THE COAST GUARD AT WAR

GREENLAND PATROL

II

PREPARED IN THE
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GREENLAND PATROL

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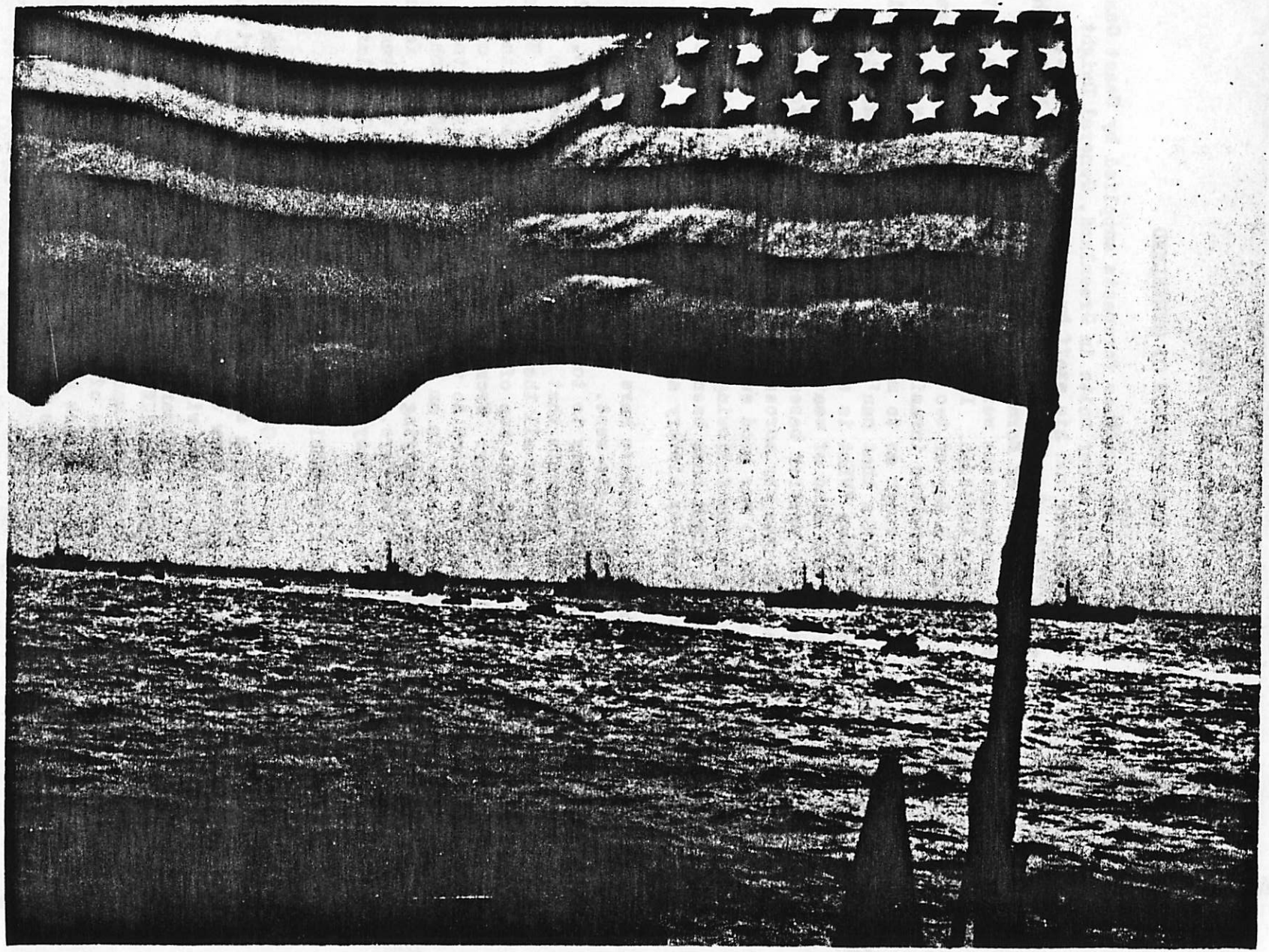


OLD GLORY MOVES UPON EUROPE'S BEACHES

GREENLAND PATROL

MARITIME SIGNIFICANCE OF GREENLAND

EISENHOWER ADVISED BY WEATHER BASES IN GREENLAND

From long-range weather forecasts supplied by Coast Guard stations and other units in Greenland, General Dwight D. Eisenhower and his staff knew within a few days, in June, 1944, when the invasion of France would be launched on the coasts of Normandy. As those days approached, final preparations were made. The weather experts, not the generals, took over the invasion. It was later learned that the invasion was actually delayed a day or two by the weather men. Clear skies and a sea rough enough to make the invasion boats uneasy targets for the shore batteries, but not so rough as to make the troops uneasy--that would be ideal weather. Weather like that can't be ordered. From a military standpoint, the favorite lines "What is so rare as a day in June" would read "What is so rare as the kind of weather we would like to have in June". When on June 5, the weather bases sent out an accurate forecast describing the weather all the way across the Channel and into France, General Eisenhower decided it was good enough and gave the order for the invasion of Europe to begin the following day. If he had waited for the perfect day, the invasion might have been delayed indefinitely. As it was, June 6, 1944, went down in history as D-Day.

WEATHER "IS MADE" IN THE WEST

Invasion forecasts have been on our side, for weather "is made" in the west. Meteorologists say that Greenland holds the key to tomorrow's weather in Europe. The winds and currents that flow from Greenland set up the storm fronts for all the North Atlantic, England, Norway, and the continent. Situated at the top of the globe, Greenland is the nearest land mass to the North Pole. From its position it can send out weather reports warning any territory to the east of the oncoming atmospheric conditions. The winds move in an easterly direction and reach Europe 24 hours or more later, carrying with them conditions either favorable or detrimental to modern warfare. So it has been one of the trump cards of the United Nations that they controlled reports from Greenland.

THREAT TO AMERICAN SECURITY

NAZIS IN GREENLAND

Early in the war, German operations in the far north began to present a serious threat to American security. The Nazis, who knew the importance of Greenland, patrolled its coasts with weather planes from which to send advance information to their submarines, surface vessels, and air forces. The trapped SCHARNHORST and GNEISENAU were able to slip out of harbor under cover of a heavy fog and maneuver their way unmolested within 15 miles of the Dover coast because of advance information sent by Nazi agents in the Arctic. The Germans had been suspiciously accurate in their forecasts, not only as in the case of their escaped warships,

ADMIRAL RUSSELL R. WAESCHE, COMMANDANT OF THE U. S. COAST GUARD

but also in their bombings of Great Britain. It was later learned that German radio stations in Greenland sent information to Berlin several times a day, and also advised enemy submarines maneuvering in Greenland waters what weather conditions would be and when Allied ships were due to pass along certain lanes.

TWOFOLD THREAT

After the German invasion of Denmark, on April 9, 1940, the American people became for the first time seriously concerned about our defense against attack from the North Atlantic. Greenland presented a twofold threat. First was the danger that Hitler might try to get control of the big Danish island to establish weather stations, bases for aircraft, and other military units with which to strike at Allied ships and planes following the northern route. And second was the possibility that the Germans might attempt to use Greenland as a springboard to attack the Western Hemisphere. Had Greenland, only six flying hours from New York, fallen into hostile hands, it would have been a terrible blow to the United States. Greenland had no defenses worthy of the name. Canada, like the United States, had no North Atlantic outposts. It was not until the destroyer-bases deal with Great Britain that the United States acquired a base on Newfoundland, which became one of the strategic centers of the war.

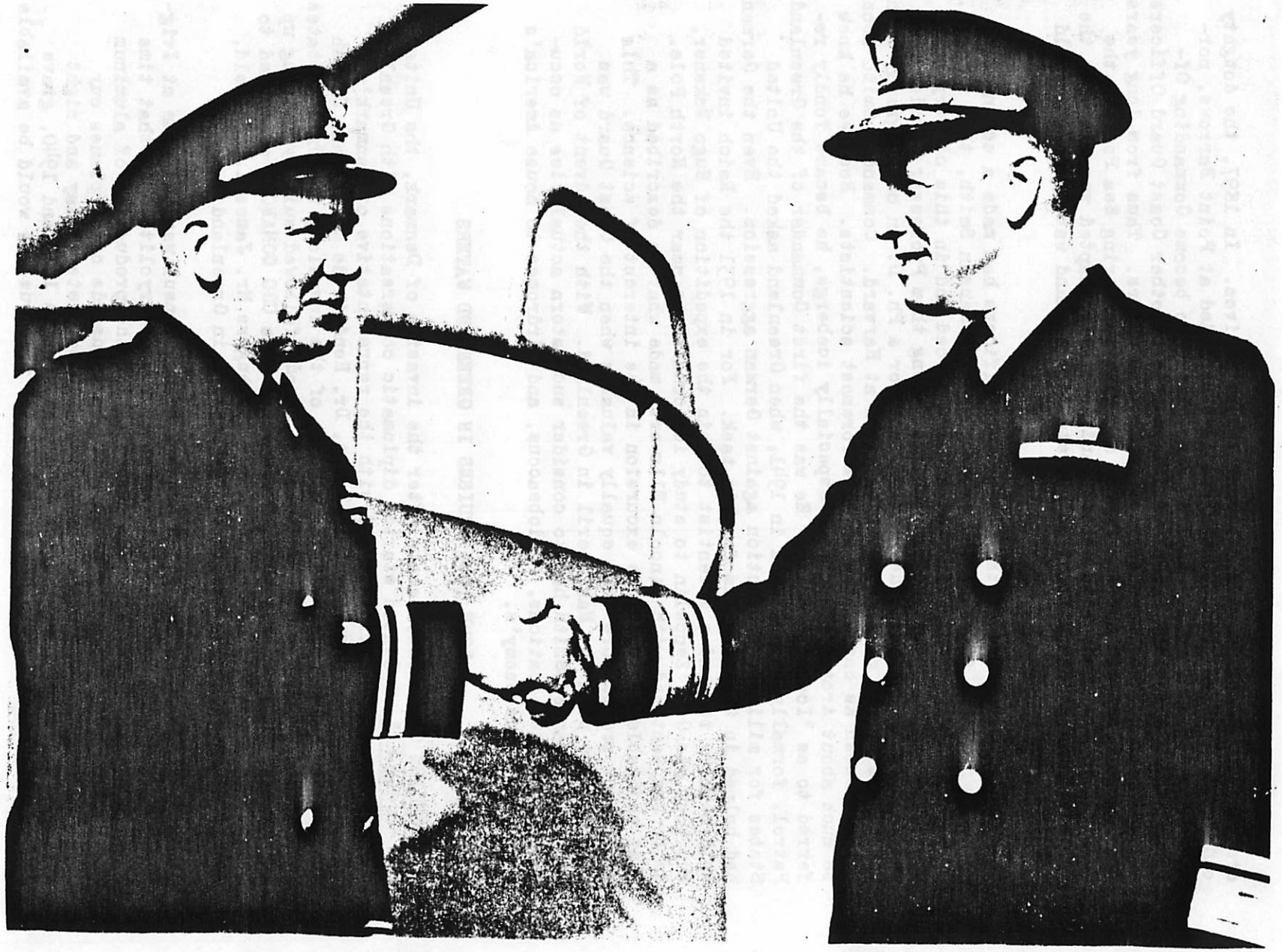
COAST GUARD IS PREPARED

CUTTERS SENT TO GREENLAND

In the national crisis, in fact as early as May, 1940, Vice Admiral Russell R. Waesche, Commandant of the Coast Guard, was called upon to assign some cutters for special missions in Greenland, inasmuch as the Coast Guard had ships especially adapted for ice and experts trained in Arctic navigation. Thus it happened that this branch of the United States armed forces was among the first to enter a war zone. The cutters and their planes found themselves in a violently contested area as Nazi submarines came in "wolf packs" to attack Allied ships carrying supplies to England. Speeding to the rescue of survivors from torpedoed ships, the cutters in May, 1941, heard the noise of the BISMARCK battle and intercepted radio messages telling of the presence of enemy craft. The cutters, however, under the jurisdiction of the Treasury, were unmolested for they were a familiar sight in those regions.

FORMER EXPERIENCE IN ARCTIC

Ever since 1912, when the TITANIC was sunk by an iceberg, the United States cutters had maintained the International Ice Patrol, financed by many nations. The Ice Patrol had a perfect record. Not a single ship was lost as the result of colliding with an iceberg, after the Coast Guard assumed responsibility for warning vessels of the dangerous bergs. The cutters had also gone on diplomatic missions, done reconnaissance work, and performed rescues, while on cruises to make hydrographic studies. They continued to operate, as in peacetime, without arousing comment. Then again, for years, the Coast Guard had maintained the Bering Sea Patrol, its cutters cruising in Alaskan waters far north into the Arctic, to protect the seal herds and administer navigation laws. While on these



LT.(JG) WALTER MORRISON (LEFT), IS CONGRATULATED BY REAR ADMIRAL ED H. "ICEBERG" SMITH

cruises, the Coast Guard ministered to the natives. In 1897, the doughty old cutter BEAR rescued 300 whalers left stranded at Point Barrows, northernmost tip of Alaska. Earl G. Rose, later to become Commanding Officer of the Greenland Patrol, and thousands of other Coast Guard Officers and enlisted men had seen service in Alaskan waters. Thus from long years' experience both with the Ice Patrol and with the Bering Sea Patrol, the Coast Guard was ready with experts and specially adapted vessels when the United States needed a fleet to operate in Greenland waters during World War II.

"ICEBERG" SMITH

One of the Coast Guard officers had made a scientific study of the Arctic. Edward Hanson Smith, then a Lieut. Commander, had studied abroad and in this country under outstanding scholars, among them Professor Bigelow, and was said to have passed the examinations for a Ph. D. in oceanography with the highest marks ever known to be given at Harvard. Commander Smith soon gained renown as one of the world's foremost scientists. Because he knew so much about Arctic phenomena, especially icebergs, he became fondly referred to as "Iceberg" Smith. He was the first Commander of the Greenland Patrol, formally established in 1941, when Greenland asked the United States for military protection against German aggression. Even the Germans had helped in training him for his task. For in 1931 the Reich invited this country to send a scientist to join the expedition of Hugo Eckener, who took his Graf Zeppelin to study ice conditions near the North Pole. Smith was sent and with Lincoln Ellsworth made what he described as a most enjoyable and valuable excursion in the interest of science. This experience proved more than equally valuable when the Coast Guard was sent to cope with the Nazi peril in Greenland. With the advent of World War II, Commander Smith had to consider such stern actualities as occupation, weather stations, radiobeacons, and airdromes to house America's planes, not the enemy's.

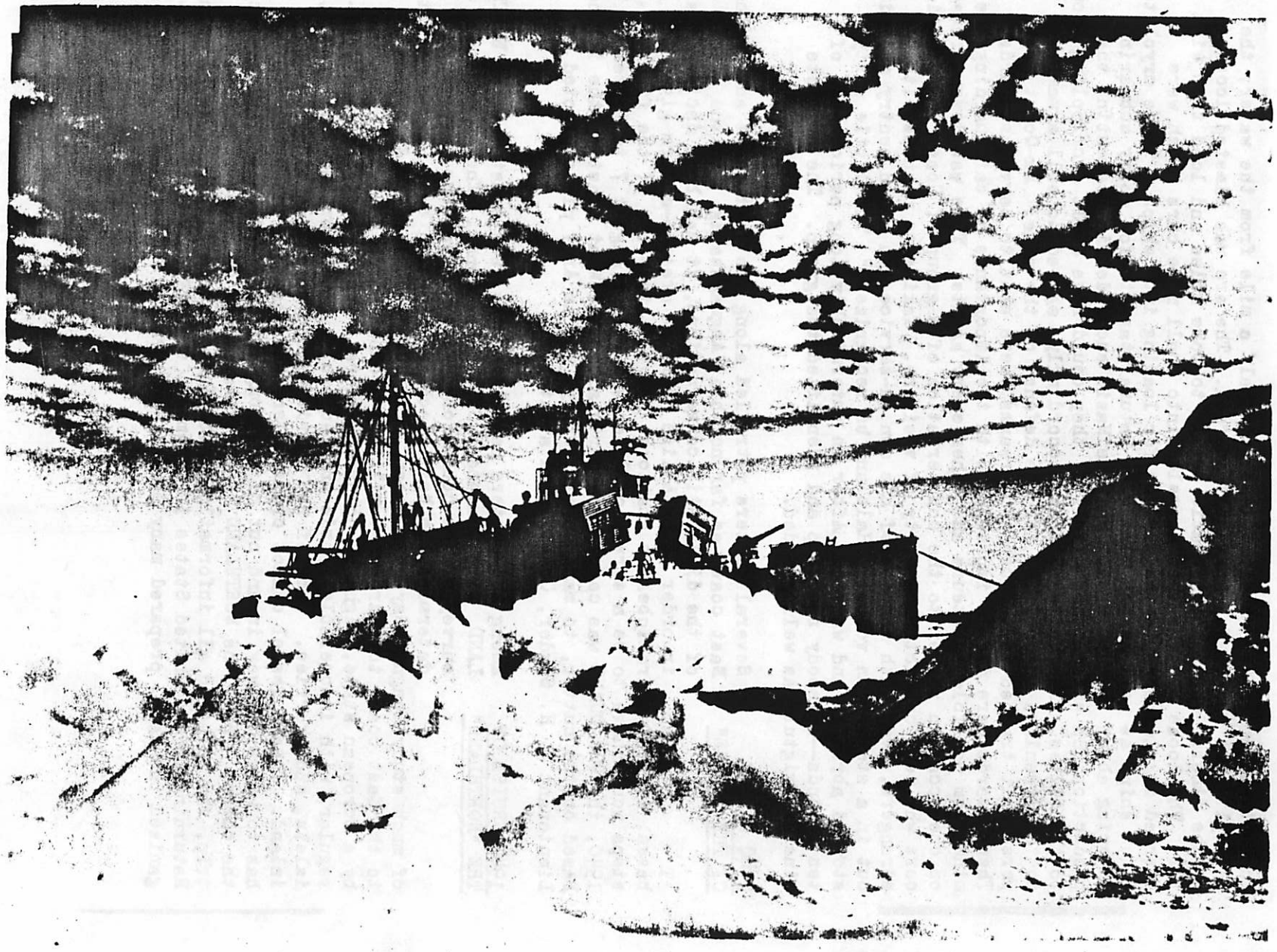
SOME 1940 CRUISES IN GREENLAND WATERS

1940 CRUISE OF THE "COMANCHE"

Immediately after the invasion of Denmark, the United States started diplomatic conversations with Greenland officials and with the representative of Denmark's Government-in-Exile, Dr. Hendrik de Kauffmann, Danish Minister to Washington. Within a month of the invasion, the United States established a consulate in Godthaab. (Canada followed suit by setting up a consulate in Greenland soon afterwards.) The CGC COMANCHE proceeded to Ivigtut in May 1940, having among her passengers Mr. James K. Penfield, the first American diplomatic representative in Greenland.

CRYOLITE MINE AT IVIGTUT IS GUARDED

An important concern of our Consul was the mine at Ivigtut, the only known source of cryolite. At that time cryolite was essential for the production of aluminum urgently needed for the thousands of airplanes our factories were rushing to complete in day and night shifts. Substitutes were later developed, but in 1939 and 1940, grave doubts existed as to whether enough of the precious ore would be available



U. S. COAST GUARD CUTTER NORTHLAND

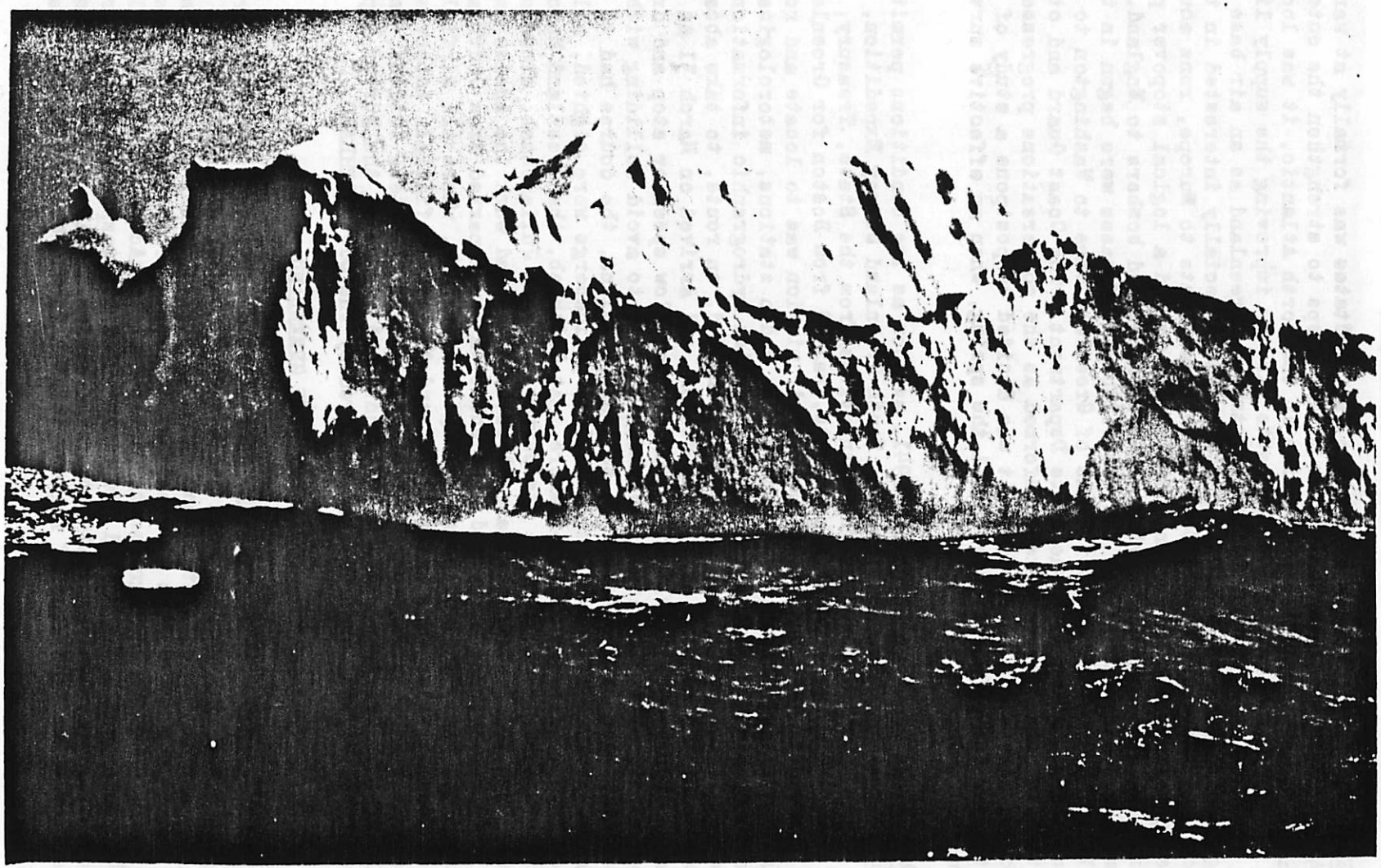
for Allied war needs. Located less than half a mile from the water, the open-pit mine had to be constantly guarded. The ore was blasted loose by the miners, who used pneumatic drills to bore holes and load them with TNT. The loose ore was then shoveled into small mine cars which were carried in elevators to the surface for loading into ships. Those cryolite-laden ships as well as the mine were natural targets for enemy submarines hovering about in that area. Had the Nazis succeeded in preventing the production and shipment of cryolite, they could have dealt a crippling blow to the Allies. The United States, accordingly, agreed to sell armaments to the Greenland authorities for the defense of the mine. Ex-Coast Guard personnel, trained in the use of firearms, were sent to serve as guards. These guards were deeply impressed with the importance of safeguarding the mine from possible saboteurs and other enemy agents. This was demonstrated on one occasion rather to the consternation of a group of Coast Guard officers who were conducting a party of visitors. Taking no chances with strangers, even with members of his own ex-service, an armed sentry called out in a stentorian voice: "Halt and be recognized!" The little party stopped abruptly and waited. After an interminably long period--all of ten seconds--somebody spoke up and identified the group. The cryolite mine at Ivigtut was well guarded.

1940 CRUISE OF THE "DUANE"

Several cutters patrolled along the West coast and on the East coast as far north as Angmagssalik. In the course of the diplomatic conversations, it had been decided that in order to establish "defense areas"--a term given to bases, airdromes, radiobeacon stations, and the like--one of the first steps would have to be a survey of Greenland. From August 7 to September 7, 1940, the CGC DUANE was carrying a party along the West coast of the island. Based on the cutter, to make an air survey, was an Army plane piloted by Lieutenant W. H. Snyder, Coast Guard aviator.

1940 CRUISE OF THE "NORTHLAND"

Among the cutters patrolling the West coast was the NORTHLAND, with Commander Smith as skipper. The cutter made a survey of ice conditions, visiting various harbors to determine the best place for a patrol base. As a result of much study Kungnat Bay was chosen. The NORTHLAND later made a cruise to the East coast to learn what military occupation or activity, if any, by a European state, might be occurring there. The coast is extremely irregular, with innumerable fjords and peninsulas, and thousands of islands, islets, and skerries. Some of the fjords extend more than ninety miles inland. Thus a vessel cannot cruise along the coast in the usual way but has to weave its way in and out of the long arms of land extending out into the ocean. While the NORTHLAND wove her way along on this reconnaissance trip, she gathered all information that might be of military or naval value. Returning to the United States in December, the officers of the cutter organized the data, prepared many charts, and wrote a "Greenland Pilot."



SECTION OF A LARGE ICEBERG

SOME 1941 CRUISES

PRELIMINARY PLANS FOR BASES BEGUN

Months before the United States was formally at war, as this nation was taking steps to strengthen the outer defenses of America in the North Atlantic, it was looking after its interests also by improving the supply lines to the Allied countries. Greenland as an air base was highly significant. The United States was especially interested in the fact that the Great Circle Course, shortest route to Europe, runs across the southern tip of Greenland, making the island a logical stopover point for the Allied airmen ferrying fighter planes and bombers to England. Preliminary conversations for the establishment of bases were begun in the fall of 1940, when Governor Svane of Greenland came to Washington to discuss the situation with the State Department. The Coast Guard and other interested agencies were kept informed as the conversations progressed. Because of weather conditions, it was decided to postpone a study of the sites for the proposed bases until the spring, when an effective survey could be made.

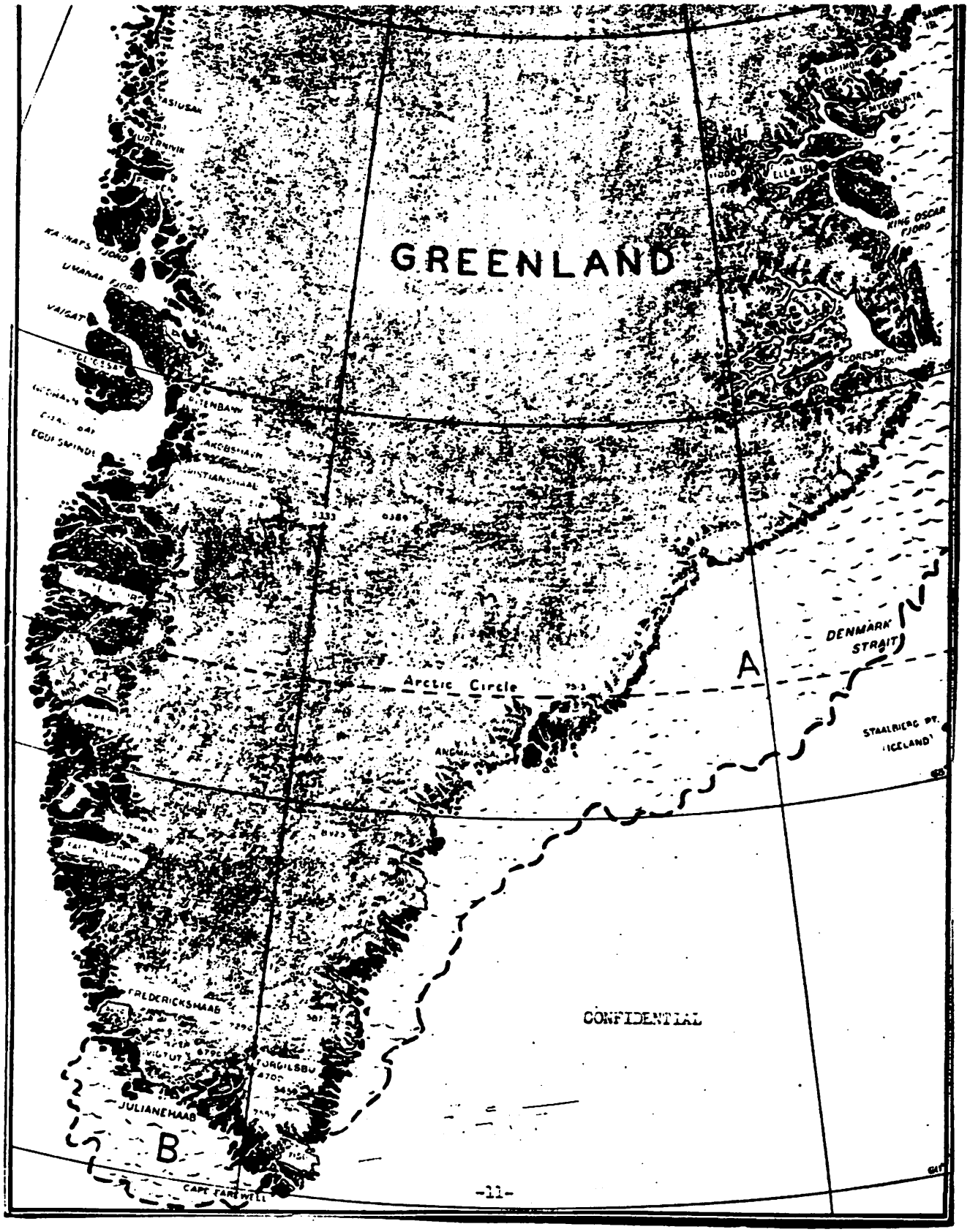
1941 CRUISE OF THE "CAYUGA"

On March 17, 1941, as soon as ice conditions permitted navigation, the South Greenland Survey Expedition, composed of representatives from the State, Treasury, Navy, and War Departments, sailed from Boston for Greenland on the Coast Guard Cutter CAYUGA. Their mission was to locate and recommend airfield sites, possible seaplane bases, radio stations, meterological stations, aids to navigation, and to furnish hydrographic information. The CAYUGA stopped at St. Johns, Newfoundland, en route, to take aboard some remaining members of the Expedition, and arrived on March 31 at Godthaab. She had been obliged to run at very slow speed or stop and drift each night, after leaving St. Johns, in order to avoid colliding with heavy blue ice or growlers. On several occasions, the course had to be changed because of heavy ice. One day, 94 icebergs were sighted, all of them five to fifteen miles offshore. At Godthaab, the Greenland Motorship TERNEN was chartered to take the Survey party to Julianehaab, since a small vessel was required to navigate close to shore and work the inside passages. All officers of the party and four enlisted men departed from Godthaab on April 7 to visit the following villages and points, where all airfield and base possibilities were investigated and the local officials interviewed: Frederickshaab, Kungnat Bay, Narsarssuak, Arsuk, Sletten, Ivigtut, Narsak, Julianehaab, Igalicko. The CAYUGA continued to assist the Survey Expedition until May 17, when she was relieved by the CGC NORTHLAND.

AGREEMENT WITH GREENLAND

AGREEMENT BASED ON THE ACT OF HAVANA

In Washington, diplomatic negotiations between Secretary Cordell Hull and Minister Hendrik de Kauffmann had been completed, and on April 9, 1941, they signed the United States - Greenland Agreement for the defense of Greenland. The Agreement was based on the Act of Havana of July 30, 1940, under which the United States accepted its responsibilities for protecting Greenland against German aggression. This was done in view of the fact that the status of regions located in the Western Hemisphere but


GREENLAND
KING OSCAR FJORD
DENMARK STRAIT
A
Arctic Circle
STAALBIERG PT. (ICELAND)
CONFIDENTIAL
FREDERICKSHAAB
JULIANEHAAB
B
CAPE FAREWELL

belonging to European powers was a subject of deep concern to the American nations, since such regions could be converted into strategic centers of aggression against those nations. The Secretary of State and the Danish Minister discussed together the effect of the recent military developments, particularly affecting Greenland, upon the maintenance of the peace and security of the United States and the rest of the American Continent.

MONROE DOCTRINE INVOLVED

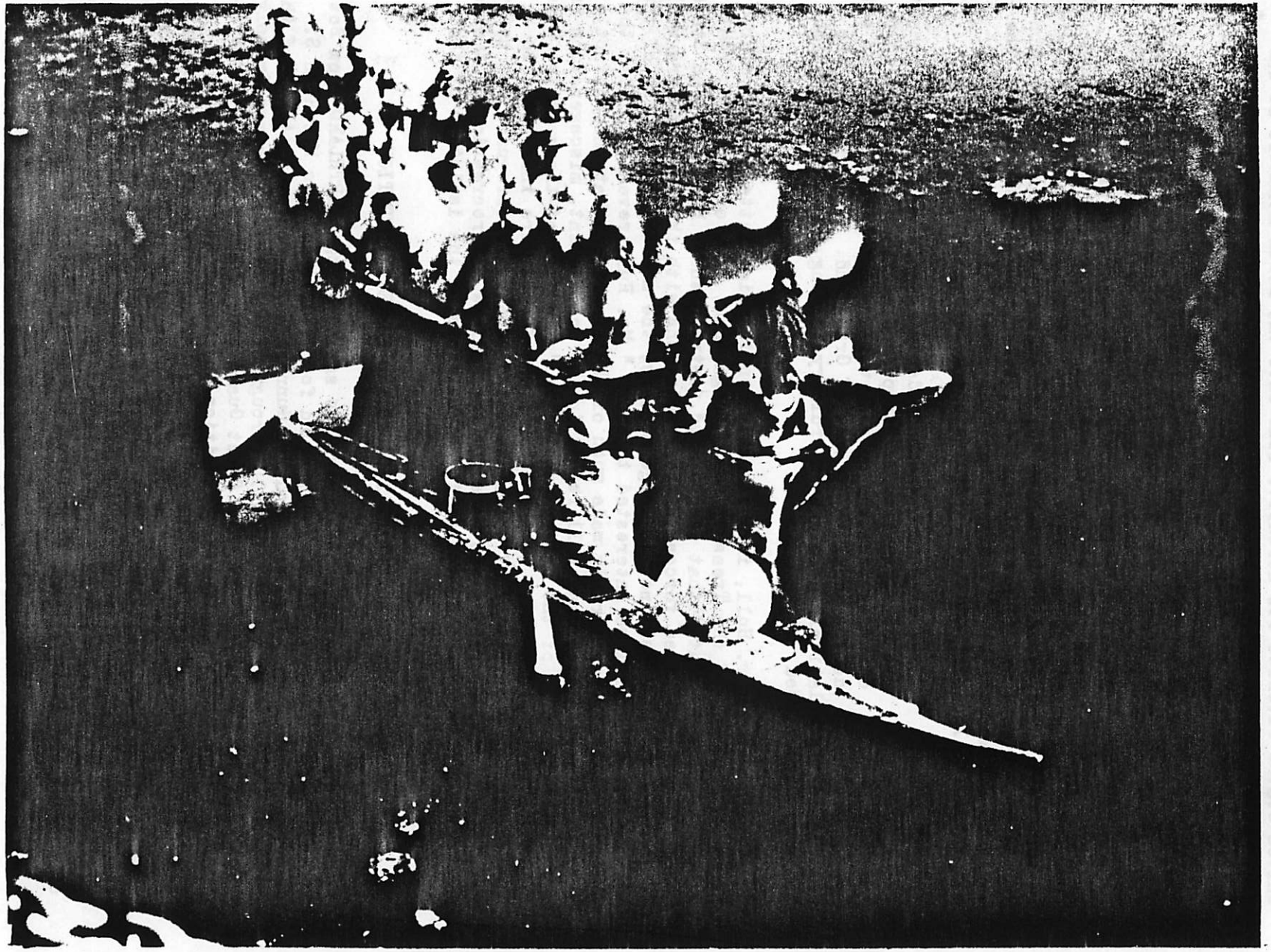
Mr. Hull pointed out to Dr. de Kauffmann, in a letter dated April 7, 1941, "You are also aware of the interest of the Government of the United States in maintaining unimpaired the safety of Greenland and the sovereignty of Denmark over that island....Although the Government of the United States fully recognizes the sovereignty of the Kingdom of Denmark over Greenland, it is unhappily clear that the Government in Denmark is not in a position to exercise sovereign power over Greenland so long as the present military occupation continues. (Referring to the German occupation of Denmark.) Greenland is within the area embraced by the Monroe Doctrine and by the Act of Havana, with which you are familiar, and its defense against attack by a non-American power is plainly essential to the preservation of the peace and security of the American continent, and of the traditional policies of this Government respecting the Western Hemisphere. My government has consequently proposed measures for the adequate defense of Greenland consistent with the obligations of the United States under the Act of Havana signed July 30, 1940." To this letter, Dr. de Kauffmann replied, on April 9, "I share your view that the proposed agreement, arrived at after an open and friendly exchange of views, is, under the singularly unusual circumstances, the best measure to assure both Greenland's present safety and the future of the island under Danish sovereignty."

U. S. RIGHT TO ESTABLISH BASES

The Agreement granted to the United States the right to locate and construct airplane landing fields and facilities for the defense of Greenland and of the American continent. While Denmark retained its sovereignty over the "defense areas" -- the term given to land leased for bases, stations, and the like -- the United States for the duration of the Agreement was to exercise exclusive jurisdiction over such areas and over United States military and civilian personnel and their families in those areas, and over all other persons there except Danish citizens and native Greenlanders. The American Government agreed to respect all Greenland's laws, regulations, and customs, and to give sympathetic consideration to all representations regarding the welfare of its inhabitants. The Agreement was to remain in force until the existing dangers to the peace and security of the American continent had passed.

DENMARK'S SOVEREIGNTY PROTECTED

This step was taken in furtherance of the traditional friendliness between Denmark and the United States, since it was recognized that so long as Denmark remained under German occupation the Government in Denmark could not exercise its sovereign powers over Greenland under the Monroe Doctrine. The policy of our country was that of defending for Denmark her sovereignty over Greenland so that she might have full exercise of it as soon as the German invasion of Denmark was ended. By the Agreement, the



ESKIMO HUNTER CHATS WITH THE WOMEN FOLK

United States extended its defensive line into the North Atlantic as far as Greenland and accepted a temporary protectorate over the Danish colony.* A similar agreement was made with Iceland a few months later.

AMERICAN CONTACT FEARED

Both official and private reaction in Greenland to the Agreement was favorable. But there was a sincere underlying apprehension that the Agreement meant an end of Greenland's isolation from the outside world, and a fear that extensive contact with American military and navy personnel would result. This was dreaded in Greenland with very real reason. The cornerstone of Danish policy towards the Greenlanders (commonly called Eskimos) was to prevent contact between them and the rest of the world so far as possible. Visitors were not permitted in Greenland without a special license, and these permissions were held to a minimum.

REASONS FOR ISOLATION

There were two reasons underlying this policy. Greenlanders are not immunized to European diseases so that even mild diseases from the outside world might become dangerous epidemics among the people of Greenland. Furthermore, the Greenlander is relatively helpless in ordinary trading operations to which he is not accustomed.

INCIDENTS TO BE AVOIDED

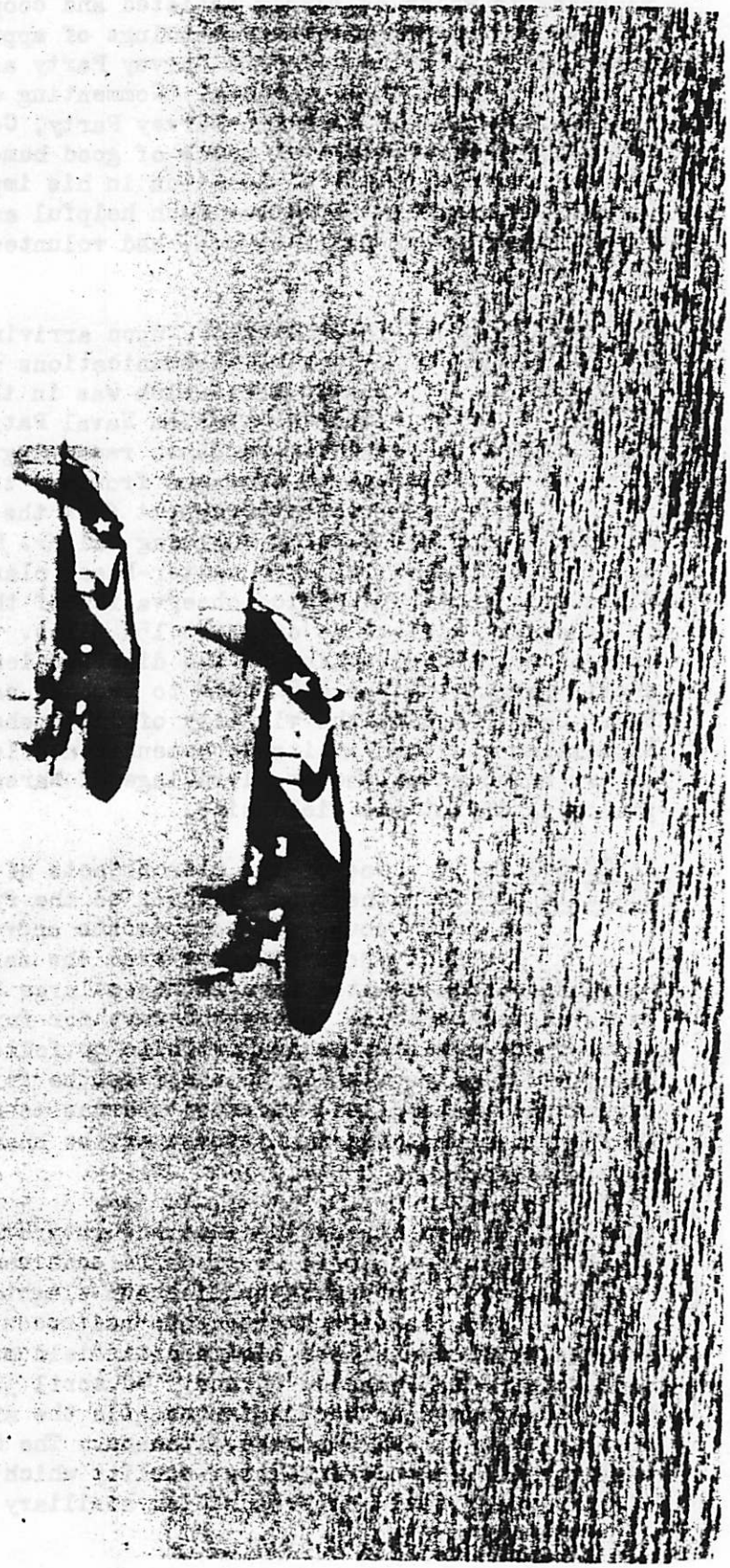
Mr. Hull, in a strictly confidential letter to Secretary of the Treasury Henry Morganthau, Jr., on April 28, 1941, stated that decorum and restrain shown by the United States armed forces in their relations with the Greenlanders would determine, in large measure, the smooth functioning of the Agreement. "You will be interested to know," Mr. Hull revealed, "that the German propaganda has already made much of the assertion that the contact of Greenlanders with Americans will result in the enslavement, miscegenation and ultimate extinction of the native population." In view of these facts, Coast Guard personnel and members of the other armed forces were instructed to avoid even the possibility of unfortunate incidents. To safeguard the native population, full provision was made for the welfare and recreation of Americans sent to Greenland, so that the policy of maintaining the isolation of the natives could continue.

NORTHLAND ASSISTS THE SURVEY EXPEDITION

1941 CRUISE OF THE "NORTHLAND"

Among the passengers who sailed on the NORTHLAND from Boston on April 7, 1941, bound for Greenland, were Mr. Hugh S. Cumming, Jr., and Mr. Gunnard Holm, representatives of the State Department. Throughout the cruise of approximately two months, the Coast Guard made every effort to cooperate with the South Greenland Survey Expedition and assist wherever possible. Commander Smith reported that the cruise further confirmed his contention that Coast Guard cutters were the best adaptable naval ships for the Greenland sector and that all such ships should be equipped with a plane. The ship-based plane was of much service to the work of the Expedition. It reported ice conditions, and among other things, the airmen made photographs of various tentative sites. Members of the Survey Party requested the

*For the full text of the Hull-de Kauffmann letters, see Appendices A and B.



U. S. COAST GUARD PLANES PATROL IN SEARCH OF ENEMY SUBMARINES

Commander from time to time to examine and comment on their preliminary reports, in which he gladly assisted and cooperated. During the course of the cruise, several hundred soundings of approaches to two tentative air sites were turned over to the Survey Party as well as combined directly into charts submitted to Washington. Commenting on the cordial and pleasant relations experienced with the Survey Party, Commander Smith spoke of Navy Commander Sinton's "saving sense of good humor," and stated that Mr. Cumming, who had received every cooperation in his important duties for the State Department, had in turn given much helpful advice and at Battle Stations, on meeting unknown ships at sea, had volunteered and acted as signals' recorder.

ASSISTANCE TO THE SOUTH GREENLAND SURVEY EXPEDITION

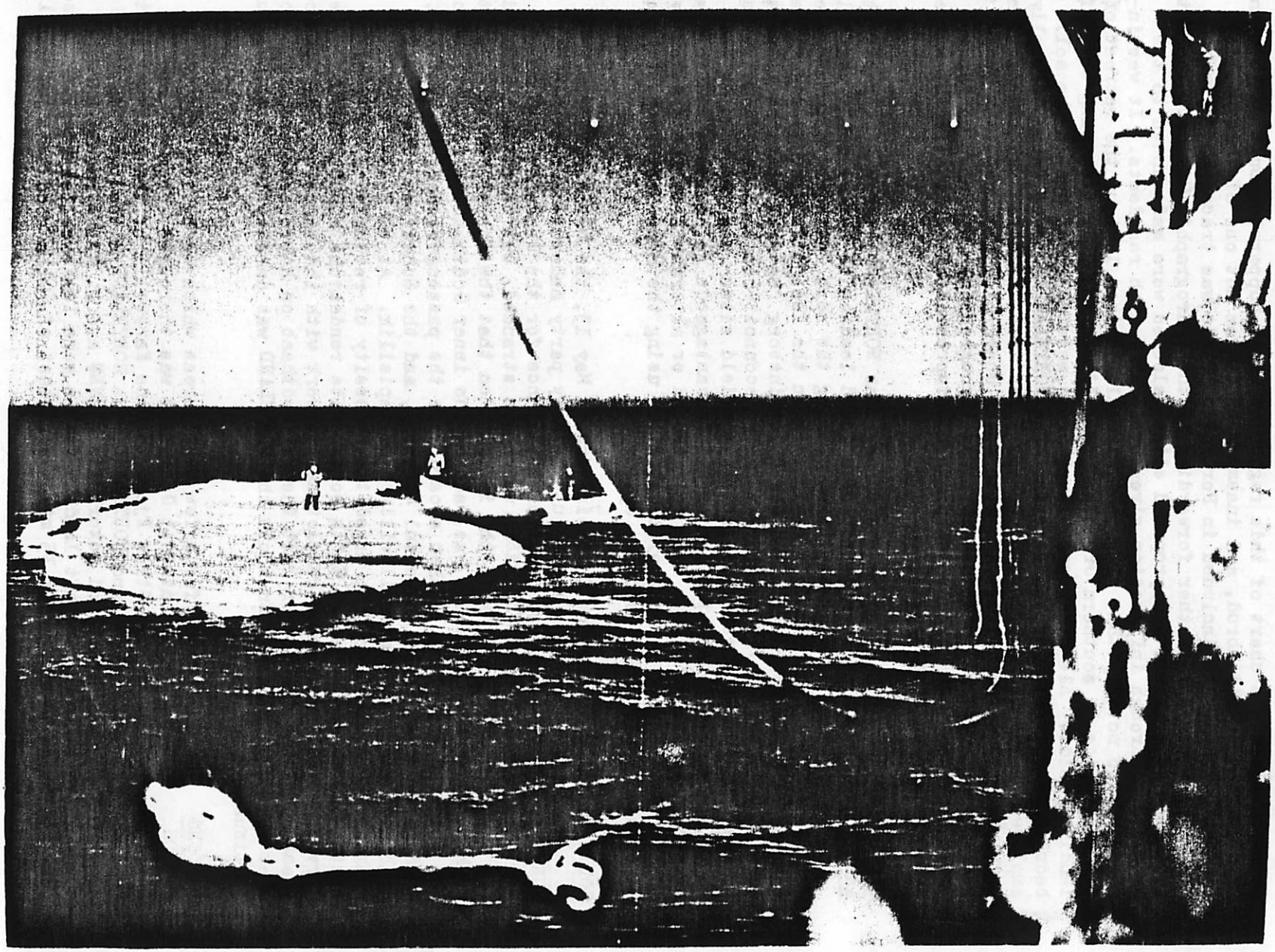
The NORTHLAND, upon arriving at Godthaab, on the 17th, maintained communications with the South Greenland Survey Expedition, which was in the vicinity of Julianehaab, on board the Danish Naval Patrol Boat TERNEN. During the next three days, remaining at Godthaab, the cutter forwarded messages from and to the Expedition. Upon receiving a request from the Survey Party to join them, the NORTHLAND took on board Mr. Cumming and Mr. Penfield, American Consul, and departed. On April 22, the cutter-based plane V-171, was utilized for the first time in making an ice observation of the coast from Kungnat Bay to Julianehaab, a distance of about 150 miles. The plane was able to give a very accurate description of the distribution of the storis ice along the coast, permitting the NORTHLAND to proceed safely southward into Julianehaab Bay. Upon reaching the vicinity of Julianehaab it was learned that the Expedition was then at its recommended airfield site in Narsarssuak, so the cutter anchored at the small village of Narsak for the night, arriving the following day at the field site.

LARGE-SCALE CHART IS MADE

One of the main objects of the NORTHLAND'S navigation of the fjord leading to the field site was frequent fathometer sounding, both on the approach and the entire length of the fjord directly from the sea to the upper end of the fjord. Commander Smith plotted the data on a large scale chart of the fjord, and forwarded the tracing to Headquarters for further submission to the Hydrographer and ultimate publication in Portfolio 50. Pointing out that the chart would be especially valuable to the first cargo ship bearing construction equipment to the field and due to arrive there about June 25, the Commander recommended that a copy of the chart be placed on the vessel prior to its sailing.

MANY AIRFIELD SITES SURVEYED

The members of the entire Survey Expedition were taken aboard on April 24, and the cutter departed for Julianehaab. Several observation flights were made by the V-171, which took photographs and reconnoitered the country in the vicinity of Narsarssuak, the proposed airfield site. Another plane flight was made to reconnoiter Akia Island. On April 30, the NORTHLAND proceeded to the Koppermine Bugt district, anchoring in the afternoon near a headland in the upper part of the Bay called Kipisako. The Survey Party had learned of a large glacial moraine in this locality which it desired to survey and investigate as a likely air field site, auxiliary to the main field recommended



A MOTOR WHALEBOAT FROM A COAST GUARD CUTTER CLEARS THE WATERS FOR THE ALNDING OF THE SHIPS PLANE

at Narsarssuak. A chart of this region of upper Koppermine Bugt was obtained from Ivigtut Kryolithbrud, and inasmuch as it was not one of those copied by the NORTHALND and included in Portfolio 50, it was traced and forwarded to Headquarters for further forwarding to the Hydrographic Office. The actual locations of moraines and proposed sites selected were made known to the Expedition through information given by local Danish residents. It was interesting to note by that time that glacial moraines left by the retreat of the inland ice in southern Greenland constituted the only promising sites for landing fields. All other semi-level areas were rejected due to the solid bedrock constituency of the terrain. The NORTHLAND's plane was continually employed by the South Greenland Survey Expedition for aerial reconnaissance, both with Expedition pilots and with Coast Guard pilots. They took photographs and mapped all possible moraines throughout the region. Commander Smith reported that without the plane no comprehensive or intelligent survey could have been obtained.

HOLSTEINSBORG AREA SURVEYED

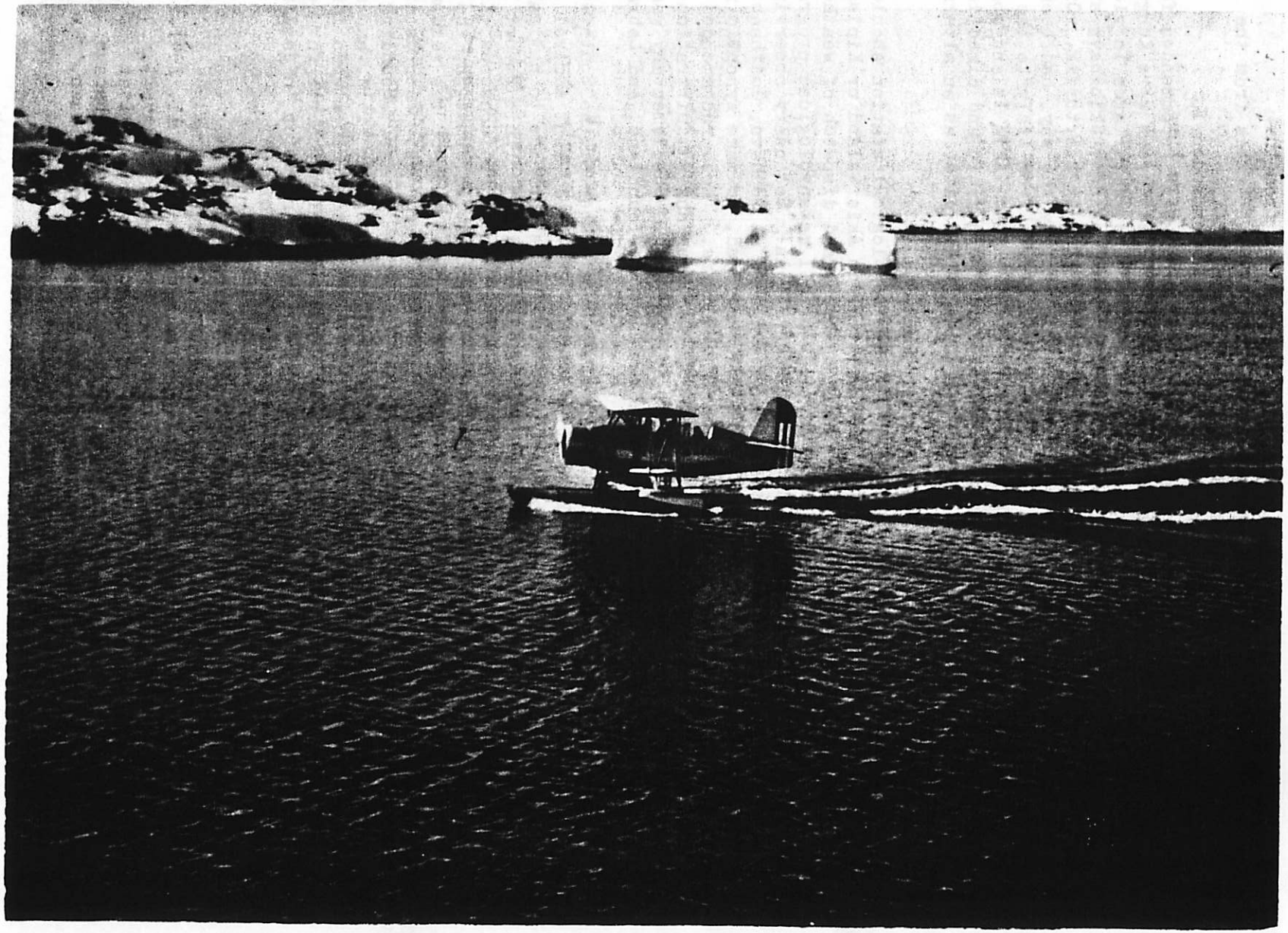
Continuing the survey, the NORTHLAND on May 2, investigated another branch of a fjord leading to the alternative field site at Kipisako. During the next few days, although they had trouble navigating in the ice, the Expedition surveyed the Sondre Strom Fjord area and the Holsteinsborg regions. Several flights were made by the V-171, the Survey Party reconnoitering the entire Holsteinsborg area. Two or three satisfactory airfield sites were recorded in both those areas, but none which appeared so advantageous as the moraine field at Narsarssuak, with Kipisako as a fair second or alternative. The Army party now decided to wait and survey those sites using the MODOC's transportation as soon as the winter ice broke up.

GODTHAAB FJORD SURVEYED

Leaving Holsteinsborg on May 13, the NORTHLAND proceeded to Godthaab, to put the Army party ashore. En route a call was received for assistance for the Greenland steamer GERTRUDE RASK, which was stranded, but this was cancelled later with the information that the vessel had been floated. On May 16, a reconnaissance was made of the inner Godthaab Fjord, with both the ship and the plane. Taken aboard were the passengers Landsfoged Svane, Landsfoged Brun, Canadian Consul Kirkwood, and the Survey Expedition. The night was spent at the small village of Kapisilik. At that point, Headquarters, through dispatch, urged the necessity of returning quickly to Boston and asked Commander Smith to expedite rendezvous with the MODOC. The Survey Expedition was now completing its work with the reconnaissance of Godthaab Fjord, so the cutter left them at Godthaab on May 17 and proceeded to meet the MODOC at sea. En route the NORTHLAND was damaged by heavy ice, but continued on her way.

