

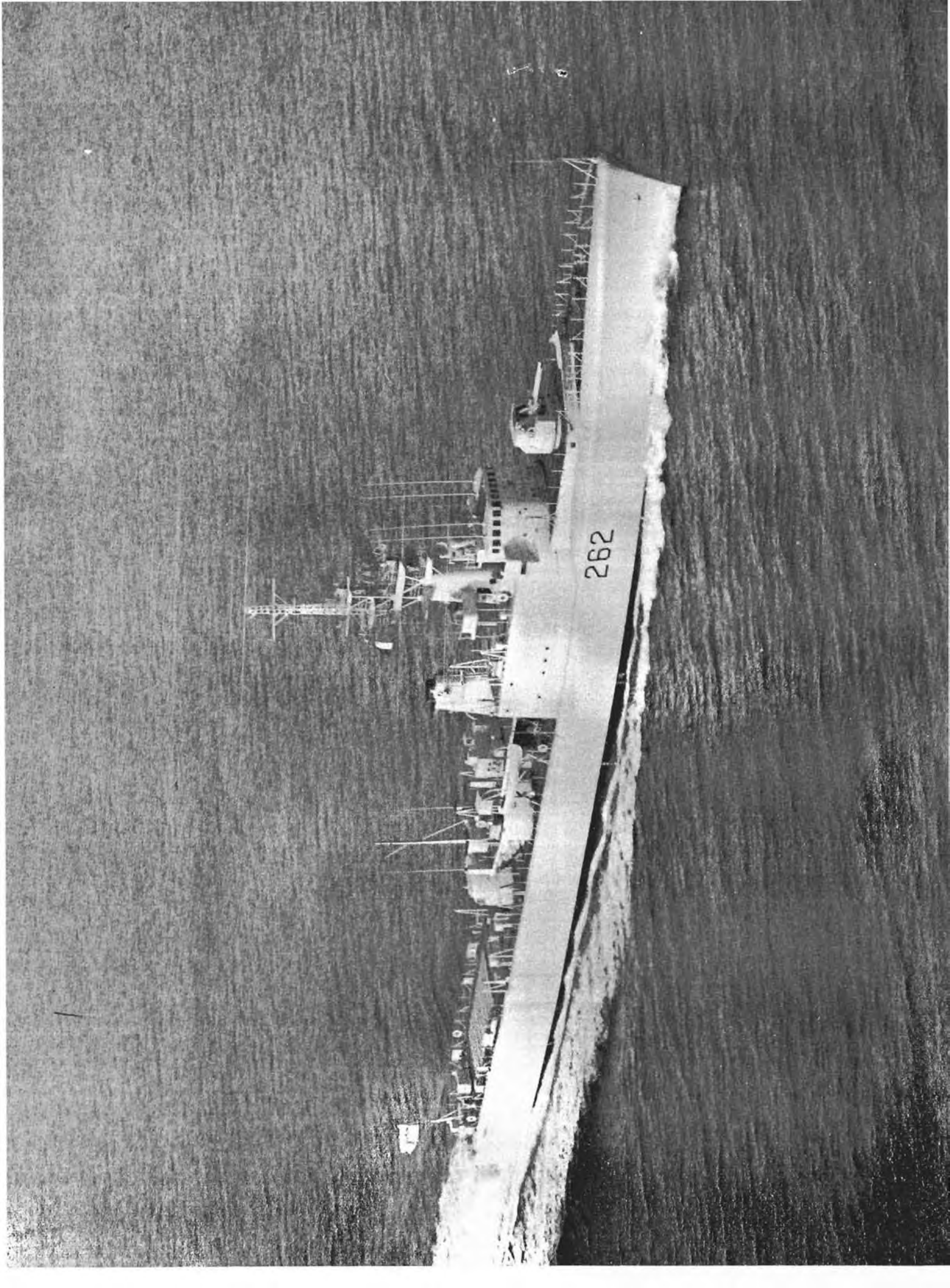
The CROWSNEST

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Vol. 15 No. 3

March, 1963



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The CROWSNEST

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THE ROYAL CANADIAN NAVY'S MAGAZINE

MARCH 1963

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The Cover—At the moment a recruit places his hand on the Bible and swears loyalty to Her Majesty, the Queen, he becomes a part of the Navy. The equivalent moment in the life of a warship comes when the Red Ensign is lowered and the White Ensign is hoisted close up. Such an occasion was photographed at the commissioning of HMCS *Saskatchewan* at Esquimalt on February 16. (E-70792)

LADY OF THE MONTH

On the opposite page is a portrait of the newest ship in the Royal Canadian Navy, HMCS *Saskatchewan*, commissioned at Esquimalt on February 16. She is the second of the Mackenzie class destroyer escorts and differs from other ships of the RCN in that she can boast two parents, the Victoria Machinery Depot Company, Limited, Victoria, and Yarrows Limited, Esquimalt. Following construction of hull and superstructure at the former yard, she was moved to Yarrows for completion.

The *Saskatchewan* bears the name of a mighty river and of a doughty destroyer, first warship of the name, that fought in the North Atlantic, in British waters, off Normandy and in the Bay of Biscay during the Second World War. (E-69571)

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Department of Public Printing
and Stationery,
OTTAWA, Ontario

Communications, other than those relating to subscriptions, should be addressed to:

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The Crownsnest,
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RCN News Review



The destroyer escort Saskatchewan, before her commissioning, is moved by tug astern of a Second World War veteran, the former frigate St. Stephen, now a weather ship in the service of the Canadian Coast Guard. (E-70827)

Italian Divers Guests of RCN

A team of five Italian Naval divers arrived in Canada, in mid-March as guests of the Royal Canadian Navy.

The visit is the result of an invitation extended by the RCN following a visit of Canadian Naval divers to Italy last August to study diving techniques of the Italian navy.

The team was to spend nine days in the Halifax area to familiarize themselves with the "cold water" diving techniques used by the RCN Diving Establishment, East Coast.

Members of the Italian diving team are: Lt. M. Gasparini, Lt. A. Bercini, CPO A. Giandli, PO P. Pasturnini and PO V. Mucedola.

Exercise 'Golf Club' Held on West Coast

A large-scale fleet anti-submarine warfare exercise involving more than 1,200 men embarked in 150 ships, submarines and aircraft of the U.S. and Canadian forces was conducted off the west coast of the United States and

Canada in late February and early March.

Subscription Rates Increased

As of April 1, 1963, the subscription rates of *The Crownsnest* are being increased from \$1 a year, North America, and \$1.50 a year elsewhere to \$2 and \$3 respectively.

The Crownsnest first became available to the public by subscription in August 1949, when the rate was set at \$1 a year.

The change in rates is in accordance with the recently adopted policy of bringing the price of government publications more closely in line with the costs of production.

The magazine will continue to be available without charge to school libraries, public libraries, hospitals, veterans' organizations and news media, on direct application to the Editor.

A special group rate is provided for quantity orders from veterans' organizations. This has also been increased and inquiries concerning it should be addressed to the Editor.

Instructions for subscribing to *The Crownsnest* appear on page one of this issue.

"Golf Club" was the code name assigned to the exercise scheduled by Admiral John H. Sides, USN, Commander in Chief, U.S. Pacific Fleet. Forces of the United States Navy, the Royal Canadian Navy and the Royal Canadian Air Force participated.

The purpose of the exercise was to strengthen combined United States-Canadian capability in anti-submarine warfare. The latest advances in anti-submarine equipments and tactics were put to test against the participating "Purple" submarines of the U.S. and Canadian navies. A similar large-scale exercise was conducted in October 1961.

"Blue" or "friendly" forces included a hunter-killer group, together with its embarked ASW aircraft, screening destroyers and auxiliary ships, U.S. patrol aircraft squadrons based in Alaska, Washington and California, ships of the Second and Fourth Canadian Escort Squadrons and Royal Canadian Air Force units.

Vice-Admiral John S. Thach, officer conducting the fleet exercise, had overall direction of the "blue" anti-submarine warfare effort, which was aimed at

locating and destroying the "purple" submarines. He conducted the exercise forces from his Commander Anti-submarine Warfare Headquarters at Ford Island in Pearl Harbour.

Local control of ships and aircraft was exercised by naval area commanders in Alaska, Canada and California. The submarine participation involved the efforts of nine modern submarines, whose missions and assignments were co-ordinated by Rear-Admiral B.A. Clarey, the U.S. Pacific Fleet Submarine Force Commander, Commanding the Canadian forces was Rear-Admiral W. M. Landymore, Canadian Maritime Commander Pacific.

Warships Guard Royal Flight

Measures taken to ensure the safety of her Majesty Queen Elizabeth II and His Royal Highness Prince Philip during the Royal Flight to Australia and New Zealand via Vancouver, around February 1, included the stationing of ships of the Royal Navy and Royal Canadian Navy along the Royal Flight route.

Two destroyer escorts, the *Stour* (Cdr. C. A. Law) and *Huron* (Cdr. D. S. Bethune), took up station in the western Atlantic, while on the Pacific Coast the destroyer escort *Saguenay* (Cdr. H. R. Tilley) and the frigates *Jonquiere* (Lt.-Cdr. R. L. Hughes) and *Beacon Hill* (Lt.-Cdr. A. C. McMillin) were stationed along the route of the flight.

For the return Royal Flight in March, the destroyer escort *Skeena* (Cdr. R. H. Leir) was to relieve the *Saguenay*.

Esquimalt Dockyard Wins Two Trophies

In competition with 299 federal government facilities and military establishments, HMC Dockyard, Esquimalt, has won the coveted Howard Green Grand Award for excellence in fire prevention activities during 1962.

Effectiveness of the fire prevention program of the Esquimalt Dockyard is reflected in the extremely low fire loss in ships and establishments within its jurisdiction during 1962—a total of only \$149.

It is the second major honour won recently by the Dockyard firemen. Earlier this year they were advised their department had captured the Grand Award of the National Fire Protection Association.

HMC Dockyard becomes the first defence establishment to win either of the trophies on more than one occasion. The dockyard firemen won both of the awards in 1958.



Hon. Donald Fleming, Minister of Justice, presents the Howard Green Trophy for excellence in fire prevention to Vice-Admiral H. S. Rayner, Chief of the Naval Staff, who accepted it on behalf of HMC Dockyard, Esquimalt, winner of the award for 1962. The presentation ceremony took place in the Parliament Buildings, Ottawa. (O-14770)

The Howard Green Award was presented by Hon. Donald Fleming, Minister of Justice, at a ceremony in the Parliament Buildings, Ottawa, and was accepted on behalf of HMC Dockyard by Vice-Admiral H. S. Rayner, Chief of the Naval Staff.

Admiral Rayner also accepted the National Fire Protection Association (International) Grand Award plaque which was presented by A. Leslie Ham, QC, General Counsel, Canadian Underwriters' Association.

In a message from Naval Headquarters Vice-Admiral Rayner extended his personal congratulations "to all concerned with the Command fire prevention program."

"The low fire losses," he said "can be attributed to effective fire prevention measures, efficient fire-fighting procedures, and a concerted effort by all naval and civilian personnel to eliminate fire hazards and practise fire safety."

Deputy SACLANT Visits Halifax

The Deputy Supreme Allied Commander Atlantic and a group of staff officers addressed the Royal Canadian Air Force Staff College at the Joint Maritime Warfare School in Halifax, on March 5.

Vice-Admiral R. M. Smeeton, RN, Deputy SACLANT, three staff officers

and a former Polaris submarine commanding officer now on the staff of the Commander-in-Chief Atlantic gave details on the Polaris submarine to the Staff College Commandant and 60 students. The students were briefed on the NATO concept of maritime operations in a global war.

SACLANT officers accompanying Admiral Smeeton were Captain S. Grattan-Cooper, RN, Captain S. H. Gimber, USN, and Lieutenant-Commander J. H. Golds, RN. The first commanding officer of the Polaris submarine *Patrick Henry*, Captain H. E. Shear, USN, accompanied the SACLANT officers. Captain Shear is now serving as head of the Polaris operations branch on the staff of the Commander-in-Chief Atlantic.

Mackenzie Going To Pacific Command

HMCS *Mackenzie*, commanded by Cdr. A. B. German, left Halifax on March 2 for service on the West Coast, thus concluding her initial five months in commission in the Atlantic Command.

The *Mackenzie*, name ship of the new class of destroyer escorts coming into service, arrived in Halifax October 15 from Montreal, where she had been commissioned October 6. She had been a unit of the First Escort Squadron in

the Atlantic Command since mid-December. She sailed in company with four other squadron members, HMC Ships *Nootka*, *Cayuga*, *Algonquin* and *Micmac*.

The squadron was to exercise in the Bermuda area until mid-March, the *Mackenzie* continuing on via the Panama Canal to join Pacific Command warships on exercises. She is due at Esquimalt on May 6.

The Atlantic Command will not be long minus a new ship, however, as HMCS *Saskatchewan*, second ship to be completed of the six in the *Mackenzie* class, was commissioned on the West Coast February 16.

She will exercise with Pacific Command units and will rendezvous with the *Mackenzie* in the Pacific while on route to Halifax via the Canal. The *Saskatchewan* is due in Halifax for service in the Atlantic Command in May. Her commanding officer is Cdr. Mark W. Mayo.

PO Gives 50th Pint of Blood

PO Marcel Bernier was presented with a 50th blood-donation pin by G. R. Matheson, president of the Nova Scotia Red Cross Association, at a ceremony on board HMCS *Mackenzie* on March 1.

Normally, such an award would take place at the regular October investiture in the Red Chamber of Government House, Halifax. However, HMCS *Mackenzie* is transferring to the West Coast. Red Cross officials, observing that most of PO Bernier's blood donations have been made in Nova Scotia, arranged the special ceremony.

Royal Navy Drops 'Asdic'

In order to conform with NATO practice, the name "Asdic", which has been used to describe submarine detection apparatus by the Royal Navy since just after the First World War, has been superseded by the word "Sonar".

Asdic originated from the initials of the Allied-Submarine Detection Investigation Committee, a body concerned during the First World War with the investigation into submarine warfare problems. Sonar, a much newer word, originated in the USA and derives from "Sound Navigation and Ranging".

The term A/S (Anti-Submarine) or ASW (Anti-Submarine Warfare) will not be affected by the change, but in future, asdic ratings will be known as sonar operators.—*Admiralty News Summary*.



On board the Esquimalt-bound destroyer escort *Mackenzie*, CPO Nicholas Draginda, left, admires a Red Cross 50th blood donor pin just received by PO Marcel Bernier. Since most of his donations were to the Nova Scotia division, PO Bernier received the pin in a special ceremony on the eve of the March 2 departure of the *Mackenzie* from Halifax for Pacific Command service. March 2 was also a big day for the PO, for he donned the "fore and aft" rigged uniform of a petty officer, first class. The *Mackenzie* is due at Esquimalt May 6. (HS-71348)

PO Bernier attended Girouard Superior School in St. Hyacinthe, Quebec, before joining the Navy initially in 1944. He is married to the former Irene Guertin, of St. Hyacinthe, and they live at 219 Belmont Road, Victoria.

He is a naval storesman in the destroyer escort, which was commissioned last fall.

Naval personnel in the Halifax area gave more than 8,000 donations to the Red Cross in 1962.

HIKER HURT

THE FINISH LINE was a mere block and a half away for Electrician's Mate Terence R. Mendham, 22-year-old Londoner, who was carrying the honour of the Royal Navy's Sixth Submarine Division to the close of a 19-hour, 60-mile endurance walk from the Dartmouth Shopping Centre to the Truro Police Station.

