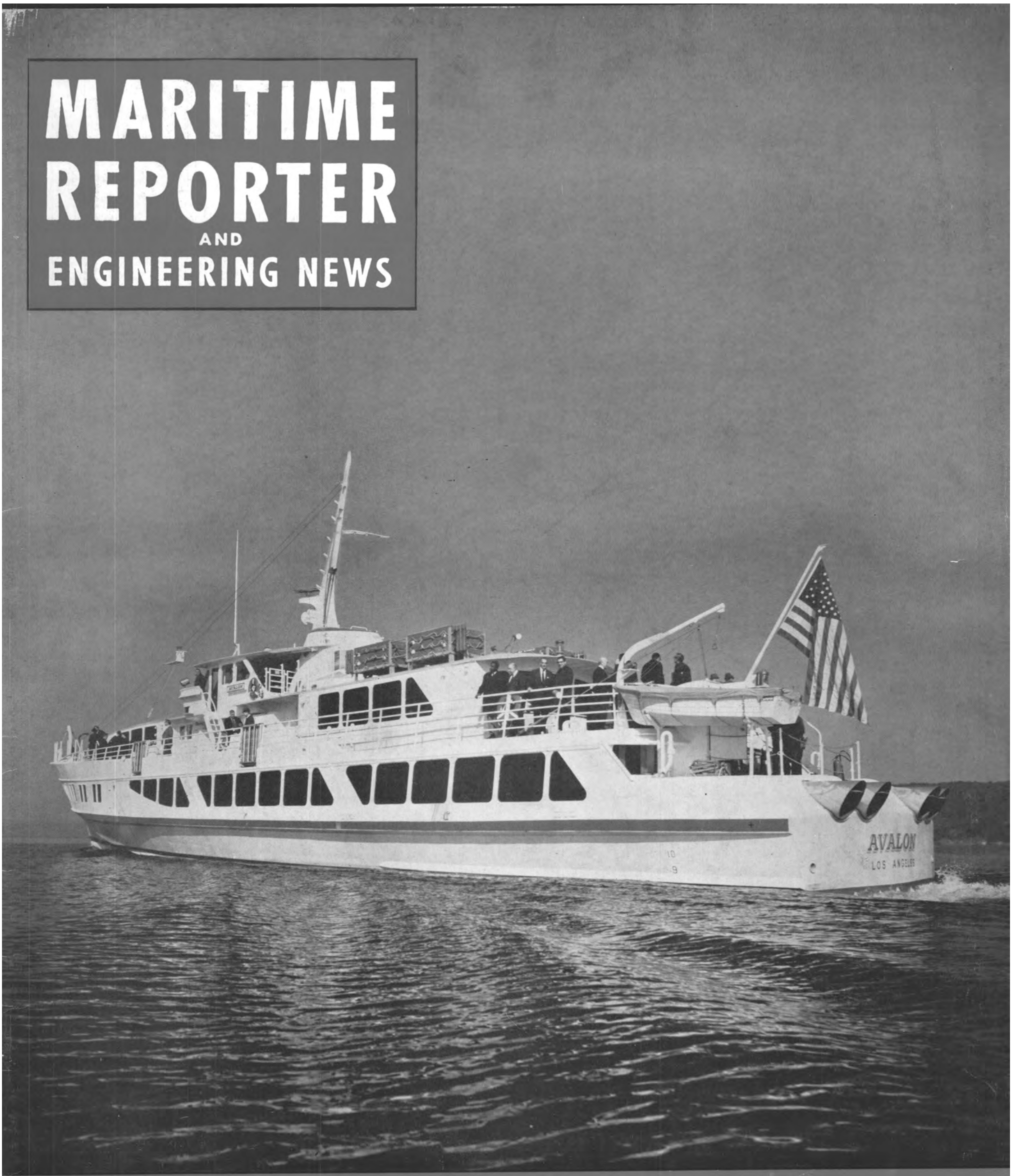
# MARITIME REPORTER
AND
# ENGINEERING NEWS

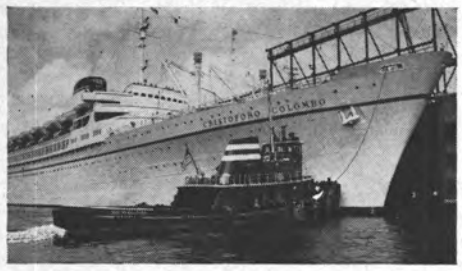

**Unique Gas Turbine Propelled All Aluminum Ferry Avalon Goes Into West Coast Service**

(SEE PAGE 6)

**Containerization Problems To Be Aired At Symposium In Chicago April 14-17**

(SEE PAGE 14)

APRIL 1, 1970



# Cristoforo Colombo discovers the new McAllister.


## Docking and undocking now faster, more efficient than ever.

The newest addition to the McAllister fleet, the 3160-hp Kort-nozzle tug "Jane McAllister," is shown here undocking the pride of the Italian Line, "Cristoforo Colombo." The "Jane's" flanking rudder system gives her a powerful edge in manuverability that pays off in speed, economy and safe conduct of the ship.

The "Jane" is only one of four new powerful tugs that are swelling the McAllister fleet. Supertugs for superships. So, whatever your harbor movement needs, including tug and barge transportation, why not discover for yourself the new McAllister?
McAllister Bros. Inc., 17 Battery Place, N.Y. 10004.

## Mac has the knack.

## Towboat Contracts To Big River Shipbuilding

Big River Shipbuilding, Inc., Vicksburg, Miss., has received orders for the construction of two twin-screw river towboats.

Each towboat, to be powered by 900-total-bhp diesels, will measure 65 feet in length, 24 feet in beam, and 10 feet in depth.

The vessels are being built for undisclosed interests.

## Supply Boat Ordered From American Marine

American Marine Corporation, New Orleans, La., has received an order from Seafarer Boats, Inc., for the construction of an offshore, oil-well supply boat measuring 186 feet in length, 56 feet in beam and 14 feet 6 inches in depth.

Designated Hull No. 1053, the vessel, to be named Lift Tide, will be fitted with a crane and will be powered by 1,700-total-bhp diesels.

## Trawler Contract To Bay Shipbuilding

An oceangoing trawler, powered by a single 1,300-bhp diesel, will be constructed by Bay Shipbuilding Corporation, Sturgeon Bay, Wisconsin, for Boston Fish Market Corporation, Boston, Mass.

Designated Hull No. 705, the vessel will measure 115 feet by 28 feet by 16 feet.

Under terms of the Fishing Fleet Improvement Act, the trawler will be built with the aid of a construction subsidy.

## Humboldt Boat To Build 100-Ft. River Dredge

An order for the construction of a 100-foot by 25-foot by 5-foot river dredge has been placed with Humboldt Boat Service, St. Louis, Mo.

The dredge, which will be equipped with a 390-bhp Cummins diesel, is being built for Riverside Sand & Gravel Company.

## Burton To Build Two Offshore Supply Boats

Offshore Logistics, Inc., has placed an order for the construction of two offshore, oil-well supply boats with Burton Shipyard, Inc., Port Arthur, Texas.

Each vessel will be powered by 2,150-total-bhp diesels.

Designated Hull Nos. 464 and 465, they will each have dimensions of 200 feet by 40 feet by 17 feet.

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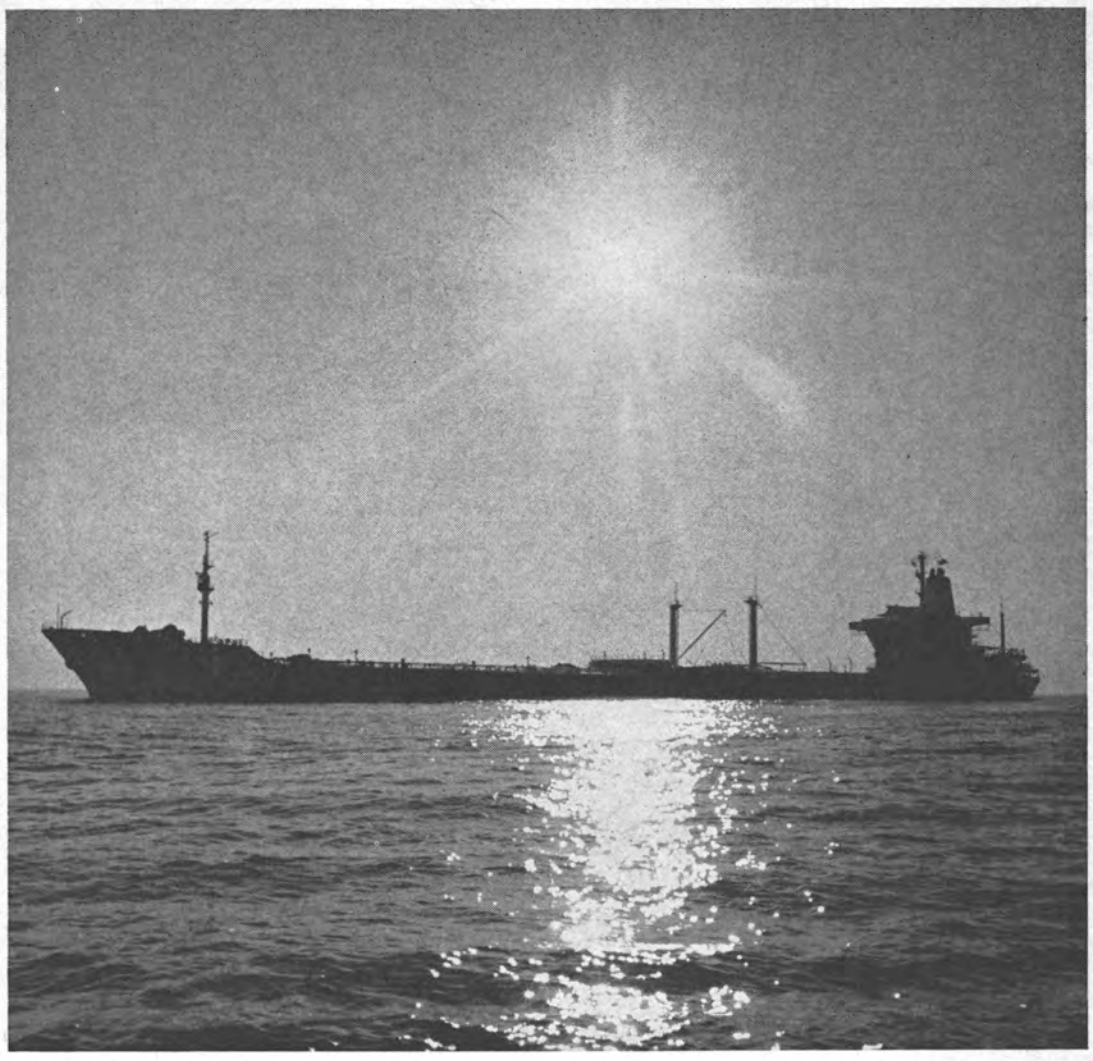

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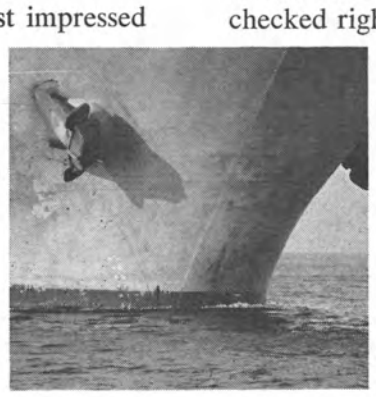

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**LOCKHEED**

Marine Services Division
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A Division of Lockheed Aircraft Corporation


The gas-turbine powered Avalon proved its design and efficiency while on trials in Puget Sound.

## Largest Aluminum, Gas-Turbine Passenger Ferry

# THE GTS AVALON

### Spaulding-Designed, Martinolich-Built Ferry Will Carry 500 Passengers At A Service Speed Of 25 Knots Between San Pedro And Catalina Island

The largest all-aluminum, gas-turbine-powered passenger ferry, the Avalon, recently completed her sea trials in Puget Sound and has been turned over to her owners and operators, Holiday Services of Los Angeles, Calif. The 500-passenger, 25-knot vessel will operate between San Pedro and Catalina Island, Calif.

The Avalon, costing more than $2 million, was designed by Philip F. Spaulding and Associates, naval architects and marine engineers in Seattle, Wash. It was built by the Martinolich Shipbuilding Corporation of Tacoma, Wash. The American Bureau of Shipping has classed the ship for short coastwise trade.

This ferry incorporates many "firsts" in its design and construction. The requirements given to the naval architect were to design a ship under 100 gross tons capable of cruising at speeds of 25 to 30 knots and to carry 500 passengers. No automobiles were to be carried. To meet these requirements meant using aluminum for the hull and superstructure and a lightweight propulsion system.

The passenger accommodations on the Avalon are considerably different from those on other ferryboats. The passengers ride in airplane-type seats on the main deck and the upper deck. Kennels are provided so that passengers may take their pets along with them. The interiors are painted in various colors so that a vacation-type atmosphere is provided.

The 160-foot hull is subdivided by nine transverse watertight bulkheads extending to the main deck. Most of the compartments thus formed are void spaces. Saltwater ballast is carried in the compartment just aft of the forepeak bulkhead. Amidships are located the pump room and spaces housing the fin stabilizers. Further aft are the sewage holding tank, fuel-oil tanks, potable-water tanks and another ballast tank. The engine room is located at the stern.

On the main deck is a forward lounge capable of seating 58 people. Aft of this space is the main lounge, which incorporates a snack bar, with a seating capacity for 333 people. The forward end of the upper deck serves as a forecastle deck with vertical windlass-capstan, bitts and chocks. Just aft of the forward deck is an observation lounge with seating capacity for 67 persons. At the after end of the upper deck is a cocktail lounge with seating capacity for 62 people.

Above the upper deck amidships is the navigating bridge with a passenger observation platform just aft of the wheelhouse from which passengers can observe the operation of the vessel.

(Continued on page 8)

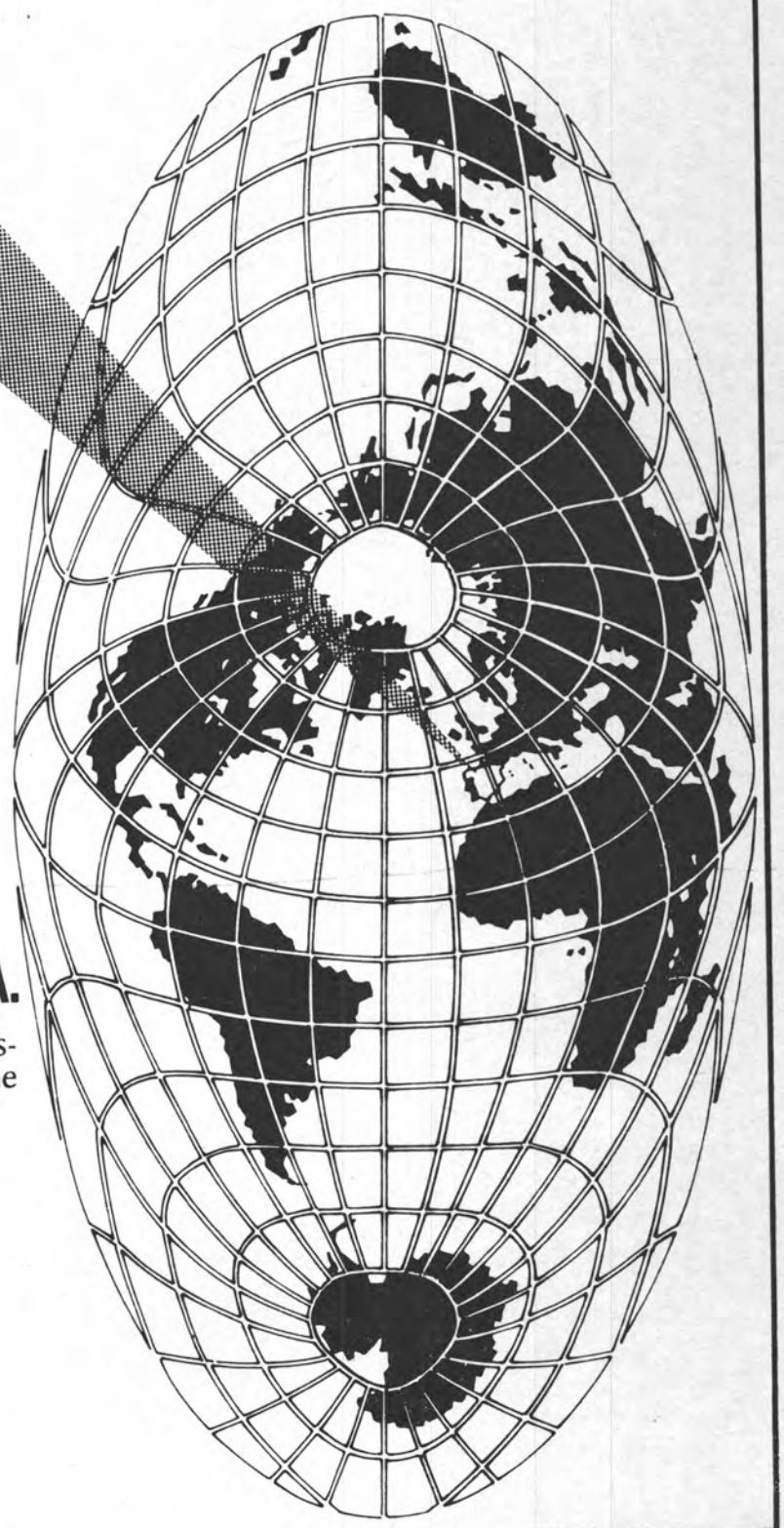
All controls for operating the Avalon are centered in the pilothouse in full view of the helmsman and deck officer.

The main passenger lounge can seat 333 people in aircraft-type seats. The snack bar is located in this area.

The cocktail lounge is located on the upper deck aft of the stack. It can seat 62 people on comfortable sofas.

# ASTILLEROS ESPAÑOLES, S.A.

An enterprise that increases its capacity by means of coordinating the technique, quality and experience of **Cía. EUSKALDUNA de CONSTRUCCION y REPARACION de BUQUES, S. A., SOCIEDAD ESPAÑOLA de CONSTRUCCION NAVAL and "ASTILLEROS de CADIZ, S. A".** at the service of Shipbuilding.



## ASTILLEROS ESPAÑOLES, S. A.

Takes pleasure of informing of its constitution as a Society as a result of the merger of.

**ASTILLEROS de CADIZ, S. A.**
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## The GTS Avalon—

(Continued from page 6)

### Hull Construction

The all-welded hull and superstructure of the Avalon required more than 157,000 pounds of aluminum sheet, plate and extrusions fabricated from corrosive-resistant marine alloys developed by Kaiser Aluminum & Chemical Corporation.

Martinolich Shipbuilding Corporation devised entirely new procedures and sequences for the welding of the hull. These procedures and sequences were developed from guidelines furnished by the American Welding Society and the Aluminum Association. Besides following these rules, it was determined that particular emphasis had to be placed on cleanliness.

Once it was decided to use Mig welding exclusively, the builder prescribed that only wire packaged in plastic bags with desiccant would be used. Packages were to remain sealed until the time the wire was placed into the wire feeder and wire would be returned to its package during periods of protracted idleness, such as overnight.

Chemetron Corporation of Chicago, Ill. supplied six A-9 Mig welding machines, the All-State 5356 aluminum alloy wire and the argon shielding gas for the entire project. Only argon gas was used.

Fillet welding was used extensively and where butt welding was required, the shipyard established a series of instructions which specified distances between plates, plate-edge preparation, size of wire, argon flow, number of weld passes and welding speed. For the most part, welding was semi-automatic. Automatic welding was allowed on panel sections in the horizontal position. The preparation of joints for welding was done by sawing, machining, grinding, chipping or plasma-arc cutting, whatever was proper for a given joint.

Kaiser alloy 5086-H32 plate was used for most of the fabrication and Kaiser's alloy 5086-H112 for shaped sections.

**Characteristics**

| | |
|---|---|
| Length overall | 160 ft. 4 in. |
| Length bet. perp. | 141 ft. 3 in. |
| Breadth, ext. | 27 ft. 4 in. |
| Draft | 6 ft. 0 in. |
| Displacement | 182 long tons |
| Gross tonnage | 85 |
| Service speed | 25 knots |
| Horsepower | 5,000 bhp |
| Fuel oil @ 95% | 5,500 gal. |
| Passengers | 505 |

The Avalon was built inside a special weatherproof building. This view shows the bulkheads being installed.

### Machinery

Hydro Drive Corporation of Seattle undertook to design, engineer and produce the first-of-its-kind propulsion system that aided in making it possible to meet the design requirements.

The propulsion solution reached by Hydro Drive and its subcontractor, the General Electric Company, includes two 2,500-hp strut drives, each using two 1,250-hp gas turbines, giving a total thrust of 5,000 hp. The Avalon is the first ship to employ a strut drive of this size.

The marinization of the General Electric LM-100 aircraft gas-turbine engine had been accelerated by the development of hydrofoils, surface-effect vessels and high-speed planing boats. Hydro Drive's role was the adaptation of the gas turbine to this marine propulsion problem. When the execution of the system called for unavailable or uninvented hardware for transmission of the high power with reliability and flexibility, Hydro Drive developed and produced the necessary equipment.

The air intake for the gas turbines is situated in the stack amidships and ducted to the engine room at the stern. The engines exhaust through the transom through individual exhaust trunks fitted with water-seal traps.

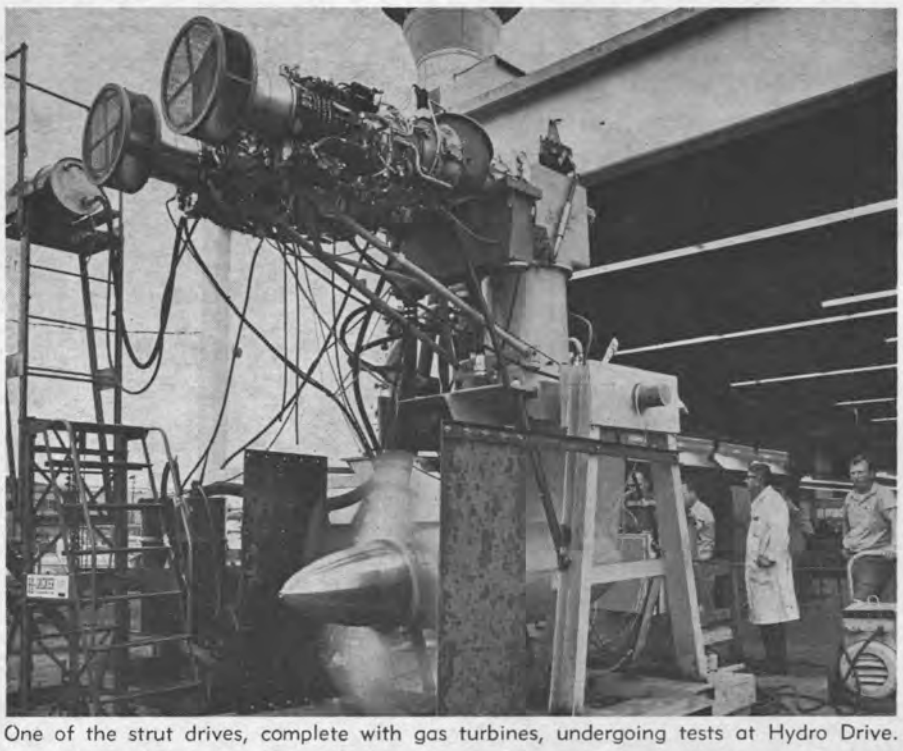
Each pair of engines drives a 56-inch controllable-pitch propeller through a Hydro Drive Model RCP 2600 SGT Z-strut drive and a General Electric combining reduction gear.

Engine control is handled completely from the bridge.