LANDING FIELDS LOCATED

Except for a few small areas which were barred by ice or fog, southwest Greenland was thoroughly covered, from Nordre Strom Fjord to Cape Farewell, by means of the cutters CAYUGA and NORTHLAND, the NORTHLAND plane, and the two Greenland motorboats TERNEN and J. P. KOCH. As a result of the survey, several aircraft landing fields were located: an excellent base field at Narsarssuak, about 35 miles northeast of Julianehaab; a good auxiliary



SCOUTING MISSION IN GREENLAND WATERS

field at Kipisako, 15 miles southeast of Ivigtut, and 75 miles from the base field; and two good sites in the Sondre Strom Fjord area.

SEAPLANE BASES RECOMMENDED

For seaplane bases, eight locations were recommended for trial with ship-based aircraft. These areas were Kungnat Bay in Arsuk Fjord, Julianehaab Lake, water area in vicinity of Base Field, Lake in Torsukatak passage, Skibshavn at Godthaab, Holsteinsborg, Tatsip Ata, Angujartorfik. Of these Kungnat was considered the best. Julianehaab, by the way, had been the selection of General Balbo as a stop on his flight from Italy to the United States. Several radio stations were recommended: Akia Island about three miles south of Julianehaab, as the site for main radio and direction finder stations; Kipisako, the auxiliary landing field site, as an alternate location.

AEROLOGICAL STATIONS RECOMMENDED

It was decided that the main aerological station should be located near the radio central on Akia Island or Kipisako, to expedite both the procurement and dispatch of weather data, and should carry out a full meteorological program including radio sonde observations. Secondary observing stations, it was recommended, should be established at Godhavn, Godthaab, Narsarssuak, Torgilsbu, Angmagssalik and Scoresbysund, to make synoptic reports and pilot balloon observations every six hours. These recommended locations would permit the temporary use of the Greenland Administration radio stations already operating, except at Torgilsbu. Supplementary weather reports could be secured from Jan Mayen, Iceland, Newfoundland, and Labrador.

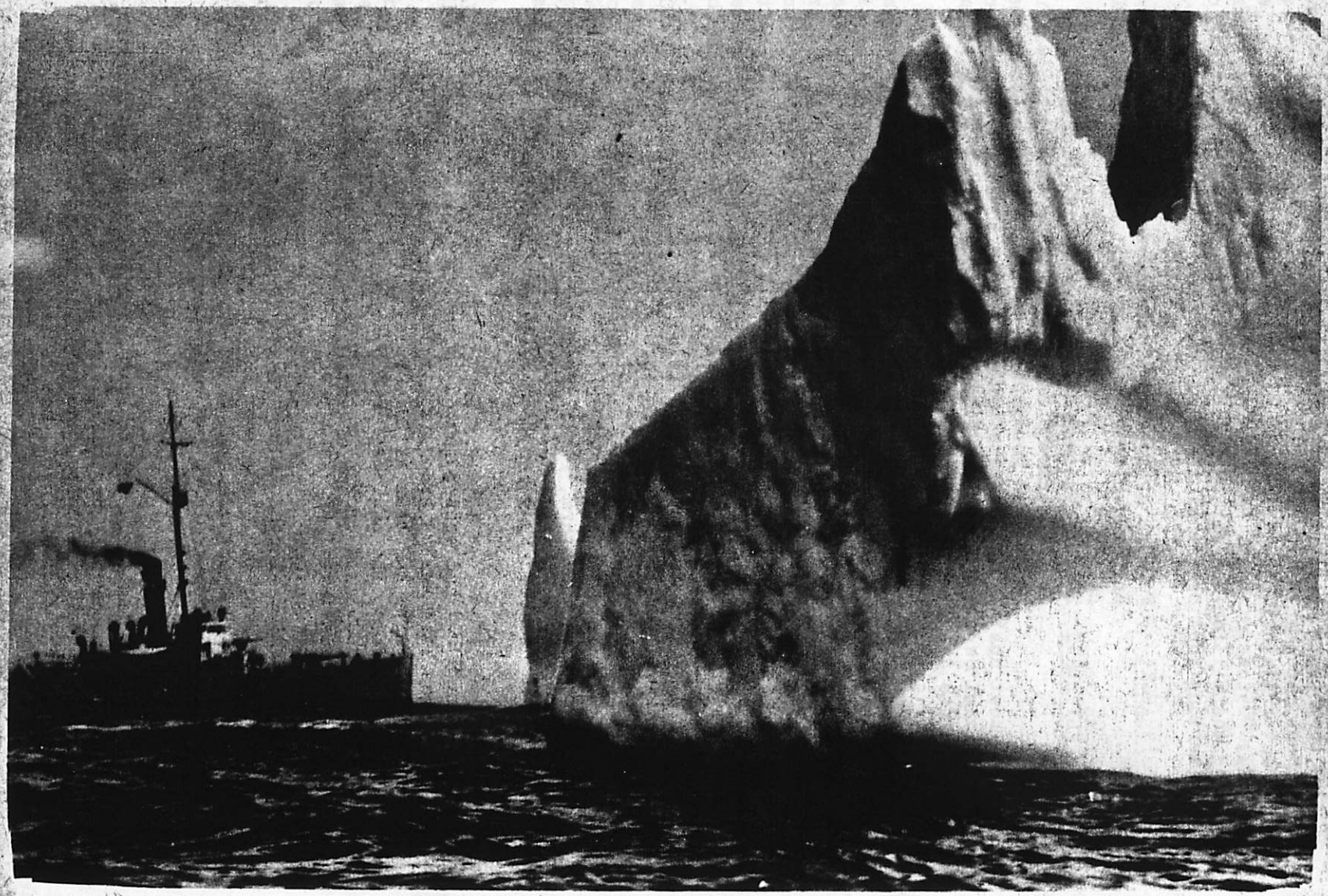
REPORT ON NAVIGATIONS AIDS

Lieutenant V. C. Gibson, USCG, a member of the South Greenland Survey Expedition, on May 25, 1941, sent Admiral Waesche a report of recommendations for aids to navigation, based on the findings of the Expedition. This report laid the foundation for what was accomplished in establishing radiobeacons, lights, markers and other aids to navigation. For hydrographic information, the NORTHALND made an approach from sea to the vicinity of each of the recommended sites and thus demonstrated the practicability of the routes. Records of fathometer soundings were made for inclusion in future charts. Sounding lines were run by the motorship TERNEN in the vicinity of the Base Field, and an accurate water survey was made at the proposed dock site. Recommendations and suggestions were made for the reproduction of Greenland charts for both sea and air navigation. Considerable information for inclusion in sailing directions and ice information was acquired during the cruise.

COAST GUARD RESCUE SHIPS IN COMBAT AREA DURING "BISMARCK" BATTLE

LEND LEASE FOODSTUFFS REACH ENGLAND

American neutrality was coming to an end. On March 11, 1941, when the Lend-Lease Act became a law, President Roosevelt had announced that the defense of Great Britain was vital to the defense of the United States. That spring it became desperately urgent to send food to the people of Britain,



CGC MODOC ON ICE PATROL.

whom Hitler was trying to starve into surrender by submarine warfare. The first Lend-Lease transfer of food was authorized on April 16, when the President directed Secretary of Agriculture Claude R. Wickard to transfer to Great Britain 100,000 cases of evaporated milk; 11,000 tons of cheese; and 11,000 tons of eggs. Eight months later, Lend-Lease foodstuffs had just passed the million-ton mark. These shipments tided Great Britain over her most serious food crisis of the war.

THE "BISMARCK" ARRIVES TO DESTROY THE SUPPLY LINES

Furious at the American success in getting help across to England, Hitler sent the giant battleship BISMARCK, newly commissioned, to raid the convoys. With her was the PRINZ EUGEN. The speed and power of the BISMARCK made her a deadly menace. Not only was she the most powerful ship afloat, so honeycombed with water-tight compartments as to be almost unsinkable, but she was far larger than the 35,000 tons which the official German sources had given as her displacement. Her aim was the complete destruction of the United Nations' supply lines.

RESCUE MISSION NEAR BATTLE

The NORTHLAND and the MODOC had rendezvoused at sea and were searching for survivors in the North Atlantic, when they learned of the BISMARCK battle, in which the giant ship was being pursued over a wide area by the British Navy, a chase that might bring the fight close to the rescue cutters. No less than forty-six warships were involved in that spectacular battle which electrified the world in May 1941, and went down in naval history as one of the outstanding engagements of the war. From Iceland and the North Atlantic, from Gibraltar and the South Atlantic, the British Fleet closed in. The two German ships were sighted by the British cruisers SUFFOLK and NORFOLK, in the strait between Iceland and Greenland on May 23, and the next day the long-range battle began when the PRINCE OF WALES and the HOOD arrived to challenge the BISMARCK. From then on, surface vessels and planes pursued the giant enemy through fog and storm, finally sending her to the bottom on May 27, after the gallant HOOD had been sunk and several ships and planes severely damaged.

SEVENTEEN SHIPS IN CONVOY REPORTED SUNK

The MODOC had been directed to relieve the NORTHLAND in Greenland waters after the transfer of the Survey Expedition Party had been satisfactorily arranged. On May 18, therefore, the NORTHLAND set a course to rendezvous with the MODOC, and on May 20 the two cutters met at sea. After the transfer of mail and a conference between Commander Smith and the MODOC's Commanding Officer, Lieutenant Commander Harold G. Belford, USCG, the NORTHLAND started on her voyage to Boston. She had only been on her way a few hours, when at 0330 on May 21, new orders were issued from Headquarters, with an urgent dispatch which stated that seventeen ships in a convoy had been reported sunk 150 miles southeast of Cape Farewell. The cutters were directed to search for survivors.

CUTTERS ON MERCY MISSION

At noon that day, the NORTHLAND sighted four merchant vessels, apparently part of the convoy, and signalled them. After much difficulty, she established communications with one, the WEST GLENBERG, but received very little information.

SURVIVORS OF A TORPEDOED SHIP CATCH THE LIFELINES THROWN TO THEM FROM A CUTTER IN THE NORTH ATLANTIC

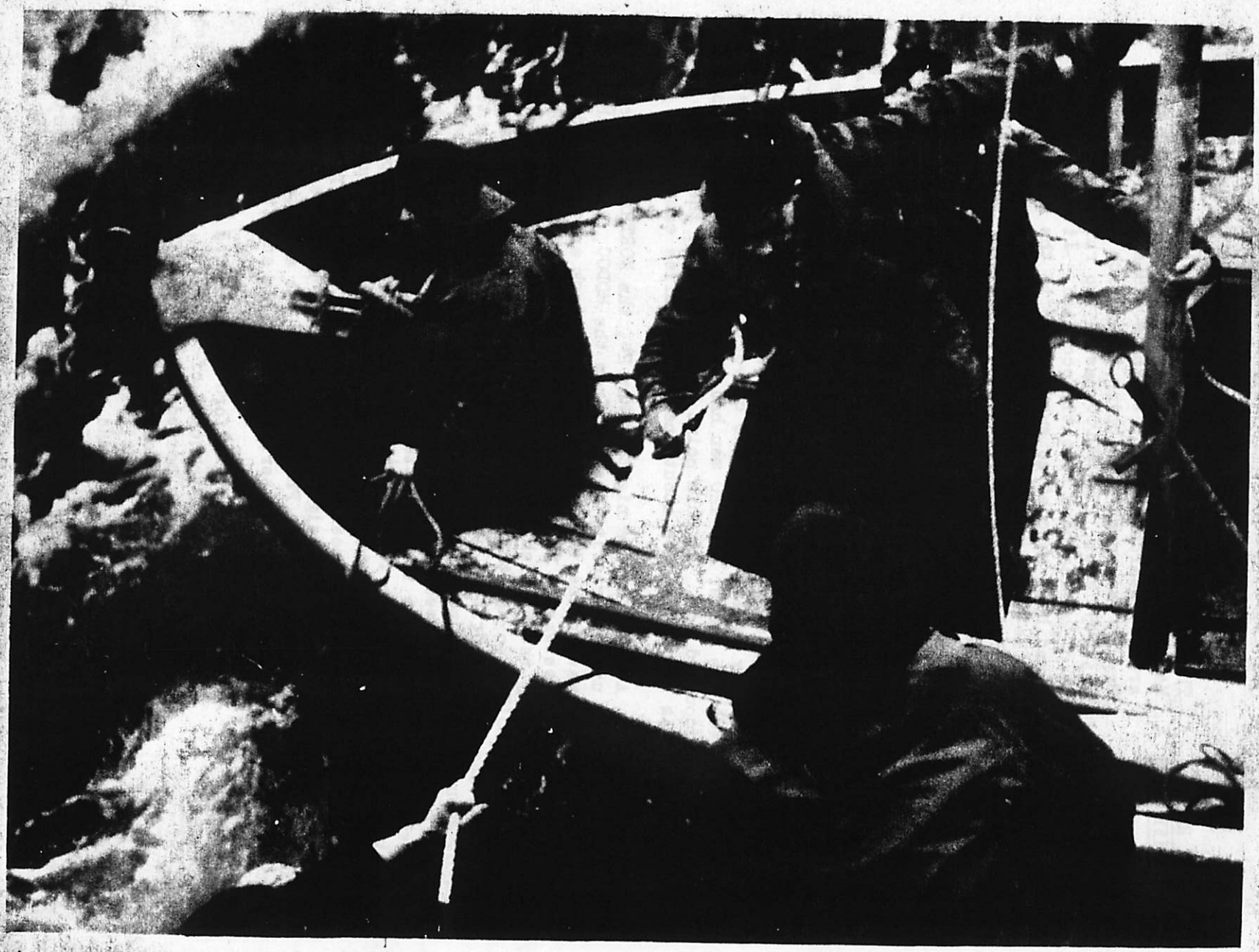
On the other hand the MODOC had succeeded in exchanging signals with a tanker which reported that weak signals had been intercepted from the boats of the steamer MARCONI, sunk on May 20 about 100 miles south of the main convoy. The MODOC requested and was given permission to follow up this clue. The NORTHLAND continued toward the main sinkings. "It was decided during these operations," reported Commander Smith, who as Senior Officer Present Afloat conducted all the search activities, "that in view of our humanitarian mission it was best to make no secret of our presence, in order that there could be no excuse for accidentally mistaking Coast Guard cutters for belligerent vessels. Naval ensigns were prominently displayed, lights were burned at night, and the ensigns brightly illuminated, and each cutter alternately broadcasted on the radio each hour its position and the purpose of the mission."

NINE-DAY SEARCH

The message received from Headquarters for action of the two cutters gave the position of the torpedoing as 57°41' North, and 41°21' West. At noon on May 22, the NORTHLAND reached the vicinity of the reported sinkings which had occurred on May 20. The direction of the prevailing wind gave an estimated set and drift of 95 degrees, and between one and one half miles per hour. It was thought best to allow outside limits of wind drift for the boats in order to avoid the likelihood of not searching far enough to the eastward. Throughout the nine-day search, the weather was consistently unfavorable, with strong westerly winds during the first part of the period, followed by strong easterlies during the latter part. There was a heavy swell, and due to mist, fog, and rain, it was impossible to see ahead more than one or two miles. Seldom was a clear horizon visible.

MUTE EVIDENCE OF THE DISASTER

"Shortly after noon on May 22," reported Commander Smith, "we sighted several bodies in life jackets, and considerable oil spread around on the surface. As the afternoon progressed, we met various pieces of floating wreckage and debris. Then a lifeboat was sighted about a half mile ahead, but upon a close approach it was found empty. A second boat we came upon not far away was in the same condition. Continuing southward we came upon a large raft capable of holding 15 or 20 persons, and this, too, was empty. Later we passed another raft, which had been burned and charred. About 1900 GCT, three vessels were sighted zigzagging on a northwesterly course. They proved to be part of the convoy escort, consisting of a destroyer, the HMS ARABIS, an armed trawler, and a merchant vessel, probably the commodore of the convoy. Signals were exchanged and it was learned that they had recovered 53 survivors, some from the two boats which we had previously sighted. They had apparently been searching for the two days prior to our arrival, and in all they had succeeded in rescuing the total of 120 survivors. Continuing to the southeast, we sighted an abandoned tanker. She proved to be the BRITISH SECURITY, which was wallowing in the swell, her decks awash. A large gaping torpedo hole just forward of her bridge could be seen in the wreckage of the bridge, and she was completely burned from the results of the ensuing fire. The boat falls were still hanging in the water, eloquent testimony to the rapid departure of those who were able to escape." That night the NORTHLAND remained in the vicinity of the tanker, and when the cutter left on the morning of May 23, the damaged vessel was still afloat.



COAST GUARDSMEN HAUL SURVIVOR ABOARD

EMPTY RAFTS AND LIFEBOATS

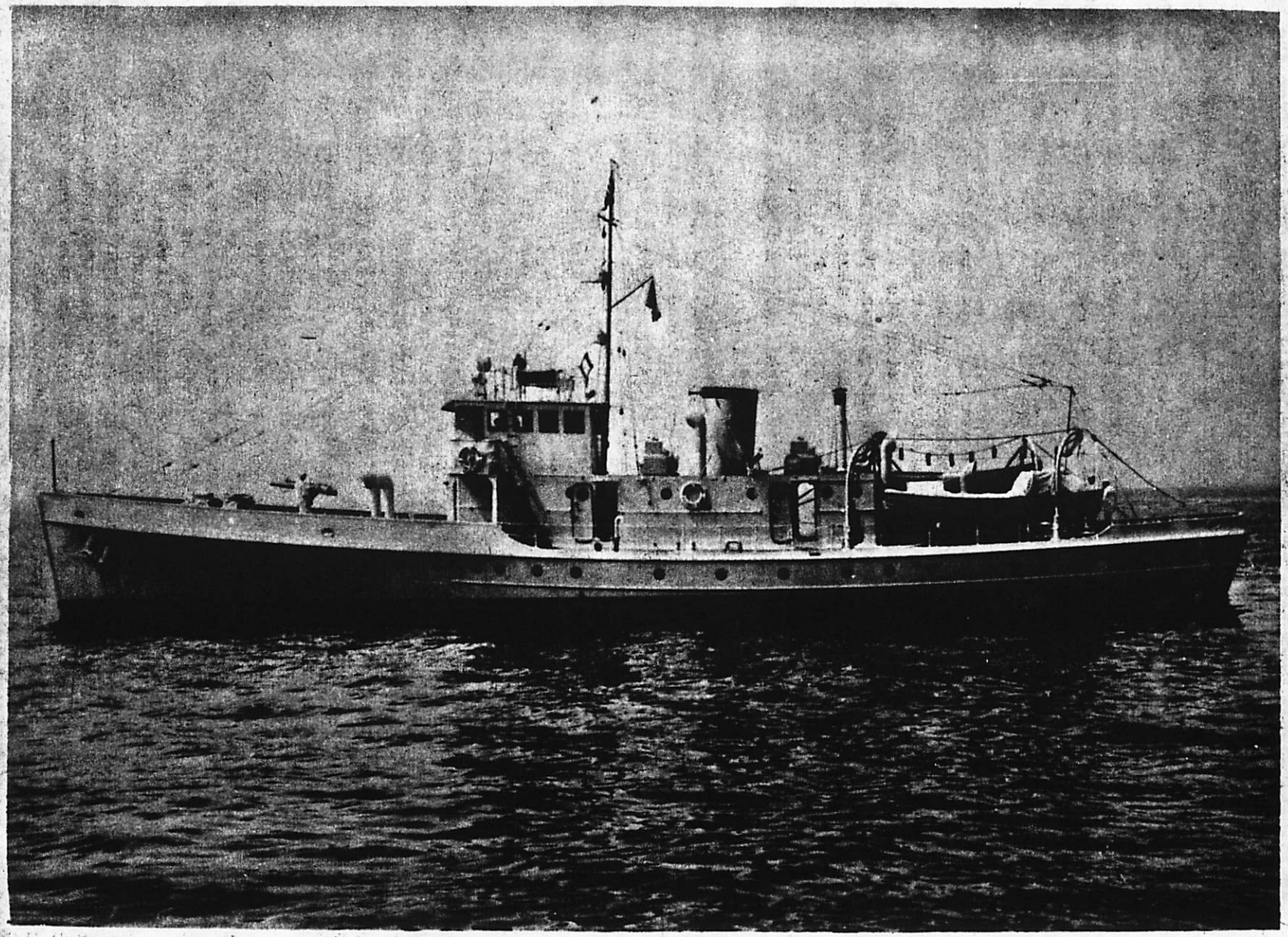
The MODOC, which had been unsuccessful in locating the MARCONI boats to the southward, now was assigned an area to search adjacent to the NORTHLAND's. All of May 23 was spent developing the search to the eastward as far as longitude 37°45' West. The MODOC passed two rafts and a boat, all showing evidence of having been recently occupied. It was obvious that many survivors had been rescued somewhat prior to the arrival of the cutters. On May 24, the MODOC was assigned an area east as far as the 37th meridian, in order to be certain, as far as possible, that no boats had drifted past the cutters to the eastward. A northwest gale blew the entire day. It was difficult to sight an object such as a boat more than a mile or a mile and a half away. The NORTHLAND came upon some rafts that she had sighted on May 22, so was able to get excellent estimates of the drift. It had been 12 miles per day on a course of 95 degrees true. It seemed quite certain, therefore, that the rescue missions had not missed any boats because of not running down the drifts to the eastward. During the afternoon the NORTHLAND came upon the HMS trawler NORTHERN WAVE, one of the ships of the Iceland Patrol, which had been detailed to search for survivors. According to the captain of the trawler, a total of eight ships had been torpedoed by twelve U-boats, the convoy had been on a course of 34 degrees, speed 6.5 knots, and 120 men had been rescued, leaving approximately 140 unaccounted for. At this point he stated that the German battleship BISMARCK was reported to be about one hundred miles eastward.

MODOC IN MIDST OF AIR ATTACK

At 2030 on the night of May 24, the NORTHLAND received an urgent priority message from the MODOC, stating that she was in the vicinity of an air attack and was headed northwestward. The bombing attack had been launched by the VICTORIOUS, sent by the British Admiralty with her three cruisers--AURORA, KENYA, and HERMOINE--to maintain contact with the enemy as long as possible while waiting for the British battleships to arrive. It was close to midnight when the MODOC found herself in the midst of the attack in which eight planes and three naval vessels were involved. Anti-aircraft from the BISMARCK whizzed dangerously close to the cutter's port bow. The planes fought gallantly and inflicted damage to the German ship, reducing her speed and thus gaining their objective for the time being. The PRINZ EUGEN must have left at this time for she was not seen after that evening. While planes were making the attack, the NORFOLK sighted a ship to the southwest and gave the order to open fire. Luckily, the PRINCE OF WALES was able to identify the ship as an American Coast Guard cutter, thus averting an attack on the MODOC.

COMMANDER BELFORD'S REPORT

Earlier, Commander Belford had observed a single plane which passed to starboard of the MODOC, circled, reversed course, and again passed to starboard. "When passing the second time," he reported, "she flashed her blinker, which was answered by identifying the MODOC. While this was happening and at about 1837, sighted dead ahead a large man-of-war, either a battleship or a heavy cruiser, standing southwest. At about 1845 sighted a squadron of eight land-type torpedo planes, standing from the northeast



CGC GENERAL GREENE

towards the MODOC. Markings of the planes indicated they were British. While the planes were passing, anti-aircraft fire was observed from the man-of-war, which was now on port bow. She was apparently firing astern at the single plane first observed. At about 1905, sighted three naval vessels in a column north northeast and heading southeast....At the same time the large man-of-war was heading to the southwest and was bearing slightly forward of the port beam. She was engaged in heavy anti-aircraft fire, presumably at the squadron of planes previously observed. By this time the MODOC was about in line with both forces. Increased speed and stood clear to the northwest....Later one large bombing plane was observed standing toward the engaged man-of-war. Due to the gale, light haze, distances, and approaching darkness, vessels were hard to discern, as to types, and the planes could not be seen while attacking."

SEARCH FOR SURVIVORS CONTINUED

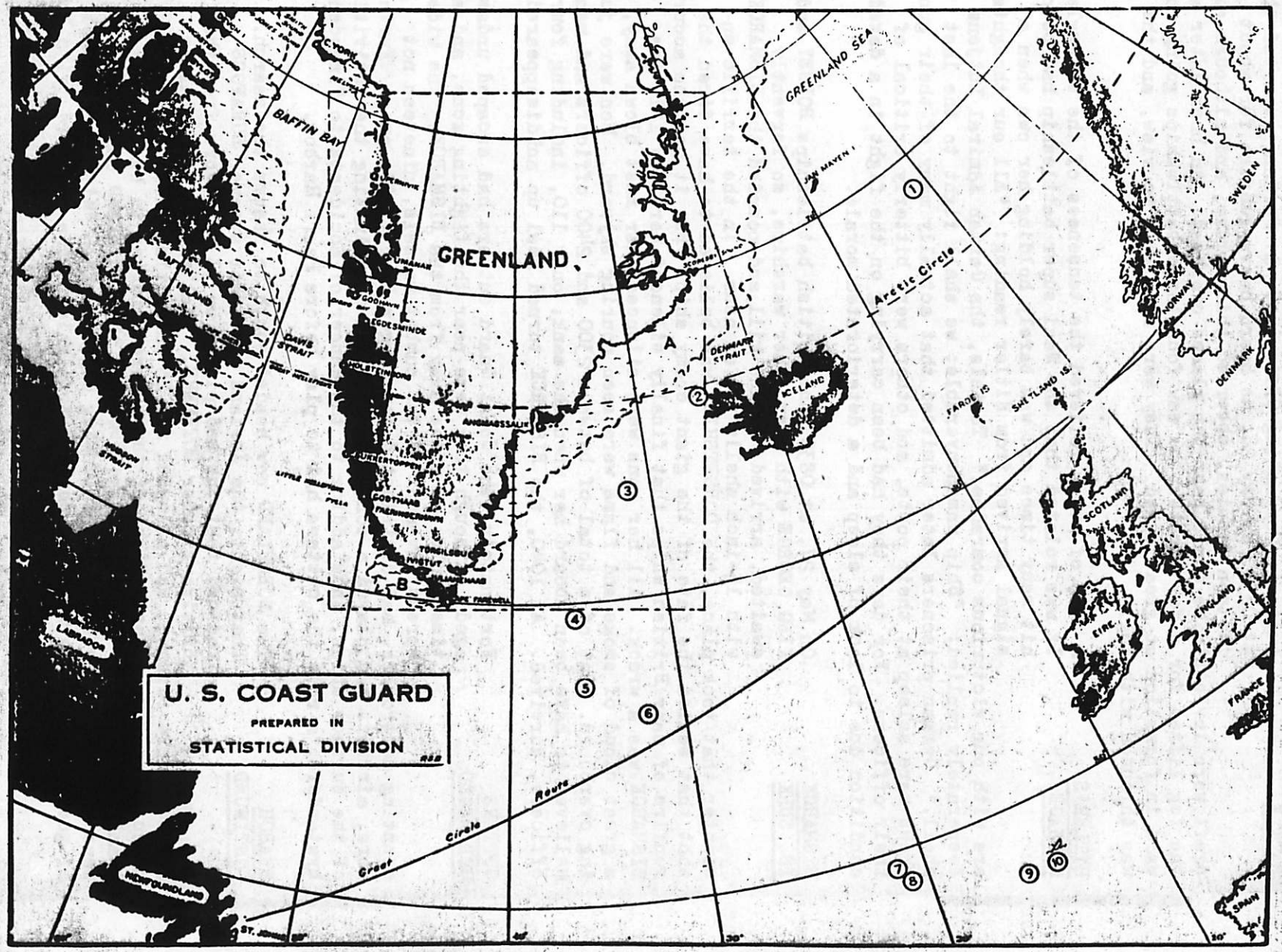
Upon receipt of the message stating that the MODOC was in the vicinity of an air attack, the NORTHLAND stood toward the MODOC, and Commander Smith directed her to make contact as soon as possible with his cutter. When the two ships were fairly close together, they set a course for Cape Farewell, with the intention of searching along the edge of the storis ice the next day. They rendezvoused about 30 miles south of Cape Farewell on the evening of May 25, and laid plans to search northwestward in the morning. If conditions permitted, the NORTHLAND was to scout out the area with her observation plane.

GENERAL GREENE JOINS SEARCH

In the meanwhile, the CGC GENERAL GREENE, on an oceanographic survey off Newfoundland, had intercepted the urgent code message from Headquarters to the other two cutters. Although without means of decoding the message she decided to join in the search, for she suspected that it directed the cutters to look for survivors. It was a good assumption. The wise action of the skipper saved the lives of many victims of the MARCONI disaster. When the GENERAL GREENE reported for duty, she was assigned an area of search near the MARCONI sinking, which had been reported to the NORTHLAND as in Latitude 56°04' North, Longitude 40°55' West. This area had not been searched by the trawlers or British vessels. And the MODOC had not gone over the area thoroughly because it was important that she confine her attention to the northern area of sinkings.

SURVIVORS RESCUED

The first rescue was made by the GENERAL GREENE at 0520, on May 26, about 260 miles southeast of Egger Island, Greenland. The survivors, Chief Petty Officer T. C. Townsend and nineteen other men from lifeboat No. 4, were found in a helpless condition, after having been buffeted about by strong winds, snow, and rough seas, for six days, in their open lifeboat, half-full of sea water. The cutter reported the good news of the rescue, and received the message: "Well done, GENERAL GREENE. Get the others." This she proceeded to do early that afternoon by finding Lifeboat No. 2 with nineteen survivors. They told a harrowing story of acute suffering and the horror of seeing one man die in agony during the night after drinking sea water. The survivors were quickly given first aid treatments and hot drinks and then put to bed. Later, a medical officer gave them further attention to avoid possible complications, such as pneumonia.



SHOWING POSITIONS (1 TO 10) OF "THE BISMARK" DURING LAST SORTIE.

CLOSE TO BISMARCK BATTLE

Following the direction of the search, the GENERAL GREENE came close to the boundaries of the BISMARCK battle. The cutter's Commanding Officer, C. L. Jordan, reported that at 0930, on May 26, he heard heavy gunfire for about fifteen minutes, observed thick smoke, and although aircraft were invisible he could hear the planes overhead. An hour later when the fog lifted for a few minutes, he saw four large battleships going northward in formation at great speed. They were soon lost to view, and the area was shrouded with fog.

HITLER'S MESSAGE

A note of humor relieved the tenseness of the struggle. It was related that the Nazi super battleship had been hit many times and was barely holding her own when a signal arrived from Hitler reading: "All our thoughts are with our victorious comrades." To this, the German Admiral Lutjens desperately replied: "Ship unmaneuverable; we shall fight to the last shell." German prisoners later admitted that actually many of their gun crews were asleep at their posts, and others were bitterly critical of their officers. For days they had been carrying on the fight in a dazed condition due to lack of sleep and a deteriorated morale.

BISMARCK IS SUNK

On May 27, at 0830, the British battleships RODNEY and KING GEORGE with many other warships, so fervently awaited, arrived for the kill and pounded the BISMARCK with 15-inch shells for an hour. In the terrific encounter that took place, the DORSETSHIRE was believed to have fired the shot that sealed the fate of the giant enemy ship. But it was the accurate gunfire of many British ships that finally silenced her. By 1015 the BISMARCK was a wreck. All her guns were silenced, her mast blown away, and a great cloud of smoke and flame were seen pouring skyward. Men were jumping overboard. Out of a total of between 2300 and 2400 officers and men believed to have been aboard her when she sank, only 110, including four officers, survived. At 1040, the BISMARCK turned keel up and disappeared.

CUTTERS UNDAMAGED

Fortunately, the Coast Guard cutters had escaped undamaged, although they were near the fighting zone, and at times only six miles away from the BISMARCK. The widespread movement of the combat vessels, nineteen not counting destroyers, had distributed the danger over a wide area. Furthermore, aircraft had played a continuous part in coordinating the activities of the surface ships, thus adding to the danger of accidents to "innocent bystanders," a role the cutters had to play before Pearl Harbor.

SEARCH CONTINUED

The NORTHLAND now headed south to resume the search. That night, the Iceland passenger steamer BURAFOSS radioed that she had picked up 33 survivors from the British steamer ROTHMERE. That raised the total to 192 survivors rescued, and allowing for 25 casualties, left 63 still unaccounted for. Twenty-eight of these were reported to be in boats No. 1 and No. 3 of the MARCONI, so the MODOC and the NORTHLAND concentrated on searching for those boats the following day, May 28. "Without any spell of good weather, the wind now changed to a gale to the eastward, with low

SURVIVORS IN A LIFEBOAT OF T.S.S. MARCONI ALONGSIDE GENERAL GREENE

visibility and a white-capped, raging sea," Commander Smith said in his report, "and search for a boat was almost hopeless, but we continued under such conditions during the next three days. Sometimes only one mile was allowed between the tracks of our search. It was very discouraging to feel that we were so close to these two drifting boats and yet were unable to save them." The MODOC had to depart for St. Johns to refuel, at dark on May 28, leaving the NORTHLAND alone to keep up the search.

SEARCH ABANDONED

Weak S.O.S. signals were received at about 2000 on May 29, and after much difficulty the NORTHLAND learned that a British Steamer called the EMPIRE STORM was in distress in Latitude 39°50' North, Longitude 55°00' West. The MODOC, which was most available, was directed to proceed to this position. The NORTHLAND decided to search one more day for the MARCONI boats, and then to proceed to search for the survivors of the EMPIRE STORM. However, on the morning of May 30, the MODOC informed Commander Smith that the Norwegian steamer MARITA of DRAMEN had taken all the survivors safely on board. The MODOC, accordingly, continued on her way to St. Johns. On the afternoon of May 31, the NORTHLAND had to follow suit. Her trip was marked by two and a half days of heavy southerly gales and high seas, which it was doubtful the survivors of the MARCONI could have lived through. There was just a slim chance that they could have sailed to the nearest land or possibly been picked up by a passing vessel.

ELEVEN DAYS OF EXCITEMENT

"The past eleven days narrated above," Commander Smith reported, in his official account, "were punctuated with many exciting events. The known proximity of U-boats, the BISMARCK, and the direction of search which took us close to the boundaries of the German war zone, combined with the experiences of the MODOC's reporting of fire and the GENERAL GREENE's sighting of cruisers, in addition to the frequently intercepted radio signals, indicating the proximity of naval surface and aircraft, all added to the interest and danger of the period. It is fortunate that there were no accidents and mistaken indentities when all parties concerned were more or less on a hair trigger. It is equally certain, however, that both the British and German ships knew of our presence through our lights and regular radio broadcasts, and if any casualty had resulted it could fairly have been termed as plainly an overt act."

GENERAL GREENE PERSONNEL COMMENDED

All the men of the GENERAL GREENE were highly commended for their excellent work, resourcefulness, and courage. An example of the efforts put forth was the case of two cooks, who, working with a single-burner stove on the gale-tossed vessel, kept the hunger of seventy-five men satisfied for six days. Short of water and crowded with the additional thirty-nine men who had been rescued, the GENERAL GREENE departed for St. Johns, arriving on May 30, at midnight, after having journeyed 907 miles across the perilous waters.

TORPEDOED VESSELS REACH PORT

More grisly evidence of the disasters from Submarine warfare were seen at close range when the three cutters arrived at St. Johns. There were several merchant ships

CAPTAIN CARL C. VON PAULSEN

in port, among them the SAN FELIX, previously reported sunk, who had limped in with a large torpedo hole in her port side forward. The Norwegian steamer MARITA, which had brought in the survivors of the torpedoed EMPIRE STORM was there. Later on shore, Commander Smith talked with the officers of the EMPIRE STORM about the U-boat attack and their subsequent experiences. One former U.S. destroyer and the ex-HERNDON (former Coast Guard Cutter, now named the CHURCHILL) had picked up the No. 1 boat of the MARCONI on May 29, and a few of these men were dead or dying.

FORMAL ORGANIZATION OF THE GREENLAND PATROL

TWO PATROLS AT FIRST

Against this background of great violence, while the Battle of the Atlantic was moving to a climax and the Royal Navy was trying to guard the huge volume of shipping in the North Atlantic, the Greenland Patrol, in two parts at first, was formally organized. The South Greenland Patrol, consisting of the Coast Guard Cutters MODOC, COMANCHE, RARITAN, and BOWDOIN, was established on June 1, 1941, under the command of Lieut. Commander Harold G. Belford. The Northeast Greenland Patrol, consisting of the Coast Guard Cutters NORTHLAND, NORTH STAR, and the USS BEAR, was organized on July 1, 1941, under the command of Commander Edward H. Smith. Both patrols were consolidated in October of that year as the Greenland Patrol, Task Force 24.8, under Commander Smith, operating under the Commander-in-Chief, U. S. Atlantic Fleet, directly under the Chief of Naval Operations.

NORTHEAST PATROL

When the patrol was first organized, Commander Smith was given the cold and more difficult half, the Northeast Patrol, the part where Germany would try to get a foothold. His ship, the famous NORTHLAND, was a 200-footer, all steel. Inside she was lined with cork to provide warmth. Second in command was Carl Christian vom Paulsen, then also a commander. This former Coast Guard flier, who for many years was stationed in Miami, flying in hurricane weather, was equally prepared for the Arctic danger spot where enemy weather, as well as human foe, was a constant challenge. His ship was the NORTH STAR. With the third member of their patrol, the famous old BEAR, the determined little fleet put out of Narsarssuak and set a course north and east. Their territory was the northeastern Greenland coast north of Scoresby Sound, the lively spot of the Arctic.

UNCHARTED AREAS SURVEYED

For the Germans were operating there and the Nazis knew more about that region than did the Americans. The surveys of that coast had been given to the Danish Government, and most of their charts were in Copenhagen, which haw been taken over by the Germans. The Coast Guard had to make new charts. Uncharted areas had to be surveyed and recorded. In making surveys of the fjords, the cutters ran up one side and came down on the other to make the soundings.

COAST GUARD PBY SOARS OVER GREENLAND ICE CAP

NO LIGHTHOUSES OR OTHER AIDS TO NAVIGATION

Before World War II, Greenland had been closed to outside interests, it having been the policy of Denmark to isolate the island colony in order to protect the native way of life. So the only navigators were the local mariners and the Danes from the mother country. There were no aids to navigation other than the primitive aids established by the local seamen. Greenlanders in their kayaks and Danes in their coastal schooners constructed "cairns," ancient stone heaps, on vantage points around the coastline. These cairns were not in any way indicated on charts. Thus no ship could navigate in those waters except the small vessels of the natives and Danes well acquainted with the location of the cairns. When war and the Agreement with Greenland brought Coast Guard responsibility in Greenland waters, one of the many duties was to make charts.

CHARTS NEEDED TO GUIDE THE MANY VESSELS TO THE BASES

These maps were essential for the navigation of ships carrying supplies and men to the bases servicing the Ferry Command to England. With the fall of France, the Allies lost their last land front in Europe, so their only recourse was to continue the war in the air with growing intensity. By flying the bombers, which Great Britain had ordered in the United States, instead of sending them on slow convoy ships, Britain's striking power in the air could be reinforced far more quickly and shipping space could be released for other necessities. The ferrying of airplanes from the United States was begun by the British late in 1940. Since Portugal was a neutral and would not permit the use of airfields in the Azores or at Lisbon, the only route left was the tough North Atlantic route from Newfoundland to Ireland, which had never been flown before on regular schedule. Bases for land planes and other facilities had to be developed from practically nothing to put the route in operation. Weather and radio stations had to be erected as well as repair and supply depots. Ships of all sizes transporting service men and construction materials arrived in Greenland safely, guided by the new charts.

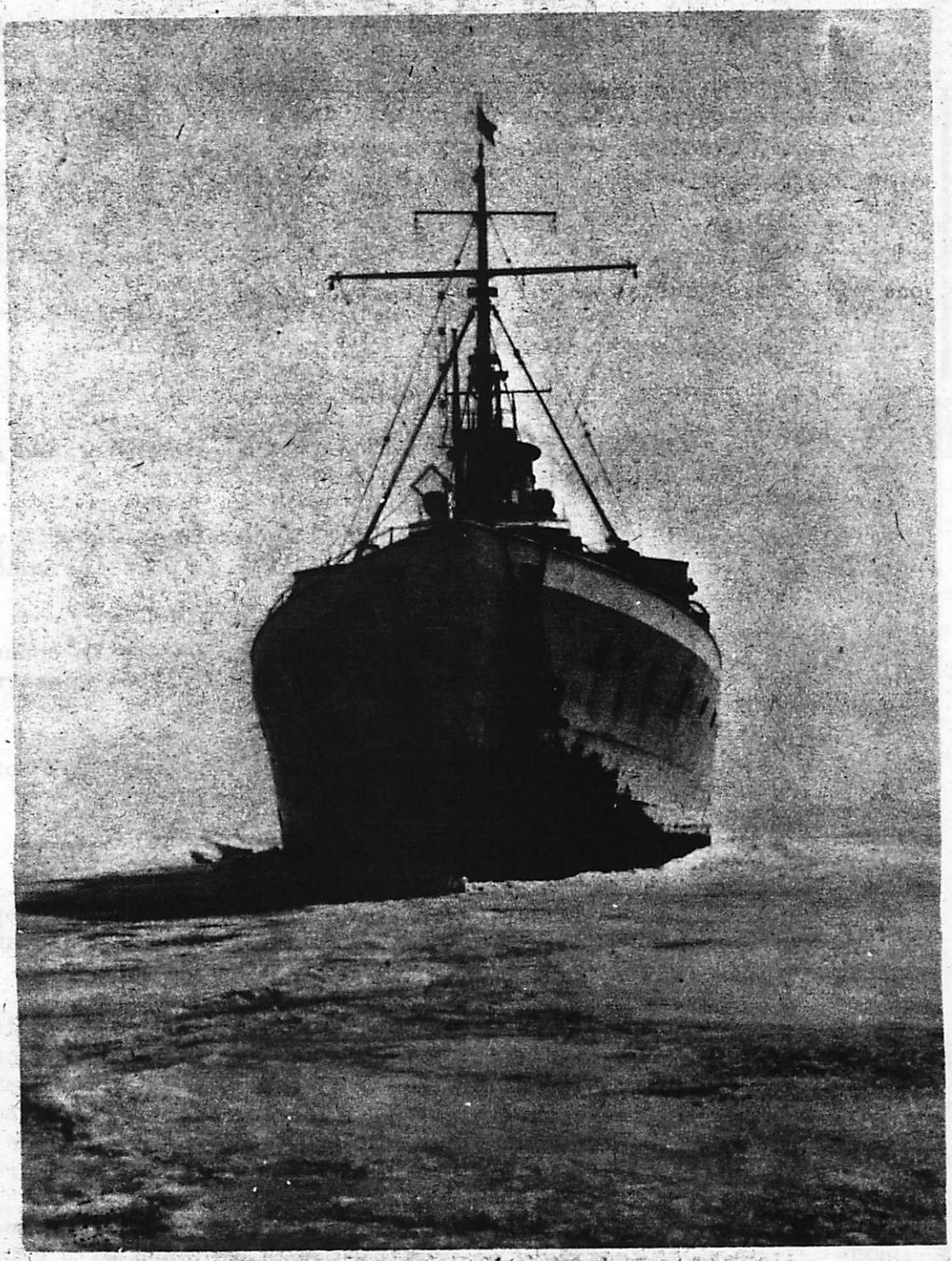
PRIMARY FUNCTION OF THE GREENLAND PATROL

According to the Agreement with Greenland, we acquired the right to build air bases there in return for protecting Greenland from Nazi aggression. Our Army was given responsibility on land. Our Navy given responsibility in the surrounding waters, delegated much of this duty to the Coast Guard. The Greenland Patrol was established by the Coast Guard primarily to keep the bases supplied and to combat Nazi submarines and other forms of enemy activity. That meant keeping open the convoy routes for vessels and the air routes for planes--breaking ice, finding leads, fighting off submarines, rescuing survivors, maintaining aids to navigation, transporting men and supplies, reporting weather and ice conditions--and maintaining patrols to search out and destroy the enemy.

COAST GUARD DUTIES IN GREENLAND IN 1941

TWOFOLD PURPOSE

Admiral Harold R. Stark, Chief of Naval Operations, in the following letter to Admiral Waesche, dated May 6, 1941,



CGC COMANCHE

stated the twofold purpose of United States Naval Operations in Greenland and requested Coast Guard assistance.

"1. Naval operations will be required in Greenland this summer for two purposes. The first purpose is to support the Army in accomplishing its task, assigned by the President, of establishing in Greenland airdrome facilities for use in ferrying aircraft to the British Isles.

2. The second purpose is to defend Greenland and specifically to prevent German operations in Northeast Greenland. There is a possibility that forces employed for this purpose may become engaged in active hostilities. If this should occur it would be necessary for them to be supported by units of the Atlantic Fleet. In order to ensure complete coordination it has been decided to assign ships and aircraft operating in Northeast Greenland to the Atlantic Fleet.

TO AID IN ESTABLISHMENT OF BASES

Assistance is desired from the Coast Guard as follows:
(a) Assign to operate under naval control for purposes connected with the establishment of military and naval installations in Greenland:

(1) One Coast Guard cutter of the ALGONQUIN class for use in a survey to be made in the Angmagssalik area when ice conditions permit. (The COMANCHE was assigned.)

(2) One 110' icebreaking tug for use in connection with the movement of Army troops and supplies for the airdrome construction project. (The RARITAN was assigned.)

TO AID IN THE DEFENSE OF GREENLAND

(b) Assign to operate under naval control for purposes connected with the defense of Greenland:

(1) The NORTHLAND and the NORTH STAR.

(2) A senior officer experienced in Arctic operations to command the ships and aircraft operating in Northeast Greenland this summer."

BEAR AND BOWDOIN USED

The Coast Guard was also to assist the Navy in retaining the BEAR as a ship of the Navy for duty in Northeast Greenland in order that the services of her experienced naval crew might be utilized. Furthermore, Admiral Waesche was asked to assist the Navy in obtaining the use of the BOWDOIN for duty in connection with airdrome surveys and construction projects.

CUTTERS ARMED

The NORTHLAND, NORTH STAR, and BEAR were armed as effectively as possible, each provided with an amphibian airplane equipped with bombs and machine guns. Their crews were increased so they could land armed parties when necessary. Assigned to the Atlantic Fleet Task Force 24, these ships were designated as Task Force 24.8, commanded by a Coast Guard officer, the then Commander Edward H. (Iceberg) Smith.

THE COAST GUARD SENDS LANDING FORCE INTO GREENLAND TO CAPTURE NAZI WEATHER BASE

COAST GUARD DUTIES IN GREENLAND AFTER PEARL HARBOR

AUTHORITY FOR COAST GUARD RESPONSIBILITY

The Secretary of the Navy, in a letter dated March 30, 1942, addressed to the Commander-in-Chief, United States Fleet and Chief of Naval Operations, stated that among the functions which the Coast Guard shall perform are: "Furnishing vessels and personnel for operations in Greenland, the Arctic, and other areas of heavy ice concentration, as directed by the Commander-in-Chief, United States Fleet and Chief of Naval Operations." A letter from the same Office, dated April 7, 1942, set forth that the Coast Guard communications system was to be jointly used to give service to all Naval and Coast Guard commands.

NETWORK OF COMMUNICATIONS ESTABLISHED

The force of Coast Guard cutters and other vessels, organized into a patrol, was augmented by the establishment of an operating base, radio stations, aids to navigation, aviation landing fields, and other facilities in Greenland. A network of communications, operated entirely by radio, connected all the bases, outlying posts, planes, ships, and patrol activities. A radio station was constructed at the Headquarters of the Commander of the Greenland Patrol, with the call numbers NOI. This was the nerve center of the network. Through this station, the Commander of the Patrol was able to be constantly in touch with men and ships in the vast stretches of Arctic ice and snow when no other means were available for making contact.

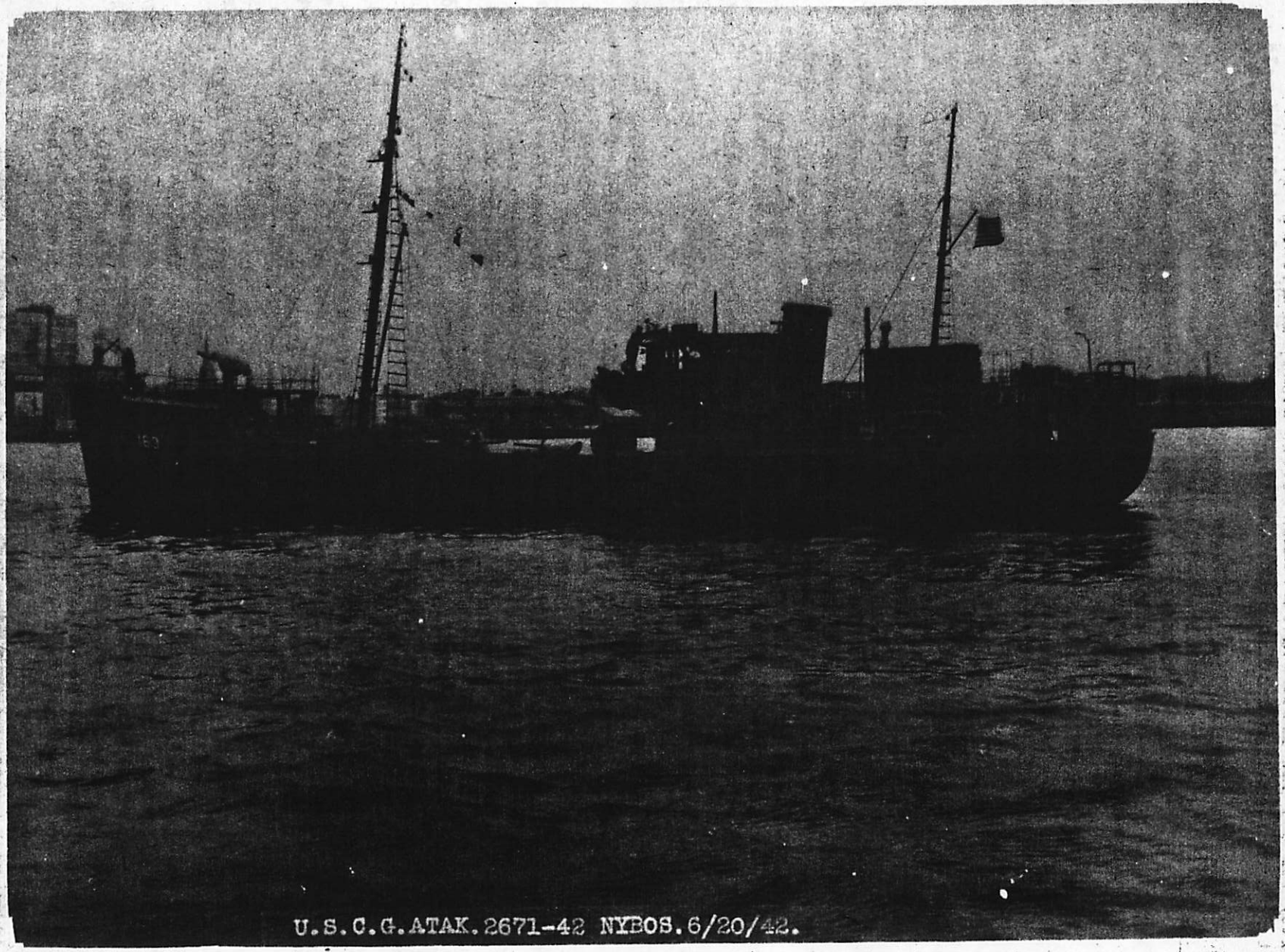
ENEMY ACTIVITIES REPORTED - WEATHER REPORTS COLLECTED

That meant, for example, that if an enemy was sighted by a lookout in a remote fjord. the information could be flashed to the Commander of the Greenland Patrol, and an expedition immediately sent out. Because of the network of the communications system, a Danish patrolman, stumbling across a Nazi weather station in Greenland. was able to give the news of his discovery to American authorities. The message was radioed and planes and ships immediately set out to drive out the Nazis. The network of communications also meant that weather forecasts could be compiled. A single weather report is of little value in itself. The communications network has been used to consolidate the weather reports coming in from the outlying stations. At the central base, scientists--aerographers--have then interpreted the data to make the forecasts.

MORE SHIPS NEEDED IN 1942

SHORTAGE OF SHIPS

Commander Smith stayed with the Northeast Patrol north of Scoresby Sound until the 1941 winter's ice set in, and when he returned to civilization a violently changed world awaited him. There was a dire shortage of ships in the Allied nations. Harassed by submarines, Great Britain had turned to the United States for more ships with the result that ten Coast Guard cutters, of the lake class, had been transferred to the Royal Navy.



CGC ATAK

Commander Smith's small fleet of ice-going cutters had to take the responsibility for all the great sea stretches of Greenland, a thousand miles of coast from the Canadian Arctic south, and then north almost to the pole.

BASES HAD TO BE SUPPLIED

When war broke, Greenland bases were operating, although not completely established, and were able to ward off any enemy attack if they could be steadily supplemented and supplied over the Greenland sea. There would have to be radio and weather ships in the two great straits, Davis and Denmark. Escort and pilotage ships were also needed for coastwise convoys, new ventures into the Canadian Arctic and into Hudson Bay. More ships were needed, special little ships with a long cruising radius. There was no time to build new ships for this special assignment; they would have to be ships already built.

"CERTAINLY IT CAN BE DONE"

Those were the dark days of spring 1942, when German U-boats were sinking Allied ships faster than our shipbuilding program could produce new ones. But the Commandant had in his office at Headquarters a motto that read "Certainly It Can Be Done," and he believed in it. When ships were scarce and thousands of new service men inexperienced, Admiral Waesche, confident that the problem could be solved, met with his staff to study the means of quickly increasing the Coast Guard fleet in Greenland waters. It was then that they worked out Commander Smith's idea that fishing trawlers could be put to use temporarily until new cutters were available.

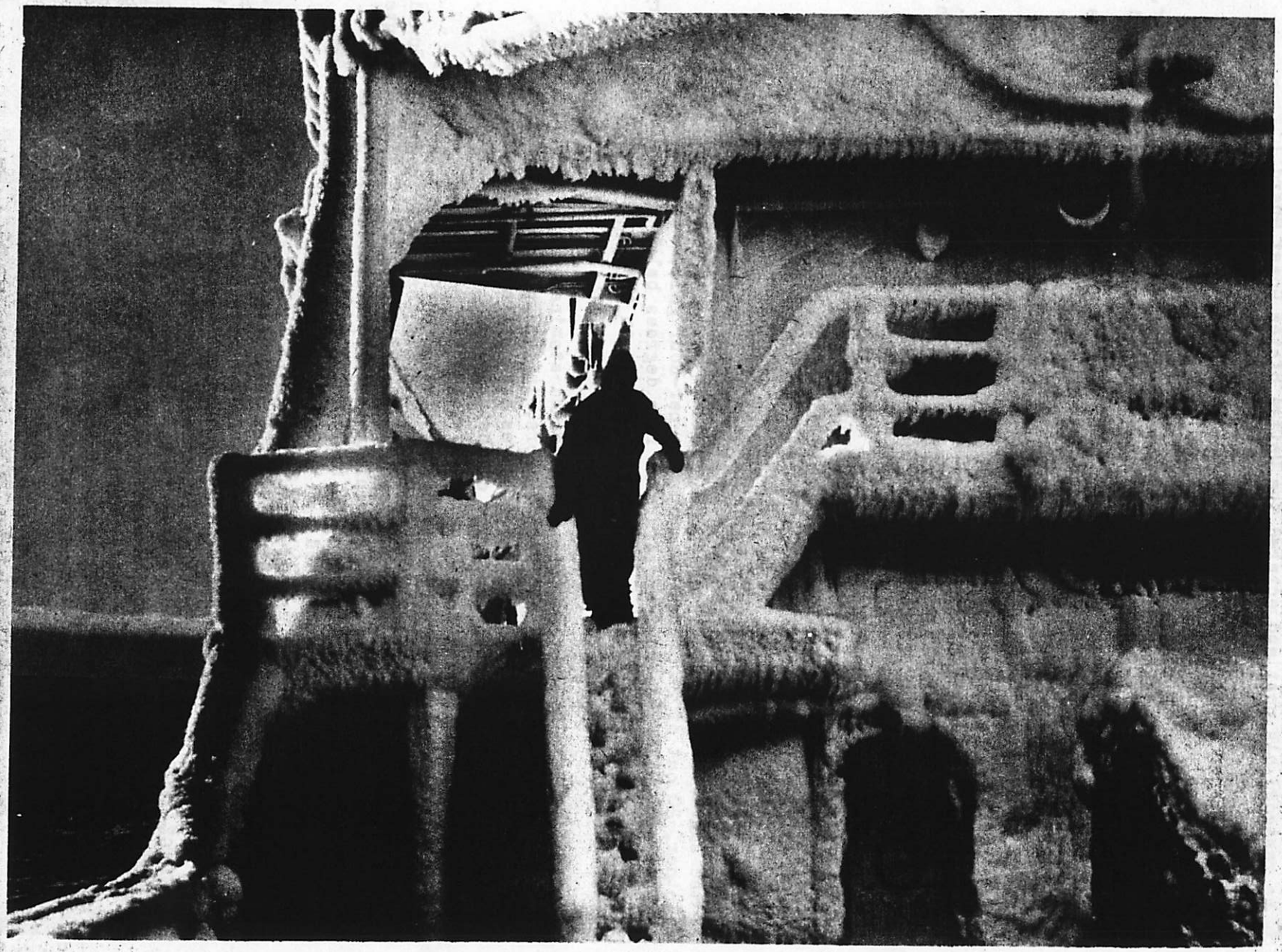
TEN FISHING VESSELS COMMISSIONED

FISHING VESSELS COMMISSIONED

Back in Boston, Commander Smith lost no time in looking for his little ships. He found them along the docks, fishing vessels all of them. Admiral Waesche approved the transfer and they became officially part of the Greenland Patrol. Camouflaged blue and white, the ships of the new little fleet were commissioned and given new names--Eskimo words for animals--AIVIK, AKLAK, ALATOK, AMAROK, ARLUK, ARVEK, ATAK, NANOK, NATSEK, NOGAK. Assembling the young Coast Guard officers who were to command the newly acquired ships, Commander Smith told them, in effect: "Your first command. Your first great chance. It is hard, responsible, vital duty. War Duty. Don't fail your country or your ship or me."