Mendham in his weariness slipped on a patch of ice and fell. A chum was helping him to rise when a motorist came along and bowled them over. Mendham received a compound leg fracture. The chum was unharmed. The accident occurred at 0315 on Saturday, March 9.

Six of the submariners had moved off at 0810 Friday, March 8, from the

Dartmouth Shopping Centre. The electrician's mate was the only one still going when 40 miles had been covered. His time going into Truro was one of the best in the rash of distance walks undertaken by naval personnel in early March.

The men of Helicopter Utility Squadron 21 started it all. They left the Dartmouth Shopping Centre at 6 p.m., March 1, for Truro where they expected to be by noon on the 2nd. The object was to prove their fitness. They are naval airmen and maintenance personnel of the *Shearwater*-based squadron.

It was a stormy night with high winds and stinging snow, so the HU-21 people had to quit after 40 miles.

The idea caught on. In mid-week, three sailors of the patrol vessel *Mallard* were trying the route in reverse. They left Truro for Dartmouth on the Wednesday morning, a route that was copied later by personnel of VS-880, the RCN's anti-submarine tracker squadron, whose two finalists, AB Rudolph Schlickting and H. Robertson, came humping home to *Shearwater*, around 5 p.m. on Friday, March 8.

Meanwhile the Sixth Submarine Division as a whole was feeling very, very bitter.

HOLD DOWN

Readers of the accompanying article will soon realize that it is not about an ordinary anti-submarine exercise. The problem in this case is to locate a submarine in an area of from 20,000 to 30,000 square miles of stormy North Atlantic seas and then to hunt it to exhaustion. A situation like this could arise in

peace time, if it were desired to force an unidentified submarine to leave territorial waters, and in wartime, if prisoners were sought for interrogation. From the training standpoint, much more is to be gained from a prolonged hunt than from an instantaneous "kill". The author is a petty officer in HMCS Micmac.

EVERY SO OFTEN the Air Force and Navy get together and play a game they like to call "Hold Down",

The ground rules are simple enough: You take a couple of squadrons of aircraft and half a dozen ships to sea, find a submarine and hold it down until it runs out of breath.

That sounds simple, but its prerequisites and idiosyncrasies complicate the game somewhat. To begin with, the weather must be terrible. There is no game if the weather is clement. It must be cold enough to keep lookouts numb. It must be rough enough to ensure that ship sonar detection gear is searching above the surface as much as below and the isothermal chart must ensure that effectiveness of sonar equipment is marginal. It is also desirable that radar scopes be clogged with returns of heavy weather, for this in turn ensures flying conditions are terrible and ship-aircraft co-operation will be difficult.

If these conditions exist, all requirements have been met and we have only to review a few submarine idiosyncrasies to understand the "gamey" aspect of Hold Down. For instance, submarines have a great deal of breath, and holding them down is a tedious affair of no mean skill. Besides, having a lot of ocean in which to hide, submarines are sneaky. They sit on the bottom and imitate wrecks. Furthermore, rather than operate navigational radar so we can detect them, or come to the surface where we can see them, they indulge in such nefarious evasion as nocturnal celestial navigation—through a periscope. Unheard of. They have a distinctive "submariners' code of honour", you might say. Even if we knew what it was, I'm not too sure we'd subscribe to it.

Against such odds and skills, the game would be a rather hopeless quest if the submarine were allowed to go unchecked. To introduce a reasonable chance of success for surface forces, the sub-surface force is necessarily limited.

He only gets one ocean. He must transit a given area of his ocean in a given time. The area allocated is usually two or three hundred miles long and in the vicinity of one hundred miles wide. He is given about five days to cross it. Sound restrictive? Submarines are 300 feet long, 20 feet wide and harbour no intentions of getting caught.

Into such a game at midnight, January 23, the Commander of the First Canadian Escort Squadron took Argus aircraft from RCAF Station Greenwood, Neptune aircraft from the U.S. Naval Base Argentia, Navy Trackers from HMCS *Shearwater* and four of his own destroyer escorts, the *Mackenzie*, *Nootka*, *Cayuga* and *Micmac*. His worthy, if somewhat outnumbered, opponent was HM Submarine *Auriga*. She lay somewhere in a storm-tossed sea between Newfoundland and Halifax.

For two-and-a-half days the combined forces searched fruitlessly. There was deployment, and successive re-deployment, of ships and aircraft. There were numerous investigations of prospective but non-sub contacts. The

weather was rough and cold and certainly no ally of the surface units. Despite compound surveillance, the submarine was making his way through the area undetected. He was getting to the surface, breathing, charging his batteries, navigating, pushing down through the area, and it began to look as though no one would catch him at it. Then, despite conditions and a bleak outlook, an alert American Neptune crew spotted his breathing device on the surface. The Neptune, operating at the time under orders from the *Micmac*, raised the alarm and a well-oiled machine of air-sea co-operation in prosecuting submarine contacts went into action.

As her helm was put over and she manoeuvred to close the contact, the *Micmac* sped the alarm to the Squadron Commander and from his authorities ashore. There was an immediate muster of arms, the beginning of the end. The quarry withdrew her offending protuberance and disappeared quietly into the depths.

Until that moment all units had operated virtually blind. There had been



nothing but conjecture and possibility upon which to base tactics. There had been a huge area of ocean and somewhere in that area a wanted submarine. The *Micmac*, operating from an up-to-the-minute action plot, had posted the Neptune in an area of high probability. It paid off. The ship's information had controlled the aircraft's movements up to that time. With the sighting, the Neptune's information became more specific than that of the *Micmac*. The aircraft then controlled the ship's movement by directing her in. Before the *Micmac's* arrival on the scene, the aircraft lost her contact, and on the basis of combined information and tactics the two units carried out a joint search. The whole sequence of events was a delightful display of three facets of the gem "Air-Sea Co-operation", the third step resulting in a firm sonar contact for the *Micmac*. The trap was sprung. The ship zeroed the aircraft onto the submarine once more and the trap closed. They were both in contact. Shortly thereafter the *Mackenzie* and *Nootka* arrived and the Squadron Commander took charge of the Hold Down.

There ensued some 14 hours of skillful, detailed submarine chasing. The submarine ran on at various speeds on various courses for a while, then exploded into wild evasive manoeuvres, attempting to run through disturbed water and make good his escape. Then he stopped. The ships stopped. He hung motionless. They listened. When doubts crept in as to whether he was still there, one ship or another took a run over top and traced his outline on detection gear. When the submarine broke and ran, the ships pursued. When he twisted to get under a ship, they altered away. When he manoeuvred to get into a ship's wake to baffle the sonar crews, they held him anyway. The game continued, two ships assuming responsibility for holding contact while the third sat on the fence and rested. It was a matter of time. He would soon be out of breath. His batteries would run down and there would be no alternative to surfacing.

Everything has its maximum endurance. The Neptune's time elapsed. He made a final orbit, bade a reluctant farewell and went home. Shortly thereafter, with the *Cayuga* closing to take her place, the *Micmac's* time expired.

She required fuel. Thirteen hours and 15 minutes after the submarine dived, the *Micmac* moved slowly away from her coveted contact. She experienced elation tinged slightly with regret. She had been part of an unusual success, but was being left out at the end. All that remained was to maintain a keen watch on Fleet Broadcast and await results of the exercise.

Everyone in her was aware of both the RCN's primary function of developing techniques and practicing methods of combatting submarines, and his own personal part in furthering those techniques by actually holding one down. It wasn't the first time the *Micmac* had been creditably instrumental in a Hold Down, but this one was unique in that the *Micmac* was a ship from a navy of one country, while the Neptune was an aircraft from another. Hold Down was becoming a polished jewel.

It would have been difficult to suppress the feeling of pride when a little man from Radio One trotted into the *Micmac's* operations with a message from the Squadron Commander: "Bingo. Submarine held to exhaustion".—W.H.K.



Lt.-Cdr. C. E. Ogilvy, Staff Officer (Wrens), and Lt.-Cdr. Fanta Tait, Staff Officer (Wrens) Reserve, paid their annual visit to HMCS Cornwallis in February. The occasion marked the last official inspection by Lt.-Cdr. Tait before proceeding to retirement in August. As well as discussing wren training, the officers were entertained at a coffee party in Conestoga Block where they imparted some first hand knowledge of wren history to an entranced and appreciative group of listeners. Shown above, before inspection of the wren division, from left, are: PO Rosalie Auger, Lt.-Cdr. Ogilvy, Lt.-Cdr. Tait and Lt. D. M. Gower, wren training officer. (DB-17661)

OFFICERS AND MEN

Commodore Hope Dead, Aged 63

Commodore Adrian Mitchell Hope, 63, who retired in 1951 after serving for 37 years in the Royal Canadian Navy, died on February 15. He was buried at sea from the destroyer escort *Cayuga* on February 18.

Born in Montreal on June 13, 1899, Commodore Hope was living in Halifax when he enlisted in the RCN as a cadet in August 1914 and entered the Royal Naval College of Canada. He graduated from the college in 1917 as a midshipman and served throughout the remainder of the First World War and until 1925 with the Royal Navy.

After service in Canada, he returned to Britain in 1931 to take command of the destroyer HMCS *Saguenay*, then under construction.

Commodore Hope served at Naval Headquarters, Ottawa, from 1935 to 1937. In the latter year he was directed to organize and equip a naval contingent for the Coronation of King George VI and Queen Elizabeth. This proved to be no mean feat. Canada had still to emerge from the depression and Commodore Hope was allocated a mere \$13,000 to cover all expenses, including the pay and subsistence of 20 members of the Reserves, three of them officers, who were members of the contingent. An account of the contingent's experiences was written by Commodore Hope for the May 1953 issue of *The Crow's-nest*.

At the outbreak of the Second World War, Commodore Hope was in command of the destroyer *St. Laurent*, after which he took an ordnance course and was appointed Inspector of Naval Ordnance. There followed successively appointments as executive officer of *Naden*, commanding officer of *Stadacona III*, and commanding officer of HMCS *Kings*, the war-time officers' training establishment in Halifax.

From May 1943 to December 1944, Commodore Hope commanded HMCS *Prince Robert*, which had been converted from an armed merchant cruiser to an anti-aircraft cruiser. During his command, the *Prince Robert* was an anti-aircraft escort for Britain-to-Gibraltar convoys and performed similar duties in the Mediterranean.



COMMODORE ADRIAN M. HOPE

For a time Commodore Hope was in command of HMCS *Somers Isles*, the RCN's sea training base at Bermuda, before being appointed to Naval Headquarters as Chief of Naval Personnel and Third Member of the Naval Board in April 1945.

Early the following year Commodore Hope was named Senior Canadian Liaison Officer, London, and commanding officer of HMCS *Niobe*, Canadian naval headquarters in Britain.

Commodore Hope became Commodore, RCN Barracks, Halifax, in 1946, an appointment he held until going on retirement leave in October 1951.

His war-time services were recognized by the award of the OBE in the King's Birthday Honours List of 1945.

Since his retirement, Commodore Hope had been living with his wife at Landfall, Chester, Nova Scotia.

Legislators Taken to Sea

A day at sea in HMCS *Restigouche* was the experience of 16 guests of the Navy, most of them provincial government authorities and legislature members, on March 12.

As guests of Rear-Admiral K. L. Dyer, Flag Officer Atlantic Coast, they

witnessed anti-aircraft firing 40 miles off the coast (the ship's rapid firing guns destroyed both radar reflecting targets towed by a *Shearwater* jet); had a demonstration firing of the ship's anti-submarine mortars, and made a thorough tour of the modern destroyer escort.

The members braved bad roads and threatening weather to spend their day with the Navy and were greeted with a blustery northwest wind of near gale force as they cleared the port in the morning. The seas were short and choppy—in short, very uncomfortable for some. But the *Restigouche* sailors, some just as uneasy, had praise for the sealegs the Bluenose MLAs obviously possessed.

Guests included Hon. E. D. Haliburton, Minister of Agriculture and Marketing and Minister of Lands and Forests; Hon. George Burrige, Minister without Portfolio; Hon. Stephen Pyke, Minister of Highways; Hon. Harvey Veniot, Speaker, Legislative Assembly; James M. Harding, Shelburne; Peter M. Nicholson, Annapolis West; A. Tando MacIsaac, Guysborough; William MacLean, Inverness; Allison T. Smith, Cumberland West; Dr. W. C. O'Brien, Yarmouth; J. Albert Ettinger, Hants East; Michael J. MacDonald, Reserve; Manuel I. Zive, president, Halifax Board of Trade; Dr. G. O. Langstroth, superintendent, Naval Research Establishment, Dartmouth, Ross Smith, Cumberland, and John Just, Spryfield.

Officers Serve In Viet-Nam

Two RCN officers are serving with the Military Component, Canadian Delegation to the International Commission for Supervision and Control in Viet-Nam. They took up their appointments in Saigon at the end of the year.

The officers, Lt.-Cdr. Peter G. Wiwcharuck, of Vancouver and Dartmouth, N.S., and Lt.-Cdr. Joseph Duffy, of Charlottetown, had previously been serving in HMCS *Shearwater*.

In their new one-year appointments they will serve as team officers rotating, usually once a month, to one of the ten team sites in North and South Viet-Nam. They will also alternate as

naval advisers with the Military Component of the Canadian Delegation in Saigon.

They relieved Lt.-Cdr. Wilson F. Jobson and Lt.-Cdr. B. J. Gillespie, who returned to Canada to take up appointments at Naval Headquarters.

40-Year Career Draws to Close

After nearly 40 years of service, Thomas Milbert (Bert) Cassidy retired on pension in February from his position as chief clerk with the Director General Naval Supply, at Naval Headquarters, Ottawa.

Mr. Cassidy, who was born in Smiths Falls, Ontario, entered the Department of Marine and Fisheries on October 1, 1923, transferring the following year to the Directorate of Naval Stores.

Mr. Cassidy, a sergeant in the Cameron Highlanders of Ottawa before and during the early days of the Second World War, attended the Coronation of Their Majesties King George VI and Queen Elizabeth in 1937 as a representative of his unit.

Since the war, his duties have included victualling stores and victualling procurement.

At the time of his retirement, a presentation of a reclining easy chair was made to Mr. Cassidy on behalf of the Director General Naval Supply and staff.

New Benefits In Medical Plan

Improvements in benefits for holders of GSMIP (Government Service Medical Insurance Plan) have been approved, and are effective as of January 1, according to Cangen 47 circulated in February.

The plan now pays 90 per cent, instead of 80 per cent, for services performed under the Major Medical Expense Benefit.

The family deductible amount has been reduced from \$50 a year to \$40, although the individual deductible of \$25 per person remains.

Also, under these improvements, the limit has been extended from 30 days to 60 days to permit acceptance by commanding officers or applications to provide coverage for a dependent from date of marriage or, in the case of a newborn child, from date of birth. Under this regulation application must be made within 60 days of the event and assignment of pay will be instituted effective



Here are HMCS Grilse and a visiting friend at the government jetty on the Naden side of Esquimalt Harbour. USS Bugara, from Pearl Harbour, dropped in over the weekend of February 8-10 and held an open house that drew nearly 1,500 visitors. (E-70468)

the first day of month in which the event took place.

These changes have been printed as an insert to the GSMIP booklet and will be distributed through local supply depots to all ships and establishments.

RCN Officer Heads Refugee Campaign

Captain A. D. McPhee, interim chairman of the Nova Scotia Committee for World Refugee Year, on February 26 presented a long-playing record to Premier Robert L. Stanfield, of Nova Scotia, on behalf of the UN Commissioner for Refugees. The record, "All-Star Festival", is being sold publicly, with proceeds going to the World Refugee Fund.