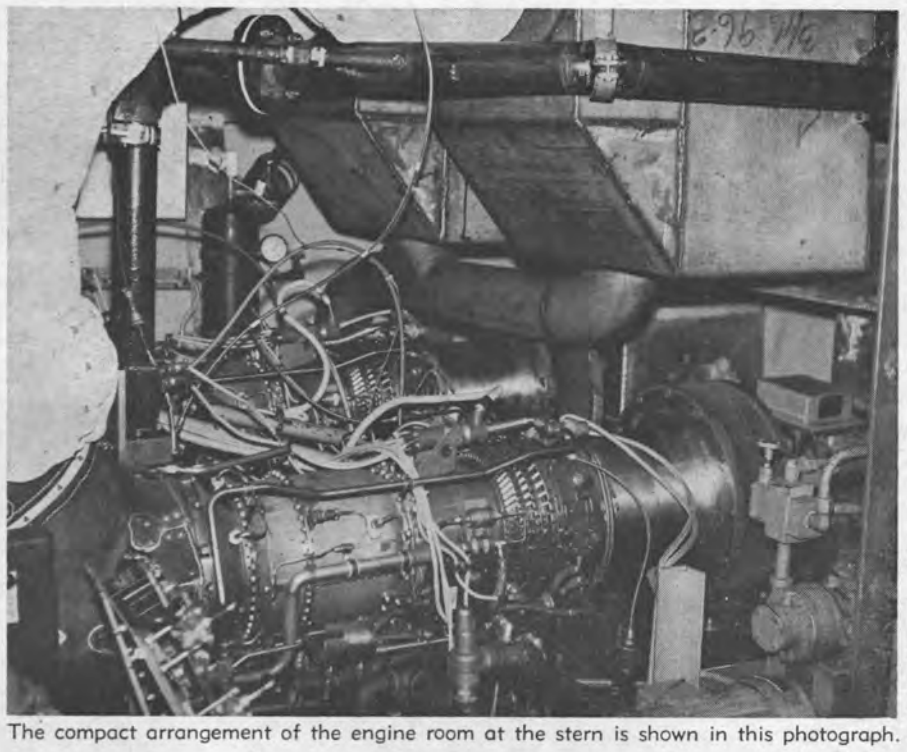
Ship's electrical power is provided by two 75-kw Caterpillar Model D330B ship-service generators. The units are arranged for one to be on standby and automatically starting up upon failure of the "on-line" unit. These units are radiator cooled and are installed in the aft end of the funnel at the house top level.

Two sets of Pacific Mark IV fixed-fin stabilizers are installed for passenger comfort.

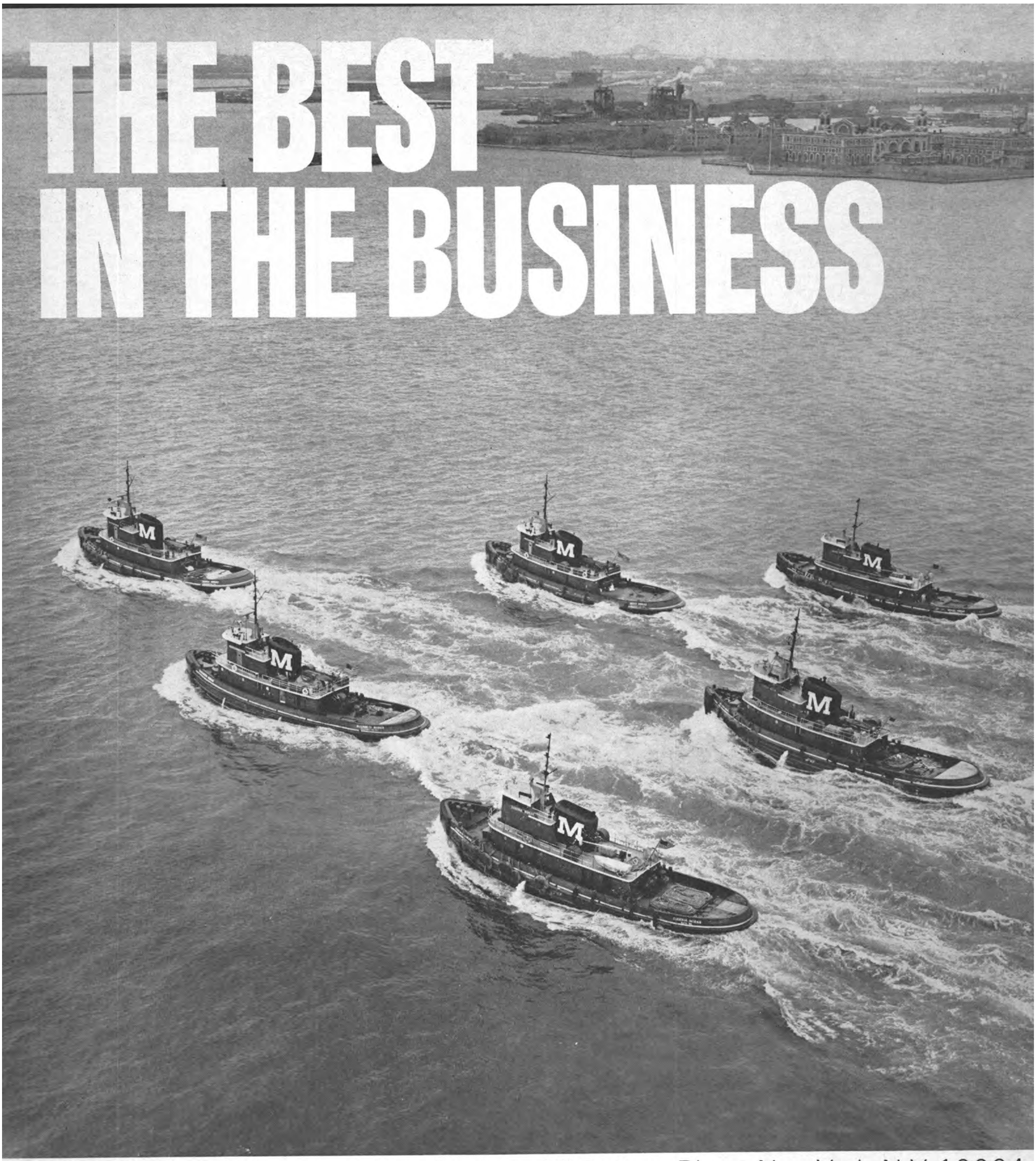
Ventilation of the vessel is provided by a supply fan delivering filtered air to all compartments. Ventilation outlets for the passengers in the main deck and observation lounges have passenger-controlled volume and directional air terminals similar to those on aircraft, except much larger.



One of the strut drives, complete with gas turbines, undergoing tests at Hydro Drive.



The compact arrangement of the engine room at the stern is shown in this photograph.




Moran Towing & Transportation Co., Inc., 17 Battery Place, New York, N.Y. 10004

## MarAd Planning To Launch New Information Service

In June 1969 the Maritime Administration of the Department of Commerce sponsored a Conference on Maritime Research and Development at the National Academy of Sciences' Summer Study Center, Woods Hole, Mass.

The Conference was attended by almost 200 major executives and professionals representing steamship companies, shipbuilders, research firms, labor organizations, ship designers, government agencies and universities. One of the high priority efforts recommended by the Conference was the development of a maritime-oriented research information service which would be responsive to the needs of all segments of the maritime industry.

The Maritime Administration has contracted with the National Academy of Sciences to develop an appropriate computer-based information service to meet the needs of the marine community.

The service is being developed to report on United States and foreign management and technical R and D in three principal categories; namely: (a) Proposed research, (b) Ongoing research, and (c) Completed research. It will be compatible with existing transportation data networks such as HRIS (Highway Research Information Service) and TRIS I (Transportation Research Information Service) and through a reformatting process it will include maritime information currently found in the Department of Defense, NASA, AEC, and Federal Clearinghouse systems.

By adopting the above procedure, management, operators, designers, builders, and engineers will no longer be required to search numerous sources for information concerning the location of documents relating to management and technical R and D reports since the MRIS will contain specialized information of interest to the maritime industry.

The National Academy of Sciences has formed a Maritime Information Committee by assembling a group of authorities representing the American Institute of Merchant Shipping, the Shipbuilders Council of America, Naval Architecture and Marine Engineering firms, National Council on Marine Resources and Engineering Development and experts in non-government and government information services. This broad representation of the maritime and information communities was selected so that the service developed would be properly balanced with respect to major information requirements of the maritime industry.

**Current Status**

1. A formal newsletter program has been established.

2. In order to be responsive to the immediate needs of the industry the initial scope of the MRIS (Maritime Administration Research Information Service) will be initially focused on the following seven subject areas: (a) Cargo operations and referral of cargo and commodity statistical reports; (b) Cost reduction in ship design, building, and operations; (c) pollution control measures; (d) Large ship design, braking, and maneuvering; (e) Ice breaking; (f) Environmental effects on ship design, building, and operations; (g) Computer applications in ship design, building, and operations.

A further breakdown of the elements included in the above subject areas will be reported in future newsletters to the industry.

3. A limited amount of information in the seven subject areas is known to exist in non-government and government information systems and work is underway to search these existing collections for pertinent data and enter selected information into the MRIS.

Although the information obtained from the existing systems will constitute an initial portion of the acquisition data for the MRIS, the ultimate success of the service is dependent upon the willingness of industry and the academic community to cooperate with the Maritime Administration by providing the MRIS with information concerning research under their cognizance.

4. It is emphasized that the MRIS does not plan to disseminate copies of any reports which are of a proprietary nature. Parties interested in obtaining copies of proprietary reports or data therein must negotiate with the proprietary source. On the other hand, the MRIS will assist users in obtaining information concerning the existence of research efforts in both the private and public domain.

5. Since the MRIS is designed to acquire information of current value to the maritime industry, reports from primary sources published prior to January 1, 1969 will not be included in the initial data bank. It is planned, however, to add certain "milestone" reports to the system at a later date.

6. The MRIS will be operational by July 1, 1970 and a schedule of services and fees will be published in the near future.

7. For further information concerning MRIS write or call **Davis G. Mellor,** Maritime Information Committee, Maritime Transportation Research Board, National Academy of Sciences-NRC, 2101 Constitution Avenue, Washington, D.C. 20418, Phone (202) 961-1687.

## Offshore Drilling Vessel Ordered From Levingston

Atwood Oceanic, Inc., has placed an order for the construction of a 6,000-dwt offshore, oil-well drilling vessel with Levingston Shipbuilding Company, Orange, Texas.

The 3,000-gt vessel, designated Hull No. 693, will have a length of 260 feet, beam of 54 feet and depth of 16 feet 3 inches.

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## Deepsea Ventures Names N.D. Birrell Operations VP

N.D. Birrell

**John E. Flipse,** president of Deepsea Ventures, Inc., has announced the appointment of **N.D. (Scotty) Birrell** as vice-president-operations.

Deepsea Ventures, Gloucester Point, Va., is in its second year of operation as the oceanographic subsidiary of Tenneco Inc., Houston, Texas. Mr. **Birrell,** in joining the Deepsea staff, returns to the ocean mining program he helped develop in his capacity as chief of the oceanographic department at the Newport News Shipbuilding and Dry Dock Company, Mr. **Birrell's** experience in ocean engineering, coupled with his extensive scientific background, make him an important addition to our staff, Mr. **Flipse** stated. Mr. **Birrell's** responsibilities at Deepsea encompass all areas of ship construction, ship repair, fleet operations, marine terminals, and shore facilities management.

A native of New York City, Mr. **Birrell** holds a bachelor of science degree in marine engineering from New York State Maritime College; a master of science degree in mechanical engineering from Carnegie Institute of Technology; and a master of science degree in electrical engineering from Polytechnic Institute of Brooklyn, N.Y. He is a licensed United States Merchant Marine officer; a licensed professional engineer (mechanical and electrical) in the state of Texas; and a member of the American Bureau of Shipping Special Commission on Offshore Mobile Units. Mr. **Birrell** holds patents for underwater navigation plotting system and apparatus for underwater mining.

Mr. **Birrell** began his career as assistant engineer aboard the New York State Maritime College training ship, SS Empire State. Before joining Esso Production-Research Company as senior research specialist in 1967, Mr. **Birrell** gained experience in both the academic and professional communities. He served as assistant instructor, Carnegie Institute of Technology; instructor of electrical engineering at the University of Virginia; and instructor at the Newport News Shipbuilding and Dry Dock Company, Newport News, Va.

Mr. **Birrell's** professional career included positions as engineer for the Sperry Gyroscope Company Marine Division; and, later, as senior engineer in the engineering laboratory, and as chief of the oceanography department, both at the Newport News Shipbuilding and Dry Dock Company.

Mr. **Birrell** is a member of The Society of Naval Architects and Marine Engineers, Marine Technology Society, Society of Petroleum Engineers and the American Institute of Mining Engineers.

## Harry Mulholland Joins Marine Personnel Firm

**Howard C. Mundt,** president, A&H Personnel Services, has announced the appointment of **Harry A. Mulholland,** formerly supervisor of labor relations, New York Shipbuilding Corp., and most recently national director of the Naval & Marine Division of a personnel consulting organization, as international director.

Mr. **Mulholland** and his associates will be responsible for the international recruitment, selection and placement of executive and technical personnel qualified for positions with naval and commercial companies and their related industries engaged in shipbuilding, conversion, and repair of ocean-going or inland waterway vessels.

A&H Personnel Services is adjacent to the Philadelphia-Camden area and has offices at One Cherry Hill, Cherry Hill-Mall, N.J. 08034.

## Worldwide Towing Partnership Formed By Smit And Cory

L. Smit & Co.'s Internationale Sleepdienst of Rotterdam, together with Wm. Cory & Son, Limited of London, have agreed to form a joint company for the purpose of operating or managing harbor tugs on a worldwide basis. This would refer particularly to deep water ports where oil or ore loading and discharging facilities are envisaged, but excluding Holland and the United Kingdom.

L. Smit & Co.'s Internationale Sleepdienst are well known as harbor tug owners of Rotterdam and Europoort, apart from their pre-eminent position as deepsea and salvage operators.

Mr. Cory, through their towage subsidiary R. & J.H. Rea Limited, already operate tugs at United Kingdom and Eire ports.

Both partners in this new venture have considerable experience in the handling of some of the largest ships in the world at Rotterdam, Europoort, Milford Haven, Bantry Bay, etc.

The company will be named Smit & Cory International Port Towage Ltd. and its registered office is at Cory Buildings, Fenchurch Street, London-E.C. 3. **A.F. Ramsay** has been appointed executive director. The new company has secured its first contract with Gulf Oil Canada Ltd. for the provision of tug services at the refinery being built at Point Tupper, Canso Strait, Nova Scotia, and two powerful harbor tugs of 3,000 bhp each, with extensive equipment for firefighting and the dispersal of oil spills, have been ordered from Richards (Shipbuilders) Ltd. of Lowestoft.

## Radiomarine Elects Gordon C. Hopkins Vice-Pres.-Marketing

**Gordon C. Hopkins**

**Gordon C. Hopkins** has been elected vice-president, marketing, of Radiomarine Corporation, Red Bank, N.J. He succeeds **Virgil K. Lewis** who has retired. Mr. **Hopkins,** who was formerly general sales manager, will be responsible in his new post for all of Radiomarine's field and administrative sales operations. An authority on the design and installation of shipboard communications systems, Mr. **Hopkins** began his career with Radiomarine in 1937 as a marine communications engineer.

Over the years Mr. **Hopkins** has held several administrative positions with the pioneer producer of marine communications and navigation equipment. He has served as sales manager since January 1, 1968. Mr. **Hopkins** is a member of The Society of Naval Architects and Marine Engineers and the Institute of Electrical and Electronics Engineers.

## $3 Million Contract To Bath Iron Works

A contract for the modernization of the guided-missile frigate England (DLG) has been awarded by the Navy to Bath Iron Works Corporation, Bath, Me.

Work on the vessel, which will cost approximately $3,000,000, is to be completed within 12 months.

## New Bern Shipyards Wins Contract To Build Six Ferries For N.C.

A $1,459,000 contract for the construction of six 122-foot passenger/vehicle ferries for the North Carolina Highway Commission has been awarded to New Bern Shipyards, Inc., James City, N.C.

The vessels were designed by Coast Engineering Company, naval architects of Norfolk, Va.

To be powered by triple screws, each vessel will measure 40 feet in beam by 8 feet in depth and will have a shallow draft because of their intended operation at Hatteras Inlet.

The sixth vessel is scheduled for delivery by October 15, 1970.

## Symposium/Workshop To Investigate Containerization Industry's Problems At

# Chicago Containerization Show

The Fifth International Container Services and Equipment Exposition, to be held at Chicago's International Amphitheatre, April 14-17, will be the site where key representatives of interested trade unions, carrier management, government and the shipper-users will exploit new avenues in seeking more harmonious and cooperative industrial relationships in the rapidly advancing area of containerization.

A vital and totally unique approach which hopes to seek out solutions to the problems brought about by the rapid change in technology of containerization will be undertaken in the Symposium/Workshop, according to Mack-Brooks Expositions, Inc., show and Symposium/Workshop sponsors. The sponsors believe the meetings will open new, clear lines of communication between the interested parties. An open and frank dialogue between the participants of this unprecedented venture will attempt to determine satisfactory answers to the vexing areas of friction within the industry and to make progress in the areas discussed.

Labor and industry leaders believe these discussions could have worldwide impact on the future of the shipping industry. Never before in the history of labor-management relations in the shipping-transportation industries have these groups come together with the expressed purpose of fully acquainting each other with their respective needs and problems.

The Symposium/Workshop has its roots in the recent problems within the maritime-shipping industry and in the ramifications of new developments and technology which have affected the traditional relationships between organized labor and carrier management.

Cognizant of the problems besetting the shipping industry, **Thomas W. Gleason,** president of the International Longshoremen's Association, discussed these problems with a principal counterpart in the shipping industry, **Michael R. McEvoy,** president of Sea-Land Services, Inc. Working mutually, they evolved the mechanics of bringing together the interested parties in a joint venture. They sought out the missing ingredient, a forum where the present and future hardware of the containerization industry might be displayed.

Having spoken at meetings at prior containerization expositions, they joined forces with Mack-Brooks Expositions, Inc., the international firm which had planned and staged these prior events. Mack-Brooks executives were at the time in the early stages of organizing the Fifth International Container Services and Equipment Exposition, bringing together the largest displays of products and services in the area of containerization.

There was general agreement that the Symposium/Workshop should be a means of bringing together labor and management and should take place as an integral part of the Exposition. Messrs. **Gleason** and **McEvoy** and the Mack-Brooks Expositions, Inc. organization approached Secretary of Labor **George P. Shultz** and requested that he serve as general chairman of the Symposium/Workshop's advisory council. Secretary **Shultz** has given his enthusiastic cooperation and support in bringing together the various participants for these meetings. He also agreed to come to Chicago and speak.

The Symposium / Workshop proper will consist of four days of meetings, with the supporting displays of the Exposition, which will draw together the participants in an exchange of viewpoints on their respective areas. Present as "shadow" chairman of all sessions of the Symposium/Workshop (8:30 A.M. - 1:00 P.M.) will be **George C. McManis,** vice president-container sales, Trailmobile-Division of Pullman, Inc.

**Thomas W. Gleason,** president of the I.L.A., will chair the distinguished panel of labor leaders who will discuss labor's position during the opening day's session, Tuesday, April 14. Trade unions have called long and costly work stoppages on the nation's docks in recent years. They have felt that there were almost insurmountable problems occasioned by the rapid growth of new methods and technology, mainly in the area of containerization.

Defining organized labor's positions will be speakers including **Charles H. Blyth,** general secretary, International Transport Workers Federation (London); **Rudolph Faupl,** grand lodge representative, International Association of Machinists; **Thomas F. Flynn,** general secretary-treasurer, International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America; and **Charles Luna,** president, United Transportation Union.

On Wednesday, April 15, the second day's topic will center on the changing and varied role of government. Government is vital to the effort to gain labor-management cooperation, not only as the referee in such disputes, but also through its several roles involving the regulatory agencies, the taxing agencies and as the central public body charged with the responsibility of the promotion of the American economy. Additionally, the Federal Government is one of the nation's largest single shippers.

The chairman of the Government Day sessions will be **Andrew E. Gibson,** Maritime Administrator, United States Department of Commerce. Explaining the views and plans of government will be **Mrs. Helen Delich Bentley,** chairman, Federal Maritime Commission; General **Frank S. Besson Jr.,** A.U.S., chairman, Joint Logistics Review Board, Office of the Secretary of Defense. Yet to be named as guest speakers are commissioners representing the Interstate Commerce Commission and the Civil Aeronautics Board.

The shipper-users will have their say during the third day's session, Thursday, April 16. While other participants in the Symposium/Workshop are concerned with the transportation, regulatory, taxing and promotional aspects, the shippers and users are the basic customers who use the container. The shipper, the firm with goods and products to move physically, has a vital interest in the economics arising out of the use of containerization.

Chairman of the User's Day session will be **Edwin F. Mundy,** vice president-traffic, National Biscuit Company. Speaking for the shippers will be **Robert M. O'Mahoney,** Commissioner, Transportation and Communications Service, General Services Administration; **Lee Cisneros,** director of transportation, Firestone Tire & Rubber Company; **Richard J. Wood,** director of foreign buying, Montgomery Ward and Company; and **Bernard J. Hale,** director of physical distribution, Mattel, Inc.

On the final day, Friday, April 17, industry management will present its case. Although industrial friction related to containerization has, so far, been primarily limited to ports and the maritime shipping industry, other modes of transportation are involved in the discussions.

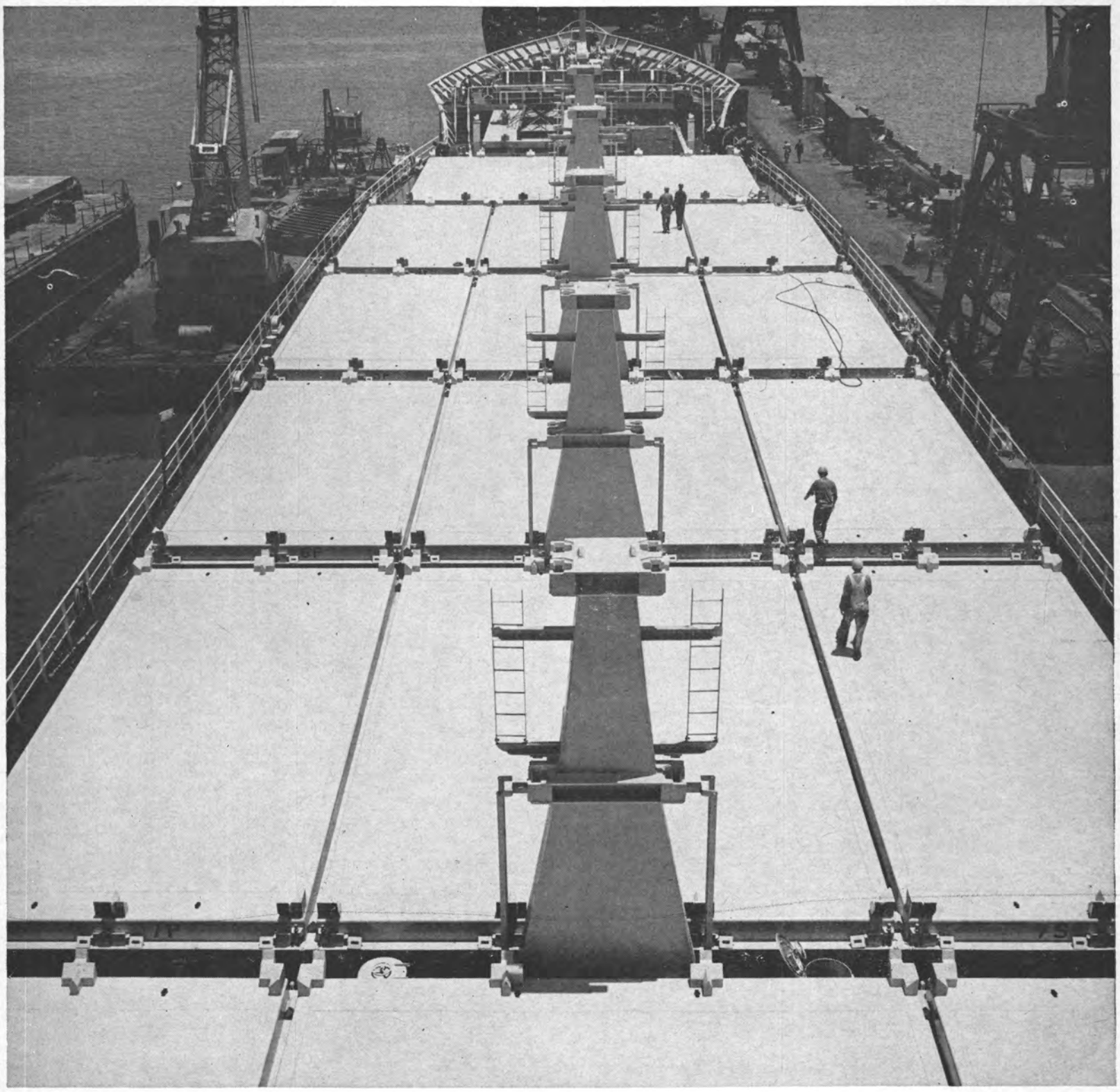
Chairing the session will be **Michael R. McEvoy,** president, Sea-Land Service, Inc. Speaking on behalf of the industry will be **O.I.M. Porton,** president (USA), Atlantic Container Lines, Ltd.; **D.J. Talbot,** president, International Terminal Operating Company; **Howard M. Pack,** president, Seatrain Lines, Inc.; Capt. **John W. Clark,** president, Delta Steamship Lines, Inc.; and **Spyros S. Skouras,** president, Prudential-Grace Lines, Inc.

At the conclusion of the fourth day's presentation, each of the respective chairmen will summarize the results of the four days of discussion from the viewpoint of their specific areas of interest.