FIRST SKIPPERS OF CONVERTED TRAWLERS

The youthful, eager commanding officers of the little fleet were: Ensign Holmes F. Crouch, Ensign Olcott Gates, Lt. (jg) Johnson F. Hale, Lt. (jg) Thomas S. LaFarge, Lt. Magnus G. Magnusson, Ensign Frederick A. Maier, Ensign John Natwig, Ensign Frank Neer, Jr., Ensign Gilbert Oakley, Jr., and Ensign Clyde L. Olson. Three of them were academy graduates, six were of the reserve, and one had been a merchant marine quartermaster and later a Coast Guard yeoman. LaFarge is the only one of them who died, when his ship, the NATSEK, went down in St. Lawrence Gulf. LaFarge had won a reputation as a fine artist, and being a yachtsman and lover of ships had joined the Coast Guard to paint, while performing regular war duties. He was assigned to one of the hardest commands. On the other hand, Lieutenant Magnusson, soon after a Lt. Commander, had had



A COAST GUARD CUTTER COMES OUT OF A WINTER GALE SOMEWHERE OFF THE GREENLAND COAST

thirty years experience at sea on all types of ships. A native of Iceland, he was Danish Consul to Boston until 1940, when at the invasion of Denmark he resigned his post and entered the United States Coast Guard.

"NANOK" TYPICAL OF THE CONVERTED FISHING VESSELS

NANOK TYPICAL OF CONVERTED FISHING VESSELS

Typical of the new fleet of converted fishing vessels was the NANOK, whom Lt. Commander Magnusson, her skipper, described as "a little ship, only 120 feet long, who had her face lifted, and even then was very unlike the type of ship a young fellow dreamed about when he joined up." Many crew members had never seen salt water or been aboard a ship.

HARDSHIPS ENCOUNTERED

"Cold weather, ice, fog, snowstorms, and plenty of hard work were far worse than any of the expectations of my crew of 'green' potential sailors," said the Commander. "But there they were, cooped up in that little tub month after month, in bad weather, wet to their skins, regardless of whether they were on the lookout watch or in their sacks."

FINE SPIRIT

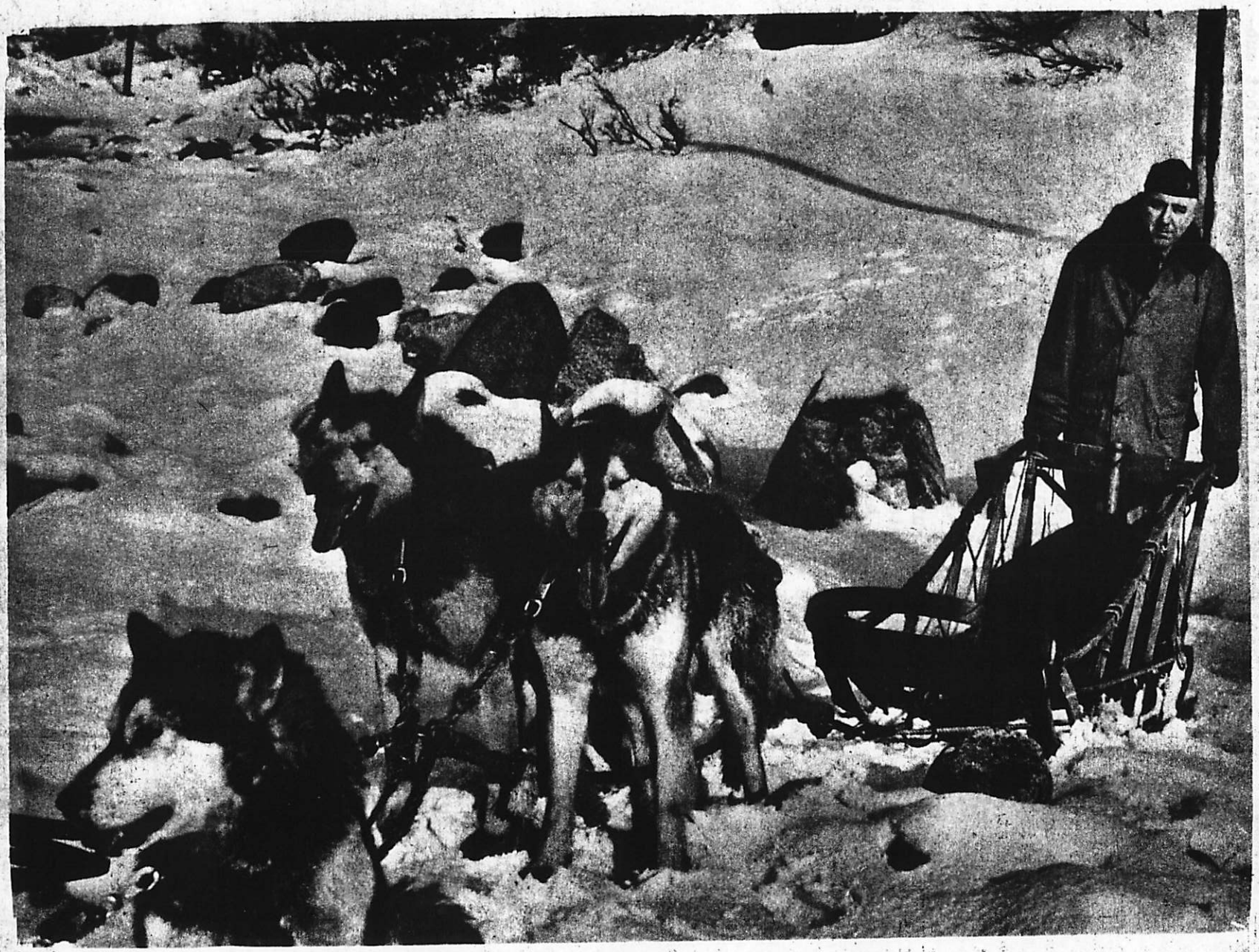
"I saw those kids stand in water up to their armpits," he continued, "in water that had a temperature of 34 degrees, working from six in the morning to almost midnight, floating and rolling oil barrels ashore. I saw them work all day and well into the night, unloading tons of shark meat whose odor could be smelled for miles; their hands torn and bleeding from the sharp needles on the shark skin. I saw them hang on with one hand and break ice with the other, 20 out of 24 hours, in a 65-mile-per-hour gale, with the ship on her beam ends, and the temperature at five degrees below zero. Cold, hungry, tired, and sleepy, but they worked with a grin on their faces, not for one day but for three days."

GOOD SAILORS

Through perseverance and stamina, they turned into "darned" good sailors, in the opinion of their skipper, and worked themselves into a frame of mind that there was no task too hard for the crew of the NANOK. The high praise awarded his men by Commander Magnusson was characteristic of the appreciation voiced for their crews by officers on the other ships. When the worst emergency was over and more ships had been built for use by the Coast Guard, the former fishing vessels were demobilized and went back to Boston to enter civilian life again. They left behind them a splendid record of thrilling work in the frozen Arctic when the shortage of ships had called for them quickly and they had responded.

PATROL VESSELS BY OCTOBER 1943

By October, 1943, the Greenland Patrol, Task Group 24.8, with Rear Admiral Edward H. Smith as Commander, operating under Task Force 24 of the U. S. Atlantic Fleet, consisted of the following vessels: CGC's ACTIVE, AIVIK, AKLAK, ALATOK, ALGONQUIN, AMAROK, ARLUK, ARUNDEL, ARVEK, ATAK, COMANCHE, FAUNCE, FREDERICK LEE, LAUREL, MANITOU, MODOC, MOHAWK, MOJAVE, NANOK, NOGAK, NORTHLAND, NORTH STAR, RARITAN, STORIS, TAHOMA, TAMPA, TRAVIS; and the Navy ships, Coast Guard manned, USS ALBATROSS, BEAR, BLUEBIRD, BOWDOIN, SC-527, 528, 688, 689, 704, and 705.



COAST GUARD COMMODORE EARL G. ROSE

VARIETY OF DUTIES

Coast Guard vessels of all sizes, from the 83-foot sub-busters to the larger, combat cutters, have been active in the Greenland area, performing a variety of duties. During 1941 the Greenland Patrol arranged for weather forecasts for the Army from Eskimonaes, Ella Island, and Scoresby Sound; made hydrographic surveys of previously uncharted areas; located and surveyed possible airfield sites; furnished supplies, mail, small arms, and ammunition to the inhabitants of Northeast Greenland; transported supplies, boats and personnel from one station to another. Only a few months after it was organized, the Patrol made the first U. S. naval capture of the war by seizing the German-controlled ship BUSKOE, and routed the first German radio station discovered in Greenland, bringing in as prisoners the Nazi radiomen.

A JACK OF ALL-TRADES

One of the cutters, a 110-footer, returned from the North Atlantic, late in 1943, after serving nine months without touching her home port. During that time she served convoy escort duty, did patrol work in the fjords of Greenland, searched for U-boats, did tug duty for larger ships, and many times braved the roughest Arctic weather to rescue stranded Army and Navy patrol pilots who had crashed. Like her men, cocky and rugged, the small 110-footer served as a Jack-of-all-trades wherever needed.

SOME SPECIAL MISSIONS

First under the command of Admiral Edward H. Smith, and after November 21, 1943, under Commodore Earl G. Rose, the Patrol has provided ships and planes for special Army missions, for escort work, for cooperation with the Greenland Government and our own consular service. In the absence of our regularly appointed consul, the Commanding Officer of the Greenland Patrol has been called upon to represent our Government in a diplomatic capacity. Assignments have been for one year, to be followed with thirty days' leave and a transfer to sunny climes.

HUNDREDS OF TRIPS PROTECTED

From the beginning of the war, the cutters acting as convoys have been running principally between St. Johns, N. F., and Argentia, N. F., and the various bases in Greenland. These convoys have been attacked many times by submarines, and have in turn sunk many and taken German prisoners. The Patrol has successfully escorted hundreds of merchant and service vessels in convoy to and from Greenland, carrying men and supplies for the various supply bases.

MEANING OF TERMS

Bluie West One is the Army term for the Greenland Patrol Base, and Navy 1503 is the Navy term. According to Army plans, Bluie West means Greenland West Coast, and Bluie West One means Base One on the West coast. It is 50 miles from the sea. (The fjords extend 30 to 90 miles in from the sea.) Because of huge boulders of ice that fill the harbors on the East coast, ships cannot get through for the largest part of the year. On the other hand, the West coast is accessible most of the year. Task Force 24, a Navy Unit, includes both Greenland and Iceland. After November 21, 1943, the Commander of Task Force 24 was Rear Admiral Edward H. Smith of the Coast Guard.

A U. S. COAST GUARD CUTTER VISITS A LONELY CAMP ON THE DESOLATE NORTHEAST COAST OF GREENLAND

CONVOY ESCORT DUTY

ICEBREAKING

ICE SURROUNDS GREENLAND COAST

During certain seasons, the southeast coast of Greenland is surrounded by a belt of "storis" from twenty to thirty miles wide. Storis consists of a loose pack of small icebergs and growlers (smaller bergs), sprinkled with a few large icebergs. Small bergs may be the size of a Greyhound bus and large ones can cover several city blocks. The CGC MOHAWK passed through about forty miles of loose storis with open leads, on May 13, 1942, to gain entrance to Skov Fjord between Simiutak and Hollander Islands. This was the spring ice that was forming a barrier to shipping off Bluie West One Fjord.

CUTTERS DAMAGED BY ICE

Even the sturdiest vessels, especially built for icebreaking, were constantly damaged by the heavy Arctic ice. During icebreaking operations out of Davis Strait, Sondre Strom Fjord, the MOHAWK, on May 9, 1942, began to vibrate considerably from propeller action. Examination revealed that one blade was badly bent about halfway between the tip and the hub, two other blades were twisted, and only one was apparently not damaged. The tail shaft had some whip and there was more than usual leakage around the stern tube fland. These conditions were reported to Captain von Paulsen, who inspected the cutter and found damage so severe that he ordered operations to be discontinued until repairs could be made. In most instances, however, the cutters made temporary repairs and continued on their mission.

ICE BROKEN TO PERMIT NAVIGATION

"Men couldn't very well be allowed to starve because fjords were so frozen that no ship could navigate in them," said Lieutenant Commander Robin Hood, USCGR, discussing some urgent problems of convoy escort duty. "Food had to be brought in. The significance of breaking ice so that supplies could get through is apparent when it is realized that everyone, except the natives, had to be fed with outside foodstuffs, for there was hardly any food but what came in. In addition to food, clothing had to be brought in, as well as every conceivable kind of supply to equip the armed forces and to service planes and ships - everything, in short, needed to perform the many tasks of the war. And, of course, personnel had to be transported to their assigned bases for duty. Some of the fjords were known to freeze in places to six, seven, and eight feet. The cutters found leads to open water or broke the ice, up to as much as three feet, so that the ships could get through." From March 1943 to July 1944, on duty at Bluie West One, the Commander had seen the Coast Guard keep open certain fjords by sending in icebreaking vessels.

MEN AND SUPPLIES GET THROUGH

On May 22, 1942, the CGC COMANCHE, en route from Ivigtut for the Army Base at Bluie West Eight, entered Sondre Strom Fjord, where she encountered solid ice. Icebreaking continued until the following day, when the cutter by sheer weight of her heavy bow crushed the ice and

A COAST GUARD CUTTER BREAKING THROUGH THE FROZEN NORTH COUNTRY

broke through to the Base. The sturdy icebreaker returned down the fjord several times to widen the channel. She then took on board from the CGC NORTHLAND some depth charges for transportation to Bluie West One. On the way, the COMANCHE stopped at Godthaab, on May 26, to pick up the tug CGC RARITAN and together they proceeded to the entrance of Arsuk Fjord. There, Coast Guard personnel were transferred from a Navy launch for transportation to Bluie West One. They arrived on the 28th, and the COMANCHE left that day for Tunugdliarfik Fjord to meet the Transport DORCHESTER at sea and escort her to Bluie West One.

SUDDEN SHIFTING OF ICE

Because of the swift winds and currents in the Greenland area, huge floes of ice, gigantic cakes many miles across, shift their position, so that a ship in a clear course of water one minute may find its way blocked the next minute. Surrounded by the ice, a cutter may have to wait for instructions from a plane which has gone up to survey the area for many miles. The aviator looks for cracks in the ice called "leads," open places where a ship can navigate. He then radios the vessel which is the best direction to follow. Without such advice, the surface ship might follow one of several leads only to find that it ends after a short run.

FINDING LEADS A CONSTANT JOB

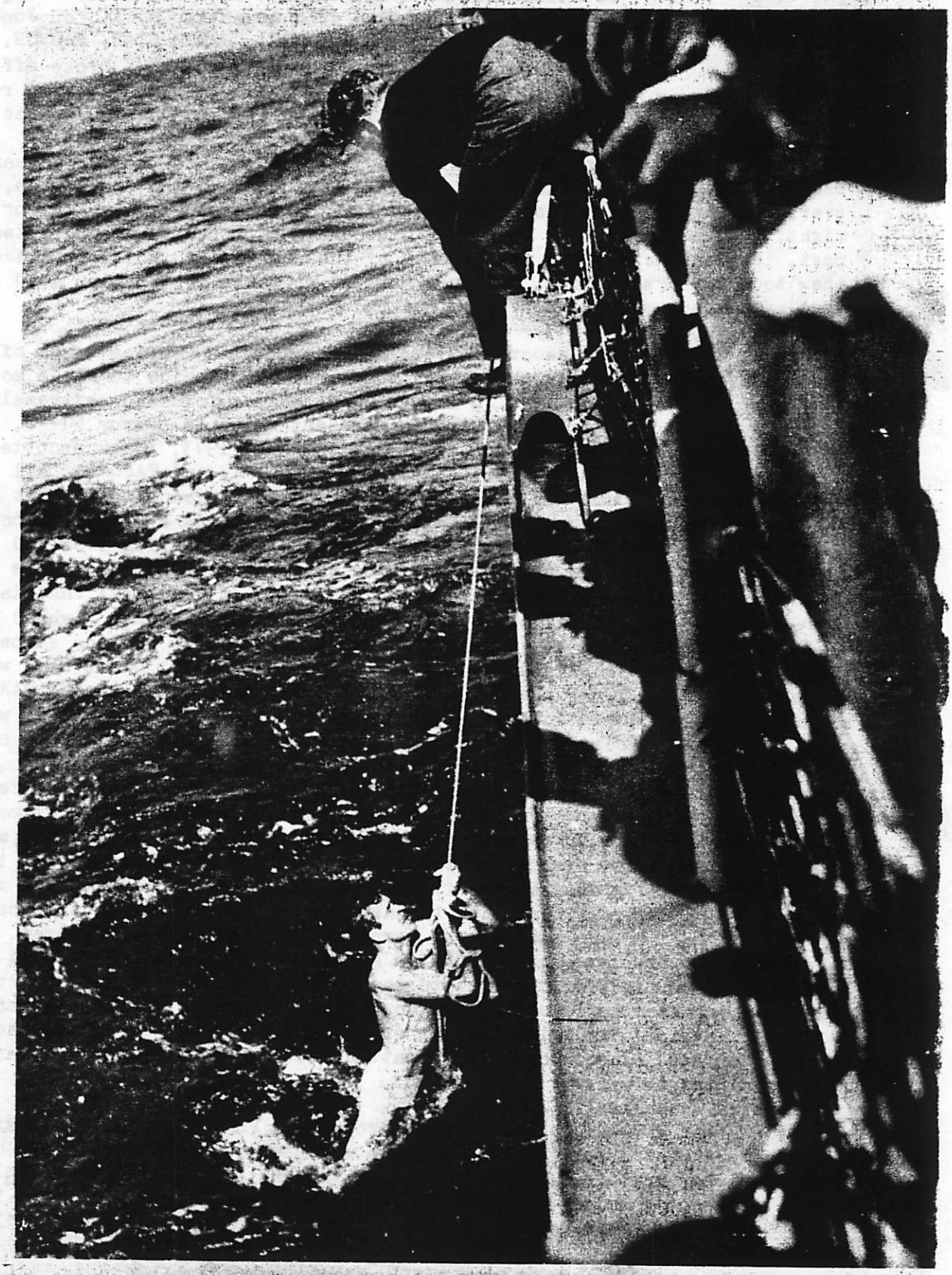
Finding leads is a constant lookout job, for the position of the ice floes is constantly changing. Ships have proceeded in a certain direction upon the advice of a plane, only to find that the ice had so changed its position that the passage was completely stopped up. Some vessels have been obliged to spend a season iced in. And more serious than being icebound, the ships have been in grave danger of being crushed. "It's a man's job, whichever way you look at it," says Commander Hood.

SHIPS DRIFT WITH ICE PACK

While the men are hard at work finding leads and keeping up with the changes, the ice floes are slowly moving down with the current, so that that vessel, although making headway in its relative position to the floes about it, may have been carried with the mass down fifty miles or more. This means that for all its successful maneuvering in the floes, it may find itself many miles from its objective. The only thing to do is to get out into the open sea and make a new start. Two weeks of fighting ice to find leads may be lost. Sometimes more.

TWO CUTTERS DAMAGED CHASING ENEMY

Two brand-new cutters, the EASTWIND and the SOUTHWIND, were badly damaged in the ice in 1944 when they gave chase to a Nazi ship through the ice pack, crashing against the huge blocks rather than let the enemy escape. They captured the German vessel in the battle which came as a climax to many years of routing Nazi attempts to establish weather stations in Greenland. The NORTHLAND also was badly damaged in that 1944 battle after a 70-mile chase through the ice. On most occasions, however, the cutters went around the ice by finding leads. When they were caught in the ice they sometimes waited for an opportunity to work their way clear or else used dynamite to blast their way back to course.



SEAMAN, TUMBLED FROM ONE SHIP, PICKED UP HALF AN HOUR LATER BY THE COAST GUARD

DRIFTING ICE A HELP AT TIMES

Drifting ice, however, was not always a disadvantage. The CGC AKLAK departed from Argentia, N. F., on June 6, 1943, in company with the CGC's NORTH STAR, FAUNCE, NOGAK, and the USS ALBATROSS. The FAUNCE broke off from the convoy upon arrival at Cape St. Mary and returned to Argentia. Rain squalls reduced visibility so the convoy was lost sight of several times, her position being maintained by use of underwater gear. When, on the 18th, the ice got thicker and fog threatened, the NORTH STAR ordered the AKLAK to follow her through the ice, Soon, however, visibility became so exceedingly low that the convoy hove to for the night. The next morning, the crews discovered that the ice had drifted past, leaving the vessels on the edge of the ice field. This permitted them to enter Arsuk Fjord, and they arrived at their destination at 4 o'clock that afternoon, much sooner than they had expected.

FOG ADDS TO TROUBLES WITH ICE

The escort cutters had a hard time keeping track of their convoy ships when fog combined with ice to cause more trouble. In a dense fog, making formation extremely difficult, sixteen merchant ships in convoy SG-28, took up their positions, on July 15, 1943, to be escorted by the CGC's MOJAVE, (Flag ship), TAMPA, MODOC, MOHAWK, and TAHOMA. All vessels but one, bound for Goose Bay, Labrador, were going to Kungnat Bay. Passing numerous icebergs and growlers, the cargo ships and their escorts steamed through the fog most of the day, with planes roaring overhead as further protection. On the 16th, the fog was so thick that the ships could not keep station and air coverage was difficult. In fact, all that day the convoy wasn't even in sight. Leading ships of the group were sighted at 0340 on the 17th, when the fog lifted, and an hour later all the ships and escorts were visible. At 0600, the BELLE ISLE, bound for Goose Bay, was detached. On the 18th, the CGC TAHOMA was ordered to cover the SS MANA, reported off station. The job of bringing stragglers back into line was a part of routine escort duty. Not so routine was the call which came on this occasion to pick up a man who had either fallen or jumped overboard. Such occurrences were likely to cause quick death if the rescue wasn't effected promptly; falling overboard in ice water wasn't an ordinary case of man overboard. The rescue was accomplished quickly in this case and the ships steamed on. Ice was sighted on the 19th and it was necessary to run to the northwest to pass around an ice field. Caught in an ice pocket that afternoon, the convoy broke formation to pass through open water in the ice field. Three hours later, the passage was completed and the convoy reformed. In the course of the day, the CGC STORIS arrived as an additional escort. Faulty information had led the convoy into the pocket, for most of the airmen had little experience in reporting ice conditions. Faced with the alternative of breaking through the ice barrier or retracing course, the ships chose to break through, after studying information sent by the STORIS. They arrived safely in Kungnat Bay.

SMOKE FLARES FINDS LEADS IN ICE

Smoke flares were dropped by PBY's for the first time, on July 22, 1943, to show leads in the ice. Task Unit 24.8.2, consisting of the Cutters MOJAVE (flag), AIVIK, LAUREL, MOHAWK, STORIS, and TAHOMA, was escorting three vessels from Kungnat Bay, when heavy ice stopped them.

THICK ICE IN FJORD

One ship was bound for Fort Chimo, Quebec, one for St. John's, N.F., and the third for Botwood, N.F. At 0409 the convoy changed to column formation to pass through leads in an ice field. It was then that the planes dropped flares to guide the convoy ships. They were able to clear the ice by 0848, and continued on their way. Commanding Officers recommended that this practice should be adopted.

FOG AND ICEBERGS MENACE SHIPS

As the convoy forged ahead, heavy fog added to the hazards in the ice and slowed up progress. On the 23rd of July, fog shut out sight of the convoy most of the day. On the 24th, the ships reduced speed as conditions worsened. At 0400, the STORIS was detached and proceeded to Grondal, Greenland. Also detached was the vessel to be escorted to Fort Chimo, Quebec, by the LAUREL, (flag), AIVIK, and AKLAK. As convoy SG-26 proceeded to south and east, icebergs and growlers menaced navigation. An iceberg was illuminated by a searchlight, on July 27, to give the convoy ships safe passage. The MARGARET LYKES was detached for Botwood at 1030. Air coverage continued but because of the heavy fog none of the planes could be seen. The rest of the convoy arrived at St. John's, N.F., on the 28th, after many difficulties, not the least of which was the struggle to get into a position where a pilot could be obtained. At 0600 on July 29, the Task Unit was en route for Argentia, with all hands relaxed after having safely delivered the convoy.

SMALL SHIPS AIDED IN ICE

One of the converted fishing vessels, the CGC ATAK, was underway on November 1, 1943, as escort for a convoy to Greenland, when on November 7 she encountered heavy ice and needed help from a big sister ship. The little cutter was met by the CGC MANITOU, who broke the ice and enabled the ATAK to proceed up Skov Fjord. She moored at Bluie West One, but the next day had to unmoor due to the heavy ice concentrated there. Again she followed in the wake of the MANITOU, entering Arsuk Fjord on the 9th and mooring at Grondal.

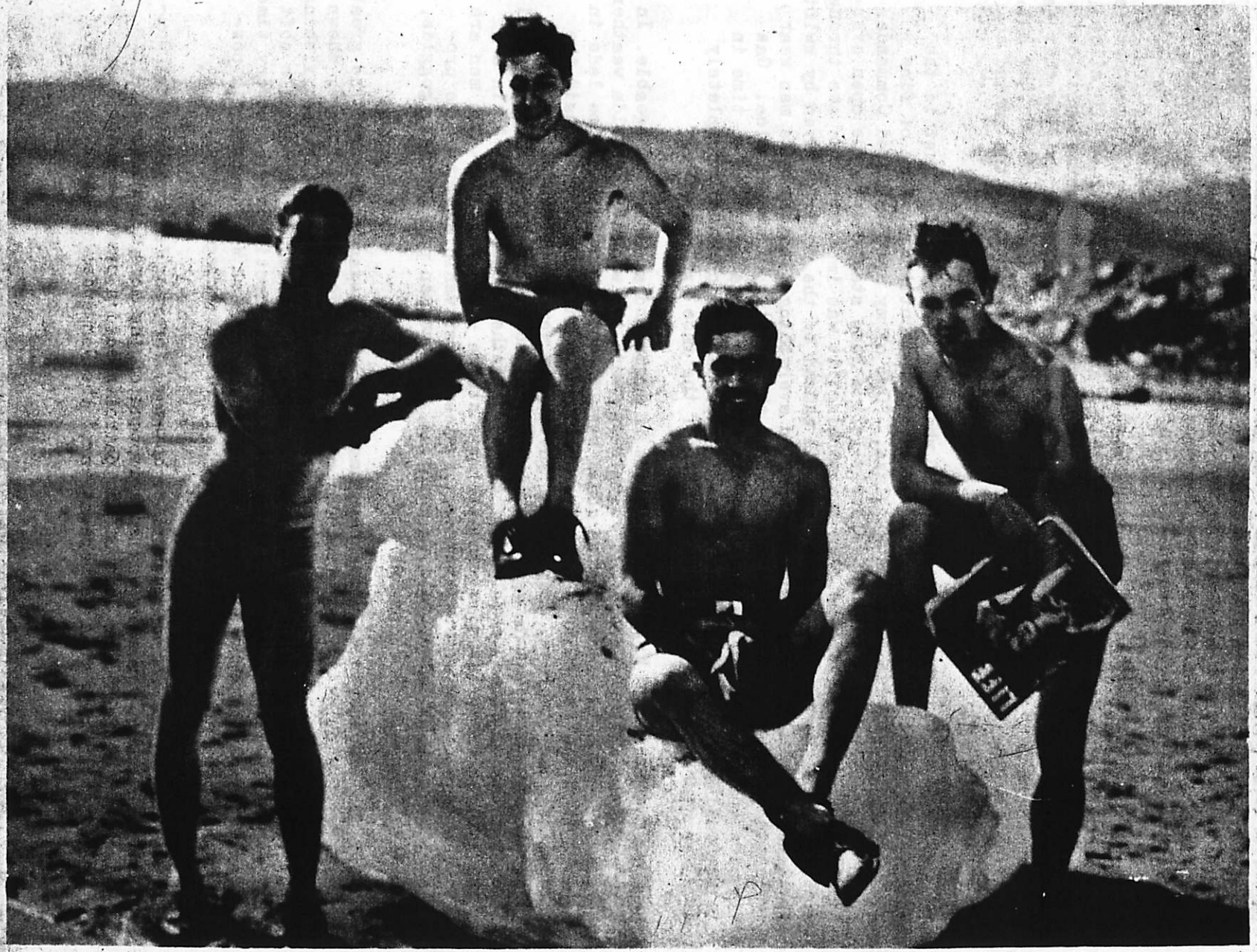
THICK ICE BROKEN IN APRIL

Ships of all sizes broke ice as they went on various missions. According to the log of the STORIS, ice from 20 to 30 inches in thickness had to be broken in Tunugdliarfik Fjord the first week in April 1944. The vessel steered various courses and speeds for three days, with three engines on the line breaking the ice. On the last day of April, the STORIS broke up a large solid ice floe which had worked itself loose from Gannet Bay and was slowly drifting down the fjord at Narsarssuak Reach. This ice, 15 to 20 inches thick, was broken into smaller parts to permit its exit down the fjord into the sea.

LIVING CONDITIONS IN GREENLAND

LIVING QUARTERS

Speaking of living conditions, Commander Hood said that when he first went to Greenland, in March 1943, he found sixteen officers living in a Quonset hut, eighteen by thirty-six feet in size, the whole place as big as one good-sized living room. Soon, however, the Coast Guard had a base of more



ICE-OLATED IN GREENLAND

comfortable proportions at Bluie West One. There the buildings were mostly wooden and had more facilities than in the early part of the war. Only in the outlying stations did the men live in the steel, pre-fabricated Quonset huts. When living quarters were not aboard ship. Coast Guard personnel lived in the wooden buildings.

HIGH WIND HURLS OFFICER AGAINST BUILDING

"As for the weather," the Commander stated, "it's nothing unusual for the wind to attain a velocity of 120 miles per hour. One day that winter, an officer stepped out of his hut and the wind caught him up so swiftly that he landed twenty feet away against the side of another hut, with both of his arms broken! I've seen men crawling along the ground to get from one building to another."

MENACE OF GLACIAL DUST

Another sample of what the men are up against is the glacial dust, which has the cutting quality of fine particles of glass. "One of my men," related Commander Hood, "carelessly left a jeep standing in the open overnight, facing the Ice Cap. In the morning, it was impossible to see through the windshield because of the abrasion caused by the wind. Driven by swift winds, this sand is like emory paper on everything it hits. The men wear huge goggles to protect their eyes from this flying form of silica. Gas masks are worn when it's necessary to stay out for any length of time in the sand storms. Usually, the men wear parkas, which almost completely cover them, leaving only a small part of the face exposed."

CHANGEABLE WEATHER

Weather conditions in Greenland are very changeable. In fact, that July, there were two weeks of Florida weather and the men could bask in the sun. "I saw some lads in shorts behind a building, taking sun baths," said the Commander. "You know, they say up there, 'If you don't like the weather wait a minute.' It changes so suddenly that nothing could be accomplished were it not for the excellent services in weather reporting. Within a half-hour of one of those terrific wind storms - foehn winds - the men are warned and can prepare. Everybody rushes to get vehicles into some protected place, usually behind a building, and the men put on their goggles, masks, and other protective clothing."

RECREATION

According to Commander R. T. Alexander, USCGR, the greatest single item for recreation is the moving picture, shown whenever the situation permits. Hikes, hunting, fishing, sailing, and ball games are enjoyed whenever possible. One memorable soft ball game, he said, was played on the ice at the Arctic Circle. Every time a man brought in a run he crossed the Circle twice. While skiing is possible, it is not popular because of the extremely rugged terrain.

CONSTANT TRAINING FOR WAR

There was not much time, however, for recreation. Constant training was superimposed on the more immediate duties. "No unit of the patrol needed a press dispatch to know that we were at war," the Commander remarked.

COAST GUARDSMEN WATCH THE EXPLOSION OF A DEPTH CHARGE

"A continuous state of readiness was expected and required. Some ships of the Patrol had engaged enemy submarine and seared in the memories of the men was a vivid realization of the truth of General Sherman's terse remark."

FIGHTING SUBMARINES

REMOVING THREATS TO NAVIGATION

Keeping the air bases and collateral establishments supplied meant convoy duty of the most difficult kind, not only because of the deadly icepacks and fierce, unpredictable storms, but also because the Greenland waters were infested with Nazi submarines. The Coast Guard responsibility for removing any threat to navigation, which in peacetime might be a derelict, or a floating log, took the form, in World War II, of removing that deadliest of all threats to vessels, the Nazi U-boat. Especially at the beginning of the war, the submarine came in large numbers to attack cargo vessels and transports and to intefere with ships carrying cryolite from the mine at Ivigtut.

FORCE MET WITH FORCE

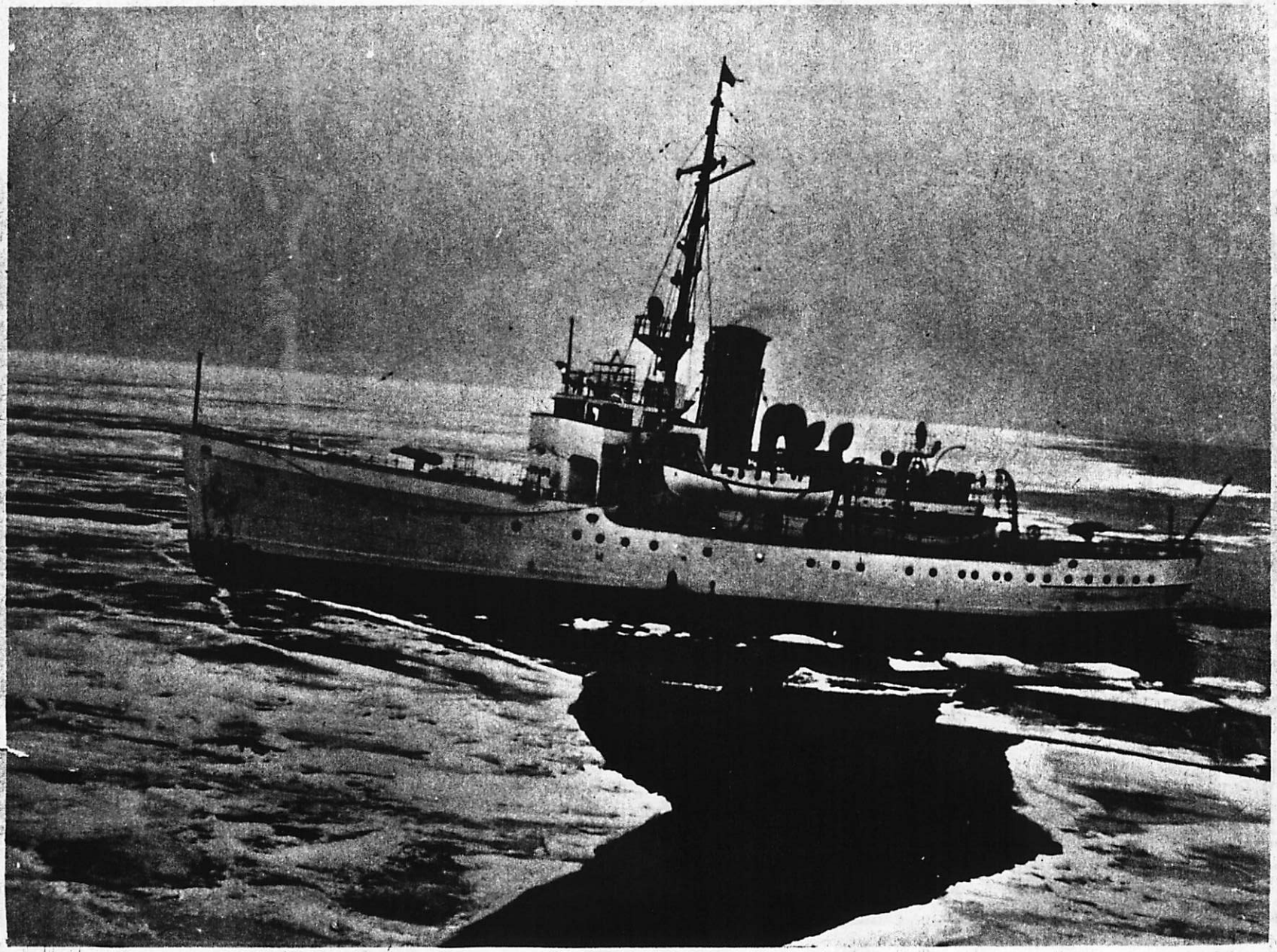
The log of the CGC COMANCHE shows that on May 9, 1942, after having escorted a transport across the ice to the open sea, the cutter proceeded to Ivigtut to assume defense of the mine. Another cutter, CGC ESCANABA, sank two submarines in that region on June 15, 1942, and late that night rushed to the rescue of survivors from the torpedoed USS CHEROKEE. "We still protect life and property," Admiral Waesche pointed out early that year, "only instead of fighting storms and individual criminals, we are now up against the bloodiest and best-organized gangsters the world has ever seen. Force had to be met with force...."

STRENUOUS DUTY

Constantly on the alert to prevent enemy attack on the convoy ships, Coast Guard crews have stood full watches in the open, regardless of weather or temperature. Through long nights, fog, and storm, they have kept watch to avert collision with icebergs or ships of the convoy, and to maintain position. Lifejackets have been worn constantly during waking hours, except in bunks, and every man has slept fully dressed with his lifejacket close by. Awakened continually to rush to battle stations, some of the men have claimed that their first thought on reaching port was to get a bath and some sleep.

TRAVIS DROPS DEPTH CHARGES

While on patrol at Placentia Bay, Newfoundland, the CGC TRAVIS, on February 8, 1942, made a sound contact distinctly metallic, indicating in all probability the presence of a submarine. Maneuvering into an attack position, the cutter dropped one depth dharge. The listening device became inoperative and contact was lost. As soon as the mechanism was adjusted the contact was regained. Two more depth charges were released. In the meantime, an alarm was sent to the Senior Officer Present Afloat, Base Roger, who dispatched destroyers and planes. Sound contact was again made and at the same time a patch, such as might be made by an underwater moving object, was apparent on the surface. It was approximately at the reported bearing



CGC ESCANABA

and distance. After a fourth depth charge had been dropped, no further contact was obtained other than a muffled echo from the disturbed wall of water. Then an oil film appeared on the surface in the locality of the last attack. Samples were taken and pronounced fuel oil. No bubbles or wreckage was sighted. Destroyers and planes appeared, the D-158 apparently making a contact about two miles to the Southward, as she dropped ten to fourteen depth charges.

DIFFICULT TO KNOW RESULTS

It was often difficult to know what results were obtained from the depth charges on underwater targets. A contact was made, the cutter followed it up and the charges were released. What had happened to the submarine, if it was a submarine, might never be known, except to the enemy weeks later when it failed to return to base. Ships and planes had to go quickly to other reported danger spots to search for the next sub, often not seeing concrete evidence that the U-boat has been destroyed.

MINES CONTACTED

Often a contact turned out to be a floating mine. On June 3, 1942, the MODOC, underway out of Little Placentia Harbor, was escorting the USS LARAMIE and the SS ALCREDO to Southwest Greenland, when she sighted an object identified as a floating mine of the contact type. The cutter expended 120 rounds of 20-mm ammunition and 300 rounds of 30-caliber ammunition in an attempt to destroy the mine but was not successful, so notified the Commander-in-Chief by dispatch, giving the type and position. On the alert for submarines or other dangers to navigation, the CGC ALGONQUIN, on June 16, 1944, was proceeding through ice fields in the Arsuk Fjord area when she sighted a floating mine and sank it. The following day she sank a drifting mine. The CGC STORIS sighted a mine, on June 22, 1944, floating in position 57°40' N., 39°22' W., and expended 360 rounds of 20-mm cartridges. It was presumed sunk after the cutter failed to regain radar contact.

SUBMARINE BATTLE

While in escort position on the port quarter of a convoy bound for Cape Cod from Halifax, the CGC ESCANABA, on June 15, 1942, made a definite contact on the QC machine and sounded General Quarters. Leaping to the attack, the cutter dropped eight charges. Stern lookouts and others aft saw the submarine break water, roll over and disappear. At 800 yards the ESCANABA reversed course and headed for the second attack. The propeller effects were now gone and the only sound the operator could get at first were those of escaping air. Soon the echo sound contact was regained. As the cutter closed in, large groups of air bubbles were noticed dead ahead, so a pattern of six depth charges was dropped across this position. Then contact was lost, indicating that the U-boat probably had been sunk.

TWO SUBS DESTROYED

A second submarine was contacted and overtaken as it attempted to run away. The ESCANABA dropped eight depth charges, as well as a Dan buoy to mark the position of attack. Five more charges were released in a second attack. Shortly after this, a dark smoke arose to the surface and a large

CGC MOJAVE

slick area was seen with masses of brown substance floating about. The cutter was unable to regain contact. Everything pointed to the complete destruction of those two submarines.

CHEROKEE SURVIVORS RESCUED

Later that evening, the ESCANABA, hurrying to rejoin the convoy, saw flares and rockets, indicating a submarine attack on the convoy. Firing star shells, the cutter came up to the position where the USS CHEROKEE had gone down and the survivors were milling around in the water. The Coast Guard vessel immediately began rescue operations, putting a monomoy surfboat over in the dark with a volunteer rescue crew. Twenty survivors were brought on board. Unfortunately, an unidentified corvette and the NORLAGA, a small freighter of the convoy which had been designated as a rescue ship, began to use lights to aid in picking up survivors. These lights were just enough to attract a submarine which tried to sink the rescue ships. However, a destroyer contacted the sub and made a quick counterattack.

SUBS KEPT AWAY DUE TO HEAVY ICE

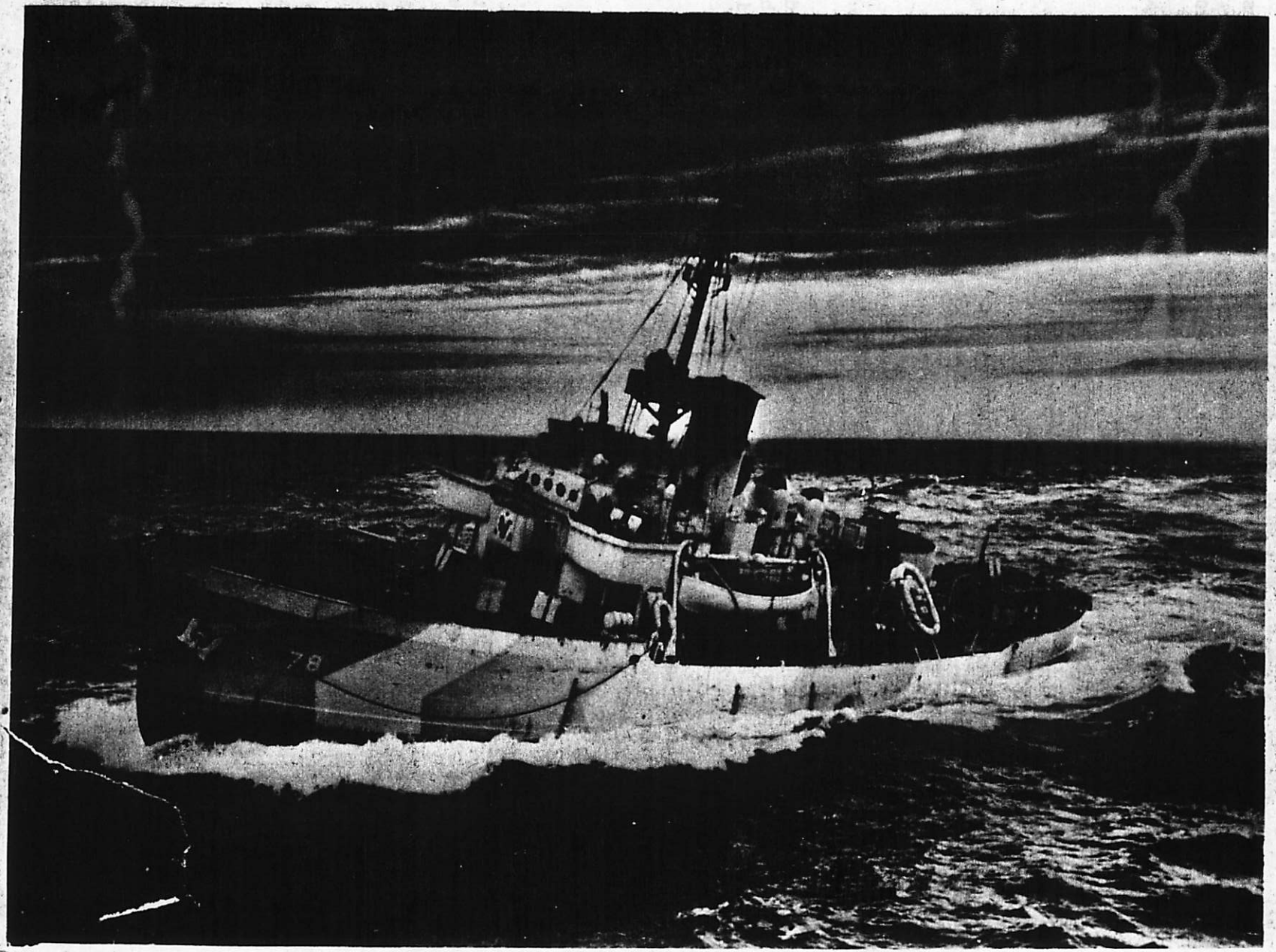
Heavy ice sometimes proved an aid in keeping the enemy at a distance. Operations were uneventful on June 18, 1942, as the CGC's MOJAVE and MODOC were escorting the SS CHATHAM and the SS FAIRFAX on a return trip to Greenland, when the sound apparatus reported a submarine 70 miles to the eastward. To avoid the enemy, course was changed thirty-six degrees and the ships proceeded unharmed. Heavy ice and thick fog in the late afternoon of the 20th made progress difficult as the convoy neared the Greenland coast, but the MOJAVE kept the ships together at slow speed. Finding Brede Fjord too hazardous in the fog, they cruised off the entrance throughout the night and entered the fjord the following day without further threats from nearby submarines.

MOJAVE PICKS UP SURVIVORS

Terrific explosions from torpedoes and depth charges marked the path of three escort cutters and their charges on August 25, 1942, when two of the convoy vessels were attacked by submarines while the convoy was en route from Sydney, Nova Scotia, to Greenland. The CGC MOJAVE with the U. S. Army Transport CHATHAM, formed one group of convoy No. 6, while the CGC's MOHAWK and ALGONQUIN escorting the SS's LARAMIE, BISCAYA, ARLYN, ALCOA GUARD, and HARJURAND, formed the second group. At 0900, the MOHAWK received a radio message that the transport CHATHAM had been mined or torpedoed near the north end of Belle Island Straits. Seven hours later, the MOJAVE and a corvette were sighted southbound, loaded with CHATHAM survivors.

ALARM SIGNAL HEARD

Steaming along with the second group, the CGC MOHAWK heard an alarm signal at 2058, sounded either from the LARAMIE or from the cutter ALGONQUIN. All hands aboard the MOHAWK took their battle stations. Personnel in the CPO quarters on the port side of the mess deck and in the fireroom heard what they variously described as a hissing or whining sound pass under the ship. This sound was neither reported to the bridge nor picked up by the QC operator. But the men rushed to their battle stations before hearing any explosions, so sure were they of imminent action.



COAST GUARD CUTTER LOOKING FOR A FIGHT

THREE EXPLOSIONS NEAR LARAMIE

The first explosion was heard at 2133, and at the same time a faint, white glow was seen near the LARAMIE's port bow. A second explosion rent the air five seconds later, and this time a faint, white glow was seen in the vicinity of either the LARAMIE or the ARLYN. Sounding General Quarters, the MOHAWK rushed top speed to her station at the left flank of the convoy. A third explosion thundered off the cutter's port bow at 2134, but the exact position of the torpedoing could not be determined. Just then the MOHAWK observed two white rockets sent up by the LARAMIE, so headed in that general direction.

LARAMIE TORPEDOED

At 2138, the MOHAWK saw the ALGONQUIN making a depth charge attack on the starboard quarter of the LARAMIE. Passing about one hundred yards from the latter's port side, about parallel to her, the MOHAWK observed that the torpedoed ship was down by the head and listing to port. However, although the odor of fuel oil was strong, there were no fires or any signs that the ship was being abandoned.

MOHAWK SEARCHES FOR SUB

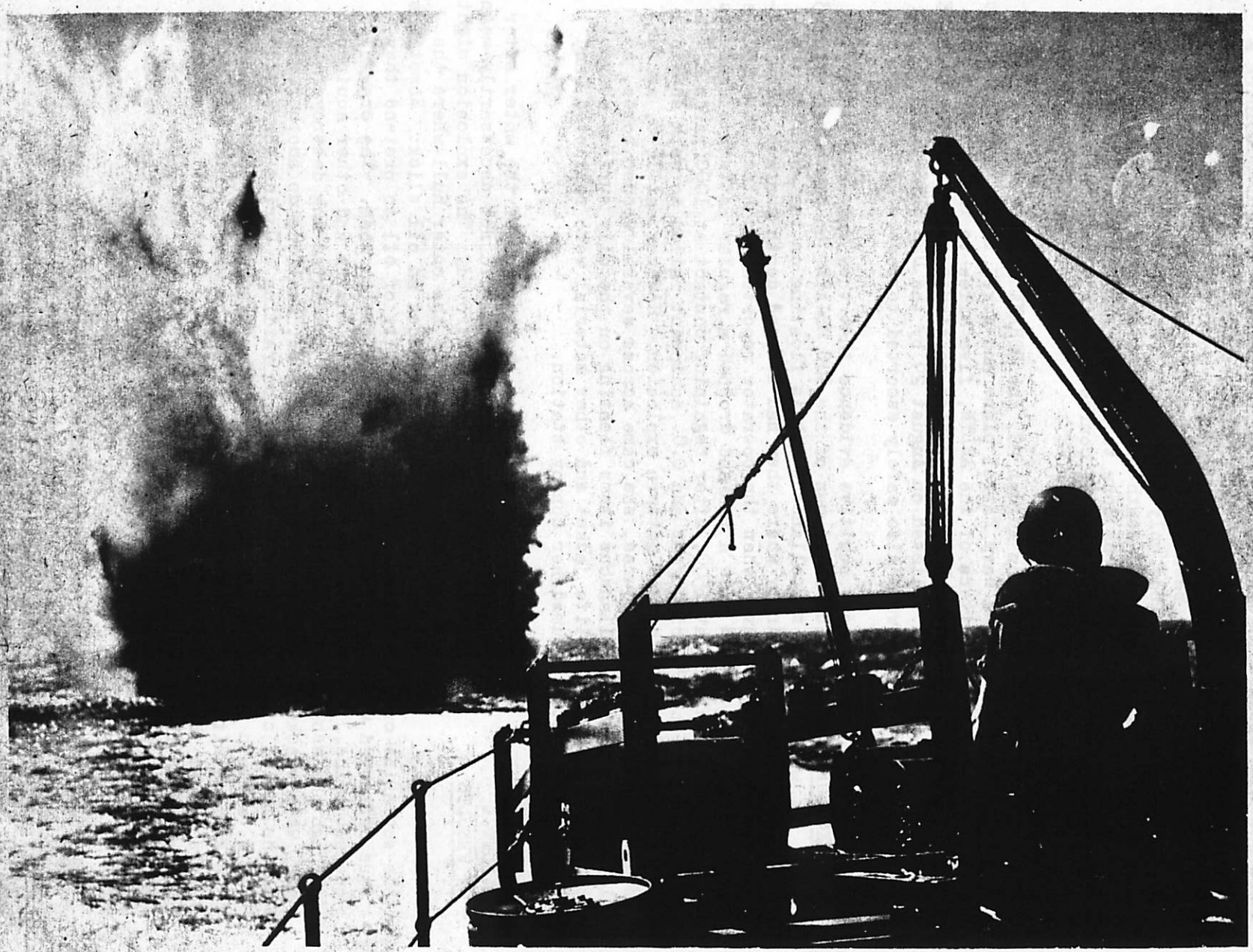
The ARLYN was not in that area nor was there any certainty that she had been hit, so the MOHAWK proceeded down moon in an attempt to sight the submarine on the surface and to locate the scattered convoy ships. She had no information that anyone had made a positive sound contact, other than the fact that the ALGONQUIN had made a DC attack, which might have been an embarrassing attack. The MOHAWK conducted a search until 2300. By then she came close to the line of fire from the LARAMIE, which seemed to be firing illuminating and common 3" and 5" projectiles, both to the northwest and southeast. One other vessel, possibly the ALGONQUIN, appeared to be firing starshells. The situation became confused. Trying to light up the area, the MOHAWK fired two starshells down moon. But the light beam given off was too narrow to be effective. After carefully searching down the narrow beam of each star flare with negative results, the cutter ceased firing and proceeded to southeast across the LARAMIE's stern to extend the area of sound search, and to locate other convoy ships.

ARLYN IS HIT

Red flares were sighted at 2230 about five miles distant. Two minutes later, the ALGONQUIN was seen with two ships heading southeast between Cape Norman and Belle Isle. Deciding that the safety of the injured LARAMIE was paramount at that time, the MOHAWK did not proceed in the opposite direction to investigate the red flares. The fact that the submarine had remained in the vicinity after sinking the CHATHAM that morning, gave rise to the belief that if the LARAMIE were left unescorted the sub might try to finish her off while the protecting MOHAWK was away hunting survivors. No information had been received at that time of the ARLYN sinking. Besides, it was believed that if the red flares were from lifeboats they were within five miles of shore. First positive information that the SS ARLYN had been torpedoed was received at 2259.

MOHAWK DROPS DEPTH CHARGES

The MOHAWK continued on her way until she came to an oil slick from the LARAMIE and finally caught up with her shortly before midnight. As soon as contact was made, the LARAMIE advised that she had had an echo bearing 165°T,



U. S. COAST GUARD PATROL SHOWN DROPPING A SUB-SHATTERING DEPTH CHARGE

distant 2000 yards. The MOHAWK ran down the bearing without obtaining a sound contact. She dropped four depth charges from the stern racks as an embarrassing attack in the best estimated position. Three failed to explode because they had been set deeper that the depth of the water. Depth charges had to explode only a few yards from the tough hide of a modern submarine to deliver a death blow. However, even at greater distances, serious damage could be done to lighting, rudders, batteries, fuel tanks, and instruments. And of course it didn't help the morale of the enemy.

MOHAWK ESCORTS LARAMIE

At 0100 on August 28, the MOHAWK made visual contact with a Navy Patrol plane and asked it to look for possible survivors of the ARLYN, five miles to the southeast of Chateau Bay. The cutter continued escorting the LARAMIE until relieved on August 29 by the USS BRISTOL. The remaining convoy vessels were also safely escorted to port.

MOJAVE ATTACKS SUB

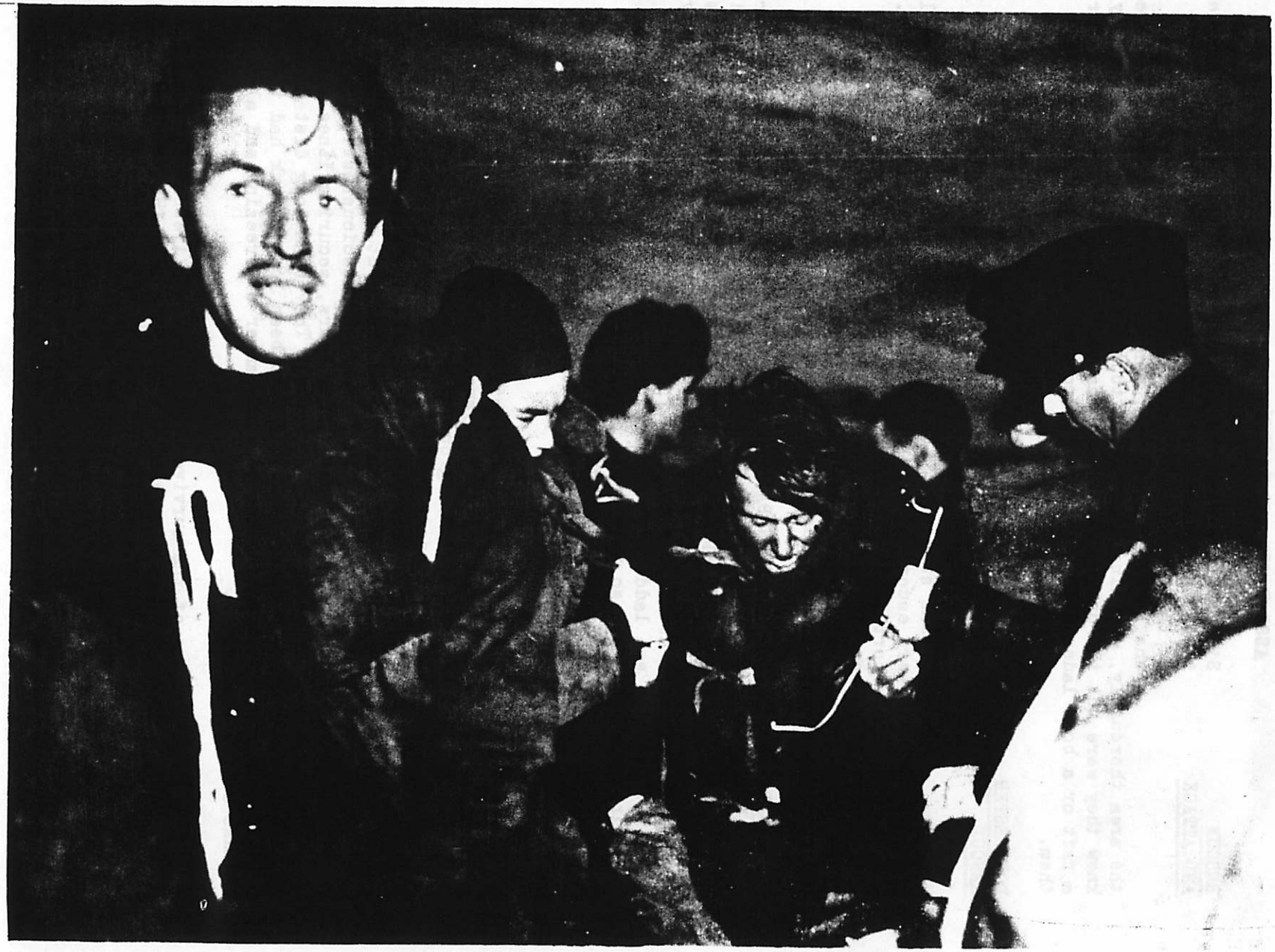
Without positive evidence that they had "got" their sub officers and men of the CGC MOJAVE, on September 4, 1943, saw miscellaneous debris floating on the water in the vicinity where they had dropped depth charges. The cutter was escorting a convoy when the operator reported a contact five hundred yards away. The MOJAVE made a run and dropped a regular pattern of charges. Attack No. 2 was made at 1500, after regaining contact at 1000 yards. Ten minutes later the steering gear and Q.C. equipment failed to work due to damages caused by the second pattern explosion. However, at 1640, as the MOJAVE continued on her course, she came across several wooden boxes, a life jacket, and miscellaneous items floating on the oily surface above the attack area. The life jacket and other material were retrieved, and at 2100 the cutter resumed her convoy station.

