS  
Mt. Top, Arkansas



Mr. Robert A. CUMMINGS  
Oceano. C&GS  
Silver Spring, Md.



Mr. Demetrio A. DINARDI  
Oceano. C&GS  
Silver Spring, Md.



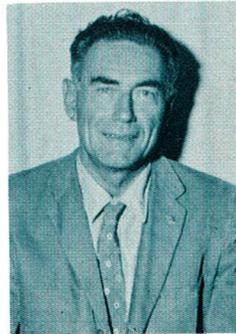
Mr. Angelo FERRARA  
Elect. Engr. C&GS  
Hyattsville, Md.



Mr. Leroy S. NORDAHL  
Met. Tech., Weather Bu.  
Monango, N. D.



Mr. Michael SLAPSYS  
Oceano. C&GS  
Washington, D. C.



Mr. Byron HALE  
Photographer, C&GS  
Jefferson City, Tenn.



Mr. John L. BOTTUM  
Geoph. C&GS  
Corbin, Virginia



Mr. Pedro A. SANTIAGO  
Oceano. C&GS  
Washington, D. C.

## Passengers

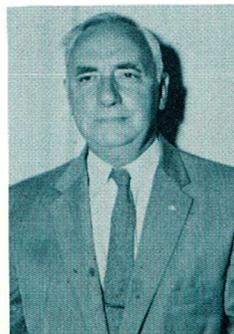
## Observer



Mr. A. Dougall REITH  
S. Mar. Tech., Scripps  
San Diego, Calif.



Mr. Carl SHIPEK  
Oceano. NEL  
San Diego, Calif.



CDR. James E. BAKER  
Ch. Engr. (Ret) C&GS  
Seattle, Washington



Casswell H. DANIELS  
CM (Ret) C&GS  
Seattle, Washington



CAPT. Kenneth G. CROSBY  
Chief T. & C. Div.  
Bethesda, Md.



**Estaban R. ABENOJAR—St.**  
Stewards Department  
Seattle, Washington



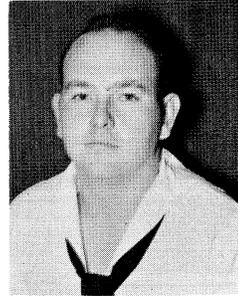
**Robert W. AHBOL—SR**  
Deck Department  
Key West, Florida



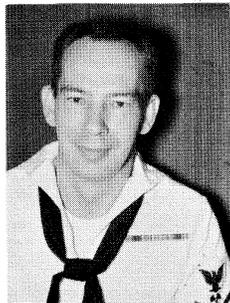
**Leon ALAMO—St-1**  
Stewards Department  
Portsmouth, Virginia



**Angelo M. ALGERI—S**  
Deck Department  
Seattle, Washington



**Donald C. ANDERSON—FA**  
Engineer Department  
Alderwood Manor, Washington



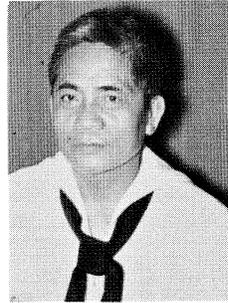
**Wilbert H. ANDERSON—MM-2**  
Engineer Department  
Seattle, Washington



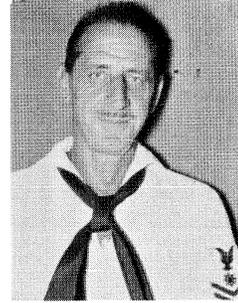
**Aubrey V. ANSELL—CM**  
Engineer Department  
Knotts Island, North Carolina



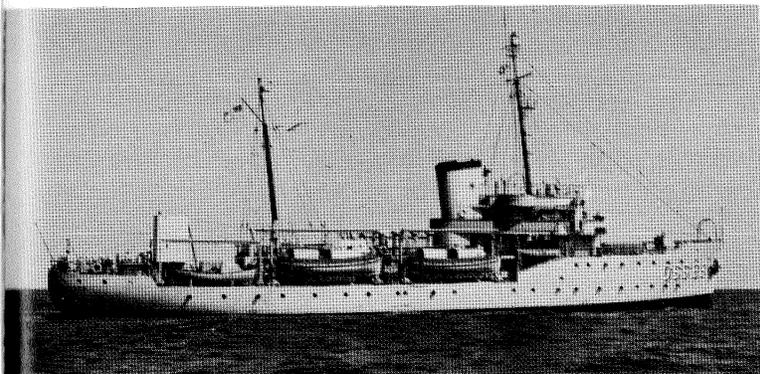
**David A. AQUINO—CS**  
Stewards Department  
Piddig, Ilocos Norte, P.I.



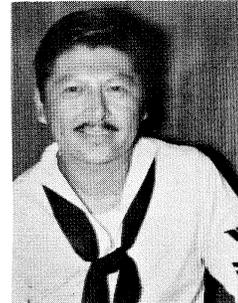
**Juan D. BALITON**  
Stewards Department  
Seattle, Washington



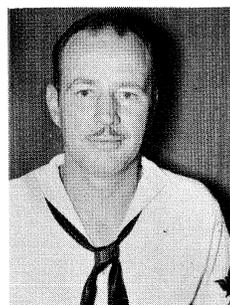
**Martin J. BERNARD—Q-1**  
Quartermaster Department  
Seattle, Washington



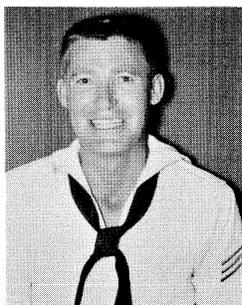
# SHIP'S CREW



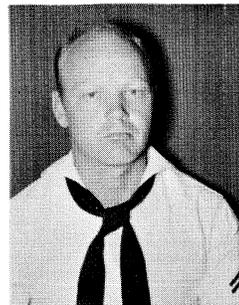
**Fred S. BEZEKOFF—RM-1**  
Electronics Department  
Monterrey, Mexico



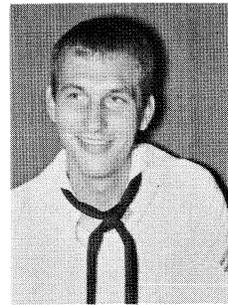
**Raymond BLISS—RM-1**  
Electronics Department  
Seattle, Washington



**Donald R. BOWERS—SR**  
Deck Department  
Grandledge, Michigan



**William BURNHAM—SR**  
Deck Department  
Lansing, Michigan



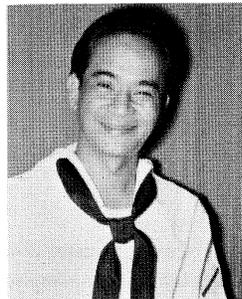
**Charles S. BYLSMA—F**  
Engineer Department  
Seattle, Washington



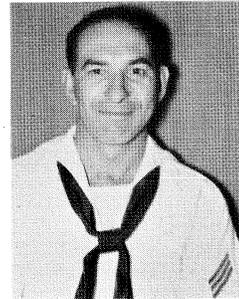
**Fructoso D. CABANELA—St.-2**  
Stewards Department  
Seattle, Washington



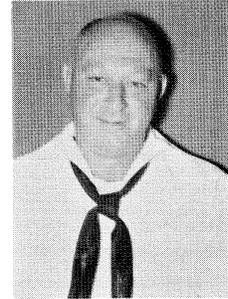
**Anastacio N. CAMPUGAN—St.-3**  
Stewards Department  
Stockton, California



**Christo D. CASALLO—St**  
Stewards Department  
Seattle, Washington



**John CHRISTOFF—S**  
Deck Department  
Yakima, Washington



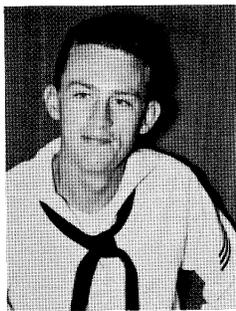
**Ernest E. Clark—BM-2**  
Deck Department  
Brinnon, Washington



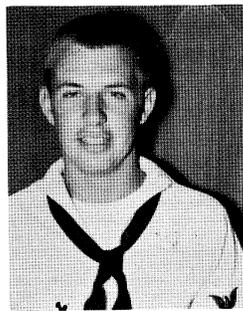
**John P. COATS—CM**  
Engineer Department  
Fort Pierce, Florida



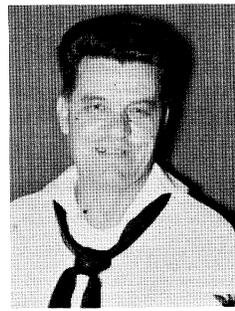
**Frederick W. COLE—SR**  
Deck Department  
Oneda, New York



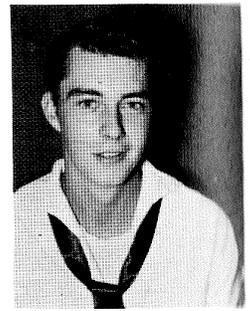
**Philip J. CORGATELLI—SA**  
Deck Department  
Seattle, Washington



**Patrick W. DENNIS—SA**  
Quartermaster Department  
Blaine, Washington



**Emericus DIERINCKX—MM-1**  
Engineer Department  
Hoboken, New Jersey



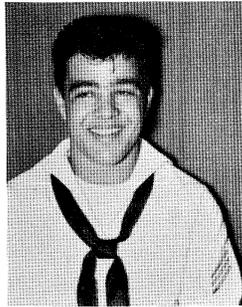
**Ronald P. EDMANDS—SR**  
Deck Department  
Seattle, Washington



**Delfin E. ELLORIN—St.**  
Stewards Department  
Seattle, Washington



**Theodore T. FICKEN—CM**  
Engineer Department  
Norfolk, Virginia



**Donald P. FLETCHER—F**  
Engineer Department  
Seattle, Washington



**Ralph H. FORTNA—CY**  
Yeoman Department  
Stanton, Nebraska



**Robert A. FRITTS—JET-2**  
Electronics Department  
Seattle, Washington



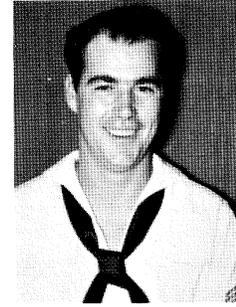
**Leo T. GREEN—SR**  
Deck Department  
Seattle, Washington



**Thomas H. HENDERSON—SR**  
Deck Department  
St. Petersburg, Florida



**Spence C. HEYWOOD—SR**  
Deck Department  
Yuba City, California



**Philip L. HOLMAN—FR**  
Engineer Department  
Seattle, Washington



**Patrick C. JARVIS—QS-1**  
Quartermaster Department  
Staten Island, New York



**Charles D. KEARSE—CET**  
Electronics Department  
Charleston Heights, S. C.



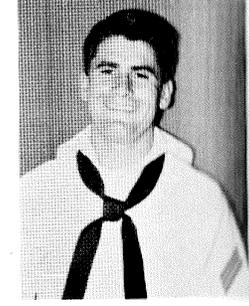
**Joseph P. KELLEY—CEM**  
Engineer Department  
Ventura, California



**Francis K. KUSHI—SR**  
Deck Department  
Seattle, Washington



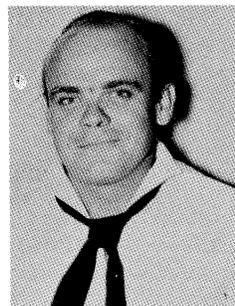
**Grant LEWIS—CB**  
Deck Department  
Marshallberg, North Carolina



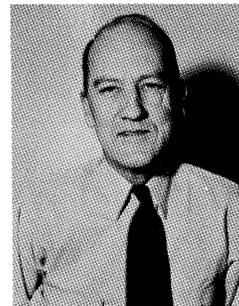
**Donald D. LOPES—S**  
Deck Department  
Belas, Portugal



**William D. MATHEWS—CM**  
Engineer Department  
Norfolk, Virginia



**John C. McCONN—SR**  
Deck Department  
Salem, Ohio



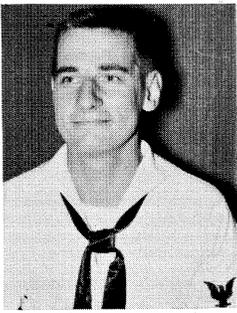
**Paul MEARS—CET**  
Electronics Department  
Seattle, Washington



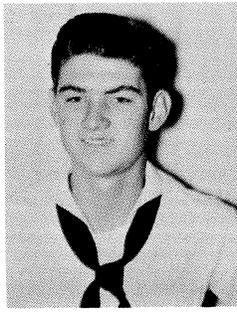
**Eugene D. MELANG—CMM**  
Engineer Department  
Seattle, Washington



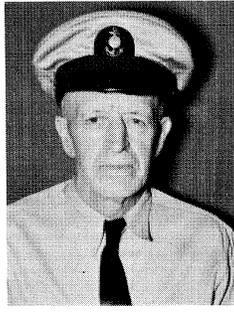
**Roy E. MENDOZA—ST**  
Stewards Department  
Seattle, Washington



Lloyd G. MILSTEN—PhM-2  
Medical Department  
Seattle, Washington



Jackie D. MINZE—FR  
Engineer Department  
Frost, Texas



Arthur J. MONK—CCM  
Deck Department  
Kent, Washington



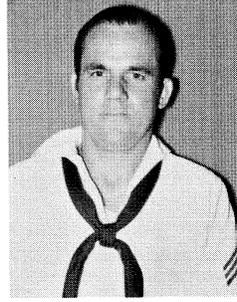
Ralph J. MOORE—SR  
Deck Department  
El Paso, Texas



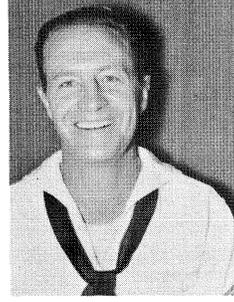
Johnny M. ORDONEZ—St  
Stewards Department  
Seattle, Washington



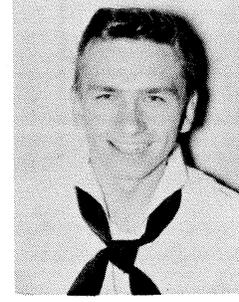
Arthur S. PULLEN—SR  
Deck Department  
Grants Pass, Oregon



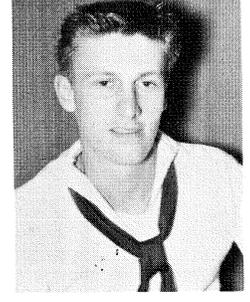
Donald RUSSELL—StR  
Stewards Department  
Bulger, Pennsylvania



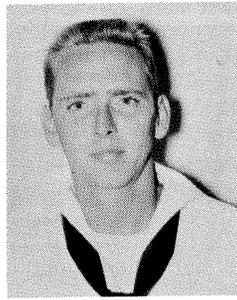
Edward E. STARR—FA  
Engineer Department  
Leadville, Colorado



Bruce A. STANLEY—FA  
Engineer Department  
Seattle, Washington



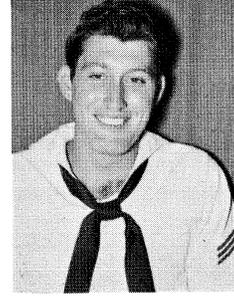
Merton A. SIMPIER—SR  
Deck Department  
Seattle, Washington



Frederick W. SEITZ—SR  
Deck Department  
Marathon, Florida



David M. TABANGAY—St-3  
Stewards Department  
Seattle, Washington



William W. TAYLOR—S  
Deck Department  
Franklin, North Carolina



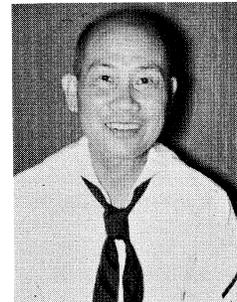
Elias B. TENAID—St-2  
Stewards Department  
Seattle, Washington



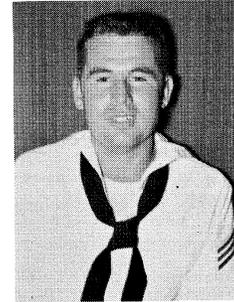
Marlott P. TRIGG—Q-3  
Quartermaster Department  
Nome, Alaska



Michael UPORSKI—CQ  
Quartermaster Department  
Seattle, Washington



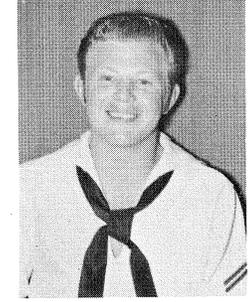
Macario VALLEJOS—St  
Stewards Department  
Pangacenan, P.I.



John P. WARD—S  
Deck Department  
Crisfield, Maryland



Max E. WEISGERBER—CET  
Electronics Department  
Norfolk, Virginia



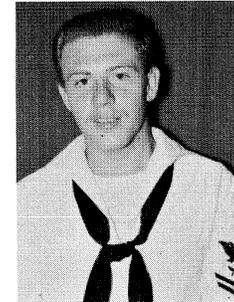
Clinton R. WEHMEYER—SR  
Deck Department  
Seattle, Washington



W. Paul WILLIS—CBM  
Deck Department  
Norfolk, Virginia



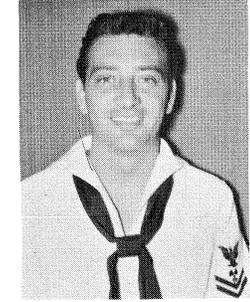
Henry J. WELLS—ChM  
Engineer Department  
Seattle, Washington



Leslie A. WOOD—Y-2  
Yeoman Department  
Seattle, Washington



Jeston V. WOODSON—SA  
Deck Department  
Key West, Florida



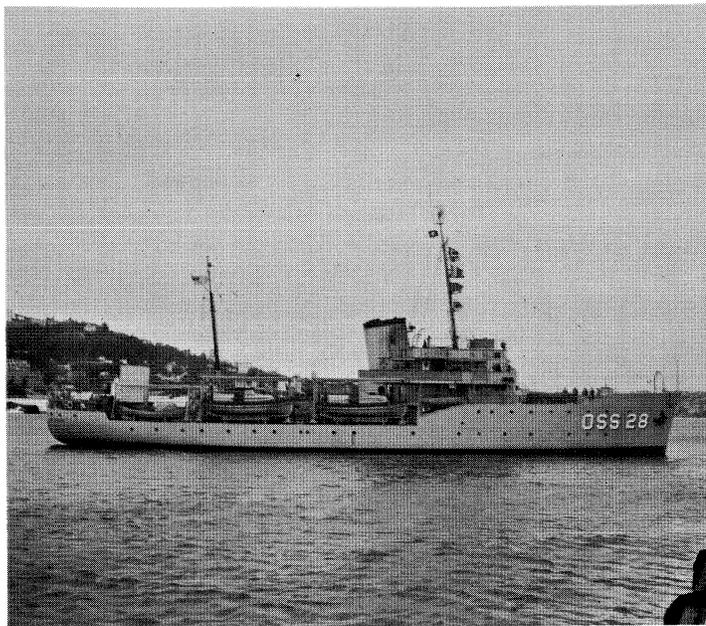
Jack E. WOOLEN—MM-2  
Engineer Department  
Seattle, Washington





**EXPLORER (OSS 28) at Lake Union Ship Base, Seattle.**

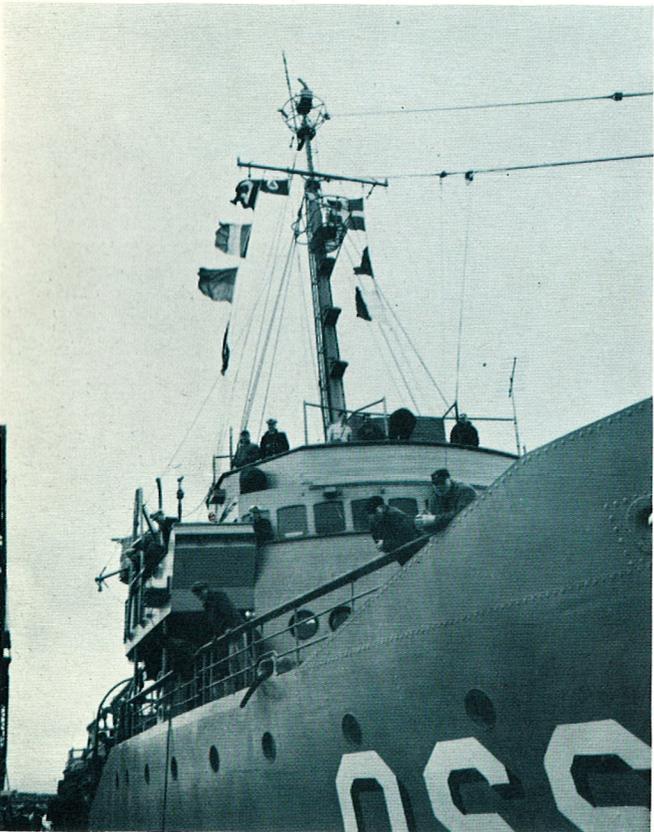
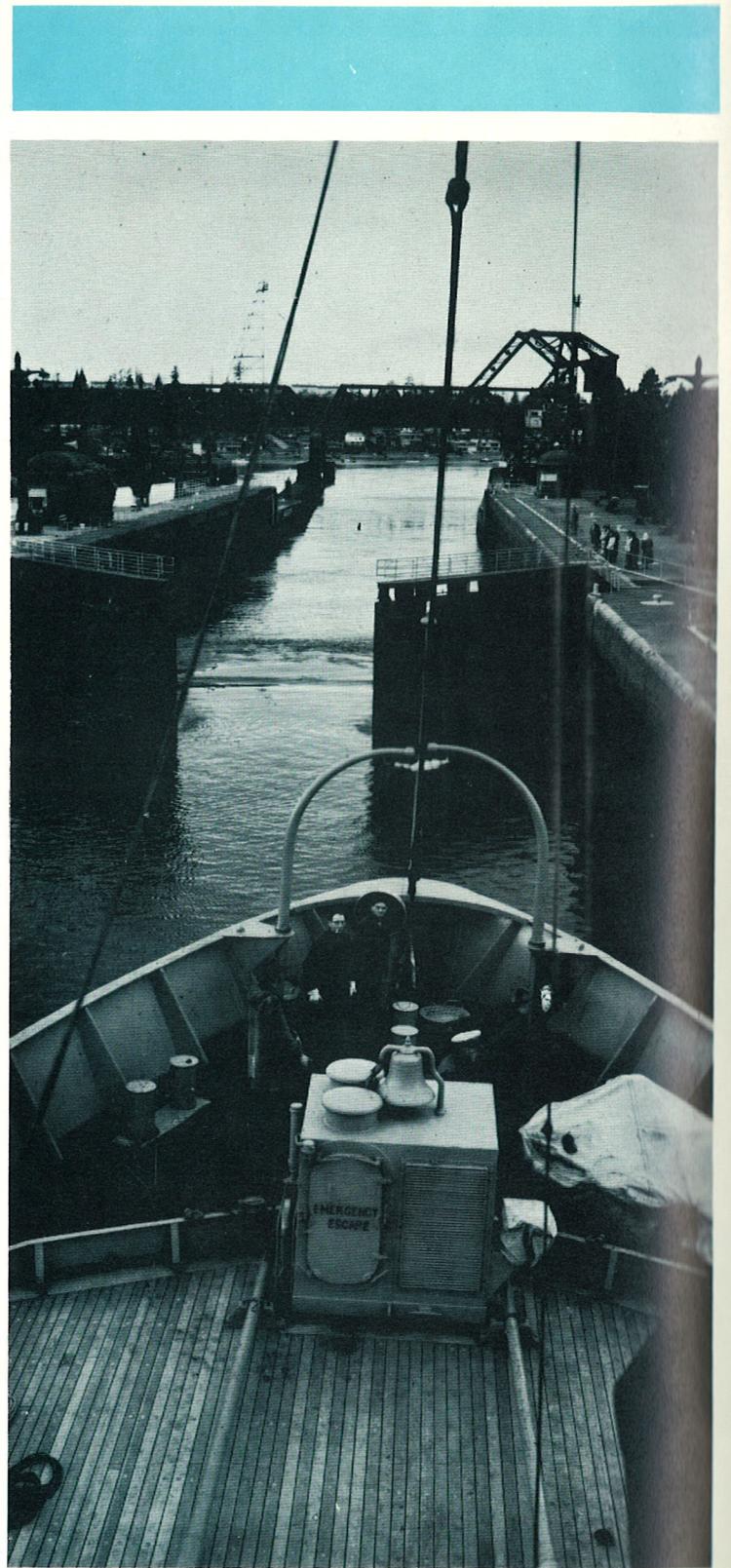
**Departure: Seattle, Washington**