Concluding the program of the Symposium/Workshop will be a wrap-up luncheon which will feature Secretary of Labor **George P. Shultz** as principal speaker.

The Containerization Exposition's Symposium/Workshop is unique not only because it will bring together all major areas of interest, but it will be a vital, integral part of the largest, most complete display of the hardware, services, and products ever seen in the field of containerization. The current and future state of the art will be shown as over 100 exhibitors covering twelve categories of displays will have been brought together. All modes of transportation, container manufacturing, leasing, port, warehousing and terminals facilities, insurance, international banking, container and materials handling equipment manufacturers, governmental agencies, allied industries, and trade press will be present during the course of the exposition.

Thousands of registrants, visitors and representatives of all the allied fields from more than 30 nations of the free world will be present for all phases of the Fifth International Container Services and Equipment Exposition. The end results of this gathering are certain to have far-reaching consequences in the future of the transportation of goods and products.



# This is not the kingdom of Lilliput... but the work is Swift.

In *Gulliver's Travels,* Jonathan Swift wrote about a race of industrious and determined men who were only six inches tall. Here you can see a real-life parallel; our workers on a container ship are dwarfed by the size of the ship. Their results are giant-sized: Normal time for the conversion is just six months; often we better that by a whole month. Only the cost is Lilliputian: about a third as much as building a new vessel of comparable capacity and performance.

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Talk to TODD

## Frank Nemec Elected AIMS Board Chairman —Executives Named

Frank A. Nemec

One of the nation's foremost maritime executives, who has long been a leader in the advancement of the United States-flag steamship industry, has been elected chairman of the board of the American Institute of Merchant Shipping (AIMS). He is **Frank A. Nemec,** president, Lykes Bros. Steamship Co., Inc., New Orleans.

The change in AIMS' leadership was announced by outgoing board chairman **Everett S. Checket,** vice-president, marine transportation and marine sales, Mobil Oil Corporation, New York, N.Y., following an AIMS board meeting at the India House in New York City.

Mr. **Checket** also announced that **Leo C. Ross,** president, Pacific Far East Line, San Francisco, Calif., will be the new chairman of AIMS' liner council, succeeding **Spyros S. Skouras,** president and chief executive officer, Prudential-Grace Lines, Inc., New York, N.Y. He added that **H.A. Steyn Jr.,** manager, Relations Division, marine transportation department, Mobil Oil Corporation, will succeed **John I. Mingay,** vice-president and general manager, marine department, Texaco, Inc., New York, N.Y., as chairman of the tanker council.

AIMS, organized January 1, 1969 on consolidation of the American Merchant Marine Institute, the Committee of American Steamship Lines and the Pacific American Steamship Association, is comprised of 35 steamship companies operating tankers and subsidized and non-subsidized dry cargo ships in the foreign and coastal trades. The lines own nearly 520 United States-flag merchant ships, aggregating over eight million tons, and representing more than half of the privately-owned vessels in the 900-ship active Merchant Marine.

According to Mr. **Checket** four new board members are Capt. **J. W. Clark,** president, Delta Steamship Lines, Inc., New Orleans, La.; **Russell C. Curtis,** general manager, Humble Oil and Refining Company, Houston, Texas; **Manuel Diaz,** president, American Export Isbrandtsen Lines, Inc., New York, N.Y.; and **Eugene Yourch,** vice-president, Marine Transport Lines, Inc., New York, N.Y.

Continuing as board members 1970 in addition to Messrs. **Checket, Mingay, Nemec,** and **Ross,** are **W.C. Brodhead,** vice-president, transportation, Marine Division, Gulf Oil Corporation, New York, N.Y.; **Lawrence C. Ford,** president, Chevron Shipping Company, San Francisco, Calif.; **Worth B. Fowler,** president, American President Lines, Ltd., San Francisco, Calif.; **Charles Kurz,** president, Keystone Shipping Company, Philadelphia, Pa.; **William T. Moore Sr.,** president, Moore-McCormack Lines, New York, N.Y.; **Norman Scott,** executive vice-president, Matson Navigation Company, San Francisco, Calif.; and **Fred S. Sherman,** president, Calmar Steamship Corporation, New York City.

AIMS officers reelected for the year by the board were **James J. Reynolds,** president, **Albert E. May,** vice-president, and **Parker S. Wise,** secretary-treasurer.

In a brief statement on AIMS' first year of activity, Mr. **Reynolds** said the organization had been effective in broadening its services to the overall Merchant Marine. At home, he said, AIMS has helped bring about a cooperative government-industry relationship in working toward a program to revitalize all segments of the American Merchant Marine. Abroad, he noted, AIMS had represented the United States maritime industry and was influential in decisions made at numerous conferences where strong American shipping participation was needed regarding international laws and regulations affecting the Merchant Marine.

"AIMS looks forward to a new era of growth and challenge," Mr. **Reynolds** added. "The conquering of the Northwest Passage, the challenge to our fleet of an expanding U.S. waterborne commerce, revolutionary new ships entering service and President **Nixon's** new program with its promise of 300 high technology vessels make the years ahead the most exciting—and undoubtedly the most profitable—for the U.S.-flag Merchant Marine in its history."

## States Marine-Isthmian Names J.T. Goodhue

States Marine-Isthmian Agency has named **John T. Goodhue,** who has served with the firm since 1948, executive vice-president in charge of the United States branch offices and worldwide sales.

Mr. **Goodhue,** who will be located at the company's new quarters in Stamford, Conn., has served in sales and traffic work since he joined the firm.

## Halter Marine Service Awarded Tug Contract

A twin-screw tug measuring 140 feet by 34 feet by 17 feet has been ordered from Halter Marine Service, New Orleans, La.

Designated Hull No. 253, the tug, being built for de Felice Marine Contractors, Inc., of Metairie, La., will be equipped with diesels of 3,500-total-bhp.

## Geo. W. Rogers Presents Painting To South Street Seaport Museum

**George W. Rogers** (left) shows the painting "Work in Progress, Seaport Pier," by the noted marine artist **Charles Lundgren,** to **Jakob Isbrandtsen** as **David Rockefeller** witnesses the presentation made below deck aboard the Ambrose Lightship.

The first Ambrose Lightship, now permanently moored at the South Street Seaport in lower Manhattan, was recently opened to the public as a museum. Highlighting the occasion, **George W. Rogers,** chairman of the board of Geo. W. Rogers Construction Corporation and a trustee of South Street Seaport, presented a painting by the noted marine artist, **Charles Lundgren.** The painting, entitled "Work in Progress, Seaport Pier," shows the restored fishing schooner Caviare and the Ambrose Lightship at the Seaport (Pier 16, East River) with a Rogers rig repairing the structure.

In accepting the painting on behalf of the Seaport Museum, **Jakob Isbrandtsen,** chairman of the South Street Seaport, said that it would become part of the historical record of the undertaking. He further congratulated the firm of Geo. W. Rogers on the achievement in 1969 of its 100th anniversary in waterfront construction work.

**David Rockefeller,** chairman of the Chase Manhattan Bank, attended the ceremonies in his capacity of chairman of the Downtown Lower Manhattan Association. He saluted the many businesses and individuals who were making the work of the Seaport Museum possible, and hailed the Seaport Museum for its contribution to the vitality of lower Manhattan.

Invited guests upon this occasion included Capt. **Robert Rea** of the United States Coast Guard; Rev. **John Mulligan,** director of the Seamen's Church Institute; the artist **Charles Lundgren; Desmond Crawford,** comptroller of the Trinity Church Corporation and Planning Committee chairman of the Downtown Lower Manhattan Association; **J.T. Gilbride,** president of Todd Shipyards, Inc.; **Alger B. Chapman,** chairman of the board, Squibb Beechnut; **E. Virgil Conway,** chairman and president, Seamen's Bank for Savings; **Daniel Strohmeier,** vice-president, Bethlehem Steel Corp.; **Edmund Wagner,** president of the Downtown Lower Manhattan Association.

The South Street Seaport is a project of many New Yorkers to restore and preserve an area just south of the Brooklyn Bridge as it was in the days of the sailing ships. Many buildings of that era are still standing and can be renovated to make a historic center. An impressive start has been made with a Seaport Museum and the pier, where old ships are being assembled and restored.

## Edward I. Goodwin Named President Of ITT Mackay Marine

**Edward I. Goodwin** has been named president and general manager of ITT Mackay Marine. **Thomas P. Howes,** general manager of Communication Systems Companies, International Telephone and Telegraph Corporation, made the announcement.

ITT Mackay Marine is a major supplier of electronic systems for the United States' deep-sea merchant fleet. It has designed, manufactured, and serviced a complete line of this specialized electronic equipment since 1927.

Since 1968, Mr. **Goodwin** had served as operations staff executive at ITT World Headquarters, New York. Prior to that, for three years, he was general manager of the Systems Section of Colt Industries' Fairbanks Morse Weighing Systems Division in Fairlawn, N.J.

Mr. **Goodwin** spent 16 years with the General Electric Company, serving in various manufacturing, engineering, and employee and public-relations management capacities. This service included operations experience with television receivers and transmitters in Syracuse and with semiconductor devices manufactured in Clyde and Auburn, N.Y.

Mr. **Goodwin** is a native of Syracuse, N.Y. and an engineering graduate of Syracuse University.

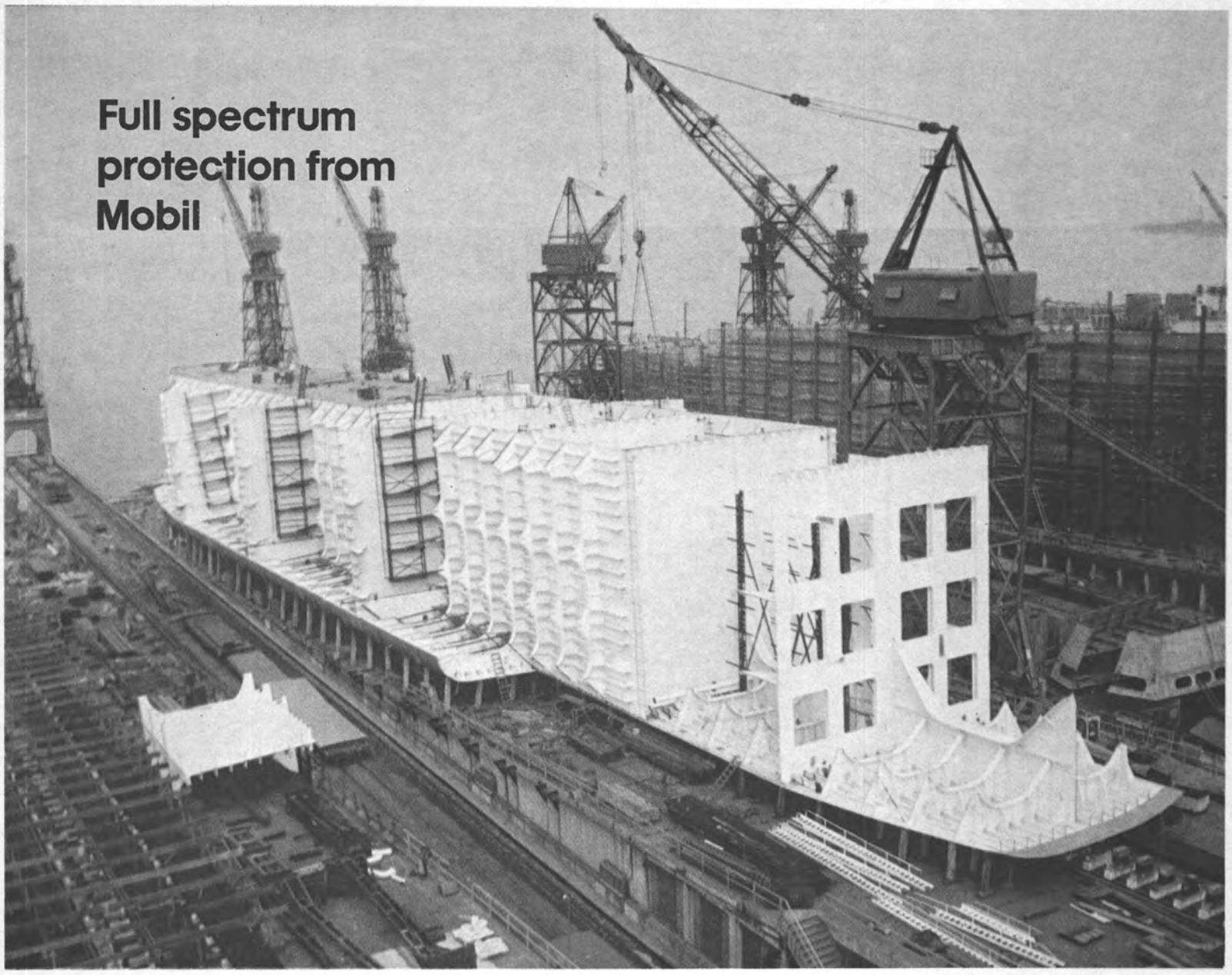


Photo courtesy Bethlehem Steel Corp.

# Prevent corrosion and eliminate costly steel replacement with Sovapon Tank Coating Systems.


The ship above is one of several tankers now under construction at Bethlehem Steel, Sparrows Point Shipyard. All of her cargo tanks are being protected with Sovapon Tank Coating to prevent corrosion and eliminate costly steel replacement.

Sovapon Tank Coating, a specially formulated epoxy lining, has been successfully used in liquid cargo tanks and/or deep tanks on over 70 vessels.

Sovapon's length of service exceeds 10 years.

The primer used both internally and externally on the above tanker's hull is Mobil 53 Series After-Blasting Shop Primer. It has the unique qualities of quick dry, good weldability and flame cutting. And it provides an excellent base for topcoating.

For details on Sovapon Tank Coating Systems, write today!

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## Shipbuilders Council Elects Edwin Hood Board Chairman

**Edwin M. Hood** was elected chairman of the board of directors of the Shipbuilders Council of America at the organization's 49th annual meeting, held in Washington, D.C. He will also continue as president and chief executive officer, a position he has held for the past nine years.

Few industry associations, particularly those in the maritime community, vest such extensive responsibilities in a single official. Mr. **Hood** thus continues as the shipyard industry's public spokesman, but in addition becomes a co-partner with top industry executives in the formulation of policy. The post of chairman of the board was created by new by-laws adopted by the council's membership last year.

In his annual report, Mr. **Hood** noted that "potential markets for American ship component manufacturers of all types are already being forecast in unprecedented dimensions with consequent opportunities for cost savings and better profit margins."

Mr. **Hood** attributed these prospects for "the largest peacetime shipbuilding program ever undertaken in the United States" to "the announced intentions of the Nixon Administration to rehabilitate the nation's sea power resources, in terms of both naval and merchant ships" and "imminent decisions affecting the transport of Alaskan crude oil to domestic refineries."

**Edwin M. Hood**

But, the industry's spokesman cautioned: "If the misjudgments and pitfalls of the past with regard to national purpose relative to shipbuilding are to be avoided, continuing positive leadership from the highest office in the land, backed up by appropriate policies, programs and funding involving both government and private sectors, will be essential." Mr. **Hood** added, "In the purest sense, management and labor will have to be concurrently responsive and forward-looking."

The following industry officials were elected as regional vice-presidents of the Shipbuilders Council in the annual election: East Coast, **Arnold P. McIlwain,** president, Maryland Shipbuilding & Drydock Company, Baltimore, Md.; West Coast, **J.A. Byington,** vice-president, Lockheed Shipbuilding & Construction Co., Seattle, Wash.; Gulf Coast, **J.R. Maumenee,** president, Alabama Dry Dock & Shipbuilding Company, Mobile, Ala.; and Great Lakes, **Thomas J. Defoe,** president, Defoe Shipbuilding Company, Bay City, Mich. **Mrs. Beverly C. Kendall** and **Edward P. Ruddy** were reelected as treasurer and secretary, respectively.

## Over $2 Million In New Contracts At Todd Houston

Contracts for the construction of three oil tank barges were received within a two-week period according to **Arthur W. Stout Jr.,** general manager of the Houston Division of Todd Shipyards Corporation. The barges represent in excess of $2 million in new business for Todd Houston.

The largest of the barges is a 405-foot by 72-foot by 29-foot 9-inch tank barge with a capacity of 115,000 barrels. This barge is for a large East Coast oil company. The other two oil barges, one for 10,000 and the other for 20,000 barrel capacity, are for local interests.

With this new work added to the present backlog of construction, repair and conversion work the Todd Houston facility is assured of a steady workload for the balance of this year.

# DECCA SOLID STATE
# A TOTALLY NEW RADAR CONCEPT

## ITT DECCA MARINE INTRODUCES LOW COST RADAR WITH FEATURES NEVER BEFORE AVAILABLE

**Indicator Unit of New Decca radars – with 9″ dia. Scope and nine range scales – ¼m to 48m.**

NEW YORK, N.Y.– ITT Decca Marine Inc. announces the introduction of two new 'solid state' radars – the RM 914 and RM 916. 'Solid state' radar is a major breakthrough in the field of commercial marine radar giving negligible down time.

The new generation radars are the result of a three year research and development program climaxing 20 years of continuous experience in radar innovation, with reliability and 'radar availability' as the prime considerations. The history of marine radar can be termed: tubes in the 1950's, transistors and printed circuit boards in the 1960's and 'solid state' and modules in the 1970's. Transistorized radars are much more reliable than the earlier tube models but still contain complex and often troublesome components such as modulators and local oscillators (kylstrons). These have now been replaced by static devices and microcircuits which are in the form of easily replaceable modules. Another advantage of microcircuitry is the saving in space and very low power consumption (half the electrical drain of transistorized radars).

**Scanner Unit of new radars with Transceiver combined with 6 ft. antenna and gearbox.**

### LOW 'HORSEPOWER' HIGH PERFORMANCE

In the past, radar performance out to 48 miles has required relatively high powered transmitters i.e. magnetrons giving 10 Kw 25 Kw or more. A 10 Kw magnetron costs about $200 and is a consumable item like a domestic light bulb. Decca has now gone away from the 'horsepower' approach and use a magnetron of only 3Kw – at nearly half the price.

The lower power itself means economy with reliability, but how has the same full performance been achieved? The Decca solution is the ingenious combination of a very high sensitivity receiver, an improved low loss antenna and a careful selection of pulse lengths and repetition frequencies – giving an increase in mean effective power. With the transceiver integral with the scanner there is a big reduction in waveguide losses and the cost of long and expensive waveguide runs. The new radars have equal or better performance than the transistor model radars (RM 314/316) which they replace.

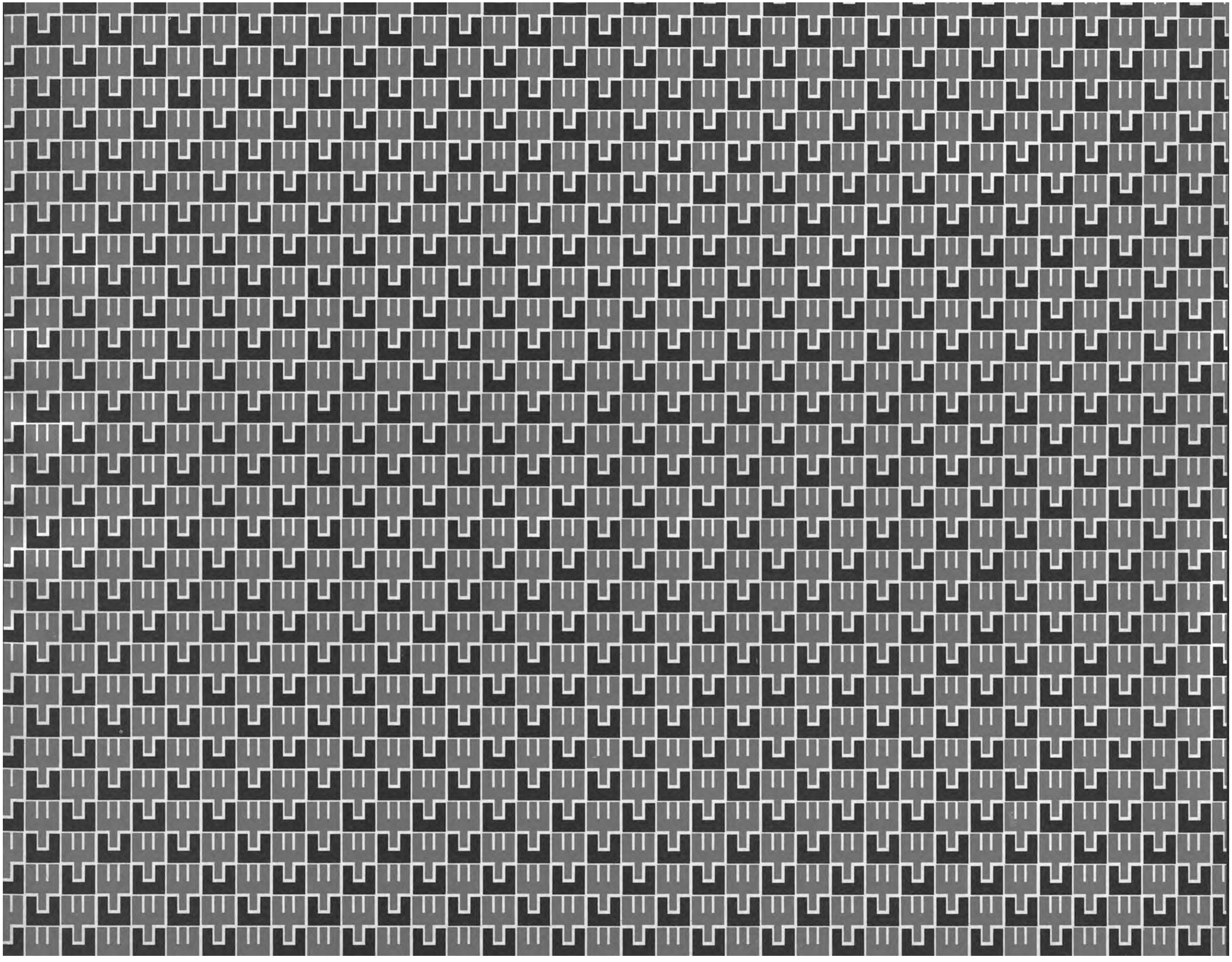
### ONLY TWO UNITS

The new radars have either 4 ft. or 6 ft. wide antennas and have the transmitter mounted aloft beneath the scanner (it is easily removable) to form a 2-unit radar with the 9 in. Display (Indicator). Alternatively, the transceiver can be mounted separately below deck if required.

*Some of the radical new features are summarized:*

- Simple installation – only two electronic units – no wave guide.
- Simple to operate – with new, practical display.
- New solid-state transceiver with outstanding performance.
- Auto-follow tuning ensures bright, clear pictures at all times.
- Logarithmic receiver – much improved performance against rain and sea clutter.
- Plug-in modules simplify service and maintenance.
- Cost effective – in $4000-5000 bracket.

**For complete details please write ITT DECCA MARINE, INC., 386 Park Ave., South, New York, N.Y. 10016**



# We interrupt our ad programs to introduce our new corporate symbol.

**AIR PREHEATER**
Ljungstrom® air preheaters for marine propulsion systems.

**CONTROLS**
Logic systems; measuring, recording and controlling instruments; control and instrument panels.

**MARINE DIVISION**
Steam generating equipment and systems for marine power and service applications.

Uninterrupted, of course, is our ability to supply the finest in steam generating systems, and associated equipment, controls, and services, for power and service applications in the marine industry worldwide.

C-E is the new corporate symbol for Combustion Engineering and its congeneric operations. Corporate Headquarters: Combustion Engineering, Inc., 277 Park Avenue, New York, New York 10017.

## Peter J. Brix Elected AWO Board Chairman —Officers Reelected, New Directors Named

**Peter J. Brix,** president and general manager of Knappton Towboat Company, Portland, Ore., was elected chairman of the board of The American Waterways Operators, Inc. at the annual meeting of the nationwide trade association of the barge and towing industry held recently in Williamsburg, Va.

Peter J. Brix

Mr. **Brix** succeeds **George H. Blohm,** president, Cities Service Tankers Corporation, New York City, who has served as AWO chairman for the last year. Mr. **Blohm** continues as a director of the Association.

**Braxton B. Carr** was elected to his fourteenth annual term as president of the Association, which has headquarters in Washington, D.C., and field offices in New York and New Orleans.

**William E. Cleary** was elected to his fifteenth annual term as secretary-treasurer. He operates the Association's North Atlantic Regional Office in New York City.

A lifelong resident of Portland, Mr. **Brix** has been associated with Knappton Towboat Company since 1963. The company was founded by his grandfather in 1900, and operates in the states of Oregon, Washington, and Idaho.

The new AWO chairman received a bachelor of arts degree from the University of Washington in 1958 and a doctor of jurisprudence degree from Willamette University, College of Law, Salem, Ore., in 1961. From 1961 to 1963, he served in the Military Police Corps of the United States Army. He was elected a director of The American Waterways Operators, Inc., in 1968. He has also worked actively as a member of the Association's legislative committee, and budget and finance committee.