UNCERTAIN EVIDENCE OF RESULTS

The appearance of oil on the surface of the water after the explosion of a depth charge did not necessarily mean that the U-boat had been destroyed. The explosion might have ruptured the portion of the outer hull where the fuel was stored and so produced an oil slick. Sometimes the submarine crew themselves released a quantity of oil to pretend they were destroyed when they felt a depth charge close to them. The crew of one submarine, it was reported, even threw some chairs and other equipment through the escape hatch in order to convince the attacking destroyer that they were wrecked. The destroyer left the area, chalking up another submarine to its credit, and the U-boat went on raiding. During the World War I, a depth bomb tore the conning tower from a submarine and it came to the surface with two men clinging to it. After the war was over, it was learned that the U-boat had managed to limp back to port for repairs and had returned to active undersea raiding. Under the circumstances, the MOJAVE could not be sure she had destroyed the sub, but the chances were good that she had.

PORPOISES AND WHALES A DIVERSION

Among the lesser trials of the men on anti-submarine duty were the porpoises and whales which came dashing at the ship's side at right angles and then passed underneath with a stream of phosphorescence, apparently



COAST GUARD GIVES A HELPING HAND

ASSISTANCE AND RESCUE

RESCUE AND ATTACK

Side by side with the grim job of releasing depth charges to destroy submarines went the work of rescuing victims of the torpedoed ships. As soon as a cutter came upon the scene of a sinking, men on the rescue vessel searched the area thoroughly, prowling about so as to miss nothing, even though they knew they were not the only prowlers and that while they were searching for a raft or a boat laden with survivors, sharp enemy eyes might be sighting them.

DORCHESTER RESCUE

In a remarkable rescue at sea, on February 3, 1943, the Cutters ESCANABA and COMANCHE saved a total of 225 men from the Allied Transport DORCHESTER, attacked by a German submarine. The Transport was one of three vessels which the cutters were escorting from St. Johns, Newfoundland to Greenland. She was torpedoed shortly after midnight and sank soon afterwards. The cutters rushed to her aid and worked in absolute darkness more than eight hours, while submarines hovered nearby threatening to attack. Air and sea temperatures registered freezing.

RETRIEVER METHOD USED

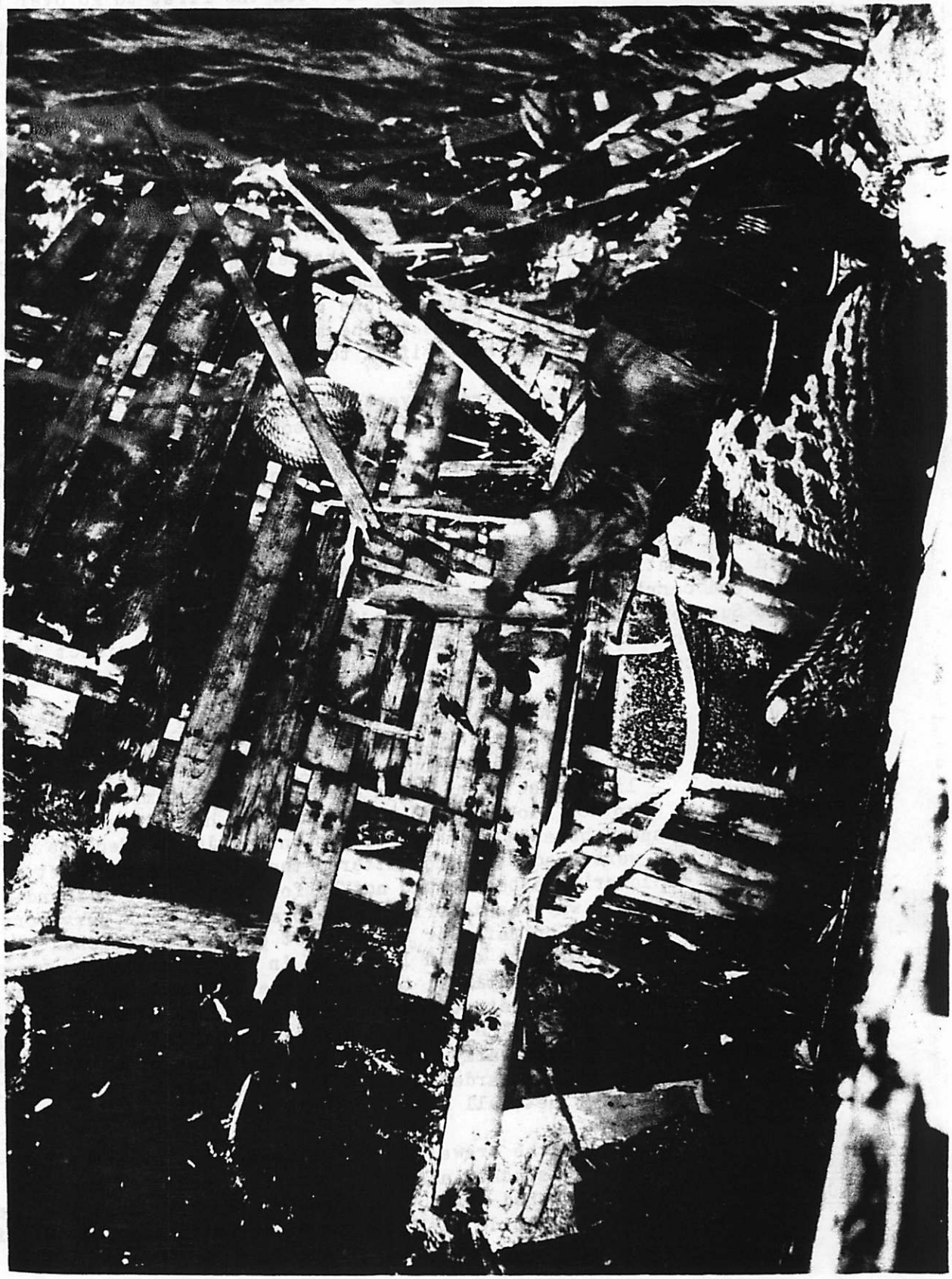
On the ESCANABA, the Executive Officer, Lieutenant Robert H. Prause, followed a plan that he himself had conceived and developed, the retriever method of hauling survivors aboard. Previous experience had shown that the majority of drowning men were absolutely helpless from exposure and shock. They could not climb up sea ladders or a cargo net. And it was futile to throw them lines with bowlines so they could be pulled on board, because they could not hang on to the lines enough even to secure the bowlines under their arm. The retriever swam right up to the drowning man and put the lines on him.

RESCUED FROM FREEZING WATER

Ensign Richard A Arrighi, Forrest O. Rednour, ship's cook, and Warren T. Dyampert, steward's mate, were selected from a group of volunteer to be retrievers. In their heavy rubber suits, carefully secured with lines about their shoulders, they plunged into the icy waters where survivors were milling around. Many were unconscious, but even those that looked dead were brought in. Later they regained consciousness. The retrievers were in and out of the water four hours, securing lines about floating men and to drifting boats and rafts. They swam long distances at times to save men who otherwise would have been lost. Work had to be done fast because the drowning men were in danger of freezing and also because of the submarines.

HEROIC ACT BOOSTS MORALE

One of the survivors in a crowded lifeboat that had been made fast alongside the ESCANABA fell into the water between the small boat and the ship. This man, covered with oil, was so slippery and heavy that the rescue crew in the lifeboat could not pull him back into the boat. Ensign Arrighi realized how desperate the situation was, so he swam in between the boat and the cutter, running the risk of being crushed in the heavy sea, and



SEAMAN SCRAMBLES ABOARD A RESCUING U. S. COAST GUARD CUTTER

brought his man back alive. The Ensign had been the first to go over the side as a retriever, but this act boosted the morale of the whole crew. Leaks began to develop in his rubber suit, but he stayed in the water to continue the rescue work until forced to come aboard by the insistence of the medical officer. Although Arrighi was suffering from exposure, he refused first aid and went below to help treat the survivors.

PROPELLER MENACES SURVIVORS

While the ESCANABA was being maneuvered, Deyampert and Rednour worked heroically to prevent floating survivors from being caught in the suction of the propeller. Both of these men, as they secured lines to rafts and individuals afloat, were themselves in danger of being crushed between the side of their ship and the rafts. Rednour bravely swam under the counter of the vessel on one occasion, running the risk of being struck by a propeller blade if the ship were backed, and rescued the men loaded on a raft that had drifted to the dangerous position.

ESCANABA RESCUES 133 SURVIVORS

Besides the retrievers, volunteers dressed in heavy clothing and life jackets, boarded boats and rafts to assist the almost frozen men back to the ship. Everybody worked with grim determination to cheat the enemy of as many victims as possible. Of the 133 survivors picked up by the ESCANABA, one man died soon after being taken aboard. Twelve bodies were also brought on board. The stupendous job of giving first aid and continued treatment to all the patients was organized, directed, and carried out by one doctor, the cutter's medical officer, Assistant Surgeon Ralph R. Nix, U. S. Public Health Service. He was commended for this splendid work and a notation made to that effect in his service record.

COMANCHE RESCUES 93 SURVIVORS

The COMANCHE would screen the ESCANABA for about an hour and stop to pick up survivors for about half an hour. As she passed through an oil slick in which many red lifejacket lights were burning, she attempted to pick up men close aboard but found they had already died or were unable to respond because they had become unconscious. Because four or five submarines were shadowing the cutters, the old standard Coast Guard practice of lowering a boat could not be followed. It was found that the only practical way was to bring the ship alongside the survivors, the majority of whom were on rafts or boats. Not one man was picked up from the water itself, for none could live long in the 38-degree temperature. Until daylight the COMANCHE continued to screen the ESCANABA and to pick up men from rafts and boats. Ninety-three were rescued, some of whom had been adrift for over seven hours. The wind and sea kept mounting steadily, making the lifesaving job particularly hard and the operation of bringing the numbed men aboard extremely hazardous. Of all the men saved, not a single one could climb the cargo net; all had to be hoisted up.

RETRIEVER METHOD SUCCESSFUL

Many of the crews on both cutters were "green" and became so shocked at seeing numerous bodies of men who had perished mixed with those still alive that they were helpless to do anything but stare until snapped out of

LT. COMMANDER CARL UNO PETERSON

their daze by the acts of courage and leadership displayed by Ensign Arrighi and the other volunteers. The retriever method had been worked off the dock at Bluie West One, in a rubber suit with a line attached, to experiment with this form of rescue. At the time many people laughed, thinking it a joke, but the experiment proved successful and the time spent in drills and further research in rescue work paid great dividends in lives saved. Not only did this method save time, but it made possible the rescue of unconscious survivors, who later recovered. Out of fifty apparently dead men brought aboard, only twelve were found to be dead by the ship's doctor, the rest all responding to treatment.

LOSS OF THE ESCANABA

It was only a few months later, on June 13, 1943, that the fine ship ESCANABA with her gallant officers and crew sank in the North Atlantic, following an explosion of undetermined nature.* With the exception of two enlisted men, all were lost. Fifty-eight persons made the supreme sacrifice as a result of this incident of U-boat warfare: Thirteen officers and forty-five members of the crew. For their heroic work in saving the 132 men of the torpedoed transport, Admiral Royal E. Ingersoll, Commander-in-Chief of the Atlantic Fleet, awarded posthumous decorations and commendations to six officers and enlisted men of the Coast Guard ship.

POSTHUMOUS AWARDS

The Legion of Merit was awarded to Lieutenant Commander Carl Uno Peterson, Commanding Officer of the ESCANABA. The Navy and Marine Corps Medal was given to Ensign Richard A. Arrighi, to Forrest C. Rednour, and to Warren T. Deyampert. Letters of Commendation were awarded to Lieutenant Robert H. Prause and to Assistant Surgeon Ralph R. Nix, United States Public Health Service doctor attached to the cutter.

COMANCHE PERSONNEL DECORATED

In 1944, several officers and enlisted men of the COMANCHE were also decorated for their heroic rescue of the DORCHESTER survivors. Lieutenant Commander Ralph R. Curry, Commanding Officer, received the Legion of Merit. The following officers and men were awarded the Army and Marine Corps Medal: Lieutenant Langford Anderson, USCGR; Ensign Robert W. Anderson, USCGR; Arthur E. Backer, Jr., B.M.1c (Pro); Harry P. Billos, E.M.2c (Pro); John P. Harrison, Cox. (Pro); John N. Gardner, A.S.(R); James R. Gould, A.S.(R); and Charles W. David, Jr., M. Att. 1c. David's award was posthumous, for he contracted pneumonia and died as a result of diving into the icy waters to assist Lieutenant Anderson, whom a drowning man had pulled under the water. The powerful, 26-year-old Negro rescuer broke the stranglehold of the drowning man, bringing both the survivor and the Officer to safety.

SCENES IN THE IMPROVISED HOSPITAL WARDS ABOARD THE CUTTERS

MEDICAL REPORT

Utter disregard of self in the devotion to duty is seen in the medical report of Dr. I. Ray Howard, U. S. Public Health Service, attached to the COMANCHE. Here in an improvised hospital ward on a tossing ship pursued by

* See "Sinking of the CGC ESCANABA", a Momograph prepared by the Historical Section of the United States Coast Guard.

SURVIVOR COLLAPSES ONCE HE IS SAFE ABOARD A CUTTER

submarines, men are glimpsed working swiftly and efficiently in darkness to save human life, apparently oblivious of their own safety. In the light of the ESCANABA tragedy only a short time later, the account is poignant for the detailed attention given to each precious life.

BLANKETS PLACED ON MESS DECK

First, blankets were placed on the mess deck, leaving just enough room to walk between. Medical supplies were ready, bandages, gauze, adhesive tape, mineral oil, boric acid, morphine syrettes, scissors, adrenalin, and other necessary items. A large urn of coffee was made and cups, sugar and cream were brought in. The crew donated several cartons of cigarettes. Three hours after the rescue operations began, the first group of survivors were brought below to the mess deck. Most of them were drenched with salt water and fuel oil. A total of ninety-four casualties were hauled aboard the COMANCHE and helped or carried to the mess deck between the hours of 3:45 a.m. and 9:25 a.m.

DOCTOR'S TESTIMONY

"All men taken aboard were suffering from varying degrees of fright, cold, exhaustion due to exposure and submersion," reported Dr. Howard. "In addition, some were suffering from traumatic injuries. There were twenty cases of stupor or unconsciousness, nine cases suffered superficial lacerations and abrasions. Three cases had sustained crush type injuries of the right or left ankle and foot. There were three cases of hysteria, one with both arms in a raised and flexed position."

ONE MAN MANIACAL: MOST QUIET

That man became distinctly maniacal and had to be restrained by three or four men, but later responded satisfactorily to treatment. Some of the survivors vomited after being aboard half an hour, their vomitus containing oil globules and undigested food particles. Many were grimy with fuel oil. As a whole they were well clothed, the majority wearing Arctic clothing, and with a few exceptions, the men were quiet and cooperative.

TREATMENT GIVEN

Immediately upon being brought below to the improvised hospital, the patients were stripped of their wet clothes, wrapped in a warm dry blanket, and put to bed on mattresses. Then they received hot, stimulating drinks. The doctor examined the men and had them segregated as soon as possible into mild exposures, severe exposure, and a mixed group that included traumatic injuries. Massage was given, and as soon as sufficient circulation and general body warmth were restored, the patients were moved to the wardroom, where they were forced to stay awake and maintain some bodily movement until it was reasonably certain that they were out of danger. They were then moved again and put to bed in the crew's quarters.

CREW MEMBERS HASTILY TRAINED FOR MEDICAL ASSISTANCE

After the first hour, it became evident that the doctor and the Chief Pharmacist Mate could not themselves carry out the various treatments required for each patient, because of the numbers and the short intervals between the periods at which they were being brought aboard. Accordingly, members of the crew were hastily trained

SURVIVORS OF TORPEDOED SHIP RESCUED BY COAST GUARD

to help in teams of three or four. One team stripped the clothing. Another had blankets and hot drinks ready and gave message. One team took care of valuables and stored clothing, while another listed and identified survivors brought in. When the need arose, additional crew members were trained for artificial respiration and other tasks. As the rescue continued, survivors were brought in after longer exposure and in worse condition, so that more efforts were needed to get them out of danger. Complications began to arise, the most common being abdominal and muscular cramps and complete exhaustion. There was one case of submersion which was fatal. The man was in a coma when brought in. Every effort was made to restore him. "He was observed to have breathed on two or three occasions while being carried to the mess deck," Dr. Howard observed. "On examination, no reflexes were present and there were no signs of respiration or heart action. After one and a half hours of artificial respiration, and internal and external stimulation, with negative results, the man was pronounced dead. He was later prepared and officially buried at sea."

CAREFUL ATTENTION TO DETAILS

Mineral oil was used to remove fuel oil from the eyes and body of the survivors, and liberal use of a saturated solution of boric acid kept to a minimum the cases of conjunctivitis. Great patience was used with patients suffering from hysteria and they responded well to suggestion and routine treatment. In several of the traumatic injury cases morphine sulfate was used when pain returned. Chemical heating pads were tried but proved unsuccessful, the patients immediately complaining of intense burning. After the first trial this treatment was discontinued. Pentothal anaesthesia was used to reduce fractures and dislocations, as soon as all signs of shock had subsided. Superficial lacerations, abrasions, and other cases were treated according to indications.

SOME DIFFICULT CASES

A few men who had been lying in life rafts or boats with the extremities and body covered for a long period were numb and lost the use of those parts. One of these groups tried to use morphine syrettes on each other but it was doubtful if any of the solution was injected because they failed to push the stylet inward to open the needle. There was one man, however, who claimed that he did not feel so numb about one-half to one hour after receiving the injection. This was the same man who had been brought on board with both his arms raised and flexed at the elbows, complaining that his arms were frozen in that position. He later recovered.

MAJORITY RECOVERED

The patients were kept under observation and care the following day. Some had to be confined to bed but others seemed none the worse for their experience. About fifteen showed signs of immersion of the feet and lower legs. Early the next morning, when the survivors were turned over to the Army at Bluie West One, twenty-four were stretcher cases, but the majority were able to get off the ship without assistance.

PUBLIC HEALTH OFFICERS COMMENDED

The work of Dr. I. Ray Howard in the care and treatment of the scores of survivors, who needed immediate attention if they were to recover, is an excellent example of the courage, devotion to duty, and coolness under

COAST GUARDSMEN HAUL SURVIVORS ABOARD CUTTER

fire of the medical officers, for everyone knew that several submarines were following the cutter during the rescue operations. Dr. Howard was officially commended by the Commanding Officer of the ship, Commander Ralph R. Curry. The medical officers of the Coast Guard are officially members of the United States Public Health Service, but actually during their assignment they are part of the Coast Guard sharing in its hardships and triumphs, participating in its high traditions of service to mankind. These officers prefer no byline, but occasionally a glimpse is caught of their magnificent work and their heroic devotion to duty in the midst of desperate enemy action.

RESCUE OF THE "SVEND FOYNE" SURVIVORS

VICTIM OF ICEBERG COLLISION

While escorting a convoy of ships, the CGC MODOC received a report from the CGC ALGONQUIN, on March 20, 1943, that the British vessel SVEND FOYNE, in convoy, had been the victim of an iceberg collision at 0450 the preceding day. The two cutters immediately began a search in the position reported to be 58° 38' N., 44° 50' W. Shortly past midnight on March 21, they contacted the CGC AIVIK, and from her got the British vessel's position again, as well as the information that the crews and passengers had abandoned ship and were drifting in lifeboats and rafts. The British vessel HMS HASTINGS, contacted by the cutters, joined in the search.

MODOC PICKS UP SURVIVORS FROM 2 BOATS

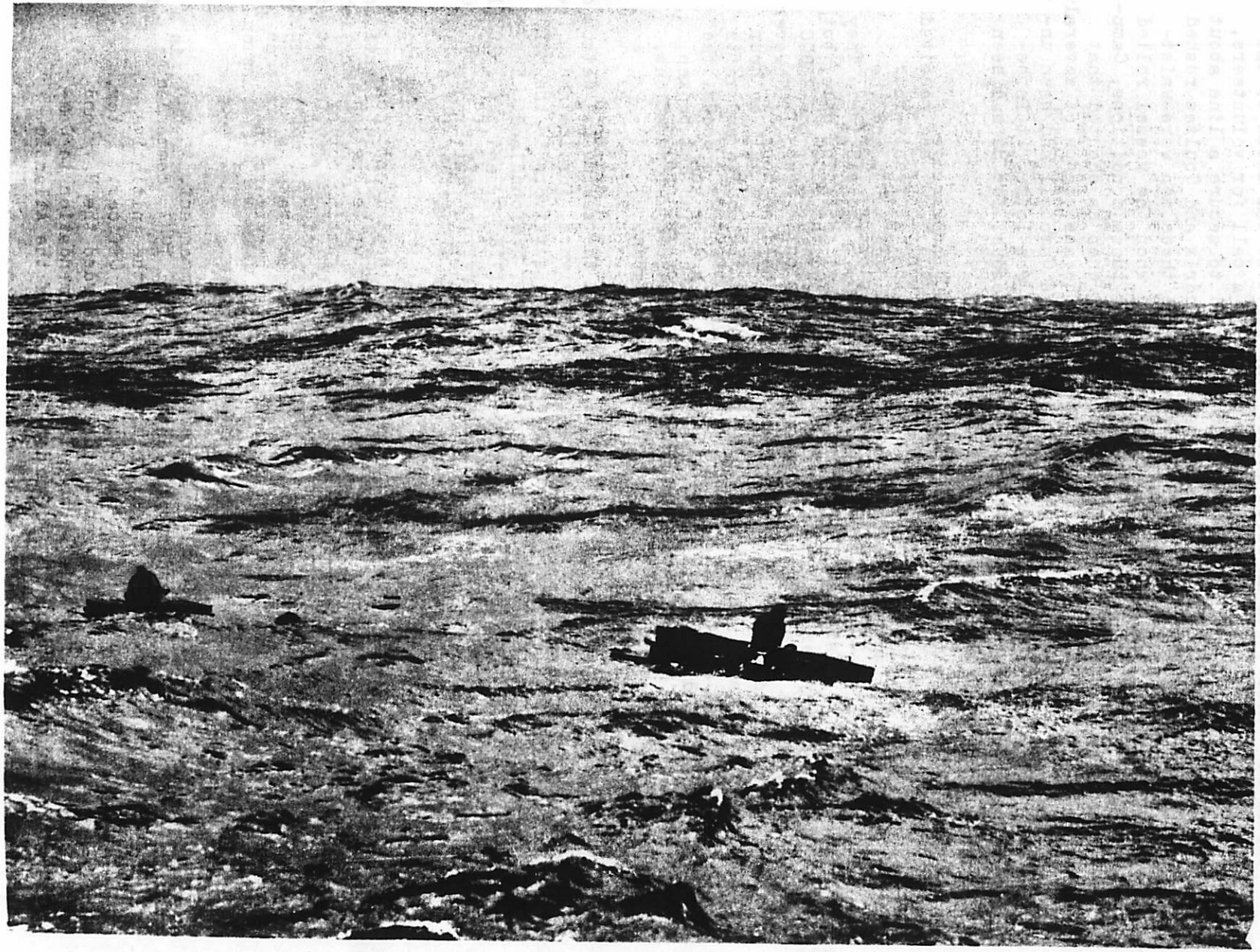
The SVEND FOYNE was finally sighted among two large icebergs and several small ones. In her vicinity were some lifeboats and the CGC FREDERICK LEE. At 0133, the MODOC maneuvered alongside one lifeboat and took aboard twenty-five survivors. The operation was extremely difficult due to the deep roll of the vessel and the helplessness of the men in the boat, who offered little assistance. At 0143, the MODOC came alongside a second boat. This was more difficult than the first operation because even less help was received from the men in the boat. At 0158, the cutter removed sixteen survivors from the second boat. It was fortunate that the cutter had approached from the direction she chose, for the boats had drifted a considerable distance from the SVEND FOYNE and might have been missed if approached from another direction.

RESCUES TWO MEN ON RAFT

The MODOC proceeded to a position nearer operations where all vessels were engaged in picking up survivors. At 0223, the cutter maneuvered alongside a life raft, passed lines to it, and took two survivors from it. "The people on the raft would not make the lines fast," reported Commander John H. Byrd, skipper of the MODOC, "but would grab a line and jump into the water. This made it impossible to keep the raft alongside. Of these jumping into the water, none fastened the line to themselves, and two or possibly three were drowned despite efforts of three crew members." The MODOC lowered a lifeboat, but before it could get away, the AIVIK went alongside the raft and took off the survivors.

HEROISM OF THREE VOLUNTEERS

Great heroism was displayed by all the members of the rescue ships. Especially outstanding in their determination to save the drowning men were three MODOC volunteers: Leonard W. Campbell, C.B.M.; John T. Hendrix, C.E.M.; and



SURVIVORS ADRIFT

William F. Coultas, Seaman first class. One survivor was close to the net when Campbell, without waiting for orders or a call for volunteers, went down the net and for about ten minutes tried to secure a line about this man. The water was thirty-six degrees. Hendrix and Coultas rushed down the net voluntarily to assist Campbell. The three men were waist-deep in the water and became completely submerged when the vessel rolled to port. After working for fifteen minutes under those conditions, Campbell was almost overcome and was ordered aboard. When he shouted that he could not make it, Hendrix and Coultas, with the assistance of several men on deck, got Campbell on board. Meanwhile, as Campbell had been unable to secure a line to the man in the water, he was lost. It is believed he was dead at the time of the attempted rescue, for he had been in the freezing water for many hours.

SEARCH FOR 244 TRAPPED IN VESSEL

On the way to the SVEND FOYNE, the MODOC had received a message from the stricken ship that twenty-four persons were trapped aft. Both the MODOC and the ALGONQUIN searched the position of the sinking. They sighted debris and oil, and heard cries for help, but could not see any persons. Nearly four hours later, at 0730, the MODOC sighted a man in a lifeboat and took him aboard at 8:30 o'clock. However, long exposure and shock had weakened his heart and he died half an hour after coming aboard. In the search that continued, lifeboats and rafts were checked and an attempt was made to sink them. In the process, the MODOC located and picked up one of her own lifeboats which had broken loose. Both the MODOC and the HASTINGS, during the rescue operations, covered other vessels when they were dead in the water.

ABOUT 144 SURVIVORS BROUGHT ABOARD

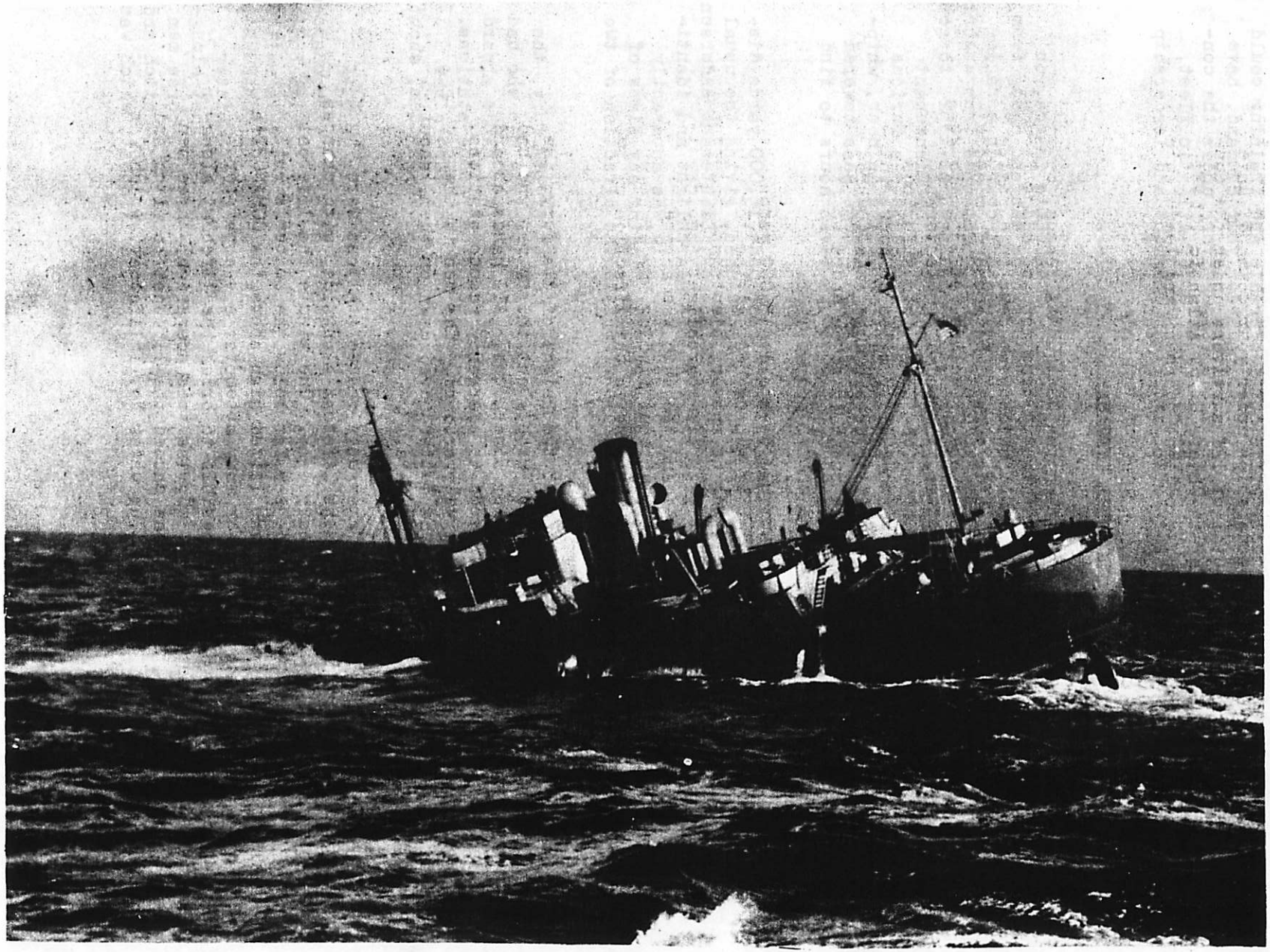
At 0920, the MODOC discontinued the search and detached the HASTINGS, with sixteen survivors, for Iceland. The other vessels transferred their survivors to the MODOC for transportation to St. Johns, Newfoundland. The ALGONQUIN transferred 22, the AIVIK 42, and the FREDERICK LEE 20, making a total of 128, including the 44 survivors picked up by the MODOC. With the sixteen survivors on the HASTINGS, altogether 144 or 145 persons were brought aboard the vessels.

MANY WERE LASCARS

Many of the rescued men were Lascars, without identification papers, and unable to speak, read or write English. They were very difficult to control when getting out of the boats. A competent interpreter could not be found. Under the circumstances, the list was as accurate as could be expected. The MODOC arrived at St. Johns with the survivors on March 25, four days after starting rescue operations.

ADMIRALS CHALKER AND INGERSOLL PRAISE HEROISM AND LEADERSHIP

Rear Admiral Lloyd T. Chalker, Acting Commandant, in a letter to Commander Byrd, dated August 5, 1943, commended the action of the three volunteers, and the initiative and seamanship of the MODOC's Commanding Officer. Later, Campbell, Coultas, and Hendrix were awarded the Navy and Marine Corps Medal. In a letter of commendation to Commander Byrd, Admiral R. E. Ingersoll, Commander-in-Chief of the Atlantic



THE ARMY FREIGHTER NEVADA, DURING HER LAST FEW MOMENTS

Fleet, stated: "Only through your efficient leadership and training could your ship and the remainder of the rescue ships under your command, have rescued and transferred to safety a total of 128 survivors under the conditions then prevailing. The Commander-in-Chief, U. S. Atlantic Fleet, commends you upon your fine seamanship, excellent judgment and leadership displayed on this occasion."

RESCUE OF SURVIVORS FROM THE "NEVADA"

NEVADA HELPLESS IN RAGING GALE

Heroism and tragedy marked the COMANCHE's rescue, on December 15-16, 1943, of twenty-nine men and a dog from the Army freighter NEVADA, which went down in a raging gale off the North Atlantic coast. Detached from escort duty between Newfoundland and Greenland, at 1352, to go to the aid of the foundering ship, the cutter, commanded by Lieutenant Langford Anderson, proceeded in bad weather which turned into a furious storm as early darkness fell. The wind reached sixty miles an hour, whipping up heavy snow squalls that made visibility zero. Huge seas towered twenty feet high. The COMANCHE reached the scene in seven hours to find the NEVADA down by the bow with a thirty degree list.

SHIP ABANDONED

At 2012 a radar-contact had been made 15,000 yards distant. At 2100, the cutter approached, giving the usual war challenge. Receiving no answer, Lieutenant Anderson illuminated the target with his searchlight and identified the NEVADA. The boat falls were empty and the ship was apparently abandoned. After circling the vessel twice without finding any signs of life, the cutter proceeded to search for survivors in the direction of two red flares downwind.

THIRTY IN LIFEBOAT

At 2231, with the storm at the height of its fury, the cutter sighted a lifeboat with about thirty men who had been fighting the sea for nine hours. All hands aboard the COMANCHE were ordered to emergency rescue stations. Volunteers in rubber suits stood by to dive overboard. The men in the lifeboat were praying and singing. As the cutter moved down on them, shout of "Thank God!" rose above the howl of the gale.

LIFEBOAT BROUGHT ALONGSIDE

At 2232 all hands at emergency rescue stations were maneuvering to bring the lifeboat alongside, with chances slight, due to the heavy seas. One minute the lifeboat lay in a trough of the sea far below the cutter's rail, and the next second was lifted high above the COMANCHE's deck of the crest of a huge comber. After many attempts, a sea painter was passed by heaving line, making it possible to bring the lifeboat alongside the starboard side of the COMANCHE. During this operation, three men were hauled to safety, when the rough seas caused the lifeboat to pitch and surge violently against the COMANCHE and up under No. 1 lifeboat, which was rigged out.

LEFT TO RIGHT: COAST GUARDSMEN ARTHUR NICKERSON, CARPENTER'S MATE 1/c, PHILLIP FELDMAN, FIREMAN 1/c, AND ROBERT VILE, FIREMAN 1/c

THREE MEN OVERBOARD

Three men in the lifeboat leaped on her gunwale, preparing to jump to the cutter on an upsurge, in spite of orders from the COMANCHE for them to remain seated. They fell into the sea and one sank immediately, while the other two drifted away. The lifeboat was cut loose and the COMANCHE headed for the men in the water. As the cutter maneuvered, holding the drowning men in her searchlight, four volunteers went into action. Dressed in rubber suits, with bowlines under their arms, they were lowered one by one over the side.

THREE VOLUNTEERS

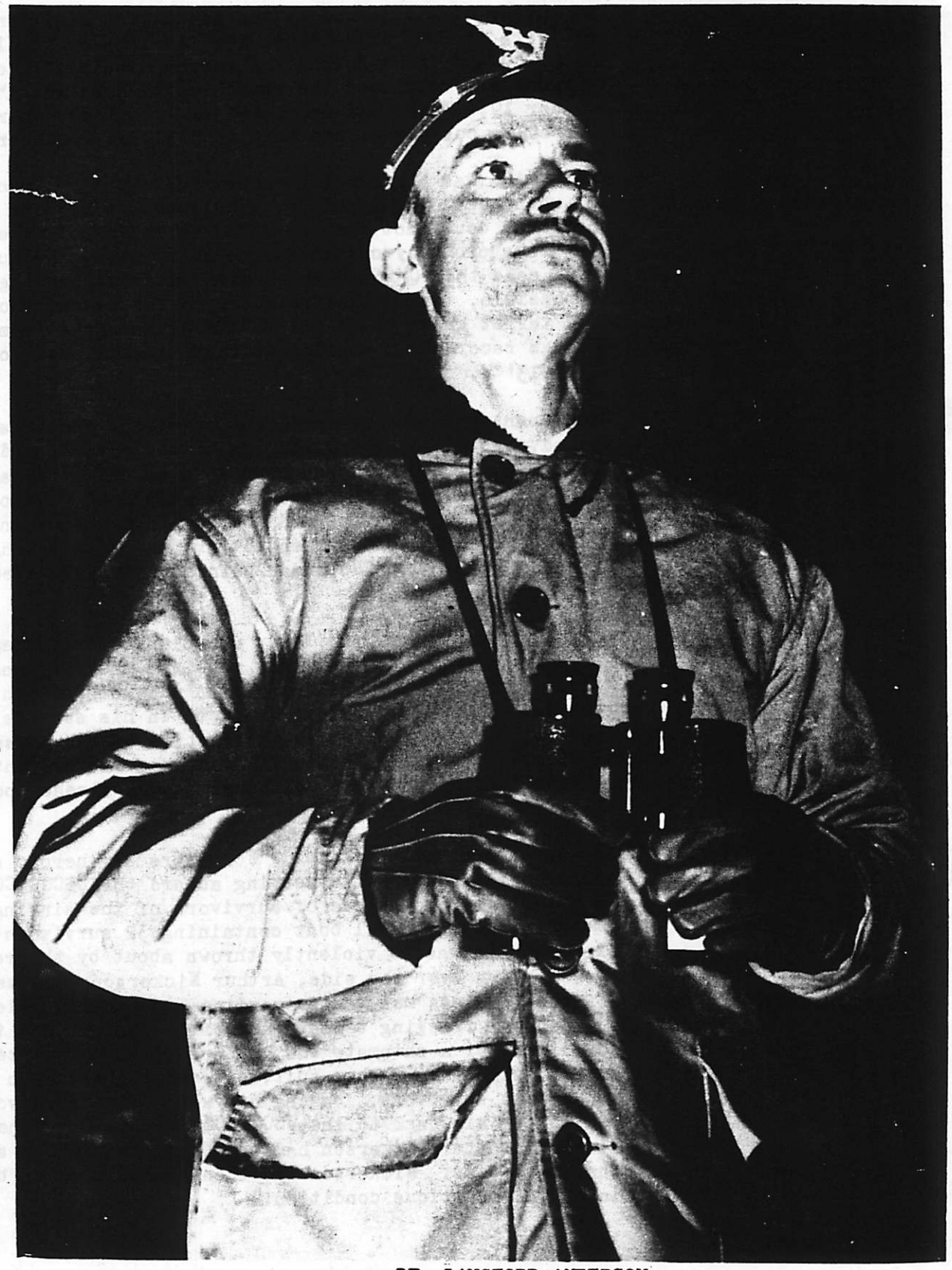
William G. Mitchell, storekeeper first class, was the first to dive into the raging seas. He was smashed unconscious against the side of the cutter and hauled back. Arthur Nickerson, carpenters mate first class, dived next. He was almost successful, but after getting his legs around the survivor and being hauled to the ship's side, he was battered into unconsciousness and was hauled aboard, after the survivor had slipped from his grasp. Robert C. Vile, fireman first class, was the third volunteer to go over the side in a valiant and desperate effort to save the men in the water. After reaching his man and towing him to the side of the COMANCHE, however, Vile was so battered and beaten that he lapsed into a stated of helplessness and his man slipped away from him. When last seen the man was floating, supported by a life preserver, with his face down on the water, apparently dead. Vile himself was pulled to safety with difficulty.

FOURTH VOLUNTEER POISED TO JUMP

The second survivor was still alive so the COMANCHE headed for him, and Philip Feldman, fireman first class, in spite of having witnessed three of his shipmates brought back battered into helplessness after their vain efforts at rescue, volunteered to go over the side after this man. Feldman, dressed in a rubber suit was poised to go into the water when a snow squall hid the man from view and at the same time the searchlight burned out. By the time the snow squall had passed and the carbons had been replaced in the lights the man could not be found.

TWENTY-SIX RESCUED

While trying to rescue the men in the water, the cutter had lost sight of the lifeboat containing twenty-six men. A short search, fortunately, soon revealed the boat, and the cutter approached as before. Two attempts were made to pass a line by a shoulder-line-throwing gun, but both were unsuccessful. At last a heaving line was thrown into the lifeboat and a sea painter was made fast to the No. 2 thwart. The surging of the boat in the high seas pulled loose this thwart but not until several of the survivors had been hauled aboard the COMANCHE on the ends of long lines with bowlines which passed over their heads and under their arms. One by one the remaining men were pulled to safety with the bowline nooses. The COMANCHE's crew was divided into emergency rescue teams of ten men each, who could heave on the line to drag a man aboard, then hustle him below while another team brought in another man and the process was repeated. Operations were interrupted four times as thwarts were pulled out before all the men were rescued. The last man left put a line around Grondal, mascot dog of the NEVADA, and only after the dog was rescued consented to be saved himself.



LT. LANGFORD ANDERSON

COMMANDING OFFICER OF THE US. COAST GUARD CUTTER COMANCHE

THREE MORE CUTTERS JOIN MISSION

The cutter STORIS joined in the search for additional survivors at 2250 on December 17. At 1355 on the 18th, the MODOC and TAMPA joined the rescue mission. The four cutters continued the search until hope was abandoned at 1800, on December 19. They then proceeded to Greenland, where the survivors were transferred to custody of the Army at 2030, on December 21.

NEVADA SINKS

The NEVADA was abandoned at approximately 1300, December 15, when her forepeak and No. 1 hold became flooded and the pumps could not keep up with the inflow of water. The seams probably opened due to heavy seas. Because of high winds and raging seas the COMANCHE was prevented from boarding and salvaging, and if possible, towing the freighter to the nearest port. At 0118, December 18, a target known to be the NEVADA disappeared from the radar screen. She was recorded as sinking at that time in position Lat. 55°27' N., Long. 47°13' W.

ANOTHER LIFEBOAT CAPSIZED

Lieutenant Anderson learned from survivors that his friend, Captain George P. Turiga of the NEVADA, and thirty-one of his crew had been in a second lifeboat which capsized when the vessel was abandoned. "Two rafts had been cut loose and some men had been seen to get on them, but there was no chance for men to live on rafts in that storm," Lieutenant Anderson declared. "No human being could have lived on a raft in such a wind and sea."

THREE MEN DECORATED

Mitchell, Nickerson, and Vile, who plunged into the sea to rescue the men in the water, received the Navy and Marine Corps Medal. Philip Feldman's heroic action was recorded under "Meritorious Conduct" in his service record. Nickerson's citation, given below, is descriptive of the personal valor of all four volunteers, including Philip Feldman, who was prevented only by circumstances from leaving the ship, although he was already poised for the jump.

GREAT PERSONAL VALOR

Nickerson's citation reads: "For extremely heroic and courageous conduct while serving aboard the USCGC COMANCHE in attempting the rescue of survivors of the sinking USAT NEVADA....When a small boat containing 32 survivors of the sinking ship was so violently thrown about by the rough seas that three men were thrown over the side, Arthur Nickerson volunteered to go to the rescue of the helpless men. Disregarding a northerly gale, snow, extremely rough seas, the near freezing temperature of the water, and the battered, exhausted condition of a shipmate who had previously attempted a similar rescue, Nickerson, clad in a rubber suit, entered the water in an effort to retrieve one of the survivors. Making his way to the survivor, Nickerson succeeded in towing him back to the USCGC COMANCHE, where the survivor slipped from his grasp after Nickerson had been battered into a state of helplessness by the heavy seas. Nickerson was then hauled back on board the USCGC COMANCHE in a semi-conscious condition."

CRUNCHER ISLAND LIGHT STATION WITH QUONSET HUT

SKIPPER'S PRAISE

"The courage and devotion to duty of the men who risked their lives in efforts to save the lives of others by going over the side," said Lieutenant Anderson, "and the courage displayed by the fourth man, who volunteered to go after seeing the condition of helplessness in which the others were dragged back aboard the COMANCHE, are deserving of the highest praise."

AIDS TO NAVIGATION

COAST GUARD ENGINEERS IN GREENLAND

Following the recommendations of the South Greenland Survey Expedition, in the summer of 1941, for air bases and other facilities in Greenland, engineers put forth the construction of those bases at a desperate pace. One of the most thrilling chapters in Coast Guard engineering history is the story of the establishment of radiobeacons, lighthouses, and minor aids to navigation against threatening enemy attacks and all the hardships and difficulties of the Arctic. Construction parties had to practically chisel footholds in the rocky edge of the huge ice-capped island.

HARDSHIPS ENCOUNTERED

"All structure foundations were set on base rock, anchored and cemented," reported Lieutenant Joseph W. Havlicek, USCG, in charge of the construction party that erected radiobeacons and major lights at Simiutak, Karjartalik, and Cruncher Islands. "And, in addition, guy cables were installed," his report continues, "to permit structures to withstand the high winds of this region." Because there was no specialized labor in Greenland, construction and installation work had to be done by highly experienced Coast Guard foremen and technicians, working from a cutter or a base, and using the cutter crew for landing and handling material and equipment.

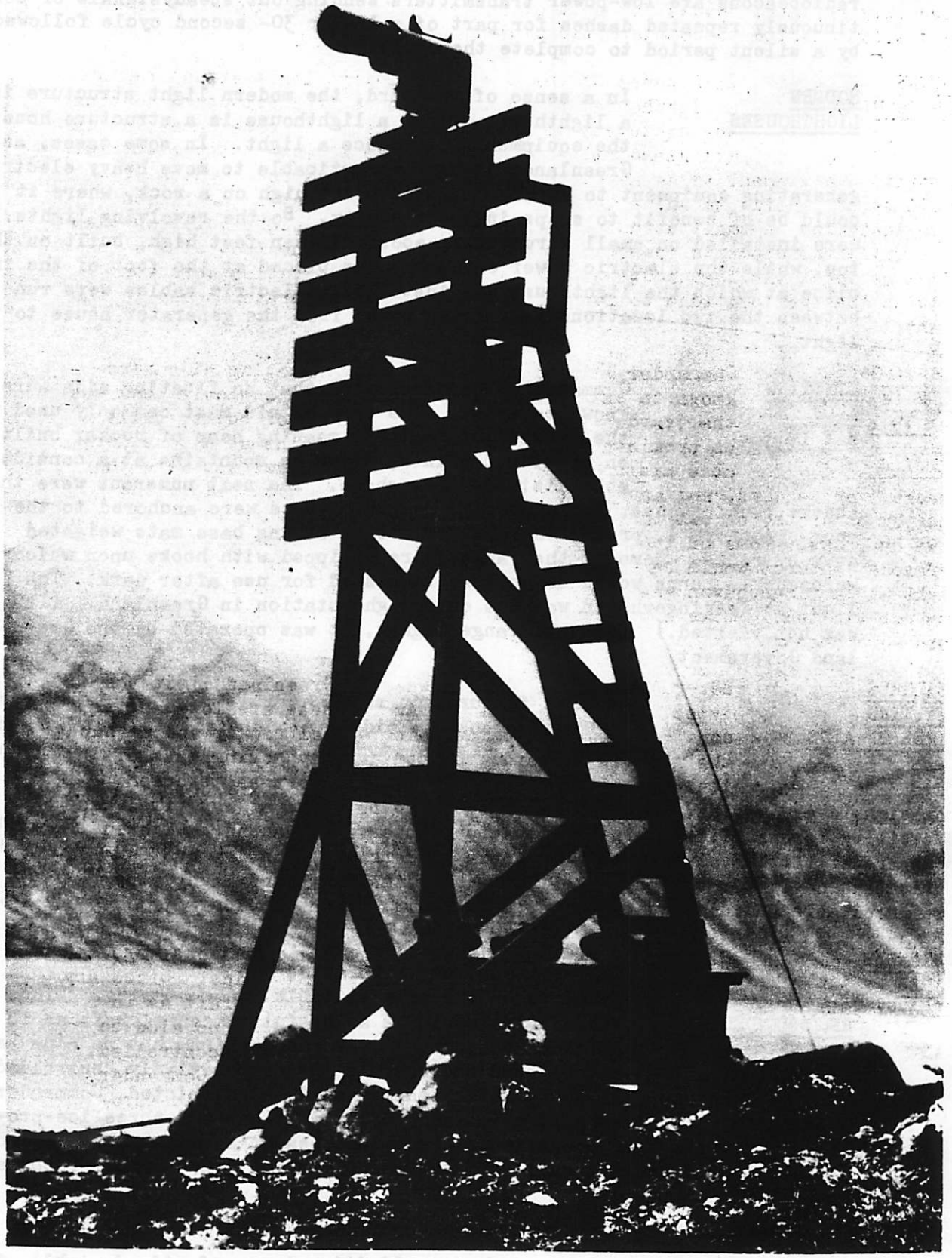
COMMANDER GIBSON'S REPORT

GIBSON REPORT LAID FOUNDATION

The aids-to-navigation program in Greenland was based on the report sent to Admiral Waesche, on March 25, 1941, by Lieutenant Commander V. C. Gibson, USCG, Coast Guard representative on the South Greenland Survey Expedition. Aids for navigation in connection with United States operations in Greenland would be required, his report stated, at three major approaches: Narsarssuak, Kungnat Bay, and Godthaab. At all of these approaches, a radiobeacon would be required. Other aids would be necessary to mark channels to the Base at Narsarssuak, the Naval seaplane base at Kungnat Bay, and emergency landing field at Kipisako. In addition, storage facilities would be needed for oil used by Coast Guard vessels which operated in that area.

RADIOBEACON STATIONS

Marine radiobeacon stations are located principally at light stations, ashore and afloat, maintained by the Coast Guard. Each radiobeacon transmits a distinctive identifying coded tone signal, enabling navigators to take bearings by means of shipboard radio direction finders. Such bearings are usually accurate within two degrees or less, depending on the equipment used and the skill of the operator. The latitude and longitude of the radiobeacons can be obtained from the Light Lists, which also carry detailed data



LIGHT MOUNTAIN RANGE REAR LIGHT

on all radiobeacons, or from U. S. Coast and Geodetic Survey charts. Marker radiobeacons are low-power transmitters sending out steadysignals or continuously repeated dashes for part of a 15- or 30- second cycle followed by a silent period to complete the cycle.

MODERN LIGHTHOUSES

In a sense of the word, the modern light structure is a lighthouse, since a lighthouse is a structure housing the equipment to produce a light. In some cases, as in Greenland, it was impracticable to move heavy electric generating equipment to an advantageous point high on a rock, where it could be of benefit to ships in the vicinity. So the revolving lights were installed on small structures, about fifteen feet high, built on the top, while the electric power equipment was placed at the foot of the incline at which the lighthouse was installed. Electric cables were run between the two locations to furnish power from the generator house to the light.

EXISTING AIDS IN MAY 1941

Commander Gibson reported that no floating aids were known to exist. The type of aid most commonly used was the "varde" or "cairn", meaning heap of rocks, built on prominent points, often on mountains at a considerable distance from shore. The next numerous were the "beeke," or beacons, and anchorage ranges. These were anchored to the rock by concrete, or set therein, or set on strong base mats weighted down by rocks. Some of the ranges were equipped with hooks upon which kerosene lanterns would be hung as requested for use after dark. The light at Faeringerhaven was the only light station in Greenland. (It was not visited.) Like all range lights, it was operated by the Greenland Government.

FEATURES LIMITING TYPES OF AIDS

Several features in southwestern Greenland limit the types of adoptable aids. Among these are low-hanging coastal fogs, steep mountains, shoal rocks, and perhaps the greatest hazard, the continually moving mass of icebergs and other forms of ice, known as "storis". Fog signals are useless, for it is dangerous to navigate at any time when visibility is insufficient to permit actual observation ahead. Lighted aids are of little value, since the hours of darkness each day are few during the navigable season. Floating aids, like buoys and lightships, are unreliable and difficult to keep in repair, due to the ice.*

SUITABLE TYPES RECOMMENDED

Radiobeacons, shore markers, and range beacons were found to be the only suitable types of aids. Since any visual aids would be as useful to enemy craft as to American vessels, it was recommended that no aids be established which could not be positively controlled. For that reason, aids to be established should be restricted, Commander Gibson stated, to two automatic radiobeacon stations and three ice-protected cutters. The operation of each radiobeacon station should be controlled by the nearest radio communication station. He further recommended

*For more detailed report on factors limiting types of aid adoptable, see Appendix C.

CRUNCHER ISLAND LIGHT STATION - COMBINED COAST GUARD - ARMY SLIP

that the largest cutter should be on coastal duty with a seaplane for ice observation, and should carry ice and harbor pilots for inbound vessels. The other cutters could break fjord ice and serve the two fields.

RANGES WITHIN FJORDS

Most of the fjords are comparatively straight or regular, having good water right up to or near to the shore. Fjords have few forks or branches. So once a vessel has identified and entered a fjord, aids would be of little further assistance until some menace or change of course has been approached. It appeared that ranges would generally serve to best advantage within a fjord proper, as the walls of the fjord would serve to guide the mariner throughout its limits.

COMMANDER SMITH'S MODIFICATIONS

MAJOR AIDS AT THREE SITES

Commander Smith, Commander of the Greenland Patrol, in December 1941, submitted for consideration certain modifications and minor changes of the approved aids. Since he was thoroughly familiar with conditions in Greenland, Headquarters concurred in all respects, with his recommendations. These were modified from time to time as the developments in Greenland indicated. At the beginning of 1943, the project was fifty percent complete. The major aids in Greenland consisted of coastal radiobeacons and lights, one each at Skov Fjord, Arsuk Fjord, and Sondre Strom Fjord, known respectively as Sites "A", "C", and "D". The officers of vessels that used these aids spoke of them with appreciation.

CONCEALMENT OF FJORD ENTRANCES

The general policy of installing and operating aids was greatly affected by the desirability of concealing from the enemy, as far as practicable, the entrances to fjords leading to the Army bases. With this principle in mind, no coastal lights and beacons were established unattended. Someone was constantly present to repair the light and to turn it out when necessary. The lighted beacons in the fjords themselves, that is, inside the entrances, where they could not be seen by ships approaching from out at sea, were not controlled. They were, however, shielded from overhead, and the number was held to a minimum compatible with safety of navigation.

ARMY CONTROLS BLACKOUT OF AIDS

Selection of the sites for aids was discussed by both the Senior Army Officer (the Commander of the Greenland Base Command) and the Commander of the Greenland Patrol, since both the Army and the Navy were responsible for the defense of Greenland. The Army might say, in effect, "You can put in the aid provided you give us instantaneous control." For instance, on one occasion, a navigation aid was required in the vicinity of the Army outpost on Simiutak Island. At a conference between the Senior Army Officer and the Commander of the Greenland Patrol, a decision was reached to the effect that the coastal light was to be operated and maintained by the Coast Guard but control for blackout purposes was to be under the jurisdiction of the Army. Since instantaneous control of the light was imperative, the control switch was installed in the Army Officer's quarters, even though the aid was established at a distance of about three quarters of a mile. The Coast

LT. J. W. HAVLICEK, (LEFT) AND H. E. COOLEY, CM 3c NEAR SITE "D"

Guard machinist who maintained the light was quartered with the Army. Incidentally, it took a mile and a half of wire for this connection and since that commodity was scarce in Greenland, Coast Guard Lieutenant Havlicek had great difficulty in finding enough wire.

LEGAL LEASE REQUIRED

Legal lease had to be taken to the land which the particular structure was to occupy. The leased land was termed a "defense area," under Article 5 of the United States - Greenland Agreement. A defense area, it was stipulated, did not have to be defended by the Army, for all aids to navigation were regarded as expendable. Aids established in an already defined defense area were not to be the concern of the Greenland Government. The American Consul at Godthaab informally discussed the procedure of notification to the Greenland Administration, pointing out that from the nature of the installation it was not practicable to give formal notice of the exact location of the aids until after they had been erected and were in operation. To this procedure the Greenland Administration stated it had no objection, provided the aids did not encroach on civilian settlements.