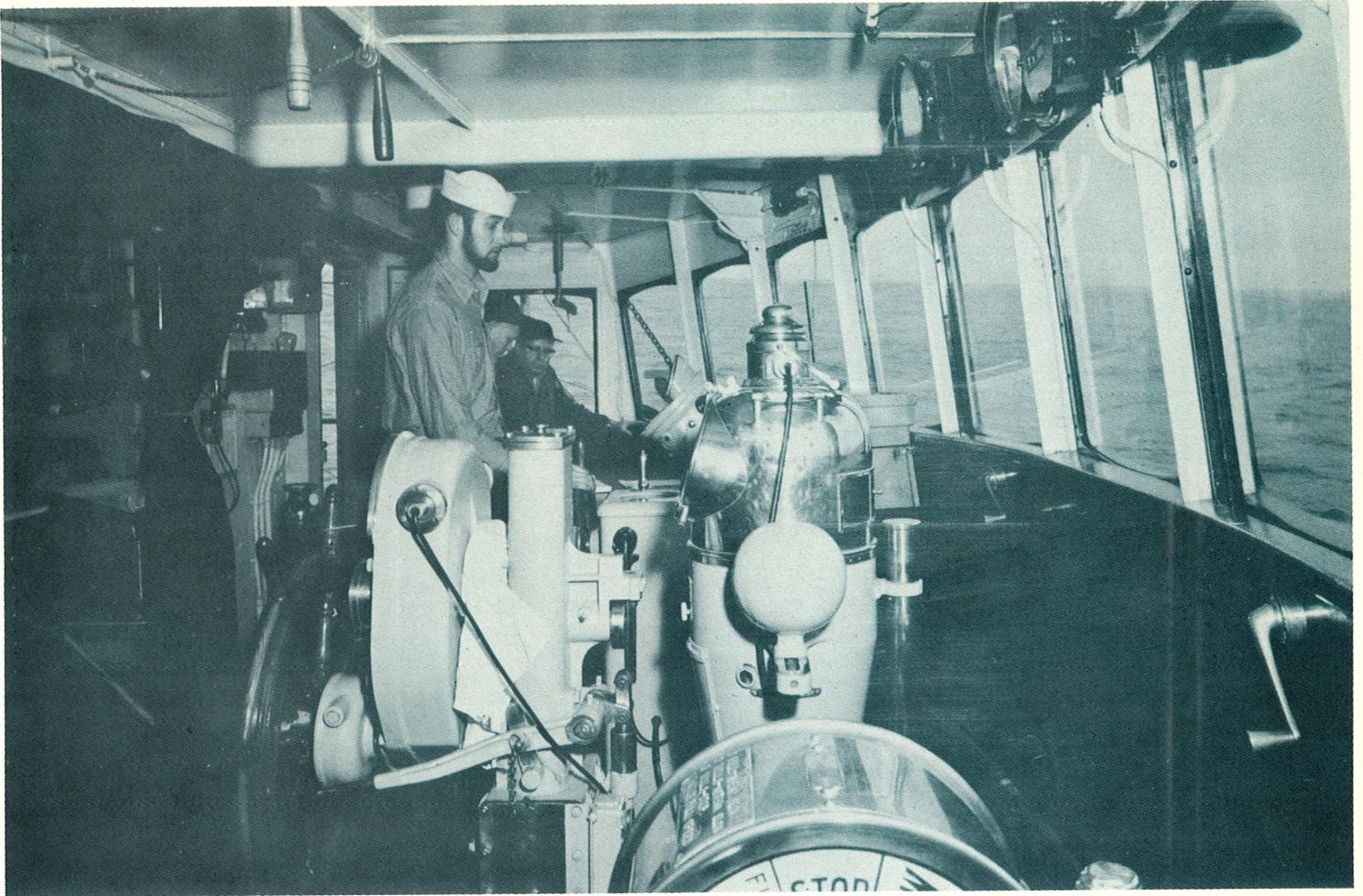
**Underway from Ship Base 2 February 1960 to Start Oceanographic Project 08700.**



**Entering Government locks, Seattle.**

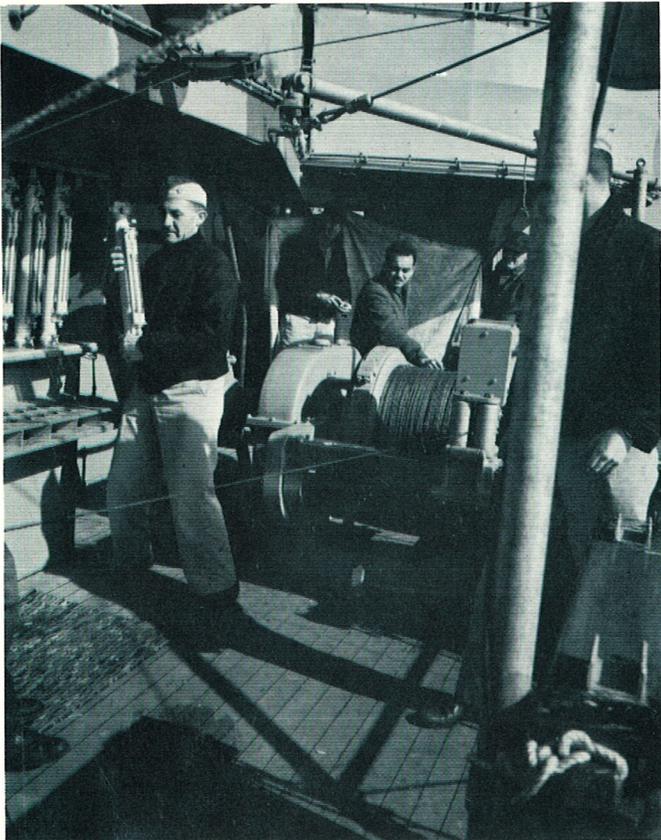


Leaving locks.

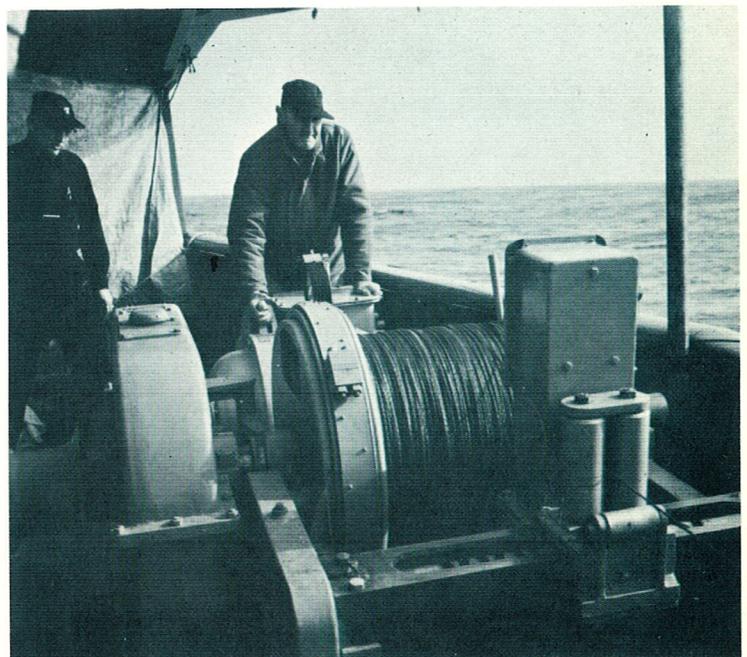


Helmsman William W. Taylor.

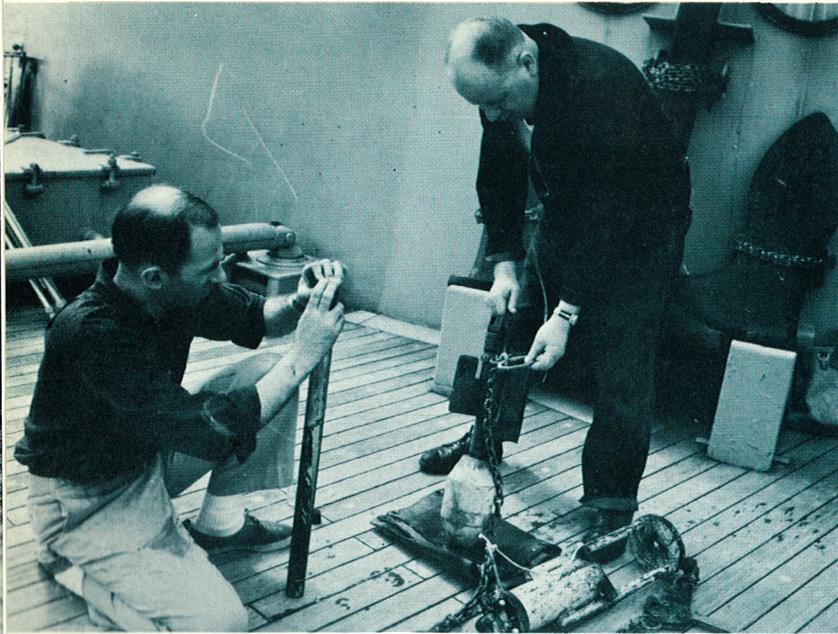
## TRACKLINE



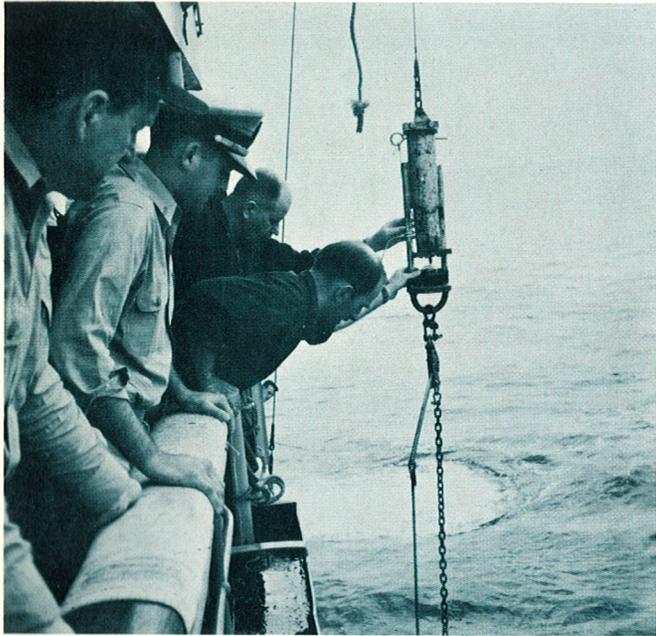
CDR Stone with Nansen bottle.



Chief Bos'n Grant Lewis operating oceanographic winch.



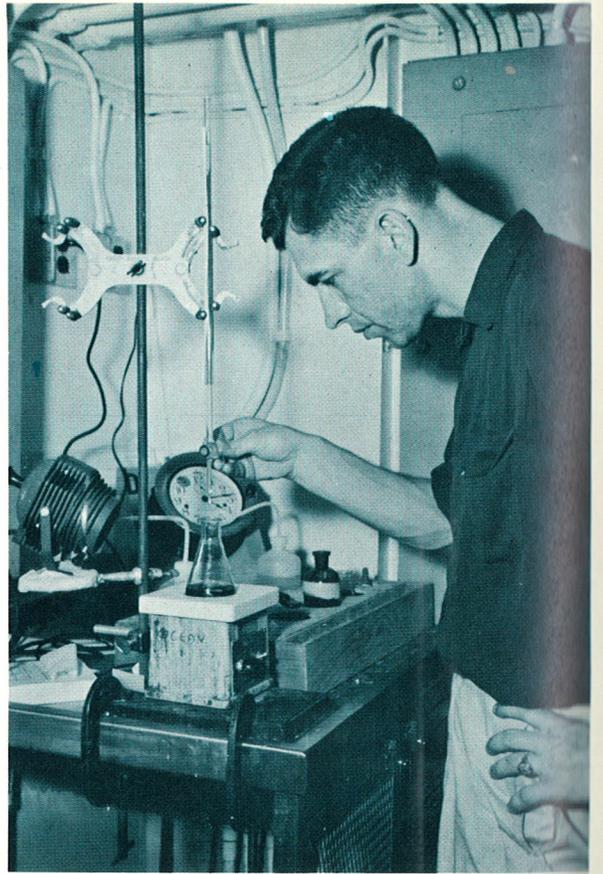
Dr. Stewart and Chief Quartermaster Uporski examining a bottom core.



Rigging the Phleger corer for a bottom sample.

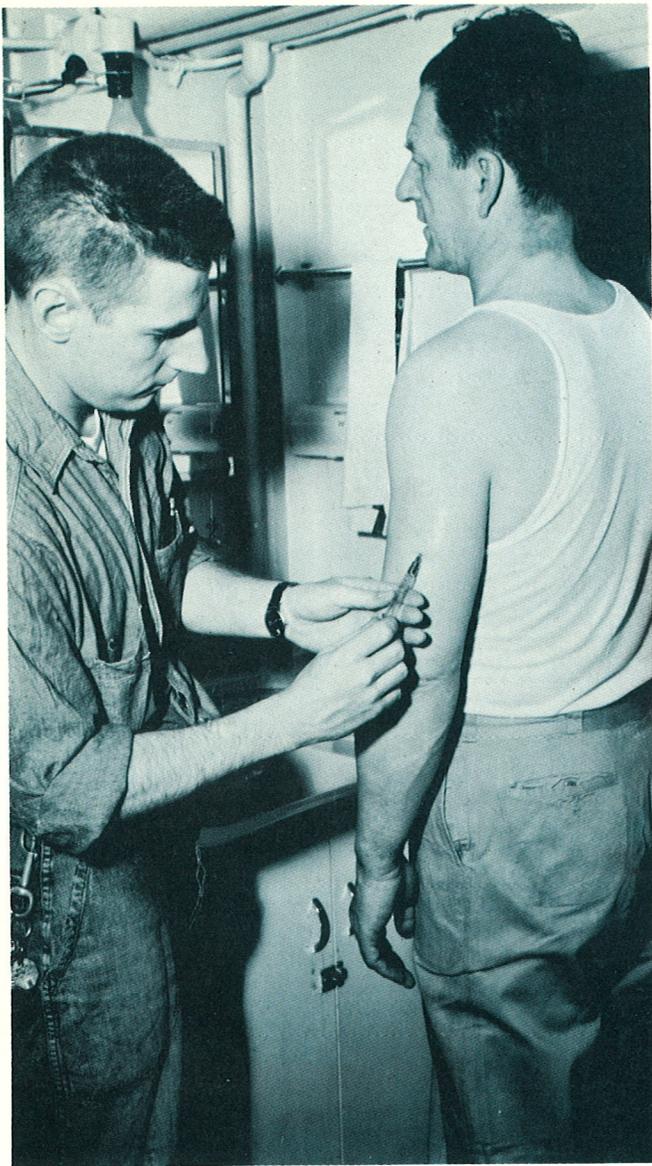


Making a BT (bathythermographic — "deep temperature") cast from the starboard bridge wing.

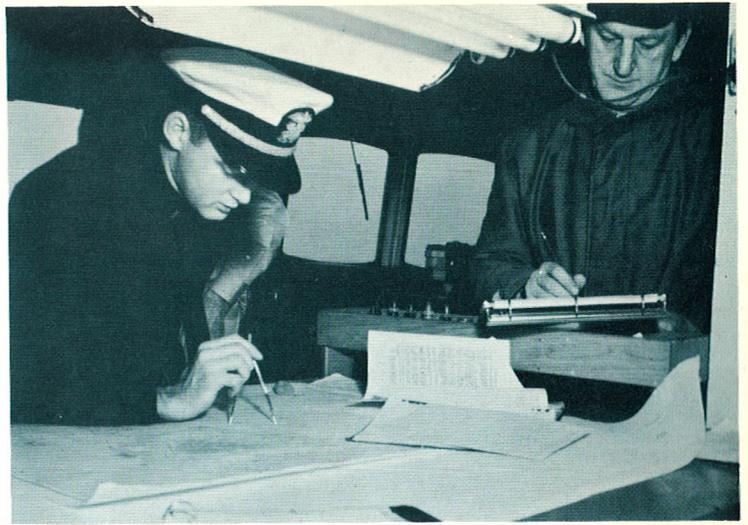


Oceanographer Ronald K. Reed analyzing a sea-water sample for dissolved-oxygen content.

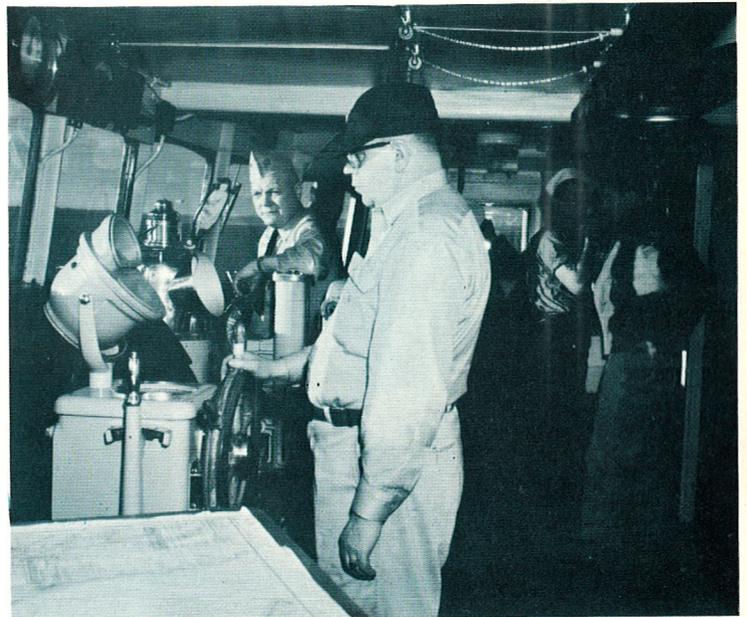




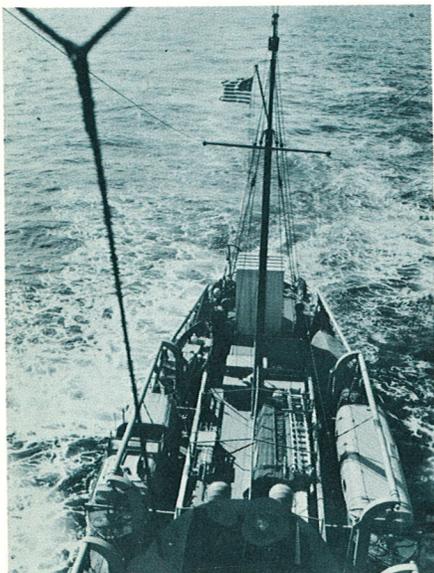
Pharmacist's Mate Lloyd G. Milsten giving a shot.



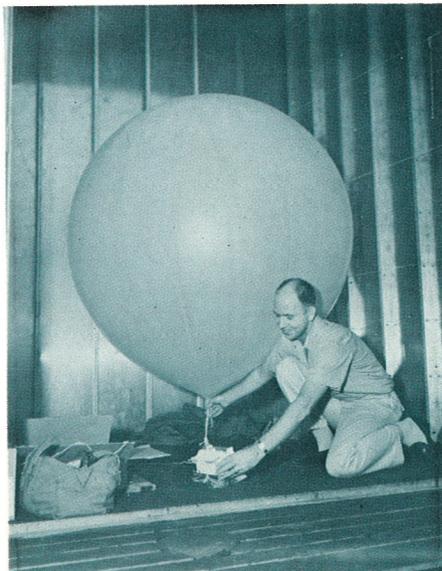
ENS JAMES B. Allen plotting ship's position.



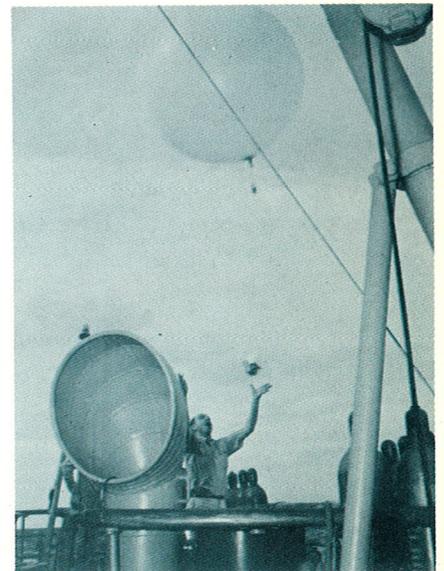
Chief Quartermaster Michael Uporski steering; CDR Deane, OD, in background.