Captain McPhee was chairman of the ways and means committee in the successful Nova Scotia campaign for funds in World Refugee Year.

The provincial drive was formerly under the chairmanship of Rear-Admiral H. F. Pullen, now retired, when he was Flag Officer Atlantic Coast.

Appointments And Promotions

Following are recent appointments and promotions of interest:

Captain Keith Patrick Farrell, Director of Ship Design and Construction, Naval Headquarters, promoted to his present rank;

Cdr. Kenneth E. Grant, appointed to the staff of the Commanding Officer

Naval Divisions, Hamilton, as Commander Sea Cadets, effective March 12;

Cdr. Edward Bernard Morris, appointed as Senior Naval Officer, Point Edward Naval Base, Sydney, N.S.

Cdr. James M. Cutts, commanding officer of HMCS *Micmac*, promoted to his present rank;

Cdr. Llewellyn O. Stonehouse, appointed Officer-in-Charge of the Naval Supply Depot, Montreal, and promoted to his present rank, effective March 1, and

Cdr. Henry Donovan Joy, appointed Assistant Director of Naval Organiza-

tion and Management (Organization), Naval Headquarters, and promoted to his present rank, effective April 1.

New Captain For Lauzon

Lt.-Cdr. Charles Edmund Leighton, has been appointed in command of HMCS *Lauzon*. The frigate is a unit of the Ninth Canadian Escort Squadron based at Halifax.

Lt.-Cdr. Leighton served as executive officer of the destroyer escort *Chaudiere* before taking up his new appointment.

When PMC or motorcycle travel is authorized on appointment, draft or release, reimbursement will be made at the rate of four cents a mile for car-operating expenses or three cents a mile for motorcycles, and an additional three cents a mile for the officer or man, based on direct mileage. When dependents accompany the officer or man, an additional allowance of three cents a mile for the first dependents and two cents a mile for each additional dependent will be paid.

When, for service reasons or circumstances beyond his control, an officer or man and his dependents travel separately, he will be entitled to an allowance of four cents a mile for car operating expenses, three cents a mile for the first dependent and two cents a mile for each additional dependent. The four-cents-a-mile car operating expenses may not be claimed in respect of two cars when the officer or man and his dependents travel to a new place of duty at the same time but in separate PMC.

Generally, ferry charges, except between Saint John, N.B., and Digby, N.S., may be claimed, but not cost of meals, berths or incidental expenses, since the road mileage allowances make provision for these expenses. In lieu of ferry charges between Saint John and Digby, road mileage allowances will be paid. Temporary duty travel by PMC to Newfoundland via ferry will not normally be permitted.

Excess baggage, 500 pounds for officers and 200 pounds for men, may now be shipped when travelling by PMC since PMC travel is no longer related to travel by commercial carrier. The commanding officer must verify excess baggage claims.

By and large, while the new system may be totally different, the benefits and entitlements work out closely to those accruing under the previous system.

The new article is 209.822, and amended articles are 209.20, .25, and 255.26, .82, .83, .875.

PRIVATE CAR TRAVEL UNDER NEW RULES

ALL NAVAL personnel, sooner or later, will be affected by recent amendments to QRCN, Chapter 209, dealing with transportation by private motor car and private motorcycle. The new regulations came into force on March 1, 1963.

Cangen 28, distributed in February, stated simply that the new regulations "provided new mileage rates and a new method of calculating reimbursement to personnel authorized to use private motor cars when travelling on duty."

The Cangen went on to say that reimbursement is no longer based on equivalent rail fares but will be made on a mileage basis to include an allowance for meals and accommodation where applicable.

Personnel should review Chapter 209 to acquaint themselves with the new PMC entitlements. Generally, the changes which will affect personnel fall into three categories, namely:

- (a) PMC travel on temporary duty,
- (b) PMC travel on appointment, draft or release, and
- (c) allowances for dependents on appointment, draft or release.

When travelling on temporary duty for personal convenience, reimbursement varies from three to six cents a mile depending on distance. For distances between places of duty of 100 miles or less, reimbursement will be three cents a mile; for distances over 100 miles but not exceeding 300 miles reimbursement will be four-and-a-half cents a mile for the complete distance, and for distances exceeding 300 miles, reimbursement will be six cents for officers and five cents for men for the complete distance.

As a passenger for personal convenience, the rate is one-and-one-half cents a mile for distances over 100 miles but not exceeding 300 miles, and three cents a mile for officers and two cents a mile for men for distances exceeding 300 miles.

When travel via PMC or motorcycle on temporary duty is authorized in the public interest, the rates are nine cents a mile for PMC and three cents a mile for a motorcycle, based on actual mileage. As in the past, travelling allowances and incidental expenses are permitted for the time necessarily spent on the journey when travelling in the public interest.

This regulation also provides for an additional cent a mile when the officer or man authorized to travel in the public interest carries "business use" insurance.

Passengers under this section will be entitled to travelling allowances and incidental expenses.

However, personnel will be authorized to travel under this regulation only when it is the most economical method of performing the duty or it is indisputably in the public interest because of the time element or the lack of commercial or service transport.





HMCS SASKATCHEWAN

THE LATEST member of the RCN's family of anti-submarine destroyer-escorts—the gleaming HMCS *Saskatchewan*—was commissioned into the fleet at Esquimalt on Saturday, February 16.

Close to 550 invited guests attended the afternoon event. They represented all levels of government, industry, business, and the armed forces. Guest of honour was Hon. E. Davie Fulton, Federal Minister of Public Works; who arrived at the scene in company with the RCN's principal guest, Vice-Admiral H. S. Rayner, Chief of Naval Staff. Representing the Province of Saskatchewan and its premier was Hon. C.C. Williams, Saskatchewan's Minister of Labour.

The setting for the ceremony was colourful. The freshly painted warship was secured at the end of the big government jetty adjacent to HMCS *Naden*.

On the jetty facing the ship were two large bleacher units, covered with canvas as protection against threatened rain that never came. Dividing the bleachers was a dais, with special seats for distinguished guests participating in the ceremony.

Guests started arriving early. Some were seated and thumbing through commissioning booklets an hour before the start of ceremonies. As 3 p.m. approached, activity broke out everywhere. Led by Cd. Off. Tom Milner and Drum Major PO Gordon Brown, the lively band of *Naden* played and marched to its position at the end of the jetty. Close behind came the ship's 50-man guard and others of the ship's complement of 12 officers and 236 men. They formed up immediately in front of the bleachers and dais.

With the arrival of Mr. Fulton and Vice-Admiral Rayner, the ceremonies commenced. One by one the principal speakers on the dais addressed the assembly on that chapter of the new warship of greatest concern to them. Admiral Rayner welcomed the destroyer escort into the RCN, saying the *Saskatchewan* and others of her class are part of a fast-moving replacement program. "As these ships commission, we say goodbye, one by one, to the famous Tribals and others of war-time vintage."

"HMCS *Saskatchewan*," the Admiral continued, "is a manifestation of the Navy's progress in maintaining an efficient fleet whose purpose to to ensure that Canada, in co-operation with allied and friendly nations, will have unrestricted use of the seas."

Noting the new destroyer escort was the second ship of this name to wear

the maple leaf on her funnel, the Admiral recalled a piece of the past. "I vividly remember seeing the first *Saskatchewan*, silhouetted by starshell, during action in the English Channel at the time of the invasion of Normandy. That ship served freedom's cause on the North Atlantic and also in the Bay of Biscay. The battle honours earned by her war-time company now pass to the new *Saskatchewan*."

The guest of honour, Mr. Fulton remarked: "Our Navy, like our Army and Air Force, is a part of the great insurance premium which must be kept up until such time as words about peace are followed by deeds that actually lessen the threats to peace."

Harold Husband, president of Victoria Machinery Depot Co., Ltd., Victoria shipyard which built the hull of HMCS *Saskatchewan*; and H. A. Wallace, vice-president and managing director of Yarrow's Ltd., which completed the ship, both outlined their respective shipyards' part in the building of the ship.

In his address, Cdr. Mark W. Mayo, commanding officer of the *Saskatchewan*, stated clearly his three main objectives in his new command: A clean and orderly ship, an efficient ship, and a happy ship.

He noted this was the second Mackenzie class destroyer escort to be commissioned, with four more yet to come. He placed a special emphasis on the word "second", and added: "We want HMCS *Saskatchewan* to be second to none". (HMCS *Mackenzie*, name ship of

Proud Ship, Proud Father

Saturday, February 16, 1963, is a date Lt.-Cdr. Alan Alexander Henley is not likely to forget—and the same applies to his wife, Sheila.

It was just a few minutes after three that afternoon. Commissioning ceremonies for the new destroyer-escort HMCS *Saskatchewan* had begun. Along with his fellow officers and all members of the ship's company, executive officer Lt.-Cdr. Henley was listening intently to Vice-Admiral H. S. Rayner, Chief of Naval Staff, who was delivering an address.

The XO's eyes were all that moved. First toward the dais filled with VIPs, and then in the direction of his ship.

Then it happened. From the bow of the nearby shiny, new ship a leading seaman unobtrusively conducted a set of pre-arranged hand signals.

"Girl. One. Both fine."

It can be assumed that Lt.-Cdr. Henley then suddenly relaxed—as much as the circumstances would permit.

He had taken his wife to the Royal Jubilee Hospital in Victoria that morning. The hospital had phoned the ship.

They were the proud parents that eventful afternoon of a daughter—a sister for 18-month old Carolyn Jane.

And there's a rumour the little lady might have Regina as a middle name.

for the Victoria area. Religious portions of the ceremony were conducted by Rev. C. H. MacLean, Chaplain (P); and Rev. J. E. Whelley, Chaplain of the Fleet (RC). Present to accept the new ship into the RCN was Commodore S. M. Davis, Director General Ships, from Naval Headquarters.

Others on the dais were Rear-Admiral W. M. Landymore, Flag Officer Pacific Coast; Captain J. C. Gray, Principal Naval Overseer West Coast; Lt.-Cdr. K. M. Young, Flag Lieutenant-Commander to CNS, and Lt. M. Tate, Flag Lieutenant to FOPC.

Cdr. Mayo outlined the immediate future of his ship; a series of trials and workups in the Esquimalt area until mid-April, then a move to Halifax and the Atlantic Command, followed by participation in exercises involving other RCN ships and other NATO countries. He said the *Saskatchewan* would return to Esquimalt next November to join the Pacific Command.

With speeches over, the ceremonials commenced. Acceptance papers were formally signed. The Red Ensign was lowered and simultaneously replaced with the White Ensign. In quick and smart order the assembled sailors manned their ship.

A heavy stream of guests followed behind for a special tour of the new DDE; and the VIPs headed for a brief gathering in the commanding officer's day cabin. Later they all proceeded across the jetty to a large grey building

class, was commissioned in Montreal last October).

All speakers were introduced by Cdr. John B. Hall, resident naval overseer



Hon. E. Davie Fulton, Minister of Public Works, guest of honour at the commissioning of the *Saskatchewan*, signs the guest book on board the new destroyer escort, as Cdr. Mark W. Mayo, commanding officer, looks on. (E-70829)



The Province of Saskatchewan had two gifts for the newly commissioned destroyer escort *Saskatchewan*—one permanent and one practical. The first was a coat of arms of the province, mounted on a wooden shield; the second a licence plate for the ship's jeep, bearing the *Saskatchewan*'s hull number. Hon. C. C. Williams, Minister of Labour in the Saskatchewan government is shown here presenting licence plate No. 262 to Ord. Sea. William Stoddard, a native of Saskatchewan, who will drive the jeep. (E-70858)

to attend the commissioning reception. Within the *Saskatchewan* sailors of the ship were busily getting settled in their "home".

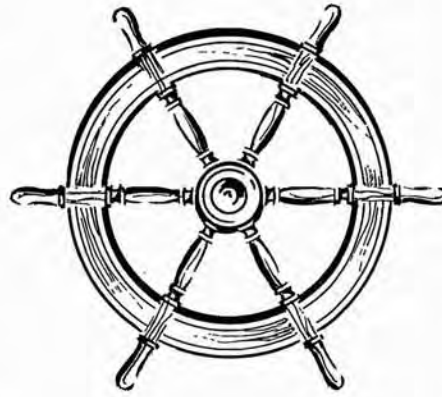
Heavy clouds and a threat of rain gave way to a bright sunshine for the entire commissioning ceremony. As the reception neared its end, fog rolled into Esquimalt Harbour.

But HMCS *Saskatchewan* had been commissioned in sun and brightness—a happy omen for a proud ship.

The ship had further reason for pride when, following his return to Naval Headquarters in Ottawa, the Chief of the Naval Staff sent the following message:

"Congratulations on a first class commissioning ceremony on Saturday, February 16.

"The excellent bearing, smart appearance and obvious enthusiasm of the



Saskatchewan's ship's company contributed much to the auspicious beginning of your first commission.

"Well done."

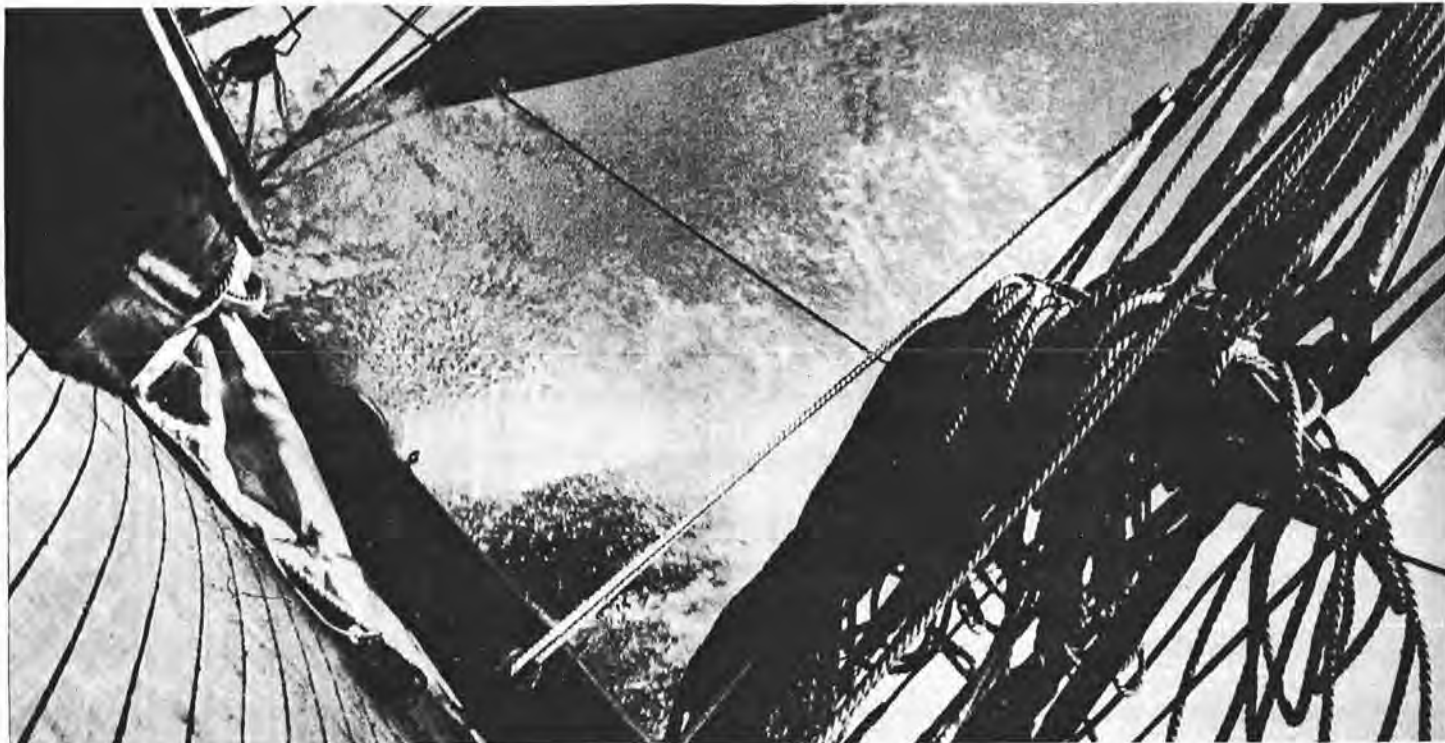
The new destroyer escort is named after the Saskatchewan River, a great river of the western plains and one of the early Canadian pathways of settlement.