Mr. **Brix** is secretary of the Propeller Club of the United States, Port of Portland; vice-chairman and director of the Columbia River Towboat Association; vice-president and director of the Waverly Children's Home; and is a member of the Shipping Club, Portland Rotary Club, Multonomah Athletic Club, University Club, and City Club of Portland, Ore.

The following new directors of AWO took office at the time of the annual board meeting in Williamsburg:

**Lester C. Bedient,** general manager, Harbor Carriers, Inc., San Francisco, Calif.; **Jesse E. Brent,** president, Brent Towing Company, Inc., Greenville, Miss.; **C.C. Ellisor,** Texaco, Inc., Mount Vernon, Ind.; **J. Melton Garrett,** vice-president, Avondale Shipyards, Inc., New Orleans, La.; **T.E. Garside,** vice-president, Pacific Inland Navigation Company, Inc., Seattle, Wash.; Capt. **Noble L. Gordon,** president, Mid-South Towing Company, Tampa, Fla.; **W.F. Hagestad,** executive vice-president, Canal Barge Company, Inc., New Orleans, La.; **John W. Lambert,** president, Twin City Barge & Towing Company, St. Paul, Minn.; **William E. Law,** president,, Allied Towing Corporation, Norfolk, Va.; **M.E. Midgley,** executive vice-president, Nilo Barge Line, Inc., St. Louis, Mo.; **Edward Renshaw,** president, St. Louis Ship, St. Louis, Mo.; **Thomas J. Rohs,** vice-president-treasurer, M/G Transport Service, Inc., Cincinnati, Ohio; **William R. Saul,** president, Steuart Transportation Company, Piney Point, Md.; **George H. Shaver,** executive vice-president, Shaver Transportation Company, Portland, Ore.; and **Frank P. Silliman,** president, Hillman Transportation Company, Pittsburgh, Pa.

The AWO board is made up of 43 water-carrier executives from throughout the United States.

Reelected to the board were:

**F.T. Ainsworth,** manager, U.S. area marine, distribution and traffic, The Dow Chemical Company, Freeport, Texas; **Francis B. Bushey,** president, Spentonbush Transport Service, Inc., Brooklyn, N.Y.; **John M. Donnelly,** executive vice-president, Ingram Barge Company, New Orleans, La.; **James G. Hines,** president, Hines, Incorporated, Bowling Green, Ky.; **Robert J. Hughes,** president, James Hughes, Inc., New York, N.Y.; **George P. Jacobson,** general manager, transportation, Allied Chemical Corporation, New York, N.Y.; **Capt. C.C. Rasmussen,** president and general manager, Bay and River Navigation Company, Richmond, Calif.; and **Paul Walker,** president, Walker Boat Yard, Inc., Paducah, Ky.

Other AWO directors, in addition to Mr. **Brix** and Mr. **Blohm,** who continue in office are:

**E.E. Ahlemeyer,** vice-president, National Marine Service Incorporated, Hartford, Ill.; **J. Frank Belford Jr.,** president, Seaboard Shipping Company, New York, N.Y.; **T.F. Ellis Jr.,** president, Ellis Towing & Transportation Company, Galveston, Texas; Capt. **S.V. Gardner,** manager, Baton Rouge Branch, marine department, Humble Oil & Refining Company; Baton Rouge, La.; Capt. **C.V. Gearin,** manager, inland waterways operations, Mobil Oil Corporation, New York, N.Y.; **A. Giallorenzi,** marine department, Humble Oil & Refining Company, Bayonne, N.J.; **Robert A. Guthans,** vice-president, Southern Industries Corporation, Mobile, Ala.; **Gresham Hougland,** executive vice-president, Crounse Corporation, Paducah, Ky.; **James P. McAllister,** president, McAllister Lighterage Line, Inc., New York, N.Y.; **E.W. McCarthy,** Port Arthur, Texas; **D.L. Mechling,** vice-president, operations, A.L. Mechling Barge Lines, Inc., New Orleans, La.; **F.A. Mechling,** executive vice-president, A.L. Mechling Barge Lines, Inc., Joliet, Ill.; **H.G. Noland,** manager transportation operations, Union Carbide Corporation, Chemicals Division, South Charleston, W.Va.; **Jerry L. Page,** president, Southern Barge Line Corporation, Paducah, Ky.; Capt. **William S. Streckfus,** vice-president, Streckfus Steamers, Inc., St. Louis, Mo.; **L.P. Struble Jr.,** executive vice-president, Dravo Corporation, Pittsburgh, Pa.; **J.W. Von Herbulis,** president, Pittston Marine Corporation, New York, N.Y.; **Howard A. Watters,** vice-president, transportation, Central Soya Company, Inc., Fort Wayne, Ind.

## Offshore Supply Boat Ordered From Halter

A contract for the construction of an offshore, oil-well supply boat has been awarded to Halter Marine Fabricators, Inc., Moss Point, Miss., by George Engine Company.

Designated Hull No. 262, the 166-foot by 38-foot by 13-foot vessel will be powered by 2,000-total-bhp diesels.

## Towboat Contract To St. Louis Ship

A twin-screw towboat measuring 55 feet by 22 feet by 8 feet has been ordered from St. Louis Ship, Division of Pott Industries, Inc., St. Louis, Mo.

The vessel, to be powered by 660-total-bhp Caterpillar diesels, is being built for undisclosed interests.

## New Book Describes Changes In Shipping

"Ships 'Seventy," edited by **David Parsons** and published by Arco Publishing Company, Inc., 219 Park Avenue South, New York, N.Y. 10003, heralds the coming of a new decade and contains wide-ranging, fascinating articles on the fast-changing shipping scene.

Subjects covered in the book are the problems of ocean towing, histories of the ports of London and Bristol, the state of Icelandic shipping, and the past, present, and future of the ocean tug. Included are cameo portraits of Ellerman's Wilson Line, the New Zealand Shipping Company, and Red Funnel Steamers. There are special stories on the gas turbine propelled warships now used by the Royal Navy and a look at Stranraer-Larne's cross-channel shipping service. The book is thoroughly illustrated with interesting photographs and diagrams.

"Ships 'Seventy" is available from Arco Publishing Company at $3.95 per copy.

## Los Angeles Section Hears Two Student Papers

Officers of the Los Angeles Metropolitan Section are shown above with the authors, left to right: **seated, J. Enroth,** chairman; **J. Harrison,** speaker; **J. Sirutis,** speaker; and **R. Rourke,** vice-chairman; **standing, T. Wilson,** secretary-treasurer; **E. Scott,** meetings; **F. Nickels,** papers; and **J. Dennis,** publicity.

The February meeting of the Los Angeles Metropolitan Section of The Society of Naval Architects and Marine Engineers was convened at the Buggy Whip restaurant in the Westchester suburb of Los Angeles on February 12, 1970.

The social hour and dinner were followed by the technical session, which was devoted to student papers. **J.G. Harrison,** a student at Webb Institute, presented a paper which he had co-authored with a fellow student, **S.C. Bunnell,** entitled "A Brief Study of the Use of Urethane Foams in Salvage Operation & a Current Experimental Testing Program."

**J.E. Sirutis** presented a paper entitled "Regression Analysis of Test Data, with an Application to Series 60," which had been taken from the author's master's thesis submitted to MIT in December 1968.

The authors gave comprehensive answers to both written and verbal responses to their presentations from attendees, including **N. Friedland, G. Virk, M. Wolff,** Dr. **R. Nielsen,** and Capt. **H. Rumble.**

# Dillingham does it Pacific-Wide.

In the Pacific, Dillingham offers you better services for ship repair and new construction than any other company. From the Dillingham Shipyard in Honolulu, to Albina Engine and Machine Works, Portland, Oregon, to Guam and New Zealand, Dillingham's four fully-equipped and staffed facilities handle all types of marine repair and construction throughout the Pacific.

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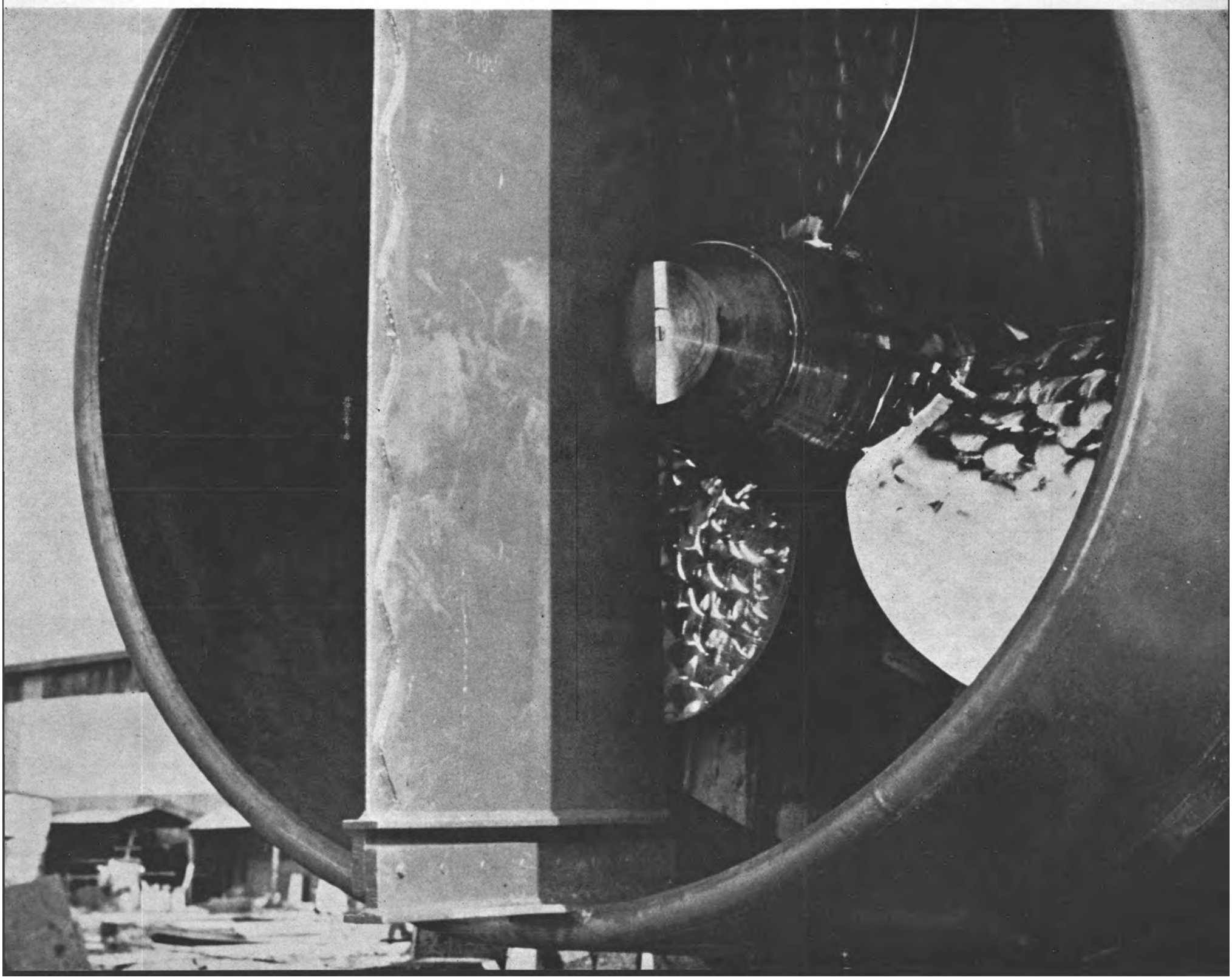


## Mobil Oil Promotes Lawrence —David Allen Appointed

**Arthur E. Lawrence**

**David T. Allen**

Mobil Oil Corporation has announced the promotion of **Arthur E. Lawrence** to the position of marine sales engineer for the Gulf area. Mr. **Lawrence** will be responsible for marine sales engineering and service to the commercial marine trade in lower Alabama, Mississippi, Louisiana, and Texas. His office will be located in New Orleans.

Mr. **Lawrence** was graduated from the United States Merchant Marine Academy in 1942. He joined Mobil in 1965 upon retirement from the United States Coast Guard after 23 years active duty as a commissioned officer. His most recent position with Mobil was marine representative in the Port of Memphis.

Also announced was the appointment of **David T. Allen** as a marine representative for Mobil Oil Corporation. Mr. **Allen** will be responsible for the sales of marine lubricants and fuel in Western Louisiana and Texas. His office will also be located in New Orleans.

Mr. **Allen** is a graduate of Long Island University. Prior to joining Mobil, he served in a management capacity with the M. O'Neil Company of Akron, Ohio. He also served three years active duty with the United States Coast Guard as a commissioned officer aboard the USCGC Courier (WTR 410).

Mr. **Allen** replaces **B.G. Nelson**, who was promoted and recently transferred to Tampa, Fla.

## Contracts Totaling $16.6 Million To Gen. Dynamics/Elec. Boat

The U.S. Navy has awarded a contract to General Dynamics/Electric Boat, Groton, Conn., for the planning, design work, overhaul and conversion of the nuclear-powered submarines USS Benjamin Franklin and the USS Kamehameha. Work on these subs will be performed at a price of $10.4 million.

Also awarded to the Groton yard, under IFB NOOO24-69-C-0325, was a $6,205,000 contract modification for procurement, inspection, testing and shipment of long-lead-time materials, equipment and components required for the overhaul and conversion of 12 Polaris submarines to C-3 Poseidon missiles.

## Warren Pumps Appoints Durkin

Warren Pumps, Inc., Warren, Mass., has announced the appointment of **William J. Durkin** to its Jersey City, N.J. marine sales office.

Mr. **Durkin** attended Pennsylvania Military College majoring in mechanical engineering. He was formerly with Sun Shipbuilding & Dry Dock Company and Bull & Roberts, Inc.

Warren Pumps, with its main office and plant at Warren, Mass. and a branch plant at Peace Dale, R.I., manufactures a complete line of marine and industrial centrifugal, reciprocating, screw and gear pumps.

## SNAME San Diego Section Discusses Pollution Prevention; Oil-Water Separator Described

Shown standing, left to right: **T.S. Hand Jr.,** secretary-treasurer of the San Diego Section; **John Angles,** chairman; **Lee J. Hartenstein,** speaker; and Lt. **R. Kinnear,** USN, papers chairman.

The San Diego Section of The Society of Naval Architects and Marine Engineers held their February meeting on Wednesday, February 18, 1970 in the San Diego Yacht Club.

Guests included representatives from Global Marine, San Diego Marine Construction Company, Rohr Corporation San Diego, Atlantic Research Corporation, and National Steel and Shipbuilding Company.

After cocktails and dinner, **Lee J. Hartenstein,** from Aqua-Chem, Inc., Waukesha, Wis., presented a paper entitled "Development of a Coalescing Type Oil-Water Separator for Marine Service," by **Lee J. Hartenstein** and **Thomas E. Lindemuth,** Water Technologies Division, Aqua-Chem, Inc.

Pollution of our natural environment has recently received increasing public attention and oil-pollution of our marine resources has certainly not been overlooked. While the shipping industry has long been aware of the oil pollution problem, the major obstacle to prevention and control has been the lack of equipment suitable for shipboard use.

The speaker discussed sources of pollution, legislation, oil pollution prevention techniques, and system design consideration. Drawings and graphs backed up the presentation of development, design, and application of a coalescent-type oil-water separator suitable for shipboard service. The coalescent separator, utilizing a disposable coalescing media, is described relative to its utilization in vessel bilge, ballast, and cargo tank-cleaning systems. Studies are also being made on using it for offshore drilling spillage.

A stimulating question and answer period followed the presentation and served to highlight many of the inherent problems of oil pollution control. Participating were **G.A. Uberti, D.R. Rodger,** and **J.F. Adey,** of National Steel and Shipbuilding Company and **T.S. Hand Jr.** of NavSec.

## $18.2 Million MSTS Contract To West Coast Tugboat Firms

The Navy's Military Sea Transportation Service has awarded a contract to Alaska-Puget-United Transportation Company, of San Francisco, to supply 44 defense and government installations in Alaska for a 5-year period, beginning next month.

Forty of the stations are along the Alaskan coastline and in the Aleutian Islands, and will be supplied from ocean tugs and barges.

The company which won the $18.2 million contract is a joint venture specially formed by Alaska Barge and Transport, Inc., of Seattle, and the United Transportation Company, of San Francisco.

## Barker To Manage Rolls-Royce Gas Turbine Sales In North America

The appointment of **George T. Barker** as manager, industrial and marine gas turbines for Rolls-Royce (Canada) Limited was announced by **K.I.C. Vincent,** president and general manager.

In his new position Mr. **Barker** will be responsible for the sales and service of all Rolls-Royce industrial and marine gas turbines in North America. Mr. **Barker,** previously marketing manager, has had extensive experience in the sales, service, operation, and overhaul of aero and industrial gas turbine engines with Rolls-Royce. He will be based at the company's Montreal location.

Mr. **Barker,** a native of Morpeth, England, has a broad educational background in mathematics, aerodynamics, thermodynamics, metallurgy, and mechanics. During the war he served with the Royal Air Force as an engineering officer and as aircrew with the rank of flight lieutenant.

Following Mr. **Barker's** Royal Air Force service, he joined British Overseas Airways Corporation, first as a flight engineer, and then as chief flight engineer instructor. He moved to Canada in 1953 when he joined Rolls-Royce of Canada as a field service representative.

Mr. **Barker** was subsequently promoted to senior representative, area service supervisor (civil) for Canada, and service manager for all Rolls-Royce aero products in North America. He was appointed to industrial turbine sales for North America, was made assistant commercial manager, and in 1968 was appointed marketing manager.

## Sun Oil Company Transportation Post To William Soden

Sun Oil has announced the appointment of **William G. Soden** as assistant to the transportation vice-president.

Formerly assigned to Marcus Hook, Pa., Mr. **Soden** will move to the corporate offices in Philadelphia. His responsibilities include assisting and advising the vice-president on transportation activities, as well as coordinating transportation functions. The transportation department oversees the operation of pipelines, marine facilities, and the company's traffic section.

Before his present appointment, Mr. **Soden** was transportation representative, merger management staff, which has been implementing the reorganization of the company following the merger of Sun Oil Company and Sunray DX Oil Company in 1968.

Mr. **Soden** joined Sun Oil Company in 1963 as an inspector in the marine department. He was named assistant director of the department three years later and was appointed transportation representative on the merger management staff in 1969. He also worked for the company two summers while in college.

Mr. **Soden** was born in 1929. He attended Lafayette College for two years and majored in chemical engineering before transferring to the United States Naval Academy, where he was graduated in 1954 as a second lieutenant in the United States Marine Corps. Thereafter, he rose to the rank of captain before joining Sun Oil.

**William G. Soden**

Mr. **Soden** was a Sloan Fellow at Stanford University, 1966-67, under a program to broaden and develop young executives. While there he wrote a technical paper entitled "Tomorrow's Petroleum Transportation." He returned to Sun upon completion of the program.

Mr. **Soden** is a member of The Society of Naval Architects and Marine Engineers, United States Naval Institute, Sea Pollution Committee of the American Petroleum Institute, and a member of Sun Oil's air and water quality control committee.



## Codan Appoints Robert A. Gierszal VP

**Chris Ostergaard Jr.**, president of Codan Construction Corporation, Erie, Pa., has announced the appointment of **Robert A. Gierszal** as vice-president and general manager of the firm. Mr. **Gierszal** has served as assistant general manager for the stevedoring operation of the company.

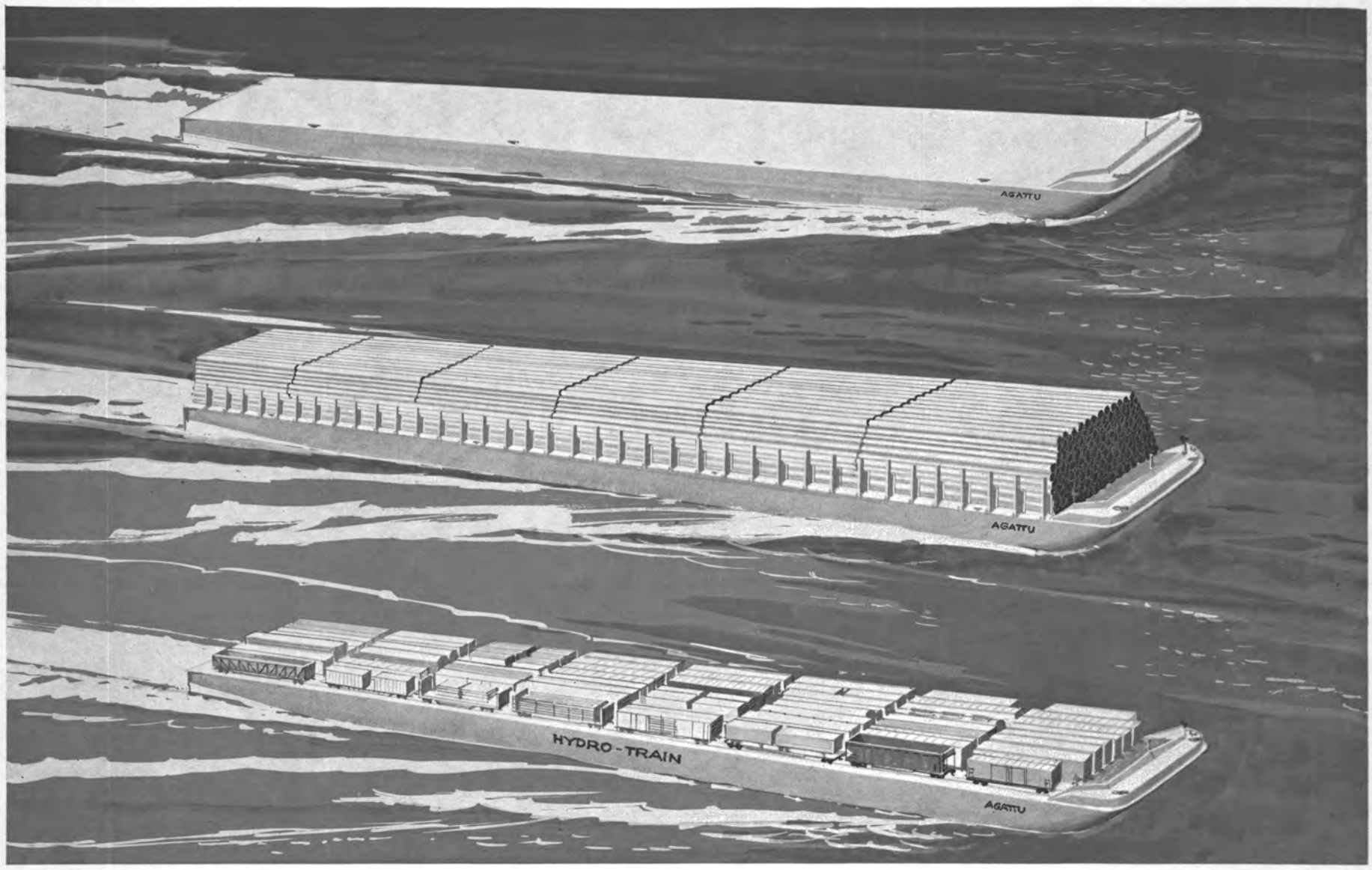
Mr. **Ostergaard** also announced that the franchise to operate the new Erie International Marine Terminal located at the foot of Wayne Street in Erie has been awarded to them. Codan is a subsidiary of Sessinghaus & Ostergaard Inc.

## Marine Jet Propulsion Brochure Available From Buehler Corp.

An illustrated, eight-page brochure providing complete specifications on turbopower marine jet propulsion units is availabe from The Buehler Corporation, 9000 Precision Drive, Indianapolis, Ind. 46236.

Dynamic thrust curves for units from 7½ inches to 20 inches are included. The brochure describes the water jet propulsion concept, shows a wide range of present applications, and suggests other applications where jet propulsion's freedom from propeller damage, drag and cavitation, fine maneuverability, and shallow water capability are advantageous.

# Pocket the profits with a Gunderson Bros. convertible!

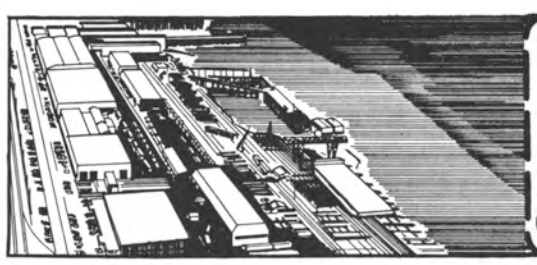



## 3-in-1 barge

Crowley Launch and Tug Co. of San Francisco will pocket the profits with the 400' x 99' 6" x 20' **"Agattu"**, a unique convertible barge, engineered and built by Gunderson Bros. Initially the **"Agattu"** and her sister barge **"Kiska"** will haul large diameter pipe to the northern slope of Alaska; she will subsequently be stripped of stanchions and converted to a rail car barge for use in the Alaska HYDRO-TRAIN service. Conversion of this flat deck cargo barge to an oil cargo barge is also possible within the design and can be accomplished at the Gunderson Bros. facility.