Looking aft from the crow's nest.



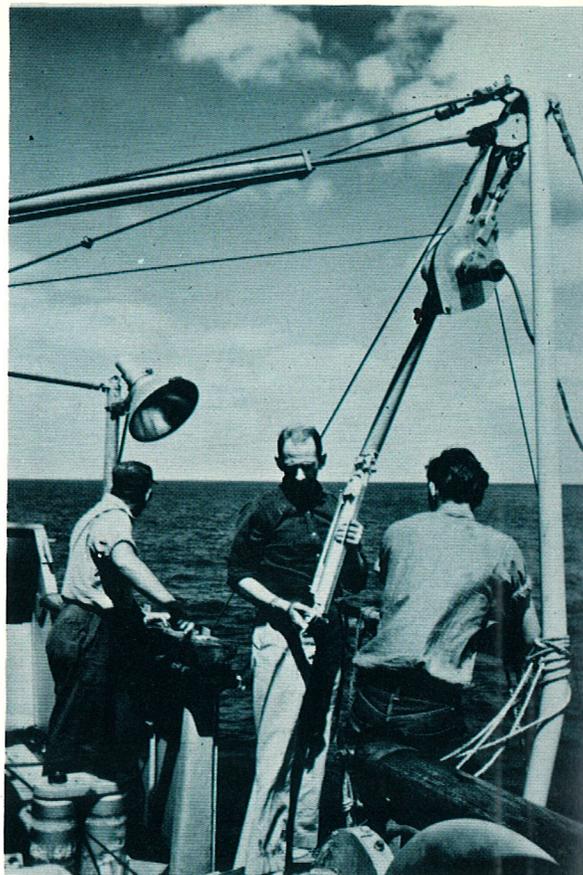
Meteorological Technician LeRoy S. Nordahl of the Weather Bureau about to start observations.



Release of a radiosonde balloon.



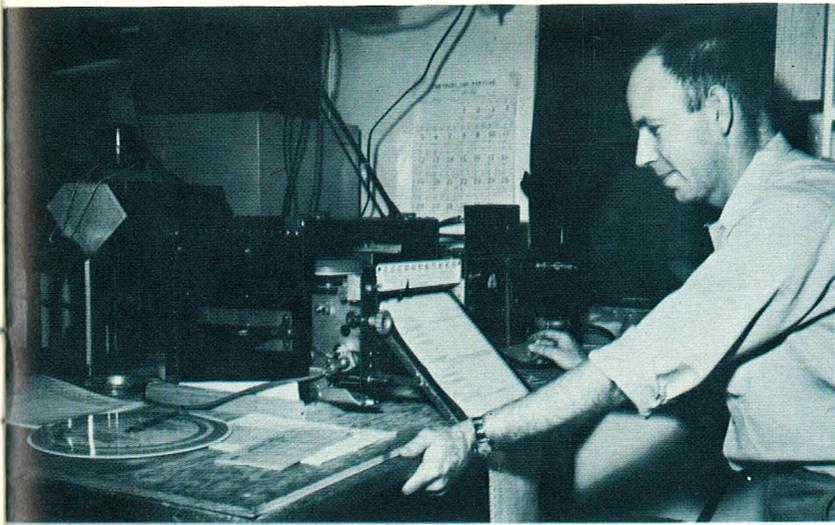
Making a Nansen-bottle cast.



Peeling the lowly spud.



NETTING SPECIMENS



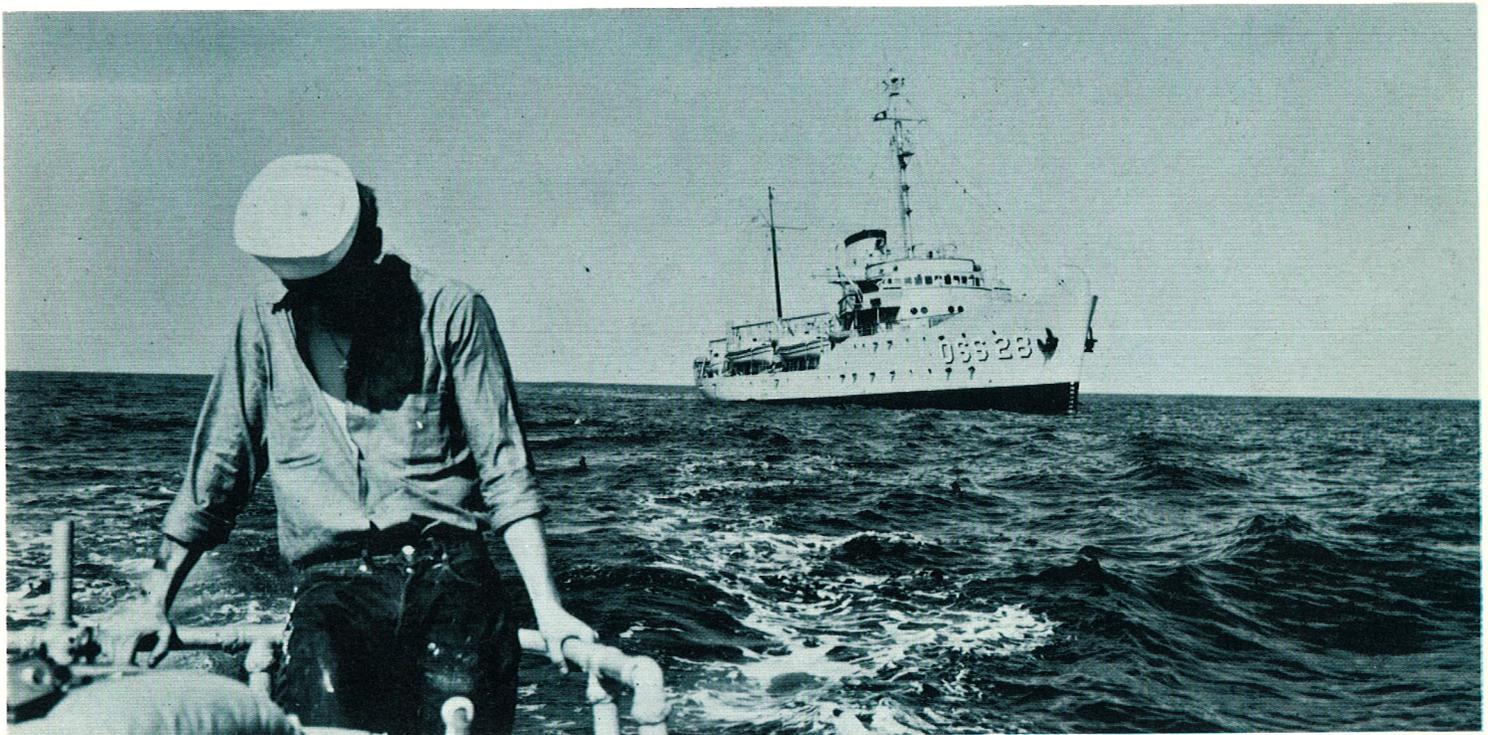
Recorder for monitoring radiosonde weather data.



Abandon-ship drill. Facing camera: Chief Carpenter's Mate Arthur J. Monk (six months before retirement) and Bos'n's Mate George Ramsey.



ENS DeGroot taking a sun sight.



EXPLORER off Mexican coast.



Arriving at San Diego, 12 February 1960.



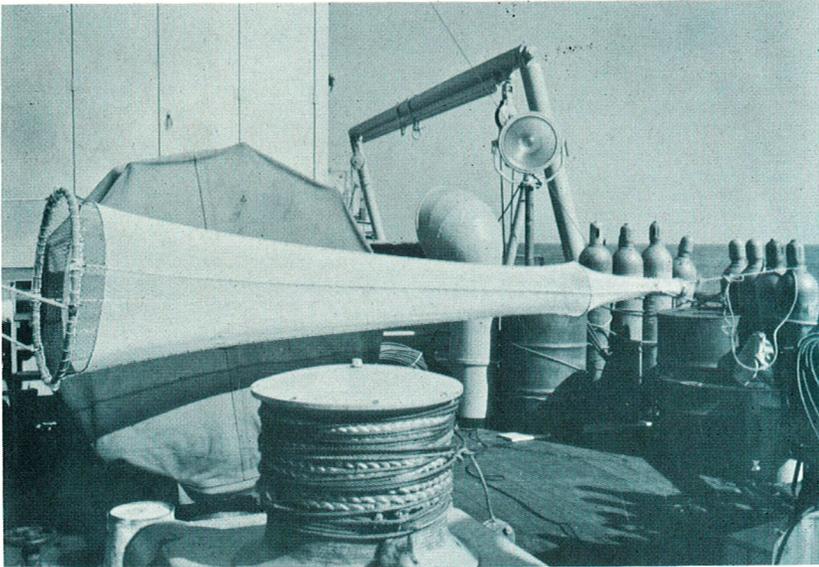
Dr. Stewart and the Commanding Officer being interviewed at San Diego for TV newscast.



Examining haul of a three-hour high-speed net tow.



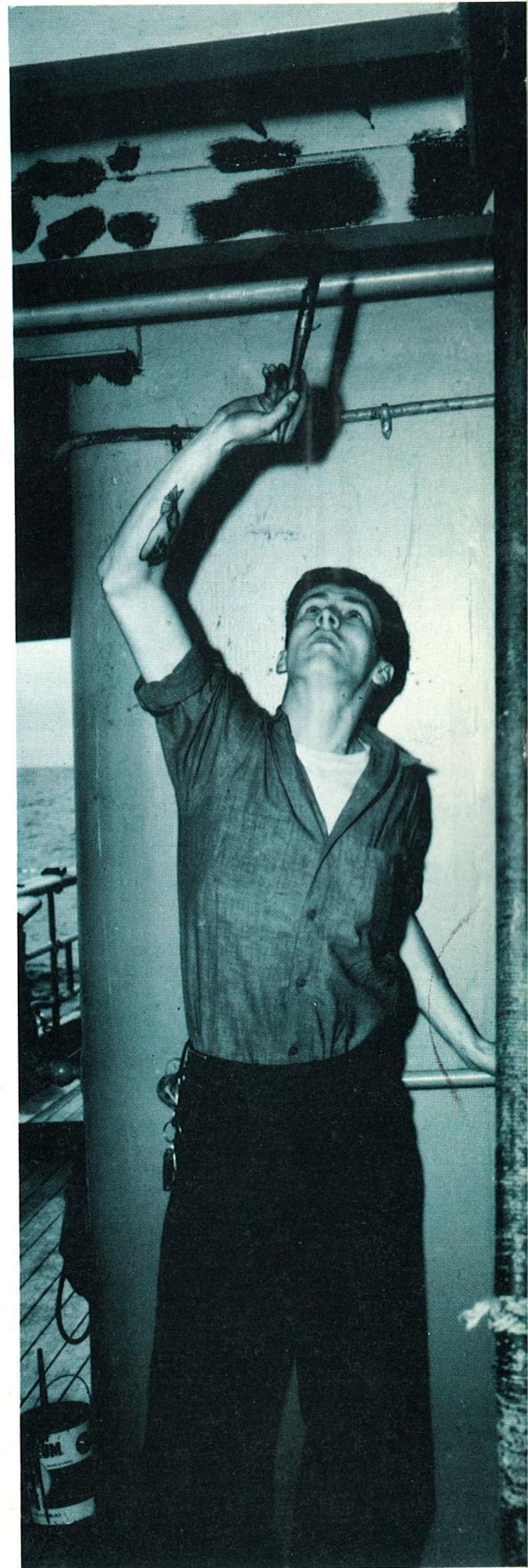
Recorder reading fathometer.



Net for surface micronekton.



Mr. A. Dougall REITH from Scripps making phosphate determination.



Seaman Merton A. Simpier painting overhead.



Scientists and technicians from Washington Office upon leaving San Diego.



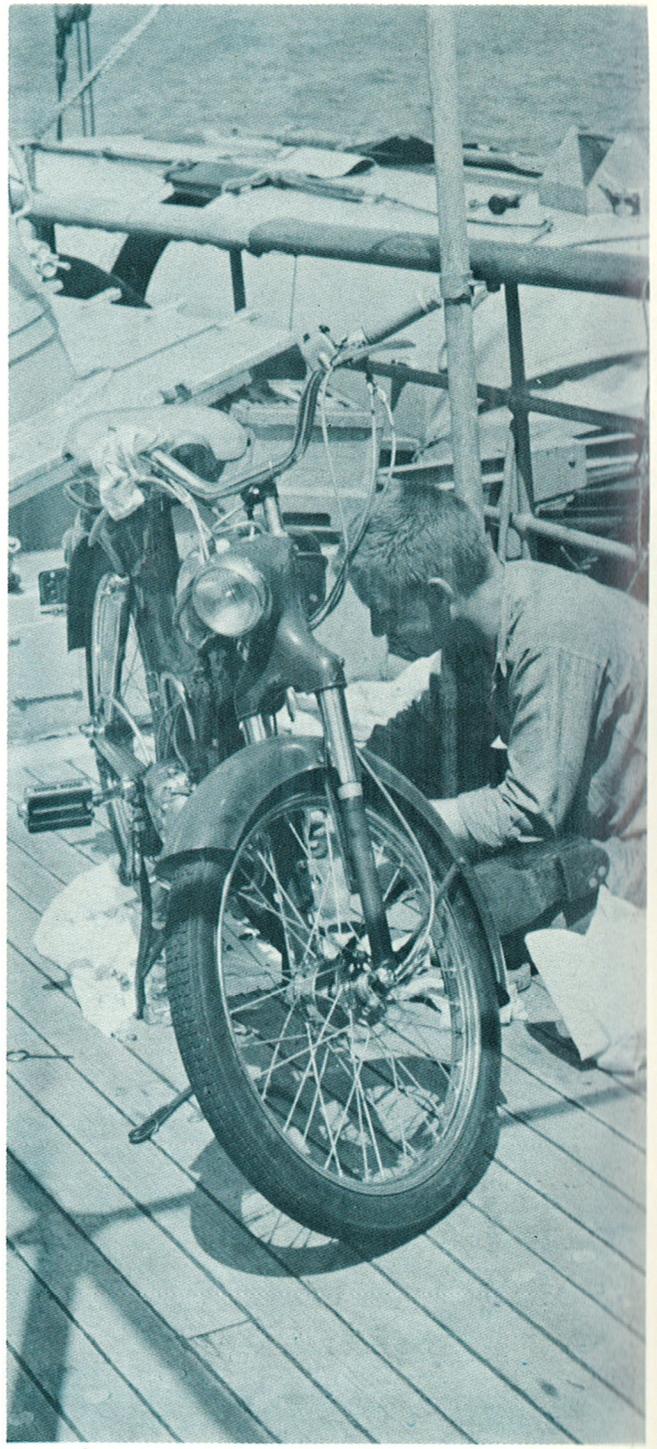
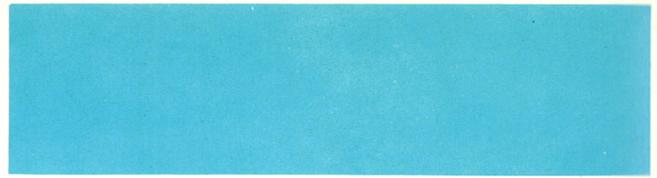
Chief Electronics Technician Charles D. Kearse being presented outstanding efficiency report from MARMER by CDR Stone in EXPLORER cabin.



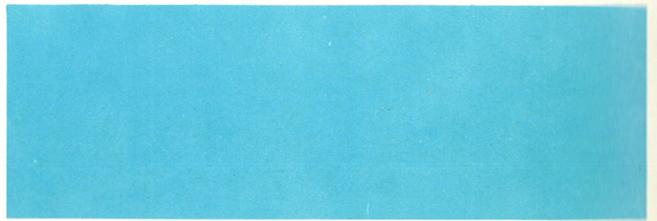
Streaming net.



Launching high speed net tow.



Dennis and his motorcycle.





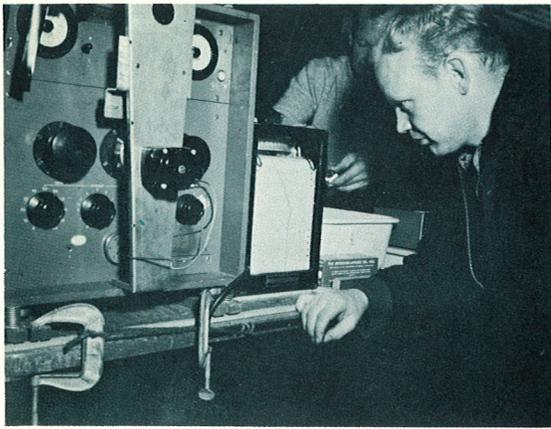
Recuerdos de Tijuana.



Launching magnetometer tow.



Balboa, Canal Zone.



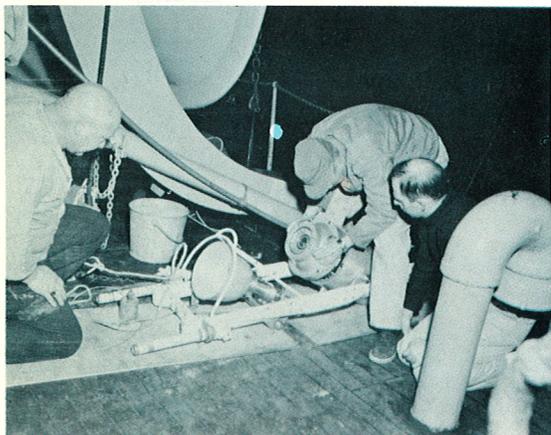
Seaman William Burnham monitoring magnetometer observations.



Magnetometer observation.



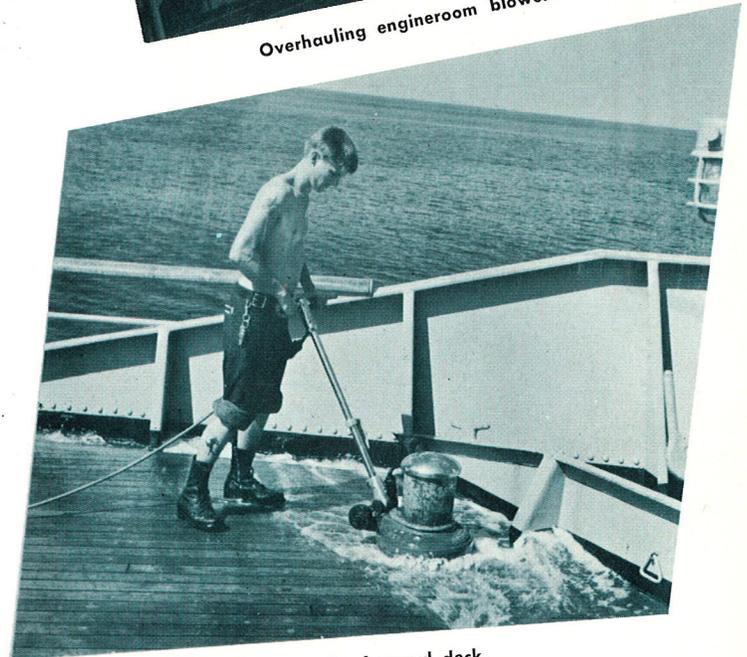
Oceanographer Michael Slapsys reading a BT slide.



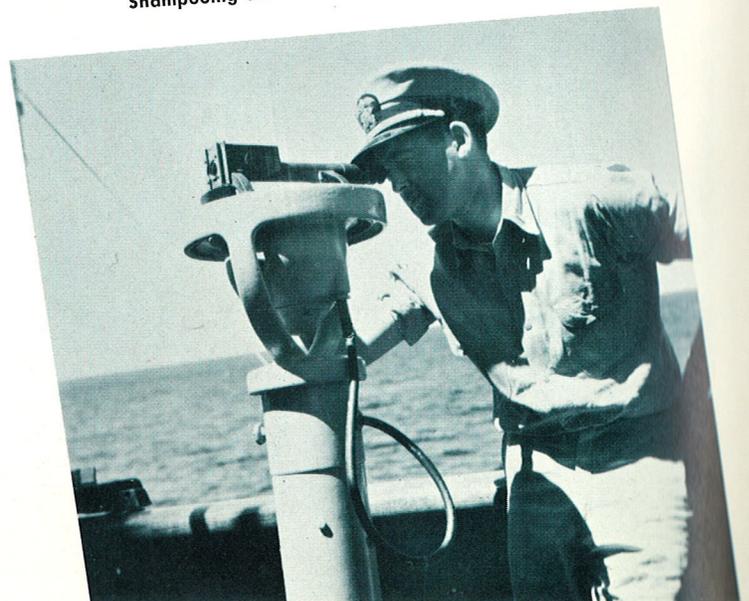
Deep-sea camera.



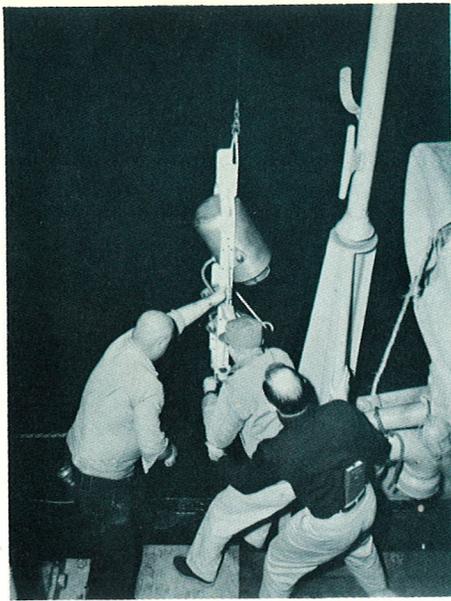
Overhauling engineroom blowers on boat deck.



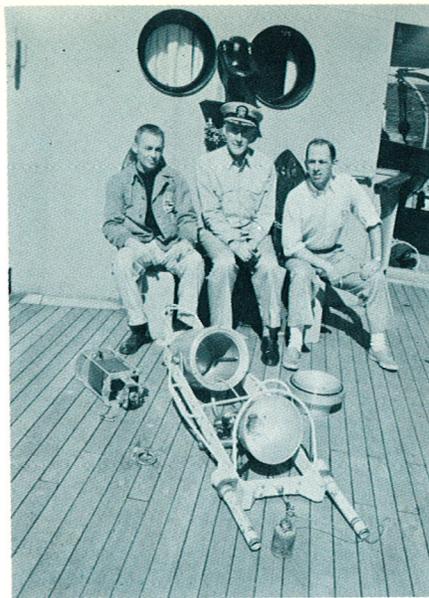
Shampooing the forward deck.