THREE CONSTRUCTION PARTIES

THREE WORKING PARTIES

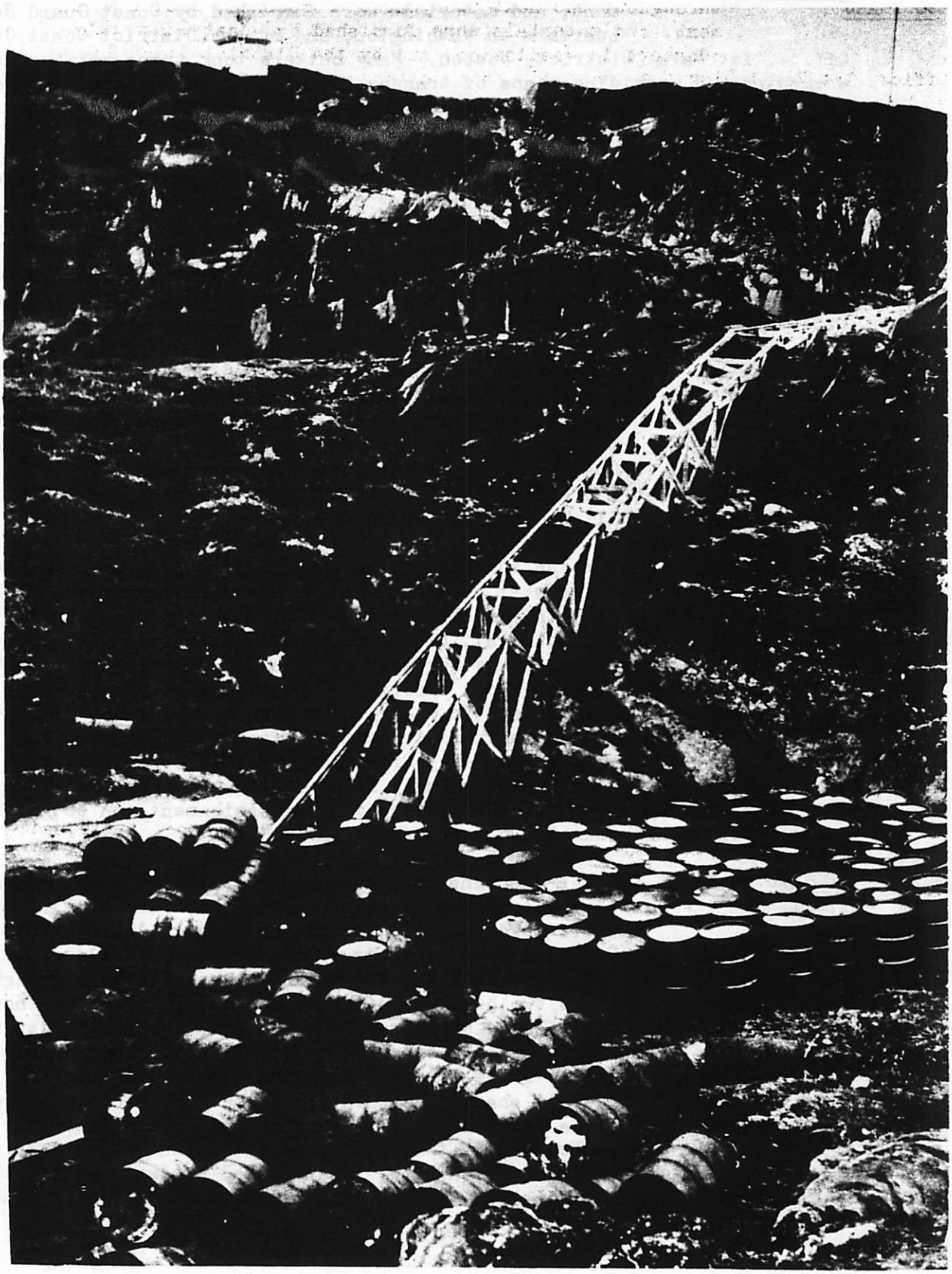
Three consecutive construction parties installed aids to navigation. The first, in command of Lieutenant (jg) Carl W. Rom, USCG, constructed Gamatron Radiobeacon Station, during the winter of 1941-42. Assisting him was Gustave M. Lundgren, RM1c, later Radio Electrician (Warrant Officer). The second party, under Lieutenant Joseph W. Havlicek, USCG, established Simiutak Light Station, Karjartalik Light and Radiobeacon Station, and Cruncher Island Light and Radiobeacon Station, from April to December 1942. His working party consisted of Nathaniel W. Causey, BM2c; Jesse B. Furnival, RM2c; and Homer E. Cooley, CM3c. The third party, commanded by Lieutenant Frank P. Ishmael, USCGR, installed the balance of the Greenland aids, from December 1942 to about November 1943. These consisted of one major light at Marrak, 31 minor lights, and 16 daymarks. His group included Lieutenant (jg) F. H. Malloy, USCG, Executive Officer; W. A. Packer, CCM; A. P. Edens, CEM; J. H. Ahlin, EM1c; C. J. Anderson, CM1c; D. W. Anderson, BM2c; N. C. Beasinger, MoMM2c; and A. A. Londberg, Coxswain.

STATION "NOI" INSTALLED

Lieutenant Malloy had been furnished by Headquarters from the Cleveland District to handle radio installation at Takisok. This project was abandoned, however, so the Lieutenant's ability was employed in dismantling Gamatron Radiobeacon Station in 1943. That done, he erected and installed the new radio receiving and transmitting station NOI for the SOPA at Bluie West One. This work was completed about October 1 of that year.

OTHER PROJECTS

In addition to the aids, Lieutenant Ishmael's party installed fifteen KW engine generators, running water and other facilities at Unit 15, as well as working on various construction and repair projects at Bluie West One, while awaiting materials and more favorable weather conditions. Besides laying out all the work details for the field crew, the Lieutenant handled many SOPA and Navy 1503 structural and engineering problems. For example, he designed the combined Army-Navy administration building, one of the finest, if not the finest building in Greenland, at Bluie West One,



CRUNCHER ISLAND LIGHT STATION - SKIDWAY AND LIGHT FROM ARMY SIDE

WORK LASTED TWO YEARS

Work on the aids was begun late in 1941 and continued throughout the next two years. Personnel, tools, equipment, and materials were furnished by Coast Guard Headquarters in Washington, and by the District Coast Guard Office, 1st Naval District, Boston. Many cutters took turns serving as workships and providing means of transportation. These cutters included the NORTHLAND, NORTH STAR, TAMPA, COMANCHE, LAUREL, NANOK, AIVIK, and many others.

FORTY-ONE AIDS BY 1943

By October 1943, forty-one aids to navigation were established and operating on the west coast of Greenland. Commander Gibson, in charge of aids in that area reported: "Though additional aids at some points would be of benefit, I believe that those established are adequate for wartime navigation to serve navigators in all waterways now required. All Commanding Officers of vessels contacted concur and state that these aids are invaluable."

A FORMER LIGHTHOUSE MAN

Lieutenant Joseph W. Havlicek had been with the Lighthouse Service for many years as a radio expert, when in July 1939, that Service merged with the Coast Guard, and he entered with many other Lighthouse men as a regular member of the Coast Guard. He was just the person when, in 1942, the Coast Guard needed a trained, experienced officer to direct the establishment of radiobeacons and lighthouses in Greenland.

PRAISE FOR HIS MEN

For the success of the construction program, the Lieutenant gives most of the credit to his working party. In his official report, he says: "The three men of my party proved loyal, efficient, and industrious. Recommendations have previously been made for the promotion of RM1c Furnival to Chief Radiomam in view of his previous experience and training. Boatswain's Mate 2c Causey and Carpenter's Mate 3c Cooley have each been advanced in rating and are both good men for further advancement after a longer period of service. These latter two men are particularly valuable for work of a construction nature, and I unhesitatingly recommend them for continuation in this line of duty. Much of the success of this assignment can be attributed to the loyalty and industry of my working party."

COOKING PROBLEMS

After the construction party got ashore, they had many living problems to solve, among these the cooking problem. There were no cooks, so the men had to learn how to cook. Relating some of their experiences, Lt. Havlicek said with a smile: "We made some snow ice-cream, and it was really all right. Here's the recipe: Take two bowlfuls of snow, add sugar to taste, then throw in a dash of fruit juice or extract for flavor. The result isn't bad." He added that of course when they returned to civilization they doubly appreciated an American ice-cream sundae. Even the meats turned to ice. "We hung our meats outside the shack," he said, "and the day before we were to cook any, we'd cut off a chunk and let it thaw." Their drinking water was melted ice and smow. Frequently they had to melt ice that had formed during the night in a bucket used for washing. They heated the water over a little stove stove. In the springtime, animal life began to appear in the water.

SITE "C" - KAJARTALIK ISLAND - LEFT TO RIGHT H. E. COOLEY, CM 3c, J. I. FURNIVAL, RM 1c, N. W. CAUSEY, BM 2c, AND LT. HAVLICEK

"You had to watch yourself," the Lieutenant chuckled, "otherwise you'd swallow a tadpole or something."

LIEUTENANT HAVLICEK'S ACCOUNT

"We went ashore on Karjartalik Island, at the entrance to Arsuk Fjord, from the CGC TAMPA, on April 11, 1942, with food and supplies. Sufficient provisions and coal were landed to last three months. Our materials, consisting of radio equipment, storage batteries, cement and lumber for the lighthouse structure, arrived three days later.

"The tar paper covered shack in which we lived was thirteen feet square and had a lean-to kitchen. Boulders and smaller rocks were piled around it for protection. To prevent it from being blown away by the heavy winds, steel cables were passed over the roof and anchored into the rock. Usually, after each storm, we had to make some minor repairs. Finally we received a pre-fabricated Quonset hut, sixteen by thirty-six feet, which was partitioned off into sleeping quarters with bunks in one portion, and cooking and eating facilities in the other portion.

"Our armament consisted of three 38-caliber rifles, one pistol apiece, and a 12-gauge single-barrel shotgun. The shotgun had to be wired together to prevent the stock from falling off each time the gun was fired. None of these guns was needed except the shotgun. We used it to augment our meat supply by shooting the abundant waterfowl, which unfortunately, no matter how cooked proved musky and very unpalatable.

"One evening we saw a submarine about one and a half miles away which appeared to be scouting the area. Later, other submarines reported along the coast, sank Allied tonnage with large loss of life.

"We had a small portable radio transmitter with a hand-cranked generator for communication with naval craft. This radio couldn't pick up any broadcasts for recreational and news purposes. Some time later, a portable phonograph and seven or eight records were presented to us by one of the cutters, and no similar machine ever performed more faithfully to create our main diversion from the island isolation.

"Our radio equipment was delivered to the island through the cooperation of the naval vessel BEAR, formerly Admiral Byrd's exploratory vessel and now assigned to guard duty at Ivigtut, where the cryolite mine is located. Inasmuch as the building material had not yet arrived, we built temporary shelters to store the radio equipment. After each storm, these shelters usually required rebuilding and the removal of snow from around the packing containers. Later, we obtained building material from the nearest Army base under construction to build an equipment house and a skidway ramp. We built the ramp from the water line, over rough terrain, to the installation site to deliver the heavier equipment, consisting of radiobeacon transmitters, control equipment, engine generators, and building material. Over the greased rails of the skidway ramp, a sled carrying the heavy material was pulled up the incline to the installation site, through the use of a steel cable and a hand winch.

COAST GUARDSMEN HAUL DRUMS OF OIL UP THE ROCKY CLIFFS

"When we arrived at several vessel-unloading points to search for our materials, we found that they were already being used by the Army and civilian construction parties. In some cases, engine generators and building materials were so appropriated. So we had to procure what other materials were available in order to accomplish our assignment. At one location, where material shortage was great, many required items were obtained from the contractor of an Army Post, who vociferously intimated that 'one more fellow like Havlicek' would force him to stop his own work. However, everybody -- Army, Navy, and civilian detachments -- cooperated in every practicable way. At one base, the civilian contractor, as a friendly gesture, supplied us at one time with some eighty of ninety candy bars, chewing gum, and ten pounds of fresh strawberries, a delicacy which we consumed on the day of receipt.

"The installation at Karjartalik, when completed in July, consisted of a medium-powered radiobeacon of an approximately 150-mile range, and a coastal light of 1,100,000 candlepower with a range of over 20 miles. Two of my men remained to maintain this station until the arrival of the crew of six men assigned to this duty.

"With the third man of my party, I proceeded via aircraft to Cruncher Island, there to establish a similar navigational aid to mark the entrance to Sondre Strom Fjord. This fjord leads about 100 miles inland to the most northern Army airfield in Greenland, located just above the Arctic Circle. We installed a medium-powered radiobeacon and electric power equipment with a light of 1,000,000 candlepower at the high point of the Island. Electric power for the light was supplied through a connecting power cable.

"Army tents of standard size were our living quarters, obtained from an Army detachment installing a weather and radio range station. The tents were set up in the only available flat area where tent pegs could be driven into the sod. During the first rainy period, we learned too late, that this selection had been poor judgment, for the low flat area became completely flooded. We had to make a hasty evacuation and set up shelters on higher elevations.

"Six Coast Guard personnel arrived at Cruncher Island during September 1942, and the operation and maintenance of the radiobeacon and light were turned over to them. We then went on to our next task, in southern Greenland.

"Orders were to erect a coastal light at the most advantageous location. We erected a light at the highest seaward point of Simiutak Island, near one of the main entrances into Skov Fjord, which leads to the most southerly Army Post and airfield in Greenland. The power equipment, consisting of two engine generators and storage batteries, was installed in a shelter erected near a convenient water landing inlet, with an electric cable line run to the summit of the high part of the Island where the light was located. During this construction, in October, heavy snowstorms and winds impeded work. Building materials for the lighthouse were carried up one incline, pulled via sledge across marshy terrain, then hoisted up a sheer cliff via block and tackle, and finally again carried to the installation site one hundred sixty feet above sea level. The light was mounted on

A COAST GUARD OFFICER BASKS IN THE SUN WITH AN AGED ESKIMO GRANDMOTHER

top of the structure we erected. As at all other sites, the structure was anchored and guyed to the rock to withstand the heavy winds of this region. Arrangements were made for the light to be operated by remote control from an Army Post on the island, some distance away.

"We erected several additional minor lights to serve as entrance ranges and markers. Early in December we were relieved by Lieutenant Ishmael and his working party, who arrived to continue the aids-to-navigation program.

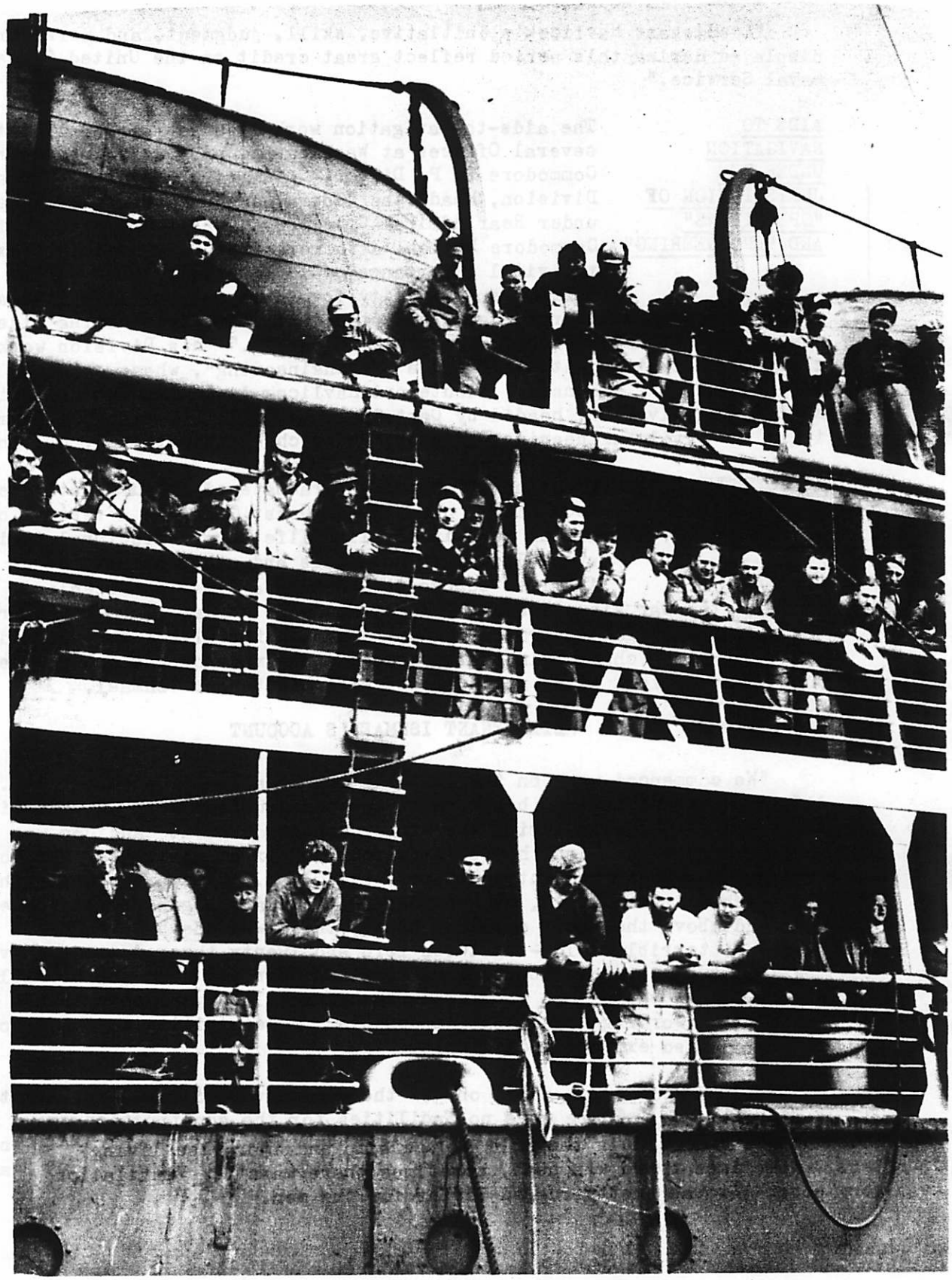
"While in southern Greenland we made several visits to the nearest large settlement of Julianehaab, where sheep grazing has been successfully carried on by the Greenlanders under the tutelage of the Danish Government. There, Doctor Christiansen, in charge of the village hospital, always warmly welcomed us. During breakfast after one overnight visit, the question of what garden products could be raised in this area came up and I remarked that I hadn't partaken of even one radish for over a year. The Doctor quietly spoke a few words of the Greenland language to his native housekeeper. In a few minutes there was a large bowl of red glistening radishes before me that added immensely to the delicious breakfast of ham and eggs.

"Admiral Smith was in command of the Greenland Patrol ashore and afloat during this period. The Admiral is an indefatigable worker and ofter carried on his duties into the small hours of the morning. He was always very considerate of the men in his command, even up to the point of sharing his possessions and his stateroom when there was a shortage. Captain von Paulsen, his able assistant, and in command during Admiral Smith's absence, efficiently directed the duties charged to the Coast Guard in the defense of Greenland with the byword that it was results and not reports that he wanted. Full cooperation of Army, Navy, and civilian workers made it possible for the Coast Guard to carry out all assigned duties, even under most unfavorable conditions.

"During the entire stay in Greenland, from April to December 1942, we used sleeping bags. It was the general rule not to travel without self-sufficient accommodations, irrespective of distance. We felt our way along with poles. The remoteness, erratic weather conditions, and difficulties of travel afoot or by water prevented meeting any schedules or planning any undertaking in advance. It was found that haircuts were not often required due to the slow growth of the hair, but that occasional shaving was beneficial. It took a bucket of loose powdered snow to get sufficient water for one cup of coffee, and it seemed that hardly ever could enough snow be melted for a full bath. Cuts, skin abrasions, and minor injuries were slow in healing, a condition not apparent when we began work eight months earlier."

COVERED 400 MILES OF DESOLATE COAST LINE

Among those receiving Letters of Commendation, in 1944, from Admiral R. E. Ingersoll, Commander-in-Chief, United States Atlantic Fleet, was Lieutenant Havlicek, whose citation said, in part, that the Lieutenant "with few tools and amidst rough terrain and severe Arctic storms, succeeded in erecting lighthouses, radiobeacons, and day markers along four hundred miles of desolate coast line. As a result of his successful effort, ships loaded with war supplies and troops were aided in



CONSTRUCTION WORKERS, SHIPPED INTO A NORTHERN OUTPOST TO DO A JOB

navigating the treacherous waters characteristic of the area."

"Lieutenant Havlicek's initiative, skill, judgment, and perseverance, displayed during this period reflect great credit on the United States Naval Service."

AIDS TO NAVIGATION UNDER THE JURISDICTION OF "OPERATIONS" AND "ENGINEERING"

The aids-to-navigation work is under the jurisdiction of several Offices at Washington Coast Guard Headquarters. Commodore F. P. Dillon, Chief of the Aids-to-Navigation Division, heads the "Operations" phase of the program, under Rear Admiral C. A. Park, Chief Operations Officer. Commodore Dillon, a former lighthouse official, expresses the vital importance of this work in these words: "Coast Guard responsibility for the safety of life at sea includes the precautionary measure of establishing and maintaining aids to navigation so that vessels may proceed in safety." His Division works in close collaboration with the Office of "Engineering", whose chief is Rear Admiral Harvey F. Johnson. Lieutenant Havlicek is in the Communications Engineering Division, headed by Captain I. L. Gill, Lt. Frank P. Ishmael is in the Civil Engineering Division, whose chief is Captain R. R. Tinkham.

ARCHITECTURAL ENGINEER IN CIVILIAN LIFE

Lieutenant Ishmael, a graduate of Armour Institute of Technology, came to the Coast Guard as a reserve officer, having been in civilian life an architectural engineer specializing in hospitals and other structures of reinforced concrete. When he arrived in Greenland, late in 1942, the war situation had changed and some changes were necessary in the aids-to-navigation program. Admiral Smith formulated certain modifications and minor changes in the recommendations made by the South Greenland Survey Expedition, after a conference with Lieutenant Ishmael.

LIEUTENANT ISHMAEL'S ACCOUNT

"We commenced work on the installation of aids in December 1942. Many difficulties and hazards beset us in the construction work at that time of the year. Especially during the winter months, a great handicap was the small number of daylight hours, from four to six at most. Farther north from our location daylight hours were even less. Of course, after the sun had reached its solstice, on December 22, the days began to get longer. Over and above the short daylight hours, there was the bad weather. It wasn't so terribly cold -- between zero and twenty-three degrees above, with the lowest temperature about minus fourteen degrees. But the horrible windstorms, foehn winds that sometimes reached a velocity of more than a hundred knots, made working conditions impossible. Accessibility to the proposed sites was also extremely difficult.

"We worked from a ship, one of the ten converted trawlers, about 120 feet in length. There were no facilities for the construction crew, so we had to build a false deck in the hold of the ship and improvise living quarters. Sometimes there was heat, sometimes there wasn't. Ventilation was very poor. It was pretty rugged living for the men.

COAST GUARD OFFICER IS GREETED BY A GROUP OF NATIVE GREENLANDERS

"During the first months of operation, we had to use dories to land construction material at the sites. There weren't any beaches. We had to land on the rocks that were covered with ice. Trying to land men and material from a dory onto a precipitous rock is a tough job in itself. When to that natural hazard are added the high waters splashing about from the heavy ground swells, a situation is created in which the waters are carrying the dory high above the landing place one instant and far below the next instant. Among the materials to be transferred to a precipitous rock was a 200-pound gasoline-type jack hammer which was used for drilling into the rock so we might set up anchors to attach the guy cables intended to secure the structures. (In that way towers could withstand the very worst of weather.) On a number of occasions men fell into the water and were drenched to the skin.

"One of the most dangerous things in the Arctic is to get wet. Men had to undergo amputations of toes or the whole foot just because a piece of snow got into a boot and the foot got wet. (Some authorities recommend putting a wad of grass between the stocking and the boot to absorb sweat. They claim this is not a mere detail, for freezing of the feet often ends in death, and omission of the grass invariably leads to frozen feet.) A slogan of the Arctic is to keep dry. It's a catastrophe for a man to fall into the icy water. We had several accidents, but fortunately no casualties.

"The day before Christmas in 1942, we received word by radio that a bad storm had destroyed the major light on Simiutak Island, at the entrance to Skov Fjord. We immediately set out to replace this light with some substitute. Leaving that evening, we arrived at the site on Christmas morning and installed a minor light in place of the damaged major light, which was beyond repair. We had assembled batteries and the 200-mm lantern the night before. We installed it on Christmas morning. That was our Christmas in Greenland.

"On the way down, we anchored in a small cove and could see an Eskimo village in the distance. The lights gleaming in the little wooden houses, gayly colored bright red, orange, or yellow, made a very colorful and charming scene. Some of the houses are made of wood, some of stone. We learned that a few of the Eskimos had radios, modern furniture, Sears-Roebuck catalogues and other luxuries. Although we were restricted in that we couldn't have contacts with the natives, we sometimes got to talk with them because they would get curious about our work while we were installing aids. The Eskimos would come over in their kayaks, wanting to see what we were doing. They seemed to be naturally mechanical minded and enjoyed watching and being about. A few of them knew some English words, so with the help of gestures and signs we could understand one another. The Eskimo language is too difficult and we couldn't attempt it. A few words, however, we did learn. Simiutak which means cork in a bottle was given as a name to an island in a fjord which seem to cork up the entrance. Sondre means south, and strom means storm. So one fjord was named south storm fjord--Sondre Strom Fjord. We weren't allowed to give cigarettes, candy or other things to the natives, but they'd ask us for the empty oil bottles we threw away and were very appreciative when receiving them.

GOOD NEIGHBOR POLICY

"In December and January we worked on aids. About February, we found that we couldn't continue because of bad weather. I recommended to Admiral Smith that in the interest of safety and precaution it appeared advisable to suspend operations until better weather, after the bad storms had subsided somewhat, about in April. The Admiral concurred, being an exceedingly understanding person, whose long experience in that country made him particularly aware of the dangers we had to experience. So we turned the crew to at the main base, Bluie West One, where our equipment was stored.

"During March we did general base construction and maintenance work, and developed a new type of minor aids. We designed and erected a model of 20-foot day markers and after receiving approval of the model from Admiral Smith, we made about six markers for future use. They were of wood. We pre-fabricated them, making the parts to be installed later when we would have resumed our work of installing aids. Most of the minor aids had been 16-foot towers. These 20-foot structures could be seen from a greater distance.

"From April it was clear sailing. We finished the work in September 1943. Living quarters had been on the ship part of the time and at the base the rest of the time. If we happened to be working too far out to come in for lunch we had sandwiches on the coast. Once we gave cold coffee with condensed milk in it to some Eskimos. Probably they had never tasted this delicacy for they were quite delighted. Ultimately we wound up operations and left Greenland on December 6, 1943.

"My crew of construction men were the finest type of hardy men. I cannot recommend them too highly. The commanding officers of the vessels we used as workships displayed the utmost in cooperation and evidenced seamanship of the highest quality. Lieutenant Commander Magnus Magnusson, Lieutenant Christian Christianson, and Lieutenant John Natwig were outstanding officers, to mention just a few. Lieutenant (jg) F. J. Malloy was the technical advisor for all radio work.

"During the year I spent there none of the structures were wrecked or blown down by the high winds. It's presumed that they're still standing. We spent a great deal of effort to make them as permanent as materials and conditions would permit. I worked directly under Admiral Smith. The Admiral was extremely interested in the Aids-to-Navigation program and spent a great deal of time going over the initially planned project, modifying and improving it so that after I got up there I had more work to do than was originally intended. All work was approved by Headquarters prior to installation. Because the actual development of Greenland as a strategic base of warfare was changed, it became necessary to modify the original recommendations, but substantially the program was the same as recommended by Commander V.C. Gibson. There were a few minor re-locations involved and some additions. The aids were established where they would most help the mariner who was moving to and from the bases."

WARNINGS ISSUED TO NAVIGATORS

CHANGES WITHOUT NOTICE

Due to probable unannounced dangers, in U. S. coastal waters resulting from war operations, shipping was enjoined to obtain routing instructions at each time and

MAIL CUTTER ARRIVES IN GREENLAND

port of departure from proper local United States naval, or if such were not present, United States consular authorities. Mariners were cautioned that the lights and aids to navigation on the coast of the United States and its possessions might be extinguished, reduced in power, or removed on very short notice or without notice, fog signals and radiobeacons might suspend operations and the distinctive appearance of any aid-to-navigation structure as described in the Light Lists might be altered without notice.

WARNING OF A DANGEROUS ROCK

The Coast Guard has been publishing a confidential light list for Greenland. New charts have been made every other year. Typical warnings, later appearing in the regular weekly "Notices to Mariners", and in the "Light List," are the following two descriptions of dangerous rocks. Admiral Smith sent this advance notice of danger on August 6, 1943: "The position of a submerged rock was established by a survey by the USS BOWDOIN on 68° 48' N., 48°15' W. At low water the rock was submerged six (6) feet. Another submerged rock was located one hundred fifty years, 350° true from the above position with eight (8) feet of water over it at low water. Search of the remainder of the area revealed no hidden dangers to navigation not noted on the chart."

ANOTHER DANGER SPOT REPORTED

Ships were warned of a new danger spot on September 13, 1944, when Commodore Rose, Commanding Officer of the Greenland Patrol, sent an official dispatch to all his units in Greenland and to the Hydrographic Office in Washington. The warning was as follows: "Submerged rock dangerous to navigation reported in approximate position 41°48' N., 00°08'05" E., 1.4 miles bearing 97 degrees true from southern tip of western Kekertarsuak Island. Refer to ChartHO miscel number 9450 sheet number 30 dated March, 1941, ALGREPAT 33."

CUTTERS AND PLANES MAINTAIN AIDS

Other problems facing the navigator, besides unknown pinnacle rocks, have been rain, snow, gales, and fog, in addition to icebergs, field ice, storis, torpedoes and mines. As they convoyed ships and performed other duties, cutters explored and built up data, perfecting charts, surveying and making soundings. Planes have gone up on regular patrol to check aids. Coast Guard surface ships and planes have shared the responsibility for the strategically vital job of maintaining aids to navigation in Greenland, where the bases have been dependent upon shipping.

TRANSPORTATION

CUTTERS BRING MAIL AND MOVIES

Besides escorting cargo vessels and transports, the cutters have themselves been loaded with men and supplies for the bases and outlying posts. The arrival of cutters bringing mail are exciting events, according to Commander Hood. Bearded young fellows, comical in their varieties of hirsute adornment, run down slippery slopes to greet a vessel with the familiar Greenland cry, "Have you got any mail?" and their faces broaden into happy smiles when they see the heavy sacks bulging with letters. Actually, the deep silence and isolation affect some of the boys to such

COALING UP FOR A GREENLAND WINTER

a degree, says the Commander, that a return to the States might be imperative if precautions were not taken to relieve the loneliness. The Coast Guard has tried to keep the men supplied with mail and good movies. As one of the fellows put it, "We never see a live woman, so our only pleasure is a nightly movie." Some of the pictures are shown five or six times until new ones arrive.

SUPPLIES FOR ESKIMO COMMUNITY

One cutter carried supplies to a stranded Eskimo village and saved the population from possible death. Their fuel and supplies were exhausted and they were cut off from help. "We loaded our ship and made for the northern town," related Norman Thomas, Coxswain. A Pulitzer Prize winner of 1939, he was assigned to the cutter to make a pictorial record on canvas of Coast Guard operations. Like the other crew members, he had regular duties aboard ship. "As we approached," he continued, "a bad storm blew up. We dropped anchor in the ice-choked harbor. When the storm grew worse, we knew that if we didn't get out of there fast, we, too, would be stranded. All hands, officers and men alike, along with the natives, worked seventeen hours without letting up unloading the supplies. With these ashore, the ship fought her way out of the harbor and back to base."

MENACED BY SUBMARINES AND ICE

Describing a submarine incident, Thomas said that on one occasion during the patrol the cutter was completely surrounded by a U-boat pack and the enemy was closing in to make a "kill" when a storm blew up. The submarines were forced to the bottom to escape the storm's wrath. On another occasion, their cutter was locked in an ice pack after a storm which lasted a day and a half, Thomas related, and there was nothing but ice as far as eye could see. "We were there a full month and were reconciled to remaining indefinitely when a second storm blew up -- the same kind of storm as the one which trapped us -- and it broke up the ice. We pushed our way out to the open sea."

CUTTERS HELP ESTABLISH STATIONS

Cutters carried supplies and men to help establish bases and aids to navigation. The COMANCHE, in August 1942, helped establish an Ice Cap station at Comanche Bay, named in honor of the Cutter. In November 1943, the NORTHLAND arrived at the DF station on Jan Mayen Island, in a thick snowstorm, and landed forty-one officers and men with thirty tons of stores and equipment. The Norwegians in that area called the station "Chicago" because of the machine guns protecting it. The Americans adopted the name. On September 1, 1942, six Coast Guard personnel came aboard the Cutter SC-527 for transportation to Cruncher Island, where the Havlicek party was establishing the radiobeacon and light station with all possible speed. To the end of year the cutter carried freight, passengers, and mail to the three sites under construction.

NEWSPAPERMAN TRANSPORTED BY CUTTER

Until the spring of 1944, Greenland was one of the most strictly censored military areas in the world. None of the personnel could take photographs and only the scantiest details could be disclosed in letters home. War correspondents were not permitted to visit the bases and outposts. After the United Nations gained control of the North Atlantic,

PROTECTIVE COVERING

however, considerable information was released. The first correspondent allowed to visit Greenland was Martin Sheridan of the Boston Daily Globe, who was transported by the CGC Comanche that spring. His comments give a good idea of life in Greenland, ashore and afloat.

ROUGH SEAS AFFECT CREW

A few hours after the COMANCHE had departed, a fifty-mile gale blew up out of the northeast and the seas became very rough. It was cold enough for snow, but the ship did not ice up too badly. However, she rolled and pitched, Sheridan related, with a peculiar jerk on the last beat that almost tore everybody's stomach apart. Half of the officers and men were seasick. Messboys sat around holding their heads and stomachs. For most of the personnel it was the first sea duty. They neglected to lash down charts and stow away everything movable, and as a result of this inexperience they learned the hard way. For furniture was flying through the ship as she pounded through the heavy seas. Nobody could sleep because it was necessary to hang on and brace oneself in the bunk to avoid being thrown out.

LIFE AT AN OUTPOST

That winter and early spring, an island outpost was iced in and the men were forced to roll barrels of fuel and other supplies over two miles of ice to their barracks and warehouses. Most of the time they lived on C-rations. "Our life here isn't too uncomfortable," some of the boys tried to assure their visitor. "We are so busy fighting the weather we don't have much opportunity to get homesick. Repairs must be made during big blows and we have plenty of them. We've had 165-mile winds sweeping over the rocks, driving heavy snow into our faces. That's when our masks and goggles come in handy."

ARMY OFFICERS TRANSPORTED

Leaving an engineer behind to solve the water supply problem, the COMANCHE departed. The wind rose from minute to minute until it reached eighty miles per hour and whipped cold, biting spray into the men's faces. The skipper, Lieutenant Langford Anderson, was forced to steer within fifty feet of the rocky shore, with very little water under the hull, because of several huge bergs that towered above the ship and drifted about in the center of a new fjord they were entering. The cutter finally came to a stop in a field of broken ice, a quarter mile from the shore, to await an Army launch coming to get mail and supplies. Two colonels had visited the outpost on an inspection tour and returned well pleased with the morale of the men. "Would you believe it? The only thing they asked for were shooting irons to do a little hunting for some Nazis," one colonel said. "I'll see that they get them, too."

VISIT AT A QUONSET HUT

On one occasion, the Commanding Officer of the Base, Commander Immanuel Desses, invited Lieutenant Anderson and the newspaperman to visit his Quonset hut. Climbing through soft snow, they found the hut nearly hidden by tall snowdrifts banked about it. The wind-packed snow helped keep the building warm, protecting it from the cold winds blowing in from the Ice Cap. Within the Quonset hut, the Commander's quarters were surprisingly confortable, furnished with easy chairs, carpet, an electric hot-water

GREENLAND PATROL OFFICER

heater, and a refrigerator. In a place with millions of tons of ice and in a temperature dropping to eighty degrees below zero, the refrigerator was, nevertheless, the only means of preserving perishable food, because the outdoor temperatures varied constantly.

CONCRETE BLOCKS HELP BREAK ICE

A Coast Guard tug, sailing with Army Engineers and mail for one of the islands, took Sheridan aboard early one morning and at seven a.m. she began to grind her way at half speed through ice that had been broken by two Coast Guard cutters a half-hour earlier. As she proceeded, huge cakes three feet thick with more than twelve inches of snow atop them, splashed and crashed into the sturdy little ship, which bounced from one side of the broken channel to the other. To further break the ice, four blocks of concrete, weighing six hundred pounds each, lay on the after deck to lift the bow high enough to climb a few feet on the virgin ice and break it by sheer weight of the vessel. That device worked very well. They dodged huge icebergs, greenish-blue masses, almost mirages, looking at times like eerie battleships, airplanes or even submarines.

ERRATIC WEATHER

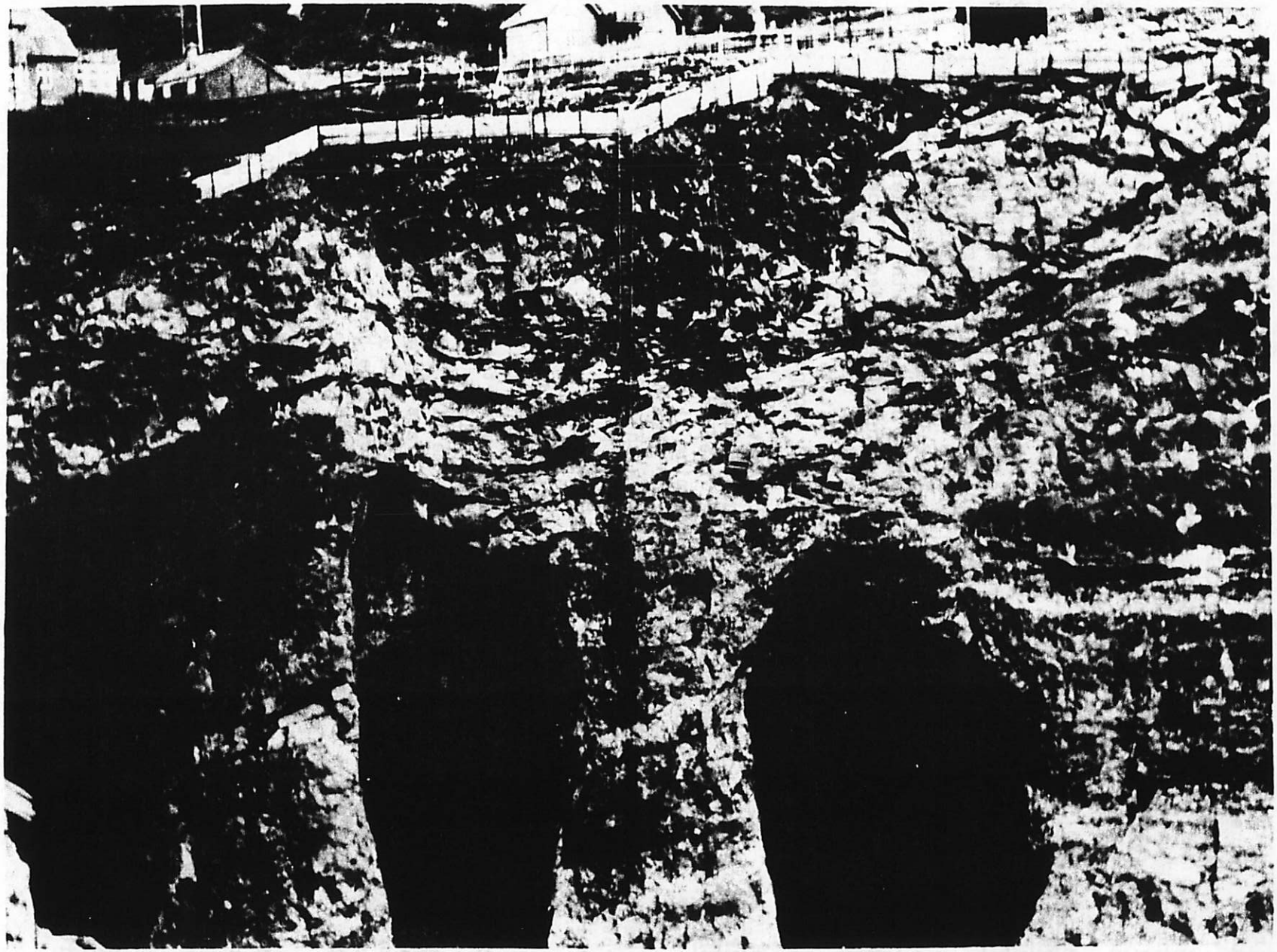
At one time the barometer became abnormally high, then began to drop quickly, more than one-tenth of an inch per hour. The wind changed to southwest and increased to seventy-five miles per hour. With the wind on her tail, the cutter made good headway although she continued to roll continually to forty-eight degrees. The lights didn't work in their room that morning and finding their clothes in the dark while the ship was gyrating was an acrobatic problem. "When Lieutenant Spencer and I walked out on deck," related Sheridan, "he had half of my clothes on, and I half of his." Snowflakes as big as lima beans covered the deck with slush but fortunately the air was warm and there was little icing. As the cutter steamed farther south, warmer weather was encountered.

LITTLE SICKNESS

When Sheridan awoke with a sore throat he reported to Dr. Arno MacKellop, USPH surgeon, in the tiny three-by-five-foot sick bay. There he received some pills and learned the surprising fact that men on duty in the Arctic are seldom sick. There is very little disease. "Nobody had a cold or sore throat," said the Doctor "until we arrived in Boston last November during the flu epidemic and nearly everybody caught the germ. I've never had to treat a case of frostbite," he continued, "because in cold weather, the deck and gunnery watches are slashed in half, with the men remaining out for only an hour or two instead of four. This and the fine winter gear of the crew prevents it."

WARM CLOTHING AND OTHER PRECAUTIONS

Clothing consists of one hundred percent wool underwear, wool socks, overshoes, heavy khaki trousers with blanket lining, heavy alpaca-lined parkas, face helmets and goggles. Morale is further upheld by frequent warm-ups in the form of mugs of steaming hot coffee. On special occasions, [illegible] do long duty on deck, as when rescue work has to be done in so[illegible]ng storm, a ration of sick-bay whiskey is furnished to each person. [illegible]ing a freighter break up in a storm and survivors frantically fighting for their lives calls for some bracer to keep



CRYOLITE MINE AT IVIGTUT

the rescuers in tip top condition. One such occasion arose when the COMANCHE rescued the twenty-nine men and the dog from the NEVADA, after the freighter broke up in a frightful storm. Dr. MacKellop recommended that eight men on his ship be put on shore duty because of chronic seasickness. "It's impossible for them to stand watches," said the doctor, "and the safety of the ship is endangered when other men are forced to stand double watches."

SUBMARINES AND OTHER CONTACTS IN BLINDING SNOWSTORM

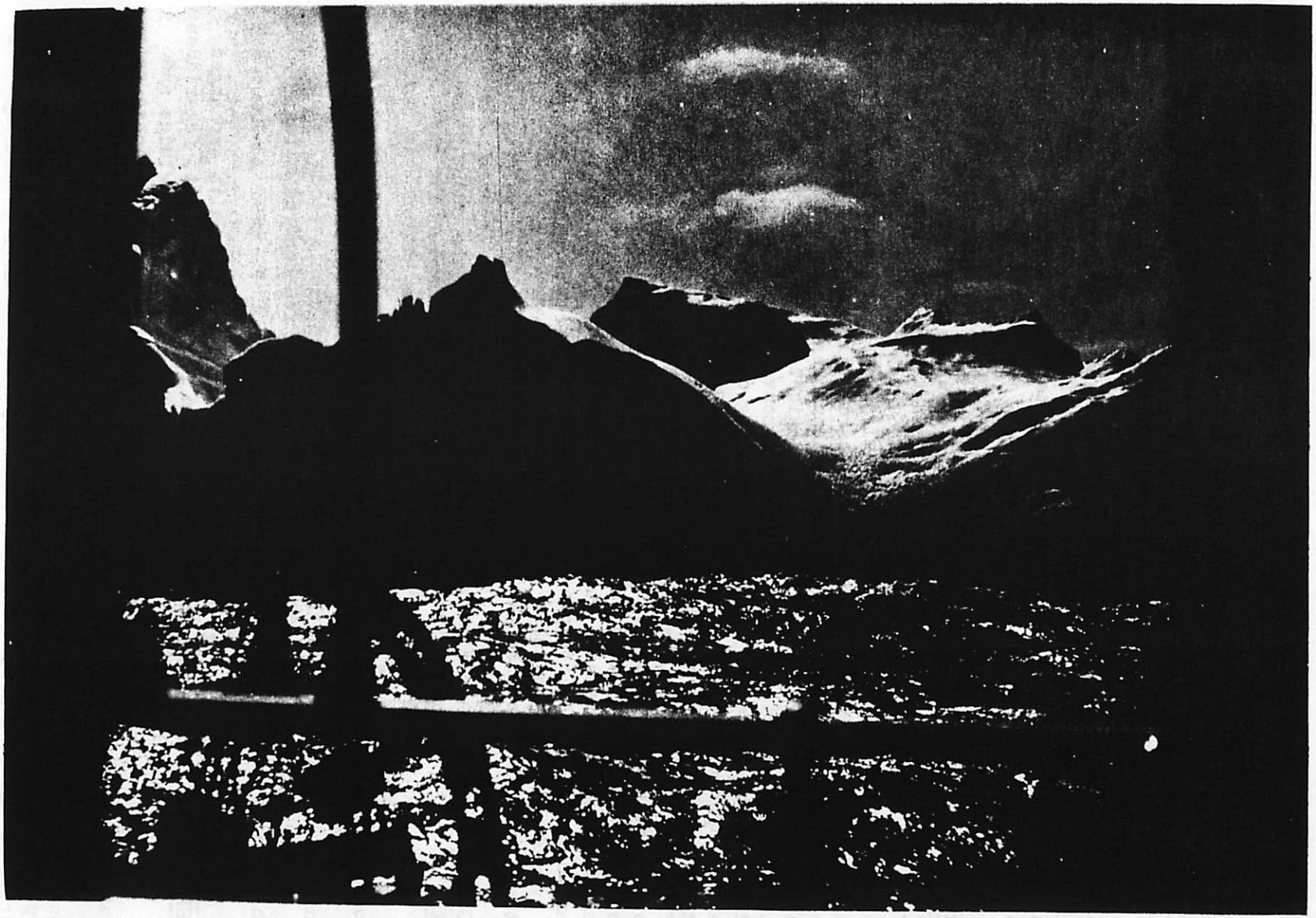
The following morning the soundman reported a submarine contact. The cutter dropped a pattern of depth charges and signalled the freighter which was being escorted to change her course and keep going. That evening the cutter and her charge had drawn together again and safely entered a fjord. Unable to see their course ahead because of a blinding snowstorm, the vessels felt their way through some large icebergs and growlers. A flock of ducks, blinded by the cutter's lights, flew into the ship and dropped unconscious to the deck. The skipper kept one of the birds in his shower stall for several days before turning it loose. The ship reached a peaceful little bay at about eleven o'clock that night, far from the open sea, and dropped anchor.

CRYOLITE CHIEF EXPORT

The cryolite mine at Ivigtut is the chief pride and joy of the Greenland Administration because the ore, used in making aluminum, is Greenland's chief export. The general manager of the mine lives in a gaily painted building with an interior like the pictures in House and Garden magazine. There is a hot-house with lettuce, radishes, and carrots; a solarium with a stone floor and temperate zone plants; rugs, fireplace, piano, and attractive modern furniture.

The white mineral was discovered in 1805, but it was not used until 1865 to fix enamel in iron pots and to make milk glass. In the latter half of the nineteenth century, when the aluminum industry was founded, cryolite was the principal flux. Today bauxite is used in increasing amounts although it has a higher melting point. Before the war, all shipments were sent to Denmark and trans-shipped to England, Germany, Japan, Russia and other countries, including the United States. Since 1940, however, practically all the raw cryolite has been shipped directly to the United States, some going to Canada.

Most of the miners formerly were merchant seamen on Danish ships. This colony at Ivigtut was the only place they could go to when their ships were tied up in foreign ports after the Nazi invasion of Denmark. Among the miners are also a few Americans and Canadians. The most popular entertainment is moving pictures, provided by the Army and the Coast Guard. One Dane was afraid to carry more than ten dollars on his first visit to the United States because he expected to find street warfare as depicted in gangster stories. Several misconceptions about Americans were cleared away after our military forces arrived. Coast Guard officers stopping at officials' homes find the hospitality effusive.



SECTION OF LARGE ICEBERG

WEATHER PATROL

SPECIAL WEATHER STATIONS

Ever since Pan American and Imperial Airways opened the New York - Bermuda service, in the summer of 1939, the Coast Guard has maintained a special weather watch with monitor stations on board cutters at sea. This service was broadened early in the war in order to guard planes flying to England by way of the North Atlantic route. The threat of icebergs had been greatly minimized by the International Ice Patrol. But sudden currents of icy air still remained as a terrific hazard to airplane pilots.

NORTH ATLANTIC WEATHER REPORTING

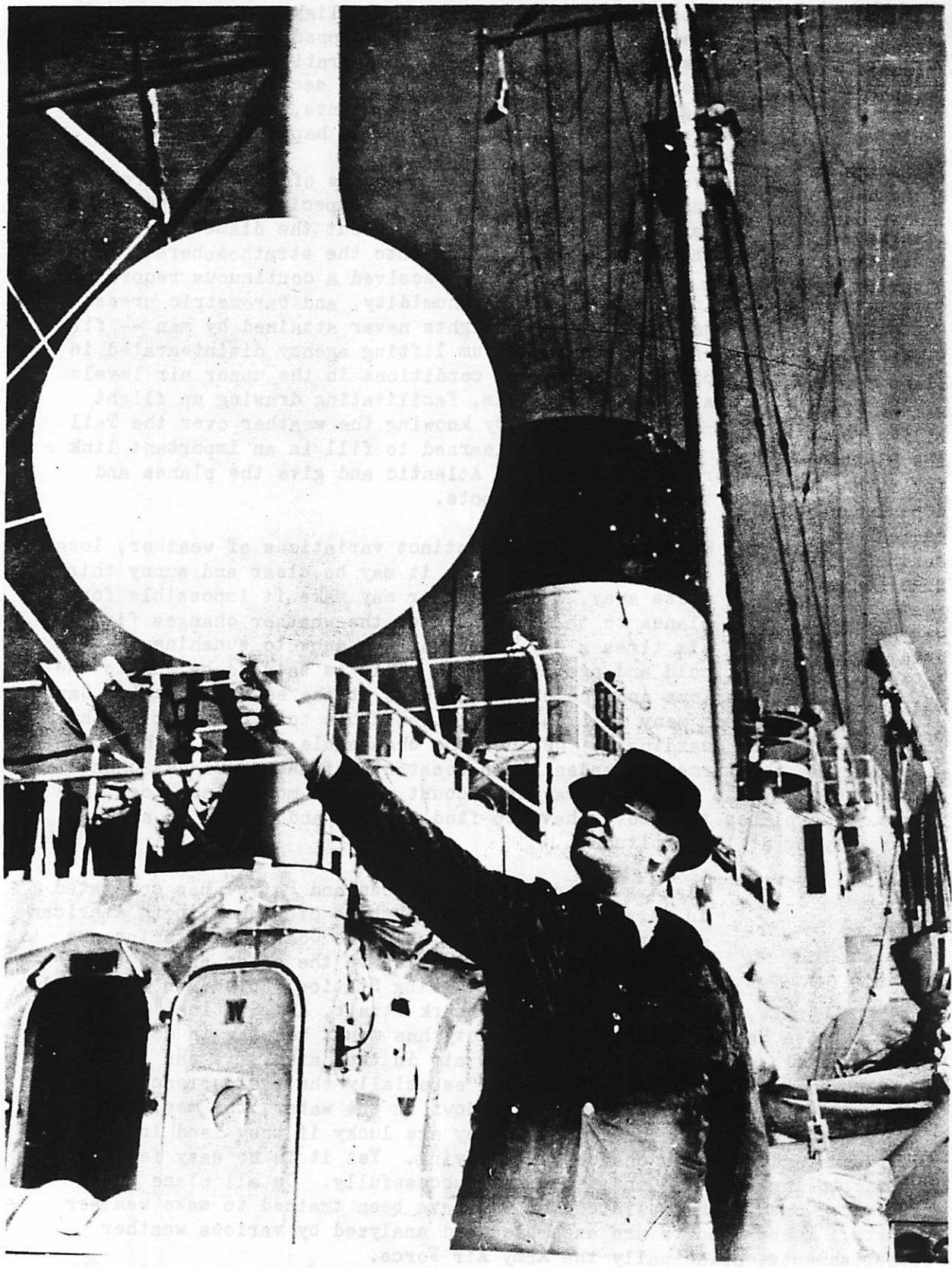
Following the precedent set during the years 1917 and 1918, when the United States was a belligerent in World War I, the Service of International Ice Patrol and Observation, as normally conducted during peacetime, was suspended in December 1941, when this country declared war on the Axis. Nevertheless, the Coast Guard still had the responsibility for furnishing accurate information about weather conditions and the positions of ice floats and bergs, in the iceberg regions. This information became especially important as the convoy escort operations depended on such knowledge. With the beginning of war, the usual source of weather reports in the North Atlantic was closed, since all vessels making trans-Atlantic voyages had to maintain radio silence. To meet the need for weather reports, the Coast Guard instituted a North Atlantic weather reporting patrol consisting of several ships equipped with special weather observation apparatus. The services of these ships have proved invaluable to surface vessels and also to trans-Atlantic aviation engaged in transportation and in ferrying bombers to Great Britain. Allied air raids over Europe, the invasion on the Normandy coast, and other Allied operations have utilized the weather data provided by these patrol ships.

LOSS OF THE CAVALIER

The necessity for making further studies of cold air currents was brought to a focus when the Imperial Airways flying boat CAVALIER plunged into the ocean, on January 21, 1939, as unexpected ice clogged the carburetors of the plane's four engines. Three persons were killed. If the pilot could have received information by radio that low temperatures prevailed on his regular route, that disaster could have been avoided. For it is an easy matter for a skilled pilot to swerve a few hundred miles from his course to avoid bad flying conditions.

STUDY OF STRATHESPHERE

Beginning in April 1939, Commander E. H. Smith exchanged the comforts of civilization for the turbelent, fog-ridden Grand Banks of Newfoundland, applying his knowledge and skill to make the trans-atlantic ocean and air lanes safe for passengers. As the leader of the Ice Patrol, he followed the routine of other years, warning ships away from icebergs, studying the ways of ocean currents, the drift of polar ice, and the pressure of the atmosphere. And this year, aboard the CGC CHELAN, he added a new job. He was to study the mysteries of the strathosphere as another step in setting up and maintaining



the routes of the trans-Atlantic passenger plane flights due to get under way that June. By the use of small balloons, equipped with an ingenious radio device, the Coast Guard expedition, in cooperation with the Weather Bureau, correlated the weather conditions of their section of the North Atlantic with the conditions at other selected points, and thus planned to enable pilots to get a true picture of what was happening in the air.

RADIO MESSAGES FROM BALLOON

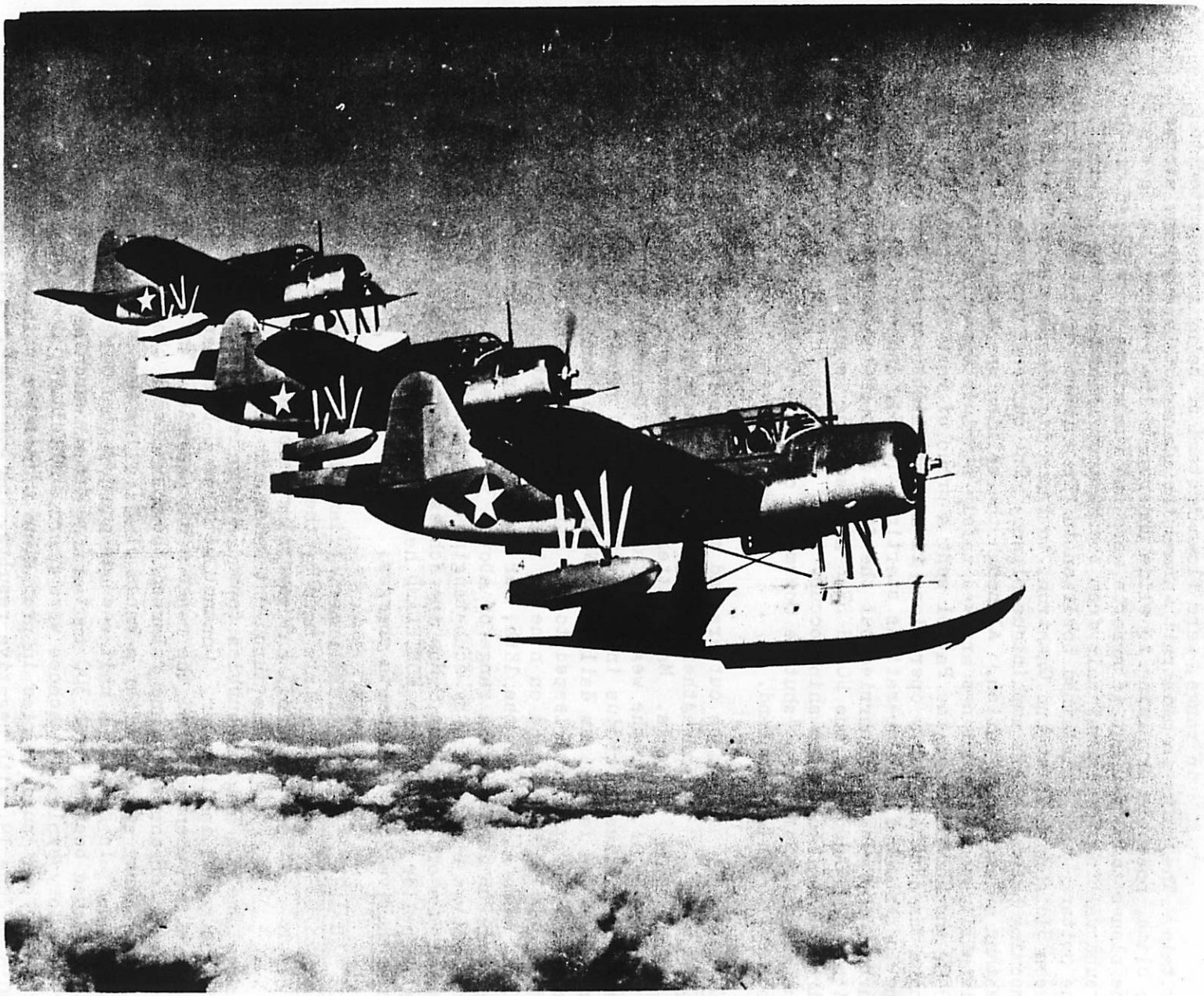
Every day during the long months of the Ice Patrol, Commander Smith and his corps of specially-trained assistants sent these balloons, about the diameter of a dining room table, soaring into the strathosphere. The observers aboard the floating laboratory received a continuous record of radio impulses showing the temperature, humidity, and barometric pressure. Floating free, the balloons rose to heights never attained by man -- fifteen miles or more -- until their helium lifting agency disintegrated in the rare air. The picture of weather conditions in the upper air levels were shown on a rotating graphic drum, facilitating drawing up flight plans for the trans-Atlantic hops. By knowing the weather over the Tail of the Grand Banks, the forecasters learned to fill in an important link in the whole weather map of the North Atlantic and give the planes and the ships a chance to avoid the bad spots.