The **"Agattu"** built better by experience by one of America's leading designers and builder of Barges, Marine Craft and Freight Cars . . .

What can we do for you? Write . . .



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# NASSCO Launches LST And Lays Keel For Sister Ship


Principals at the launching of USS Saginaw (LST-1188) include, left to right: Capt. **John M. Danielsen,** USN, Force Chaplain, Amphibious Force, U.S. Pacific Fleet; Rear Adm. **Jamie Adair,** USN, Representing Commander, Naval Ship Systems Command; The Honorable **Warren C. Light,** mayor, city of Saginaw, Mich.; **Walter Hahn,** city manager, San Diego; Capt. **Henry A. Gerdes,** USN, Supervisor of Shipbuilding, Conversion and Repair, San Diego, 11 ND; **L.H. Oppenheim,** executive vice-president, Kaiser Industries Corporation, and chairman of the executive committee, NASSCO; **John V. Banks,** NASSCO executive vice-president; **Howard R. Doud,** president, Tri-City Council, Navy League; **Mrs. James Harvey,** sponsor of Saginaw; **Mrs. Howard R. Doud,** matron of honor of Saginaw; The Honorable **James Harvey,** U.S. Congressman, 8th District, Michigan, main speaker; and Vice-Adm. **J.V. Smith,** USN, Commander, Amphibious Forces, U.S. Pacific Fleet.

The USS Saginaw (LST-1188) was launched from the ways of National Steel and Shipbuilding Company, San Diego, Calif., on February 7, 1970. Immediately following the launching, the keel was laid for a sister LST, the USS Spartanburg County (LST-1192).

The ceremonies, which were open to the general public, began at 9:30 A.M. with a band concert by the Marine Corps recruit depot band.

**Mrs. James Harvey,** wife of Congressman **Harvey,** Eighth District, Michigan, was the new ship's sponsor. **Mrs. Howard Doud** assisted **Mrs. Harvey** as matron of honor. Officiating in the keel laying ceremony of LST-1192 was Capt. **John B. Randolph,** USN, Commander, Amphibious Squadron Three.

The program also featured The Honorable **James Harvey,** United States Congressman, Eighth District, Michigan, as main speaker; Rear Adm. **Jamie Adair,** USN, Commander for Plans, Programs and Financial Management, Naval Ship Systems Command, Washington, D.C.; Capt. **John M. Danielsen,** USN, Force Chaplain, Amphibious Forces, United States Pacific Fleet; Capt. **Henry A. Gerdes,** USN, Supervisor of Shipbuilding, Conversion and Repair, 11 ND, San Diego; and **John V. Banks,** NASSCO executive vice-president. **John M. Murphy,** NASSCO vice-president, sales, was master of ceremonies.

The keel of Saginaw was laid May 24, 1969 by Rear Adm. **Edwin M. Rosenberg,** USN, Commander, Amphibious Group Three. She is scheduled for delivery in December 1970 and is the seventh in a series of seventeen new tank landing ships built for the United States Navy by NASSCO.

Saginaw, named for the City and County of Saginaw, Mich., is one of the new LST-1179-class of fast tank landing ships of an entirely new design, larger and faster than any of their predecessors. The $14.6 million diesel-powered ship is designed to provide the fastest and most efficient means of landing tanks, combat vehicles, and artillery under assault conditions.


Immediately following the launching of Saginaw (LST-1188) the keel was laid for the Spartansburg County (LST-1192). Left to right: **Barney LeBlanc,** National Steel and Shipbuilding plant manager; Capt. **John B. Randolph,** USN, Commander, Amphibious Squadron Three; and **Fred Schroeder,** NASSCO welding foreman.

Saginaw has an overall length of 522 feet 3 inches, an extreme beam of 69 feet 6 inches, a full-load displacement of approximately 8,000 tons, and a full-load mean draft of 14 feet 8 inches. Her designed speed is in excess of 20 knots. She will be armed with two 3-inch 50-caliber twin mounts.

Approximately 3,000 spectators were present to view the colorful ceremonies.

## Barge Construction

**American Marine Corporation,** New Orleans, La., has been awarded a contract by Gulf Mississippi Marine Corporation, New Orleans, for the construction of a deck cargo barge. The 800-dwt barge, designated Hull No. 1060, is to have a length of 140 feet, a beam of 39 feet, and a depth of 9 feet.

**Gretna Machine & Iron Works, Inc.,** Harvey, La., is to build a 7,200-dwt ocean-going oil barge for Nepco Barge Corporation. It is to measure 300 feet by 64 feet by 21 feet 6 inches and has been designated Hull No. 195.

**Jeffboat, Inc.,** Jeffersonville, Ind., is to build two 1,600-dwt tank barges for Monsanto Company, St. Louis, Mo. Designated Hull Nos. 2330 and 2331, each barge is to have a length of 195 feet, a beam of 35 feet, and a depth of 12 feet 6 inches.

**Maxon Construction,** Tell City, Ind., has been contracted to construct four deck cargo barges for Marmac Corporation. Each barge is to measure 140 feet by 34 feet by 8 feet 9 inches and will be of 800 dwt. They have been designated Hull Nos. 1141 to 1144.

Also being built by the same yard is an 800-dwt crane barge for Marton Barge Co., New Iberia, La. It is to have a length of 140 feet, a beam of 38 feet, a depth of 8 feet 9 inches and has been designated Hull No. 1139.

# Hoffman is celebrating its anniversary.


What do you know?

Probably two things. At least.

One, we keep our clients happy. Wouldn't have lasted 50 years if we didn't.

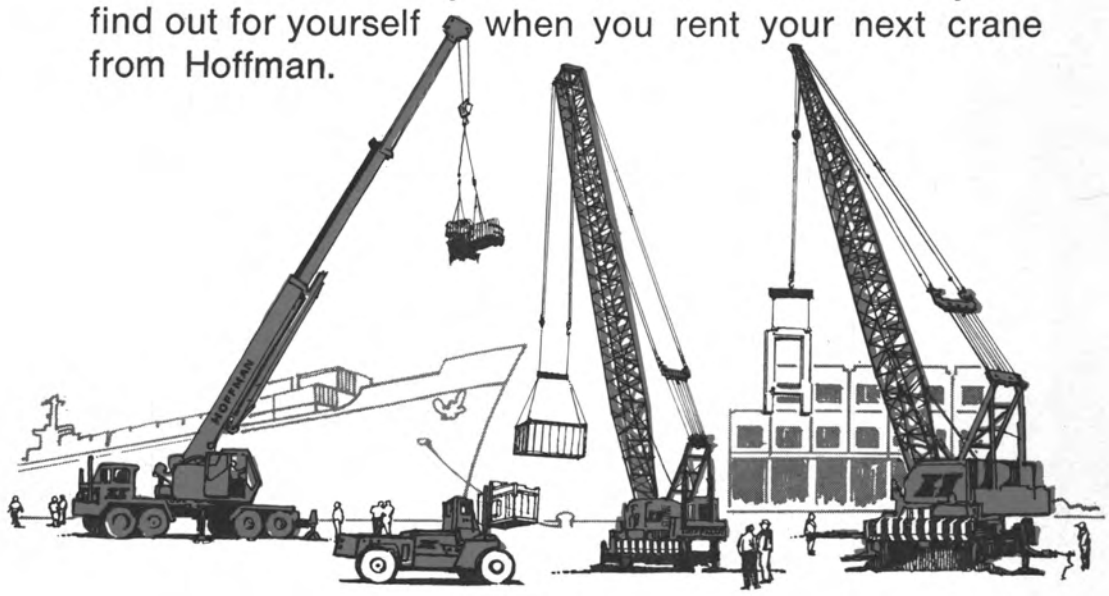
Two, we know a lot about service. Have to,... to grow as large as we have.

And the more we learn about service the more we apply it to making our clients even happier.

For instance. Take our equipment delivery system. It's designed to meet your tightest schedules.

Or our operating staff. All real pros who know the equipment like a book. And know how to get the most out of it for you.

That's just a small sample of the kind of service that's made us as big as we are. And the bigger we get the more service we can offer you. There's a lot more... as you'll find out for yourself when you rent your next crane from Hoffman.

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**Hoffman Cranes of Maryland, Inc.** P.O. Box 2156 Baltimore, Maryland 21203 □ Tel. (301) 327-7444

## Container Exposition Set For New Orleans May 20-21-22, 1971

The New Orleans International Containerization and Shipping Exposition, Centroport, USA Preview has been scheduled for the Rivergate Exhibition Center, May 20-21-22, 1971 according to an announcement by **Herman J. Penn,** general manager of the exhibition building. The show will be produced by G & M Production, Inc. in cooperation with various port interests.

A preliminary survey of potential exhibitors this spring by the production company revealed a great deal of interest in such an exposition to focus attention to the new facilities of the port now under construction and on the drawing boards. A sixty-million-dollar modernization program is now underway with the first phase scheduled for completion in the fall of '71. Thirty million dollars was appropriated for the Port of New Orleans expansion and modernization last year.

One of the features of the exposition will be a preview of the master plan for future development of the Port of New Orleans. Centroport, USA, the name that has been given to the massive project, will require 30 years for completion and will include an estimated 300 million dollars worth of improvements to the port.

Firms expected to exhibit at the exposition next spring include manufacturers of containers, container-handling equipment, transportation firms, other ports, foreign and domestic freight forwarders, agents, and all other related equipment and services interested in the growing containerization market.

President of the exposition is **S. J. Gefen.** The exposition manager is **John Mullis.** The show offices are located at 1136 International Trade Mart in New Orleans.



## American Export Forms Company To Integrate Transport Services

Robert S. Lawson

The formation of Inter-Freight, Inc. to provide a wide range of domestic and international transport services by road, rail, and ship under single carrier responsibility was announced by **Jakob Isbrandtsen,** president, American Export Industries, Inc.

Three years in the planning and formative stages, Inter-Freight will integrate the freight services of both AEI-owned carriers and independent carriers to offer shippers for the first time a transportation "package" which AEI says will be simpler, more efficient, and more economical than the fragmented modes of transportation in use today.

**Robert S. Lawson,** a senior vice-president of American Export Industries, has been named president of Inter-Freight, Inc. Before joining AEI Mr. **Lawson** was associated with Litton Industries.

Inter-Freight, Inc. will serve shippers through two operating arms: Inter-Freight Continental in Europe, and Inter-Freight International in the United States.

## Newport News Awarded Conversion Contract

Deepsea Ventures, Inc., subsidiary of Tenneco, Inc., has awarded a contract to Newport News Shipbuilding & Dry Dock Company, Newport News, Va., for the conversion of the cargo ship Deepsea Miner into a prototype ocean-mining vessel.

The conversion of the Deepsea Miner, which is a 322-foot-long cargo vessel of 7,500 dwt, calls for the installation of a large center well similar to that used on offshore oil-well drilling vessels.

## Michalopoulos Joins Reynolds Metals

Constantine Michalopoulos

**Constantine Michalopoulos** has joined Reynolds Metals Company as marine project director in the firm's product development division, Fifth and Cary Streets, Richmond, Va. 23230. He will be responsible for all development projects for commercial and naval vessels.

Prior to joining Reynolds, Mr. **Michalopoulos** was a naval architect with several eastern firms, most recently with the Stanwick Corp., Arlington, Va., where he assisted in design work on military and commercial vessels.

A native of Athens,Greece, Mr. **Michalopoulos** came to the United States in 1961 on a five-year scholarship. He attended New York University, received his bachelor of science degree in naval architecture and marine engineering from the University of Michigan and attended graduate school at the University of Detroit. He is a member of The Society of Naval Architects and Marine Engineers.

## ICHCA Conference Proceedings Available

The proceedings of the Ninth Biennial Technical Conference of ICHCA, held in Gothenburg, Sweden in June 1969, are now available for sale through the United States National Committee of the International Cargo Handling Coordination Association.

The volume containing the proceedings can be obtained by writing: ICHCA, P.O. Box 155, Bowling Green Station, New York, N.Y. 10004. The price of the volume for ICHCA members is $5.00 per copy and $10.00 for non-members.

The sessions held at the Gothenburg meeting included: (1) A worldwide review of trends and developments in transport; (2) Unit loads; (3) Problems of the international exporter; (4) Modern concepts in traditional stevedoring; and (5) Feeder services for transoceanic container ports.

ICHCA is an international organization composed of companies and individuals concerned with the dispatch, handling, and carriage of international commerce. Its objective is to increase efficiency of cargo movements from origin to destination.

## Goulandris Orders 50th Ship From IHI

Ishikawajima-Harima Heavy Industries Co., Ltd. (IHI) of Japan recently concluded a deal with B. P. Goulandris, Greek shipowner, to build a 143,400-dwt ore/oil carrier. The contract was signed at Nassau in the Bahamas.

The new contract has brought the number of ships ordered from IHI by B.P. Goulandris to 50 since February 1955, when the company asked IHI to build a 15,000-dwt cargo vessel.

The total deadweight tonnage of these ships is 3,260,000, or 1,880,000 gross tons, worth approximately $300,000,000 in United States currency. This is the largest order by a single shipowner from any shipyard in the world.

To be built at IHI Kure Shipyard, the ore/oil carrier will be completed in April 1973. The ship's price, to be made in United States dollar payment on a Japanese yen basis, is approximately 5 billion yen.

To be powered by an IHI-built turbine of 21,000 shp, the new ship will have a length of 853 feet, breadth of 142 feet, depth of 81 feet, and a draft of 59 feet. The registered owner is General Sea Transport Corporation.

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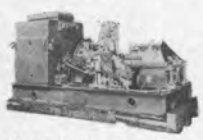
## TURBO GENERATOR SETS

**1** 

**WESTINGHOUSE 440/3/60 200 KW UNIT**

GENERATOR: Westinghouse 200 KW—250 KVA—450/3/60—1200 RPM—80% PF—with 40 KW—120 VDC on same shaft. GEAR: 9989/1200 RPM—double helical. TURBINE: Westinghouse—540 PSI—superheat 322°F. Test 930 PSI 800°TT. Also operates 615 PSI—850°TT.

**2** 

**700 KW NON-CONDENSING MARINE TURBO GENERATOR SET**

TURBINE: DRV-318-MRI — 850# — 850°TT — 24 pounds back pressure—10938 RPM. GEAR—Type S—432 — 10932/1200 RPM. GENERATOR: 700 KW—440/3/60—1200 RPM.

**3** 

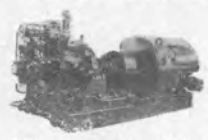
**75 KW 120 VDC GENERAL ELECTRIC TURBO GENERATOR SET**

TURBINE: 225 lb. W.P.—150° superheat—15 lbs back pressure—4962 RPM. GEAR: 4962—1800 RPM. GENERATOR: compound—75 KW—120 VDC—651 amps—1800 RPM.

**4** 

**WESTINGHOUSE 60 KW 120 VDC M-20-EH**

120 VDC—1800 RPM. TURBINE: M-20-EH—20 lbs—dry & saturated—25" vacuum. 7283 RPM. GEAR: 7283/1800. GENERATOR: 60 KW—120 VDC—500 amps—SK—stab. shunt wound.

**5** 

**300 KW WORTHINGTON-MOORE CROCKER-WHEELER UNITS**

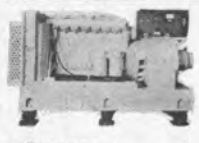
AP2 Ex-Medina Victory units. Worthington-Moore turbine—440 lbs—740°TT—28½" vac.—type S4—5-stage—6097 RPM—serial 7547 & 7548. GEAR: 14x7—6097/1200. GENERATOR: Crocker-Wheeler 300 KW 120/240 DC—1250 amps—type 102-H—compound—973643—999759 — armature flange 8¼"—bolt circle 7"—12 holes. Also new armature in stock (weighs 1840 lbs). Also have 2 units—generator 102 HP—300 KW—120/240—stab. shunt—1200 RPM.

**6** 

**VICTORY 300 KW WESTINGHOUSE TURBO GENERATOR SET**

440# — 740°F — 5930 RPM — 2A-9794-15-16-17 — coupling non-recessed on steam end of pinion—5¾". GENERATOR: Westinghouse 300 KW—120/240 DC—1250 amps—1200 RPM—C.B. 208.4.

## DIESEL GENERATOR SETS

**7** 

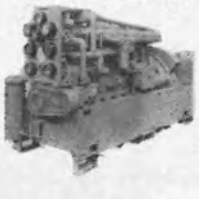
**G.M. 6-71 DIESEL GENERATOR SET**

60 KW — 440/3/60 — 1200 RPM—with switchgear.

**8** 

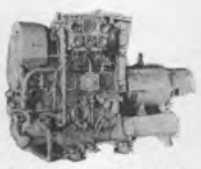
**350 KW 120/240 VDC DIESEL GENERATOR SET**

Ingersoll-Rand—heavy duty type S engine—8 cyl.—505 HP—10½ x 12. GENERATOR: G.E. 350 KW—120/240—600 RPM—switchgear. Good condition—as removed from Grace Line ships.

**9** 

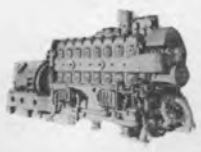
**100 KW SUPERIOR DIESEL GEN. SET—GBD-8**

8-Cyl. 8-Cyl. Superior engine—electric starting. Delco generator—120/240 — stab. shunt — 417 amps — 1200 RPM.

**10** 

**GM 3-268A DIESEL GEN. SET**

3-Cyl. diesel engine — 6½x7 — 1200 RPM — air or electric starting. GENERATOR: 100 KW—440/3/60—1200 RPM. Good condition. From U.S.N.

**11** 

**200 KW G.M. 8-268A DIESEL GEN. SET**

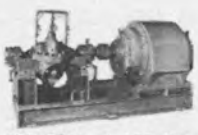
200 KW — 440/3/60/1200. 8-268A GM diesel heat exchanger cooled. Westinghouse generator.

## PUMPS

**12** 

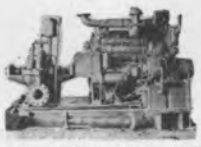
**TERRY TYPE ZS-1 FEED PUMP**

Turbine driven. Turbine fits T2 feed pump. 115 HP at 4000 RPM—440# steam—#18422.

**13** 

**400 GPM BRONZE FIRE & FLUSHING PUMP**

400 GPM at 150 lbs. 73 HP—440/3/60—3550 RPM.

**14** 

**GARDNER-DENVER BRONZE DIESEL DRIVEN FIRE PUMP**

6x5—1000 GPM—281' head—driven by BUDA 468-LD 6-cylinder diesel.

**15** 

**VICTORY AP2 MAIN CIRCULATOR**

Ingersoll-Rand — 18 VCM—20" x 18"—10,500—10 lbs. MOTOR: 75 HP—Allis-Chalmers—230 VDC—670 RPM. Spare unused armature. Motor frame F.B.V.—162.

**16** 

**NEW BLACKMER FUEL OIL TRANSFER PUMP**

Rotary—50 GPM—50 lbs.—2"—5 HP—440/3/60—with starter & spares.

**17** 

**UNUSED BLACKMER VERTICAL ROTARY PUMP**

4"—100 GPM—100 PSI—15 HP — 440/3/60 — gear head.

**18** 

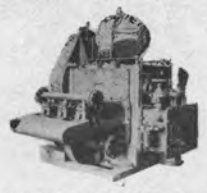
**KINNEY MOLASSES PUMP**

430/215 GPM—size 8x8—pressure 60 lbs.—142/280 RPM. Motor RPM 875/1750. Falk 6.25:1 reducer. G.E. 30/15 HP motor.

**19** 

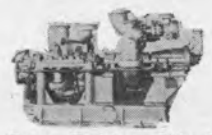
**R-2418 WATEROUS CARGO PUMP**

Bronze—14"—top discharge—capacity 2500 GPM—20 PSI. Bilge service—oil service—2400 GPM—75 PSI. Reduction gear. ENGINE: Cummins JN-130M—6 cylinder—4⅛ x 5—130 HP—air starting.

**20** 

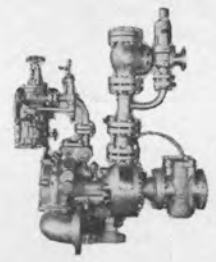
**UNUSED BOILER FEED PUMP**

Worthington Triplex—36.5 GPM—590 PSI—variable stroke—2¾ x 5—$P_2$—$S_2$—$R_2$ vessels. 40 HP—230 VDC—1800/2400 RPM.

**21** 

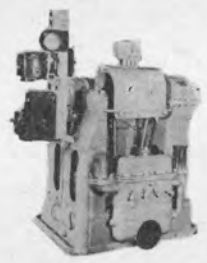
**UNUSED SIZE 4 BUFFALO FEED PUMPS**

Terry Turbine—BM—273 HP—5500 RPM—exhaust 15 lbs—590 PSI—superheat 0°—425 GPM Buffalo Pump—discharge pressure 750 lbs.—5" x 4"—built for USN DD destroyers.

**22** 

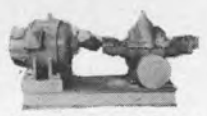
**COFFIN MODEL F BOILER FEED PUMP—VICTORY OR T2**

Control valve 1¼"—Form V1—constant pressure regulator — type C — 150 HP—200 GPM at 575 lbs discharge pressure. 7200 RPM—440 PSI—500°TT.

**23** 

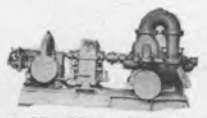
**SELF-PRIMING RECIPROCATING BILGE PUMP**

80 GPM @ 60 lbs.—5" x 8"—4" suction—3" discharge—22 HP motor—230 VDC—air dome.

**24** 

**UNUSED WARREN BRONZE PUMP**

1175 GPM—11.1 lbs.—8" x 8". MOTOR: Reliance 10 HP—115 VDC—850 RPM—76 amps.

**25** 

**2 BRONZE I.R. 10GT CARGO PUMPS—14x12**

4400 GPM—280' head—3500 GPM—350' or 4000 barrels/hr. IR-10GT—14 x 12—1750 RPM—driven by Elliott 2DRY turbine—400 HP—400 PSIG—500° TT—10 lbs. back pressure—4550 RPM. Gear: 4550/1750. Good condition.

**26** 

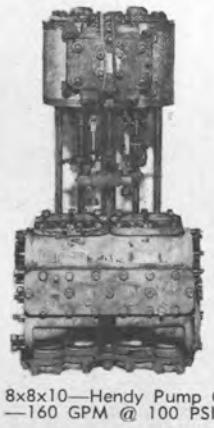

**BRONZE 14x14x12 CARGO STRIPPING PUMPS**

700 GPM @ 100 lbs. Ex-T2 Tanker pump. Also available in steel.

**27** 

**NEW WORTHINGTON VERTICAL SUBMERSIBLE BILGE PUMP**

For emergency use on passenger ships, etc. PUMP: JAS—264 GPM—171' head—two 6" inlets—one 5" outlet. Motor: 40 HP—230 VDC—149 amps.

**28** 

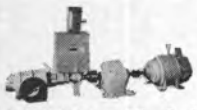
**RECIPROCATING VERTICAL DUPLEX PUMP**

8x8x10—Hendy Pump Co.—8" suction—6" discharge—160 GPM @ 100 PSI.

**29** 

**NEW BRONZE FEED-WATER BOOSTER PUMPS**

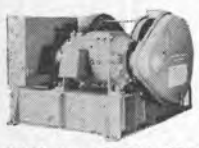
220/237 GPM @ 144' head —2-stage—1750 RPM with 30 HP 440/3/60 motor control & spares. Built for U.S. Navy.

**30** 

**EXCELSIOR MOLASSES PUMP—SIZE 5½"**

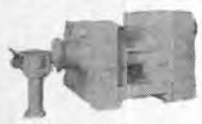
6" Suction and discharge—210 GPM—45 PSI—125 RPM. MOTOR: 10 HP—230 VDC—Frame 67—with gear.

## WINCHES AND WINDLASSES

**31** 

**AH&D SINGLE SPEED WINCHES**

7250 lbs. @ 220 FPM—50 HP—230 VDC—with control. $1750 as is.

**32** 

**VICTORY UNIT WINCHES**

50 HP—230 VDC—U-1, U-2, U-4, U-5—reconditioned.

**33** 

**MODEL U-6 DOUBLE DRUM WINCHES WITH GYPSIES**

50 HP—230 VDC—reconditioned.

**34** 

**WATERMAN STEAM DECK WINCH—COMPOUND GEARED**

Compound-geared "Valle Type"—9½ x 10. 7000 lbs.—185 FPM—single geared. 12,800 lbs. 101 FPM —compound geared.