ENS Allen observing a bearing.



Camera going down. On left—not Yul Brynner, but Bos'n's Mate Ernie Clark.



Mr. Carl Shipek (left) of Navy Electronics Laboratory with deep-sea camera and friends.



Mr. Angelo Ferrara, Electronics Engineer, with velocity meter.

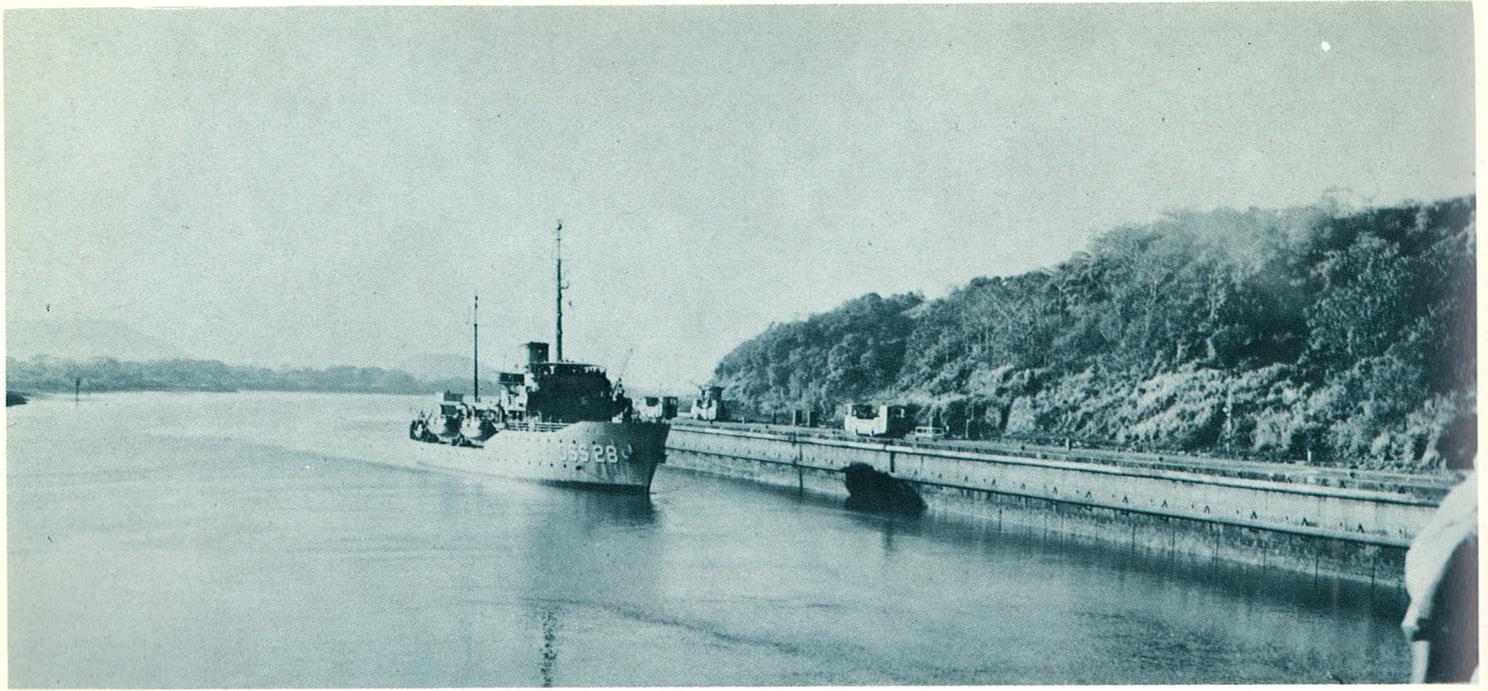


Commanding Officer congratulating Chief Engineer James E. Baker, retired, on his suggestion for a special shipboard cancellation of philatelic mail to publicize the EXPLORER'S oceanographic work and Swan Island. Mr. Unruh, Director of Posts, Canal Zone, is witnessing event.

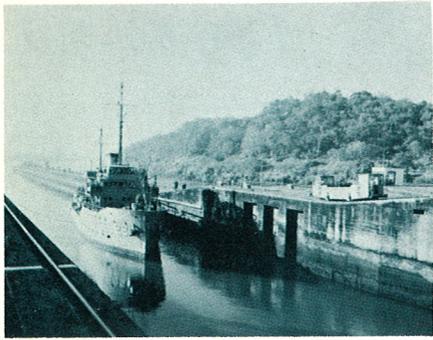


The Director cutting cake at luncheon honoring his arrival at Balboa to join ship. Captain Jones, Dr. Stewart, and Colonel Icke of IAGS looking on.

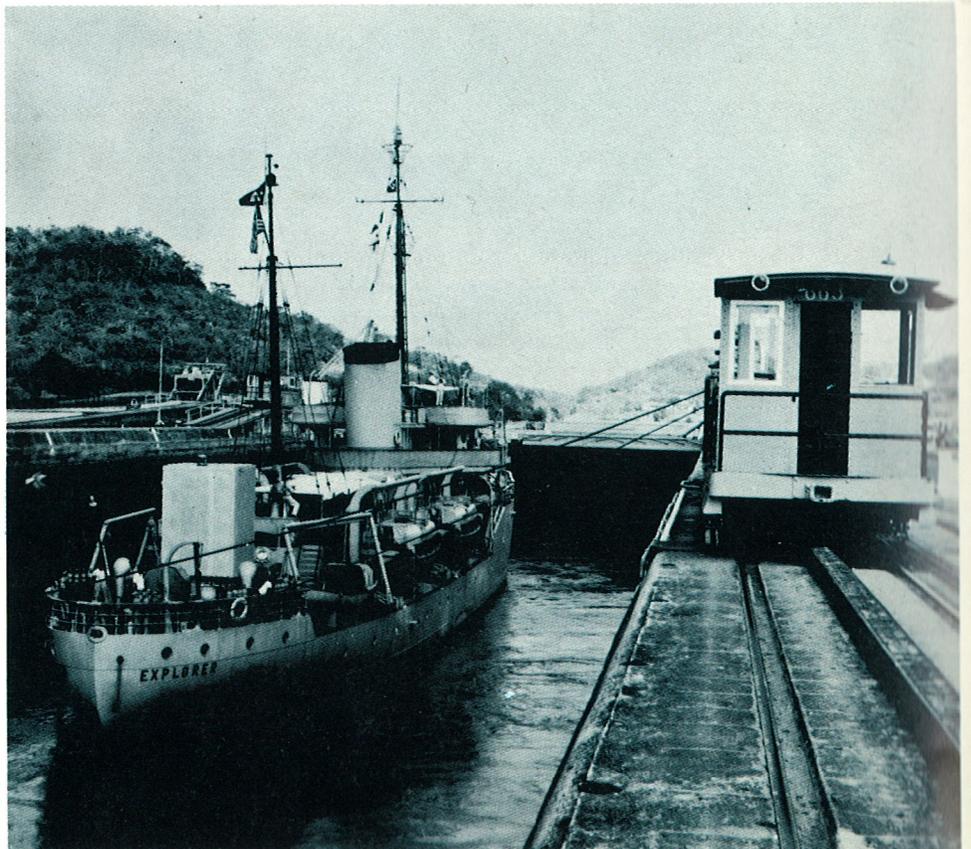


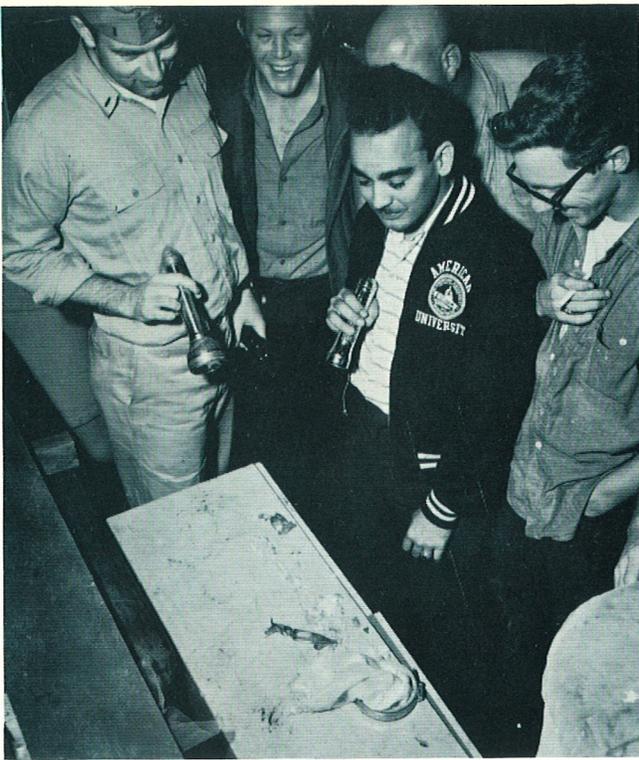


EX approaching Miraflores Locks, Panama Canal, on 9 March.



## Panama Canal

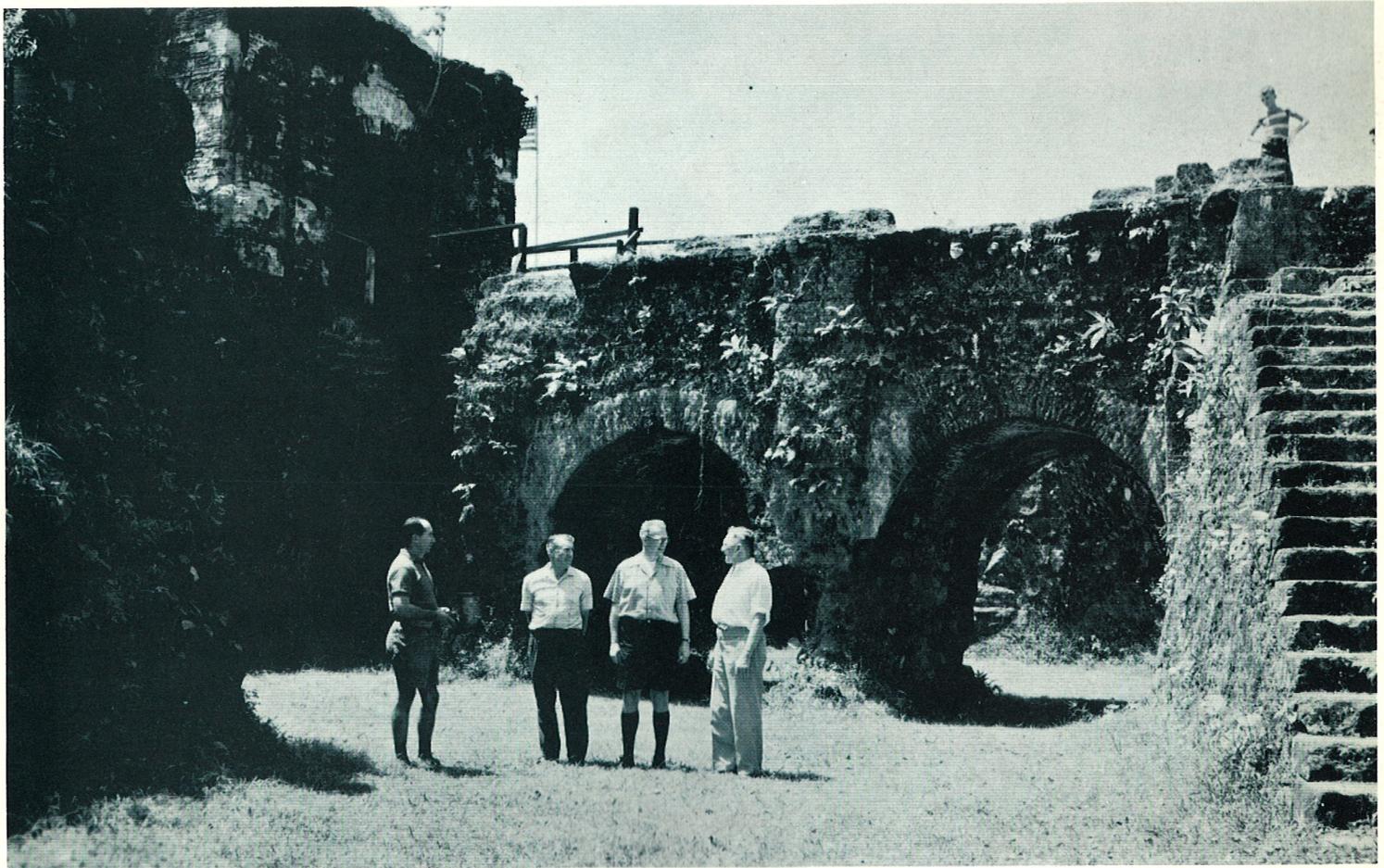




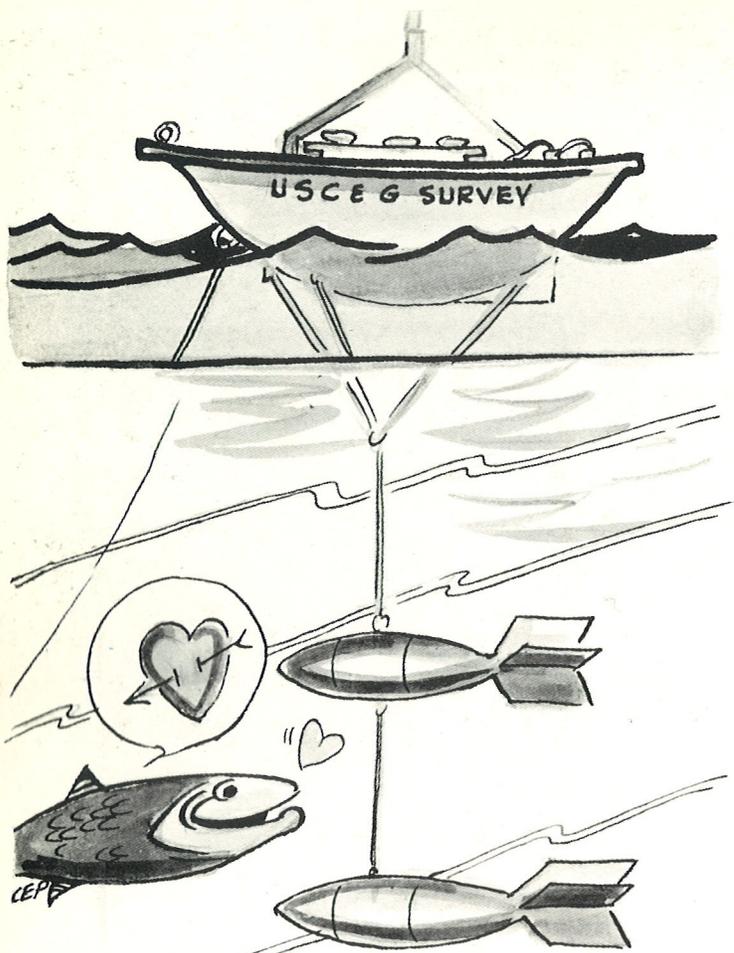
Mr. Pedro Santiago, oceanographer, (with jacket) examining marine life from high-speed net haul.



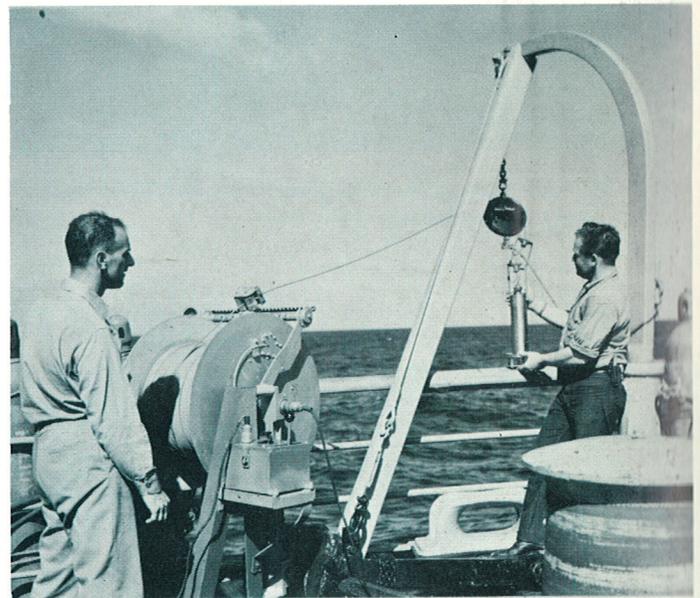
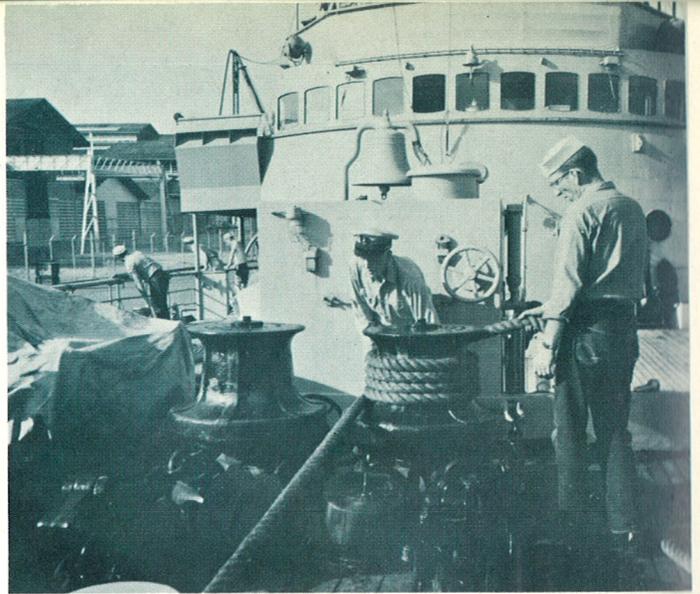
Champion fisherman Patrick Dennis with 12- and 24-pound barracudas.



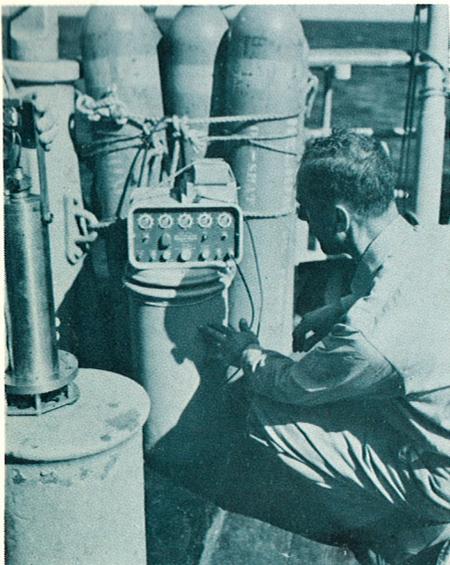
Ship personnel entertained at IAGS picnic, Fort San Lorenzo, Canal Zone, on 6 March.



## GULF STREAM CURRENT OBSERVATIONS



Velocity meter to determine speed of sound in sea water.



Counter of velocity meter.



Blake dredge to secure biological specimens for Bureau of Commercial Fisheries.



Lowering hydrographic launch.



## Swan Island

Danny, the Swan Island horse that goes swimming every afternoon.



Jungle on Swan Island.



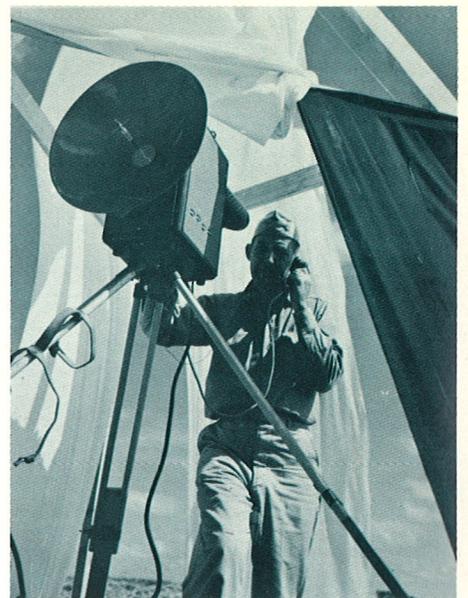
Swan Island hydro signal with EX in background.



Building tide gage, Swan Island pier.



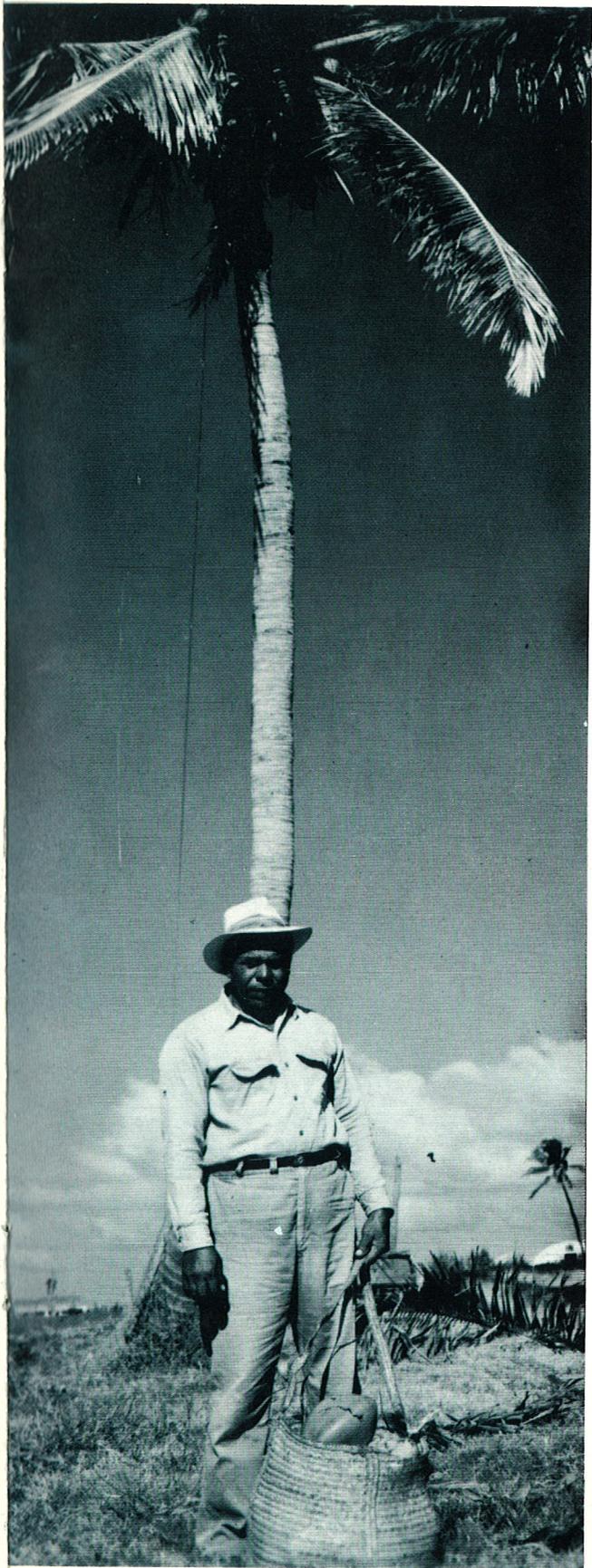
Tellurometer observations, Booby Cay.