The 366-foot, 2,900-ton *Saskatchewan* has a beam of 42 feet and a mean draught of 13.5 feet. Her twin-gear turbines give her a designed speed of 28 knots, and the ship's normal complement is 12 officers and 236 men. Anti-submarine weapons and her principal armament, including two "all-directional" three-barrel mortar mountings; homing torpedoes; one twin 3-inch 70-calibre radar-controlled gun forward, and one twin 3-inch 50-calibre gun aft.

Work on the ship commenced at Machinery Depot Co. Ltd., Victoria, in August 1959 and she was launched on February 1, 1961, and moved to Yarrows Ltd. for completion.



Six days after their new ship was commissioned, officers and men of HMCS *Saskatchewan* were inspected by Rear-Admiral W. M. Landymore, Flag Officer Pacific Coast. (E-70885)



"Slugging into It"—HMCS Oriole hitting her maximum hull speed of 14 knots. This print has been hung in galleries throughout the world and has received many awards.

Sou'wester

Text and Illustrations
by
James A. McVie, FPSA



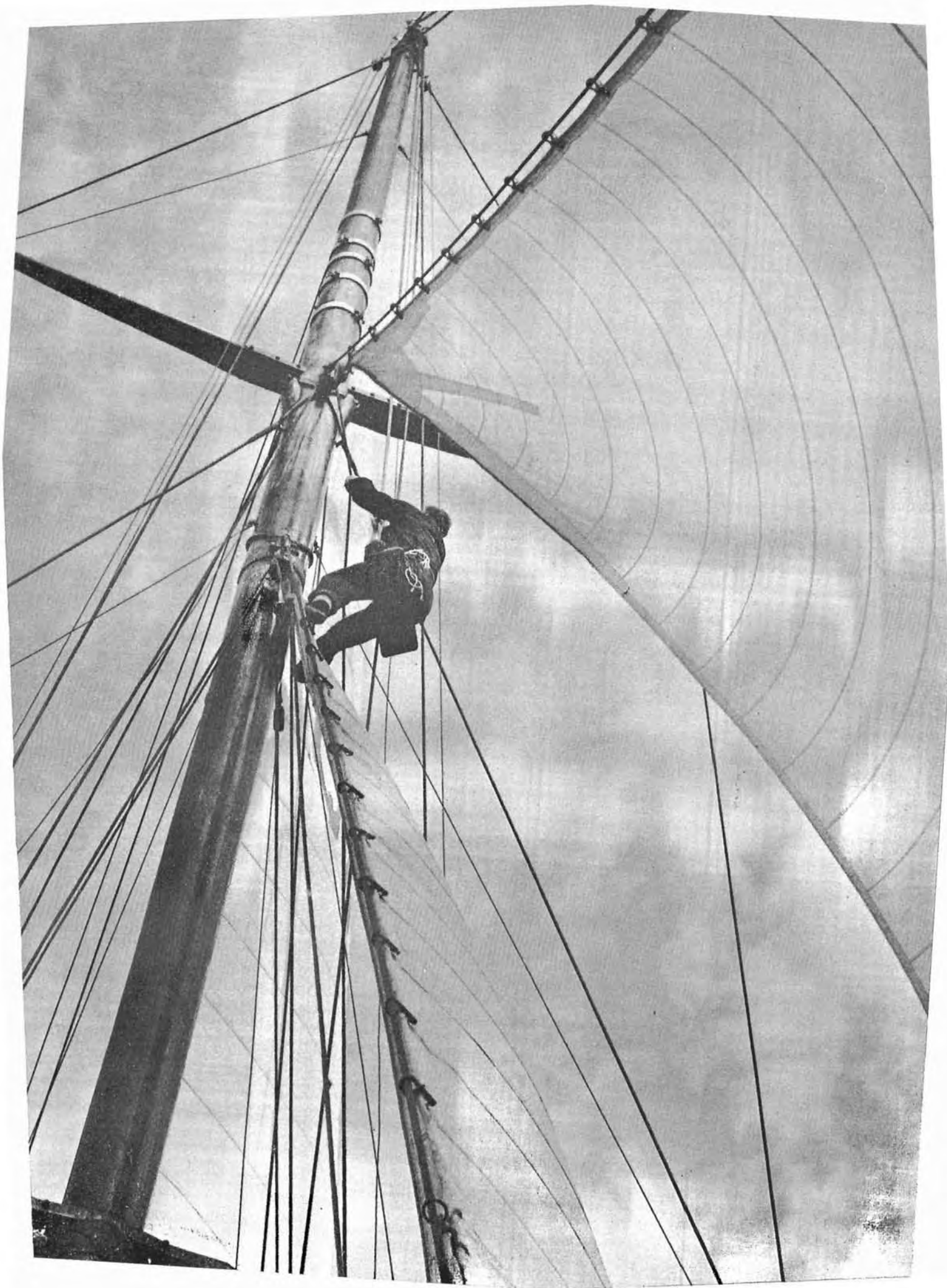
Photography is an avocation that has made James A. McVie a leading Canadian exhibitor in the photographic salons of the world and a Fellow of the Photographic Society of America. In everyday life, he is inventory and audit officer of the Manager Supply Department, HMC Dockyard, Esquimalt. During the

Second World War he was a captain in the Royal Canadian Artillery. Since then he has devoted himself to two loves—photography and the sea. The accompanying words and pictures are a preview of a volume, The Beauty of Sail, which Mr. McVie now has in preparation.

THE DAWN of an April morning found the barometer falling rapidly while the marine forecast blared forth ample warning of southwesterly gales for the Straits of Georgia and Juan de Fuca. Into the dawn slipped the big ketch *Oriole* for a return to her home port at Esquimalt. Within the hour, having cleared Vancouver's busy harbour and hoisted her identification code signal for Lionsgate recognition, the big yacht, under full sail, was hit by the leading edge of a Pacific storm.

"Reef the main," bellowed our skipper. He took another swig of steaming coffee served at the helm.

The photographer, warned to be careful, snapped that this was just the sort of day he'd waited years for, as he gingerly transported his gear to the end of the bowsprit. It was clear that before long this precarious perch would be the only dry spot on the upper deck. A few hasty exposures focussed on the working jibs against a mare's-tail patterned sky, plus a series on the magnificent sea panorama beyond and featuring the trim vessel lee rail down, with decks awash, emptied the Graflex magazines. Clutching his equipment he ventured back to the deck and thence to the security of the wardroom below to reload. Through the ports



"Hauled Aloft"—This is an exhibition print that has been shown in more than 50 world salons. Taken from the Oriole's bowsprit, it shows a crew member being hoisted to the upper spreader.

in the wardroom could be seen the backlit green water rushing by the ship's side as a rose-bowl on the dining table held its sway. A crew member sauntered by with mop in hand, nattering of a flood in the captain's heads due to a scuttle left open while under way. The cook surveyed his own grief as he scraped up the remnants of a beef stew from the galley deck.

The ship seemed steady on a port tack when it was decided to reload the film magazines within the confines of a changing bag. All went well as the cameraman sat on the wardroom carpet operating in a 45-degree downhill posture. Suddenly, the skipper decided on a change of tack. Within moments, the photographer's feet were in the air while his posterior wrestled to gain steadiness from a 90-degree change of position. In the midst of this awkward situation, the rose-bowl took off, while rolls of exposed latent images traversed the yacht's beam in a two-way run between the now soggy rose blooms. Anxious hands, tentatively released from the depths of the changing bag, lunged vigorously to arrest the rolling reels. The job was now complete. This meant topsides again for further deck action.



The Oriole, her decks wetly gleaming, throws spume and spray to leeward.



"With All She Can Set"—The Oriole cleaving the waters of the Strait of Juan de Fuca.

In the meantime, the coxswain had secured the bosun's chair to a jib stay, and a crew member, hauled aloft to the upper spreader, was performing his dedicated task with efficient seamanship.

"What's it like up there when the wind is whistling?" queried the cameraman.

The crew, accepting the question as a request, considered that a "volunteer" had been found for an extra round trip into outer space. The photographer was hastily secured in the chair as four husky lads heaved away.

Being hauled aloft with hands and feet free was one thing, lugging up a Graflex with additional photographic paraphernalia was quite another! With the yacht heeling to port, it meant that at 20 feet above the deck, the bosun's chair and guest were some five feet out over clear water. Another 45 feet to go and a quick glance to skyward brought the spreader into an immediate foreground. From the deck, the strains of a male quartette singing "Nearer My God to Thee" drifted upwards to this lofty seagull perch, and a stringed accompaniment was provided by the wind in the rigging.

Far below, white water came up to meet the bowsprit, fall away quietly along the ship's sides, then gush in on the transom to boil astern. After a bouncy

descent, came the great satisfaction to the photo aerialist of again planting his two feet solidly on the whitened teak deck.

To those familiar with the conformation of Active Pass, here is an S-curve to tax the skill of any power skipper supported with hundreds of revolutions in reserve. Rip tides continuously boil through the narrow, linking channels between Mayne and Galiano Islands, and the sheer-rock shorelines are forever close. Skipper Joe Prosser made his decision—he was already coaxing the *Oriole* through the Pass under full sail, with lightning zedded tacks. Winds were now of Beaufort nine velocity, with conditions worsening. At the western exit of the Pass the yacht smashed through with up to two feet of ocean stacked on deck, as the boisterous seas washed down the port side of the hatch housing.

The time of day now prompted relatives ashore to have a special concern on the progress being encountered at sea. Two boys from one family braved the high winds to ascend to a lofty vantage point and look for the ship's return. They were later joined by the Royal Canadian Navy's west coast Admiral, who was also somewhat anxious, particularly so in that the

Oriole's Swiftsure Classic hopes were pending just a month away. After all, a storm could be costly in both time and materials if the stick were pulled out or if the bowsprit snapped. Then too, sails had been blown or carried away during winds of much less velocity.

The *Oriole* was sighted driving to windward and gaining a position which would eventually allow her to come about in the lee of the south shore of Vancouver Island. When it was realized ashore that the ketch was pointing to the United States mainland, the little fellow was heard to say to the Admiral in his own nautical manner: "Look, sir, *Oriole's* gone to attack Port Angeles".

With a late afternoon sunburst to guide her by and a coloured-up promise of a new day, the *Oriole* rode the crest of a long Pacific roller to come about and goose-wing her way into sheltered waters. Sliding by the tip of Race Rocks, past William and Albert Heads, she finally slipped back to her protected berth in Esquimalt, place of shoaling waters.

Once more, old man Juan de Fuca, in his own peculiar and unpredictable fashion, had separated the men from the boys!



"Southwest at Sixty"—A dramatic shot caught just as a Pacific roller slammed into the *Oriole's* port side.

AFLOAT AND ASHORE

ATLANTIC COMMAND

HMCS Restigouche

The L. W. Murray trophy for Navy-wide gunnery proficiency award for 1962 was presented to the commanding officer of the destroyer escort *Restigouche*, Cdr. B. C. Thillaye, by the Flag Officer Atlantic Coast, Rear-Admiral K. L. Dyer, on March 13.

This is the first year that a *Restigouche* class ship has won the award. The ship's company of the destroyer escort was mustered for the ceremony in the Dockyard drill shed.

The trophy was introduced 29 years ago by L. W. Murray, who retired as rear-admiral following the war. The annual award was allowed to lapse from 1937 to 1958 when it was re-introduced by Rear-Admiral Hugh F. Pullen, now retired in Chester, N.S.

The winner that year was HMCS *Crescent*, anti-submarine destroyer then serving on the West Coast. The award came east in 1960, going to HMCS *Fort*

Erie, frigate, and in the succeeding years has gone from coast to coast only to come back this year to the east coast and the *Restigouche*.

The *Restigouche* in 1962 also won the efficiency trophy for the Fifth Canadian Escort Squadron in competition with six sister ships. She was also 1961 and 1962 winner of the Halifax Jaycee plaque for being the best illuminated warship in harbour over these Christmas periods.

HMCS Cornwallis

Air Vice-Marshal A. L. Morfee, CB, CBE, CD, RCAF (Ret), visited *Cornwallis* on March 1 as a guest of the commanding officer and inspected a special guard in his honour and also the passing-out division.

Air Vice-Marshal Morfee joined the Canadian Army in 1915 as a private and was commissioned as a flying officer on the formation of the Royal Canadian Air Force in 1924. During the Second World War, he was appointed Air Offi-

cer, Commanding-in-Chief Eastern Air Command, and retired from the service in 1949 as Vice-Chief of the RCAF. For the past several years he has been a resident of Annapolis Royal and has been a resident of Annapolis Royal and has maintained a close association with *Cornwallis*.

The air vice-marshal was made a Companion of Bath in 1946, and Commander of the British Empire in 1944. He was awarded the United States Legion of Merit, Degree of Commander, in 1948, and has the Canadian Forces Decoration with Bar.

NAVAL DIVISIONS

HMCS Tecumseh

The officers of the *Tecumseh* wardroom were hosts at the farewell mess dinner in February for three departing officers.

Lt. P. E. Fane was presented with a traditional Calgary white hat (adorned with a cap badge) when he left to take up his new appointment in the *Bonaventure*. He had been the staff supply officer since June 1960.

Lt.-Cdr. R. A. F. Montgomery and Lt.-Cdr. L. E. LeFaivre were presented with silver mugs on their retirement from the RCNR.

Lt.-Cdr. Montgomery joined the RCNR as an officer cadet at Royal Roads in 1945 and served in many divisions before coming to *Tecumseh* in 1959, where he retired as the executive officer.

Lt.-Cdr. LeFaivre served in the RCNVR from 1942 to 1947 in communications. At the time of his retirement from the RCNR he was the Staff Officer Enrolment and Release at *Tecumseh*.



Three departing officers were recently honoured at a mess dinner at HMCS *Tecumseh*, the Calgary naval division (as should be obvious from the white hat). Shown here are Cdr. A. R. Smith, commanding officer; Lt.-Cdr. R. A. F. Montgomery, who has retired; Lt. P. E. Fane, appointed to HMCS *Bonaventure*; Lt.-Cdr. L. E. LeFaivre, who has also retired, and Lt.-Cdr. V. E. Schooley, executive officer. (RCNR Photo—TH-0132)



ADMIRAL OF FLEET FOR 25 YEARS

The Earl of Cork and Orrery recently received a personal message of congratulation from the Board of Admiralty at his home in London to mark the 25th anniversary of his promotion to Admiral of the Fleet. He entered the Royal Navy as a cadet in 1887 and was promoted to Admiral of the Fleet in 1938.