**35** 

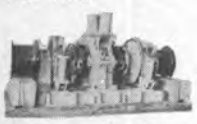
**WATERMAN STEAM DECK WINCH—SINGLE GEARED**

Single-geared "Valle Type"—9½ x 10—10,720 lbs. @ 238 F.P.M.

**36** 

**HYDE NO. 7 WINDLASS**

1¾" Chain—Wildcat centers 3'3"—Handles 3000 lb. anchors. MOTOR: 8.7/35 HP—440/3/60—1800/450 RPM.

**37** 

**NEW — UNUSED LINK BELT WINDLASS**

1⅝" and 7000 lb. anchors. 56" Centers—50 HP—230 VDC—spares.

**38** 

**IDEAL WINDLASS—UNUSED**

1-5/16" Chain—36" Centers—15 HP—115 VDC—1750 RPM—6000 lb. line pull.

**39** 

**UNUSED 70 HP McKIERNAN-TERRY WINDLASSES**

2¾" Chain and two 10640 lb. anchor & 30 fathoms chain @ 30 FPM. 70 HP—230 volts—shunt DC motors—233 amps—550 RPM—55°C rise. Wildcat centers 47½". Base 9'5" wide x 11' long. Weight 36,000 lbs.

**40** 

**3-TON CLYDE DOUBLE DRUM WINCH**

3-Ton double drum winch—10 HP—115 VDC—declutchable drums—with controls.

**41** 

**1" CAPSTAN WINDLASS**

19" Drum—7½ HP—115 VDC—controls & spares—unused.

## MISCELLANEOUS

**42** 

**UNUSED DOCK CAPSTAN**

15 HP—220/440/3/60—3000 lbs @ 100 FPM. Gypsy 8"—waterproof box—floorplate.

**43** 

**HYDE 30" DOCK CAPSTAN**

10" x 10"—reversible—W.P. 125 lbs—2½" steam—3" exhaust.

**44** 

**FALK REDUCTION GEAR FROM C-3-S-A1 SEATTLE TACOMA**

8500 HP Normal—9350 HP maximum nested double reduction. No. 139-600. HP pinion RPM 5004—LP pinion RPM 4289—HP & LP intermediate gear and pinion 665.3 RPM—main gear 85 RPM.

**45** 

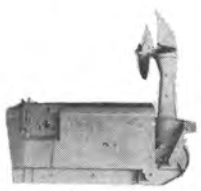
**DOUBLE INPUT — SINGLE OUTPUT DIESEL REDUCTION GEARS**

Farrell-Birmingham — 3200 SHP. Reduction gear: 1.81:1—handles two 1600 HP diesels @ 720 RPM. With hydraulic couplings & Fawick clutch. Port and starboard.

**46** 

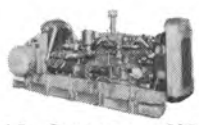
**VICTORY AP2 — WESTINGHOUSE MAIN PROPULSION GEAR**

6000 SHP—Serial 4A-1620—Medina Victory.

**47** 

**MURRAY & TREGURTHA DIESEL PROPULSION UNITS**

Model 02-D—with 6-cylinder GM engine & gear. Propeller 48" x 24".

**48** 

**DIESEL DRIVEN INGERSOLL-RAND AIR COMPRESSOR**

I.R. Compressor—315 cu. ft. @ 125 lbs. Driven by International Harvester UD-18 diesel. Tank mounted on skid—radiator cooled—from Corps. of Engineers salvage vessel.

**49** 

**INGERSOLL-RAND MODEL 40 AIR COMPRESSOR**

Two stage—135 CFM—7" x 6¼" x 5"—110 lbs.—870 RPM—inner cooler. MOTOR: Allis-Chalmers 40 HP — 230 VDC — 145 amps — 1750 RPM — Model EB121.

**50** 

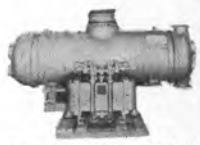
**DeLAVAL PURIFIERS**

Model 55-13—225 GPM. MOTOR: L.A.—Frame 224—2 HP—230 VDC—1750 RPM. Oil inlet & outlet 1"—water discharge 1½". Also available A.C. 440/3/60.

**51** 

**GRISCOM-RUSSELL EVAPORATOR**

12,000 evap.—230 VDC pumps or 440 A.C. pumps. Complete with Weir automatic water valve.

**52** 

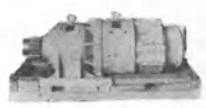
**UNUSED 1135 SQ. FT. C.H. WHEELER CONDENSER**

20" Ex. inlet—⅝" Cu-Ni tubes—with or without air ejector.

**53** 

**DUPLEX MAGNETIC OIL STRAINERS**

4" — 5" — 6" sizes available.

**54** 

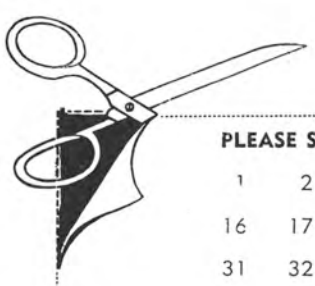
**UNUSED GEARHEAD MOTORS**

20 HP — 230 VDC — 30 RPM output.

**55** 

**UNUSED 20 KW SWITCHBOARD**

20 KW 120 volt switchboard for two generators in parallel with distribution.



**PLEASE SEND INFORMATION ON THE FOLLOWING:** (Please circle items) 4/1/70

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| 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | | | | | |

NAME..... COMPANY.....

ADDRESS..... POSITION..... PHONE.....

CITY..... ZONE..... STATE.....

## Atlantic Richfield Orders GE Turbines For Alaskan Tankers

General Electric Company, West Lynn, Mass., has been awarded the contract to supply propulsion equipment for the largest commercial vessels ever to be built in this country. The company's marine turbine and gear department will start delivering geared steam turbines in 1972 for the first of three 120,000-dwt Atlantic Richfield Company supertankers. They will be built by Bethlehem Steel at its Sparrows Point, Md. shipyard.

The General Electric geared steam turbines will develop 26,000 shp at 85 rpm in the 883-foot-long tankers. Steam conditions will be 580 psig 900 F.

Atlantic Richfield will use the tankers to transport Alaskan North Slope crude oil from Valdez on the Gulf of Alaska to points on the West Coast of the United States. Each tanker will have a capacity of 940,000 barrels. The tankers will have a breadth of 138 feet, a depth of 68 feet, and a loaded draft of 51 feet 10 inches, and a speed of 16 knots. The vessels will be single-screw with bridge aft.

In announcing the order from General Electric, **Hughes W. Ogilvie**, manager of marketing for the marine turbine and gear department, pointed out that the overwhelming number of large tankers and containerships now on order will be propelled by steam. He said that of the 333 merchant ship propulsion plants on order throughout the free world today in the over 27,500-shp category, over 80 percent are steam-powered, indicating the modern steam plant is considered the most cost-effective by shipowners.







## Hoffman Rigging Names Belej New Controller

Michael Belej

**Michael Belej** has joined Hoffman Rigging & Crane Service, Inc. of Belleville, N.J. as controller. Mr. **Belej**, a certified public accountant, was formerly on the staff of the public accounting firm of Peat, Marwick, Mitchell and Company of Newark.

A graduate of Farleigh Dickinson University, Mr. **Belej** is a member of the New Jersey State Society of Certified Public Accountants and the American Institute of Certified Public Accountants.

## SSI Container Opens New Facility In Seattle

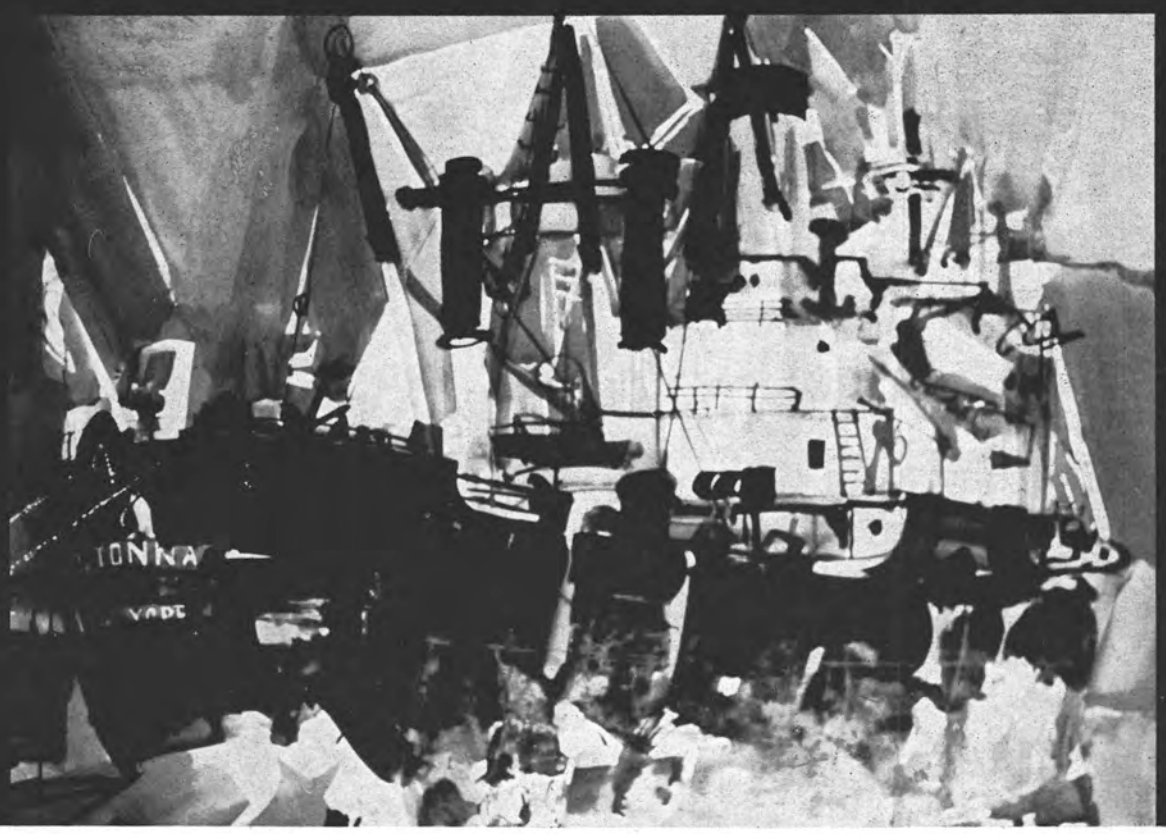
**Greer M. Arthur Jr.**, president of SSI Container Corporation, announced that the company had expanded its container-leasing operations into the Pacific Northwest with the opening of a new facility in Seattle, Wash. The new office, located at 40 South Spokane Street, will be under the direction of **Terrance R. Thomas II**, who was appointed SSI's regional sales manager for the Pacific Northwest, including Portland, Ore., and Vancouver, B.C.

Prior to assuming his new position, Mr. **Thomas** was with States Steamship Company for two years, most recently as assistant manager of the container division. His professional affiliations include the Transportation Club of San Francisco and the Junior World Trade. Mr. **Thomas** is a graduate of Seattle University.

A subsidiary of ITEL Corporation, SSI Container Corporation leases maritime cargo containers for the transportation of freight by ship, truck, and rail. Regional offices and operating facilities are located in San Francisco, New York, Chicago, Tokyo, and London. Agents are based in Hong Kong, Keelung (Taiwan), Sydney, Melbourne, Kobe, Yokohama, Nagoya, and Los Angeles.

Developed especially for marine applications:

# ARMCO ALUMINIZED WIRE ROPE



Whether at sea or on shore, most wire rope in marine applications rusts out before it wears out. So to help you put the clamps on corrosion and extend wire rope life, we developed Armco ALUMINIZED Wire Rope.

Armco ALUMINIZED Wire Rope features individual wires hot-dip coated in a bath of commercially pure aluminum. In service, a thin surface aluminum oxide film develops and protects Armco ALUMINIZED Wire Rope from further oxidation—corrosion is minimized, rope life is extended.

Armco produces ALUMINIZED Wire Rope in a host of sizes and classifications to take on most any marine assignment. For prices and delivery information, contact your Union Wire Rope distributor—he's in the Yellow Pages under "Wire Rope." Armco Steel Corporation, Dept. K-200, 7000 Roberts Street, Kansas City, Missouri 64125.

ARMCO STEEL ARMCO

## Harbor Carriers Banquet Traditionally Held In Spring Changed To Late Autumn

The 36th Annual Banquet of the Harbor Carriers of the Port of New York will be held in the Grand Ballroom of the Waldorf-Astoria Hotel this year on a date, yet to be selected, in late October or early November instead of the traditional spring scheduling, according to an announcement made by **William E. Cleary,** president of the old-line New York water carrier organization.

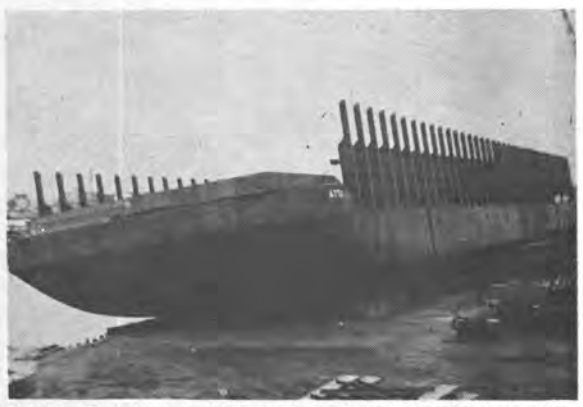
In announcing the changed format, Mr. **Cleary** commented that a canvass of the members of the Association, which represents all of the owners of commercial cargo-carrying self-propelled and non-self-propelled freight vessels in New York Harbor, revealed a desire on the part of those who subscribe to the banquet to have the function held in the late fall rather than the early spring.

## T.J. Stevenson Elects Vice President-Finance

**Thomas J. Stevenson, Jr.,** president of T.J. Stevenson & Co. Inc., has announced the election of **Morris Schechter** as vice president-finance.

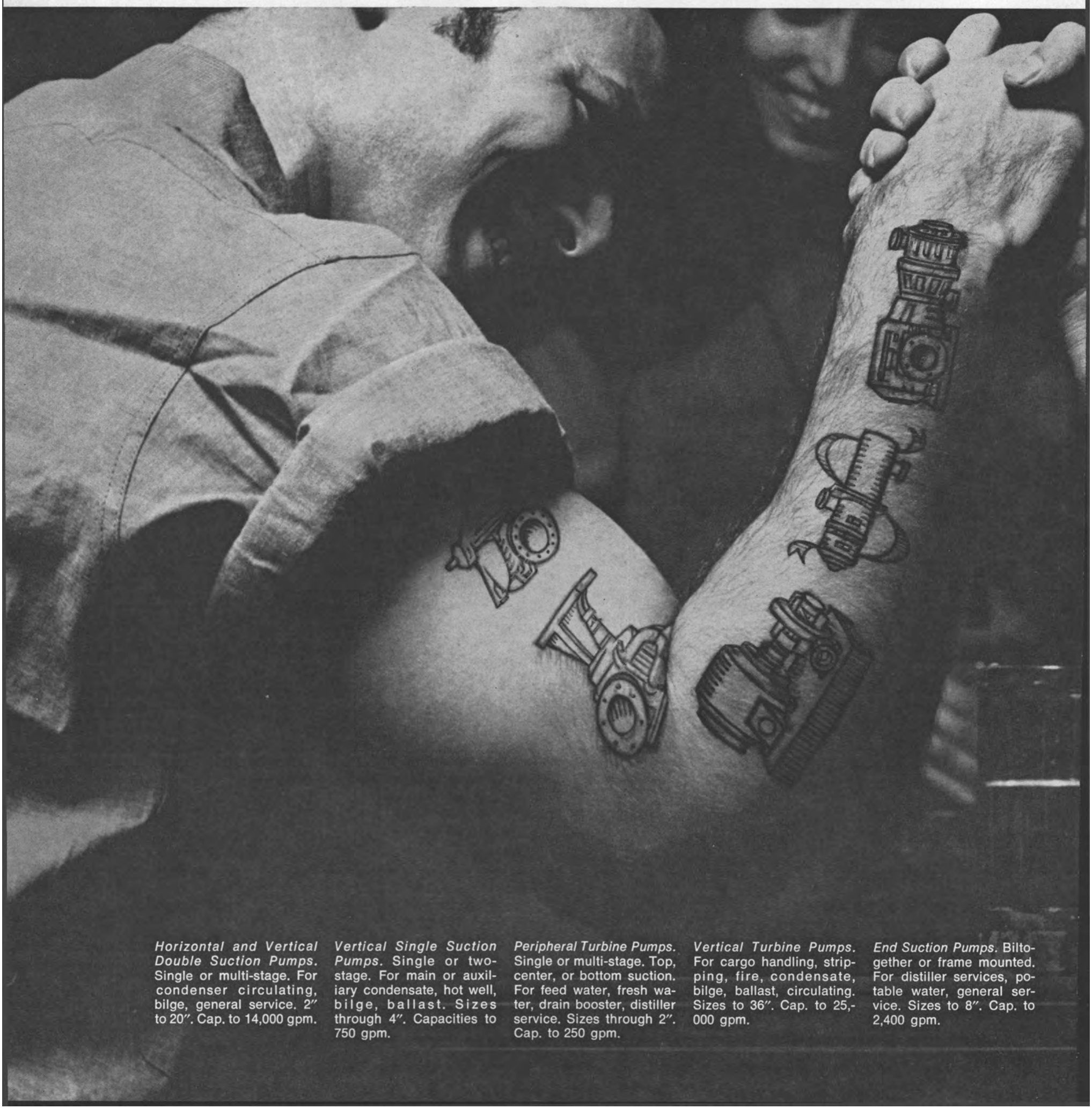
Mr. **Schechter,** who becomes chief financial officer of Stevenson, recently resigned his position as vice-president and treasurer of Reeves Telecom Corporation, an American Stock Exchange-listed communications company after over eight years of service.

T.J. Stevenson & Co. Inc., are general agents in the United States for Netumar Line (Companhia de Navegacao Maritima Netumar), a Brazilian-flag line serving Brazil from Canadian, Great Lakes, and United States Atlantic ports; Peruvian State Line (Compania Peruana de Vapores, S.A.), which serves the entire West Coast of South America from United States Atlantic and Gulf ports and Canada and Mexico; and Dominican Steamship Service, S.A., which offers regular weekly sailings from New York and Philadelphia to the Dominican Republic.



**TODD DELIVERS 400-FOOT ALASKA-BOUND RAIL-CAR BARGE:** The barge Attu shown on the ways before launching at Todd Shipyards Corporation (Houston Division) was recently delivered to Harbor Tug & Barge Company of San Francisco. The Attu is the first of two rail car barges measuring 400 feet by 99 feet 6 inches by 20 feet to be built by Todd-Houston for Harbor Tug & Barge. These are the largest deck cargo barges ever built in the Houston area. The unmanned, non-self-propelled barges are designed to carry 64 rail cars per trip and will be classed *A-1 for Pacific Ocean service. The Attu was specially equipped with 74 thirty-foot-high stanchions which will allow the vessel to transport approximately 12,000 tons of 48-inch diameter pipe to the Prudhoe Bay area for the first portion of the 800-mile oil pipeline to run from Prudhoe Bay to Fairbanks and across to Valdez on the upper rim of the Gulf of Alaska. After the maiden voyage of the Attu, the stanchions will be removed and the rails will be installed on the deck for the vessel's second trip as a hydro-train. Delivery of the second barge Adak at Todd-Houston is scheduled for next month.

# you won't find a tougher crew



*Horizontal and Vertical Double Suction Pumps.* Single or multi-stage. For condenser circulating, bilge, general service. 2″ to 20″. Cap. to 14,000 gpm.

*Vertical Single Suction Pumps.* Single or two-stage. For main or auxiliary condensate, hot well, bilge, ballast. Sizes through 4″. Capacities to 750 gpm.

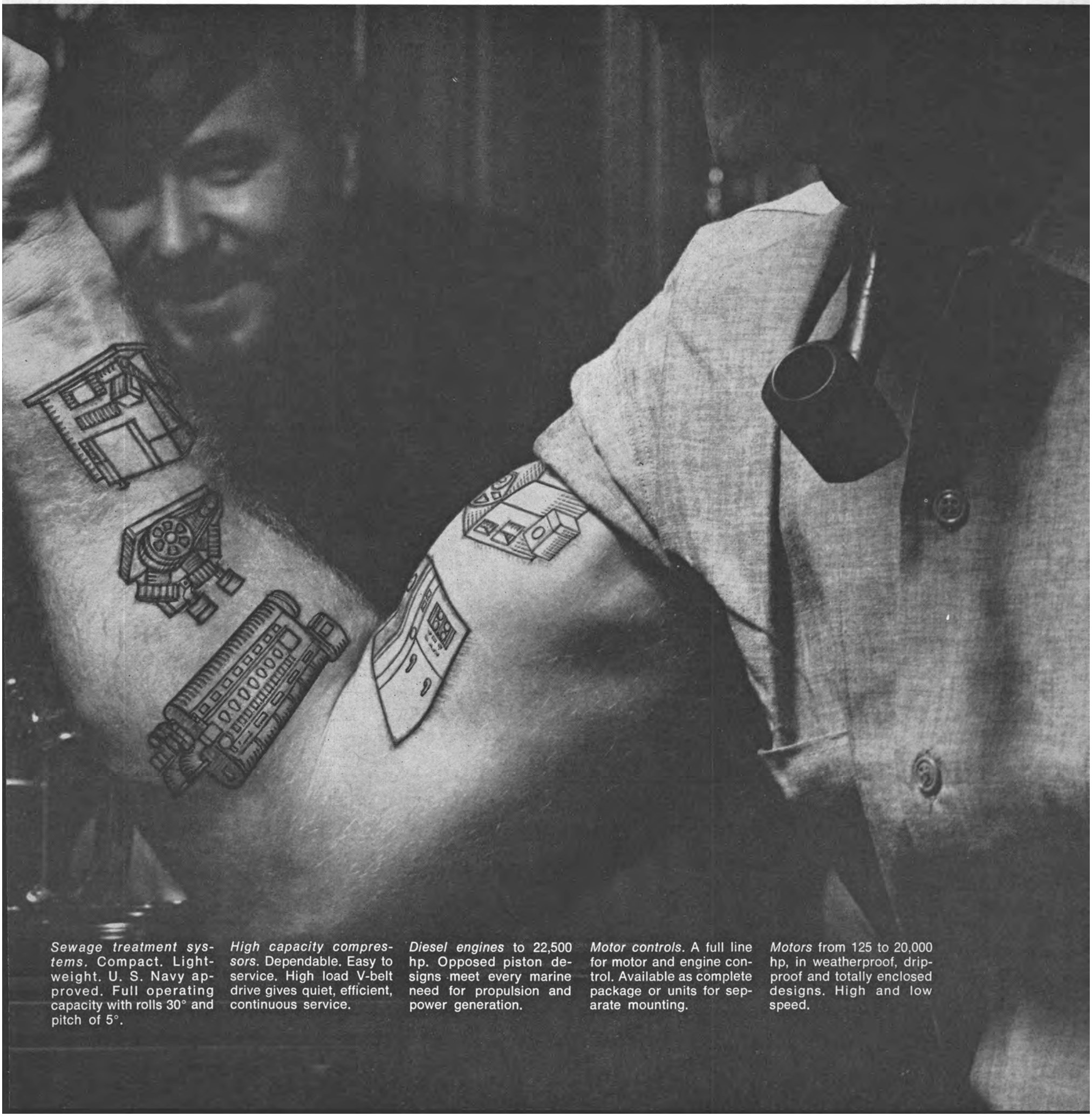
*Peripheral Turbine Pumps.* Single or multi-stage. Top, center, or bottom suction. For feed water, fresh water, drain booster, distiller service. Sizes through 2″. Cap. to 250 gpm.

*Vertical Turbine Pumps.* For cargo handling, stripping, fire, condensate, bilge, ballast, circulating. Sizes to 36″. Cap. to 25,000 gpm.

*End Suction Pumps.* Biltogether or frame mounted. For distiller services, potable water, general service. Sizes to 8″. Cap. to 2,400 gpm.

Design any size or type of vessel. Naval or Commercial. And Colt Industries can provide total capability to pump, transfer, circulate, boost, drive, generate, compress and power. A capability that's backed up by many years of leadership in Marine product design and performance, plus a complete service organization. Get full information, today, on Colt Marine Pumps and total capability. Write our Pump Division, 3601 Kansas Avenue, Kansas City, Kansas 66110.

**Colt Industries**



*Sewage treatment systems.* Compact. Lightweight. U. S. Navy approved. Full operating capacity with rolls 30° and pitch of 5°.

*High capacity compressors.* Dependable. Easy to service. High load V-belt drive gives quiet, efficient, continuous service.

*Diesel engines* to 22,500 hp. Opposed piston designs meet every marine need for propulsion and power generation.

*Motor controls.* A full line for motor and engine control. Available as complete package or units for separate mounting.