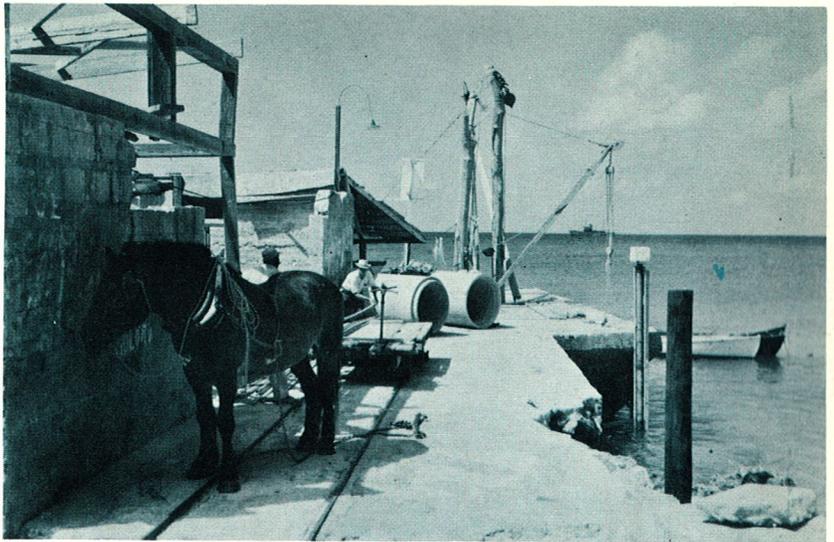
Packing instruments up shoreline cliff, south shore Swan Island.

### GEOLOGICAL INVESTIGATION SWAN ISLANDS





"Capt" Harry E. Glidden, Grand Cayman Islander, who has lived on Great Swan Island for many years.



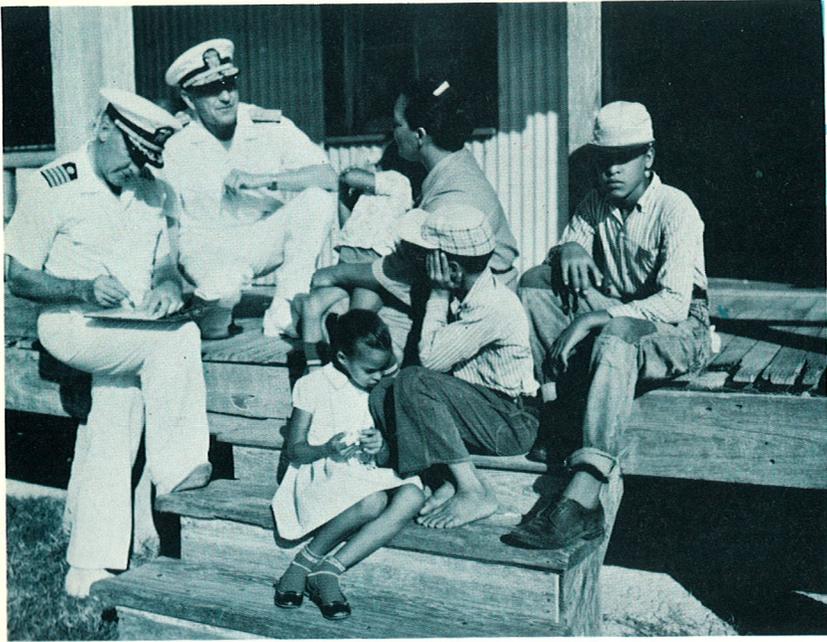
Pier at Great Swan Island (United States possession in western Caribbean).



Rough coral shore, Swan Island.



Jacobsons Bay, Swan Island.



Taking Census.



Early morning chores — Swan Island.



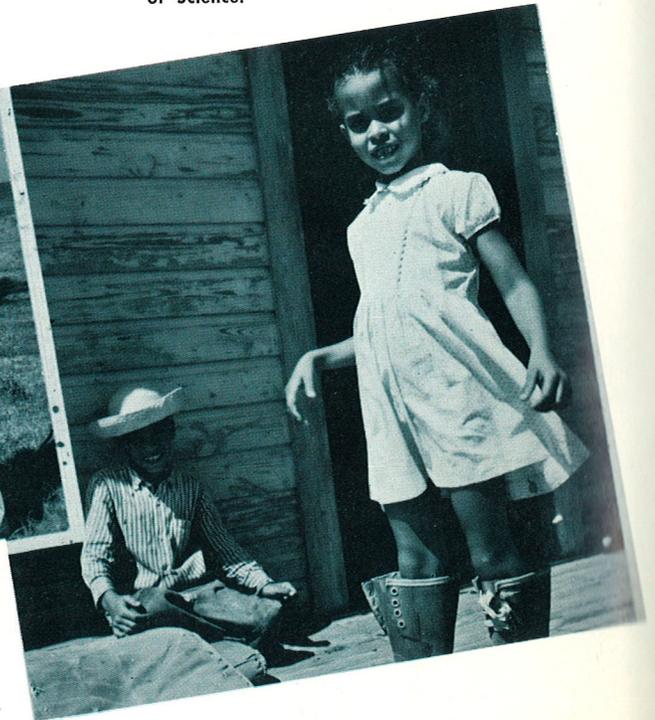
"The Village" Swan Islands.



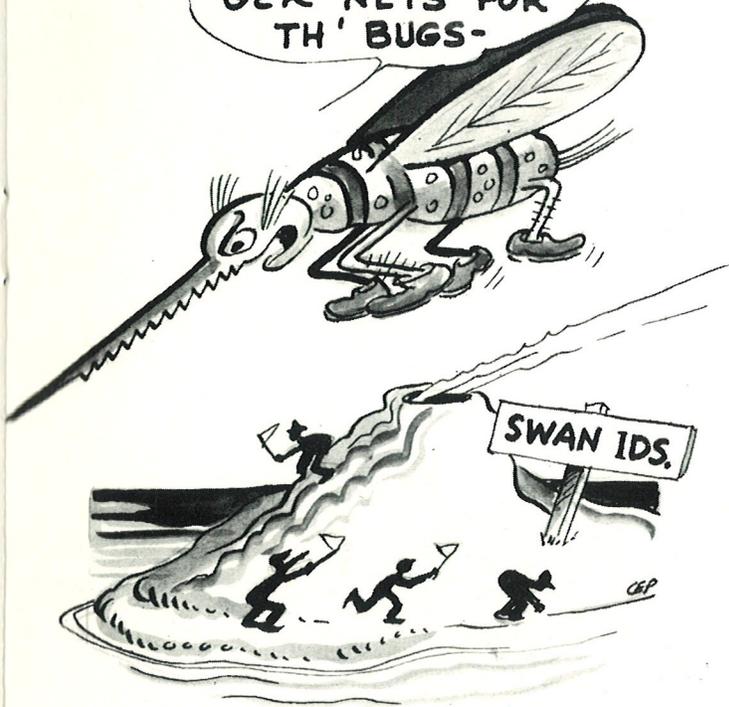
Iguanas caught on Little Swan Island for Washington Zoo and the National Museum of Science.



The Director, the Commanding Officer, and Chief Yeoman Ralph Fortna take census of Swan Island on 15 March. EX is in background.



THOSE LUGS  
WILL NEED LAR-  
GER NETS FOR  
TH' BUGS-

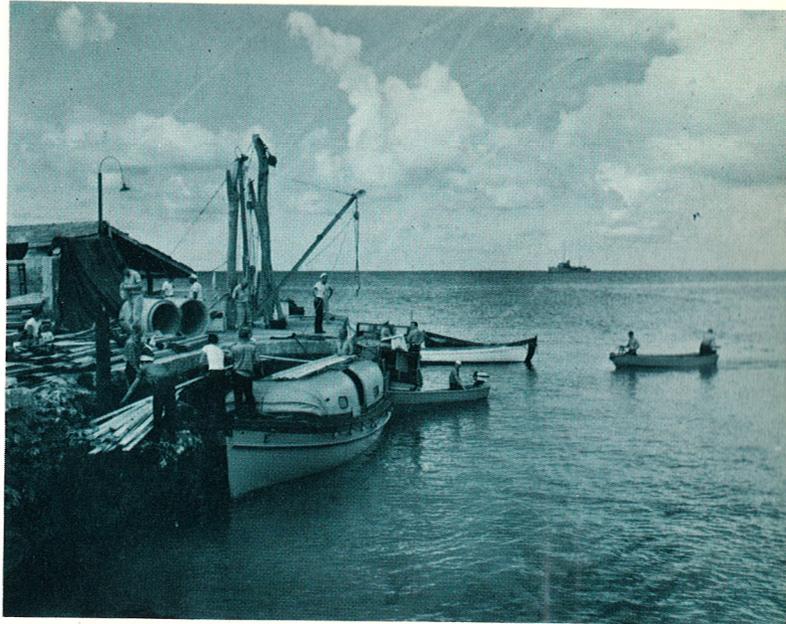


NETTING INSECTS

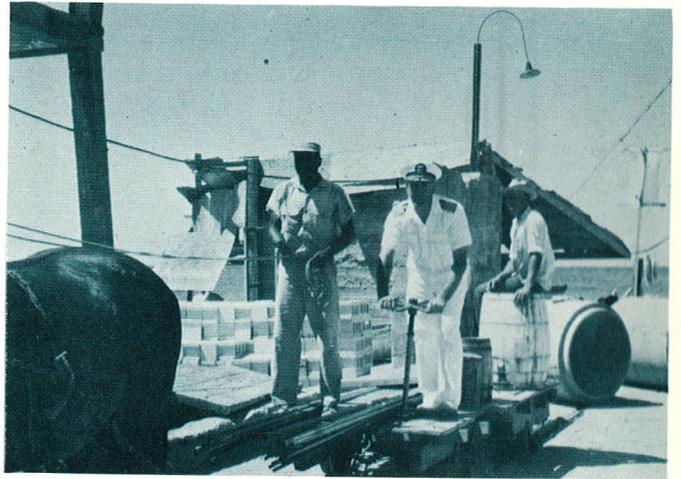
AN' TO  
THINK I THOUGHT-  
FLORA 'N' FAUNA  
WERE GALS!



COLLECTING FLORA  
SWAN ISLANDS



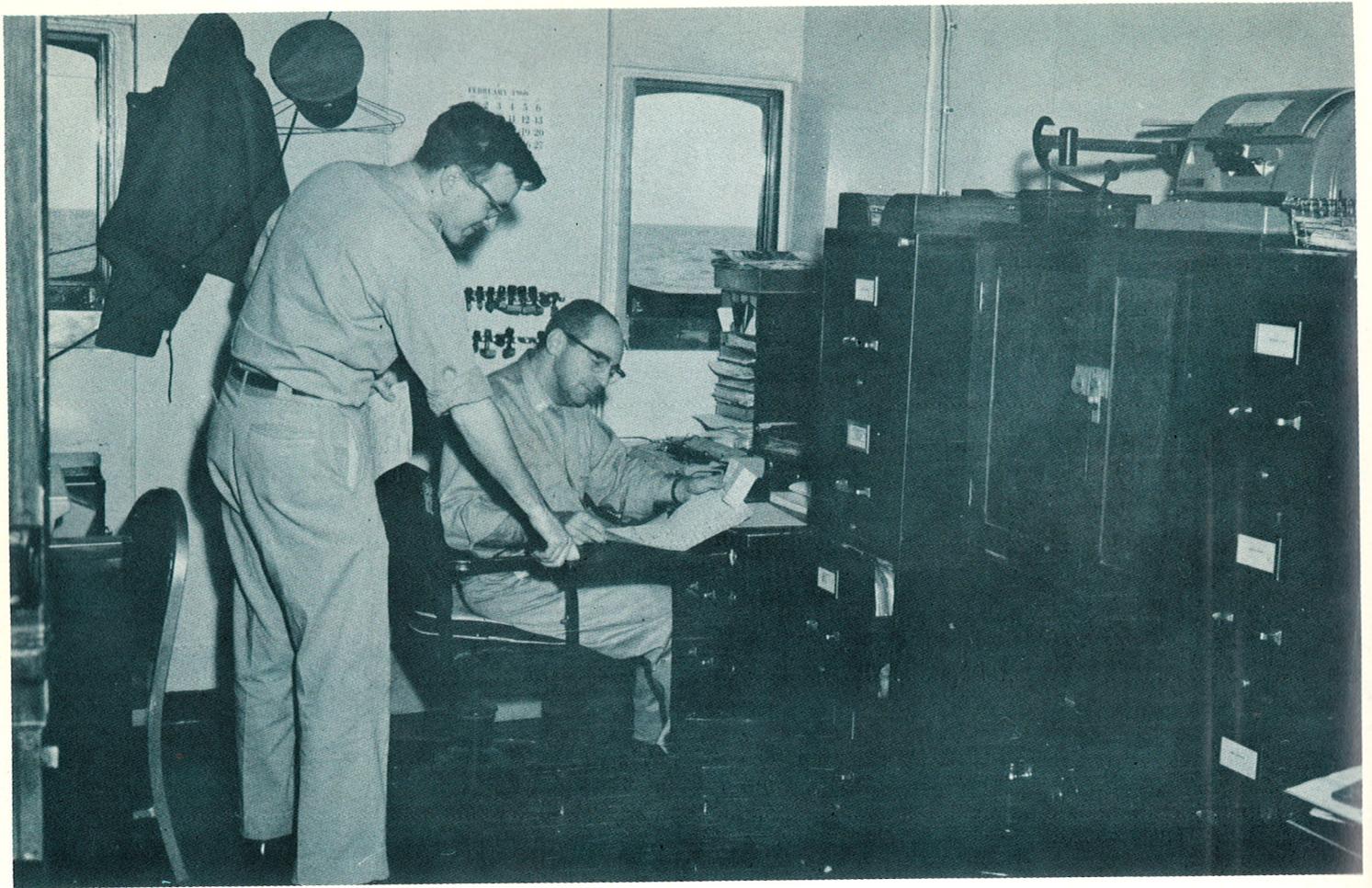
The EXPLORER off Swan Island Pier.



The Swan Island Railroad.



SCUBA diving among coral reefs on north side of Swan Island.



Ship's office with Mr. Hess and Chief Yeoman Fortna.

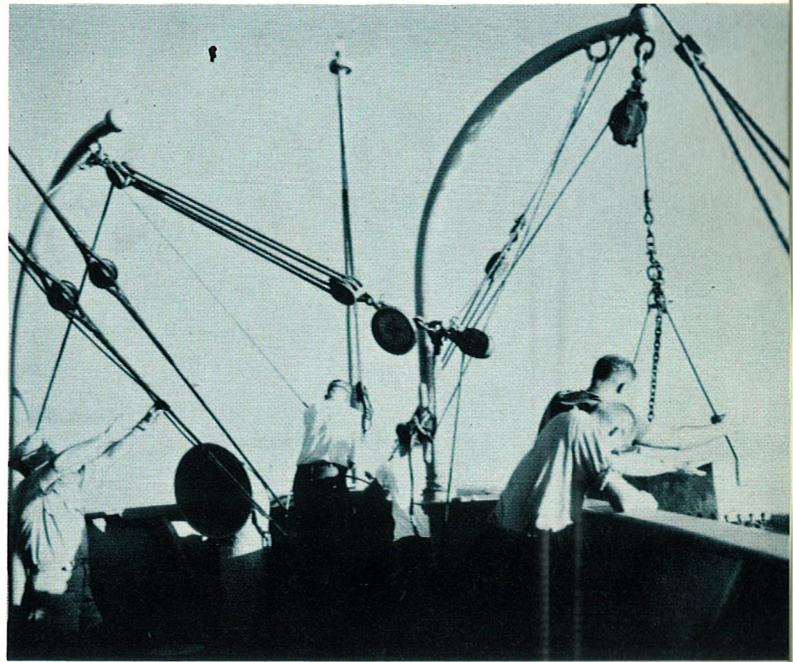


Geological Dredge.

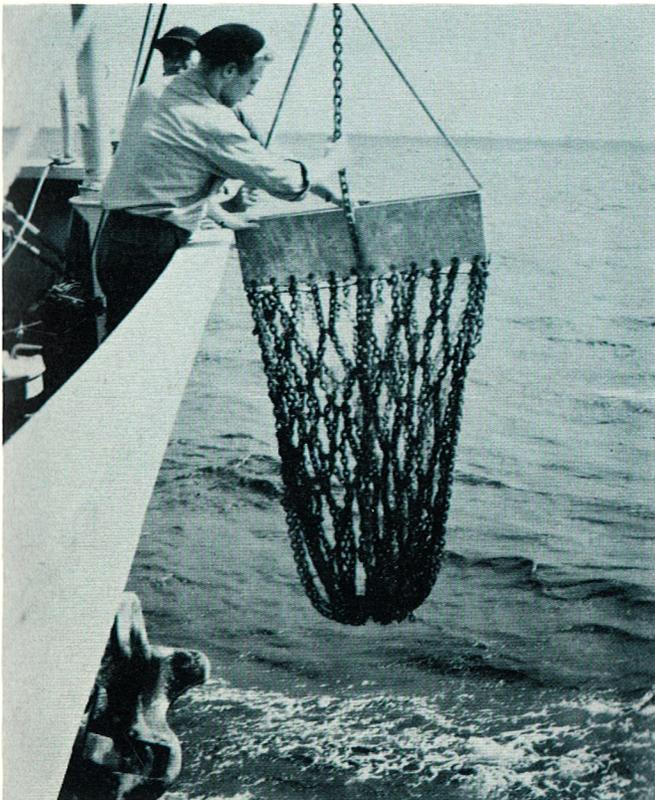




Man-handling the dredge.



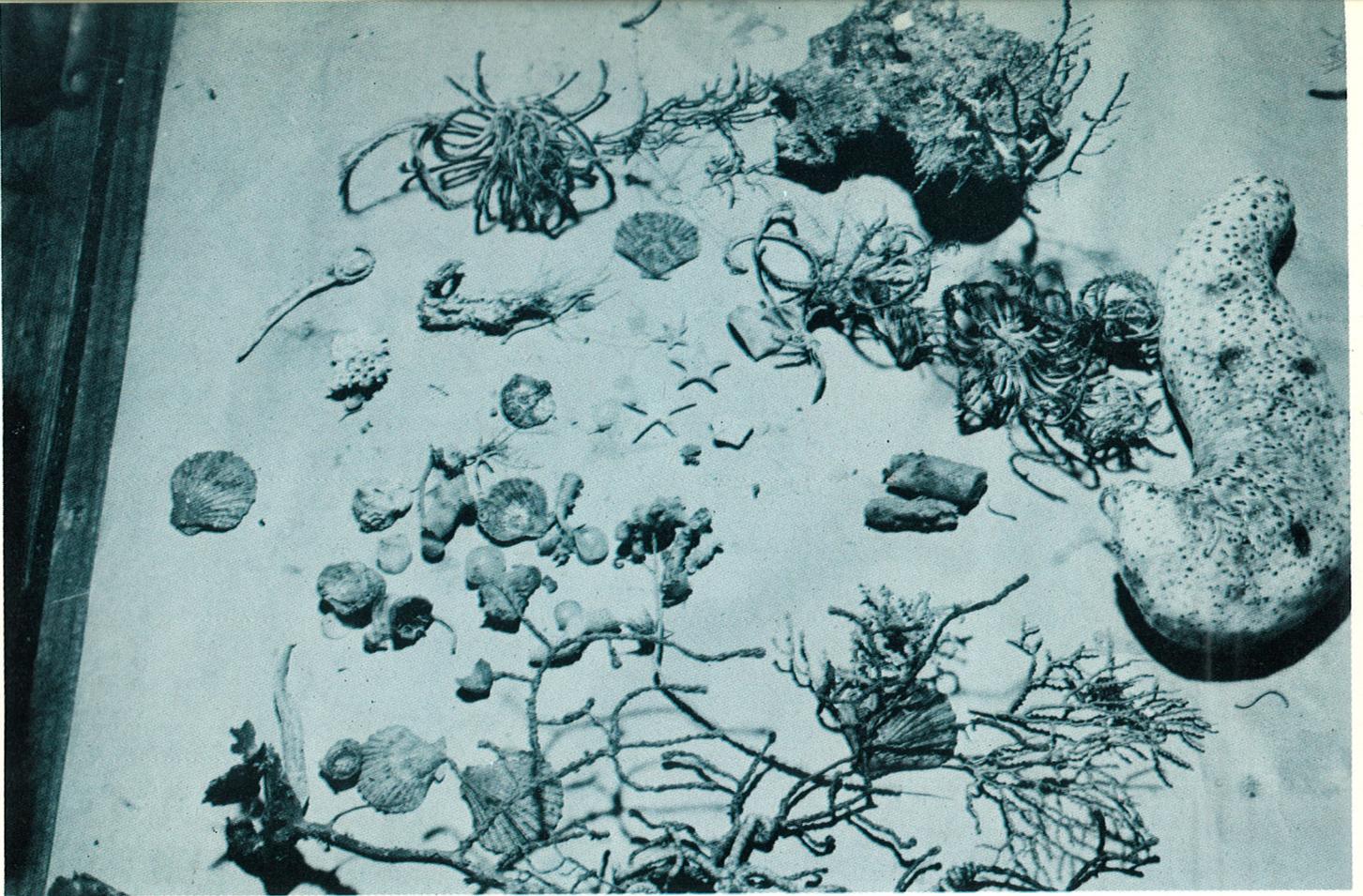
Tackle for handling dredge.