CHANGEABLE WEATHER AND HIGH MOUNTAINS

Greenland has two distinct variations of weather, local and general. Although it may be clear and sunny thirty miles away, local weather may make it impossible for planes to take off. Often the weather changes five or six times a day, from rain to snow to sunshine then to cold and again to warm. This is said to be due to the deep fjords and valleys and the high mountains at the edge of the Ice Cap. Weather reports from many stations make it possible to keep track of the changes and plan accordingly. Besides the changeable weather, other conditions make the airmen dependent upon constant guidance. Planes cannot circle the coast in the usual way on account of high mountains, fogs, and winds. The planes therefore, have to find a fjord and follow it a few miles, flying at low altitude.

PLANE GUARD DUTY

Plane guard duty of the Greenland Patrol has consisted in serving the enormous numbers of planes, both American and British, in that area. The Coast Guard ships are stationed at certain places in the ocean and in the Straits, among these being Station "Able", in the middle of Davis Strait, Station "Baker" in Denmark Strait, and Station "Cast" south of Cape Farewell. Plane guard duty has meant keeping in continuous touch by radio with every plane in the air in that area. It can readily be seen what this must mean to pilots, especially the inexperienced, in such a climate, where if a plane goes down in the water, the men stand only one chance in many of living. They are lucky if they land in ice for they stand a better chance of surviving. Yet it is no easy feat for a plane to land on ice, and few do it successfully. On all plane guard ships are Coast Guard enlisted men who have been trained to make weather reports. These reports are assembled and analyzed by various weather establishments, principally the Army Air Force.



THE EYES OF THE COAST GUARD

PLANES AWAIT SIGNAL TO GO

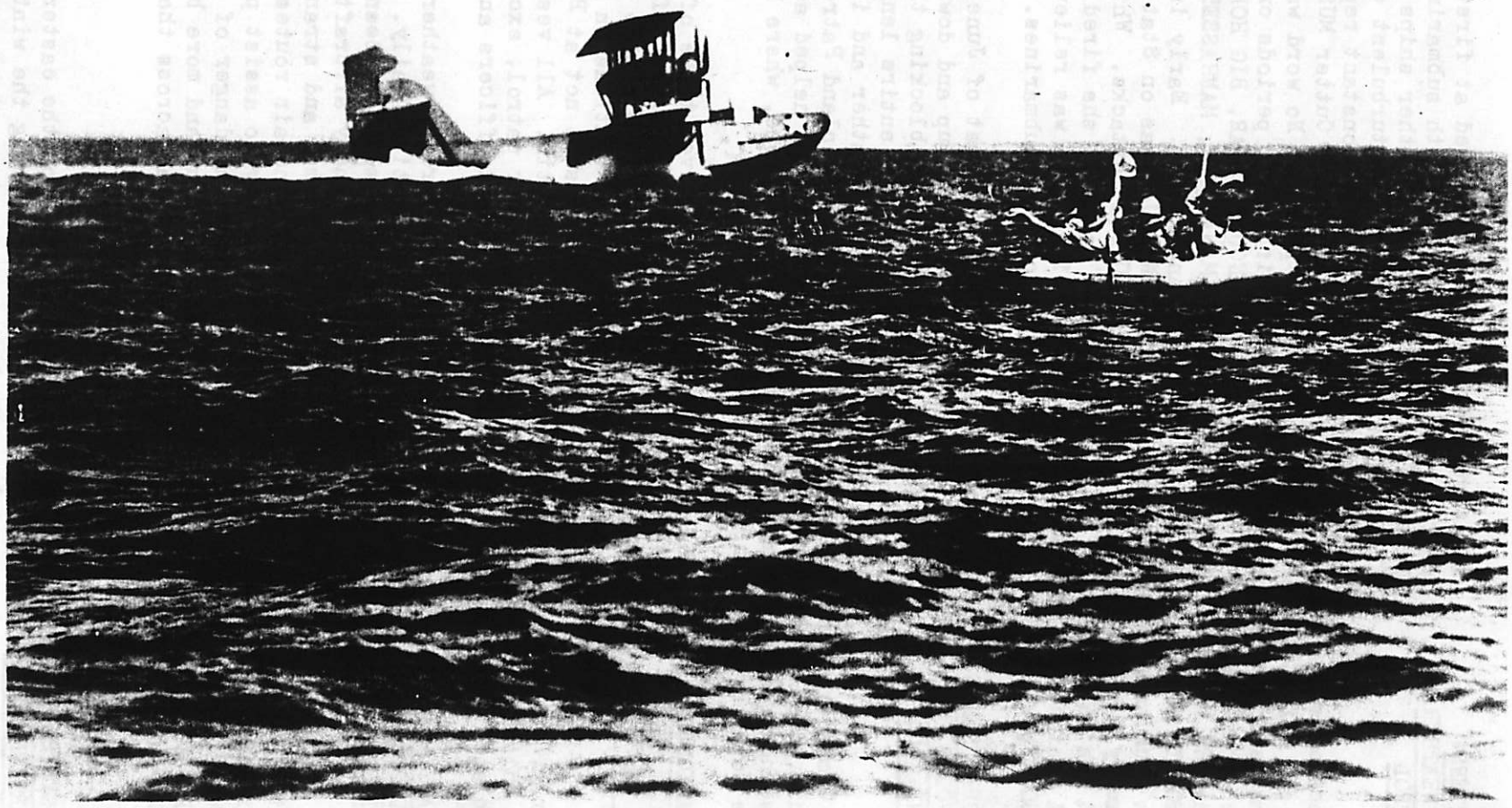
The weather ships assisted greatly in the ferrying of bombers from west to east. A heavy load was taken off cargo vessels as fighter planes also, with an increase in range, were flown instead of being transported to Britain. The ships in midstrait warned the planes of head winds, storms to climb, possible sky icing to slide under. If the weather was favorable the planes took off, but if reports were bad the aircraft remained on the ground waiting for the signals from the weather ships. On May 14, 1942, the cutter MOHAWK maintained position in the entrance to Skov Fjord, between Bluie West Three and Gamatron, to transmit radio bearings for an incoming patrol of six amphibious planes. The cutter furnished them local weather and ice information. Although the ceiling was unusually low and visibility poor, all planes arrived safely at Bluie West One. On May 23, 1942, the Commander of the Patrol sent a group of vessels to act as guard ships for Army Air Ferry operations in a test flight scheduled for May 29 and in regular flight operations starting June 8. Anchored in Fishmasters Harbor, the NORTHLAND carried out the first part of the order on May 29, with the COMANCHE and the NORTH STAR also serving as guards. The order directed that the guard ships occupy their stations on June 8 to assist the Army Air Command's "shuttle movement" of fifty transport planes, Labrador-Greenland-Iceland.

NORTHLAND ATTACKS SUB

Large cutters and smaller ones have taken their turns on weather station duty, each tour usually lasting two weeks. Many cutters have encountered submarines close to the weather stations. While patrolling a circular area sixty miles in radius in Davis Straits, and reporting weather to Army Base One four times daily, the NORTHLAND, on June 18, 1942, made an underwater contact and leaped to the attack. The cutter had been patrolling since June 11 at a speed on nine to ten knots in Latitude 69°N., Longitude 30°W., when at 0930 on the 18th, her Q. C. apparatus registered faint echoes bearing 265 degrees at a range of about 2300 yards. One minute later a firm contact was established by echo-ranging with the target bearing 265 degrees, at a range of 1900 yards. Now the echoes became clear and sharp accompanied by propeller noises. The NORTHLAND headed for the submarine and at 0945, dropped five 300-pound depth charges.

OIL AND AIR BUBBLES SEEN

Turbulent water, triangular in shape, was sighted between the swirls made by the first and second charge explosions. Soon oil and several rows of air bubbles appeared adjacent to the turbulent water and close to the first depth charge wake. The oil and air bubbles formed a path leading from an oil slick one hundred yards in diameter. Contact with the U-boat was lost for about two minutes and when regained the range was 560 yards. The NORTHLAND headed straight for the enemy and released the first depth charge of the second attack thirty seconds after a range of 140 yards was indicated on the sound apparatus. In six and a half seconds another charge was dropped. Both charges had been set for 300 feet. Immediately after the explosion, strong reverbatory explosions echoes were heard and felt. Oil and bubbles in the vicinity continued to rise in profusion. After searching continuously until 0015 on June 19, with negative results, the NORTHLAND, with only two depth charges aboard, left the area for Iceland to receive emergency repairs. The general conviction was that the submarine had received two lethal hits.



"SURVIVORS" HAIL COAST GUARD RESCUE PLANE

CUTTERS ON WEATHER PATROL

Relatively small ships were used at first on weather patrol, and many skirmishes with submarines were gallantly fought out with the weather ships as winners. The hard wear and tear of the turbulent ocean and the submarine warfare called for constant repairs and replacements for the little ships. The Coast Guard Cutter MUSKEGET was lost at sea a few days after going on weather patrol. No word was ever heard from her. Among the vessels used for fairly long periods on this strenuous duty were: the ACTIVE, ALATOK, ALGONQUIN, BEAR, BIG HORN, BLUEBIRD, COMANCHE, CONIFER, ESCANABA, EVERGREEN, MANASQUAN, MANHASSET, MENEMSHA, MONOMOY, NORTHLAND, SEA CLOUD, STORIS, and TAHOMA. Early in 1943, there was much enemy submarine action. The MANASQUAN was on Station 2 from January 3 to 23 that winter during many U-boat attacks. While the MENEMSHA was on Station 2 from February 14 to March 7, she fired on a submarine, all indications pointing to its destruction. She was relieved by the MONOMOY, who in that tour of duty drove off two submarines.

STORIS SENDS REPORTS IN JUNE 1944

In the last week of May and most of June, 1944, the STORIS cruised at slow speeds up and down Brede Fjord to observe the heavy pack ice blocking the entrance. Scattered storis extended the entire length of the fjord. The cutter submitted local weather and ice information to Commodore Rose, then the Commander of the Greenland Patrol, every four hours. Her reports with many others early in June helped advise General Eisenhower of oncoming weather conditions in Europe, where he was planning the Normandy invasion.

STATIONS INCREASED TO SIX

The weather observations proved to be of such great value that in the spring of 1944 the number of stations was increased from two to six. To minimize the time needed to travel from shore to the stations in mid-ocean, it was decided to base the vessels not at Boston, as formerly, but in advance naval bases in the Atlantic. All vessels assigned to this duty since the beginning of the weather patrol, except in a few isolated cases, have been manned by Coast Guard officers and enlisted men.

READY TO AID STRANDED FLIERS

The cutters have been forwarding weather reports to base stations from six to eight times daily. On patrol twenty-four hours a day, these vessels have been on the lookout for trouble in any form: enemy aircraft, surface ships, and submarines, sudden storms, and stranded planes. The cutters, mostly 165-footers, stationed along the air routes, have furnished airmen with weather information and stood ready to assist planes forced down. Plane guard duty has cut to a minimum the danger of forced landings, especially as American production has stepped up and more bombers on their way to the fighting fronts, have roared overhead across the top of the world.

ICE INFORMATION

CONVOYS ROUTED FARTHER NORTH

Intense submarine activity on the eastern coast of the North American Continent during the winter and spring of 1942 made it necessary to route convoys through areas normally endangered by pack ice and icebergs. Routes

A COAST GUARD OFFICER ON AN ACTIVE GLACIER

lying close under Cape Race, Newfoundland, were shorted than more southerly routes to Great Britain, and especially to Greenland, Iceland, and the Arctic ports of Russia, areas which did not figure prominently in the last war. Furthermore, inshore routes permitted of maximum effective aircraft surveillance.

ICE INFORMATION DETACHMENT

As safe and efficient use of these routes required knowledge of ice conditions, an Ice Information Detachment, composed of Coast Guard personnel experienced in the International Ice Patrol, was detailed to Argentia, Newfoundland. This detachment was part of the Staff of the Commander Greenland Patrol assigned to temporary duty with the Staff of the Commander Task Force 24, United States Atlantic Fleet. The Ice Information Detachment assumed, in so far as practicable, the duties performed by the International Ice Patrol in peacetime, serving primarily as a clearing house for ice information for the United Nations.

TWO TYPES OF ICE

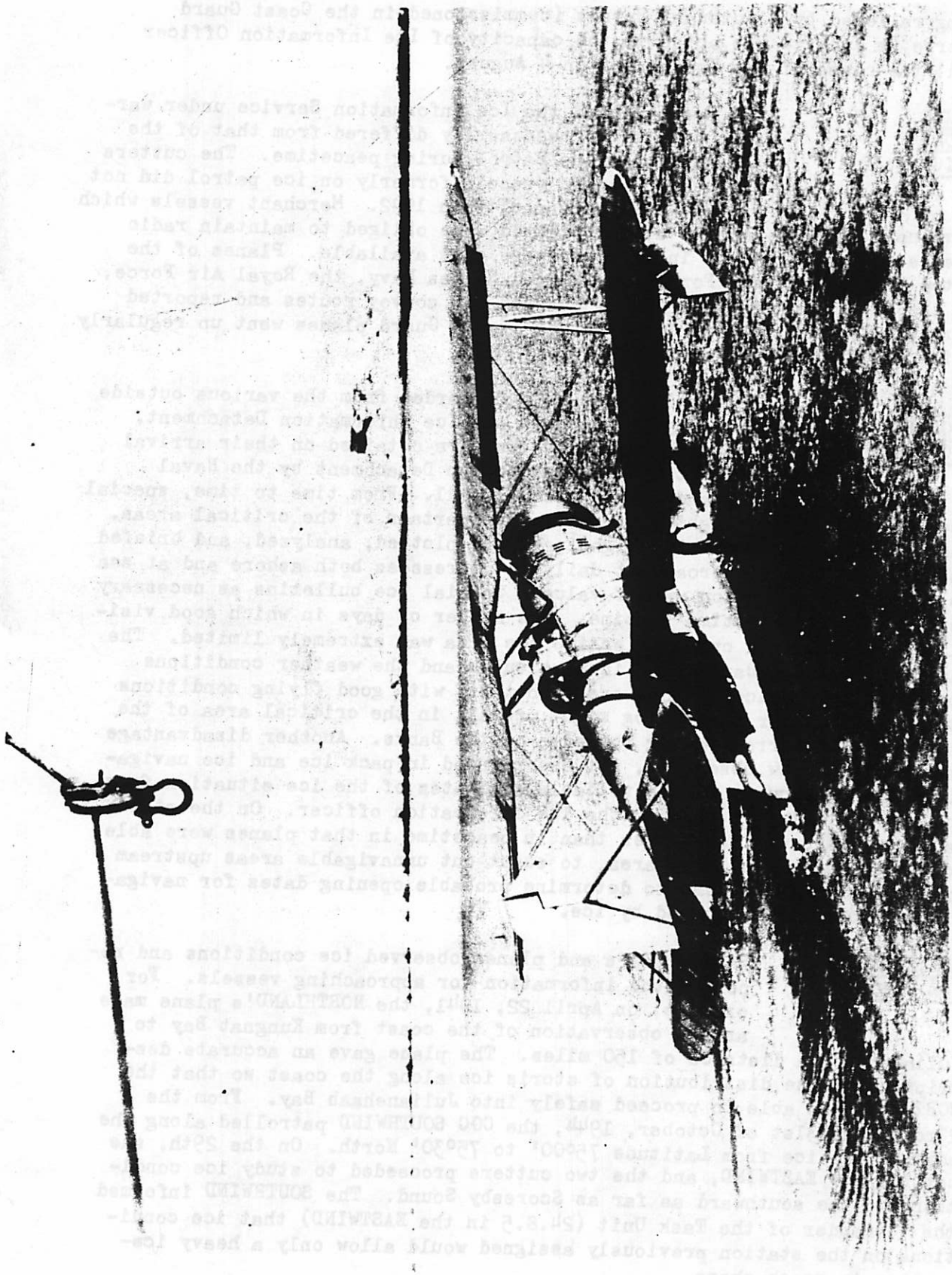
In the past, the International Ice Patrol was concerned chiefly with two types of ice: glacier ice, which drifts down across the Grand Banks area in the form of icebergs, or fragments of bergs called growlers; and sea ice, formed in Arctic regions, masses of which during the spring months occasionally drift south over the Grand Banks in floes or large fields. These are the only general types of ice possessing the bulk prerequisite for an ocean journey through subarctic and temperate regions to destinations far from their points of origin. Ice formed in rivers, inlets, and bays, although immensely important in a particular area, has been a local problem and not one for the Ice Patrol.

ICE AREAS WATCHED

Critical ice areas for trans-oceanic shipping following northerly courses are: the outlet of the Gulf of St. Lawrence from Cabot Strait to the edge of the banks in the vicinity of Sable Island; the Grand Banks area from south to east of Newfoundland; the region south and southeast of Cape Farewell; and in special cases Denmark Strait. If the ship's course is shaped to pass south of the ice at these points, there is practically no danger of encountering ice between them. The St. Lawrence River and the Gulf of St. Lawrence are of major local importance, and ice conditions there, especially during the spring breakup, are closely watched by the Canadian authorities. The Ice Information Detachment was concerned therein chiefly with the main shipping routes leading across the Gulf from the River. Considerable attention was given to Southwest Greenland, the Canadian Arctic, and especially to the Labrador Coast, due to its strategic position immediately upstream from the Grand Banks.

PERSONNEL OF DETACHMENT

The personnel of the Ice Information Detachment during the 1942 season comprised Lieutenant Commander G. Van A. Graves, Principal Physical Oceanographer Floyd M. Soule, Associate Physical Oceanographer Clifford A. Barnes, and two coast Guard yeomen. Mr. Soule and one yeoman were withdrawn and assigned to other duties in May when it became apparent that the ice season was so light that their services could better be used elsewhere. Lieutenant Commander Graves was assigned to other duties in July,



COAST GUARD AMPHIBIAN PLANE PUT OVER THE SIDE

being relieved by Lieutenant Barnes (commissioned in the Coast Guard Reserve in June), who acted in the capacity of Ice Information Officer until the close of the ice season on 4 August.

PLANES REPORT ON ICE

The operation of the Ice Information Service under wartime conditions necessarily differed from that of the International Ice Patrol during peacetime. The cutters and oceanographic vessels formerly on ice patrol did not operate in that capacity in 1942. Merchant vessels which previously radioed reports of ice sighted were obliged to maintain radio silence. New sources of information were made available. Planes of the United States Army Air Force, the United States Navy, the Royal Air Force, and the Royal Canadian Air Force, covered the convoy routes and reported on return from flight any ice sighted. Coast Guard planes went up regularly on ice observation patrols.

ICE REPORTING PROCEDURE

These sightings were forwarded from the various outside bases by dispatch to the Ice Information Detachment. Ice sightings by ships were obtained on their arrival in port and relayed to the Detachment by the Naval Command at the port of call. From time to time, special ice reconnaissance flights were made over certain of the critical areas. The incoming reports of ice sightings were plotted, analyzed, and briefed into an ice bulletin broadcast daily to addressees both ashore and at sea to whom the information was of value. Special ice bulletins as necessary were broadcast from time to time. The number of days in which good visibility was obtained over the entire ice area was extremely limited. The size of the Grand Banks area in particular and the weather conditions there during the ice season were such that, with good flying conditions at the various air bases, fog might prevail in the critical area of the main Labrador Current along the edge of the Banks. Another disadvantage was that many new observers, not experienced in pack ice and ice navigation, had difficulty making reliable estimates of the ice situation from the air and relaying them to the ice information officer. On the other hand, coverage was far better than in peacetime in that planes were able to survey quickly a large area, to scout out unnavigable areas upstream from shipping lanes, and to determine probable opening dates for navigation to localities blocked by ice.

INSTANCES OF ICE REPORTING

Both cutters and planes observed ice conditions and reported the information for approaching vessels. For example, on April 22, 1941, the NORTHLAND's plane made an ice observation of the coast from Kungnat Bay to Julianehaab, a distance of 150 miles. The plane gave an accurate description of the distribution of storis ice along the coast so that the NORTHLAND was able to proceed safely into Julianehaab Bay. From the 23rd to the 31st of October, 1944, the CGC SOUTHWIND patrolled along the edge of the ice from Latitude 75°00' to 75°30' North. On the 29th, she met the CGC EASTWIND, and the two cutters proceeded to study ice conditions to the southward as far as Scoresby Sound. The SOUTHWIND informed the Commander of the Task Unit (24.8.5 in the EASTWIND) that ice conditions on the station previously assigned would allow only a heavy icebreaker to reach shore.

COAST GUARD LIEUTENANT JOHN A. PRITCHARD, JR., STANDS ALERT

COAST GUARD AVIATION IN GREENLAND

CUTTER-BASED PLANES

Long before Pearl Harbor, Coast Guard aviators operated in Greenland from cutter-based planes. Admiral Smith reported that without the NORTHLAND's plane the South Greenland Survey Expedition could not satisfactorily have made its survey. After war was declared, Coast Guard planes, flying from the cutters, maintained anti-submarine patrols over wide areas of the ocean. In their flights on coastal patrol and over convoy lanes, the airmen's toughest battles have been against the elements: gales, icy rains, heavy fogs, unexpected storms. Coming down on the Ice Cap presented new dangers in the form of treacherous crevasses and sudden popping open of the ice which appeared solid enough for a landing and then would suddenly crack.

PERILS OF THE ICE CAP

The glacier ice is said to be filled with an immense number of small air bubbles under strong pressure, so that even pressure with a needle is sometimes sufficient to break the ice with a noise like an explosion. Quite often, icebergs will crumble into fragments from the explosive action of these small bubbles. Bergs "rotten" at the top will topple at the shot of a gun or the sound of a voice. For this reason Greenlanders are said to keep perfectly quiet when they pass close to an iceberg. Airmen have performed heroic rescues of fliers forced down on the Ice Cap far from help and surrounded by countless dangers, not least of them the unpredictable cracking of the ice into which men fall to their death.

PRITCHARD ASSIGNED TO OVERLAND RESCUE

Lieutenant John A. Pritchard, Jr., Coast Guard aviator, operating from his mother ship, the NORTHLAND, successfully flew the hazardous air lanes of the North Atlantic in his amphibian plane for nine months, covering thousands of square miles on war patrol duty. On November 23, 1942, the Coast Guard was asked to rescue three Canadian airmen stranded near the coast of Greenland. Lieutenant Pritchard was assigned to lead a rescue party ashore to hunt in the wasteland for the occupants of the wrecked plane. The cutter fired flares and star shells, and sent the stranded men a message in Morse: "Move back from edge of glacier and bear south to meet the landing party." The Canadians later related how they yelled and pounded one another when they received that message. It was their fourteenth day of torture on the Ice Cap and they had almost given up hope.

CANADIANS ARE RESCUED

The Ice Cap was heaving and every hour or so a thundering noise echoed through the mountain ranges. Using skis and snowshoes to get over the glacier ice, the Coast Guard shore party, after many hardships in the sub-zero weather, finally met the Canadians and carried them to the cutter. Help had not come a moment too soon, for the stranded men were on the verge of collapse and almost frozen stiff. They had made a bonfire of their parkas in a desperate hope of attracting the attention of the Coast Guard ship. Taken on board the NORTHLAND, the Canadians were rushed to the sick bay and treated for shock and exposure. In gratitude for this rescue, the Canadian Government presented a plaque to the Coast Guard to commemorate the great friendship existing between the two countries.

THREE CANADIAN FLIERS RESCUED FROM THE GREENLAND ICE CAP CHAT WITH U. S. COAST GUARD LT. COMMANDER FRANCIS C. POLLARD

FLYING FORTRESS DOWN ON ICE CAP

Five days later, while the cutter, commanded by Lieutenant Commander Francis C. Pollard, was on patrol deep within the Arctic Circle, word was received that U. S. Army. planes had made contact with the crew of a Flying Fortress two weeks previously. The stranded men were said to be short of supplies and suffering from intense cold. The Coast Guard was asked to attempt a rescue, although a landing on the Ice Cap was thought impossible.

PRITCHARD ASKS FOR ASSIGNMENT

The impossible was a challenge. When the cutter had ploughed its way through the ice as far as it could go, Lieutenant Pritchard approached his Commander. "Let me take the plane in, Commander," said the aviator. "I'm sure I can make it." To the Commander's warning that the country was a treacherous place to set down a plane, the Lieutenant replied, "I'm certain I can get in,Sir. I'll find a spot and come down on the snow with the pontoons. They'll work like runners."

LANDS PLANE ON ICE CAP

Roaring out into a heavy fog, the Coast Guard plane soared away over the towering Ice Cap, estimated to be over 2,000 feet at that point. His radioman, Benjamin A. Bottoms sent a message when the plane was ready to land. "Don't try it," the Army men replied by signals. But Lieutenant Pritchard, ignoring their unselfish warnings, selected a long down-slope covered with heavy snow and put his plane into a glide, landing with the wheels retracted as if coming down on water. The radioman sent a message of the successful landing to the anxious survivors and to his shipmates on the NORTHLAND awaiting news of the hazardous undertaking. Then Lieutenant Pritchard set out on foot to get the survivors four miles away, while the radioman stayed with the plane to keep radio contact with the mother ship.

DIFFICULTIES OF ARCTIC FLIGHT

Of all the secret weapons with which the Arctic fights, the most treacherous is the haze, when sky, white ice, and snow blend together into a universal dazzling brilliance, where there are no horizons and a sense of balance is lost in the strange milky whiteness. A man straightening up too suddenly may topple backwards, for he cannot tell when he is standing upright. An airman flying contact with perfect visibility cannot estimate his distance from the ground and may try to make a landing when he is fifty feet in the air or else make the more fatal mistake of diving his plane at full speed into the ice. It was in such a haze that the Fortress had come in a badly crevassed and inaccessible area in southeast Greenland, about forty miles from Comanche Bay.

WALKS FOUR MILES TO PLANE

Pritchard struggled through the ice fields, walking four miles through the desolate waste, and succeeded in reaching the crew of the disabled Fortress. He was rewarded by the joyous shouts of the Army aviators. All the men were half-frozen and starved. One had a broken arm, two others were suffering from injuries and gangrene. Assisted by the sturdiest, the Lieutenant led the three, who were walking casualties, back to his plane.

BOATSWAIN'S MATE SECOND CLASS HAROLD W. GREEN, USCG SHOWS SPAR
YVONNE HALSEY THE ROUTE TAKEN BY COAST GUARD RESCUE PARTY

RESCUES TWO FLIERS

There was room for only two passengers, so Pritchard and Bottoms took off with two of the Army airmen, leaving the third to stand by until they returned for him the next day. The plane reached its mother ship after dark and landed successfully with the aid of the cutter's searchlights. As Pritchard brought his craft in, his shipmates lined the decks and cheered. The injured men were taken to the sick bay and given medical attention and food. One of the two, Private Tucciarone, declared, "I can only explain it by saying God was with us. We bumped from hill to hill, each time bounding a little higher, until we had the old, familiar, smooth sensation of being air-borne."

PICKS UP THIRD

The next morning, Pritchard and Bottoms made a takeoff in a blinding snowstorm to return for the aviator they had left waiting on the Icecap. Just as the Coast Guard airmen arrived, they received a message from the NORTHLAND that bad weather was closing in and they would have to come back immediately. Pritchard repeated the splendid performance of the preceding day and took the remaining member of the Army plane aboard the amphibian. Bottoms sent a message to the cutter that the passenger had been picked and they were in the air again.

PRITCHARD DOES NOT RETURN

After the Grumann had made its second successful takeoff from the Ice Cap, heavy snow made visibility poor. Aboard the cutter anxious men awaited the hum of the returning plane. Messages came in quick succession to the radio room. Then came silence. The storm had grown worse and somewhere on his return flight the pilot had lost his way. Searching parties were organized by were driven back by the heavy gale.

VOLUNTEERS FORM LAND RESCUE PARTY

Five volunteers were set ashore from the NORTHLAND, on December 4, 1942, for temporary duty in the fearsome cold, to locate Pritchard's plane, the J2-F4 and also to rescue nine men of another plane, the Army Flying Fortress, PN-9E, a B-17, which had crashed in a forced landing on the Ice Cap. The position of the Army plane was known, but the whereabouts of the NORTHLAND's plane remained unknown. Leader of the expedition was the then Ensign Richard L. Fuller. With him were Gerard A. Hearn, then Chief Pharmacist's Mate; Donald A. Drisko, aviation mate first class; Harold W. Green, boatswain's mate second class; and Stanley P. Preble, coxswain. The volunteers waged a stirring drama against death for five months as they traversed acres of frozen ground and treacherous glaciers.

PRITCHARD'S PLANE SPOTTED

December 5 was spent in preparing trail equipment and in snowshoe drill. The next day, Ensign Fuller, Drisko, Preble, and Green, travelling on snowshoes, made a search of the area east of Atterbury Dome during the short daylight hours. That evening they saw a light northeast of Atterbury Dome. Ensign Fuller and Drisko took bearings. The NORTHLAND also reported the light. On December 7, Fuller, Drisko, Preble, and Green, set out on snowshoes with full trail equipment to investigate the light. Before they were out of sight of the Beach Head Station, Comanche Bay, Hearn signaled by blinker that the J2-F4 had been spotted from the air

COAST GUARDSMAN DONALD A. DRISKO LISTENS TO HIS COMMENDATION

and its position was known. The trail party returned and made extensive preparations to reach the Coast Guard plane, whose position had been given as on the Ice Cap, eleven miles northwest of the Beach Head Station across the fjord.

ATTEMPTS TO REACH PLANE

On the morning of December 8, Fuller and his party set out across the new sea ice in the fjord. As soon as they reached the other side of the fjord, they put on snowshoes and ascended the Ice Cap by way of a dead glacier. Progress was slow due to short hours of light, rough country, and heavy equipment, but they succeeded in covering about eight miles that day. The trail party pushed onward the following morning. They encountered numerous and extensive crevasses in mid-day, and made an attempt to work through them toward the position of the J2-F4, but after several insecure snow bridges had collapsed, were forced to retrace course and try a new approach. The little expedition then worked its way down to the fjord of Unkusigssaqarkif, with the intention of attempting a more southerly approach. They pitched camp on the edge of the fjord.

NO SIGN OF PLANE

Before daylight, on December 10, Fuller and his men threaded their way between the icebergs in the fjord across toward the J2-F4. This was particularly rough traveling as the bay was full of large icebergs from two active glaciers at the head of the bay. They reached land at the head of the fjord and climbed the snow and ice-covered hill between the two glaciers. By magnetic bearings they determined that they had reached the given position, but saw no signs of the Pritchard plane. After they had gone about a mile further in, glaciers and sheet ice on the steep hillside stopped further progress.

REPORTED POSITION IN ERROR

Ensign Fuller, who was navigating, felt that the position reported was either slightly in error and the J2-F4 was absolutely inaccessible or that the reported position was several miles in error. The following April, the latter supposition proved to be true, when Colonel Balchen, who had flown over the plane, reported it was six to eight miles west and slightly south of the reported position.

RETURN TO STATION

On December 11, the trail party broke camp and began the return trip to the Beach Head Station through a heavy snowstorm by compass. By darkness that evening, they had reached the head of Comanche Bay. They crossed the ice for the Beach Head Station in complete darkness and heavy snow. Reaching the other side, they discovered that the tide had come in and broken up the ice for a width of about thirty feet from the shore. They crossed by running from cake to cake of ice, one man at a time on snowshoes, with a line around him. At about eleven o'clock, local time, they reached the station, with all hands on the verge of exhaustion.

DOG TEAM AT WORK IN FAR NORTH

FLIERS DECORATED POSTHUMOUSLY

Lieutenant Pritchard and his radioman Bottoms were listed as missing in action. The Distinguished Flying Cross was awarded posthumously, in 1943, to these two airmen, who with dauntless courage and great heroism, had laid down their lives that others might live.

THE CITATIONS

The citation accompanying Lieutenant Pritchard's award states: "On November 28, 1942, Lieutenant Pritchard took off in his plane and proceeded to the Ice Cap on which the Army fliers were stranded. He knew full well the dangers involved in landing and taking off from the ice in a heavily loaded plane and the probable consequences in case of failure. Upon reaching the vicinity of the stranded fliers, Lieutenant Pritchard, at the grave risk of his own life and the life of his radioman, skilfully maneuvered his plane to a safe landing on the Ice Cap, took on board two Army fliers, and, in a demonstration of superb airmanship, successfully took off his heavily loaded plane and proceeded back to his ship."

Bottoms' citation is as follows:

"For extraordinary achievement in the line of his profession displayed on November 28 and 29, 1942, while participating in aerial flights as radioman of a plane incident to the rescue of Army fliers who were stranded on the Greenland Ice Cap Bottoms rendered valuable assistance to the pilot on the two flights to the Ice Cap. He maintained excellent contact by radio between his plane and mother ship, keeping her fully informed of the position of the plane, time of arrival at scene of rescue operations, conditions prevalent at the scene, and other pertinent data. He assisted the pilot in rendering aid to the injured and stranded fliers. The courage and close cooperation with the pilot and excellent performance of duty displayed by Bottoms in the rescue operations described above, in which two landings were successfully completed on the Ice Cap was outstanding, and reflects great credit and honor to the Service."

SEARCH FOR MISSING ARMY PLANE

SEARCH FOR ARMY PLANE STARTS

On January 14, 1943, Ensign Fuller and the civilian dog-team driver, Mr. Johan Johansen, set out for the Ice Cap Station to rescue the distressed crew of the Army plane. Fuller ran by compass, breaking trail for the dog team. Arriving that evening, the trail party found Sergeants Joe Liston and Arthur Hall occupying the station. It was in such an advanced state of disrepair that the Ensign declared it unfit for human habitation. The overhead was dripping like a shower, there were two inches of water on the deck, no sanitary facilities, no light except for one gasoline lantern, and the whole was buried under at least five feet of snow. A blizzard began that evening, making travel impossible until January 25. The two Army men were evacuated on that date, running the sixteen miles down to the Beach Head Station on skiis, which had been dropped from an airplane.

GREENLAND HUSKIES

PUSH ON AFTER DELAY

Ensign Fuller and Mr. Johansen set out, on January 31, from the Beach Head Station for the PN-9E, with the Ensign breaking trail. They reached the Ice Cap Station that evening. Again there was a delay, for the first three days of February were unfit for travel. Trail equipment and flags were prepared in that period. When the trail party set out on February 4, there was a stiff northerly wind and the temperature was twelve degrees below zero. However, the visibility was good. At midday, a B-17 from Ikateq dropped Army Field Ration C, two gasoline stoves, gasoline, dog food, trail flags, a tent, a sleeping bag, and a "walkie-talkie." All the supplies were cached, except for the flags and the walkie-talkie. Then the trail party pushed on until sundown.

SOME ARE EVACUATED-THREE REMAIN

At daybreak, on February 5, they broke camp and continued their trek. Shortly after starting, they came upon a large crevasse and had to go around it. A B-17 and two PBY's from Ikateq flew over. Communications were established with the B-17, which gave the trail party the course and distance to the PN-9E. The planes then flew to the men of the PN-9E who were at a camp six miles from their stranded craft, having become stuck there after attempting to leave for the Beach Head. The planes circled these men, and Colonel Balchen landed a PBY and evacuated them. As the planes were returning, communications were again established by the trail party with the B-17, from whom it was learned that there had been no sign of life for several days from the three men still at the PN-9E. Being only about twelve miles from the wrecked plane, however, the trail party moved on to investigate. The B-17 dropped a tent and some clothing before departing.

RESCUE PARTY TURNS BACK

Great difficulty was experienced in pitching tent that evening because of the wind, and in the process Ensign Fuller froze his right foot. On the morning of February 6 the Ensign decided to turn back because of poor visibility, shortage of dog food and a frozen foot. For two days, the trail party ran on compass from flag to flag, back to the Ice Cap Station.

RETURN TO BEACH HEAD STATION

Shortly after the party reached the station, a hurricane came up and lasted for three days. Several dogs died because of the wind and cold. For the rest of February, there was either a hurricane blowing out of the northwest or a gale with a snowstorm out of the southwest. Dog food and fuel for heating became scarce. So on March 2, Ensign Fuller, agreeing with Mr. Johansen that the situation was getting desperate, headed the trail party on a run to the Beach Head Station by compass in a snowstorm. They reached the station that night, with only three dogs pulling. Of the original team of fifteen dogs, eight had perished in the hurricane, and four were crippled. Until May, the time was spent in digging for fuel and food, and in keeping the tunnels to the living quarters clear. Pharmacist Hearn was doctor and dentist of the little group. With all the skill of a trained surgeon he amputated two of Ensign Fuller's toes and extracted the offending teeth of two men who had developed severe toothaches. Soon they were in excellent health, nobody suffering so much as a cold in spite of constant exposure.

BROOM JOCKEY OF THE GREENLAND AIR PATROL

FULLER IS DECORATED

On May 8, 1943, all Coast Guard personnel were removed from Comanche Bay. For their valiant attempts to locate the crashed Coast Guard plane and to rescue the nine U. S. Army fliers stranded on the Ice Cap, the members of the volunteer expedition were all commended by their superior officers. Ensign Fuller received the Navy-Marine Corps Medal, and the other members of the party were recommended for official commendation.

PATROL SQUADRON SIX

ORGANIZATION OF SQUADRON

Coast Guard planes started to operate from a base in Greenland when an aviation unit of the Service was placed in commission on August 21, 1943, at Narsarssuak. The first Commanding Officer was Commander D. B. McDiarmid, with Lieutenant Commander W. H. Snyder as Executive Officer. Designated as Patrol Squadron Six (CG), the the unit was assigned to Fleet Air Wing Seven for duties required in Greenland, Labrador, and the Canadian Arctic. Its organization was directed by the Commander-in-Chief, United States Fleet, July 1943, and provided that the Coast Guard organize a six-plane squadron to operate PBY-5A aircraft. Base detachments were established at Argentia, N. F., and in the Canadian Arctic to relieve Hedron Seven detachments. In addition to combat and reconnaissance, the squadron was assigned to air, land, and sea rescue work.

CONTROL AND DESIGNATION

Patrol Squadron Six was placed under the operational control of CTF-24, United States Atlantic Fleet. Administrative control was vested in CFAW-9. The basic operations order of the Squadron was Operational Plan 4-43 (as modified) of CTF-24 and CTG 24.3, Operational Order 1-44. Under those orders, Patrol Squadron Six was designated as CTU 24.3.1, and the Argentia Base Detachment as CTU 24.3.2. The Squadron planes could be assigned to task units as 24.7.1 (ice observation), as 24.8.17 (Greenland Fleet Air Group), and as 24.8.19 (Canadian Arctic). The designation CTU 24.3 was given to the Squadron Commander.

PERSONNEL

By the fall of 1943, assigned personnel consisted of sixteen aviators, seven aviation pilots, three aviation maintenance officers (ex-machinists), one aerologist, one radio electrician, and 131 enlisted men, including the aviation pilots. One maintenance officer and thirty-three men were assigned to maintain the base detachment at Argentia, to make repairs as could not be done in Greenland or the Canadian Arctic. This group made major repairs on Squadron aircraft and also serviced other fleet aircraft. By April 1944, Squadron Six was composed of twelve PBY-5A aircraft. On the staff were twenty-four aviators, four aviation pilots. two aviation maintenance officers, one A. C. I. officer, one aerology officer, one administrative officer, one radio electrician, and 151 enlisted men including aviation pilots.

DUTIES OF SQUADRON

While on patrol, the plane may have to meet a convoy and escort it, track a submarine in the vicinity, or carry out general reconnaissance. Coast Guard operations consist of anti-submarine sweeps, convoy coverage,

PLANE AND CREW - PATROL SQUADRON SIX

ice observation patrols, weather, utility, assistance, and rescue flights. In addition, planes conduct training and test hops. Whenever possible, mail is dropped to Navy and Army outlying stations.

SEARCH FOR THE AT-7 LOST ON THE ICE-CAP

LOST ARMY PLANE

The air over Greenland hummed with planes on November 30, 1943, as Squadron Six went in search of the AT-7 reported lost on November 28, out of Bluie West Eight, with seven men aboard. The lost plane was being piloted by the Commanding Officer of the Army's "First Arctic Rescue Squadron." Because of bad weather, two days were lost before any planes could begin the search.

FIRST FLIGHTS WITHOUT RESULTS

Commander D. B. McDiarmid flew over an area of 6000 square miles on November 30, flying 2.2 hours at night. Due to erratic radio reception, he failed to find the field at BW-8 in the evening twilight, the bearing requested being manifestly very wrong. However, he was able to make a night landing on the water at Egdesminde with the assistance of Eskimo boats. On December 1, he resumed the search. Unmooring and towing out of the crowded harbor, he was hampered by fresh wind, rough water, bitter cold, ice and inability to speak Eskimo. The Commander and all of his crew did an excellent job of making a takeoff blind, due to icing down. Search was continued on December 2 but it was ineffective, for the ceiling was below mountain tops. Commander McDiarmid flew one hundred miles down Sondre Strom Fjord until blocked by a zero ceiling. In the face of this difficulty, he made several reverse turns in the narrowest part of the tunnel to determine their feasibility, and reported them close but satisfactory. Lieutenant (jg) B. B. Dameron went up with his crew, on December 1, but saw no wreckage or other evidence of the overdue Army plane. Lieutenant D. M. Morell searched from BW-3 to Frederickshaab on December 5, while R. E. Osterberg, C.A.P. flew along the coast. The next day Lieutenant A. F. Perkins covered the same area followed by Morell. Lieutenant Commander R. R. Johnson also searched on December 6, covering 6,830 square miles in the area between Cape Desolation and Frederickshaab, from shore to Ice Cap.

LOCATION FINALLY VERIFIED

In the meanwhile, Lieutenant A. W. Wuerker had started the search by flying to Marrak, on November 30, covering an area of 1300 square miles before he returned to base as ordered by radio. As he was proceeding to BW-8, on December 1, he received orders, while over Teague Field, to search Sukkertoppen Ice Cap en route, so he changed course to follow the main Ice Cap. In Latitude 65-52N., Longitude 50-22W., his bow lookout, Bernard Moore, RM 1c, reported an object on the edge of the Ice Cap. To the airmen circling at 3000 feet, the mark seemed to be smoking. Flying down to 4000 feet, they saw a deep clean gouge in the snow, with black debris scattered to the eastward. A smudge appeared to be on the snow north of the debris. Otherwise, the whole area was unblemished. Positive identification could not be made. From an altitude of 1500 to 7500 feet above the Cap, pictures of the scene were taken with a Standard K-20

FROM THE COLD GRASP OF THE NORTH ATLANTIC

camera. The air was moderately bumpy. It was fortunate that John S. Heddrick, AMM 1c, made a rough sketch of the site, for when the fliers returned to base they found the photographs unexposed, due to the severe, low temperature, within the plane. When Lieutenant Wuerker and his crew revisited the location of the possible wreckage on December 7, after a 45 minute search they found the spot, mostly covered withsnow. Two Army Ice Cap experts and an Army photographers aboard attempted a few pictures at about 1500 feet but they were unsuccessful due to turbulence of the air and poor visibility. Flag stakes were dropped to mark the spot and the plane returned to base, due to threatening weather and lowering ceiling. Many planes continued the search for weeks, until on December 21, the position of the wrecked AT-7 was verified, and photographs were taken to guide a rescue party to the scene. A PBY-5A, piloted by Osterberg, with D. W. DeFreest, AP 1c, as co-pilot, directed the rescue party on January 5, 1944, over the last ten miles on the Ice Cap to the wreckage of the AT-7. The Coast Guard plane dropped provisions to the rescuers and to the base camp. Two days later, the airmen found the rescue group on the return trek from the wreckage and again dropped provisions. The plane returned to BW-1 on January 10, as directed, cooperation with the Army rescue party completed.

TEAMWORK BETWEEN A CUTTER AND A PLANE

BRITISH VESSEL ADRIFT FOR WEEKS

An airman's vigilance brought a rescue cutter to a ship in distress and unable to call for help after its radio had been silenced during a storm in the North Atlantic. Two officers and twenty enlisted men aboard the battered 110-foot British vessel were facing death after drifting on the ocean for over a month, when they were dramatically rescued, on February 13, 1944, by the combined efforts of a Coast Guard plane and the Cutter MODOC. Superstitious persons might consider 13 an unlucky number, declared the Britishers, but to them it was the luckiest and most beautiful number in the whole world.

SIGHTED BY COAST GUARD PLANE

Lieutenant Commander John J. McCubbin, USCG, was on a routine patrol in his PBY-5A to check ice conditions and deliver mail, when he sighted a red flare in position 60°03' N., 45°24'W., and flashed his blinker light, requesting the ship's identity. The small craft blinkered back that she was the H.M.S. STRATHELLA, and told her story of being adrift for five weeks in the stormy sea, with food growing scarce, all drinking water gone, and no means of sending a radio message.

CUTTER SPEEDS TO THE RESCUE

Commander McCubbin radioed the details to shore and within an hour the MODOC was speeding to the rescue. Despite the foul weather, the cutter, upon sighting the British vessel, managed to shoot a line across her bow and take her in tow. The badly bruised little ship was towed one hundred miles to a Greenland Base. Lieutenant Commander Randolph Ridgely, 3rd, Commanding Officer of the cutter, directed the dramatic rescue.

FISHED FROM THE WATER, THEY TELL WHAT HAPPENED.

BRITISHERS CALL IT ANSWER TO THEIR PRAYERS

"We were in a westbound convoy," Lieutenant R. O. Beatman, RNVR, young skipper of the trawler told his rescuers, "when hell and fury broke loose on the 13th of January. The northeast storm forced us to heave to. Then an MP bearing brok.." Not having any spare parts on board, he continued, the men had to effect makeshift repairs with wire to get underway once more. By that time they had lost sight of their convoy. Beatman tried to plot his position but in vain. More storms hit the ship and the sea poured in through the ventilators. Everyone was soaked with icy water. The mess deck was flooded. Then the radio burned out completely and the ship was silenced. As the trawler drifted at the mercy of the wind, the crew huddled below decks beside a stove. "Sunday, February 13th, was bright and clear, and I told the crew to meet on the mess deck at noon for a short service," said Beatman. "At four p.m., a PBY plane appeared in the blue sky -- the answer to our prayers. We told our story and later held a Thanksgiving service."

MASTERPIECE OF RESCUE

Commander Ridgely said he had never seen such grateful men as that crew. The British seamen, in pretty bad shape, bearded and blackened, debated whether they would wash up or eat first. Hunger won and they ate with relish as the cutter's crew fed them. They were given new clothing, candy, and the cigarettes they had been without for four weeks. "The British Navy sent an official message of thanks," the Commander reported, "but what we prize most is the wig-wagged message which came from those hungry men when we first contacted the trawler. It read: 'We one and all owe our lives to you. You did a masterpiece of work. Someday, perhaps we will be able to show our appreciation.'"

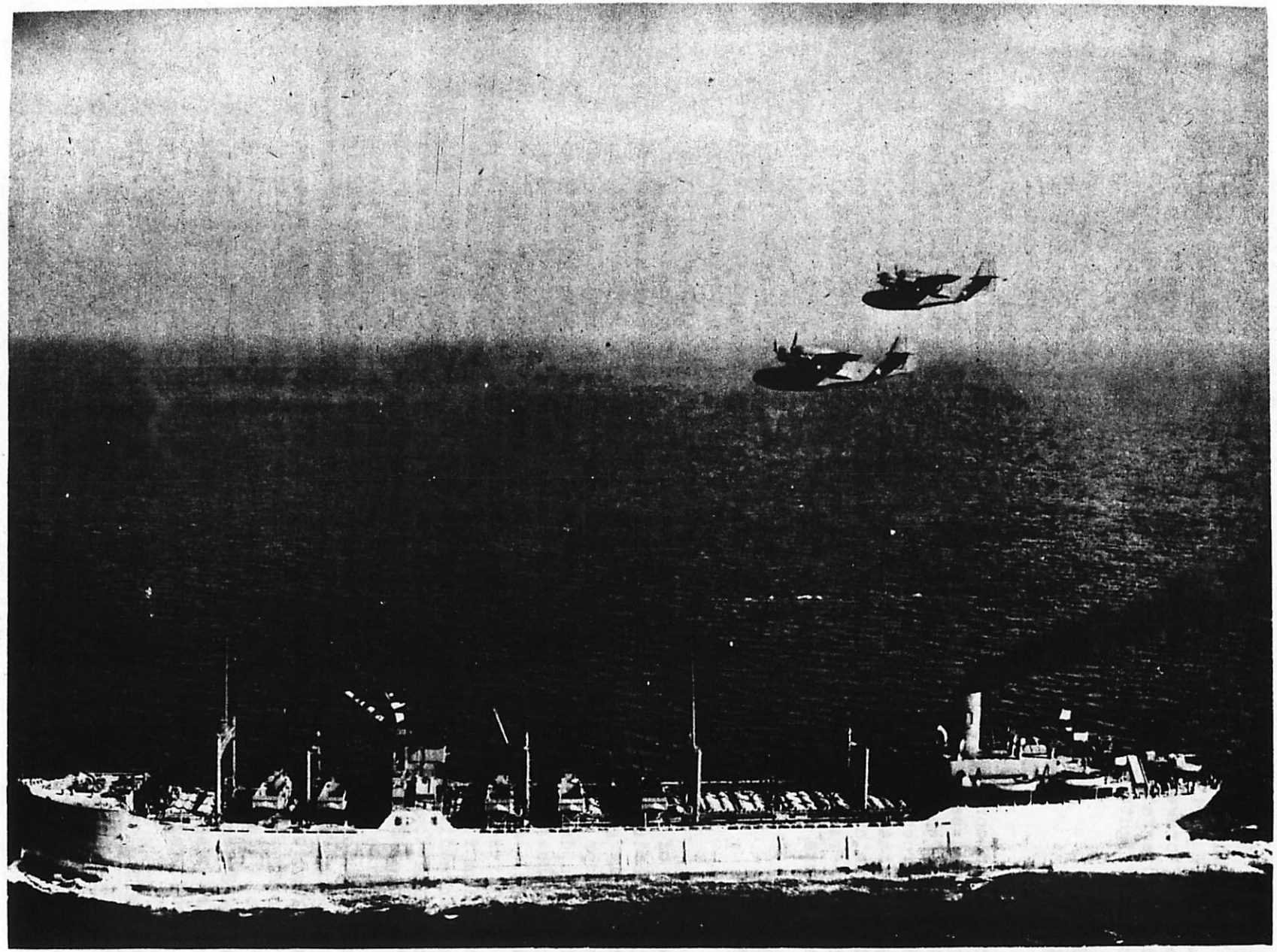
VIGILANCE OF AIRMEN BROUGHT ASSISTANCE

Commander McCubbin reported that from the air he had seen the red flare of the disabled ship from some distance. The British vessel was also sending an SOS by blinker. He had glimpsed the tiny distress signals while roaring overhead at great speed on the routine patrol.

AVIATION ACTIVITIES DURING SOME TYPICAL SPRING AND SUMMER MONTHS

APRIL 1944 OPERATIONS

With the spring came an improvement in weather conditions and also longer daylight hours. In April 1944, Coast Guard airmen totalled 301.1 flying hours over the Greenland area. This total represented more than 100% improvement over March. At least five squadron aircraft remained in Greenland, under the operational control of the Commander of the Greenland Patrol. Two planes were assigned to the Task Force Ice Observation Officer, and two were used in rotation for training and overhaul programs. The number of planes at Bluie West One ranged from four to six. The squadron was short of its allowed personnel - 46 officers and 129 men - but inasmuch as the fliers supplied were largely very experienced people, no serious hardship was created. Those figures are for the squadron as distinguished from the various Base detachments. Aircraft operations consisted of ASW sweeps, convoy coverage, ice observation patrols, training, administration and



VIGILANT COAST GUARD PLANES

test hops. Whenever possible, the planes dropped mail to outlying stations. At the end of April, three planes remained at Elizabeth City, N. C., to train relief crews for the squadron. Airmen stationed at Argentia continued ice observation patrols. Squadron personnel also flew on several assistance flights for the Naval Air Station at Argentia.

TRAINING ROUTINE

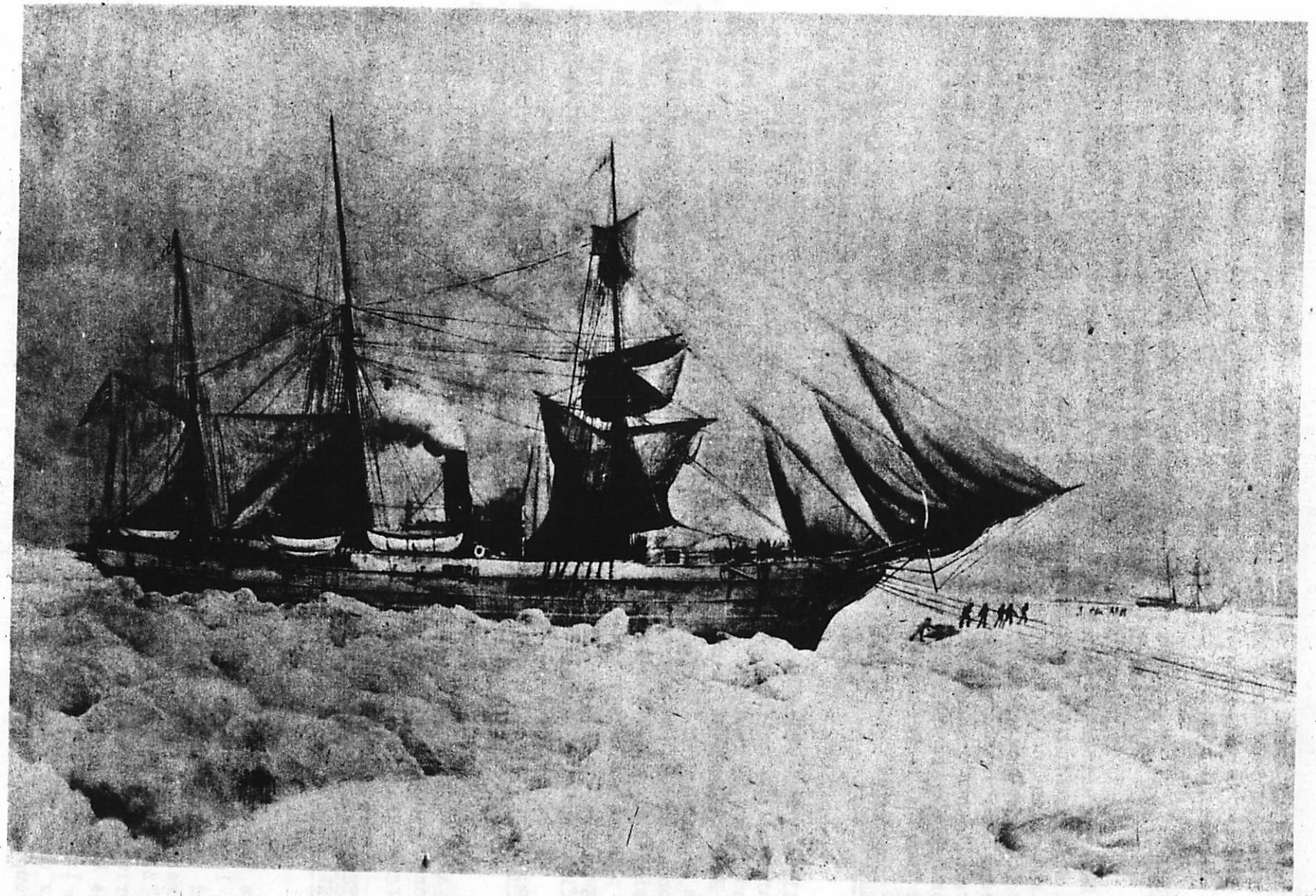
Much time and effort were used to train and familiarize relief pilots and crews so that they could profit to the fullest extent from the hard-won experience of the squadron fliers. Studied in detail were such matters as local wind conditions, communications and radio navigation difficulties, swinging compasses, and tricks of depth preception over the Ice Cap, survival intelligence, and other difficulties of Arctic flying. Before the evening wardroom movie, A.C.I. recognition drills were held. A program of war orientation was started for the enlisted men, with particular emphasis on the current Soviet drive down the Crimea and into the Balkans. All flight personnel were given ASW training and completed the aerial gunnery course at least once.