*Motors* from 125 to 20,000 hp, in weatherproof, drip-proof and totally enclosed designs. High and low speed.

## Containerization Conference To Be Held April 20-23

Containerization, the new technology expected to revolutionize maritime shipping and related industries in the next decade, will be the subject of an international conference scheduled in San Diego, Calif. April 20-23 by the University of California Extension, San Diego.

"Transportation in the 70's" is designed to provide transportation company executives, service company managers and others with a thorough understanding of this rapidly growing field and a basis for making decisions related to it.

A distinguished group of more than 30 speakers from government, industry and the academic world will participate in the conference. Representatives from different professional areas and foreign countries will draw on their own experiences in an effort to widen the American transportation horizon.

**Eric Rath,** president of a La Jolla, Calif. transportation consulting firm, will serve as conference chairman. Speakers will include **Robert Blackwell,** United States Maritime Administration; **Hector Calderon,** vice-president of Coordinated Caribbean Transport, Inc.; **R. D. Hunt,** manager, Hovercraft Division, Vosper Thornycroft Group, England; **Joseph Curran,** president, National Maritime Union of America; **Robert Traut,** Transport Section of the United Nations; Col. **Charles Brazie,** National Defense Transportation Association; and **Russell Hinds,** United States Department of Agriculture.

Speakers representing Australia, Rumania, and Mexico will also be scheduled.

The four-day meeting will schedule both morning and afternoon sessions, with field trips to points of interest in San Diego and nearby Mexico. The San Diego Unified Port District will provide a harbor excursion.

An enrollment fee of $185 will be charged, except for government and military personnel who qualify for the $120 rate. The fee includes seating at a banquet, all luncheons, and excursions.

The conference will be housed at the Town and Country Hotel, where lodging is available.

Inquiries or reservations for the conference should be addressed to: **John Stark,** University of California Extension, San Diego, P.O. Box 109, La Jolla, Calif. 92037.



## Hitachi Contracts To Build 115,900-Dwt OBO Carrier

After signing the contract for the latest addition to the 32-ship fleet of Overseas Shipholding Group, Inc., **Raphael Recanati** (seated, right), chairman of Overseas' finance and development committee, passes the pen to **N. Inouye,** managing director of Hitachi Shipbuilding and Engineering Co., Ltd. of Japan. Also participating are **M. Iwata,** (standing, left) Hitachi's general manager of Overseas Services, and **Joshua Morrison,** president of Overseas Shipholding.

Overseas Shipholding Group, Inc., has contracted with Hitachi Shipbuilding and Engineering Co., Ltd. of Japan, for the construction of a combination ore/bulk/oil (OBO) carrier of 115,900 deadweight tons. **Raphael Recanati,** chairman of the finance and development committee of Overseas, stated that the vessel is scheduled for delivery in March 1973.

Representing Hitachi at the signing of the contract in New York City were **N. Inouye,** managing director, and **M. Iwata,** general manager of Overseas Services.

The new ship will be owned and operated by an Overseas Shipholding subsidiary, Global Bulk Oil Corp., of which Mr. **Recanati** is president. Mr. **Recanati** stated that the OBO vessel is the fifth presently under construction for Overseas, altogether adding 500,000 tons to the 1,000,000 already owned and operated by the company. The additional tonnage is required for Overseas' expansion in shipping bulk commodities such as petroleum, grains, and ores, in modern highly-automated vessels, Mr. **Recanati** pointed out.

Overseas Shipholding Group, Inc., a United States corporation, recently became publicly-owned by selling one million shares of common stock. It is one of the few shipping companies whose shares are traded in the United States that is actively engaged in the worldwide transport of bulk cargoes in both American and foreign vessels.

The company and its wholly-owned subsidiaries constitute a major international shipping enterprise with its diversified fleet of 32 oceangoing dry cargo vessels and tankers. The ships are generally chartered, either on time or voyage charter, to commercial firms and governmental agencies in most parts of the world.

The international headquarters of Overseas Shipholding Group, Inc. are located at 511 Fifth Avenue, New York City.


**100′ DOUBLE END VEHICLE FERRY:** Delivered via the Champlain Canal, this ferry became the fifth Blount Double Ender to engage in Lake Champlain ferry service. She carries twenty automobiles in four lanes and makes 12 knots.

**100′ DOUBLE END TWIN SCREW FERRY:** Delivered via the Erie Canal, this vessel joined two Blount sister ferries on a famous Lake Erie run between Sandusky and Kelley's Island. Powered by two 350 H.P. diesels, she makes 13 knots and carries 15 cars.

**80′ EASTERN RIG DRAGGER:** Fifth in a series built for Southern New England fishing interests. This vessel began fishing in September and has stocked some impressive catches. In fact, almost as a harbinger of good luck, her builder ironed a swordfish off her bow on her trial run near Block Island.

**65′ SIGHTSEEING HULL:** This 200 passenger hull was built as a "hull with engines only." The owner will finish the superstructure. She will operate out of Bar Harbor, Maine for sightseeing in the Acadia National Park.

**85′ PASSENGER FERRY:** Built for fast and rugged service in the Straits of Mackinac on Lake Huron between Mackinaw City and the very popular resort island of the same name. She is certified for 450 passengers and joins a second Blount ferry on the same run.

*Subject of Patent Applications U.S. Patent Office by Luther H. Blount, Inventor

**57′ 500 H.P. TEST BED:** Built and operated by Blount for research and development of power pods, sound attenuation and new offshore fishing methods. The propeller shaft and tailshaft bearing of this vessel can be removed and replaced without drydocking.

**112′ SIGHTSEEING FERRY:** This 450 passenger Vista-View (Pat. applied for) sightseeing vessel operates with two other Blount ferries on the Waikiki-Pearl Harbor Tour in Hawaii. The vessel was sailed under her own power from Rhode Island to the Pacific Island in 30 days.

**132′ PASSENGER VEHICLE FERRY:** This "TL" class vessel attained a speed of 21 m.p.h. on her trials. She is pod driven with two single and two double pods for a total of 3000 H.P. and operates regular service between Puerto Rico and the Virgin Islands. Certification is for 440 passengers and up to 2 tractor trailers and 8 autos.


**112′ CRUISE VESSEL:** The first vessel of her type to offer smooth water cruise service on the inland waterways of the Eastern U.S. She offers 20 deluxe cabins each with head and shower and operates on runs from New England, the Saguenay River and Great Lakes to Key West, Fla. via either the Mississippi or the Atlantic Intercoastal Waterway.

# NEW FROM BLOUNT

**HI-SPEED COMMUTER BOAT*** for deluxe urban area water transportation. All aluminum, 25 m.p.h., triple form hull. Driven by twin pods removable from hull. Available at a cost range consistent with that of much slower commercial types. Hull also available in steel.

**BUOYANT LIFT DOCK*** 200 net tons: Can drydock craft up to 130′ long when moored in a smooth water basin. Specially developed shoring allows fast docking and undocking. Available complete with self contained lift system, this unit can be towed anywhere and quickly activated. Other sizes are available 100 to 500 tons. Costs less than conventional drydock and is faster and easier to operate. Can be purchased ready built or plans and rights to build.

# BUILT BY BLOUNT IN 1969

These owners are depending on Blount Marine to fill their requirements and solve their design problems on all types of vessels. All of the boats shown here were built and delivered during 1969, and may be viewed at their scene of operations. The variety of design demonstrates the versatility of our yard. We design and build any type of steel vessel from 65 to 250 feet. Imaginative design — quality construction — dependable service . . . these are the hallmarks that have made the reputation that Blount enjoys in the industry. When you next need a boat — consult tne proven leader.

## Blount Marine
CORPORATION

P. O. Box 360 WARREN, R. I. 02885 (401) 245-8300

## Frederic R. Harris To Conduct Materials Handling Study For Lykes' Seabee Barges

Lykes Bros. Steamship Co., Inc. has entered into a contract with the 43-year-old worldwide consulting engineering firm of Frederic R. Harris, Inc. for an in-depth study to develop a new materials handling system for the Seabee-class barge and intermodal carriers when they enter service in late 1971.

The study is designed to determine the most adaptable onshore facilities for the Seabees, both here and abroad, and to integrate them into the most effective overall plan of operation.

The study will investigate and analyze existing and projected markets within the areas from which the Seabee system will draw cargo in the United States and Europe. This will include the port and hinterland areas of the United States Gulf Coast, the European continent and the United Kingdom.

Members of the Lykes Seabee team are working in joint effort with the various United States Gulf and European ports to develop the most effective cargo-handling system and cargo terminals for the new Seabee system.

The barge carriers' contribution to the expansion of international commerce requires that ports, both large and small, adapt their cargo-handling facilities to the barge-handling concept as their contribution to the overall effort to reduce shippers' costs in a constantly growing and highly competitive export-import trade.

Lykes selected the firm of Frederic R. Harris, Inc. because of its many years of engineering development of facilities for the Navy and commercial shipbuilders and ports in the United States and abroad, said **W.J. Amoss Jr.**, executive vice-president of Lykes.

One of the firm's most recent activities was a study for the Port of Rotterdam, the world's largest in terms of tonnage handled, to predict the development of the port and its greater delta region through the year 2000.

The Lykes Seabees are under construction at the Quincy, Mass. shipyard of General Dynamics Corporation. The first of the three $32 million ships is scheduled for delivery in the latter part of 1971 and the other two in early 1972. A fleet of 266 barges will soon be built to serve the Seabee carriers.



## Orders To IHI For Three Petroleum Products Carriers And One 135,000-Dwt Tanker

IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.) of Japan recently concluded orders with Island Navigation Corporation, Hong Kong, for a 135,000-dwt tanker and with Michael A. Karageorgis S.A., Greece, for three 23,800-dwt petroleum products carriers.

The tanker will be the fourth of the 130,000-dwt standardized type with the most economical hull form, developed by IHI in 1968 to be built in the 150,000-dwt docks at IHI's Aioi and Kure shipyards. The three other tankers were previously ordered by Sanko Steamship Company and Japan Line, Ltd., both of Japan, and by Regal Shipping Inc., of Norway.

The three petroleum products carriers will bring the total number of this type of ship ordered from IHI by M.A. Karageorgis to 18. In addition, fourteen 20,950-dwt petroleum products carriers were previously on order from IHI by Esso Transport & Tanker Company, of the United States, making a total of 32.

The new 135,000-dwt tanker, measuring 902 feet by 142 feet by 76 feet, will be powered by an IHI-Sulzer 1ORND90 type diesel with an output of 29,000 bhp. This vessel will be built at the Kure shipyard and will be delivered in December 1971.

The three petroleum products carriers, each measuring 558 feet by 85 feet by 47 feet, will be powered by an IHI-Sulzer 7RND68 type diesel delivering an output of 11,550 bhp. These three vessels will be constructed at the Aioi shipyard and are scheduled for delivery in October 1972, and January and April 1973, respectively.

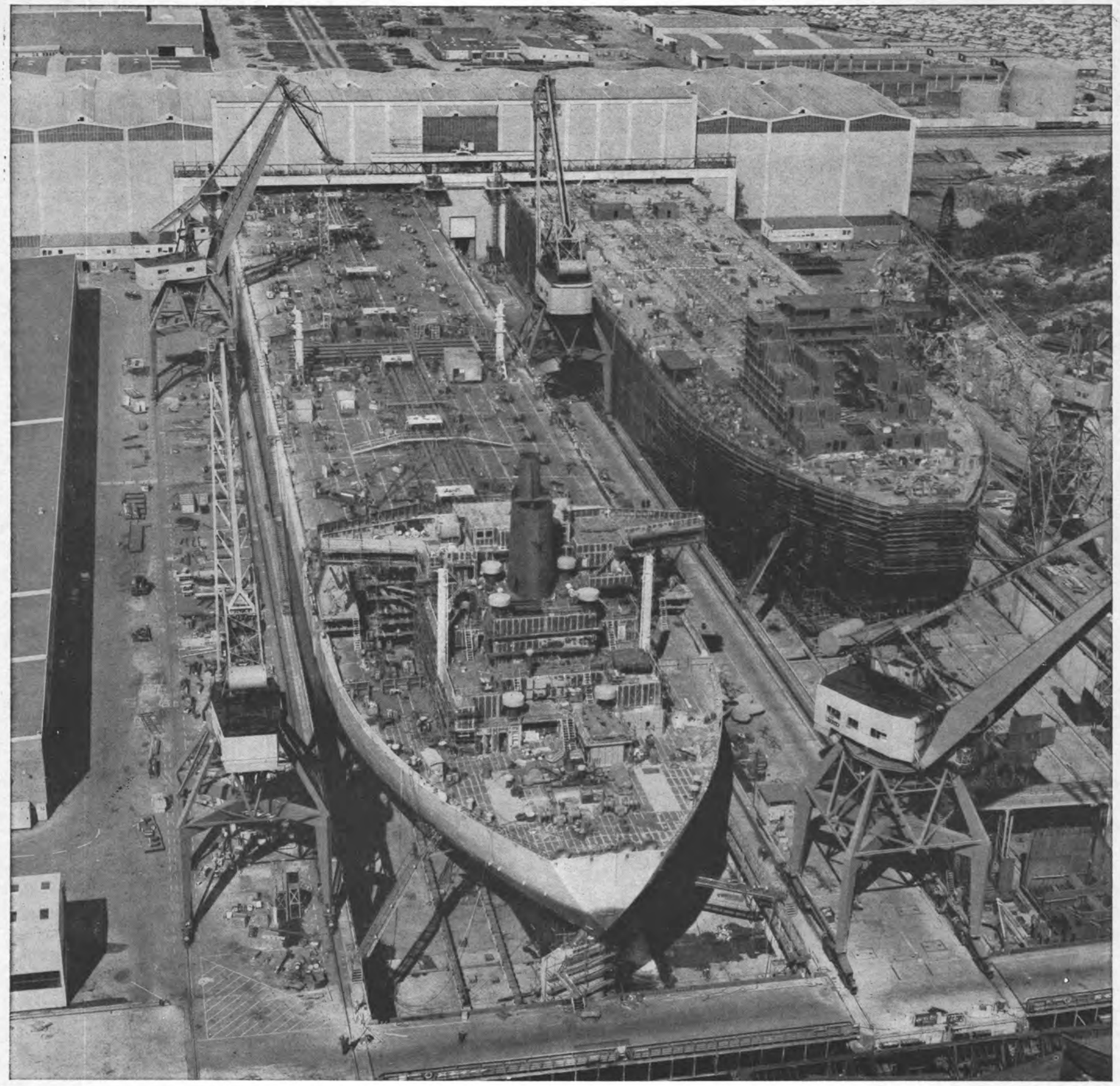
## Gable And De Sepio Join Lane Marine Technology

Lane Marine Technology Incorporated, Brooklyn, N.Y. announced the appointment of **Harry C. Gable** as director of contract sales and manager of engineering of its Welin Davit Division.

Mr. **Gable,** well known in the lifeboat and davit industry, was for many years sales manager of Welin Davit and Boat until he became managing director of Carroll Engineering Company. Under his direction Carroll developed an extensive line of United States Coast Guard approved davits and winches which will now be manufactured under license by the Welin Davit Division of Lane.

Joining Mr. **Gable** at the Welin Davit Division as chief design engineer, will be **Fred De Sepio,** who also has many years' experience in the industry and has been responsible for the detail design of Carroll Engineering's products.

Welin's offices are at 500 Market Street, Perth Amboy, N.J.



# Half-a-million Tons at a Time Building Ships Indoors

Two 227,000-ton tankers, totalling nearly half-a-million tons, emerging into the building docks at Arendal. These tankers are the first in a series of 11. Another series—of 15 OBO-ships in the 96,000-ton range—is being built simultaneously by Götaverken (10 at Arendal and 5 at Öresund).

**GÖTAVERKEN**
GÖTEBORG SWEDEN

ARENDALSVARVET
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Yards of the Götaverken Group

GÖTAVERKEN AMERICAN CORPORATION, 39 Broadway, New York, N.Y. 10006. Telephone: HA 5-5530-1. Telex: MNY 420181 New York. T.A.: Gotaverken, Newyork.

## Navy Releases Compendium On Soviet Union Shipbuilding

The Naval Ship Systems Command recently released a compendium of facts pertaining to the present size and quality of shipbuilding in the Soviet Union to the members of the NavShips-Shipbuilding Industry Advisory Committee.

In a preface to this enlightening document, Rear Adm. **N. Sonenshein,** United States Navy, NavShips Commander, commented as follows: "In the past decade there have been subtle changes about which many are unaware. The USSR and the U.S. are now the two principal naval shipbuilders and ship repairers on this earth, each employing about a quarter of a million people in their shipyards. Each supports a larger industry than Japan, which itself has captured about one-half of the world's merchant ship market.

"The increase in the size and capability of the USSR naval fleet has received some publicity within the past few years, but little attention has been given to the changes which have created that new and powerful fleet. Alarmingly, during the past decade the USSR has modernized its shipyards, adopted advanced production and management methods, and has just about caught up with us in ship technology. As this study shows, the advantages of series production of standardized ships are being fully exploited in Russia."

Here are some pertinent passages from the report entitled "Soviet Shipbuilding"—"The 17 major shipbuilding yards in the USSR are widely dispersed." "The development of shipyards in the USSR since WW II reflect a high level of government appreciation of maritime power." "Their shipbuilding programs, the construction and modernization of shipyard facilities, and all R&D efforts relating to ship design, shipbuilding technology and naval weapons systems are centrally planned, controlled and funded by the Ministry of Shipbuilding." ". . . the development of each yard is planned with specific shipbuilding programs in mind." "Generally, the central planning of the shipbuilding program, shipyard facilities, and the manufacture of components for ships has resulted in ships, both naval and merchant, that are highly standardized and that have been designed to facilitate production. This designing for producibility is encouraged by a separate design bureau for each type of ship, usually located at or near the lead yard for that particular ship type. The Soviet designers and draftsmen have become specialized, and because of this, have gained a very intimate knowledge of their assigned ship type. These designers have shown themselves to be clearly competent and not at all tied to past ideas and practices. Although their designs are noted for simplicity of operation and maintenance, they are capable of very sophisticated concepts and have made great achievement in the fields of operational automation for manpower savings. In order to take full advantage of the increased rate of material flow that results from automated and improved methods of processing and fabricating steel, Soviet shipbuilders have adopted techniques for cutting down (building) ways time and thereby increasing the number of ships turned out without increasing the number of ways. . . ."

Interestingly, Soviet shipbuilding practices place heavy emphasis on series production of standard ships, reduced labor intensity, ship design for producibility, standardization of components, production-oriented supervisory and labor force, and other features which are implicit in the Nixon Administration's proposed maritime plan.

## Three Volumes Of AWO's Waterway Economics Reprinted For General Distribution

The American Waterways Operators, Inc. has published and is making available for general distribution a reprint in pamphlet form of 11 issues of Volumes II through IV of Waterway Economics, the Association's bulletin of fact and interpretation.

The 11 issues making up Volumes II, III, and IV were originally published individually during the period of October 1967 through October 1969. They cover the subjects of "Waterway User Charges and Marginal Cost Pricing"; "Waterway Transportation and Natural Resources for a Growing Economy"; "The Benefit-Cost Ratio, the Rate of Interest, and Water Resource Policy"; "The Coming Transportation Crunch and the Potentials of Barging Technology"; "The Multi-State Community of Interest in a Water Resource Project"; "The Inland Waterways and Economic Growth"; "Coming Role of Barging in Marine Container Operations"; "Potentials of the 'Willing Partner' Program"; and "Inland Shipbuilding for the Exacting Standards of the Rivers."

Waterway Economics is designed for particular use by academicians working in the fields of economics and transportation, and economists and research consultants working in businesses and foundations. Distribution of the monthly issues are limited to this group and to members of The American Waterways Operators, Inc.

Numerous publishers, editors, and reporters for publications interested in water transportation have expressed a desire for this material. It was not made available to such persons upon original publication because the Association did not desire to have it used for a general publication upon first issuance since doing so might have inhibited its use by teachers and researchers for whom it was originally designed.

The pamphlet is the second reprint of Waterway Economics. The first contained eight issues comprising Volume I and was published in September 1968.

Copies of Waterway Economics, Volumes II through IV may be obtained by writing The American Waterways Operators, Inc., 1250 Connecticut Avenue, Suite 502, Washington, D.C. 20036. Single copies are free.

**SIMULATING SEA CONDITIONS:** Simulating operating conditions on the high seas, a 2,000-kilowatt emergency power unit is tilted 15 degrees on a test rack at the La-Grange, Ill. plant of Electro-Motive Division of General Motors. The unit is one of four such emergency power units scheduled for installation aboard the U.S. Navy's newest nuclear aircraft carrier Nimitz. The unique testing facility permits tilting of the engine 15 degrees to either port or starboard, and five degrees fore and aft. Under such conditions, the unit must start and assume load in 10 seconds, and accept sudden large increments of load with little deviation in speed and voltage. The total test calls for 1,000 hours for endurance under varying power loadings.


**ASTILLEROS ESPANOLES LAUNCHING:** The Ocean Lion, second oil tanker in the 151,000-dwt series currently on order at the Cadiz yards of Astilleros Espanoles, S.A., was launched recently. The new tanker measures 945 feet in overall length, 150 feet in breadth and 75 feet in depth. She is powered by a Manises-Sulzer model 12 RD-90, 27,600-bhp main engine, built at the Manises yard in Valencia of Astilleros Espanoles, S.A. The mooring, maneuvering and steering gear were built at the same yard. The Matagorda, Reinosa, and Seville yards also contributed to the construction of this vessel by supplying a variety of equipment. The owners, Polar Star Navigation Corporation, were represented at the launching by their president, **Theodore Teryazos.** His wife, **Mrs. Marielle Teryazos,** served as sponsor of the vessel. Guests were welcomed by the Hon. **Francisco Aparicio Olmos,** president of Astilleros Espanoles, S.A.; **Antonio de Eugenio y Orbaneja,** vice-president and member of the board; **Manuel G. Gil de Bernabe,** manager of the shipbuilding division; **Luis Delgado Lejal,** yard manager, and other high-ranking officials of the company.

## Giant Crane Ordered For Port Of St. John Container Terminal

A giant crane worth more than $1,000,000 has been ordered for the new $4,000,000 container terminal under construction at the port of Saint John, New Brunswick, Canada. The announcement was made by **Michael B. Northen,** executive vice-president of Associated Container Transportation (USA), or ACT (USA). ACT will be the terminal's major tenant when it inaugurates its North America/Australia/New Zealand service in 1971.

The crane was ordered by Brunterm, a new company formed by the terminal's major operators—Canadian Pacific Railway and McLean Kennedy—to handle the new facility. Both the crane and the terminal are scheduled to be ready for operation by April 1971. Scottwood Works of Vickers Ltd., England, will build the crane.

The 218-foot high, gantry-type, single-lift crane—approximately as tall as a 21-story building—can operate on a three-minute cycle, unloading one container and loading another in a total of three minutes. The crane's normal capacity will be 20 containers per hour, a total of 240 containers within a 12 hour period. It will have a 40 long ton capacity for containers and be equipped to handle up to 45 tons of general cargo per lift.

The new terminal is expected to make a substantially favorable economic impact on the New Brunswick area. An outstanding feature will be the terminal's capacity to move containers directly from the containerships to waiting railroad flatcars.

## SNAME Gulf Section Hears Three Papers During Annual Winter Meeting In Houston

Shown at the Gulf Section meeting in the Warwick Hotel, left to right: Dr. **Edward F. Group Jr.,** author; **John B. Muir,** author; **James R. Maumenee,** Alabama Dry Dock & Shipbuilding Corp., chairman of Gulf Section; **Donald L. Frisby,** author; **James J. Henry,** J.J. Henry Company, Inc., national president of SNAME; **Robert X. Caldwell,** Humble Oil & Refining Co., Section vice-chairman; and **Henry Fray Jr.,** Bailey Corporation, secretary-treasurer of the Section.

The annual winter meeting of the Gulf Section of The Society of Naval Architects and Marine Engineers was held in Houston, Texas, February 20, 1970. The membership was treated to a harbor tour of Houston aboard the M.V. Sam Houston, followed by a tour of the Armco Steel Plant, and topped off by a luncheon—courtesy of Armco.

The afternoon began with a very lively, interesting and informative technical session, meriting a larger attendance than previous years.

The following papers were presented: "Protective Coatings For Offshore Structure" by Dr. **Edward F. Group Jr.,** Enjay Chemical; "Material For Modern Marine Technology" by **Donald L. Frisby,** senior market specialist, Armco Steel Corporation, Houston; and "Remotely Controlled Cargo System on the Esso San Francisco" by **John B. Muir,** senior project engineer, Humble Oil & Refining Co.