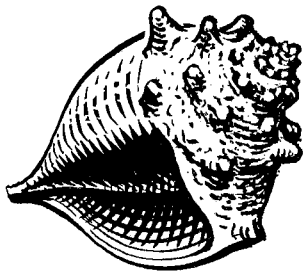
In his message to mark the occasion, the Secretary of the Admiralty, Sir Clifford Jarrett, wrote: "I am commanded by my Lords Commissioners of the Admiralty to convey their warmest congratulations. They and the whole of the Royal Navy take pride in this notable event.

"My Lords recall your long and distinguished career and your outstanding record of service to the Royal Navy; in particular your service as Senior Officer Red Sea Patrol and in command of HMS *Repulse* during the First World War, as Rear-Admiral Commanding 1st Battle Squadron and 1st Cruise Squadron, Vice-Admiral Commanding Reserve Fleet, Commander-in-Chief, Home Fleet, and Commander-in-Chief, Portsmouth. They remember with special gratitude your determined leadership during the dark days of the Norwegian campaign in 1940.

"My Lords are also grateful for your continued interest in the Royal Navy and they send you their best wishes for health and happiness in the future."

The 89-year-old Earl is, however, a "youngster" as far as Admirals of the Fleet go! Admiral of the Fleet Sir Henry Oliver was promoted 35 years ago and recently celebrated his 98th birthday.—*Admiral News Summary.*

(Nova Scotia-born Sir William Provoost Wallis (1791-1892) was promoted Admiral of the Fleet in his 70th year and was still on the Active List when he died 32 years later.—Ed.)



KNOTTY PROBLEMS

Cordage made of synthetic fibres is coming into increasing use in many walks of life, because of its strength and elasticity. Lustrous strings for tying parcels, tough cords for starting power mowers and nylon hawsers for towing ships or securing them alongside are examples of the uses of synthetic cordage.

The synthetics, however, have certain qualities which require special care in their use. Knots tend to slip and ends to unravel.

In the January 1963 issue of The Sea Cadet, published in London, England, Lt. P. Gibbs-Murray tells how to cope with some of the special problems raised by the introduction of synthetic cordage. His article is reproduced here with the permission of the author and the editor of The Sea Cadet.

IN PAST seafaring days the question of how to make a knot in a rope, or how to make two ends of rope secure to each other, or of how to make a rope's end fast to a bollard, hook, or cleat, was easily solved by the nautical types who sailed such ships as HMS *Victory*, HMS *Bounty*, or the clipper ship *Cutty Sark*, and much of our present knowledge of the subject of knots, bends, and hitches has been handed down to us from sailing ships days.

A well-found ship in those days carried only the best quality rope, and her rigging aloft was daily overhauled and inspected for signs of wear and any damage from enemy action was at once made good, for her safety depended upon her sails and rigging as much as on the seamanship of her men.

The manufacture of rope, therefore, was all-important to both the Royal Navy and the Merchant Navy, and Portsmouth, Chatham and other ports all contained their rope-walks where only the very best quality rope was produced, and each ropewalk could identify its own manufactured rope by reason of the coloured yarn introduced into the lay of the strand (known as the "Rogue's yarn") and because of this, identification was simple in the case of stolen goods.

Most of the rope was Italian hemp, (tared or plain) manila, cotton (for "fancy" work, where strength was not important) and coconut fibre rope known as coir or bass, this latter used mainly as a "float-rope".

With the passage of years, however, many other fibres for rope making have been introduced, sisal for instance, and in modern times the new man-made fibres, produced synthetically from raw

materials, are increasingly making their appearance in the worlds' markets.

The new synthetic fibres have great strength compared with ordinary manufactured rope. They also have flexibility and power to withstand the weather and wear and tear to a marked degree and give an advantage that has been quickly realized by those whose life is spent handling rope.

It has been found that the new ropes respond very well indeed to the everyday needs of the seafaring trade, but some display a tendency NOT to stay put when spliced, made fast, or knotted in the usual way, and during a recent trip coastwise the writer found that there was a serious lack of general knowledge on exactly how to knot the man-made fibre rope.

This article gives a number of hold-fast knots, specially designed for the new rope, and based upon knots already known and taught in unit seamanship classes. These knots should prove useful when handling the new rope, and in any case be interesting to all those who like making knots, bends and hitches.

It is important to bear in mind, when making these knots, that synthetic fibre rope, when oil-covered, greasy, or wet, is extremely slippery, and in making these knots make sure that the end (well whipped) goes OVER and not under, and that all turns lie snugly together. Also, for the sake of neatness, it is considered important to seize the end to the standing part with a few turns of small stuff.

It is suggested that instructors and learners practise these knots first with the ordinary rope with which they are familiar before tackling the more unfamiliar synthetic fibre rope.

HOW TO TIE HOLD-FAST KNOTS

The Locked Bowline

Made in exactly the same familiar way as the ordinary bowline (to start with) but with a round turn above the bight, and a half-hitch below.

The Double Magnus Hitch

When joining two lengths of synthetic fibre rope together, this is the recommended knot, made simply by making a magnus (round turn and half-hitch) with one end on the standing part of the other rope, and vice versa, and then pulling together (something like the fisherman's knot) and seizing the ends.

The Double-Thumb or Double Overhand Knot

This is a jamming knot, again for uniting two lengths of rope, and is easily made by making a thumb or overhand knot, on one end, and then carefully following around with the end of the other rope, again seize the ends after pulling tight.

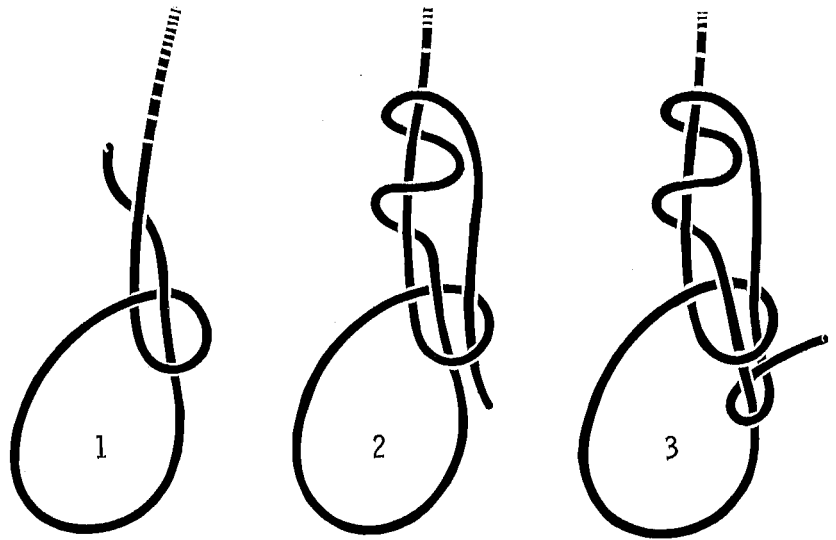
The Round Turn and Two Half-Hitches on the Bight

In using ordinary rope, one of the very best belaying knots, familiar to everyone, is the "round turn and two half hitches" knot or hitch, and in using synthetic-fibre rope, this extremely well behaved and easily made knot or hitch can be put to good use, if made 'on the bight'.

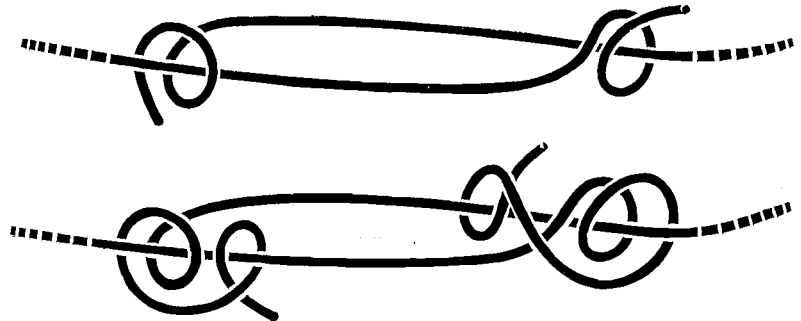
Take a round turn, in the ordinary way, then, having left a long end, double it, and make two half-hitches with the double rope, heave tight, and an excellent holdfast knot is the result.

The Double Reef-Knot

The ordinary reef is undoubtedly one of the first knots taught, and easy to make. In making the double reef, simply remember that a round turn goes on each side, and that the ends follow the standing parts down through the turn.



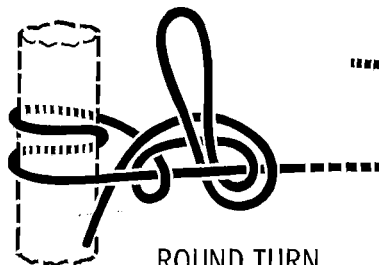
LOCKED BOWLINE



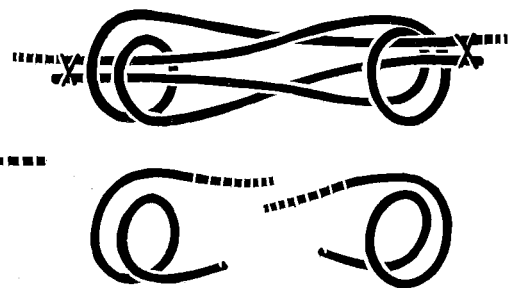
DOUBLE MAGNUS



DOUBLE THUMB OR DOUBLE OVERHAND KNOT



ROUND TURN
AND TWO HALF HITCHES
ON THE BIGHT



DOUBLE REEF



SCIENCE AND THE NAVY

Irradiated Bacon Wins Approval

Irradiated bacon has received an okay from the Food and Drug Administration (FDA) for unrestricted use in the United States. Its approval climaxes 10 years of U.S. Army research in developing this totally new method of preserving foods, says the U.S. Armed Forces Press Service.

More than a dozen other items are being developed by the U.S. Army's Materiel Command and the Surgeon General and probably will be submitted to the FDA during the next two or three years.

FDA clearance of irradiated bacon does not mean it will become a standard army ration or a commercial food item in the immediate future. It still has to undergo troop tests for acceptability under Arctic, tropical and other extreme conditions peculiar to military usage.

Mine Clearance Still Goes On

Ships of the British, West German and Danish Navies are to co-operate this summer in clearing two channels through a Second World War mined area in the North Sea using Danish, German and Dutch bases. Preliminary sweeping is being done by the Germans and Danes.

The channels are being cleared to enable the G.P.O. to lay telephone cables from the U.K. to Borkum in Germany and to Fano in Denmark. This will be done by the newest cable ship *HMTS Alert*.

Considerable areas in the Baltic and North Sea are declared Second World War mined areas and although a great deal has been achieved since 1945 the hazardous work of clearance continues.

British forces will be operating from mid-May to mid-July and will include the Royal Navy's first minehunter, *HMS Shoulton*, fitted with the latest mine detection apparatus, and ships of the 2nd, 5th and 10th Minesweeping Squadrons and of the Fishery Protection Squadrons. They will be supported by *HMS Reclaim*.

The 10th MSS will be manned by Royal Naval Reservists as part of their annual training period.

The Esbjerg clearance has been nicknamed "Operation Clear Road" while the Borkum clearance will be known as "Operation Cable Way".—*Admiralty News Summary*.

Except for modern canning, irradiation is considered to be the first completely new method of food preservation. Many, such as drying, smoking and freezing, are as old as civilization.

Irradiation permits preservation of food in its fresh state instead of requiring cooking or refrigeration. An additional advantage in the case of bacon is that after irradiation it will keep in its container for long periods of time at room temperatures. Bacteria which cause food spoilage are destroyed by the process.

Clearance by the FDA was based on evidence that bacon irradiated by the accepted process does not become radioactive and is not different in any significant respect from heat-sterilized bacon.

During the next two years the U.S. Army expects to submit irradiated potatoes, wheat, flour, chicken, pork loins and fresh oranges for FDA clearance. It also has peaches, carrots, shrimp, codfish, tuna fish, ground beef, green beans and cabbage under study as possible irradiated foods.

Water Spray Halts Satellite Blackout

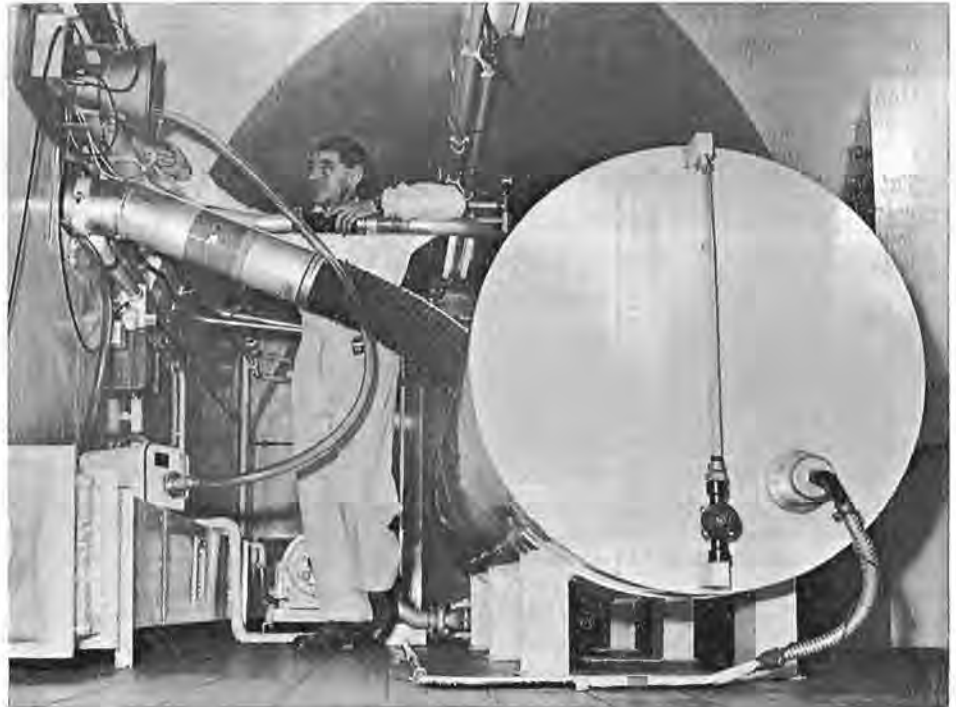
Spraying water from a space vehicle as it re-enters the earth's atmosphere, according to scientists of the National Aeronautics and Space Administration, as reported by the U.S. Armed Forces Press Service, solves the problem of communications blackouts that plagued astronauts returning from orbits in space.

The water suppresses the ionized plasma of electrically charged gas that forms and blots out radio signals when a speeding body enters the atmosphere.

The new system will allow communications to continue uninterrupted during the final moments of return from orbit.

In addition, says AFPS, researchers have developed a matchbox-size device that maintains constant voice communications to and from re-entering vehicles.

Called Astrovoice, the tiny instrument is a lightweight voice and encoding system utilizing manned satellite-tracking network radars.



A nuclear reactor, named "Jason", has been installed at the Royal Naval College, Greenwich, to enable officers of the Royal Navy to gain experience in the operation of a "critical" system before assuming control of nuclear installations in ships. The fuel contains uranium 235, and ordinary water is used as both moderator and coolant. (Photo courtesy British Information Office)

FLEET SUPPORT

THE WORD "logistics" broke out of its military bounds during the Second World War and, in so doing, acquired national and international meanings and usage. The complete subject can be a very broad one including many, if not all, aspects of material, personnel, facilities and services. It comprises both planning, including determination of requirements, and the implementation of the plans.