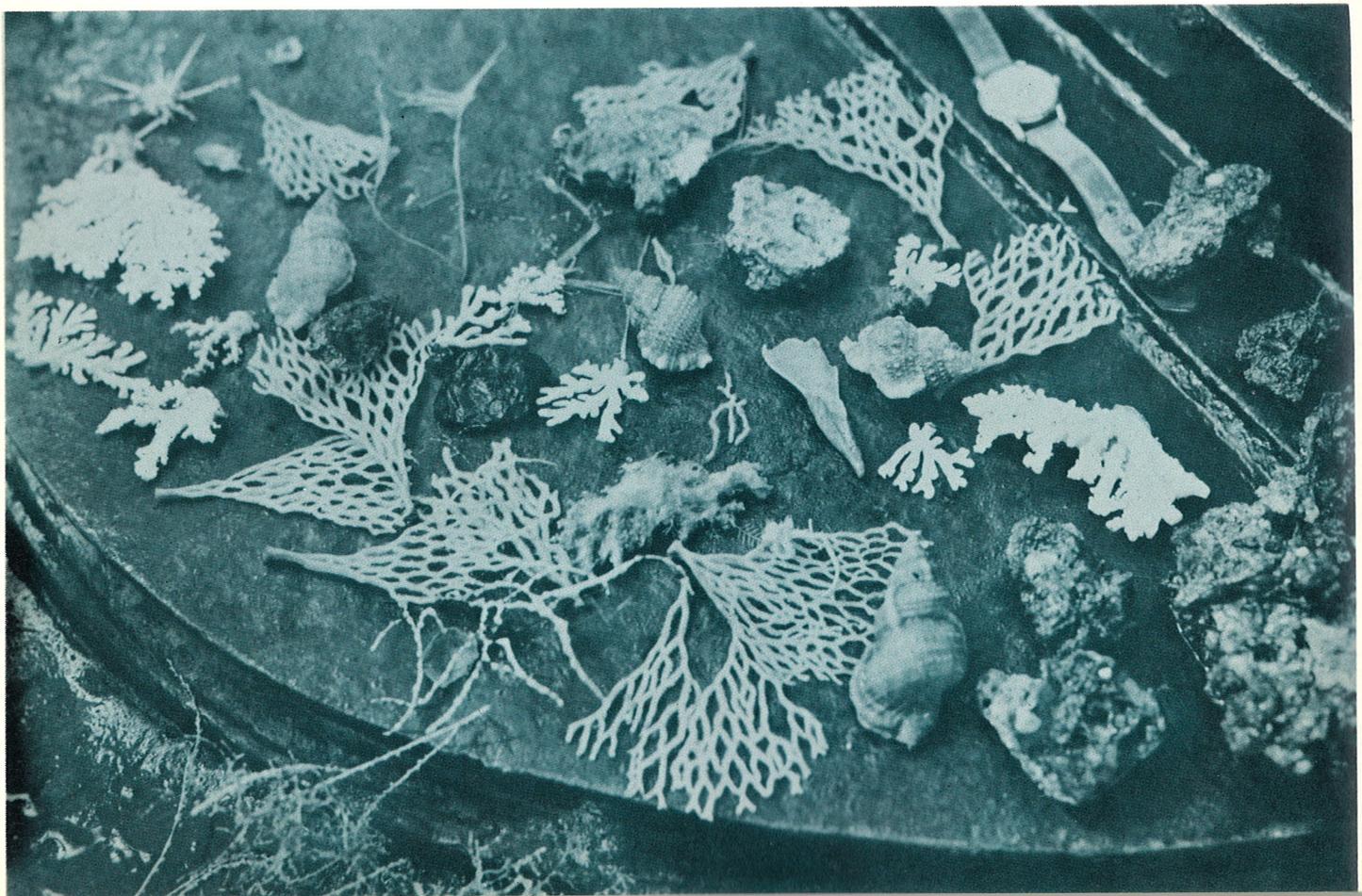
Geological Dredge.

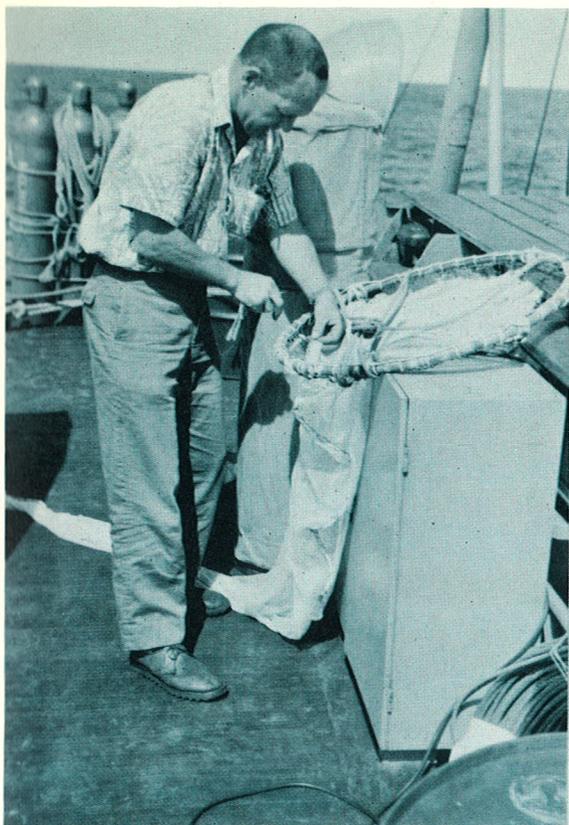


Rock samples from the barrier reef.



## Florida Straits





Mr. Reith repairing high speed Micronekton Net.



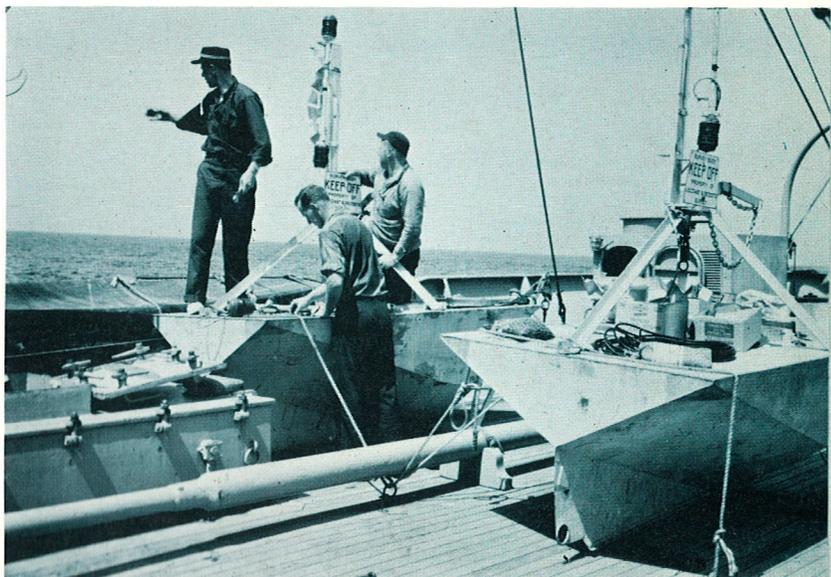
Prepare current buoy for Straits of Florida station off Fowey Rock Light.



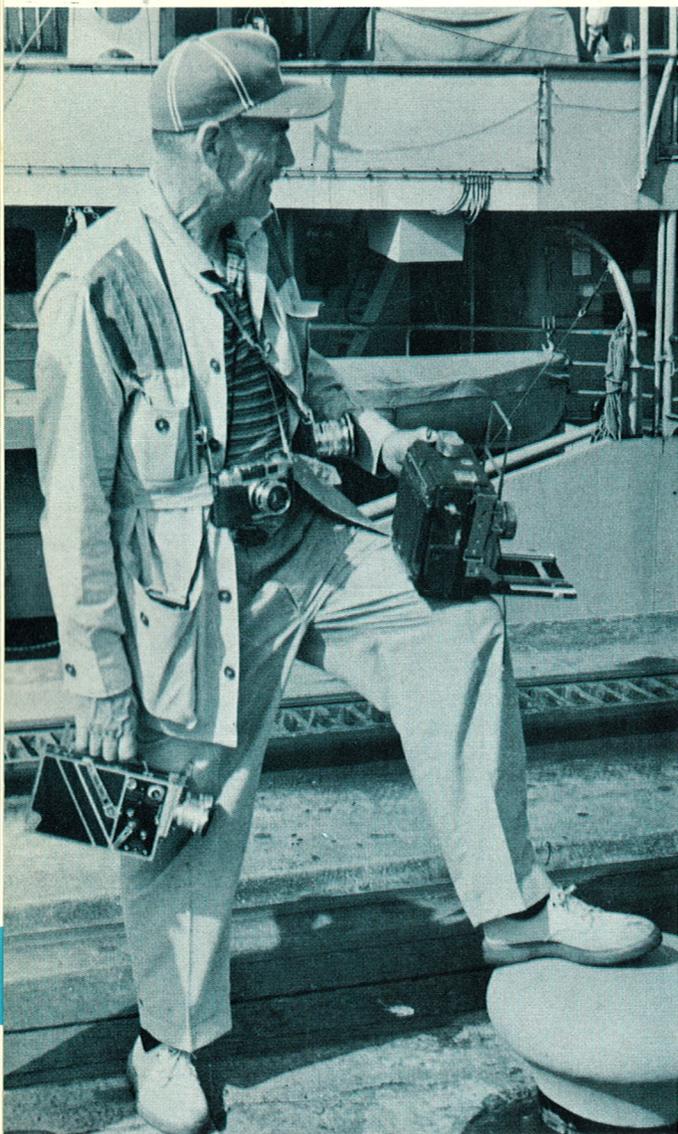
Sight-seeing at Fort Lorenzo, Canal Zone.



Seaman Lopes taking surface temperature.



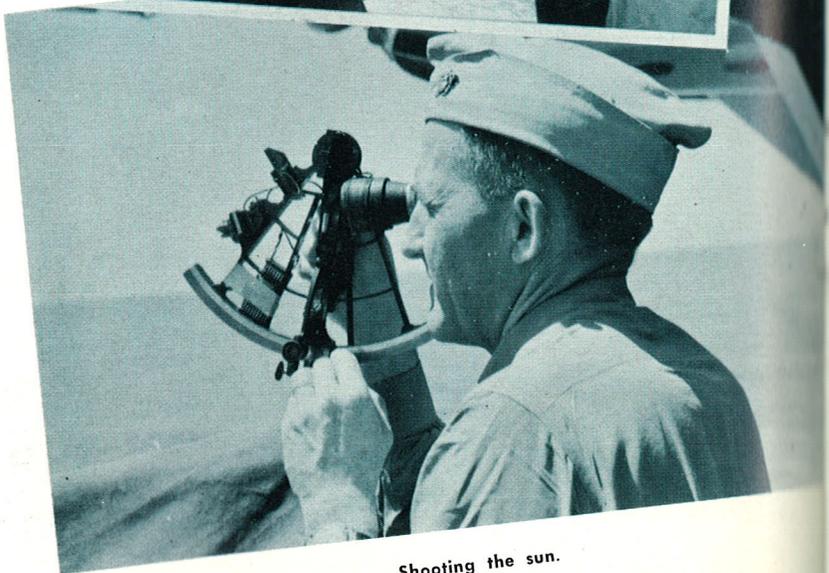
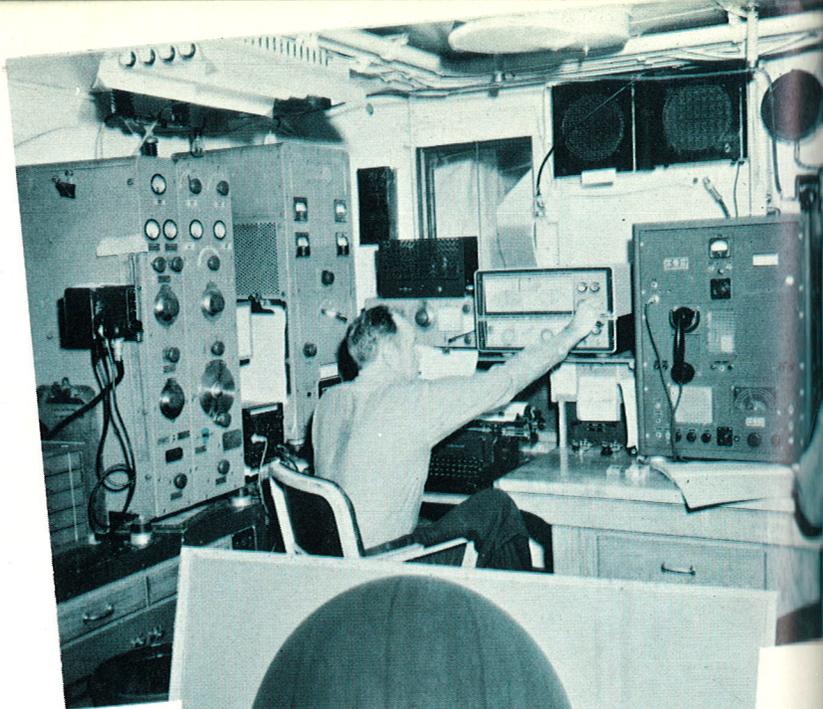
Mr. Goodheart directing rigging of Roberts Current Buoys.



EXPLORER is indebted to Mr. W. Byron Hale, our official photographer who took practically all of the photographs in this book.



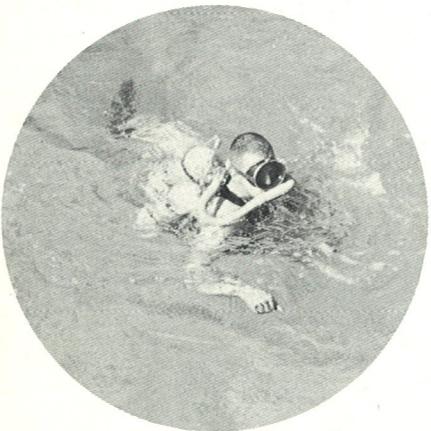
Country music.



Shooting the sun.



## Key West



SCUBA diving off Key West.



Doctor Fritz Koesy and Oceanographers from University of Miami visit ship in Key West on 7 April.

# OCEAN PHOTOGRAPHY USNEL



Underwater photography on coral reefs vicinity of Key West.

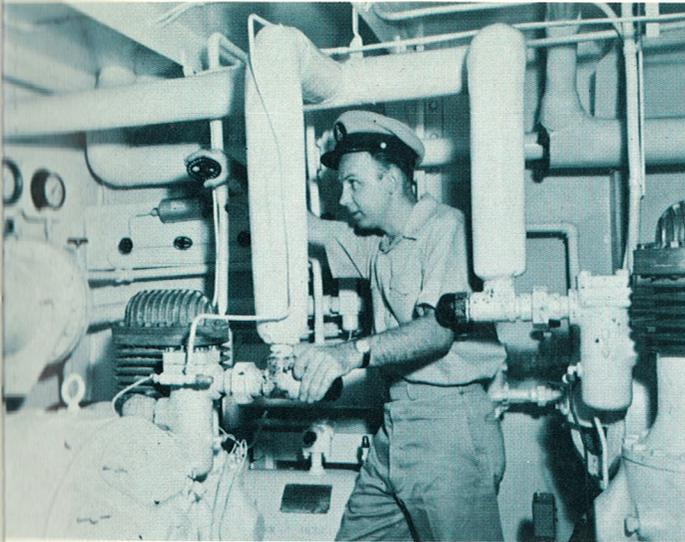


Chief Engineer Cranford presents 15-year service pin to Theodore T. Ficken, CM.

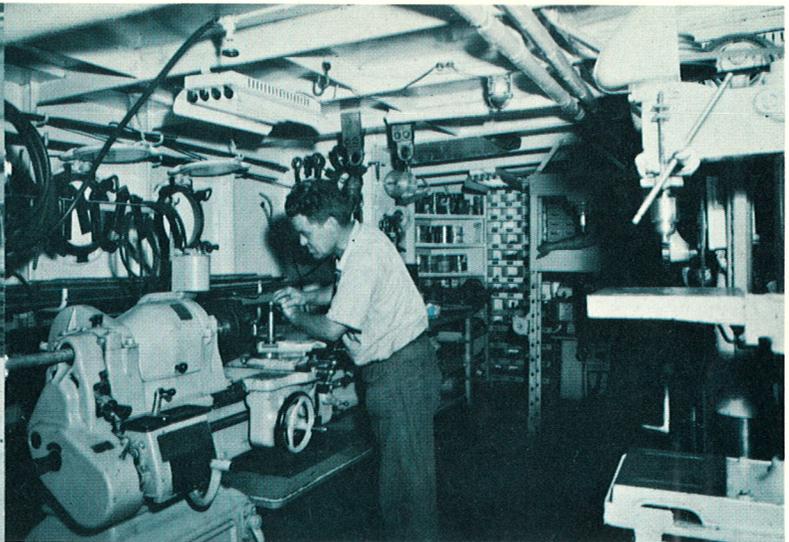


Engineer school being conducted by CM Henry J. Wells in Chief Petty Officers' mess.

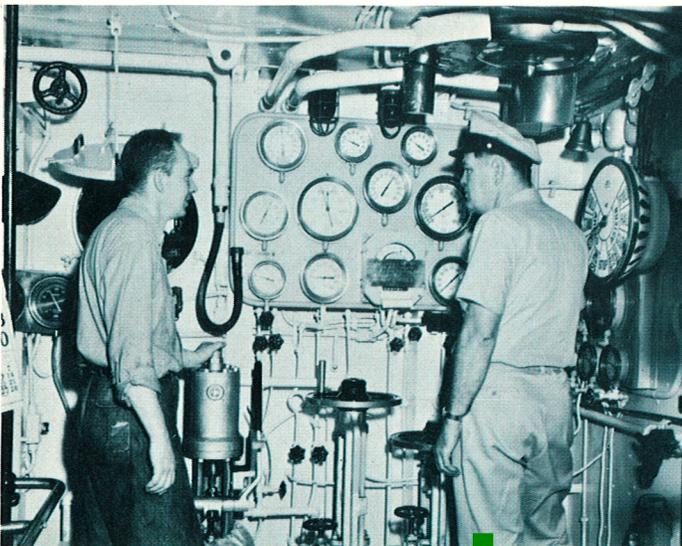




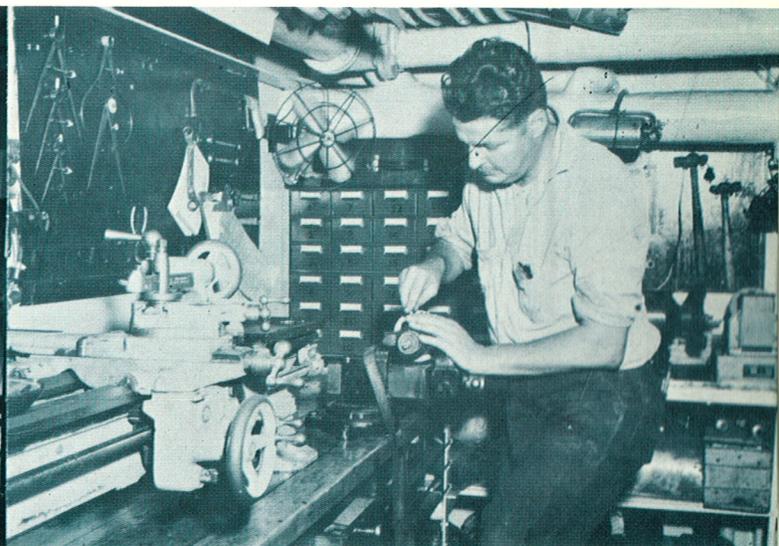
Chief Machinist Mate Theodore Ficken placing reefer unit compressor on line.



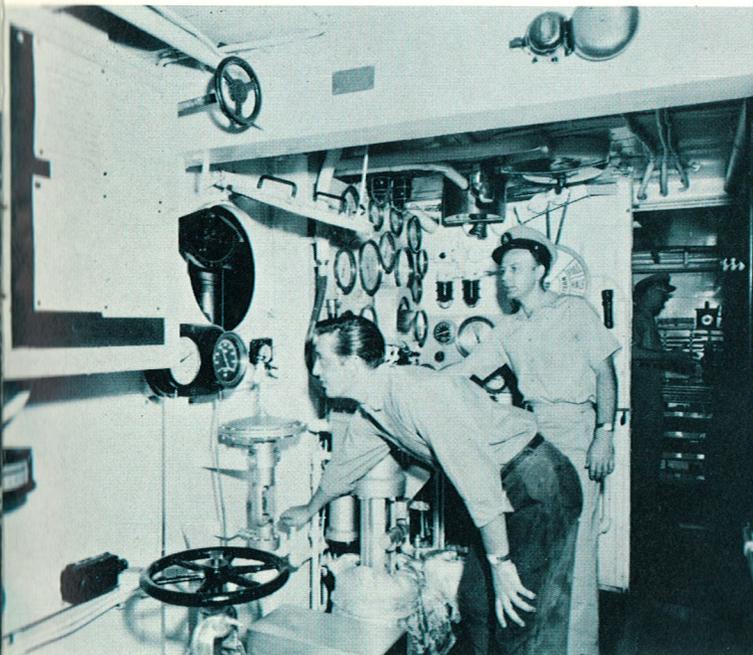
Machinist Mate Emericus Dierinckx at work on the ship's lathe.



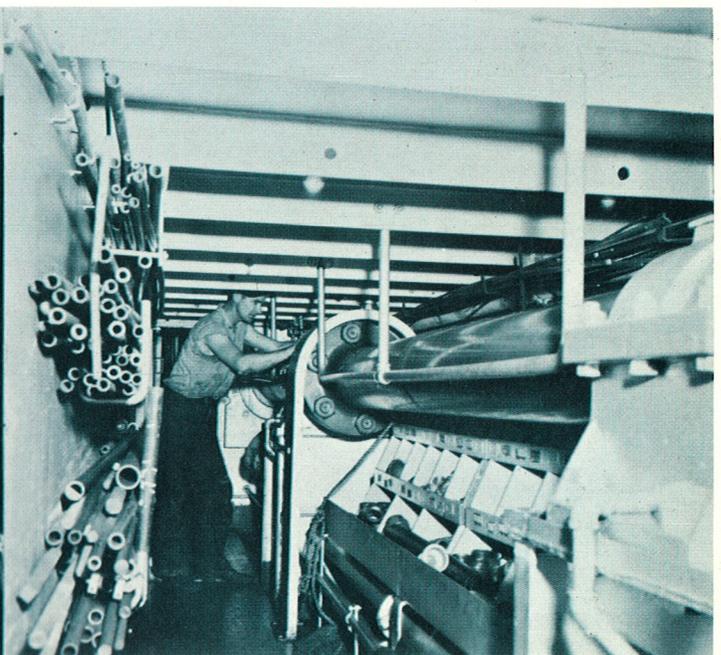
Machinist Mate W. H. Anderson and Chief Machinist John Coats standing by at engine room control center.