SUMMER 1944 OPERATIONS

In May 1944, five planes were maintained at BW-1, while four more were stationed at Argentia, and the remaining three were at Elizabeth City, N.C., on training duty. Total flying time for Greenland-based planes was 292 hours. One of the squadron aircraft located and escorted into BW-1, an RCAF PV-1 coming across Goose Bay. The lost plane landed with an eight-minute supply gas. Total flying time for June was 408.8 hours. Six planes were on duty as the flying weather ranged from undesirable to bad for thirteen days. Fog frequently blanketed the west coast from Farewell up to Cape Desolation, impeding and preventing convoy escorting and ice observation. Airmen were able to leave BW-1, however, as early as three a.m. local time, owing to the twilight Arctic nights. During bad weather, the training film program was continued at BW-1 and at the Base Detachments. In addition to daily weather lectures, frequent drills were held on communications, radar, and maintenance. During July, four planes were maintained at BW-1, two stationed in the Canadian Arctic, three at Argentia, and three operational spares based at Elizabeth City, N.C. Total flying time for the month by the Squadron planes was 621.9 hours. As in other months, aircraft operations consisted of ASW sweeps, convoy coverage, ice observation patrols, weather, utility, training and test flights, and ASW training flights at Argentia. The relief training program was terminated on July 22, with planes 08066 and 46575 proceeding to Argentia and plane 08048 temporarily remaining at Elizabeth City as an operational spare. The planes based at Argentia were used for ice observation, ASW training, instrument training, utility, and test hops.

PARTICIPATION IN ROUTING NAZIS

Coast Guard planes played an important role from July through October 1944, when they participated with four cutters in routing the Nazis from Greenland. Several aviators were decorated for their dauntless courage in flying under Arctic conditions, often on several missions a day, in the



USS BEAR

desperate struggle with the three expeditions of Germans who had come to establish weather stations in Greenland.

CANADIAN ARCTIC TASK UNIT

MISSION As stated in the Commander of Greenland Operation Plan, No. 4-43 (Serial 00313)(secret), the mission of the Canadian Arctic Task Unit was to assist and support the U. S. Army within the area of operations by exercising Naval Control over and safeguarding merchant vessels of the various ports in that region. This mission included arranging shipping schedules, routing and providing escort as necessary, and furnishing air coverage and anti-submarine air sweeps. To further safeguard ships and collect ice information, the unit pursued a program of hydrographic surveys and established aids to navigation. The Task Unit Commander was responsible for the safe departure of all vessels prior to the winter freeze up.

OPERATIONS In 1943, the first group of vessels arrived at the Hudson Strait entrance July 24, and the last vessel left on October 24. Distribution of the unit forces was as follows: The CGC AKLAK at Chimo; CGC ARLUK at Frobisher; CGC AIVIK at Churchill and Southampton (Western Sector); USS BEAR (pennant) where most needed; one PBY-5A aircraft at Chimo and one at Frobisher; a detachment of Hedron Seven at Chimo; one hydrographic party on the Koksoak River and one in Frobisher Bay. The CGC LAUREL established the major aids to navigation at both Chimo and Frobisher. The Canadian Icebreaker N. B. McLEAN assisted in establishing aids at Coral Harbour, Southampton Island, and in placing the Koksoak River sea buoy, in addition to establishing the regular navigational lights along the Hudson Bay Route. A Port Liaison Officer and one picket boat were assigned to each base, except Southampton.

CARGOES A total of nineteen cargo vessels, two passenger vessels and two tugs with barges entered the area, plus one cargo vessel for Padloping Island. These vessels brought in an estimated 59,000 tons of cargo to various bases and carried an additional 9,200 tons from Churchill, Manitoba. Eight of the ships took out cargoes of wheat from Churchill, destined for east coast U. S. ports.

METHOD OF OPERATIONS The method of operation was for the station vessels, AKLUK at Chimo and ARLUK at Frobisher, and the BEAR to meet the SG convoys at a designated rendezvous free of drifting ice and to escort the vessels detached for the Canadian Arctic to a safe and relatively sheltered position, usually in lower Frobisher Bay. There destinations were checked, mail distributed and the group split under local escort for their destinations. Vessels came in three groups. The first section of the first group -- SS FAIRFAX, LUTZ, and TINTAGEL plus CGC's AKLAK, AIVIK, and LAUREL - bound for Chimo, arrived off the entrance to Harbor Strait on July 24, 1943, and were met by the BEAR. After much difficulty and no little danger to the vessels, due to ice and fog, this section reached Chimo on July 30, after having taken six days for a one-day run of 215 miles. The second section of the first group - the SS DELISLE, ANNIK, and EAGLE, plus the CGC ARLUK - bound for

RAMMING THROUGH AN ICE FIELD

Frobisher, were met in lower Frobisher Bay by the BEAR and the AIVIK. The ANNIK, escorted by the AIVIK, was detached for Southampton, and the others were escorted to Frobisher. Vessels of the second group were met August 18, 1943, east of Resolution Island, and escorted by the BEAR, AKLAK, and ARLUK, to lower Frobisher Bay. There the group split. The SS FANA, GARNES, and ATLANTIC TRADER were escorted by the AKLAK to Chimo; the SS ASKEPOT and the BENCAS were escorted by the BEAR to Southampton; and the GOVERNOR JOHN LIND was escorted by the ARLUK to Frobisher. The Unit Commander in the ARLUK the next day met the CGC STORIS (Greenland escort) at the entrance to Frobisher Bay and took the USAT FAIRFAX under escort for Frobisher, acting as pilot aboard the Transport through Bartlett Narrows. The third group were met on September 14, 1943. The MUI HOCK and the ALCEDO were detached east of Resolution Island to be escorted by the AKLAK to Chimo; the ARAGON, HARPFJELL, HERMA, and PILLORY were detached off Frobisher Bay entrance to be escorted by the ARLUK to Frobisher; and the BEAR, after taking a steel lighter in tow from the ARLUK, escorted the JEAN to Padloping Island.

INDEPENDENT ARRIVALS CREATE

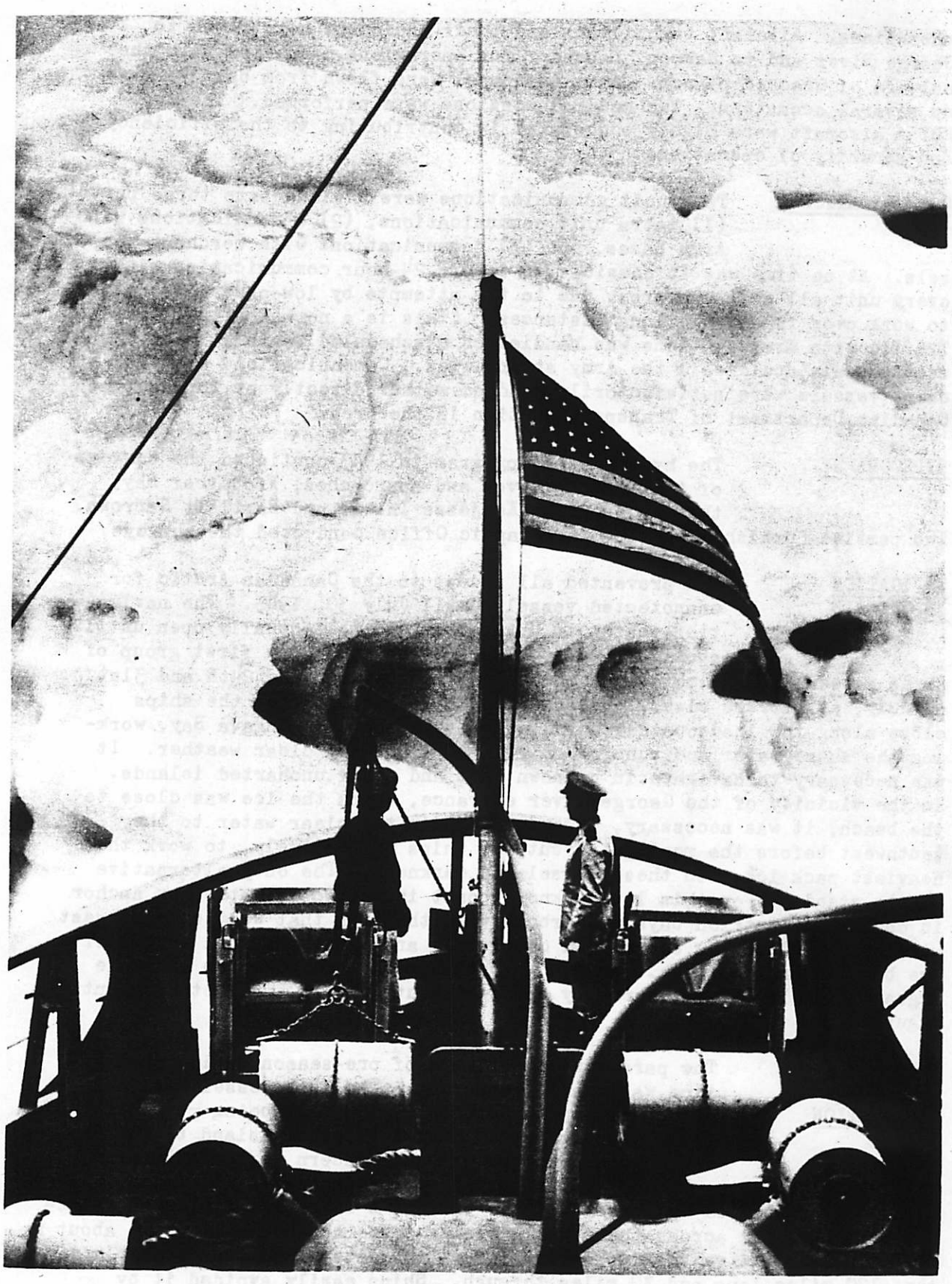
A number of vessels arrived in the area independently of the three primary movements. These were the BELLE ISLE, EFFIE M. MORRISEY, PETER MORAN (Tug), U. S. A. T. HERNANDEZ, (Tug Lt. two), AUN, and CARTAGE. All but the last two arrived at the entrance and were picked up later in the area without any prior notification whatsoever, making the unit's task the harder, endangering traffic by excessive radio traffic at low frequencies, thus actually exposing the vessels to unnecessary hazards. The BELLE ISLE sustained considerable damage attempting to make passage direct from Hudson Strait entrance to Koksoak River, through the heaviest ice in Ungava Bay. She was finally assisted out by the LAUREL, which was fortunately within reach. Two wooded barges towed by the PETER MORAN, one awash and the other leaking badly from ice damage, were escorted to the Koksoak River entrance by the AIVIK.

AIR COVERAGE

Planes patrolled at every opportunity along the entrance to Hudson Strait and Frobisher Bay. Although meteorological conditions materially interfered with air operations, convoy coverage and anti-submarine sweeps provided aerial surveillance, protection, and guidance. Nothing suspicious was sighted. The rendezvous with the first movement was covered, although surface fog made coverage relatively ineffective. The convoy consisting of ships from the second group was continuously covered from St. Johns to the rendezvous off Resolution Island.

AIR ICE RECONNAISSANCE AND OTHER WORK

The first ice survey was made on 30 May, 1943, and surveys continued as long as planes were available. Aircraft was also used to assist vessels through or around the ice fields, pointing out leads and outlining the general limits of the ice to be encountered. Ice surveys covered the Labrador and Baffin Land coasts from Lat. 58°N just beyond 70°N., Ungava Bay; Frobisher Bay and Cumberland Sound; Hudson Strait and Bay, and Fox Basin. Hydrographic parties took oblique photographs, which materially aided by showing triangulation stations and adjacent



COAST GUARD OFFICERS SURVEY THE MAJESTIC BEAUTY OF A GIANT ICEBERG

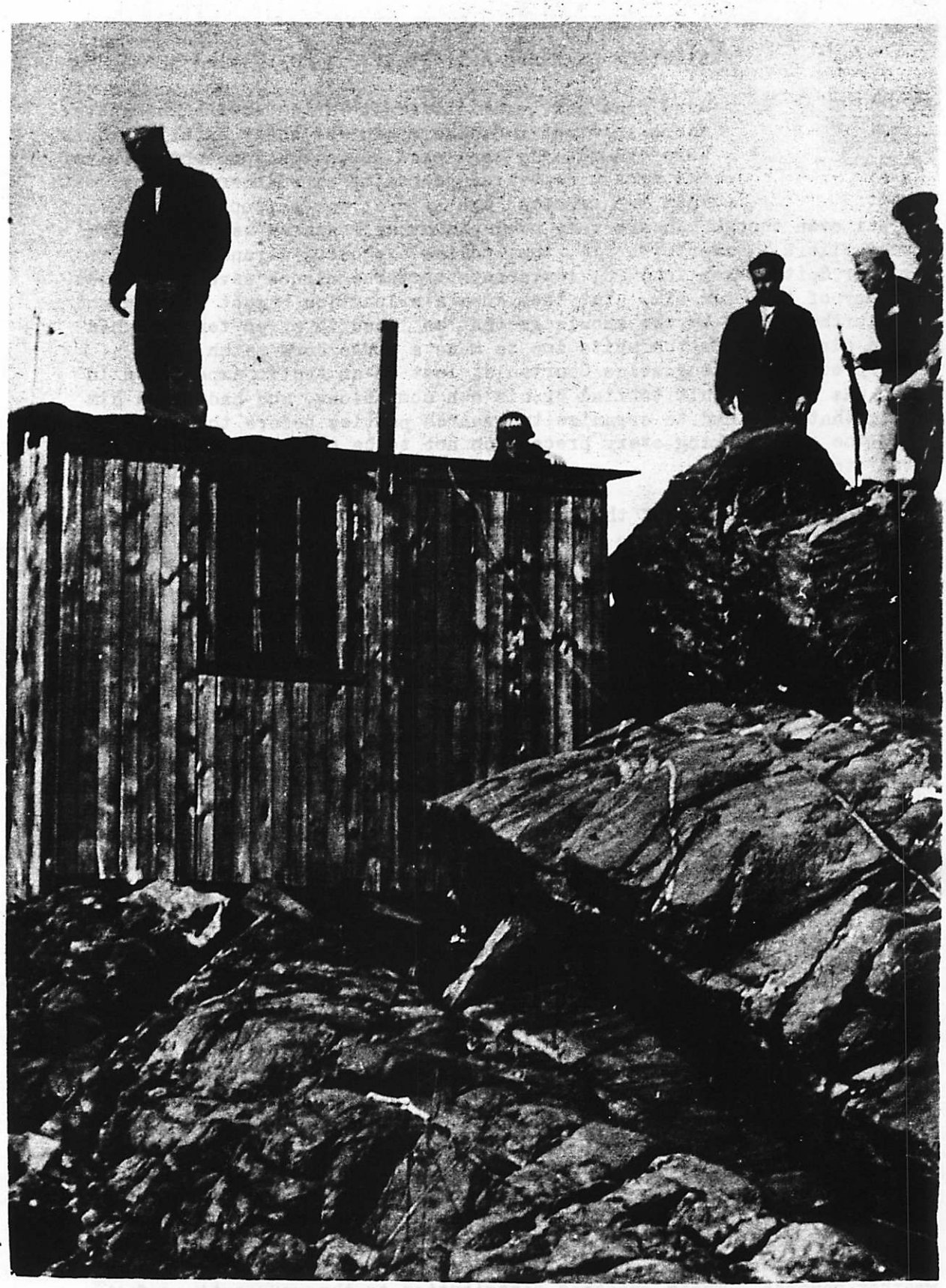
shorelines. Aircraft technicians and their equipment were flown to George River and to Hebron, Labrador for operations connected with the salvage of wrecked planes. Army personnel were flown from base to base on several occasions. Two medical missions were performed. The two PBY5A aircraft were highly successful in contributing to the efficiency and security of operations.

COMMUNICATIONS — Task unit communications were divided into three parts: (1) intra unit communications, (2) communications with Army bases, and (3) communications with merchant vessels. At no time was it possible to insure 24-hour communication with every unit all over the area, due to the attempts by low-powered stations to work over relatively long distances. (This is a normal situation). Traffic with Army stations was handled on a scheduled basis, although unit vessels could call the Army at any time. Communications with merchant vessels were satisfactorily handled either directly or through the Canadian Department of Transport Station in the area.

HYDROGRAPHY — The hydrographic program in 1943 continued the surveys of the Koksoak River and approaches, Frobisher Bay, the anchorage at Koojesse Inlet, and Bartlett Narrows. Two parties furnished by the Hydrographic Office conducted the surveys.

NAVIGATION IN THE ICE — Ice prevented all access to the Canadian Arctic for unprotected vessels until July 30, 1943. The navigation season in Ungava Bay did not actually open until about August 10, 1943, even though the first group of three vessels for Chimo were conducted safely between the 24th and 31st of July, at extreme risk. The operation involved bringing the ships close along the inadequately surveyed eastern shore of Ungava Bay, working the shore water and running only in daylight and clear weather. It was necessary to navigate in unknown bays and among uncharted islands. In the vicinity of the George River entrance, where the ice was close to the beach, it was necessary, in order to join the clear water to the southwest before the moving ice cut the ships off entirely, to work the heaviest pack ice with these vessels in darkness. The only alternative was to stand off on this little known coast in the shore water, or anchor in one of the untried bays or harbors with the risk that west or southwest winds might close the shore lead completely and throw the full weight of the bay ice on the beach. In 1943, Frobisher Bay opened up on schedule August 1, while Ungava, normally opening about July 10, was not open until August 10.

IMPORTANCE OF AERIAL OBSERVATION — The paramount importance of pre-season aerial observation was readily apparent. The last vessels were out of Hudson Bay on October 9, 1943, it being possible to route vessels freely past Nottingham Island to the Bay and to Southampton, without concern as to Fox Channel ice until that date, because of an aerial survey on August 25, which showed Fox Basin ice well north of the basin. A large ice field was drifting in Hudson Bay across the normal steamer route to Churchill until about September 1. Its extent, while not accurately determined, was probably some 120 miles long and 30 miles through. Ships easily avoided it by keeping all ice to south and east, around the ice field's northwest end.



FROM THIS CRUDE SHACK, THE GERMANS BROADCAST WEATHER INFORMATION TO THEIR HOMELAND

PREVENTION OF ENEMY ACTIVITIES

DETECTION DIFFICULT FROM AIR

Airplanes had great difficulty in detecting enemy stations in Greenland, where men and their establishments were practically swallowed up in the vast whiteness of the Arctic. Several peacetime expeditions to the North Pole had reported how hard it was to locate men from the air even though markers were used and other measures were taken to direct fliers. Umberto Nobile, the Italian explorer, stranded on the ice near Spitzbergen in 1928, saw numerous rescue planes several days before any of them saw him. Yet they knew his location almost exactly and were further aided by the knowledge that he lived in a red tent and had spread dirty rags on the white ice to make a large dark patch. The British scientist, Augustine Courtauld, lost on an Arctic expedition in 1930, was so difficult to find by his own companions, who had flown him there, that they had to organize two search parties before they located him. The enemy taking every precaution not to be seen was infinitely harder to detect.

SLEDGE PATROL ORGANIZED

One of the achievements of Commander Smith's trip in 1941 was the establishment of a dog-team patrol whose duty it was to observe and report any person not an authorized resident of Northeast Greenland. The "Sledge Patrol" was made up of faithful Danes and Eskimos, whose knowledge of the terrain and its inhabitants was unsurpassed. In that large expanse of snow and ice, where men can scarcely be recognized at a little distance, only the natives covering the territory on sleds and well acquainted with the regular inhabitants could detect a stranger. The Danes were mainly hunters and lived in wooden shacks situated at varying intervals, sometimes a hundred miles apart. For their fresh food they depended mainly on what they caught. Since the Danes spoke no English and the Coast Guard personnel no Danish, interpreters were used. The NORTHLAND always carried two, a Dane and a Coast Guard enlisted man who spoke Danish.

SOME DETAILS OF ORGANIZATION

When the Coast Guard first went to Northeast Greenland, they learned that every other shack was a weather station sending information to Denmark. The first thing they did, after Denmark was invaded, was to dismantle the radio stations so that information would not reach the Germans already in control of Denmark. The next step was to organize the patrol. This was formally accomplished in November 1941. The Coast Guard, the United States Army, and the Greenland Administration worked so closely together that it is hard to say who did what. There is no way of unscrambling the role each played. This much can be said: the Coast Guard transported the members of the Sledge Patrol to their various stations and kept them in provisions; the Army furnished equipment and air coverage; and the Administration supplied the personnel and dogs. Since Admiral Smith of the Coast Guard was the highest ranking officer in the area, all participants in the joint activities looked to him for leadership. Members of the Sledge Patrol were eventually accorded military status, working as a unit of the United States Army. In addition to their other duties, the Danes sent in weather reports. Their greatest contribution to the prosecution of the

THIS NATIVE IS ONE WHO AIDED THE U. S. COAST GUARD

the war, however, was their lookout for the enemy. Organization of the Sledge Patrol may well be called one of Admiral's significant accomplishments.

NAZIS HINDER DEFENSE OPERATIONS

However, the Germans would not permit us to build up our defenses in the Western Hemisphere unmolested. In the summer of 1941, two United States merchant ships flying the flag of Panama, the SESSA and the MONTANA, were torpedoed and sunk while carrying supplies to Iceland. Then on September 4, 1941, the United States Destroyer GREER, while carrying mail to Iceland, was attacked by a German submarine. One week later, the President went on the air to denounce these attacks as acts of international lawlessness. "American naval vessels and American planes," he warned the Axis, "will no longer wait until enemy submarines lurking under the water, or raiders on the surface of the sea, strike their deadly blows first....From now on, if German or Italian vessels of war enter the waters, the protection of which is necessary for American defense, they do so at their own peril."

SEIZURE OF THE "BUSKOE"

DISGUISED AS FISHING VESSEL

On September 12, 1941, the day following the President's warning to the Axis nations to stay out of American waters or take the consequences, Commander Smith noticed an apparently innocent fishing vessel. He had been informed earlier by some members of the Sledge Patrol that they had seen a party landing in a lonely fjord. Commander Smith stopped the fishing vessel and sent out a boarding party, who took her into a small bay called McKenzie Bay, to look her over.

SERVICING GERMAN RADIO

At first, the twenty-seven persons aboard, most of them Danish hunters and Norwegian trappers, claimed to be a fishing and hunting party. The leader of the expedition was a scientist. The one woman aboard said she was a nurse. "Have you dropped off any men?" a Coast Guard officer asked. "No," answered everybody on the fishing ship. But after more questioning, they realized they were up against men who could not be bluffed, so one of the crew gave the information that two sets of hunters had been dropped off, one with radio equipment, about five hundred miles north of the present location. They identified the ship as the Norwegian trawler BUSKOE, controlled by German interests and servicing a radio station in Greenland.

SEIZED AS ENEMY AID

Commander Smith immediately ordered a prize crew to be placed aboard the Norwegian ship. Examination revealed that she was equipped with a main transmitter of fifty watts and a portable transmitter of forty watts, a main receiver and a portable receiver, a portable engine-generator, and a control panel. The vessel was believed to be engaged in sending weather reports to Axis-controlled territory. Obviously, the purpose of the radio station was to supply German U-boats with weather reports as well as with information about when Allied ships were due to pass.

DESTROY GERMAN RADIO BASE IN GREENLAND

RADIO STATION CAPTURED

Leaving the BUSKOE with the prize crew, the NORTHLAND set out to find the suspected radio station on the east coast of Greenland. The following night, the cutter anchored in a fjord about five miles from the place. Twelve men, led by Lieutenant Leroy McCluskey, were assigned to attack and capture the radio station. About midnight, the landing party proceeded in a small boat to within a mile of the station. Making their way through pitch darkness and over icy ground, they at last found the so-called hunter's shack which had been described to them as the site of the radio station. Lieutenant McCluskey surrounded the shack with his commandos and, gun in hand, he kicked in the door of the building and rushed in upon three men who were resting in their bunks. The German radiomen quickly surrendered and told all they knew. They were captured, together with their radio equipment and code. On the pretense of building a fire to make coffee for the Americans, the radiomen tried to burn some papers, but the Coast Guard party was too quick for the Nazis and seized the papers. They turned out to be confidential instructions, Hitler's plans for radio stations in the far north.

FIRST U. S. NAVAL CAPTURE OF THE WAR

Discovery of the trawler and the radio station had been most timely, for their weather reports were just being made ready for transmission to Oslo, Norway. Seized as a prize, the captured vessel, with her crew and passengers, were taken to Boston for internment. The Coast Guard seizure of the BUSKOE was the first naval capture of World War II.

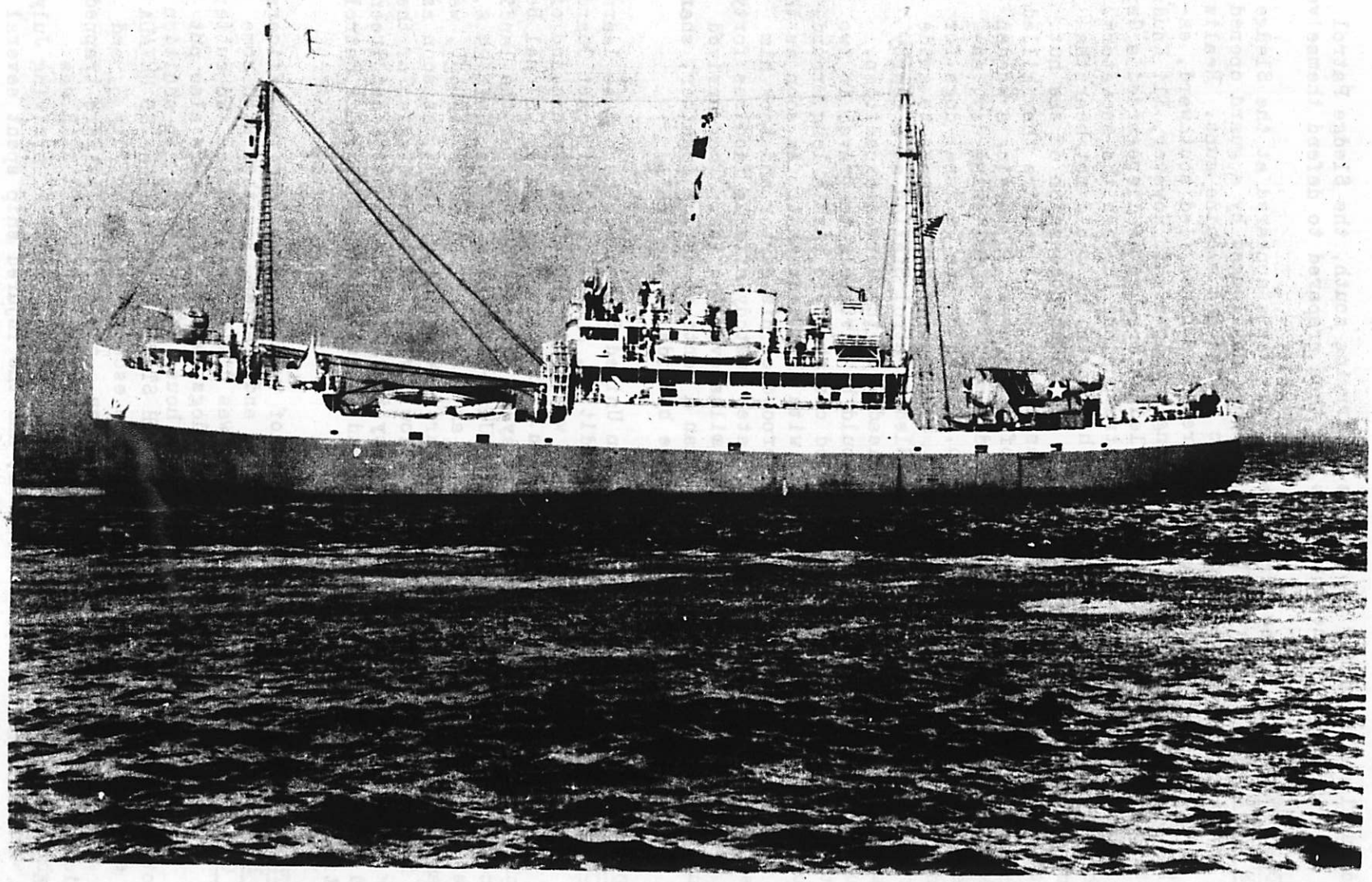
1943 ROUT OF THE NAZIS

NAZI WEATHER STATION SUSPECTED

Americans began to suspect that Nazi agents were operating a weather station in Greenland, when some Army fliers, asking for weather information by secret code were answered in secret code and ran into a heavy storm which caused them to crash. Those were the airmen whom Pritchard gave his life to rescue. They had been told that by going in a certain direction they could make a safe landing. Later, the Americans checked their own weather records with orders the pilots had received in secret code. The reports had been deliberately reversed. The airmen had been lured on to disaster by false information sent either from an enemy submarine or from a secret German radio station on the east coast of Greenland. All through the summer of 1942, the possibility of enemy attack was never out of the minds of the Americans. Long-range planes-Fock-Wulf's, Junkers 88's, and Blohm and Voss 135's -- had been patrolling Greenland's east coast since the outbreak of the war.

PRESENCE OF ENEMY DISCOVERED

The enemy was discovered in the spring of 1943, when a German weather and radio station was found on the east coast of Greenland. Three members of the Greenland Sledge Patrol had noticed two tiny black spots moving along the ridge of a mountain along the coastal regions. Since nobody was supposed to be there, the patrolmen decided to search an empty cabin nearby. Scattered about the room were two sleeping bags, a green uniform with the German eagle and a swastika, two German daggers,



CGC NORTH STAR

food supplies and other provisions. Hurrying south, the Sledge Patrol men sent the alarm to headquarters and then prepared to defend themselves.

SLEDGE PATROL BASE DESTROYED

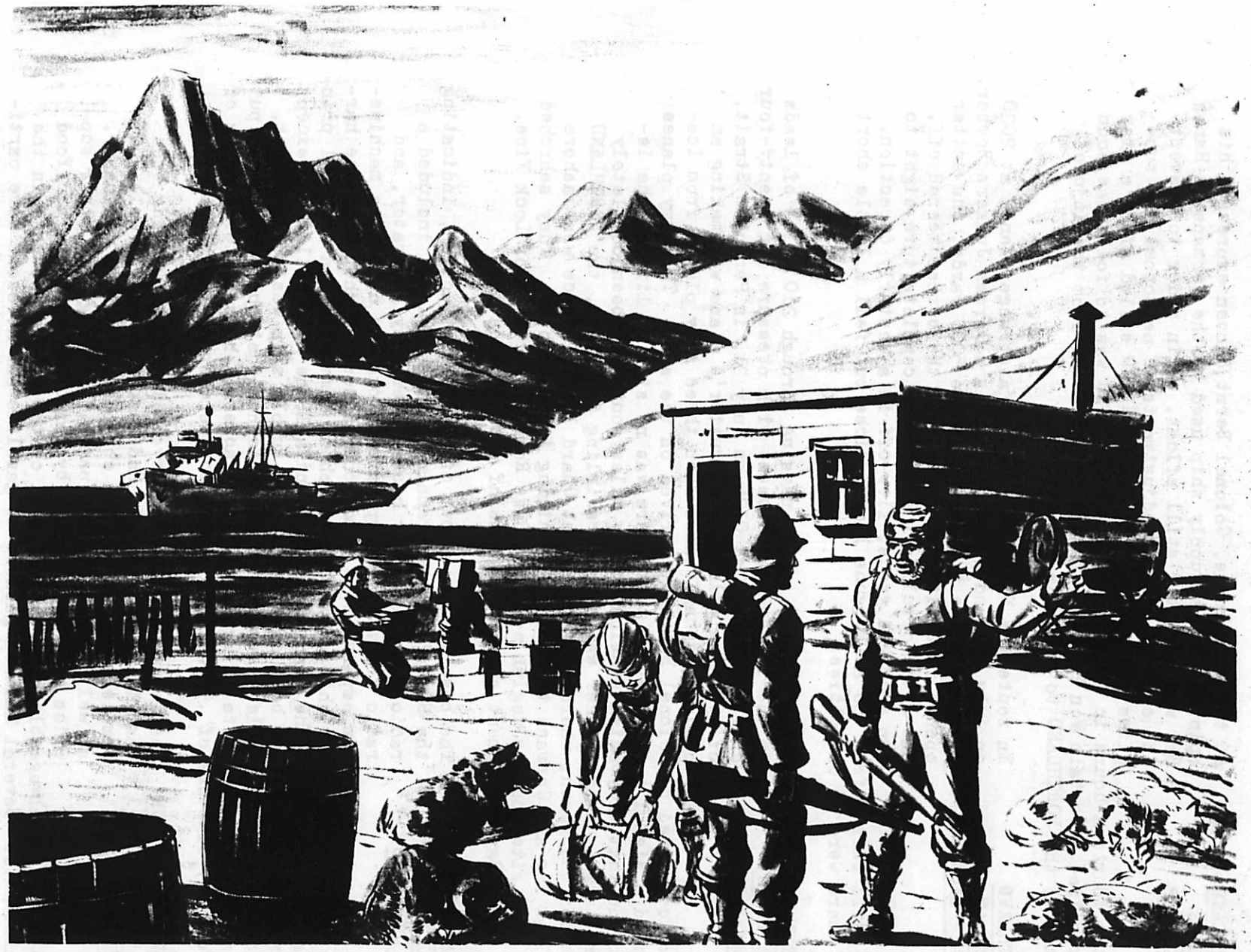
A few nights later, the Nazis appeared at the Sledge Patrol station and when challenged by a guard opened fire with automatic rifles and machine guns. Realizing they were outnumbered, the Danes fled southward, escaping through the darkness of the long Arctic night. However, Eli Knudsen, another member of the Patrol, was killed later when he disregarded a German command to halt and continued to tramp along through the snowstorm. With his ears covered by the hood of his parka, he could not hear the Germans, nor did he suspect that they had taken possession of the hut. First they killed his dogs and then as he was about to fire they killed him. Later a Nazi spoke with pride of his prowess in carving a wooden marker for the grave of the slain sledge man. The following day, another Danish patrolman, Marius Jensen, mistaking the Germans' dogs for Knudsen's walked into the Nazi trap. Directed by the Germans to guide them over the shortest route to the Sledge Patrol Station at a nearby island, the wily Dane persuaded the leader of the German expedition, Lieutenant Hermann Ritter, that it would be advisable to travel in two parties. Accordingly, Jensen directed one group to take a long, roundabout route while he set out himself with the Lieutenant. As soon as the two were alone, the powerful Dane overpowered his captor and took him prisoner, delivering him to United States custody after a fabulous forty-day journey southward, three hundred miles over the ice. They arrived about the first of May, after more than a month of eating together, sharing the same sleeping bag, living side by side on the trail.

LANDING FORCE IS ORGANIZED

As soon as the main United States Northern Base learned of the German expedition, a task force of Coast Guard and Army commandos was organized under the command of Captain von Paulsen. Army bombers, led by Colonel Bernt Balchen, attacked the enemy base in May to prepare the way for the landing forces. The Northeast Greenland Task Unit-designated as Task Unit 24.8.5-consisting of the Cutters NORTH STAR, as flagship, and the NORTHLAND, was organized and ready to sail from Narsarssuak on July 1, 1943, as soon as the ice had melted sufficiently to allow navigation. The mission of the Task Unit was to search out and destroy installations in northeast Greenland, in cooperation with the Army, and to establish a new Sledge Patrol station at Eskimonaes.

NORTH STAR AND NORTHLAND SET OUT

An Army detachment of twenty-six men and two officers, especially selected and trained, together with some special equipment, was divided between the two cutters. Three Danes, forty dogs, and dog food were also put aboard. A portable house and two boats, in addition to other items, were loaded on the NORTH STAR. En route, the SS NEVADA was escorted to Angmagssalik, meeting the escort vessels on July 3; and she arrived on July 10 at her destination. The three ships were trapped in ice for three days entering Angmagssalik, and the NORTH STAR was slightly damaged. The two cutters proceeded to Reykjavik, arriving July 13, when a conference was scheduled, and the injured ship spent several days being repaired.



SCOUTS SET OUT FOR THE HILLS

NORTHLAND BECOMES FLAG SHIP

At the conference, Colonel Bernt Balchen expressed his opinion that a supply ship used by the Germans in Hansa Bay was probably still afloat, so in order to prevent its escape, certain adjustments of personnel and supplies were made, and the NORTHLAND sailed after a stay of but fourteen hours in Reykjavik. The NORTH STAR was to follow as soon as repaired. Captain Von Paulsen transferred his flag from the injured cutter to the NORTHLAND to head the expedition.

NORTHLAND FIRES AT ENEMY PLANE

En route the NORTHLAND sighted a strange plane, at 2020 on July 15, and identified it as a German Junkers Bomber. When the plane had approached to 5000 yards, the cutter opened fire with all guns. But the bomber veered off, and after circling the ship one complete turn eight to ten thousand yards, flew off in a westerly direction. The first bursts from the 20-MM guns looked close but fell a little short and there were no casualties.

NORTHLAND ARRIVES AT ENEMY BASE

The NORTHLAND, after passing through 210 miles of leads in the ice and being beset with pressure for twenty-four hours, arrived, at 0125 on July 21, in Pendulum Strait, off Shannon Island. The cutter's plane was making an aerial reconnaissance when three Army planes from Iceland, commanded by Colonel Balchen, arrived on the spot. The Army planes flashed a signal to the cutter that there was no sign of life on the island and that the Danish station thirty miles south had been completely burned down. Battling her way through swirling ice floes, the NORTHLAND made for the beach, where the Army-Coast Guard landing force went ashore to look for any Germans that might be hiding in the rubble. They searched the camp site and the region south of Bass Rock to the head of Lock Fine. The Hansa Bay encampment showed no signs of enemy occupation.

ENEMY BASE WELL BUILT AND DEFENDED

The base was small but of solid construction, indicating the Nazis' plan to remain permanently. It included a radio station, power house, emergency generator, and radio transmitter separately located, defensive machine-gun emplacements, and food caches. Anchored in the harbor was a small supply ship which had telephone communication with all principal shore points. The landing party found all the main buildings, except a small generator, had been destroyed. The supply ship was a burned out, blackened mass of rubble. Everywhere was evidence that the Germans had put up a bitter fight. Bits of wreckage, life jackets, the splintered parts of lifeboats, clusters of .50-caliber ammunition were frozen in the ice.

HASTY EVACUATION OF ENEMY - LEFT SOME SUPPLIES

The German camp bore every indication of having been hastily abandoned. It had been exceedingly well and completely laid out and equipped. Tobacco and candy, as well as machine-gun parts, clothing, and other supplies had been dropped by parachute containers. Food was choice. Salvageable material was used on the spot or stocked in the Danish huts. Several hundred gallons of gasoline and kerosene were particularly welcome. Preponderance of evidence indicated that the camp had been evacuated by air, probably in two trips, shortly after the attack on

GERMAN PRISONER "DR. SENNSE"

CAPTURED BY U. S. SOLDIERS AND COAST GUARDSMEN

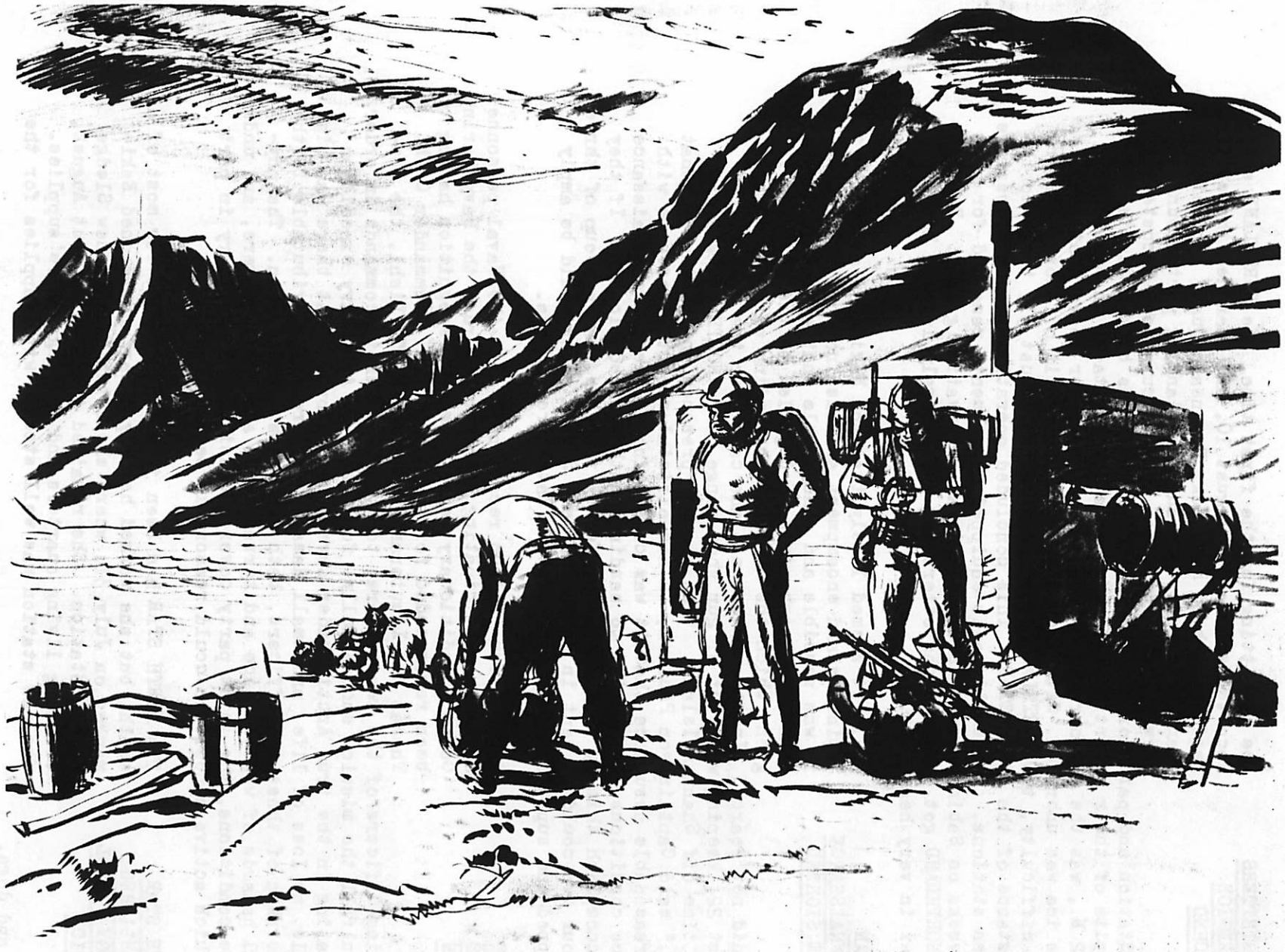
May 25, by Colonel Balchen. Observations made on the spot more than confirmed the reported success of the air attacks.

GERMAN PRISONER TAKEN

After searching all day without finding a trace of the enemy, most of the landing party returned to the cutter. Captain Von Paulsen and two of his men remained on the beach to continue the investigation. It was the season of the midnight sun, when daylight lasts throughout the 24 hours, so searching conditions were excellent. The three groped their way over the frozen wasteland, little realizing how close they came to death until late the next day, when a German love song came floating across the white silence. An old-fashioned phonograph was scratching out music somewhere on the island. Cautiously continuing the search, the Coast Guard trio discovered a single German officer seated on a rock. He identified himself as Dr. Rudolph Sennse, "assistant doctor", physician of the Nazi expedition. With one hand he changed the phonograph records and with the other he held a "potato masher" type of grenade. The German readily surrendered, explaining that he had lost his dogs and sledge in an ice crevasse, while away on a scouting expedition, and was returning to his camp when he discovered that the Americans had arrived. Infuriated to find the Nazis driven out, the Herr Doktor had looked about for a weapon with which "to strike one last blow for the Fatherland", and had found the hand grenade. This prisoner was classed as a "Marine assistant" by the leader of the German expedition, Lieutenant Ritter, who had been taken prisoner earlier in the spring. Sennse claimed and was accorded the status of an officer, but Captain Von Paulsen believed that in addition to his other qualifications the German was a Gestapo agent.

NORTH STAR FIRES AT ENEMY PLANE

En route, the NORTH STAR sighted a German reconnaissance plane, type Blohm and Voss, Ha 138, on July 23, about 12 miles distant, approaching from the eastward, north of Jan Mayen Island. As the plane crossed the starboard bow of the cutter, gun No. 1 opened fire at a range of 6000 yards. Crossing from starboard to port, the plane answered the NORTH STAR with machine guns, their projectiles forming a straight line of agitated water approximately 600 to 800 yards from the bow. The enemy then reversed his course, coming down the starboard side, apparently to search for a soft spot in the ship's armament, and when well off the starboard quarter turned toward the ship. At that moment, the cutter's gun No. 2 fired, and the plane flew toward the starboard. When the enemy craft was abreast the pilot house, both guns found the range and the ship's spotters observed projectile bursts rock the plane. At this point, the plane began to throw off black smoke so that momentarily it could not be determined whether the enemy was turning toward the ship or away. The plane broke off, however, reported Lieutenant Commander H. T. Diehl, Commanding Officer of the NORTH STAR, and stood off to the northeastward, trailing behind it a heavy black exhaust smoke, and speedily dropped to a low altitude, at which it disappeared over the horizon. It was observed to bounce above the horizon on three occasions as though it could be hitting the water. From the actions of the plane when it went through the last salvos, it had probably been hit by shrapnel.



PREPARING FOR RECONNAISSANCE PATROL

HOCHSTETTERS BAY REGION SEARCHED

Ice permitting for the first time, the NORTHLAND entered Hochstetters Bay on August 10, and searched the entire region south of Haystack, Roseneath Bugt, including Shannon Island. Although the landing party found no Germans or evidence of enemy occupation, Hochstetters Bay Station and parts of Shannon Island showed signs of the Nazi's visit in spite of their efforts to leave no traces. Haystack, in Latitude 75-42 N., was the northern limit possible access, for above that the shore ice was unbroken, with pack ice close against it offshore. After much difficulty, the NORTHLAND left the area, on August 31, to go to the assistance of the NORTH STAR. This concluded operations against possible German stations. Two small radio-equipped detachments remained for a few weeks on Sabine and Pendulum Islands as observation groups. Before the NORTHLAND got out of Hochstetters Bay she severely injured her propeller in very heavy ice.

GERMAN RECONNAISSANCE PLANE SIGHTED

While it seemed likely that the Nazis had abandoned the Sabine Island encampment and also northeast Greenland, it was possible and conceivable that a small group might have gone north by dog sled to the Dove Bay region, which the NORTHLAND's landing party could not and did not search. Indeed, a German plane came over the cutter, on August 22, keeping well out of gun shot range. The NORTHLAND was at that time off Shannon Island. "The plane's presence and actions in that area," said Captain von Paulsen, in his official report, "leave me with the reasonable assurance that it was conducting a general reconnaissance of ice conditions with a view to sending another expedition in. If they do accomplish this by boat, it is perfectly feasible that a group of three or four men could be sent in by parachute. Such a party could be amply equipped and supplied." This prediction later proved true.

GREAT RISKS TAKEN

Captain von Paulsen recommended that the Naval personnel actually participating ashore be awarded the Navy Marine Corps Expeditionary Medal, similar recognition having been recommended for the Army force. Commander C. W. Thomas and Lieutenant Commander H. T. Diehl, the Commanding Officers of the two cutters, took risks to their commands in order to fulfill the mission successfully for the joint Army-Navy expedition, operating in the true Arctic under severe conditions. That there was high morale, no loss of life, and small damage was directly attributable to the leadership of those two officers, both as officers and seamen. The physical hazards of weather, ice and terrain were abnormally severe, and under those conditions, the joint party covered considerable territory in part of which active opposition could reasonably be expected.

NORTH STAR ESTABLISHES SLEDGE PATROL STATION

The NORTH STAR had been jammed in the ice for most of a month, but she worked her way clear and reached Eskimonaes on July 31, where she established a new Sledge Patrol Station. She remained there throughout August, erecting living quarters and putting ashore supplies. The new station was well stocked with supplies for the men and dogs.

GERMAN RADIO STATION AND BASE DISCOVERED BY A FORCE OF FREE DANISH HUNTERS

BOTH CUTTERS ARRIVE AT PORT

The journey home through the ice extended the trip by several months. With her propeller crushed and twisted upward, the NORTHLAND's speed was reduced by three quarters. The Army troops were preparing to abandon ship when an ice pack, holding the cutter tightly in its grip, carried them toward the shore and what appeared certain death against the high cliffs. But the Coast Guard crew, with characteristic stick-to-it-iveness and courage, floated 54-pound wrecking mines under the ice and dynamited a channel to the sea. At times they progressed only a few yards after an hour's blasting, but they kept on battling their way out until they came to port. The NORTH STAR, in spite of a damaged rudder and other injuries, managed to work her way clear of the ice pack and joined her sister ship in the open water. The two cutters arrived in Iceland on September 11, having gone hundreds of miles since July 1, in the ice-jammed Arctic waters.

THE STORY AS TOLD BY THE LEADER OF THE GERMAN EXPEDITION

GERMAN SHIPS AND PLANES GIVEN INFORMATION

Lieutenant Hermann Ritter, the leader of the German Expedition in 1943, was a Lieutenant in World War 1, a student of geology, teacher and author of books on the Arctic, and at one time the Master of a German whaling ship. Early in 1942, Ritter was commissioned in the German Navy and put in command of an expedition to Greenland to establish a weather reconnaissance station. The object of the installation was to send long-range weather forecasts to the German Luftwaffe and to direct the German submarine war in the North Atlantic. Actually, as soon as the station started functioning, it also sent advance weather information from Greenland to German merchant ships, enabling them to operate in the Straits between Iceland and Greenland, and from Norway to Singapore, the East Indies and Japan. These ships carried Axis supplies right through the gantlet of the Allied navies, dodging them successfully because of advance information.

WEATHER REPORTS SENT TO BERLIN

Ritter left Germany in August 1942 on the HERMANN, bought in Denmark and fitted out in Kiel. He proceeded to Norway and from there to the east coast of Greenland, where he was to locate a site for a weather station. He decided to erect a base at Sabine Island, on the shore of Hansa Bay where he landed on August 26, 1942. During that fall and winter, the base made ground observations five times daily and sent radiosonde pilot balloons up once every afternoon. The results of these weather observations were radioed twice daily in code to the German naval high command in Berlin, and by them disseminated to the various theaters of war. The radio was operated by Diesel-powered motors and dynamos.

NAZIS SEEK SPOT FARTHER NORTH

As soon as Ritter realized that the Sledge Patrol men had discovered the German uniform, carelessly left lying in the hunter's cabin, he radioed Berlin that he and his men had been detected, and was ordered to go to Eskimonaes and destroy the Sledge Patrol base there. Upon his arrival at that base, he attacked the Danes. When they escaped, he was convinced that the German base at Sabine Island would be attacked, so he advised Berlin that it would be advisable to evacuate the installation at Sabine and transfer the men and equipment to a spot farther north

UNITED STATES ARMY AND COAST GUARD COMMANDOS INVESTIGATE AREA REPORTED AS SUSPICIOUS

and more difficult of access. The German plans were upset by the bombing of their weather base and the capture of Ritter. Fleeing from Sabine after the American raid, the Germans apparently made for a rendezvous and were rescued either by Nazi aircraft or a surface ship.

COAST GUARD PHOTOGRAPHER'S ACCOUNT

GERMAN PLANE FOUGHT OFF

Photographer's Mate, 2c, Hyman Rothman of Brooklyn, was serving aboard the NORTHLAND to make a picture record of all action, though he also stood watches and had his battle station like the other men aboard. "We had one encounter with a German plane en route to our destination," Rothman related. "When she failed to answer our challenge we opened up on her. As she came in we could see her markings, but her attack was futile as our boys fought her off."

THICK MUD ASHORE

"Nearer our goal, the cutter's plane aboard took off on a reconnaissance trip and on her return our men started ashore. These were Coast Guard and Army commandos under the command of Captain C. C. von Paulsen of the Coast Guard and Captain Melvin M. Jensen of the Army. They had a real tough time of it, the mud being so thick the men sank to their knees with almost every step. After travelling six or seven miles in this manner, we came upon the German radio station. We broke up into scouting parties and found abandoned clothing, food, wrecked machine guns, and plenty of ammunition. I guess the Germans were expecting trouble. We went to several other islands up there and found traces of recent occupation--huts and equipment."

CAUGHT IN ICE PACK

Rothman told how the ships were locked in ice packs for twenty-one days and how they were fourteen miles off shore one night and next morning were only three miles off shore, still packed in. The situation became so critical at one time that the Captain sounded General Quarters and told all hands to don their heaviest clothing. "We'd been having a rough time of it, battling the ice and the weather," Rothman said, "and I guess the ship was beginning to go. The skipper told us we'd probably have to abandon, and outlined plans for the Army men to go to one point and the Coast Guardsmen to another, each with a month's supply of rations. Then, as a last resort, we fired some mines we had aboard. Fortunately they did the trick and we were freed." They headed for their base, for repairs to the ships, and on the way contacted a submarine. "We dropped several ash cans but nothing further happened," related Rothman. "Next day we picked up another sub contact and followed the same procedure. The remainder of the trip was uneventful and we arrived okay at our base. The whole trip lasted three months."

1944 ROUT OF THE NAZIS

CLIMAX IN 1944

The battle against German weather and shipping observation expeditions came to a climax between July and October in 1944, when a task force of four cutters smashed through the ice-packed waters only a few hundred miles from the North Pole and broke up a determined Nazi effort to establish fortified bases on the northeast coast of Greenland. In this battle, believed to have

DESTROY GERMAN RADIO BASE IN GREENLAND

been the farthest north of any in the Western Hemisphere, the cutters NORTHLAND, STORIS, SOUTHWIND and EASTWIND captured sixty Germans, routed three German trawlers, and destroyed two enemy weather and radio stations.

SLEDGE PATROL DISCOVERS GERMAN BASE

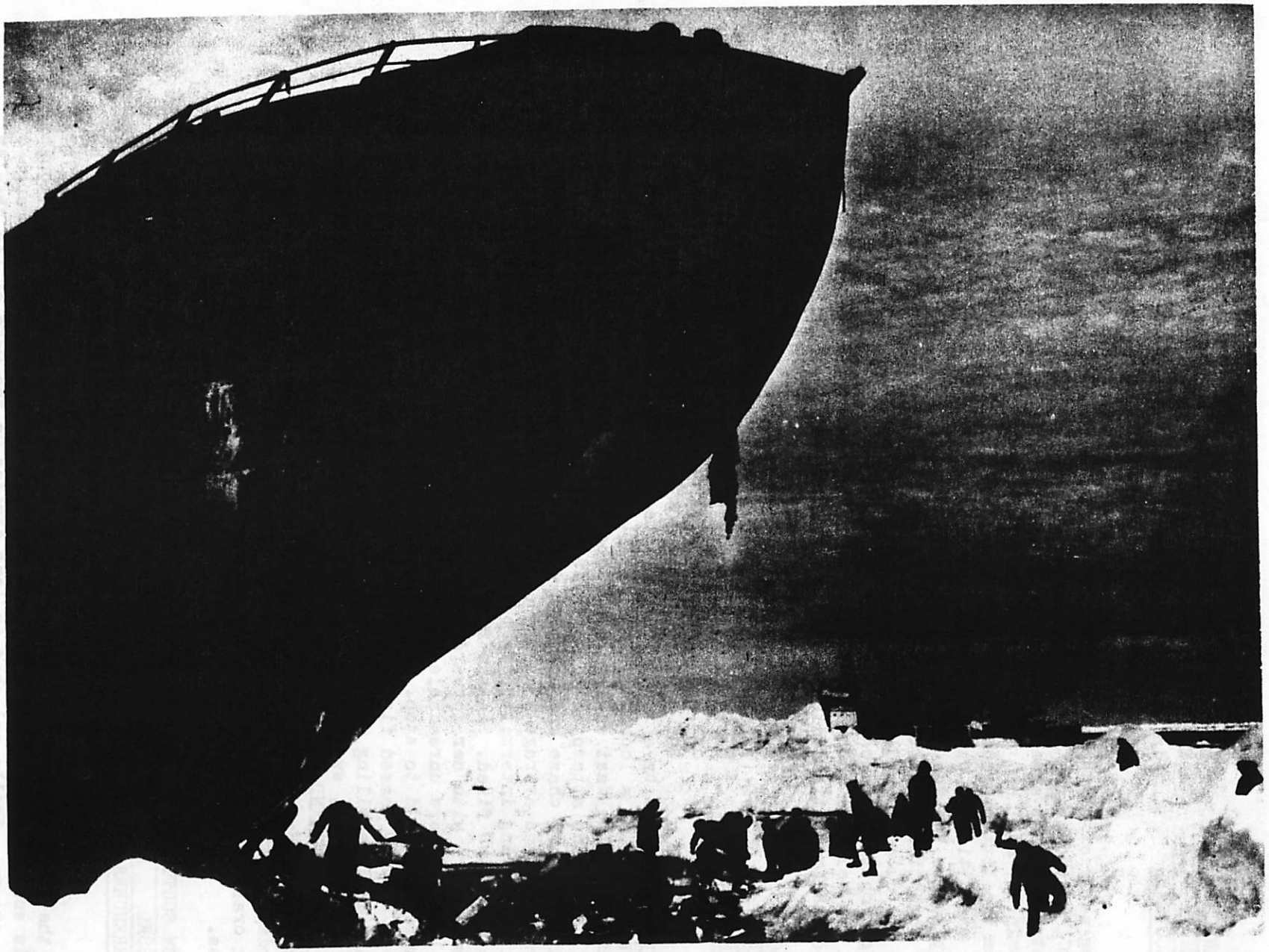
In July 1944, the NORTHLAND and the STORIS were sent to northeast Greenland on the routine job of transporting supplies for the stations and huts of the Greenland Sledge Patrol, and for the combat assignment of destroying a German weather and radio station reported by a sledge patrol officer to be set up somewhere in the vicinity of Shannon Island. The Captain, on a routine patrol off Cape Sussi, northern tip of Shannon Island, had seen signs which led him to investigate. Setting out with eight men, he left them behind a promontory and sneaked up to watch the suspected German camp. He saw a well supplied and well fortified base. While watching the changing of sentries, which took place every half hour, he was surprised from the rear by a bearded Nazi officer. A gun duel ensued in which the Nazi was killed. In the chase that immediately followed, the sledge men were driven away by Nazis armed with machine guns.