In general, everyone working in logistics must recognize the principle that the fundamental purpose of applied military logistics as a whole is to get the right people, supplies and services to the right place at the right time, and in proper condition. In its broad definition, logistics has been described as "the means of war"—in other words, the means by which strategy and tactics can be implemented for the conduct of military operations.

Just how does a ship or aircraft of the Navy acquire the material and services necessary to maintain it in fighting trim?

In order to place fleet support in perspective, it is possibly desirable to start with sailing vessels which topped up in their home ports, set sail, and returned when their supplies were exhausted. This is not to say that certain essentials may not have been picked up in ports away from home when lengthy cruises were involved. The letters of Nelson reveal again and again how much he was concerned with replenishment of supplies and how often the condition of his command and the state of supplies affected his strategic decisions.

When steam supplanted sail, first colliers, and then oil tankers, were added to the group of ships necessary to supply combatant vessels and keep them going on long cruises in a state ready to fight. The many coaling stations developed by Britain during the early days of steam should not pass without notice nor the strategic importance of supplies of fuel oil and their location today.

As ships of war became more complicated, the importance of supplies and the maintenance of equipment continued to grow, both in significance and in complexity. There is nothing to presuppose that this trend will not continue

The accompanying article is based on an address given by Cdr. T. C. Treherne, Manager Supply Atlantic Coast and Officer in Charge of the Naval Supply Depot, Halifax, to the United Services Institute, Moncton, N.B., last November.

at an ever-accelerating rate, regardless of the ship, aircraft or weapon system and whether applicable to offence or defence on or under the water, on land, in the air or in space. In modern warfare, it is recognized that materiel readiness is the key to operational readiness.

THE IMPORTANCE of logistics or fleet support has probably been recognized more slowly in navies of the world, including that of Canada, than has been the case in other military services, which have had to be concerned with how to move their forces and receive supplies. The mere fact that a naval vessel is so completely self-contained and that replenishment ports are so clearly defined has made this so.

In the case of the RCN, the logistics support away from home bases during the Second World War was clearly defined and, in those cases where ships ventured far afield, Royal Navy and U.S. Navy logistics support was readily available on a friendly and co-operative basis. As a result, the move to support vessels, such as ships to carry out repair, maintenance, and underway replenishment, has been a recent departure in the RCN from the operations of the Second World War. The development of this support has substantially increased the range of operations and flexibility of disposition of today's naval vessels.

The average ship today in the Royal Canadian Navy is a very complex piece of machinery which takes a good deal of looking after. To illustrate, a typical destroyer escort comprises a steel envelope, some 340 feet long and 45 feet wide, with machinery of 30,000 HP generating-capacity, or enough for a small town. In addition, electronic and detection equipment, guns and anti-submarine mortars, together with their control and computing systems are packed inside with several hundred tons of fuel and many tons of high explosive.

While hundreds of thousands of items go to make up a ship, the storerooms on board are also required to carry some 15,000 items of stores at all times. Some of these include commodities such as food and clothing necessary for the maintenance of the crew of between 200 and 300 men. Other items are used on a repetitive basis for housekeeping and maintenance, but the majority of items are those carried as spare parts to make good replacements or repairs which might arise from time to time in support of the complicated equipment.

THE FIRST LINE of support in maintaining a ship as a fighting unit after meeting personnel and habitability necessities is the maintenance of its fighting equipment. During the last few years, the RCN has introduced a system of planned maintenance on board. These procedures have proved very successful in keeping ships in fighting trim by seeking out and making good repairs on a planned basis before actual breakdown takes place. The concept is a very simple one, because I am sure everyone has carried out or is familiar with planned maintenance in the care and upkeep of his own car. Although well equipped workshops are available in naval ships for first line maintenance, not all problems can be anticipated and repaired on board, and that brings me to the next step in fleet support.

I refer to the ship-repair side of logistics which arises as a service to the operating fleets making use of repair facilities, both in the repair ship, *Cape Scott*, which we have in the Atlantic Command, or in the Naval Dockyard facilities at Halifax and Sydney or in the numerous commercial shipyards accessible from the Atlantic.

In the Navy, ship repair is divided into two main areas, *refit* and *running repair*, and I feel these terms are worthy of definition to make sure that there is no doubt of their meaning.

The term "refit" is defined as "that period in a ship's life when she is non-operational for the purpose of inspecting, surveying, maintaining and repairing the ship's hull and all the machinery and equipment contained therein." In time, this period can vary from six weeks to six months, depending on the class of ship concerned. In location,

such refits on this coast can take place in commercial shipyards from Montreal to Lunenburg. At this time, I should like to emphasize the term *commercial* shipyard. Such yards are civilian-owned and operated and hence, by doing business with these yards, the Navy spends a great deal of its annual financial allotment in this area. This, in turn, provides employment, directly and indirectly, for a large number of people on the eastern seaboard of Canada.

These statements may sound strange to some of you who are aware of a good-sized naval facility in Halifax called HMC Dockyard, and the obvious question is why are these refits not performed there. The answer is quite simple and is contained in the size and staff of that repair establishment. HMC Dockyard, Halifax, is staffed by *government direction*, to be capable of refitting one destroyer-type ship at one time only. On a time basis, this means that approximately *three* ships, of a significant size, are refitted in the dockyard per year. As the Navy operates about 40 major war vessels on the East Coast, it is clear that there are a large number of ships which must be refitted in commercial shipyards.

To amplify this point further, the Navy spends approximately \$10 million in the refit of naval ships in commercial shipyards in eastern Canada each year. This, I am sure you will agree, is a significant amount of money, and its annual expenditure provides employment for many men in the professional, administrative and trades areas of ship repair.

The allocation of these naval funds is by commercial contract, controlled by government agencies, these agencies being the Canadian Maritime Commission and the Department of Defence Production. Hence, strange as it may seem, the Navy itself does not control the expenditure of that portion of naval funds provided for ship refit by commercial contract.

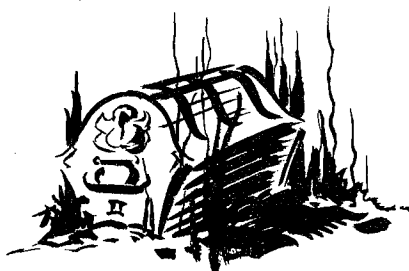
Nor is the place of refit the prerogative of the Navy. All direct dealings with the commercial firms concerned are by other government agencies, the sequence of events being as follows:

- (a) the Maritime Commission assigns a naval ship's refit to a commercial shipyard;
- (b) the Department of Defence Production negotiates the contract with the shipyard;
- (c) the shipyard performs the work to the professional requirements of the Navy as contained in the refit specifications prepared by the Navy;

- (d) the shipyard must meet the acceptance inspection of the ship's Commanding Officer.

THE SECOND TERM I wish to define is "running repair." On the surface this seems to be a strange expression, and one might envisage a little man rushing around a ship at a great rate, with a spanner in each hand. Since the actual business of running repair can be rather hectic at times, the example I have just given is not too far out of place. To be exact, however, "running repair" is defined as "the day-to-day maintenance and repair work performed on a ship's hull, machinery and equipment to keep her in a seaworthy and operating condition."

This type of work comprises everything that is done to a ship in between refits and may vary in size and scope from repairing the captain's bathtub to re-bricking a ship's main boiler. At best, it is a business beset with difficulties, and for those who have never



been exposed to it, I can assure you the things that can go wrong with a ship, both minor and major, are absolutely innumerable. Being in a maritime area, you are all well aware that the sea is a strong, strange and capricious mistress, and by some peculiar process of osmosis, ships seem to acquire these traits. From the Navy's point of view the problem is compounded by the sophistication of combat equipment fitted which seems to be capable of breeding defects with the prowess of rabbits.

With the statement that running repair is performed by the ship's personnel and the dockyard, one may wonder where any commercial application arises. To answer this, I can assure you there is a substantial commercial application as the Navy spends over \$500,000 annually, on running repair by contract, in the Maritimes. Again, by government direction, the staff of HMC Dockyard, Halifax, is not sufficient to cater for all the running repair load and hence, the remainder goes to commercial ship repair facilities on a contract basis. Again, the Navy does not allocate or organize such contracts as this work is done by the regional rep-

resentatives of the Department of Defence Production.

One of the main items in this type of work which goes to contract is all work associated with drydocking. The Navy has a dockyard but no drydock on the East Coast. Hence, all drydocking, from the aircraft carrier *Bonaventure* down to and including the coastal minesweepers, is done by commercial contract. It is possible, therefore, to see naval ships using commercial drydocks throughout the maritime area from Saint John to Sydney.

While I have dealt so far with the repair and maintenance of ships, the identical problems arise in order to keep aircraft flying. Planned maintenance and the equivalent of "running repair" are carried out in the *Bonaventure* or at the Air Maintenance Centre which is a part of the Naval Air Station at Dartmouth. Repairs or reconditioning which equate with refit are carried out by commercial firms. The value of these commercial repairs in the Maritimes amounts to some \$3 million each year, quite a considerable sum.

NOW, I should like to turn to the supply logistics side of fleet support and place it in perspective with ship repair and maintenance of fighting equipment.

The first aim in storing a ship is to make it self-sufficient for as long a period as possible. This means that it is necessary to divide the requirements depending on consumption factors. First of all, there is the question of fuel and, except for nuclear vessels which are not yet of concern in the RCN, the demands of ships for fuel depend directly on the tempo of operations and the endurance of the ships concerned. As a result, fuel may last for a few days to a week or more. The second category on which tempo of operations depends is that of ammunition. There again a ship may last for long periods if there is no consumption, that is, no actual fighting to be done, but the stocks held on board may only last a few hours under combat conditions. Both fuel and ammunition, therefore, have a direct influence on operational commitments and considerations and depend on the type and intensity of the operations.

The balance of stores items covers a tremendous range, and the consumption depends on the characteristics of the items. It follows that food and other items in support of sailors depend upon the repetitive use and the number of people involved. Many of these items are relatively bulky, and large stocks cannot be maintained for lengthy

periods, although the actual number of items involved is relatively small. Finally, there is a large range of items required in support of the fitted equipment. These repair parts range from those which are used fairly frequently to those which are seldom used and are carried for insurance with the hope they may never be used.

The supply authorities of the Navy, with the help of "guesstimates" by the technical designers and maintainers, must try to anticipate, so far as possible, those items which will be required or which are vital for the combat effectiveness of the ships. In the RCN, we have, over the last few years, developed lists of allowed items called, in turn, the Ships' Consolidated Allowance List Program. Not all ships have been SCALP'ed, as the program has come to be known, but the majority of the ships built in recent years and all new ships are receiving their appropriate allowance lists. These allowances are tailored to the type of ship, and to the individual configuration or equipments fitted in the ships.

TO MAINTAIN the accuracy of the allowances, the Navy has undertaken a continuing review of shipboard retail usage based on the accounting system. Information of retail issues on board is used to substantiate items required both on a repetitive and repair part basis, and changes in the allowances are made on the basis of actual consumption. This important information is a by-product of the stores accounting system in that the document making the issue is sent ashore, a punched card is prepared, and the information can be manipulated in a number of ways to verify costs of operating, to flag irregular or unusual consumption of items and to justify new procurement.

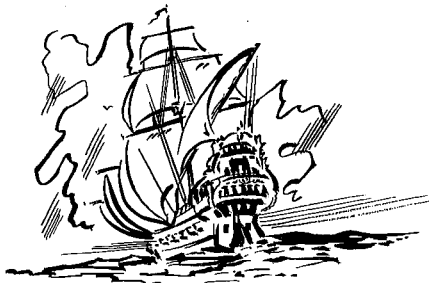
Although every effort is made to ensure that ships are self-sufficient, so far as possible, it is frequently necessary to undertake underway replenishment of fuel, ammunition and stores. In this respect the Navy will commission HMCS *Provider* this year as a one-stop ship for underway replenishment which can provide fuel, ammunition and food to ships operating at sea and away from their home ports. In addition, some popular items of stores will also be carried, but because of the wide range of potential item requirements, most of the stores items will have to be determined in advance and delivered by the *Provider* on a consignment basis. In addition, the *Cape Scott*, as a mobile repair ship, can meet food and stores require-

ments to a certain extent from sheltered anchorages.

BACKING UP the operating ships and those ships of the support type mentioned are the Naval Supply Depots. The major Supply Depot is in Halifax located within HMC Dockyard. In addition, there are Naval Supply Depots at Sydney and Montreal and an Aviation Supply Depot in Dartmouth within the Command.

The stocks carried in Halifax under stock number control approach 200,000. These items are subject to centralized stock control together with similar stocks in other Supply Depots of the Atlantic Command as well as those in Esquimalt, B.C.

Naval Headquarters carries out a centralized inventory control over the total system stocks on a centralized basis, raises procurement requests on the Department of Defence Production and redistributes items between Depots.



In addition, Naval Headquarters controls certain programs, such as, the identification of material with NATO stock numbers and the preparation of allowance lists. The annual value of procurement entered into by the system as a whole amount to \$35 million. Since the major part of the operational fleet operates out of the Maritime provinces, a substantial proportion of these funds is spent in the Maritimes.

While I have indicated that Naval Headquarters assumes central control over the majority of items, a number of the items under control are allocated for local inventory control. Procurement of these items together with urgent procurement of centrally controlled items, for which no stock is held, is initiated by Naval Supply Depots, such as the one in Halifax. In this respect, to give an indication of the volume of business involved, the amount of local purchase amounts to \$350,000 and the amount of purchases through the Regional Office of DDP in Halifax amounts to \$3 million for stores and another \$3 million for food each year. Almost without exception these monies are spent on supplies purchased by either

prime manufacturers or agents in the Maritime provinces.

As you can no doubt appreciate, the question of having the right materiel, in the right quantity, at the right place, at the right time, can be a very complicated one. We are pleased in NSD Halifax, in making nearly half the wholesale issues for the Navy, to be able to meet approximately 90 per cent of demands or requisitions from stock held. In this respect, we average 37,000 sales per month. Many of the items not in stock in Halifax are held in other depots of the system and inter-depot transfers can be effected. As a result, a relatively small percentage of the total requirements are held up any length of time between demand and actual supply.

The Naval Supply Depots ashore in the Command are required to act as suppliers to many naval industrial ship repair activities as well as provide a wholesale service to ships of the fleet for final end use on board. Issues to the industrial activity include DND supplied items to many of the commercial activities mentioned earlier undertaking ship repair activities. While in NSD Halifax, approximately 80 per cent of the volume of demands have the operating ships as our consumer, the proportion of the range of items issued is almost equally divided between the fleet on one hand and industrial activities on the other.

As mentioned earlier, the complexity of modern ships and their equipment, aircraft and air equipment is forever making the life of supply officers more complex. For example, the range of items in NSD Halifax has increased approximately 50 per cent in the last five years. There seems to be no end to this increasing complexity in support of fleet requirements and in meeting the maintenance and repair commitments of the fleet as a whole.

HAVING MENTIONED the subject of readiness, I should like to emphasize that operational naval ships are always in a high degree of readiness. They are either at sea on exercises by themselves or with ships of allied navies, or in various harbours at a specific notice for operations. By notice for operations, I mean that they are capable of getting the full crew on board, raising steam and being ready to sail for combat operations within a time space of four hours or less.

In the foregoing remarks, I have mentioned HMC Dockyard, Halifax, on several occasions, and I wish to stress, at this time, that this shore facility is also a large *civilian* organization and

hence an important source of employment in Halifax, Dartmouth and the surrounding area. The dockyard employs a total of approximately 5,000 men and women, of whom 139 are naval personnel. I consider that these two figures speak for themselves.