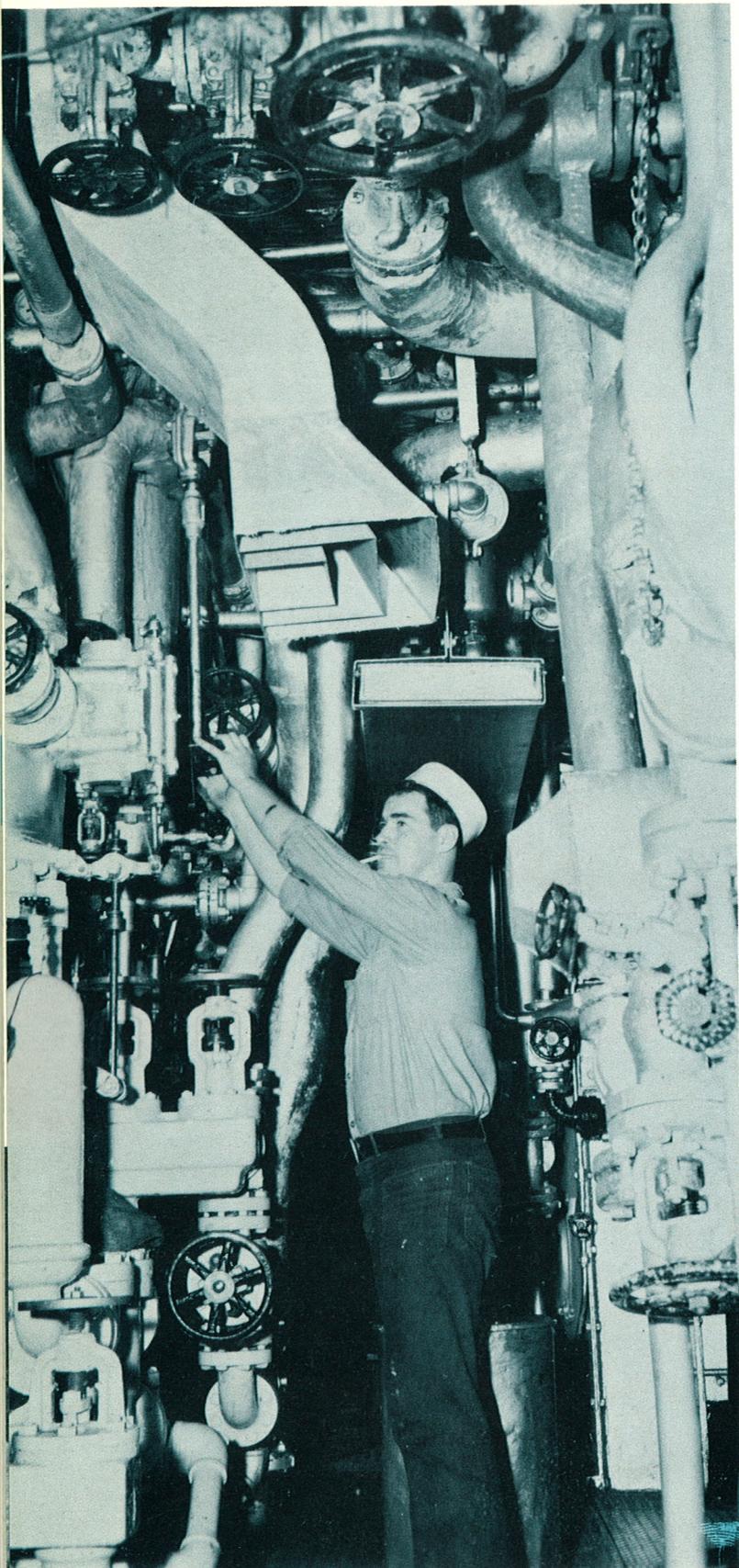
Chief Machinist Mate Joseph Kelley working on an armature.



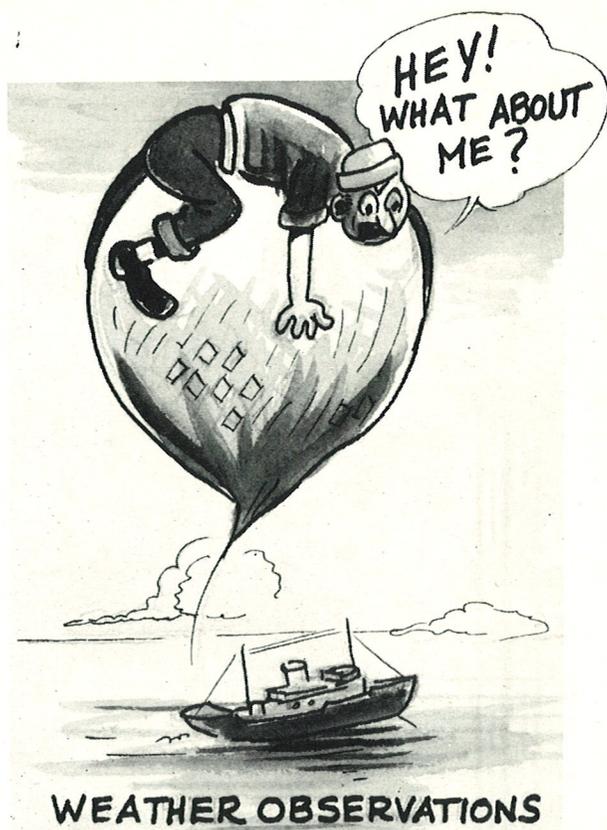
Machinist Mate Jack Woolen and Chief Machinist Mate Theodore Ficken checking superheated-steam temperature.



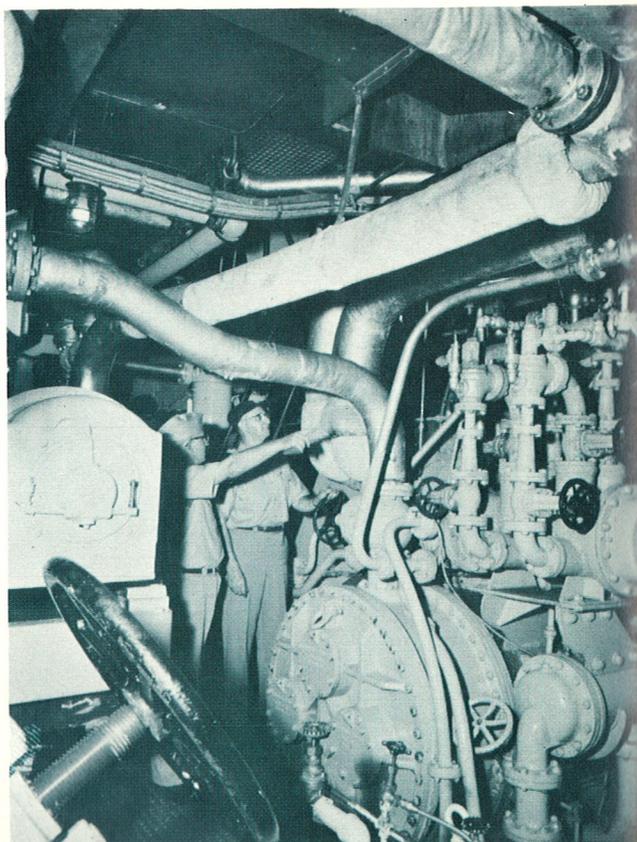
Machinist Aubrey Ansell checking main shaft bearing.



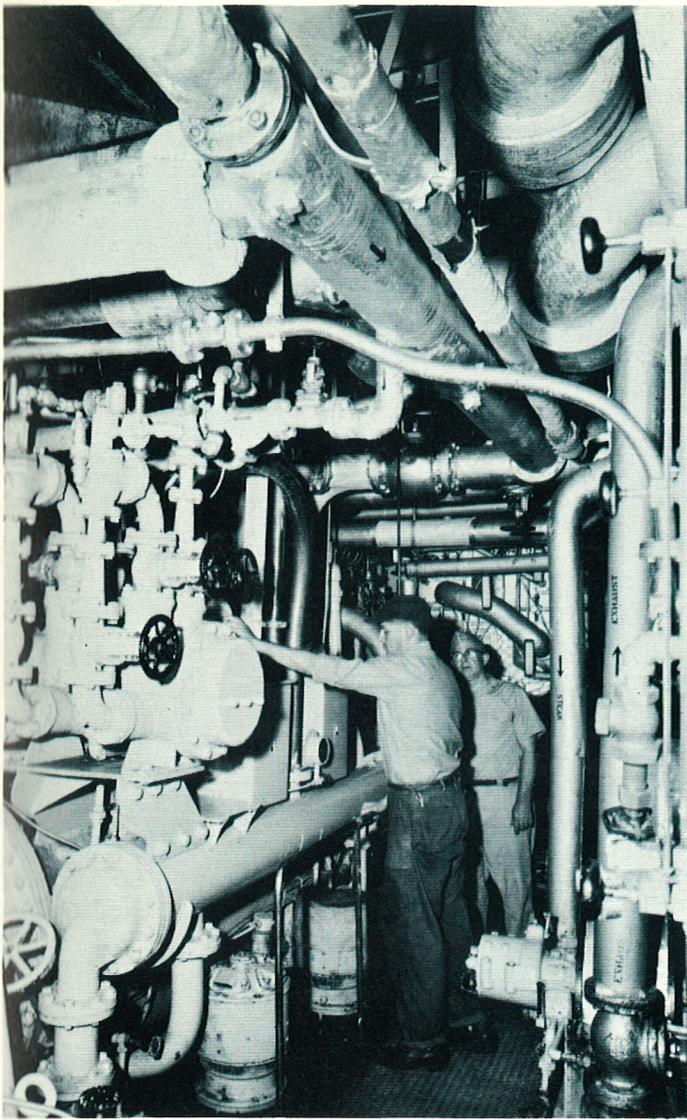
Fireman Holman starting auxiliary feed pump.



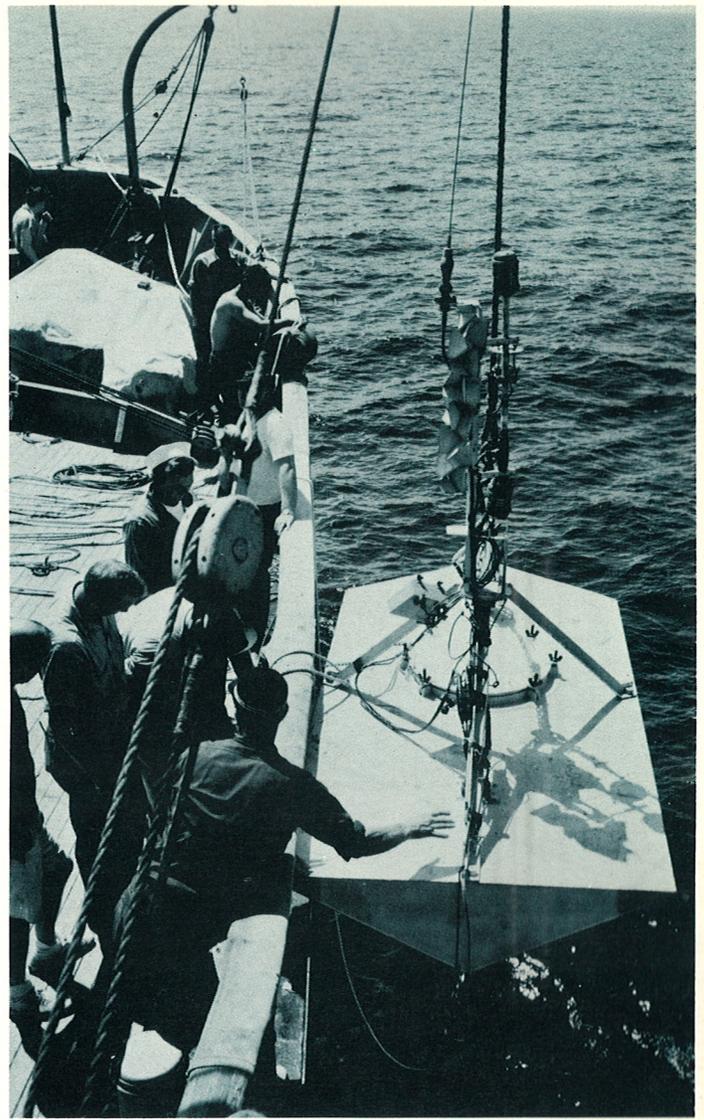
WEATHER OBSERVATIONS



Chief Engineer Cranford and Chief Machinist Wells discussing operation of main engine air injector.



Chief Machinist Mate Kelley and Chief Engineer Cranford checking main condensate pump.

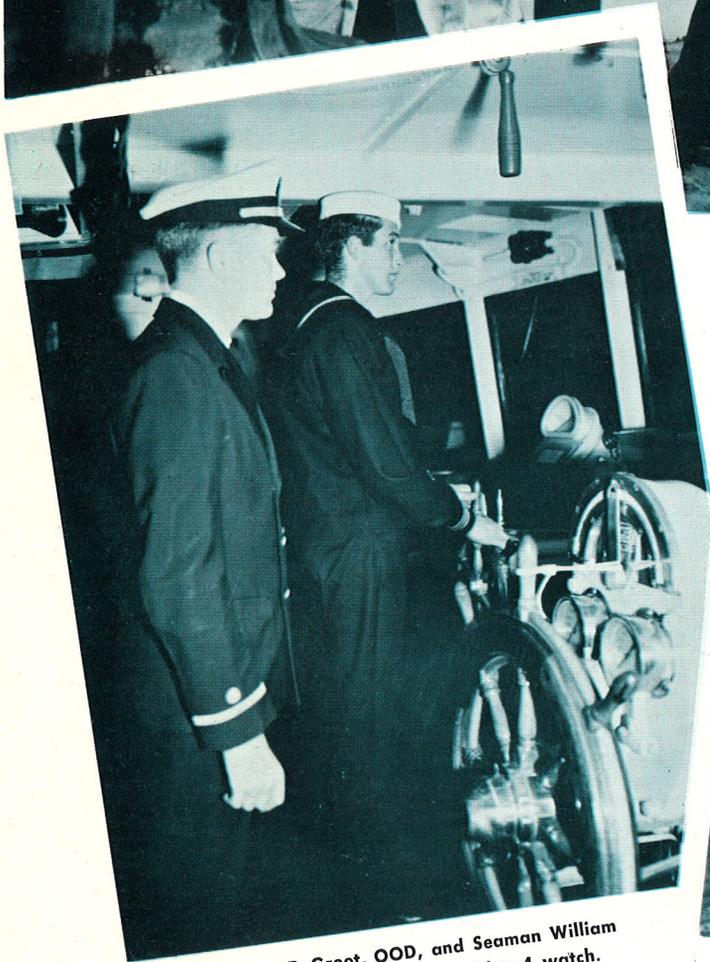


Launching the ill-fated current buoy which sank in Straits of Florida on 9 April.

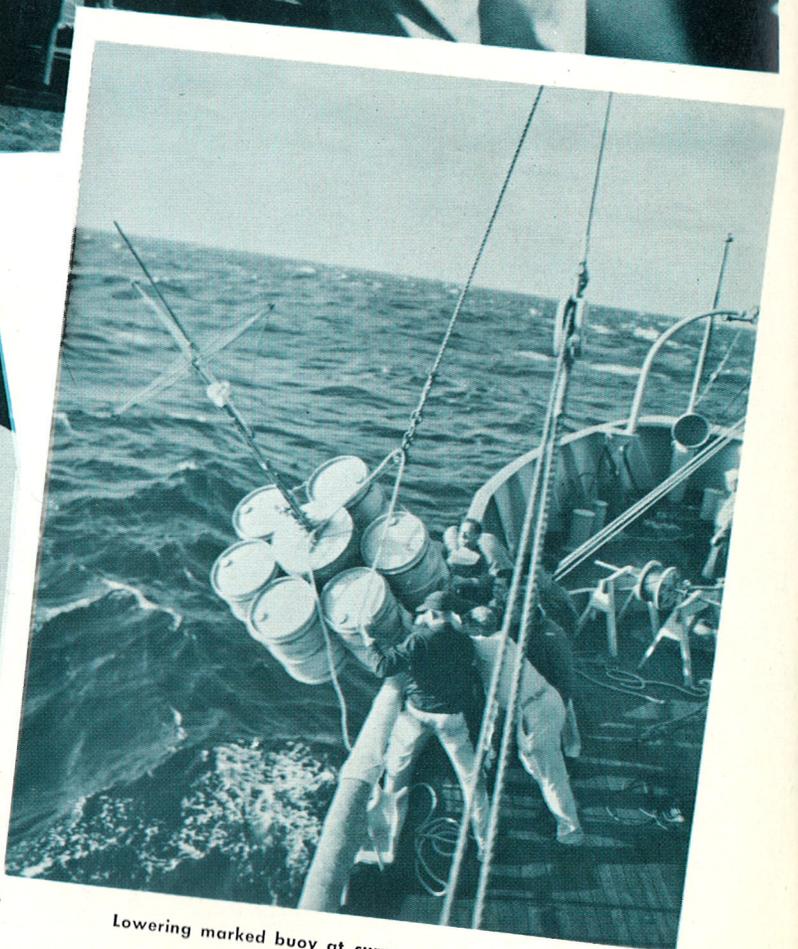


Chief Machinist Wells regulating ship generator voltage.





Ensign Glenn DeGroot, OOD, and Seaman William Taylor, helmsman, standing the mid-to-4 watch.



Lowering marked buoy at current station No. 1.

# SEDIMENT CORES CAPE HATTERAS



Ensign Martin Egan and Quartermaster James Bernard on the 8-to-12 watch.

Attaching Roberts current meter to cable.

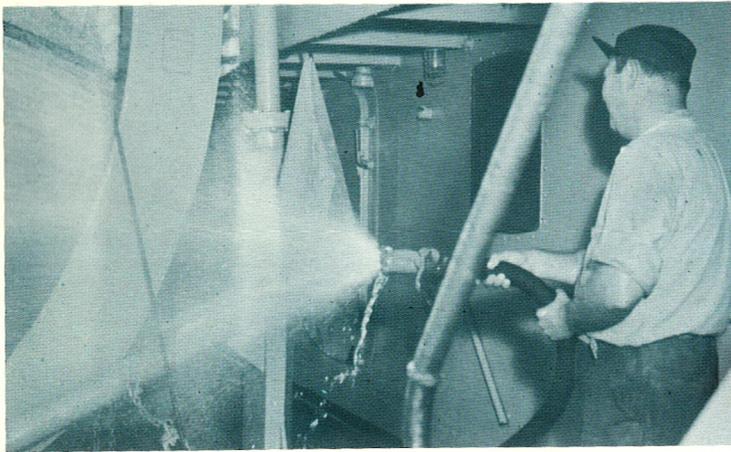
Lowering submerged buoy.



Ensign Hess and Seaman Lopes checking PDR and 808 fathometer.



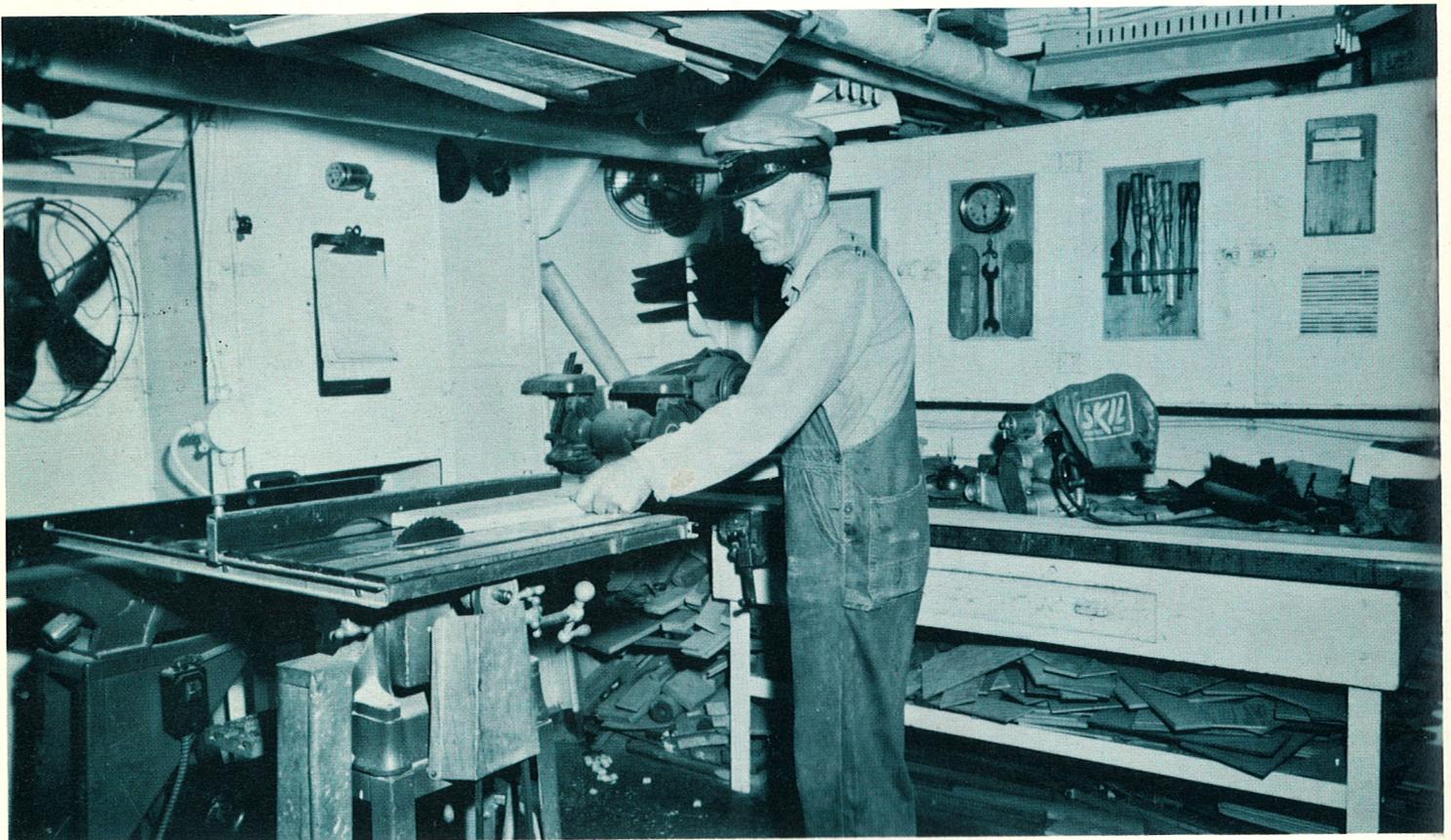
Chief Boatswain Grant Lewis sewing canvas.