LANDING FORCE PROCEEDS OVERLAND

Late in July, therefore, the two cutters embarked, in addition to supplies for the sledge patrol stations, a joint Army-Coast Guard landing force. A platoon of twenty-four men, under Lieutenant Philip S. Pepe, USCG, and Ensign Benjamin D. Fleet, USCG, from the NORTHLAND, joined the STORIS landing party of fifteen men, under the command of Lieutenant (jg) LeWayne N. Felts, USCG, for the attack with the Army group. The twenty-five Army men were under the command of Captain Bruce M. Minnick and Second Lieutenant Robert C. Nelson. The shore party was to land on the island from the south and attempt to go overland to the Nazi installation, known to be fortified with machine guns, rifles, and grenades. As the ice pack had moved into the bay in front of Cape Sussi, where the enemy had their base, the landing force hoped to surprise the Nazis. Unfortunately, bad weather, bringing heavy snow, sleet and mushed-out trails, made it impossible to get more than six miles inland. A stronger force was put ashore three days later. Part of this group was to make a base camp on the way to Cape Sussi from which the attacking Americans could operate. This plan, too, was unsuccessful because of extreme weather. Eventually the land force, worn and weather-beaten, arrived at Cape Sussi. Meanwhile the wind had shifted, opening leads through the ice pack in the bay, so the NORTHLAND moved around the island and sent another landing party ashore.

NAZI STATION DESERTED

The Americans found a deserted Nazi building, so well camouflaged that it could be seen only from a certain angle. From the remains of smashed instruments it was evident that the Germans had fled hastily. In ice caves near the building, the landing forces found a large stock of gasoline, food, and ammunition. They also discovered parts of a radio capable of communicating direct with Germany. Near the camp was a well marked grave with a helmet-graced cross and the inscription "Lt. E. Zacher, 24.4.44", name of the man shot by the Danish captain. The base was fired by the Army and Coast Guard forces.



GERMAN TRAWLER TRAPPED IN ARCTIC ICE FLOES

ABANDONED NAZI TRAWLER DISCOVERED

As the cutters were leaving Cape Sussi, a lookout on the NORTHLAND reported a vessel about four miles off, caught in the ice. The cutter headed toward the strange craft, but heavy pack ice prevented a close approach. From the air, the ship was found to be abandoned. An investigating party of sixteen men under the command of Lieutenant F. H. Harmon, USCG, went over the ice to the vessel and reported back that she was a 155-foot long, Nazi armed trawler, beset and crushed by the ice. An explosion within her hull had holed her badly and she was entirely gutted by fire. From the litter around the ship, it was evident that the German crew and the expeditionary passengers had moved all the food, ammunition, and other supplies to the ice and then to the shore building, where they had lived for some time. The two anti-aircraft guns had been removed from the ship and set up on the ice nearby. Parachute cylinders of the type used in cargo "chutes" indicated that the men had been supplied by air. This vessel was believed to be the COBERG, carrying one of the apparently three separate expeditions dispatched to the northeast Greenland coast.

SECOND VESSEL CHASED

A second Nazi vessel was disposed of on September 1, by the NORTHLAND, after a 70-mile race through twisting paths between ice floes off Great Koldewey Island. The cutter chased the Nazi trawler for seven hours towards the southernmost tip of Great Koldewey, where the enemy ship was blocked by a long finger of ice. Spotted in the early Arctic dawn at 0320 by a lookout on the NORTHLAND, at a distance of seven and a half miles, the Nazi ship was challenged, but instead of answering altered her course and attempted to dodge into the ice pack. The NORTHLAND immediately gave chase and although the enemy ship was faster, managed to keep within an average distance of 10,000 yards. Whenever the Nazi vessel, appearing intermittently between ice and floes, came within range, the NORTHLAND fired. As the range closed rapidly, the cutter began continuous fire with her forward gun. Signals from the trawler were observed at 1001 but were unreadable. Signals at 1014 were also unreadable and the trawler was told to stop. At 1030, when the ship appeared to be slowing, the NORTHLAND ceased firing. But since the enemy still kept her speed, and course, shelling was resumed. No hits were observed. Toward the end of the twisting, swerving race, when the trawler altered her course sharply, the NORTHLAND countered with a similar move, and the German ship swung back on the original course. In this maneuver, the cutter gained valuable yardage so that her shells began dropping uncomfortably close to the fleeing craft, which until then had been at the extreme range of the cutter's guns.

CREW SCUTTLES VESSEL AND SURRENDERS

Lieutenant Commander R. W. Butcher, USCG, skipper of the NORTHLAND, feared that the enemy trawler might round the tip of the island and get into clear water, where her superior speed would enable her to escape. Later he learned that such had been the Nazi's plan. However, as the enemy reached the turning point in the race, she suddenly stopped. This enabled the NORTHLAND to come rapidly within effective gun range of her quarry. Shells splashed in long strides up the wake of the trawler.

CGC NORTHLAND SMASHED HER RUDDER

Two explosions, one forward and one aft, at 1042 suddenly ripped the enemy craft. The Nazis had scuttled their ship rather than have her fall into American hands. It sank in three minutes, in twenty-three fathoms of water, in Latitude 75°57' N., Longitude 18°39' W. As three lifeboats pulled swiftly toward the beach, the NORTHLAND's 20-mm's were manned to stop any overland escape. The cutter anchored in twenty-three fathometers of water to sixty fathoms of port chain, 500 yards from the tip of Great Koldewey Island. The lifeboats came alongside carrying eight officers and twenty enlisted men of the German armed forces, who surrendered and were taken aboard the NORTHLAND. Six bore names known to have been on the personnel list of the Sabine Island Nazi installation destroyed by the Greenland Patrol in 1943. One prisoner, a full commander, dramatically handed his sword over to Commander Butcher. It was framed and mounted in the wardroom of the NORTHLAND. The prisoners were searched and separated according to Prisoners of War Regulations. Non-commissioned men were quartered in the Glory hold and officers in the Sick Bay.

ENEMY SUB SIGHTED

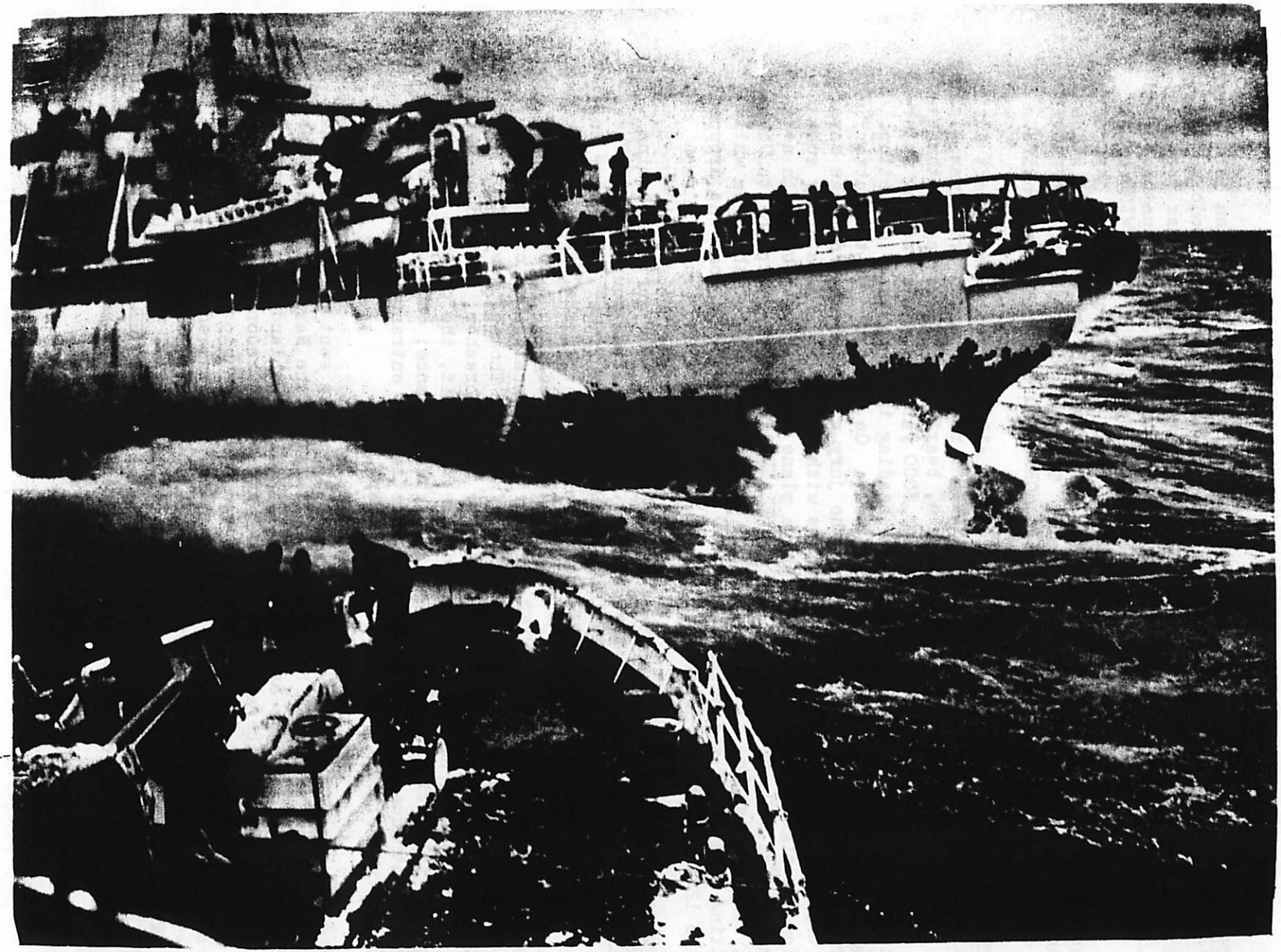
At 1500, on the same day, an object was sighted bearing 025°T, at a distance of 12,000 yards. It was identified as an enemy submarine and open fire order was given. The explosions heard that morning were now explained--they had been torpedoes. A plane was sent up to search for the U-boat, which appeared to have superior speed. Search for the sub continued on September 2. A plane reported at noon that it had sighted the enemy sub bearing 150°T, twenty miles away in clear water, and had dropped two 100-lb. bombs. Results of this attack were not visible. Both cutters set a course for that area but saw no signs of the submarine. On September 7, a plane sighted a submarine, but with negative results. The search continued.

ENEMY PLANE APPROACHES "STORIS"

The cutter STORIS, in the height of the chase, found a Nazi Fock-Wulfe #200, twin-motored bomber approaching her. Battle stations were sounded aboard the cutter as the Nazi plane swung into her attack run. Just as the plane roared down into gun range, she veered off and circled the cutter, finally flying off to the east. The plane was believed to be attached to the Nazi expedition.

NORTHLAND DAMAGED IN ICE

In maneuvering through the ice at one third speed, the NORTHLAND had smashed her rudder so badly that she was unable to proceed. For two days, from September 2 to 4, her crew labored to contrive a jury rig. Cables were run over the side and attached to the remains of the rudder and then brought up and around the capstan. By this means the vessel could be steered and made at least partially maneuverable. The STORIS acted as screening protection while the NORTHLAND sat in the water vulnerable as a duck.



COAST GUARD CUTTER EASTWIND OFF THE GREENLAND COAST

EASTWIND, SOUTHWIND, EVERGREEN EN ROUTE

Meanwhile, since the cutter's damaged condition left only the STORIS to cope with the Nazi forces, Commodore Rose requested Admiral Smith, Commander of Navy Task Force 24, then in the vicinity of Newfoundland, to dispatch orders for the two new Greenland Patrol Cutters EASTWIND and SOUTHWIND. Both ships, newly commissioned, had just arrived at Boston from the Pacific coast. They raced to the Greenland scene in an emergency 3000-mile full-speed run. The tender class cutter EVERGREEN was dispatched north to tow the disabled NORTHLAND to a base for repairs.

NORTHLAND AND STORIS PATROL

Sharp lookout was kept by all hands for enemy craft during repairs to the NORTHLAND's rudder. A submarine was sighted at 2300 on September 4, bearing 210°T, moving southeastward at a distance of 8000 yards. It was snowing intermittently. The NORTHLAND got underway, heading in an easterly direction. The jury rig on the rudder was working well. On September 5, the cutter moored to ice until evening, checking the jury rig. The next day she hove to, took on water, and patrolled the ice with the STORIS. The enemy submarine was sighted on September 7, and a plane made a flight but with negative results. On September 8, the NORTHLAND lay off the entrance to Dove Bay, denying entrance to the enemy, and continued to patrol the area while awaiting arrival of the cutters EASTWIND and EVERGREEN. A boat was dropped on the 12th to hoist a polar bear.

EASTWIND ARRIVES

At 0200 on September 13, the EASTWIND arrived, coming alongside the crippled cutter half an hour later. Thereupon, the NORTHLAND's Commanding Officer, Commander Butcher, departed for a conference with the EASTWIND's skipper, Captain Charles W. Thomas. The STORIS screened around both ships. Planes of the STORIS and EASTWIND made aerial reconnaissance of Dove Bay and adjacent areas. Under the new plan of Captain Thomas, now C.T.U. 24.3.5, who had relieved Lieutenant Commander E. W. Thresher, Commanding Officer of the STORIS, acting Commander of the Task Unit, the cutters were to patrol as follows: NORTHLAND, Danmark Harbor entrance; EASTWIND, southern Dove Bay entrance; and the STORIS, Hockstetter Bay entrance. The crippled NORTHLAND patrolled to the end of September.

PLANES ASSIST VESSELS

Coast Guard and Army planes were sent north during the action between the cutters and the Nazis. During operations around Shannon Island, Greenland Base Command Liberators flew out twice on ice reconnaissance. Coast Guard Catalina's roared over the ships to give air cover and aid in ice reconnaissance. When the EASTWIND arrived on September 13, her scout plane joined those of the NORTHLAND and STORIS in routine searches. The STORIS plane was piloted by Lieutenant (jg) Paul F. Hersey, USCG; the EASTWIND plane by Ensign Joseph T. McCormick, USCG; SOUTEWIND by Ensign Max Webb, USCG; and the NORTHLAND by Lieutenant (jg) Kenneth M. Bilderback, USCG.

COAST GUARDSMEN SURPRISE AND CAPTURE 12 NAZIS ON EAST GREENLAND WEATHER BASE

NORTHLAND TOWED TO ICELAND

Although the EASTWIND had arrived, the NORTHLAND's troubles were not finished. Her jury steering apparatus broke down, due to wear on the cables. On September 21, the cable broke and was fixed. On September 28, the cables parted again during a bad storm. Seas were running high and the temperature was down to the freezing point. Repairing the rig meant working over the side while the ship rolled in the troughs of 20-foot waves. She was helpless, too, should a Nazi submarine appear. The EVERGREEN, which was to tow the disabled cutter to safety, had not yet arrived. The STORIS and EASTWIND came to the rescue of the stricken cutter. On September 29, after desperate work, a line was finally run out from the EASTWIND to the NORTHLAND, and the two proceeded. The next day, the cable on the temporary steering rig was repaired and the NORTHLAND worked clear of ice. The EVERGREEN arrived, and at 1940, September 30, took the NORTHLAND in tow for Reykjavik, Iceland, for repairs.

ANOTHER RADIO STATION CAPTURED

The battle against the Nazis was approaching its climax. On October 4, the EASTWIND landed two platoons of sailors on Little Koldewey Island, 800 miles south of the North Pole. In a pre-dawn attack, they stormed a Nazi radio and weather station set up on the island, and bagged three officers and nine enlisted men, together with a large amount of scientific and radio equipment.

ANOTHER NAZI VESSEL SIGHTED

On October 2, a plane from the EASTWIND, with Lieutenant Commander Harold Land, USCG, aboard as observer, had sighted an east-bound vessel at 1500 at Little Koldewey, identifying it tentatively as a large trawler, about 200 feet in length. Upon the plane's return to the EASTWIND, about 120 miles away, the cutter proceeded northward at full speed. The second flight was directed at 1730, so that the trawler could be located before dark and tracked until the EASTWIND had advanced enough to pick her up by radar. The moon and Aurora Borealis would provide enough light for the plane. The plane was launched with only five minutes delay and proceeded toward the most probable position of the vessel. Airmen located what appeared to be materials on the southeast side of the North Little Koldewey, but there were no signs of life. The plane reached Dove Bay and then set intercept course to the EASTWIND, returning and landing on the ice without mishap. It was thought that the enemy vessel would try to escape toward Norway, so the Task Unit Commander decided to search from flank, covering ten-, eleven-, and twelve-know circles radar range.

CUTTER AND PLANE SEARCH FOR ENEMY VESSEL

The EASTWIND searched to the North Flank of the Arctic pack with negative results. The enemy craft, later known to be the EXTERNSTEINE, was apparently a rather new ship and probably able to make up to fifteen knots. A search was made to the westward. Since the sea was frozen over with about four inches of ice, a plane could not be launched until 1200, when the ice became thinner, permitting the EASTWIND to break out a slick. The plane then took off, searched for the vessel, and flew over Little Koldewey, but saw no signs of life. When

2 GERMANS UNDER GUARD AS A LANDING PARTY OF COAST GUARDSMEN CAPTURED THEIR RADIO-WEATHER INSTALLATION

the plane returned, the EASTWIND was in thicker ice. However, Ensign McCormick set his plane down in the ship's wake before the ice could close, while the EASTWIND was steaming into the wind.

EASTWIND MOVES IN

It was assumed that the enemy was still on Little Koldewey, so a surprise landing was planned. To this end, the EASTWIND maneuvered through heavy storis at night and entered the straits separating Little Koldewey from Great Koldewey. She was to anchor off the south end of Southern Little Koldewey and move up at 0230, an hour and a half before zero hour, set for 0400. Dense fog and large floes of ice drifting with the current left no alternative, however, except to proceed into Storm Bay and lie to.

TWO PLATOONS LAND

At 0230 on October 4, the EASTWIND slipped down to the west side of North Koldewey and broke out a slick for her boats. The first platoon landed at 0344. As reported by Lt. (jg) Alden E. Lewis, USCG, company commander of the landing force, this platoon landed on the southwest shore of the island. Six months later one of the scouts sighted the enemy. The first and third squads, deployed as skirmishers, advanced out toward the enemy installation; the second squad was held in support by the platoon leader. At 0414, the second platoon (headquarters company) disembarked and advanced toward the enemy installation. The second platoon now took over the support, allowing the first platoon's second squad to advance to the left flank of the first platoon.

ENEMY SURRENDERS WITHOUT RESISTANCE

Meanwhile the enemy had been sighted by the scout on the right flank of the first - or advanced - platoon, so the men of this platoon were deployed on the ridge overlooking the enemy camp. The German Commanding officer seeing himself surrounded, called for the Officer-in-Charge of the landing force. Whereupon, the first platoon leader went forward to receive the enemy officer and demand his surrender. The enemy gave up without resistance.

ENEMY CONFIDENTIAL PUBLICATIONS CAPTURED

By this time, the second platoon (headquarters company) had caught up to the line of deployment, and squad two of this platoon was designated as a guard to escort the twelve prisoners back to the ship. The other two squads of this platoon, along with the second squad of the first platoon, were sent to carry out a complete reconnaissance to the northward on the rest of the island. The first platoon's two remaining squads went to the enemy camp location and prepared supplies there for moving on board the ship. The enemy commander apparently had not had time to carry out the destruction of confidential publications, which had been kerosene soaked but not touched off. Further reconnaissance of the island revealed no additional enemy personnel. Two installations were discovered: a telephone line to the west side of the island, and a cache of radio equipment and ammunition further back in the hills.

COAST GUARDSMEN DELIVER SUPPLIES TO THE DANISH SLED PATROL

TWELVE PRISONERS TAKEN

In order to furnish gun support, the ship was to have gone around the north end of the island as soon as artillery was not needed on the west side and a report of ice conditions was received, but the task was carried out so quickly that the enemy surrendered before the report could be sent. Prisoners taken were: Dr. Carl Schmid, Lieutenant; Dr. Walter Sander, Ober-Lieutenant; Hanns Peiken, Ober-Lieutenant; Hans Wagner, Private First Class; Henrich Neu, Sergeant; George Kuhn, Assistant; Fritz Klump, Radioman; Robert Elsassel, Private; Heinz Neumann, Private First Class; Herman Bai, Assistant; Kurt Mast, Petty Officer; Edward Miller, Private; plus one dog.

STORES, PLANS AND CODES CAPTURED

After receiving the prisoners, the EASTWIND proceeded to the southeast of the island to load enemy stores, consisting of scientific equipment, ordnance (land mines, machine weapons, mortars, grenades, rifles, pistols and shotguns), food, personal effects, medical stores, and fuel. Confidential papers, some classified as secret with a warning against letting them fall into the hands of the enemy, consisted of:

Operation Plans:

(a) Operation Plan for GOLDSCHMIED expedition to establish a weather station in FRANZ JOSEF LAND with ammunition and land mine annexer.
(b) Operation Plan for EDELWEISS II expedition to establish a weather station in North Greenland.

Miscellaneous:

Papers, orders and dispatches relative to GOLDSCHMEID and EDELWEISS II expeditions.

Charts, Guides and Photographs:

(a) Charts and information (historical and geographical) about Franz Josef Land
(b) Photographs. A very comprehensive collection, especially of Alexandraland.
(c) Charts of Northeast Greenland, including secret grid chart of Northeast Atlantic.

Codes and Ciphers:

(a) Three weather ciphers.
(b) One aircraft code.
(c) One Land-Air visual code.
(d) One contact code (apparently)
(e) One code for reports, this expedition.

The papers made considerable reference to the EDELWEISS II expedition, which was intercepted by the NORTHLAND, and to the HAUDEGEN expedition, for

SITE OF THE HEADQUARTERS OF THE ENEMY INSTALLATION

which stores were to arrive on 1 October in Norway and which would probably go to Northeast Land in Spitzbegen. Its call letters, frequencies, etc., were given. The above information was communicated to higher echelons and N.O.B. Iceland by dispatch. Translation of the papers was a difficult task, done by Lt.(jg) Harry M. Kelsey, Communication Officer, assisted by Werner Mueller, Electrician's Mate Second Class, USCG, of German parentage.

ENEMY VESSEL SOUGHT

In an effort to locate the enemy vessel, a flight was attempted on 5 October, but it had to be postponed because the ice closed in so suddenly that the plane was nearly lost and the pilot came close to losing his life by going overboard. A flight was made the next day, but with negative results.

STORES TO GREENLAND ARMY

Stores, consisting of food, ordnance, fuel, and a radio receiver, were transferred to the Greenland Sledge Patrol Army at Morke Fjord and Sandodden. Stores useful to the ship were to be retained on board unless contrary instructions were received.

EASTWIND RESUMED PATROL

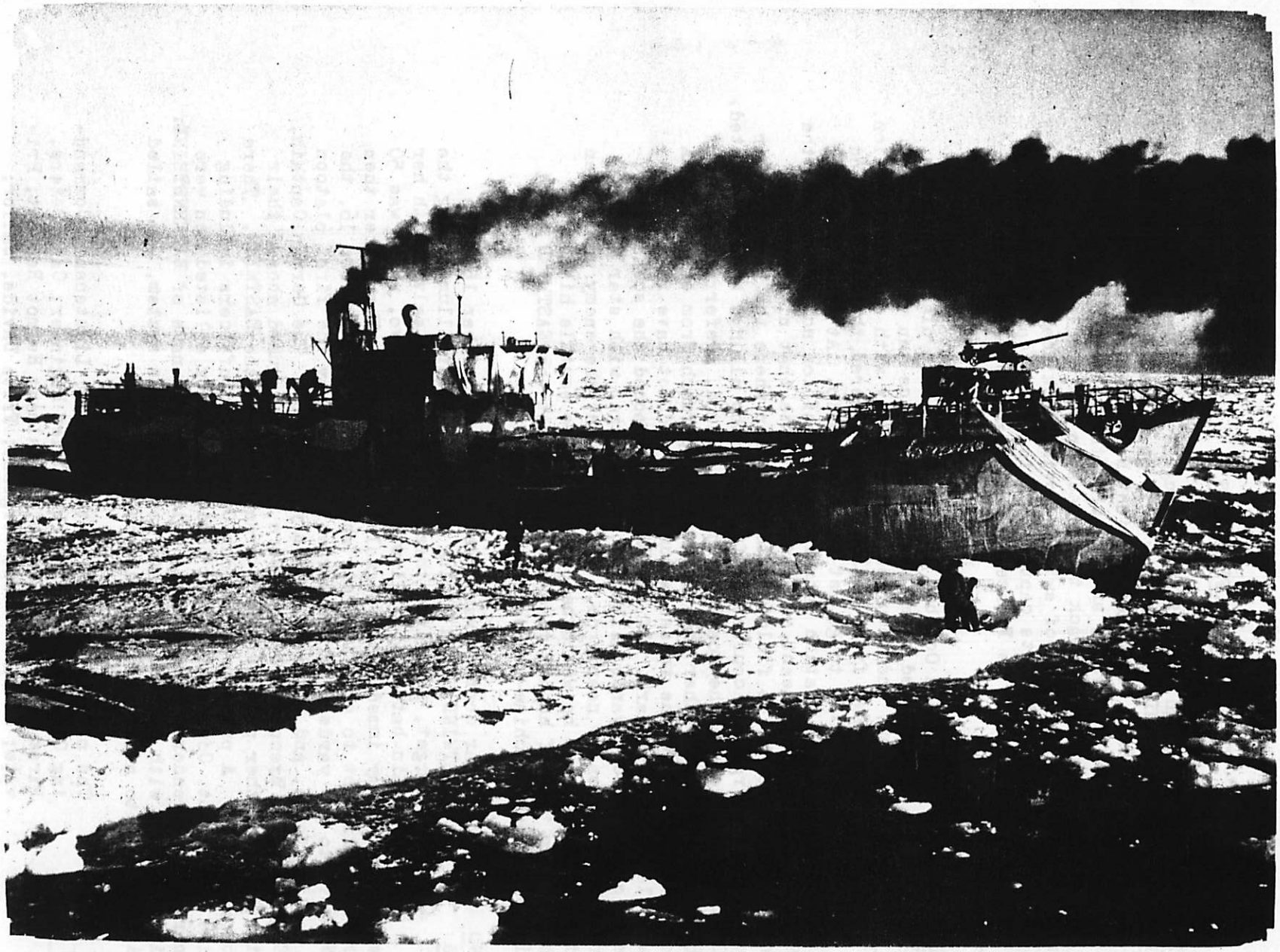
At 0800 on October 7, the EASTWIND's men had worked for twenty-four hours and loading had been completed, except for twenty oil drums and ten bags of coal. Ice conditions made further boating impossible and the swift current prevented transport over ice, so the remaining items were covered with camouflage material and the site was left. Later that day, food and coal were landed for the Sledge Patrol at Morke Fjord by sledging over the ice. The EASTWIND then resumed her station patrol.

COAST GUARD LANDING FORCE WELL DRILLED

The Landing Force, commanded by Lt. (jg) Alden E. Lewis, USCG, with Lt. (jg) Donald O. Ellis, USCG, and Ensign John M. Gira, USCGR, as platoon commanders, had received two months of infantry drill, including commando tactics drill during their pre-commissioning period. In September, a rehearsal for such an occasion had been held on Grouches Snack and a practice debarkation had been made at Oienterings Oerne. All members had undergone the rifle, bayonet, and machine-gun courses.

GERMAN PRISONERS

The German troops who occupied the island were in regulation uniform and well disciplined. Dr, Schmid, geographer, Dr. Sanders, geologist, and Lieutenant Peiken, professional artist and meteorologist, said they were not in sympathy with Hitler but thought Goering was "a good fellow." One of them spoke English. They were quartered in the hospital under guard but occasionally were invited to dinner by the Commanding Officer. The enlisted prisoners were quartered in C-301 where they had plenty of space and air and private facilities. All prisoners had their German fiction books, games and pinochle cards, and were exercised daily. They were aired at least once a day, weather permitting, and one fourth, in turns, were allowed to attend movies at every showing.



ARMED GERMAN TRAWLER EXTERNSTEINE QUIT THE FIGHT AND STRUCK ITS COLORS AS SHELLS ROARED OVER ITS BOW

EXTERNSTEINE OPERATIONS

ENEMY SHIP SIGHTED BY PLANE

The high point in the struggle came when the Cutter EASTWIND, a brand new ship on her maiden trip, closed in on a brand new 180-foot Nazi trawler, also on her maiden voyage, and captured the vessel with its twenty men. The attack took place in the middle of the night, October 15-16, 1944, in a field of swiftly moving pack ice, which shut in and held the Nazi ship for its captors. This vessel carried the third expedition, destined for Ile de France, Germanialand, or some point east of Greenland.

EASTWIND AND SOUTHWIND SET OUT TO GET ENEMY

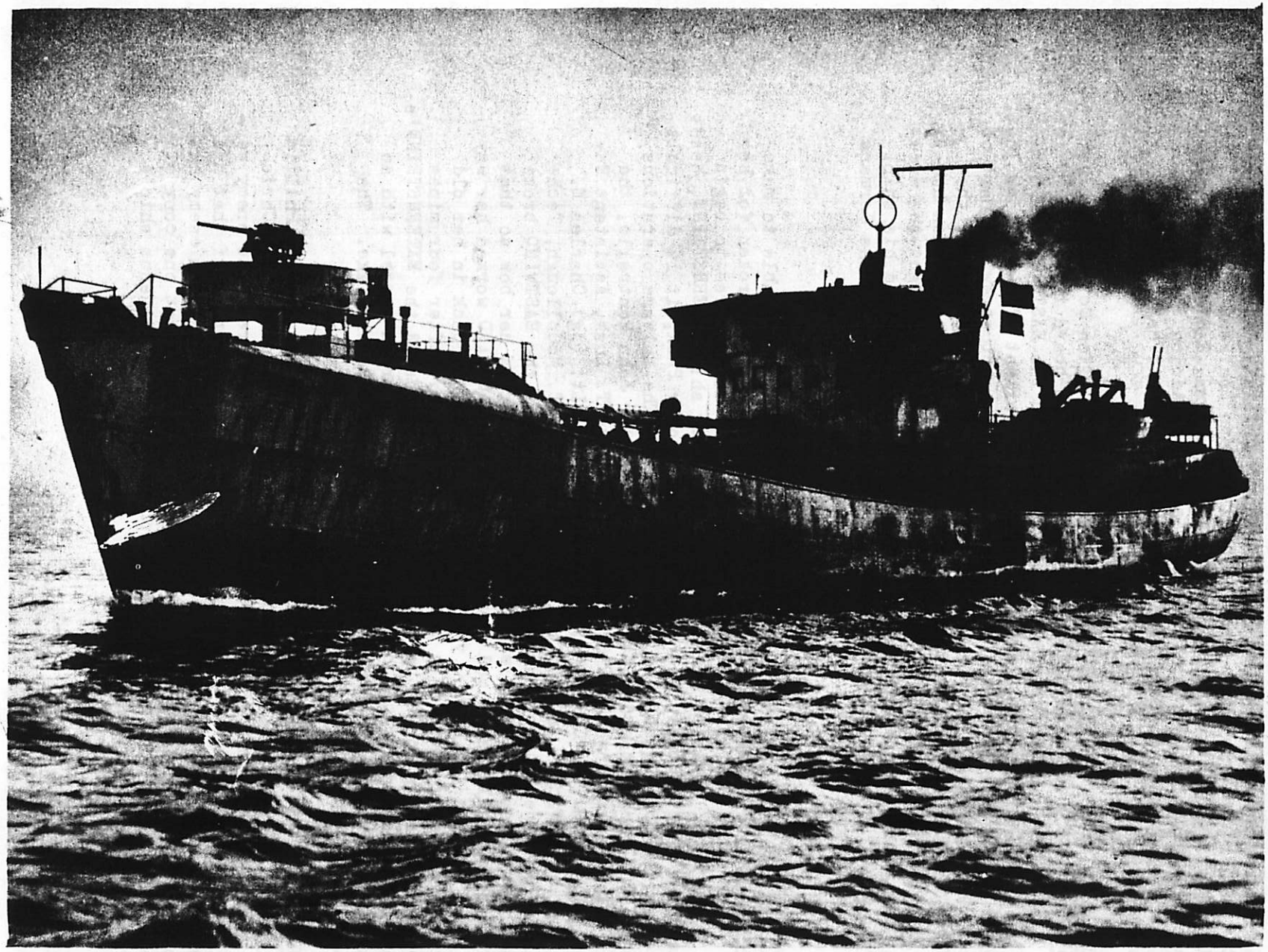
At 1620 on October 15, the EASTWIND's plane sighted a camouflaged enemy vessel in the ice ten miles off Cape Borgen, and returned to the cutter with this information. A message from Captain Thomas ordered the EASTWIND and SOUTHWIND to go get the enemy ship. At that time, the SOUTHWIND was on assigned station patrol, exact position not known, and the EASTWIND was ten miles northeast of Bass Rock. Late that night the two cutters ploughed through ice fields to the location where the Nazi trawler had been spotted. Probable course, drift, ice paths all had been calculated. The EASTWIND proceeded up the coast of Shannon Island, preferring to crush through the Arctic pack rather than attempt an approach from eastward. A plan was made to capture the vessel assuming it did not have radar. The night was clear but very dark. If the EASTWIND reached the scene first, she was to close to 4000 yards, illuminate the target with star shells, and fire with third salvo nearly on. It was thought the enemy would then surrender, in which case he would be ordered not to scuttle his ship, with the warning that if he did make such an attempt the EASTWIND would open fire with heavy machine-gun battery.

EASTWIND ATTACKS

Radar contact was made at 2000 on October 15, The EASTWIND began firing at 2241. After illuminating the target, she fired three full broadside salvos with her main battery. Following the third salvo, which was 50 yards short, the enemy immediately signaled "I give up." The cutter then signaled the Nazis not to scuttle their ship. At 0050 on October 16, the EASTWIND hove to 300 yards from the target, called away the first platoon of the landing force, and rounded up twenty prisoners. The German Captain, Chief Engineer, and Executive Officer were kept under guard aboard their own ship, and the other prisoners were transferred to the EASTWIND. There were no casualties. A prize crew of four Coast Guard officers including Executive Officer Lt. Commander Harold Land, and thirty enlisted men were put aboard the surrendered Nazi vessel, which bore the name of EXTERNSTEINE. The ship, equipped with deluxe radio and communications system, was sailed to an Allied port to await its final disposition.

TWENTY PRISONERS TAKEN

The prisoners were: Luther Rother, Lieutenant, Commanding Officer; Helmot Marks, Chief Engineer; Carl Peters, First Mate; Erich Groth, Signalman; Helmot Reppelt, Private; Joseph Scharf, Sergeant; Fritz Davids, Sailor;



THE GERMAN ARMED TRAWLER EXTERNSTEINE APPROACHED BOSTON AFTER A 3,000 MILE TRIP FROM GREENLAND

Dismas Schuber, Machinist; Karl Heinz Esken, Machinist; Fritz Hofer, Sergeant; Gerhard Enterlein; Boatswain; Hans Hermann Lodiges, Machinist; Theodor Strotman, Navigator's Mate; Wilhelm Fransmann, Radioman; Jurgen Oltmanns, Sergeant; Fredo May, Machinist's Helper; Adolph Stroher, Seaman; Henrich Henke, Radioman; Frederick Rabe, Sergeant; March Rahfeldt, Sergeant.

NIGHT ACTION ESSENTIAL

When the SOUTHWIND arrived at 0240, on October 16, her Commanding Officer was ordered on board the EASTWIND for a conference. It was found that the EASTWIND had damaged her starboard screw to the extent of two blades lost, while the SOUTHWIND damage was two blades lost from port screw and part of another blade missing. In view of the necessity for night action, the Task Unit Commander felt that the risk of damage in the Arctic pack had been justified, for had the action been postponed until daylight the enemy could have sighted the vessels from some distance and scuttled his ship. Numerous mines later found throughout the trawler showed that the Germans were prepared to do this.

BESET ENEMY VESSEL FREED

In spite of the damage the SOUTHWIND was able to make progress, so the ice did not have to be broken for her by the EASTWIND. This left the latter free to begin salvage operations on the enemy ship EXTERNSTEINE, beset in the Polar pack. Unless one has been in the Polar Pack, it is difficult to realize the hopelessness of such a situation. The salvage operations began at 0700, under the direction of Lt. Commander John Montrello, the EASTWIND's Chief Engineer, assisted by: Lt. Clyde T. Lusk, Assistant Engineer; Lt. Michael J. Commings, First Lieutenant; Lt. (jg) Charles E. List, Gunnery Officer; and Radio Electrician Athol T. McCollough, Technician. While the salvage party was making repairs, the EASTWIND broke through to the captured trawler and made a track across her bow so that wrecking mines could be placed to break ice. The EASTWIND worked her way to a "lake" in the ice, 1,000 yards distant, then stood back in her old track, as it was impossible to turn around otherwise. After four mines had been expended to loosen up the ice, the cutter pushed the EXTERNSTEINE's stern around, backed through her track, towing the German vessel with an 8-inch hawser from bow to bow, and finally got her into the lake. The operation took ten hours.

BROUGHT IN AS PRIZE

The EASTWIND proceeded through the ice to Cape Phillip Broke, with her prize following in her track. Christened the EASTBREEZE by the salvage crew, the enemy vessel was referred to by officers and men as if that had always been her name. A search of the vessel revealed that the enemy had succeeded in destroying all confidential publications except one copy of an operation plan, one copy of codes and ciphers, and miscellaneous ship's papers of an unclassified nature.

SUPPLIES TAKEN AT A NAZI RADIO-WEATHER STATION TURNED OVER TO THE DANISH SLED PATROL FROM CUTTER EASTWIND

DESCRIPTION OF WBS "EXTERNSTEINE"

Description of the WBS EXTERNSTEINE was obtained as follows: Steel vessel built July 1944, by P. Smith, Rotterdam, Holland; 183 feet 9 inches overall; 30 feet 10 inches beam; 18 feet 9 inches draft, aft; 7 feet 10 inches draft, forward; about 750 tons; approximately 750 horsepower, triple expansion, reciprocating, single screw, shell plating at water line 25 pound (5/8"), above water line 10 pound (¼"); frame spacing below main deck 10 inches, above 40 inches; forcastle deck from frame 25, wood deck from frame 25 to frame 65 and frame 110 to 176; whole job riveted; superstructure deckhouse plating 10 pound (¼"); from water line to bridge deck 13 feet 6 inches, to top of mast 33 feet 6 inches; fully equipped. Radio equipment was found to consist of one 40-watt transmitter, one 150-watt transmitter, and one radio-direction finder. The vessel would be of value to the Greenland Patrol.

COMMENDATIONS

The Commanding Officer of the EASTWIND, who was also C.T.U. 24.8.5, reported enthusiastically on the efficiency and energetic devotion to duty of his officers and men. Because of the slowness of approach through the ice, the men were at general quarters during half the raw Arctic night, but all hands cheerfully turned to in performing salvage operations and in getting the ship through the ice. All hands were determined to take the vessel intact and to salvage her, so they would have been extremely disappointed if it had been necessary to stop and aid the SOUTHWIND. It was to the credit of the SOUTHWIND's Commanding Officer that he risked his vessel to join action and it was his misfortune that the EASTWIND got there first. Appreciating the desire of his Task Unit Commander to salvage the captured vessel, he managed, by skill and determination, to get his ship, crippled as it was, through the ice without the EASTWIND's assistance. C.T.U. 24.8.5 recommended that the Commander-in-Chief, Atlantic Fleet, commend the following: Commander R. M. Hoyle, Commanding Officer of the SOUTHWIND; Lt. Commander John Montrello, Salvage Master: and Lt. (jg) Charles E. List, Gunnery Officer, whose gunnery was praised even by the German prisoners. Officers recommended for commendation in connection with the EDELWEISS II operation were: Lt. Commander Harold Land, who was the observer, and Ensign McCormick, who was the pilot on the contact flight. The take-off and landing were accomplished under bad ice conditions.

EXTRACTS FROM CAPTURED DIARY

Extracts from the diary of Heinrich Henke, Radio Mate of EXTERNSTEINE follow: October 2, 1944 - After we unloaded the whole night through we were finished with everything and can consider our trip back. 1530 the weather troops have left, all boats are picked up and the anchor is hoisted. We have covered exactly 50m. Immediately a sharp lookout is posted and we see an American seaplane that is observing us. Speedily our ship is camouflaged with all colors and the American flag is raised. After that the airship flew around several times and then disappeared. Up to now everything went along allright. As it was we were finished with unloading and the stuff was ashore but was not camouflaged. If the expedition was seen and later was attacked we unfortunately do not know.

JERRIES UNDER COAST GUARD GUNS AFTER CAPTURE IN GREENLAND ICE

We now take course 60 degrees and navigate straight along the coast and try at 1800 to get through the ice. At first the going is allright even though several floes have to be hit to get through. But the ice is getting thicker and at 2100 we have to give up any thoughts of going further. We are now laying trapped in the ice. Wherever one looks all that is to be seen is ice and snow. However, the coast of Greenland can be seen.

October 3, 1944 - At 0500 it is getting worse and that means the ship will have to be abandoned. In a hurry the sailors are busy with paint and brushes and the ship is hurriedly painted all colors. Then the whole crew is assembled and put out of the way so that the ship will resemble the landscape. In case we do have to abandon the ship several provisions are made. The kyak is packed with tents and living materials, the skiis are being made ready and other provisions are made.

October 4, 1944 - That we'll still be fast in the ice and that no thoughts are being made of getting free, emergency matters are being prepared. There is nothing for us left to do. In the evening we are sitting nice and comfortable with a nice liquor and gin together.

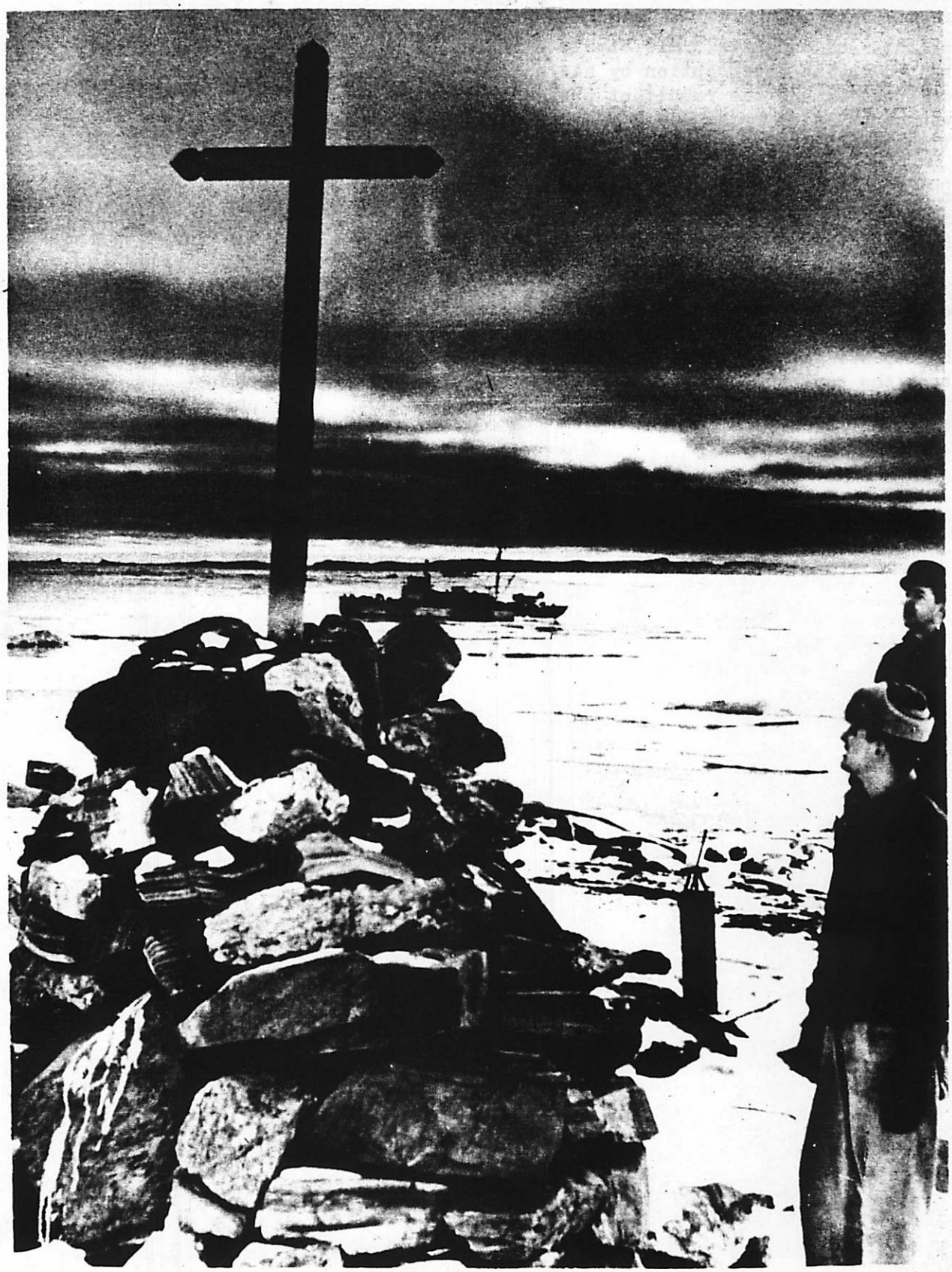
(Last Entry)

COMMANDER BUTCHER'S CITATION

The citation accompanying Lieutenant Commander Butcher's award for the Legion of Merit, states in part: "For exceptionally meritorious conduct in the performance of outstanding services as Commanding Officer of a United States Coast Guard Cutter in offensive operations against enemy forces north of the Arctic Circle during the period from July until September 1944. Lieutenant Commander Reginald W. Butcher utilized the limited combat capabilities of his ship to the fullest extent in inflicting major military damage on the enemy. In spite of bitter cold and the difficulties of traversing sections of the Polar Ice Pack, Lieutenant Commander Butcher succeeded in putting ashore a formidable landing force which located and destroyed an important enemy installation. Later, while conducting a patrol in an isolated area, a unit attached to Lieutenant Commander Butcher's command sighted a small armed enemy ship which endeavored to escape by use of its superior speed and maneuverability. After a 70-mile chase through extensive ice fields, Lieutenant Commander Butcher succeeded in outmaneuvering the enemy, closing to effective gun range and forcing the enemy to surrender and scuttle."

LIEUTENANT BILDERBACK'S CITATION

Lieutenant Kenneth M. Bilderback, as pilot of a scout plane, made extensive flights in the area north of the Arctic Circle from July until October 1944. The citation accompanying his award for the Air Medal reads, in part: "Lieutenant (jg) Kenneth M. Bilderback contributed materially to the outstandingly successful summer operations of the Greenland Patrol. Frequently flying as many as three daily missions under extremely hazardous conditions, Lieutenant Bilderback increased the effective patrol range of his ship through his own observations and through his vital support, through the transfer of vital stores, to isolated land



THE LONELY RESTING PLACE OF ONE WHO DIED ON THE SHORE OF GREENLAND

patrols and outposts. His timely sighting of an armed enemy trawler resulted in its interception by his mother ship, the enemy's subsequent destruction and the resultant prevention of the establishment of an enemy weather station by an enemy weather party being transported to its destination by the trawler."

DUAL OBJECTIVE ACHIEVED

As a result of the Greenland patrols with surface ships and planes, the enemy dared not attempt an invasion of the Western Hemisphere on the scale of the invasion of Norway, and the German expeditions that did arrive in Greenland were thoroughly routed. Nazi U-boats were eliminated from the North Atlantic. The men who kept Greenland free of the Nazi peril successfully waged their dual war: They protected this hemisphere from a German invasion by way of the Arctic, and they kept open the convoy lanes.

APPENDIX A

DEPARTMENT OF STATE
WASHINGTON, D.C.

April 7, 1941

Sir:

I have the honor to refer to the informal conversations which you have had with officers of the Department of State during which the concern of the Government of the United States was expressed over the effect of recent military developments, particularly affecting Greenland, upon the maintenance of the peace and security of the United States and the rest of the American Continent.

You are also aware of the interest of the Government of the United States in maintaining unimpaired the safety of Greenland and the sovereignty of Denmark over that island. My Government had continuously had in mind the desire expressed by the United Greenland Councils at their meeting at Godhavn on May 3, 1940 that the Government of the United States of America would continue to hold in mind the exposed position of the Danish flag in Greenland and of the native Greenland and Danish population of the island.

My Government has taken note of the unusual situation in which Greenland now finds itself. The Kingdom of Denmark is at present under occupation by a foreign army. The Government of the United States has condemned that invasion as a violation of Danish sovereign rights, and has repeatedly expressed its friendly concern and its most earnest hope for the complete and speedy liberation of Denmark. Although the Government of the United States fully recognizes the sovereignty of the Kingdom of Denmark over Greenland, it is unhappily clear that the Government in Denmark is not in a position to exercise sovereign power over Greenland so long as the present military occupation continues.

Greenland is within the area embraced by the Monroe Doctrine and by the Act of Havana, with which you are familiar, and its defense against attack by a non-American power is plainly essential to the preservation of the peace and security of the American continent, and of the traditional policies of this Government respecting the Western Hemisphere.

My Government has consequently proposed measures for the adequate defense of Greenland consistent with the obligations of the United States under the Act of Havana signed on July 30, 1940. In doing so it is animated by sentiments of the completest friendliness for Denmark, and believes that by taking these steps it is safeguarding the eventual re-establishment of the normal relationship between Greenland and the Kingdom of Denmark.

I have the honor to enclose a draft of the proposed agreement relating to the defense of Greenland, which I believe embodies the ideas

agreed upon in the course of our various conversations.

Accept, Sir, the renewed assurances of my highest consideration.

Signed: CORDELL HULL

The Honorable

Henrik de Kauffmann,

Minister of Denmark,

Enclosure: Draft of Agreement.

APPENDIX B

ROYAL DANISH LEGATION

WASHINGTON, D. C.

April 9, 1941

Sir:

I have received your note of the seventh instant concerning the defense of Greenland together with a draft of a proposed agreement regarding the same subject.

It is with appreciation that I note your renewed assurance, that, although the present circumstances prevent the Government in Denmark for the time being from exercising its powers in respect of Greenland, your Government fully recognizes the Sovereignty of the Kingdom of Denmark over the island. At the same time I wish to convoy to you my feelings of gratitude for the expression of friendly concern of your Government and its earnest hope for the complete and speedy liberation of Denmark.

I share your view that the proposed agreement, arrived at after an open and friendly exchange of views, is, under the singularly unusual circumstances, the best measure to assure both Greenland's present safety and the future of the island under Danish Sovereignty.

Furthermore, I am of the opinion that the terms of the agreement protect, as far as possible, the interests of the native population of Greenland whose welfare traditionally has been the paramount aim of Denmark's policy in Greenland.

I, therefore, shall accept and sign the agreement as proposed, acting on behalf of His Majesty, the King of Denmark, in His capacity of Sovereign over Greenland, whose authorities in Greenland have concurred herein.

I avail myself of this opportunity to renew to you, Mr. Secretary of State, the assurances of my highest consideration.

Signed: HENRIK de KAUFFMANN

The Honorable

Cordell Hull,

Secretary of State,

DEPARTMENT OF STATE, Washington, D. C.

FACTORS LIMITING THE TYPES OF AIDS

Several features in southwestern Greenland limit the types of adoptable aids.

1. The existence and movement of winter ice, icebergs, and storis in all of these waters most of the year make floating aids, like buoys and lightships unreliable and difficult to keep in repair. An iceberg can crush a dozen buoys and lightships as if they were made of papier mache. The heavy ice movement would prevent them from staying on their stations and in case of damage prompt and proper repairs would be out of the question.

2. Prevalent low-hanging coastal fogs and clouds would obscure lights or daymarks placed high upon the coastal mountains to fjords, thus making practical only lights of less than 100 feet above water level.

3. Due to the glacial formation of the fjords, which constitute the majorityof the inland water routes, the channels generally are deep with precipitous sides providing navigable water very close to shores, with the shore itself continuing up in steep mountains. Likewise, most shoal rocks arise from the deep bottom very abruptly. These mountains are generally dark in color, except for the whiteness of the snow patches upon them. The ice moves freely, right up to the shores, and with tremendous force. Therefore, structures on marine sites or on shoal rocks, or even those just above high water, must be largely eliminated due to danger of destruction by ice. The color of shore structures, must be such as to offer a definite contrast to the white snow, dark rock, and black shadows, if they are intended to serve as daymarks. The use of brown and black should be avoided entirely, and white should be used only in conjunction with another suitable color in outstanding designs or patterns. Since red is the accepted color for starboard aids and black (which should not be used) for the port side, it was recommended that red be retained for starboard markings, and red and white designs or a bright orange or deep yellow be adopted for all port markings, as viewed by a mariner entering from sea. These last two colors should be used only as a last resort.

4. For most of the season when ice will permit navigation, hours of darkness each day are few so the lights on inland structures would be of little value. Landfall lights might assist considerably in identifying the coastal points of entry.

5. It is impracticable for any vessel to navigate at any time when visibility is insufficient to permit actual observation ahead. This, of course, is due to the variable and uncertain movements of storis and winter ice, coastal fogs, inaccuracy and incompleteness of charts, abrupt

shoaling of submerged rocks and the other unpredictable arctic conditions. Therefore, fog signals are useless and unnecessary.

6. An even greater hazard that the irregular shore line, shoals and pinnacle rocks, is the continually moving mass of icebergs and other chucks of ice known as "storis". Since storis is always moving, a mobile type of aid is needed to warn ships of the ever-changing location of this menace. For that reason, ships and planes are needed to observe ice and report conditions to approaching vessels.

The defense areas established as of October 1, 1943, were:

1. Egedesminde--small island off village
2. Sondrestrom
3. Simiutak - Island at mouth of Sondrestrom Fjord
   Cruncher - " " " " " "
4. Marrak
5. Ivigtut
6. Narsarssuak
7. Simiutak - Large island at mouth of Skov Fjord
8. Gamatron - Largest unnamed island south of Hollander Island
9. Frederiksdal - 1½ miles SE of village
10. Prince Christian Sound
11. Cape Adelear
12. Skoldungen
13. Comanche Bay - area on north side of Bay
14. Angmagssalik
15. Cape Dan - Kulusuk Island
16. Ikateq

By the autumn of 1944, the following aids to navigation had been established:

1. Sondre Strom Fjord area--a radiobeacon, a major light, 8 minor lights, 1 set of range lights, and 1 set of day marks
2. Marrak light area--a major light and 2 sets of day marks
3. Prince Christian Sound--one light
4. Arsuk area (this area includes the Ivigtut light)--a radiobeacon and a major light at Kajartalik, 7 minor lights, 3 sets of range lights, 1 set of day marks, 2 unlighted beacons
5. Angmagssalik Area--1 minor light and 3 beacons (unlighted markers)
6. Ikerasak Area--4 minor lights and 2 beacons
7. Skov and Tunúgdliarfik Areas (These areas include Gamatron Island, Narsarssuak and upper Brede Fjord)--a major light at Simiutak Island, 2 sets of range lights and 1 set of (unlighted) range markers, 6 minor lights, 5 beacons (unlighted)

SOURCES

Due to the secrecy surrounding operations in Greenland, it has been exceedingly difficult to find material. The interviews and other forms of cooperation given by officers at Coast Guard headquarters are deeply appreciated. Among others, Commodore F.P. Dillon was particularly helpful, making available his files for the unit on Aids to Navigation, and also arranging interviews with several officer in the Engineering and Communications Divisions. He thereby helped a lso with the unit on Weather Patrol. Lieutenant Joseph W. Havlicek was especially helpful, granting several interviews, contributing personal accounts, and providing photographs.

Interviews were given by several officers, including:
Commodore F.P. Dillon, Commander O.A. Peterson, Lt. Commander Robin Hood, Lieutenant Joseph W. Havlicek, Lieutenant Frank P. Ishmael. Mr. W.C. Trimble, of the State Department, gave valuable information about the Agreement with Greenland.

Books included:
"Lend-Lease" by E.R. Stettinius
"Greenland Lies North" by W.S. Carlson
"World War II" by Frank Monaghan
"Iceland and Greenland" by Austin H. Clark, a Smithsonian publication, 1943.
"Invasion Today" by Joseph King.
Cruise reports of the NORTHLAND, NORTH STAR, and other cutters on Greenland Patrol.
A special cruise report describing Coast Guard rescue work during the battle of the BISMARCK, written by Admiral E.H. Smith, 1941.
Coast Guard War Diaries, abstracts of
Miscellaneous correspondence in Coast Guard files, dispatches, and other papers and records.
Navy and Coast Guard press releases.
Newspapers and magazines, mainly the New York Times, Boston Globe, Colliers, Life, and Saturday Evening Post.

GREENLAND PATROL II

ERRATA

1. Page 74, line 2, should read "The retriever method had been worked out in advance by Lieutenant Prause, who went into the icy water..."

2. Page 86, line 12, "would heave" instead of "could heave"

3. Page 136, line 5, insert the word "lost" (fortress lost two...)

4. Page 146, paragraph 4, line 6, insert "such" (such repairs as could not...)

5. Page 188, paragraph 3, last line change "know" to "knot" (twelve-knot)

6. Page 190, paragraph 3, line 6, change "months" to"minutes."