Very briefly the foregoing represents the ship repair and supply sides of naval logistics, showing, I hope, the impact they have on the civilian scene with respect to employment and business po-

tential. At this time, I should like to emphasize again that the Navy tries to maintain as close and friendly working relationship as possible with all commercial concerns related to logistics.

While I have tried to give some indication of the problems and the extent of support of ships in the Atlantic Command, all echelons of ship repair and supply logistics are forever concerned with improving their service to the fleet. The fact that this is a challenging task

is evidenced by the recent remarks of the Chief of Naval Staff when he stated:

"We have almost tripled the ships in the fleet with a personnel increase of 50 per cent and a budget increase of less than 20 per cent."

With this challenge from the top management of the Navy, it is essential that Fleet Support continue to improve in productivity and efficiency in the interests of Canada's national defence.

THE SIZE AND SHAPE OF SHIPS

MUCH has been written in the last few years concerning the demise of the battleship in the navies of the world, and its replacement as the capital ship by the aircraft carrier.

However, it would appear that although the carrier has usurped the battleship's position as the largest craft afloat, there is some pretty big stuff around in other categories. In fact, reference to the latest edition of *Jane's Fighting Ships* indicates things have not become simpler at all. Changes in ships' duties and nomenclature over the past ten or 15 years have removed many once familiar vessels from the navies' rolls. The battleship may have disappeared but one can find a heavy cruiser of up to 22,000 tons, the Salem class of the USN—about twice the tonnage of a Second World War pocket battleship.

Again, in the USN, light cruisers that in former days would have been about 6,000 to 8,000 tons are now in the vicinity of 12,000 to 15,000 tons, the size of yester-years' heavy cruisers.

What has taken the old light cruiser's place? Two classes of ship are currently vying for favour here. One is the destroyer in its various guises—leader, guided-missile destroyer leaders (DL), nuclear-powered guided-missile armed destroyer leader (DLGN) and others, all ranging from about 5,000 tons upwards to 9,000 tons. Some of these destroyer leaders are confusingly given two names, a DLGN being also called a nuclear-powered guided-missile frigate.

The DL referred to above was a former light cruiser, hunter-killer ship,

CLK, the USS *Norfolk*, rated at 7,300 tons full load.

Other guided-missile-armed destroyer leaders of 7,900 tons full load are actually guided-missile frigates (DLG). The USS *Belknap*, is one of these.

Destroyers of today range all the way from about 2,200 to 9,000 tons, with frigates occupying the same tonnage billets, and these intermixed with strange new names such as guided-missile escort ships (DEG), but listed under DEs, escort ships, radar pickets, high speed transports (modified destroyer escorts) and escort research ships, all under the banner of destroyer or destroyer escorts.

One ship that is sandwiched between the new light and heavy cruisers, but apparently is neither one, being named for itself, is a command ship (CC). She was formerly rated as a tactical command ship (CLC), and is an ex-cruiser, task fleet command ship, the USS *Northampton*.

Wedged in between the destroyers and submarines, are new breeds of ship, similar in appearance to a merchant ship, but with specialized tasks. These include guided-missile ships (AVM) and seaplane carriers (AV), which as their nomenclature implies, denotes their dual purposes. Then there are the amphibious transports dock (LPD) and amphibious force flagships (AGC).

The confusion does not end here. That's only one navy and there are 92 other navies with similar dissimilarities.

The USSR has no aircraft carriers, so their cruisers are the capital ships

of that fleet and their submarines are the mainstay.

The United Kingdom relies heavily on carriers, has a couple of cruisers in the 11,000-ton range and a number of destroyers. Their big contribution is that they make definite distinctions between destroyers and frigates, with only a slight overlapping of the two in the 2,000-ton range. Generally, however, their destroyers are above 3,000 tons and frigates below that figure.

It was thought a review of the RCN should place everything in a clear light, but not so.

Refusing to go along with the destroyer-frigate controversy, the RCN stuck to the name "destroyer escort" for converted destroyers, like the *Algonquin* and *Crescent*, that other navies were now calling frigate. In addition the RCN retained her former frigates as frigates. But within the next few years a new ship, the general purpose frigate of about 3,400 tons, will be added. This will differ from the RN GP frigates by nearly 1,000 tons.

Unhappily, or happily, the term frigate, which now covers such a multitude of sins or ships, was revived by Canada during the Second World War, and stuck.

Just as a last, friendly parting shot, the old corvette, which many Canadian sailors and ex-sailors either loved or hated, but couldn't ignore, has also had its name revived. The Royal Ghanaian Navy has acquired a couple. They will run about 600 tons and will be easy to produce in time of emergency, just like their predecessors.—L.W.T.

NAVY WEEK

MAY 5th - MAY 11th

50 NORTH: A PERSONAL RECORD

MOMENTS of high excitement, occasional spells of relaxation and days, months and years of boredom, frustration, discomfort, strain and worry were the temporal ingredients of service during the Second World War in escort ships on the North Atlantic. All of it is a score of years in the past and memories are fast fading. But, in the sum total, it was a momentous period and deserves to be remembered and recorded.

Official histories have been written, and there have been accounts, factual and fictional, of life on the lower deck. There have been magazine articles, narrative poems, movies, radio programs and television shows, each of which has added its bit.

Nevertheless, the surface has barely been scratched. Why should 100,000 of Canada's youth, many of them with no knowledge of the sea, have chosen to serve their country in the naval ser-

BOOKS for the SAILOR

vice? How did they react to being transplanted from the farms, towns and cities of Canada to a strange and sometimes terrifying world? Did they really become good, professional sailors? Or were there weaknesses than can serve as lessons for today?

We now have before us the recollections of a competent observer—one who held command for four of the bitterest years of the war in the escort vessels that then formed the backbone of the Royal Canadian Navy.

Alan Easton knew that one day he would have to tell his story and, while the events of his years at sea were still

fresh in his mind, he made copious notes. At last he has placed them in book form under the title *50 North*.

On a chart of the North Atlantic, latitude 50°N. is a line extending from Newfoundland's northern peninsula to the southernmost tip of England. In the vast area bisected by this line, out beyond the protection of air cover and in a region beset by fog and storm, the Battle of the Atlantic was fought.

It was in this field of battle that the author spent much of his operational time at sea. A former merchant service officer, trained in HMS *Conway*, he entered the Navy as a Lieutenant, RCNR in 1940 and was given command of a ship in April 1941.

The ship was HMCS *Baddeck*, one of the early corvettes. In the automotive trade a car that has perpetual, irremedial mechanical troubles is known as a "lemon". The *Baddeck* was a "lemon". During the year Lt. Easton



"50 North" is the story of four ships commanded by the author, Lt.-Cdr. Alan Easton, DSC, RCNR (Ret), during the Second World War. Above are the corvettes *Baddeck* and *Sackville*, which he commanded in the North Atlantic at the height of the U-boat battle. Below are the frigates *Matane* and the destroyer *Saskatchewan*. (A-824; CN-3557; GM-1456; Z-991)

commanded her, the *Baddeck's* main engines gave constant trouble, making the corvette unable to carry out operational commitments, forcing her to lay over in port for repairs, causing her to drop out of station on convoy duty. What should have been a relatively pleasant cruise (for wartime) to the Caribbean, was turned into a nightmare.

Then came the assignment of the *Baddeck* to the slow convoy, SC-48, bound for Britain by way of the Strait of Belle Isle in October 1941. Again she was plagued by engine trouble and fell astern, steaming through the grim flotsam left by a determined attack by nine U-boats. HMS *Gladiolus* (corvette) was lost with all hands, HMS *Broadfoot* (destroyer) was torpedoed and abandoned, the U.S. destroyer *Kearney* was torpedoed, but made Iceland under her own power. Eight merchant ships were sunk—and the entire wolf pack escaped scot free.

There were disciplinary problems, as there were bound to be in a problem ship with a new and largely green crew. Long at sea in the merchant service, but new in command in the Navy, Lt. Easton at first found it difficult to impose stern naval discipline on a body of men who were obviously not yet professional seaman. On the other hand, the "Boys will be boys" approach was not the answer, either.

Things went much better in his next ship, the corvette *Sackville*, which is serving the RCN to this day, although no longer in the role of fighting ship. It was as captain in the *Sackville* that Lt. Easton won the Distinguished Service Cross for services during the west-bound convoy, ON-115, in August 1942. That was the convoy in which the *Skeena* and *Wetaskiwin* opened the action by destroying U-588. The *Sackville* encountered no fewer than three German submarines and drove them off with such a display of ferocity that none of them dared venture near the convoy again. One of them, sorely wounded, took 12 days to limp back to base. Although U-boats swarmed around the large convoy, only two merchant ships were torpedoed and one of them survived to be towed into St. John's. The survivor later broke in two and sank while being towed to a U.S. port for repairs, an Atlantic storm completing what the U-boat had failed to accomplish.

Then came promotion to the rank of lieutenant-commander, command of the frigate *Matane* and more mid-ocean duty. This meant sailing in a larger, more comfortable ship but it also meant

the presence of the senior officer of the group, an RN commander, and the imposition of additional strain.

There was another command in store for Lt.-Cdr. Easton before he would end up in hospital at Halifax. His new ship was the destroyer *Saskatchewan*, bearer of a name which returned to the RCN this year after a lapse of 16 years. She had fought hard in the RN as HMS *Fortune* and she had escorted convoys across the Atlantic, a maple leaf on her funnel for a year before Lt.-Cdr. Easton went on board.

His command lasted five months, but the *Saskatchewan* was assigned to invasion and post-invasion duties, slamming the door against U-boats tempted to interfere with the invasion and battling German escorts in a bloody night action off Ushant.

Shortly after the Ushant action, the *Saskatchewan* was ordered to Halifax for refit and her captain went ashore.

SOLDIERS OF THE SEA —THE U.S. MARINES

IT WAS an unkind cut and former President Harry Truman later took back every word. What he said, in reply to a letter proposing that the Marine Corps be given a voice in the Joint Chiefs of Staff, was:

"... For your information the Marine Corps is the Navy's police force and as long as I am President that is what it will remain. They have a propaganda machine that is almost equal to Stalin's."

The retraction came the day after the violent public outcry that followed publication of the letters and this time President Truman said:

"I sincerely regret the unfortunate choice of language which I used in my letter . . . I am certain that the Marine Corps itself does not indulge in such propaganda . . ."

"The Corps' ability to carry out whatever task may be assigned to it has been

Well established in civilian life in Montreal when he volunteered for service, Lt.-Cdr. Easton was older than most when he went to sea. Although he was separated for long periods from his family and his health suffered from the rigours of the sea, it is obvious, though unsaid, that the thought never occurred to him to seek escape from what he felt was his duty. He was fond of ships and men, but the sea became a physical enemy and, when the day came he would no longer sail again, he was content.

It is hard to pinpoint the principal virtue of this book. It reads easily and entertainingly. It conveys the misery, discomfort and tension of life at sea during the Battle of the Atlantic, and it nevertheless is infused with the feeling that it was all worth doing—H.M.C.

50 NORTH, by Alan Easton, published by the Ryerson Press, 299 Queen Street West, Toronto 2E; 287 pages, illustrated; \$5.50.

splendidly demonstrated many times in our history . . ."

President Truman had made the simple error of assuming that an organization that generates publicity is seeking publicity. The facts are that through the years, ever since its beginnings in 1775, the U.S. Marine Corps has generated a great deal of publicity through its fighting efficiency, great deeds of valour and corresponding sacrifices. It has also, there seems little doubt, created propaganda in its efforts to maintain its separate being as a fighting force.

Soldiers of the Sea is the title Col. Robert Debs Heinl, Jr., USMC, has given his history of the gallant corps, which supports again and again in the telling the famous observation of war correspondent Richard Harding Davis, during the Panama revolution of 1885:

"The Marines have landed and the situation is well in hand."

The captain of a British warship, present on that occasion, had said when he heard of the landing, "Tranquility is then assured." Coming from an outside observer, this could well be considered an even greater compliment than that paid by Davis.

The record of any organization such as the U.S. Marine Corps cannot be completely flawless, and Col. Heinl treats these departures from a state of



grace, such as the Parris Island drownings, with honest objectivity.

There appears to have been a strange sequel to the publication of this book—the walkathon craze. Readers may wish to draw their own conclusions from this paragraph, which appears on page 187:

“As might be supposed with T. R. (Theodore Roosevelt) as President, physical fitness was a live subject. On 4 January 1909, General Order No. 6, issued at the President's personal direction, required that, once a year and whenever examined for promotion, each officer walk 50 miles in three days, or cover 90 miles on horseback, or 100 miles by bicycle in the same time. When Captain Henry Leonard, one-armed but vigorous, walked the whole stretch in one day, he was reprimanded and made to do it over, according to the book in three days. Like a good officer he complied with his orders, walking 49 miles the first day and a half mile on each of the succeeding two.”

Apart from being a thoroughly readable record of the U.S. Marines, the book holds much for students of such subjects of modern interest as amphibious landings and “brushfire” warfare. The book is lavishly and meaningfully illustrated, the natural choice for the frontispiece being the famous picture of the U.S. Marines raising the colours on Iwo Jima in 1945—C.

SOLDIERS OF THE SEA, The United States Marine Corps, 1775-1962, by Robert Debs Heintz, Jr.; published by the United States Naval Institute, Annapolis, Maryland; 692 pages, illustrated; \$14.

SHOWING THE FLAG

THOSE WHO remember Captain Agar's earlier book, *Footprints in the Sea*, will, I suspect, be mildly disappointed in his latest work, *Showing the Flag*. Had Captain Agar confined himself to the subject indicated by his title, the book would have been much improved, for the best parts by far are those that describe his personal experiences while “showing the flag” with the newly-formed New Zealand Navy in the 1920s and with the North America and West Indies Squadron in the 1930s.

Unfortunately Captain Agar, instead of confining himself to matters within his personal knowledge, launches into history and not always with happy results. He states for instance that Canada and Australia created their

navies following the Imperial Conference of 1917. He also implies that prior to that time all the Dominions “paid a monetary contribution to the Imperial Government towards the cost of their own defence”.

Some might also criticize Captain Agar for the blind, uncritical adoration of everything British which leads him to make some very unsound historical judgments. “. . . Britain's influence and good name stood (at the beginning of the 20th century) for everything that was fair, just and honourable,” is one of the author's *obiter dicta*, but if one is to trust the history books, Britain during the time of the South African War was not at the height of her popularity—even in Britain.

Other instances might be cited where Captain Agar has allowed his enthusiastic patriotism to outrun his historical sense, but one should perhaps not criticize his book as an historical work. That part of it which deals with his personal experiences is always interesting and sometimes quite delightful. Canadian will probably find particularly interesting Captain Agar's reminiscences about Labrador and Newfoundland. Members of the RCN will probably read with attention his remarks about the

role of the fleet as an agent of diplomacy and the role of the sailor as ambassador.—T.T.

SHOWING THE FLAG, by Captain Augustus Agar, VC, RN, published in Canada by British Book Service (Canada) Ltd., Kingswood House, 1068 Broadview Avenue, Toronto; 304 pages; illustrated; \$7.50.

WHAT HAPPENS WHEN THE BUTTON'S PUSHED

What would happen if the captain of a Polaris submarine cracked under the strain and pushed the firing button?

The problem is set in *Two Hours to Darkness*, a first novel that tells an interesting story, with a reasonably authentic ring to it, despite a couple of stock characters and a not entirely original scene, reminiscent of an episode in *The Caine Mutiny*.