Chief Boatswain Mate Paul Willis wetting down deck with fire hose.



Pharmacist Mate Lloyd Milsten.



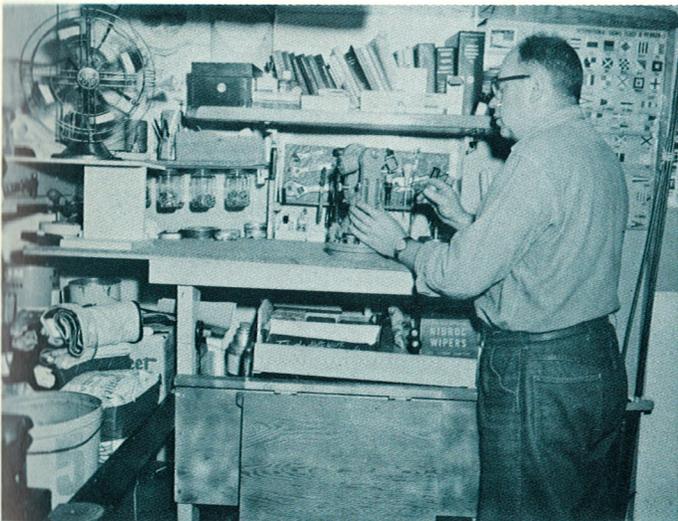
"Chips" Arthur J. Monk in the ship's carpenter shop.



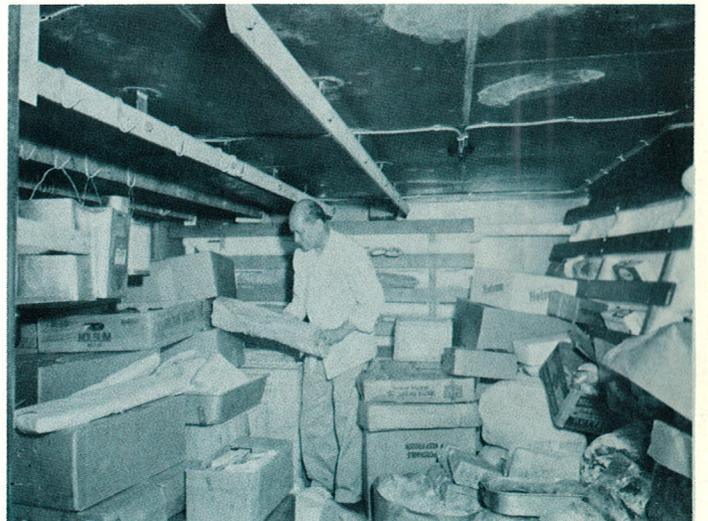
Stewards Anastacio Campugan, Fructoso Cabanela, David Tabangay, and Leon Alamo.



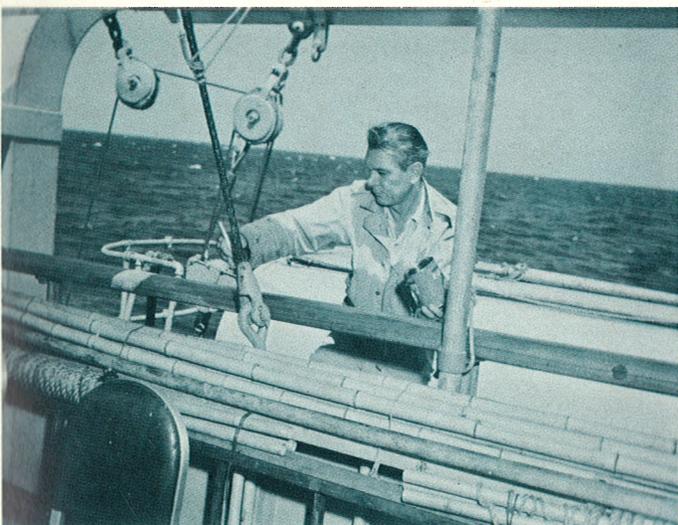
Ensign Moses and Chief Electronics Technician Max Weisgerber.



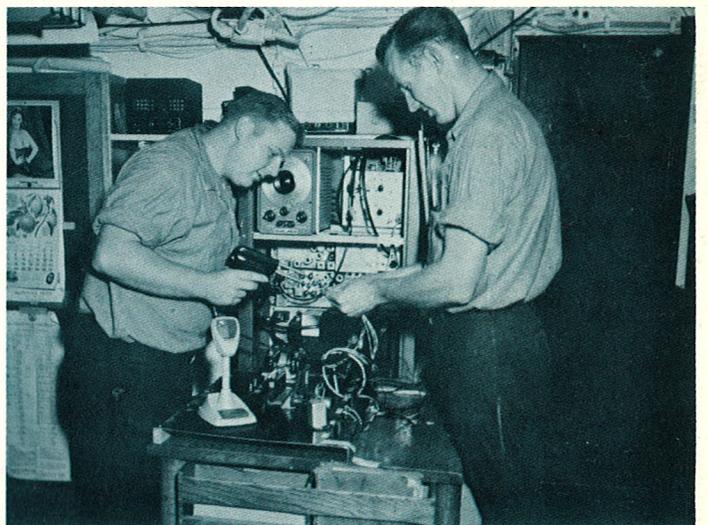
Chief Quartermaster Michael Uporski cleaning Wild T-2 theodolite.



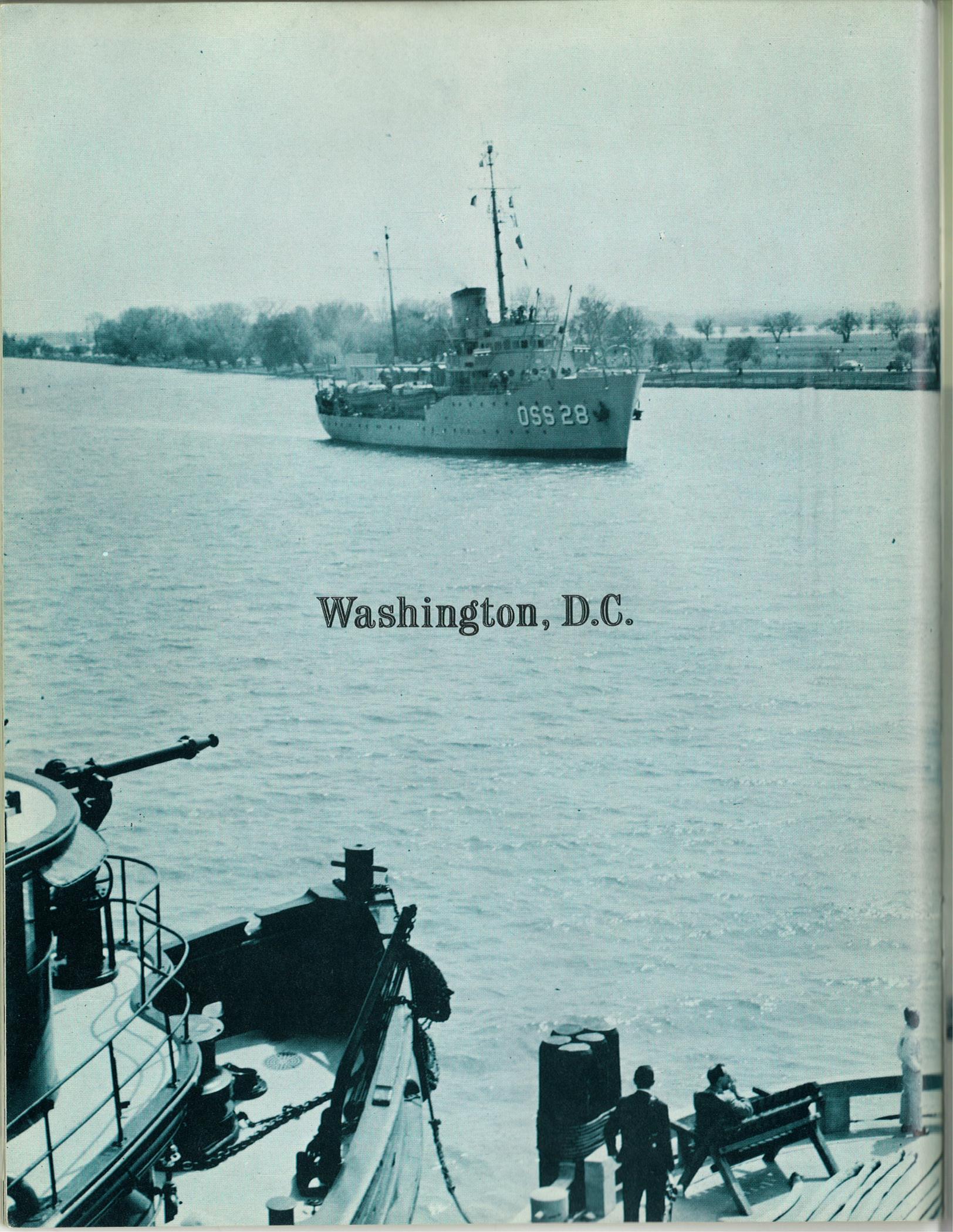
Chief Steward Dave Aquino.



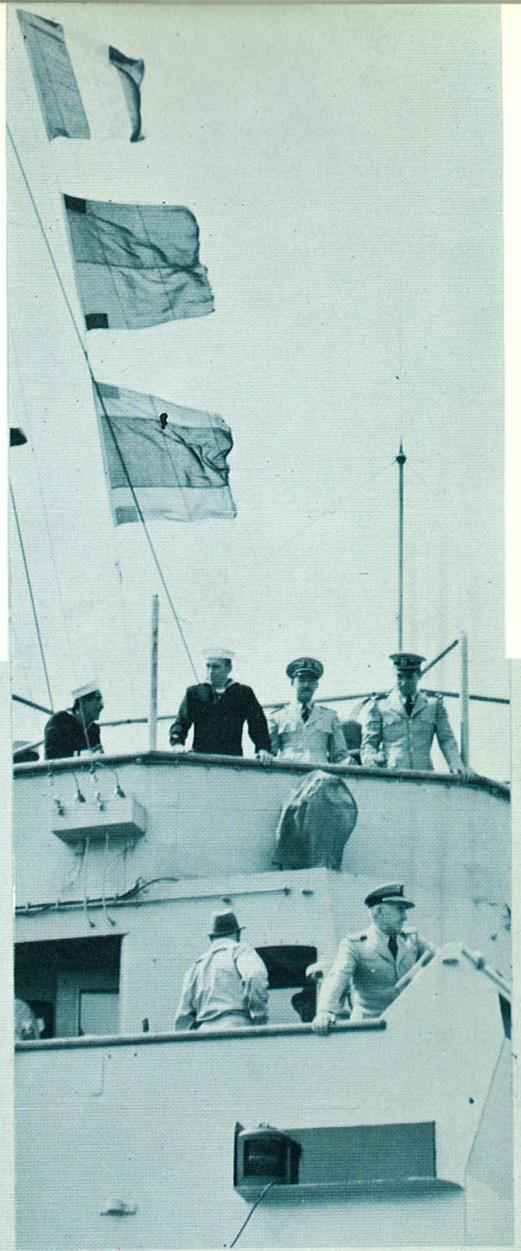
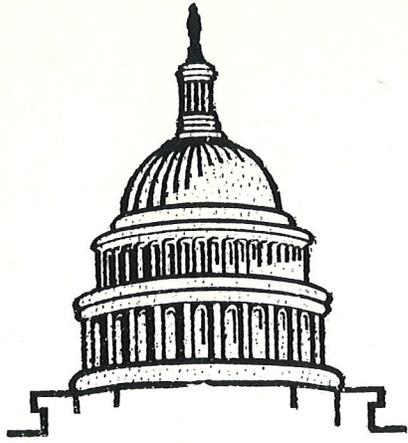
Seaman Woodson varnishing the rail.

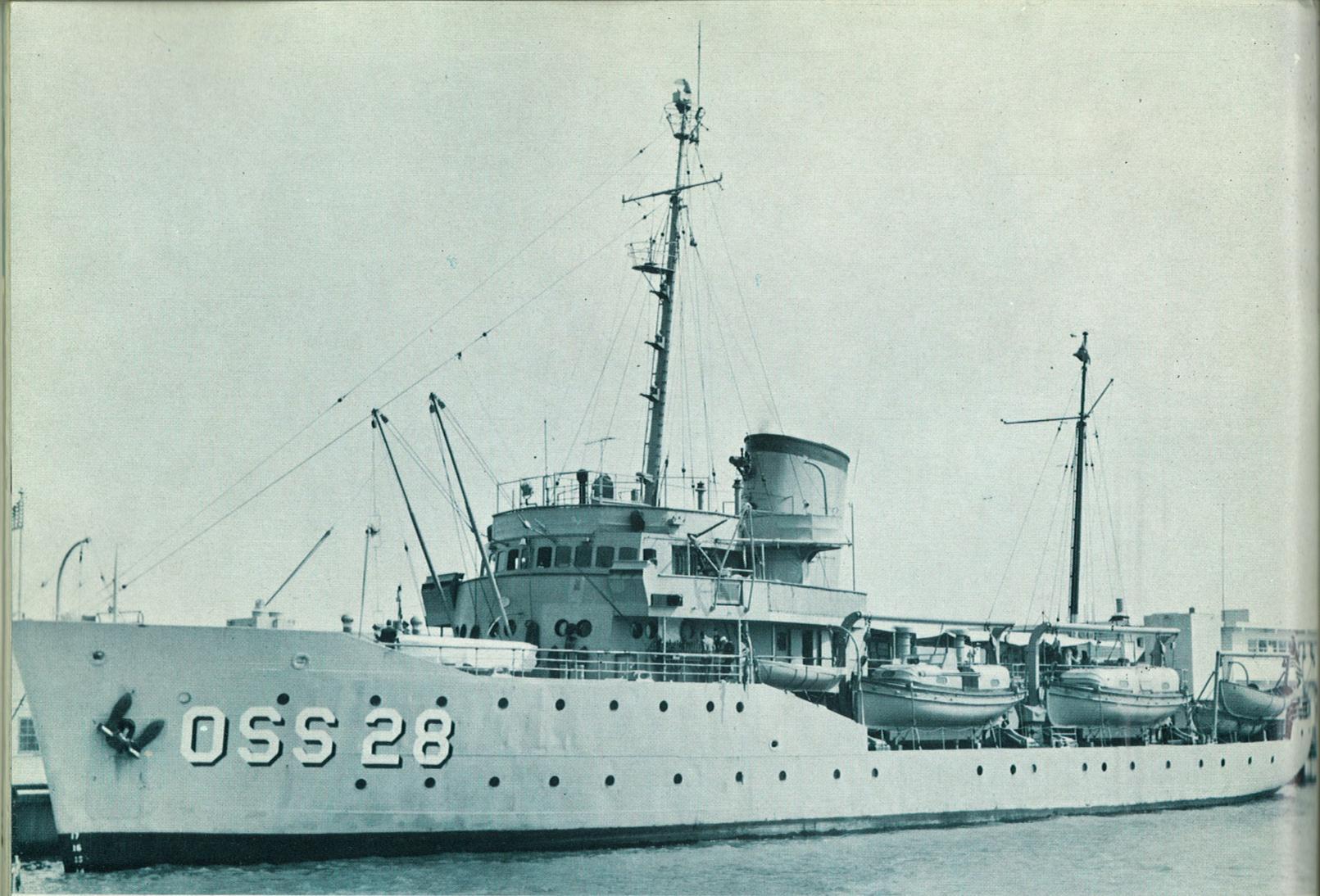


Junior Electronics Technician Robert Fritts and Chief Electronics Technician Charles Kearse.



Washington, D.C.







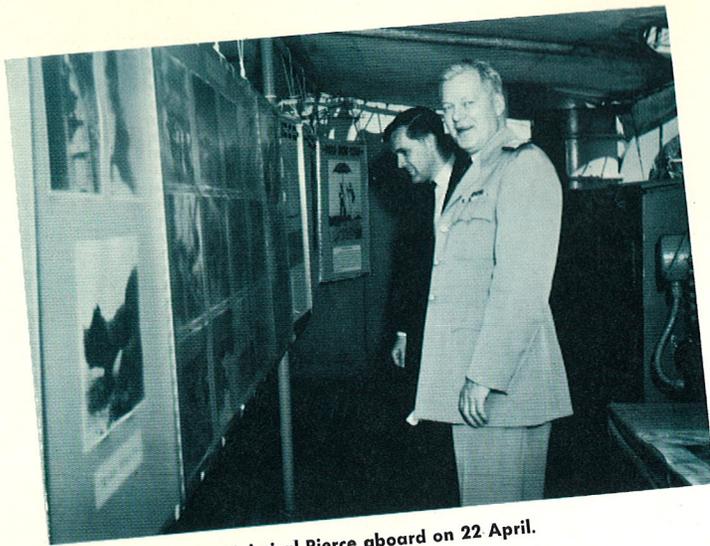
**Rigging gangway for reception committee, 20 April**



**Hoisting the personal flag of the Secretary of Commerce to main mast.**

**ADM Karo and Senator Magnuson look on as Dr. Stewart and CAPT Jones receive Meritorious Service Awards from Secretary Mueller.**





Admiral Pierce aboard on 22 April.

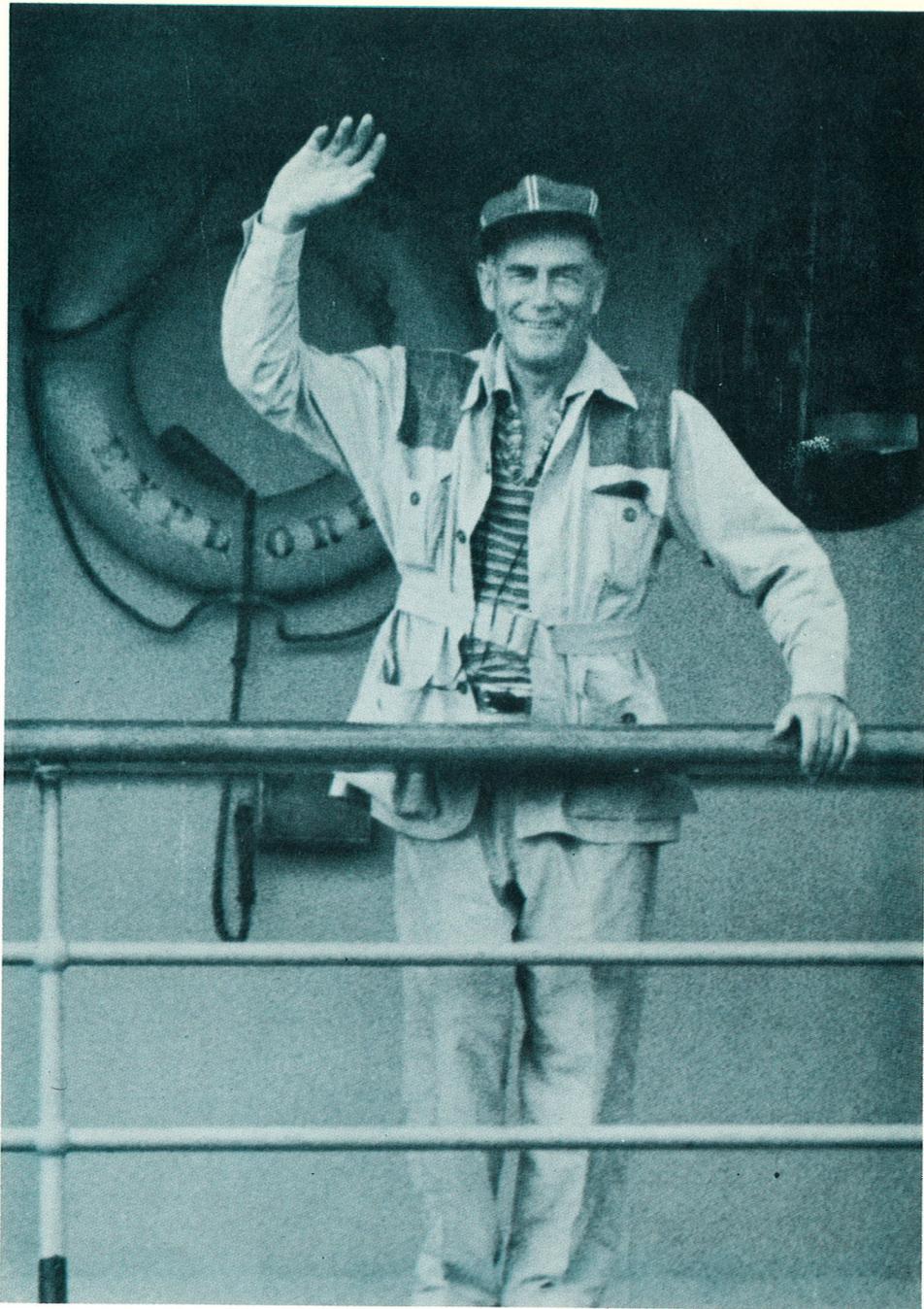


Dr. Stewart conducting Undersecretary of Commerce Ray and General Counsel Dodds on tour of exhibits.



Visitors aboard the EX during open ship on 21-25 April to view oceanographic exhibits.





Goodbye all. Hope you have enjoyed the photographs and books.

Cartoons by Clarence E. Pederson, C&GS

Photographs by W. Byron Hale, C&GS

Printed and Published by  
Liskey Lithograph Corporation  
Norfolk, Virginia

*Autographs*