But the author, Antony Trew, knows his sailors and he knows the ways of the sea. A South African who was seconded to the Royal Navy, he commanded the destroyer HMS *Walker* on the Murmansk run and with Iceland convoys, and was awarded the Distinguished Service Cross.

TWO HOURS TO DARKNESS, by Antony Trew, published in Canada by Collins, 10 Dyas Road, Don Mills, Ont.; 320 pages; \$3.75.



Lt.-Cdr. Ross Dickinson, Commander RCN Diving Establishment, Halifax, shows his one-time senior officer some of the things that have been happening since the Second World War. Ewart Leyland, who was in command of ML 074, leader of the 77th Canadian ML Flotilla, as a lieutenant, RCNVR, recently visited the Diving School, and was greeted by Lt.-Cdr. Dickinson, who commanded ML 092 in the same flotilla. (Photo by Lt. Alan Sagar)

RETIREMENTS

CPO WILLIAM DAVID BRUCE, CD, C2RM4, of Langmeade, Sask.; served June 2, 1941 to June 1, 1948; re-entered March 14, 1949; served in Q 066, *Givenchy*, *Burrard-8575*, *Cornwallis*, *St. Hyacinthe*, *Stadacona*, *Fort Ramsay*, *Peregrine*, *Middlesex*, *New Waterford*, *Crescent*, *Uganda*, *Aldergrove*, *Malahat*, *Ontario*, *Sioux*, *Athabaskan*, *Ottawa*; retired March 13, 1963.

CPO SIDNEY ROSS CROSSLEY, CD, C1SN4, of Edmonton; joined September 13, 1937; served in *Naden*, *Fraser*, *Nootka*, *HMS Victory*, *HMS Osprey*, *Stadacona*, *Restigouche*, *Arrowhead*, *Assiniboine*, *Swift Current*, *Nipigon*, *Melville*, *Givenchy*, *Wentworth*, *Tillsonburg*, *Sea Cliff*, *Port Colbourne*, *Peregrine*, *New Waterford*, *Charlottetown II*, *Rockcliffe*, *Antigonish*, *Haida*, *Swansea*, *Huron*, *Crescent*, *Portage*, *Huron*, *Fort Erie*, *Brunswick*, *Cornwallis*, *Niobe*, *HMS Ferret*, *Ottawa*; retired March 14, 1963.

CPO MANFRED ARTHUR FREEMAN, CD, C2LT4, of Lethbridge, Alberta; joined RCNVR January 14, 1943; transferred to RCN September 29, 1945; served in *Discovery*, *Naden*, *Protector II*, *Stadacona*, *Murray Stewart*, *Captor II*, *Coppercliff*, *Givenchy*, *Crescent*, *Ontario*, *Magnificent*, *Athabaskan*, *Cayuga*, *Cornwallis*, *Quebec*, *Crusader*, *Sioux*, *Gatineau*; retired March 26, 1963.

CPO EWART RICHARD PENNEY, CD, C2LT4, of Toronto; served July 15, 1941 to January 11, 1949; re-entered September 27, 1949; served in Toronto naval division, *Naden*, *Kelowna*, *Givenchy*, *Stadacona*, *Niobe*, *Forest*,

Hill, *Avalon*, *St. Hyacinthe*, *Cornwallis*, *Scotian*, *Albro Lake* radio station, *York*, *Stadacona*, *Swansea*, *Magnificent*, *Gloucester*, *Donnacona*, *Quebec*, *Outremont*, *Micmac*; retired March 29, 1963.

OFFICERS RETIRE

LT. ROBERT KERR, CD, of Shearwater, N.S.; joined RCNVR on July 11, 1944, as stoker first class (fire fighter) and was demobilized May 16, 1945; joined RCN July 30, 1949, as warrant officer (SB); served in *Donnacona*, *York*, *Protector*, *Hochelaga*, *Scotian*, *Stadacona*, *Shearwater*, *Cornwallis*; last appointment, *Shearwater* as Base Fire Chief; commences retirement leave April 15, 1963; retires August 10, 1963.

LT.-CDR. CHARLES ARTHUR PROSSER, CD, of London, England, joined RCN(R) on August 18, 1951, as lieutenant; served in *Brunswick*, *Cornwallis*, *Stadacona*, *Naden*, *Ontario*, *Venture*, *Portage*, *Oriole*; last appointment, *Oriole* in command and on staff of Queen's Harbour Master, Esquimalt, for Auxiliary Training Squadron; commences retirement leave April 10, 1963; retires July 15, 1963.

CPO EDWARD STEPHEN SAINSBURY, CD, C1ET4, of Gillingham, England; served in RCNVR April 12, 1939, to October 4, 1945; RCNR October 21, 1946 to January 4, 1948; enrolled RCN January 5, 1948; served in Winnipeg naval division, *Stadacona*, *Restigouche*, *Annapolis*, *St. Laurent*, *Prince Henry*, *Naden*, *Cornwallis*, *Niobe*, *Qu'Appelle*, *Scotian*, *Peregrine*, *La Hullose*, *Bytown*, *Star*, *Haida*, *Bonaventure*; retired March 13, 1963.

CPO ERNEST ALBERT WILLIAM SEELEY, CD, C2ER4, of Oshawa, Ontario; joined RCNVR March 11, 1943; transferred to RCN September 13, 1945; served in *York*, *Cornwallis*, *Stadacona*, *Trois Rivières*, *Peregrine*, *Kapuskasing*, *Scotian*, *Qu'Appelle*, *Micmac*, *Iroquois*, *Haida*, *Nootka*, *Cape Breton*, *Quebec*, *Magnificent*, *Bonaventure*; retired March 10, 1963.

CPO CALVIN ARCHIBALD SLITER, CD, C1ER4, of Brandon, Manitoba; joined RCNVR April 12, 1942, transferred to RCN June 26, 1945; served in *Chippawa*, *Naden*, *Stadacona*, *Port Arthur*, *New Waterford*, *Middlesex*, *Scotian*, *Nootka*, *Queen Charlotte*, *Llewellyn*, *Brockville*, *Magnificent*, *Chignecto*, *Micmac*; retired 7, 1963.

CPO BERNARD WILLIS TIPERT, CD, C2TM4, of New Germany, N.S.; joined March 9, 1942; served in *Stadacona*, *Moose Jaw*, *Protector*, *Cornwallis*, *Peregrine*, *Somers Isles*, *Orkney*, *Swansea*, *Micmac*, *Shearwater*, *Niagara*, *Cape Scott*, *Gloucester*, *Bytown*; retired March 10, 1963.

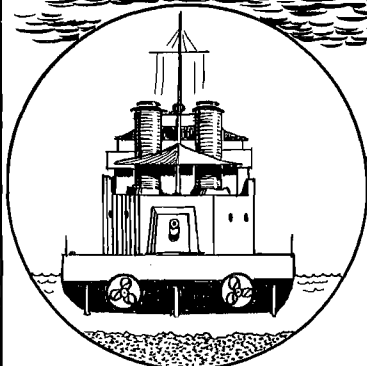
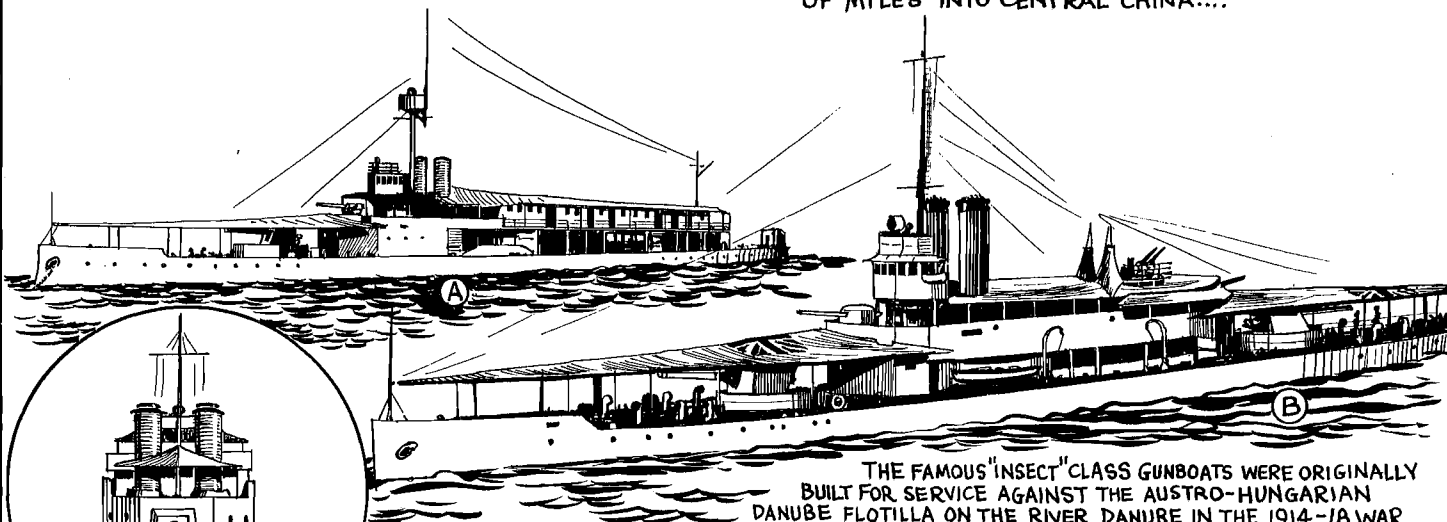


FAMILY PORTRAIT—As popular and busy as ever is the widely-known naval band of HMCS Naden. Throughout the month of February the naval musicians presented another in a series of annual concerts to high schools of the Greater Victoria area. Thousands of students heard and enjoyed the program, featuring a wide variety of selections for all musical tastes. This latest "family portrait" of the band was taken in the auditorium of Victoria's S. J. Willis Jr. High School. The band is under the direction of Cd. Off. Tom Milner, absent at the time the photo was taken. (G-70874)

Naval Lore Corner

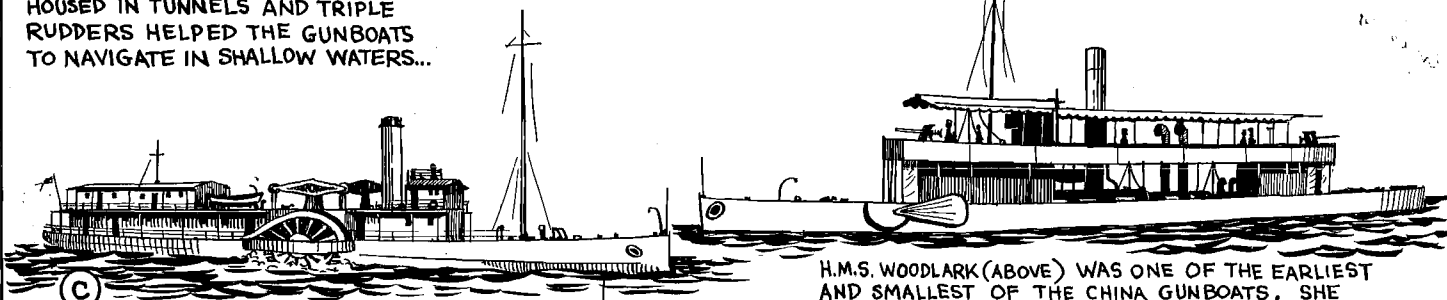
Number 114 CHINA GUNBOATS

THERE IS NO MORE ROMANTIC PERIOD OF MODERN NAVAL HISTORY THAN THE ERA OF THE CHINA RIVER GUNBOATS. THESE FLAT-BOTTOMED CRAFT WERE MAINTAINED BY THE PRINCIPAL POWERS FROM 1890-1939 ON THE YANGTZE KIANG AND WEST RIVERS OF CHINA TO PROTECT THEIR NATIONALS AGAINST PIRATES, BANDITS AND WAR LORDS, AND WERE CONSTANTLY ON ACTIVE SERVICE NAVIGATING FOR THOUSANDS OF MILES INTO CENTRAL CHINA....



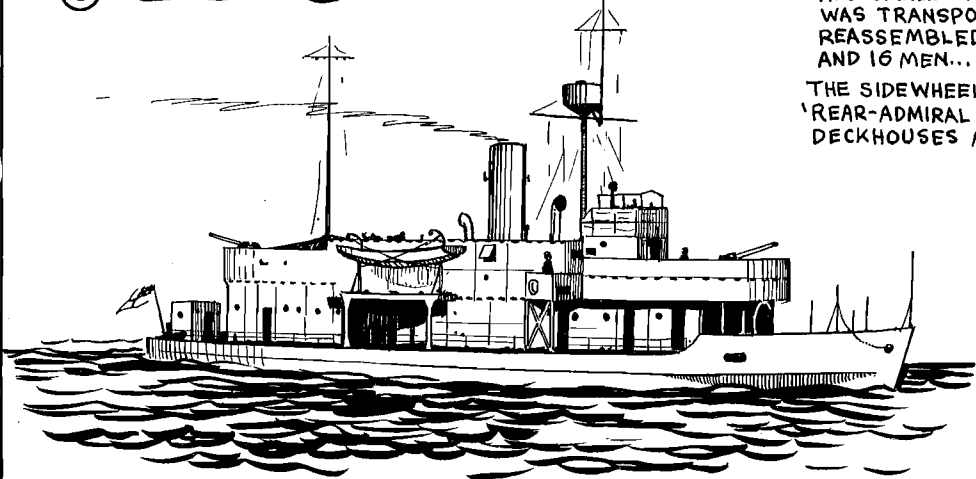
THEY SERVED IN THE MIDDLE EAST AND IN THE CHANNEL UNTIL 1918 WHEN 3 OF THEM DID PATROL THE DANUBE, OTHERS OPERATED AGAINST THE BOLSHEVIKS IN NORTH RUSSIA. MOST OF THEM SERVED IN CHINA BETWEEN THE WARS [(A) H.M.S. CICALA, (B) H.M.S. BEE FITTED AS FLAGSHIP, S.N.O. YANGTZE RIVER]. THEY SERVED MOSTLY IN THE MEDITERRANEAN IN WORLD WAR II AND 4 SURVIVED TO BE PAID OFF. OF 645 TONS, THEY CARRIED TWO 6-INCH GUNS...

TWIN IN-TURNING SCREWS WERE HOUSED IN TUNNELS AND TRIPLE RUDDERS HELPED THE GUNBOATS TO NAVIGATE IN SHALLOW WATERS...



H.M.S. WOODLARK (ABOVE) WAS ONE OF THE EARLIEST AND SMALLEST OF THE CHINA GUNBOATS. SHE WAS TRANSPORTED TO CHINA IN SECTIONS AND REASSEMBLED. HER COMPLEMENT WAS 2 OFFICERS AND 16 MEN...

THE SIDEWHEELER H.M.S. KINSHA (C) WAS FLAGSHIP 'REAR-ADMIRAL YANGTZE' UNTIL 1920. THE EXTRA DECKHOUSES AFT ACCOMMODATED THE ADMIRAL'S STAFF.



H.M.S. TERN (LEFT) WAS TYPICAL OF THE CHINA GUNBOATS, ARMED WITH TWO 3-INCH GUNS, HER UPPER WORKS WERE LIGHTLY PLATED TO RESIST THE RIFLE FIRE WHICH WAS OFTEN DIRECTED AT THE GUNBOATS FROM BOTH RIVER BANKS.

SEVERAL OF THESE GUNBOATS STILL SURVIVE IN THE CHINESE (PEOPLE'S REPUBLIC) NAVY...

Roger Duhamel

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