The meeting was preceded by the announcement of nominations for 1970-1971 officers: **Arthur Stout,** general manager, Todd Shipyard, Houston, chairman; **Lewis Johnson II,** manager marine equipment, Texas Gulf Sulphur, Houston, vice chairman-West Area; Comdr. **Ralph C. Hill,** United States Coast Guard, Chief, Merchant Marine Technical Branch, New Orleans, vice chairman-Central Area; **Joseph Miller,** principal surveyor, American Bureau of Shipping, Mobile, Ala., vice chairman-East Area; and **Henry Fray Jr.,** Bailey Corp., New Orleans, La., secretary-treasurer.

Following the supper, **James J. Henry,** national president of the Society, briefly informed the 350 in attendance of headquarter's activities and future plans.

The preview showing of a film of the SS Manhattan "Through the Northwest Passage" (Humble Oil & Refining Co.) captivated everyone with the enormous undertaking from inception to completion. The historical and economic significance of this passage through the ice fields had a great impact on all in attendance.

## Jeffboat Launches Mammoth Pipe-Laying Barge To Have Living Quarters For 213-Man Crew

Built for Houston Contracting Company, the new barge measuring 370 feet by 85 feet by 24 feet was designed to lay oil and natural gas pipelines in any seas of the world.

Jeffboat, Inc., Jeffersonville, Ind., launched its biggest yet on February 19. Announcing the 370-foot by 85-foot by 24-foot ocean-going pipe-laying barge's launch, Jeffboat president **R.W. Naye** noted, "The barge, even larger than the LSTs built here during the war, represents another step in our continuing program of producing vessels for ocean as well as inland waterways commerce." Jeffboat, part of the Inland Waterways Services Division of Texas Gas, is known as the largest shipyard on the country's vast network of inland waterways.

Designed to lay oil and natural gas pipeline in any of the seas of the world, the barge will house its 213-man crew in living quarters on the second deck. As part of its life support system, it carries its own water purification and desalination equipment. It also sports a full galley and dining area, a small hospital, and two lounges equipped with color television. The air-conditioning equipment has sufficient capacity to withstand the rigors of working in the often 100-degree weather in the Persian Gulf area. The heating plant will allow the barge to work in even the coldest regions of the globe.

On the barge's 31,000-square-foot main deck, pipeline will be aligned and moved through five welding, treatment and inspection stations before it moves down the stern ramp and feeds onto a 300-foot submerged "stinger" which will ease the pipe into place on the ocean bottom.

Supporting the construction operations will be two 100-ton cranes on the forward deck to remove pipe from supply barges and feed it into the line. Across the stern are the radio and generator shacks and the control tower. Directly behind them will be an elevated heliport, providing the barge with its only link to land during the long weeks of construction.

Immediately after the side launching, the barge was moored at Jeffboat's fitting-out dock. Two months' work there will complete the barge's interior and deck, readying it for an April delivery trip to Louisiana. It will travel as part of an American Commercial Barge Line Company tow, easily clearing the locks and channels of the Ohio and Mississippi with its 85-foot width and four-foot draft. In Louisiana, it will be delivered to the owners, Houston Contracting Company.

## Six Freedom Vessels Bring IHI Total To 67

IHI (Ishikawajima-Harima Heavy Industries Co., Ltd.) of Japan recently received orders for six 14,800-dwt Freedom vessels. One vessel was ordered by Wah Kwong & Co. (H.K.) Ltd., Hong Kong, one by the Northern Freedom Shipping Co., Liberia, two by Pegasus Ocean Services Ltd., and two by A. Halcoussis Shipping Ltd., both of Greece.

The vessels will be built at IHI's Tokyo and Nagoya shipyards with deliveries scheduled for the latter half of 1971 through mid-1972.

With these orders, the total number of Freedom vessels ordered by foreign shipowners from IHI reaches 67.

Freedom vessels are being mass-produced at IHI's Tokyo and Nagoya shipyards. However, the construction work of Freedoms at the Tokyo shipyard will be shifted to the Nagoya shipyard in mid-1971 when building of the Fortune vessel, a new standard type multi-purpose cargo ship developed by IHI in collaboration with G.T.R. Campbell (International) Ltd. of Canada, will be started there.

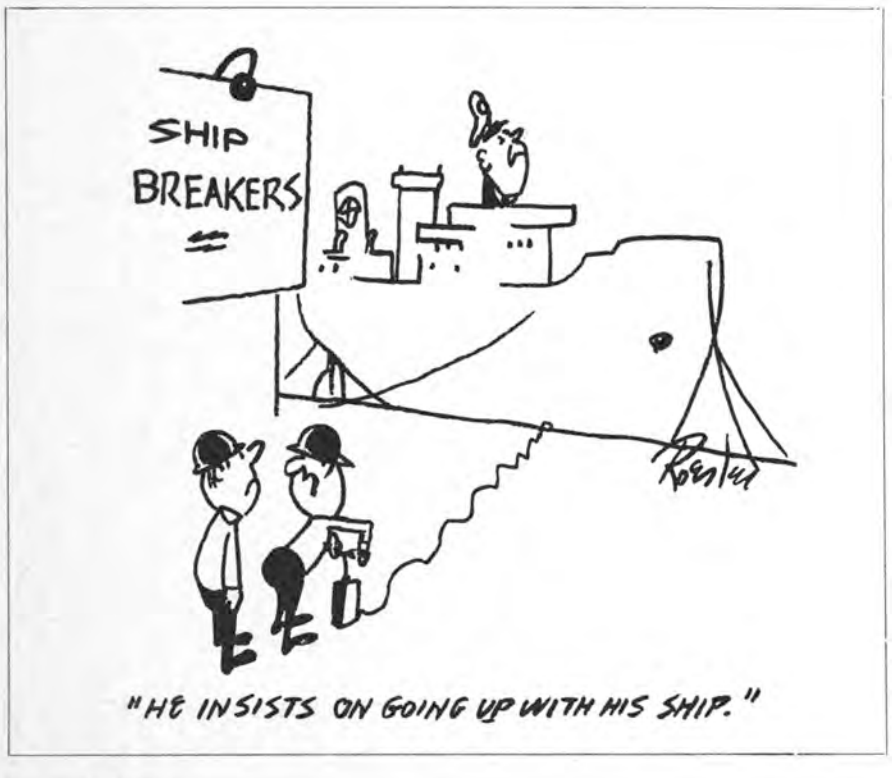
IHI is also planning to build Freedom vessels at the Jurong Shipbuilders Private Ltd., IHI's new joint company in Singapore.

Principal characteristics of the six Freedom vessels are: deadweight, 14,800 tons; gross tonnage, 9,600 tons; length, 440 feet; breadth, 65 feet; depth, 40 feet; draft, 30 feet; main engine, IHI-S.E.M.T. 12PC2V-type Pielstick diesel engine with an output of 5,130 bhp. The service speed of the Freedom vessel is 13.6 knots.

## Williams Dimond Appoints Luckenbach

Williams, Dimond & Co., prominent 108-year-old West Coast steamship agency, representing vessels trading with six continents, announced the appointment of Luckenbach Steamship Company as its East Coast agent.

Luckenbach, celebrating its 120th birthday, has operations in 12 East Coast Atlantic and Gulf ports.




"HE INSISTS ON GOING UP WITH HIS SHIP."

## Captain Marcus To Chair Advisory Board Marine Index Bureau

**Bruno J. Augenti,** president of the Marine Index Bureau, Inc., New York, N.Y., an industry-wide agency established in 1937 which records illnesses and injuries of seamen, has announced the appointment of Capt. **Edmund Marcus,** manager of industrial relations, Gulf Oil Corporation, as the new chairman of the advisory board of the bureau.

Two new appointments to the board, **John N. Dempsey Jr.,** vice-president, States Marine Lines, Inc., and Capt. **Adrian P. Spidle,** vice-president, Prudential-Grace Lines, Inc., were also announced by the bureau's president.

Capt. **Marcus** replaces **Walter H. Husted** of States Marine-Isthmian Agency, Inc., who recently retired from the maritime industry. Other members of the bureau's advisory board include: **Hubert F. Carr,** Moore-McCormack Lines, Inc.; **D. H. Klinges,** Calmar Steamship Co.; **George W. Kunz,** American Export Freight, Inc.; Capt. **R.N. LePage,** Farrell Lines, Inc.; **George A. Peterson,** United States Lines, Inc.; and **C. Eugene Spitz,** Sea-Land Service, Inc.

In making the two announcements, Mr. **Augenti** stated, "I am certain that the new chairman and the two newly-elected members will greatly enhance the Marine Index Bureau's efforts to better serve the American Maritime Industry."

## Engelhard Industries Appoints Cooling VP

**W. Colebrook Cooling**

**W. Colebrook Cooling** has been appointed a vice-president by the Engelhard Industries Division, Engelhard Minerals & Chemicals Corporation.

Mr. **Cooling** is manager of Engelhard's instruments and systems department, which produces cathodic protection systems for ships, boats, and industries where corrosion is a problem, and precision thermocouples for a wide variety of industries.

## Cleveland Tankers Names William Maki Marine Superintendent

**William A. Maki** has been named marine superindendent of Cleveland Tankers, Inc., according to **John F. Wedow,** president of the Cleveland-based firm.

Cleveland Tankers, the largest carrier of petroleum products on the Great Lakes, is a wholly-owned subsidiary of Ashland Oil, Inc. which has headquarters in Ashland, Ky.

In his new post, Mr. **Maki** will report directly to Cleveland Tanker's senior vice-president **Carl H. Stuber.** Mr. **Maki's** responsibilities will include supervision of the maintenance and repair of the company's vessels as well as vessel construction as it pertains to company specification and meeting regulations of the marine industry.

A 1945 graduate of the United States Merchant Marine Academy, Kings Point, L.I., N.Y., Mr. **Maki** recently retired from the Coast Guard after more than 20 years of service. During his tenure he held such positions as Assistant to Officer in Charge, Marine Inspection, Long Beach, Calif.; Chief Engineer of the United States Coast Guard cutters Winnebago and Matagorda; and Assistant Chief, Merchant Marine Safety Division, Cleveland.

A native of Plainsville, Ohio, Mr. **Maki** is a member of The Society of Naval Architects and Marine Engineers.

## Baldt Anchor Names Linnenbank President

C. Donald Linnenbank

**C. Donald Linnenbank** has been named president of Baldt Anchor and Chain Corporation, a subsidiary of Baldt Corporation (OTC), New York.

Mr. **Linnenbank,** who has been associated with Baldt Anchor and Chain since 1934, has served in various executive capacities including production manager, assistant superintendent, superintendent, purchasing agent, and general manager.

Mr. **Linnenbank** attended the University of Pennsylvania's Wharton School for Business Administration and the Drexel Institute of Technology's Mechanical Engineering School. He has also taken various business and metallugical courses at Temple University.

Baldt Anchor and Chain, headquartered in Chester, Pa., is the largest United States manufacturer of heavy-duty anchors and anchor chains which it markets worldwide.

**Edgar J. McGuiness,** formerly managing director of the subsidiary, will continue in a consulting capacity with the company. He has been associated with Baldt for 40 years.

## U.S. Forgecraft Names Jack Mathews To Head New Equipment Div.

Jack D. Mathews

United States Forgecraft Corporation of Fort Smith, Ark., Division of ISC Industries, Inc., has announced the formation of Mathews Equipment Division to manufacture and market the Math-Matic line of materials—handling and lifting equipment.

Manufacturing facilities are located in Fort Smith, with international sales and warehousing located in Chicago, Ill. **Jack D. Mathews,** vice-president, heads the division. Mr. **Mathews** was formerly with J.C. Renfroe and Sons, Inc., of Jacksonville, Fla.

## Contract For 186-Foot Tug-Supply Vessels To Stewart & Stevenson

Stewart & Stevenson Services, Inc., of Houston, Texas, has been awarded a major contract by Penrod Drilling Co. of Dallas for the construction of two huge tug-supply vessels.

The vessels have been designated as the Mastadon and the Mammoth and will be 186 feet long with a 38-foot beam and 16-foot draft. They will be United States Coast Guard certificated and ABS-classed for worldwide service.

Each vessel will be twin-screw powered by General Motors diesel engines and will be rated at 5750 hp. They will also be equipped with two speed reverse and reduction gears, bow thrusters, towing winches, and full anchor handling capability. Ships service electricity will be provided by two Stewart & Stevenson GM Detroit diesel generator sets.

Quarters will be provided for 25 men and each vessel will have a fuel carrying capacity of approximately 185,000 gallons. Construction on the vessels is presently under way at Mangone Shipbuilding Company in Houston.

## World's Largest Catamaran Ferry In Service

Rokko Maru, 2,700-gt catamaran ferry, making crossing from Kobe to Takamatsu, Japan.

The Rokko Maru, a 2,700 gross ton catamaran ferry, the world's largest, built by Nippon Kokan, has entered service between Kobe and Takamatsu on Japan's Inland Sea.

**Hiroo Ikematsu,** NKK's New York naval architect, said the new vessel, built for Kansai Steamship Co., Ltd., is about five times larger than most catamarans operating in Japan, which average 500 gross tons.

The Rokko Maru can accommodate the equivalent of 42 heavy trucks, 10 light trucks, 50 automobiles, and 580 passengers. Two areas on the main deck and one on the passenger deck collectively provide 2,820 square yards for vehicle loading. The main deck has an area of 1,830 square yards, equivalent to an athletic field with a 660-foot track. Facilities include a deluxe observation lounge above the passenger deck and a spacious economy section with snack counter service.

Principal characteristics of the Rokko Maru are as follows: overall length, 274 feet 1-⅜ inches; overall length bpp, 255 feet 10-⅞ inches; breadth molded, 82 feet ¼ inch; single hull breadth molded, 22 feet 11-⅝ inches; depth molded, 26 feet 3 inches; draft molded, 15 feet 4¼ inches.

The distance between Kobe, a major port city on Honshu Island, and Takamatsu on Shikoku Island, is 70 miles. The new ferry, with a cruising speed of 19 knots, is the fastest ship now traveling between the two islands. She is powered by two Daihatsu 8DSM-26 diesel engines, one in each hull, which develop 5,760 hp at 695/185.5 rpm.

Mr. **Ikematsu** said the catamaran design offers several advantages compared with conventional single hull ferries. Among these are exceptionally spacious deck space due to the wide platform afforded by the twin hull design; excellent maneuverability because of the shallow draft and the wide separation between the two engines; superior stability because the twin hull design has less wave resistance than conventional vessels; high service speed compared with main engine horsepower and gross tonnage; and ease of loading and unloading vehicles afforded by the inclined bow ramp.

## Hankins To Head Columbian Rope Chicago Operations

**William L. Hankins Jr.**

**Frank Metcalf,** president of Columbian Rope Company, Auburn, N.Y., has announced the appointment of **William L. Hankins Jr.** as manager of the Chicago district office.

Mr. **Hankins** assumes the post in place of **Orrin H. Tyberg,** recently deceased. He has been Chicago branch manager of the Plymouth Cordage Division of Columbian Rope for the past seven years. The Chicago branch serves the midwest from Ohio to Colorado and from the Kansas-Oklahoma line to the Canadian border.

## Prudential-Grace Names Sands VP

**Frederic P. Sands** has been named vice-president, advertising and public relations, for Prudential-Grace Lines, Inc., it was announced by **Spyros S. Skouras,** president.

Mr. **Sands,** who joined Grace Line in 1936, was responsible for its advertising and public relations programs from 1957 through 1968. He was elected a vice-president in 1964. In 1969 he became assistant to the president of Grace Line and continued to handle public relations. He held this position until January of this year, when Prudential Lines acquired Grace Line and the new company was formed.

## Philadelphia SNAME And IEEE Joint Meeting

Principals at the Philadelphia meeting shown above, left to right, are: LCDR. **Jack Lewis,** discussor; **G.A. Johnson,** discussor; **Kent C. Thornton,** chairman of the SNAME Philadelphia Section; **Richard L. Koch,** author; **Thomas P. Campbell,** coordinator of the joint meeting; **A.C. Brown, S.S. Morse,** and **D.B. Hoover,** discussors.

The Philadelphia Section of The Society of Naval Architects and Marine Engineers held a joint meeting with the Marine Group, Philadelphia Section, Institute of Electrical and Electronics Engineers on February 20, 1970.

The paper presented at this meeting was entitled "Electrical Transmission Systems for Arctic Tankers," and was presented by **Richard L. Koch,** marine systems engineer, General Electric Co., Schenectady, N.Y. This paper prompted a great deal of interest and formal discussions were presented by **A.C. Brown,** of the J.J. Henry Co.; **S.S. Morse,** Atlantic-Richfield Co.; **G. A. Johnson,** United States Army Corps of Engineers; **D.B. Hoover,** Westinghouse Electric Corporation; **Jack Lewis,** LCDR, United States Coast Guard; and **C.E. Heil,** Atlantic-Richfield Co. The coordinator for this meeting was **Thomas P. Campbell,** head-electrical engineer, Sun Shipbuilding & Dry Dock Company.

The paper covered four candidate electrical transmission systems considered for this application. The detail performance of two of these systems, AC Variable Voltage and AC-Rectified-DC, are covered in the paper along with the analog computer program used to simulate the operation of the AC-Rectified-DC system.

**Fred Praisman,** chairman, Philadelphia Section, IEEE Marine Group (left) is shown with **Kent C. Thornton,** chairman of the Philadelphia Section of SNAME.

Mr. **Koch** is a graduate of the University of Idaho with a degree in electrical engineering. He served in the United States Navy during World War II and has held several engineering positions in the General Electric Company prior to his present assignment as marine electrical systems engineer in the marine and defense facilities sales operation of the General Electric Company in Schenectady, N.Y.

## Talbot Appointed Staff Engineer For Kelvin Hughes

**Peter M. Talbot** has been appointed staff engineer for Kelvin Hughes Division, Smiths Industries, Inc., a British-based marine electronics firm with North American operations headquartered at Woburn, Mass.

Mr. **Talbot** will be responsible for systems engineering and new product development for the company's North American operations, according to **G.M. Benas,** Division vice-president.

Before joining Kelvin Hughes, Mr. **Talbot** was a senior engineer with the Raytheon Company; and before that he was with National Radio Company.

A graduate of Tufts University with a B.S.E.E. degree, Mr. **Talbot** also served four years as a first lieutenant in the United States Air Force.

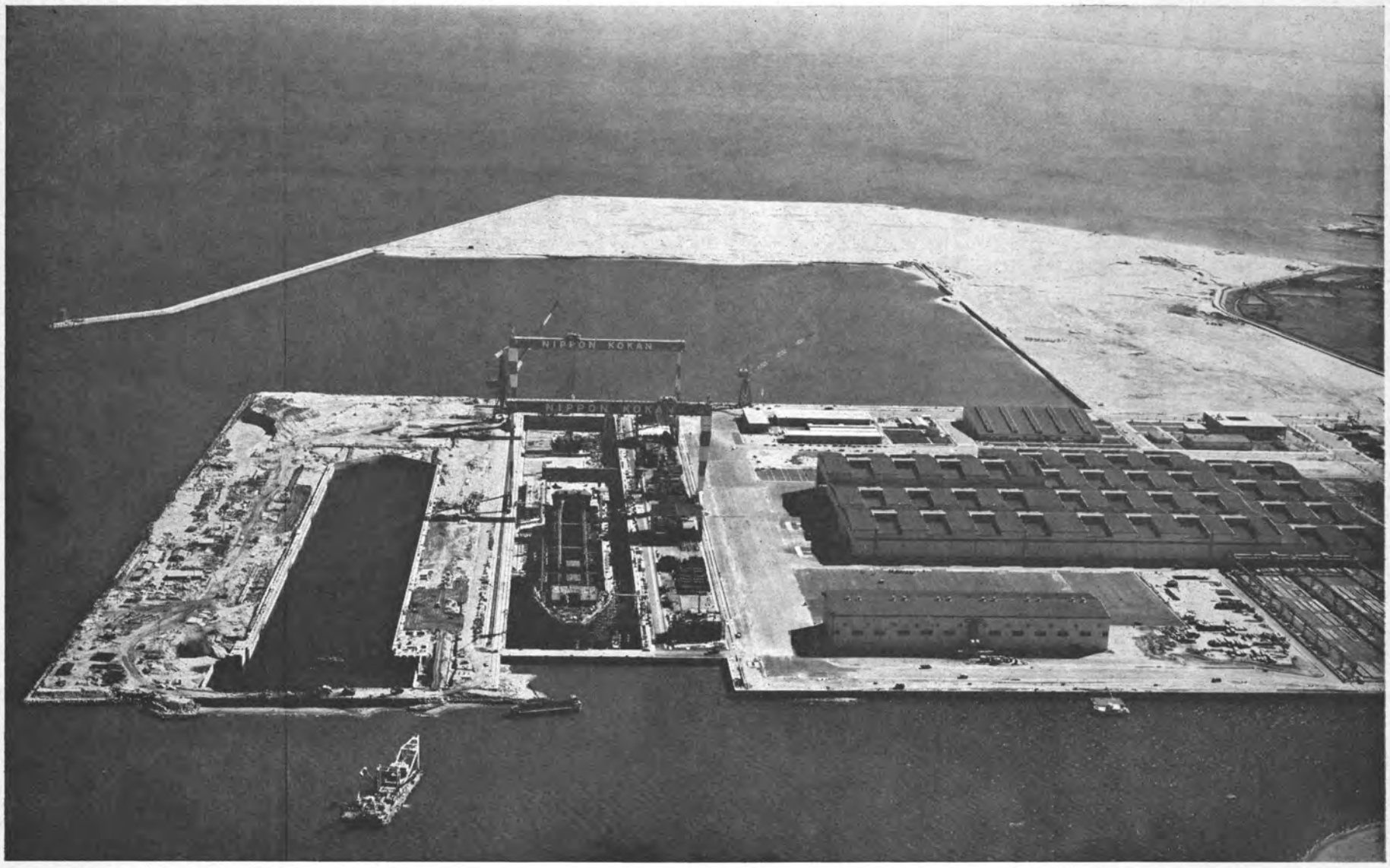
Kelvin Hughes is a leading manufacturer of radar, loran, and marine communications equipment for commercial and pleasure vessels, and has sales and service facilities located in key ports throughout North America and around the world.

## Lykes-Youngstown Appoints Bartle

**Frank A. Nemec,** president of Lykes-Youngstown Corporation, has announced the appointment of **Thomas P. Bartle Jr.** as director of corporate communications, a new position.

Headquartered in New York, Mr. **Bartle** will be responsible for shareholder, financial, and public relations, corporate marketing and advertising for all divisions of the company.

## Nippon Kokan announces the completion of ——




# JAPAN'S MOST VERSATILE SHIPYARD

## Tsu Shipyard

### 1st launching December 1969

Yet just a little over two years ago the site of the versatile new Tsu Shipyard with a 500,000DWT capacity building dock and a 375,000DWT repair dock was part of the sea. Nippon Kokan technology spearheaded reclaiming of the land, building the shipyard and launching the first vessel—all in the fantastic time of only 25½ months!

The new Tsu Shipyard significantly boosts the far-ranging capabilities of Nippon Kokan in shipbuilding.

Tsu specializes in mammoth, cost-saving ore/oil carriers, ore/bulk/oil carriers and super tankers of 100,000DWT and up, utilizing Japan's largest and most efficient docks—one for building, the other for repairing and remodeling.

For shipbuilding versatility at its very best, the symbol of efficiency and dependability is Nippon Kokan—Japan's only steelmaker-shipbuilder.

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## McLintock To Retire From Kings Point

Rear Adm. **Gordon McLintock,** Superintendent of the United States Merchant Marine Academy since April 1, 1948, will retire from government service on June 15, 1970.

Admiral **McLintock's** retirement brings to a close 50 years of active association with the sea that started at the age of 17 in the British Merchant Navy.

The Academy under his supervision has been nationally accredited and has achieved the stature and prestige which led the United States Congress to establish it on the same basis as the Academies at West Point and Annapolis and the Air Force Academy. He was the guiding force behind the construction of the United States Merchant Marine Memorial Chapel at Kings Point and the collection by public subscription of nearly three quarters of a million dollars to build same. A second major building was dedicated December 1968 when the new three-story library was completed.

Born in Durham, England, the Kings Point Superintendent began his career as a cadet and rose successively through the various officer grades to master, obtaining his unlimited master's license at the age of 22 and commanding a merchant vessel in the ocean trade at the age of 24.

RAdm. Gordon McLintock

Admiral **McLintock** served for 12 years with the Bureau of Marine Inspection and Navigation. He was Chief Inspection Officer of the Bureau of Training of the United States Maritime Commission for five years before coming to the Academy in 1948. He received his first commission in the United States Naval Reserve in 1928.

Admiral **McLintock** was awarded the Honorary Degree of Doctor of Laws by Adelphi University and holds American and foreign decorations. He was the first president of the American Institute of Navigation and chairman of the Committee on Interplanetary Navigation. In 1961 he was elected president of the International Cargo Handling Association. He presently heads the Defense Supply Association of New York.

Admiral **McLintock** is a member of the Council of American Master Mariners, American Legion, and Military Order of World Wars. His term of 22 years is the longest of any Federal Academy Superintendent.

## E.N. Dickson Named To Head Vickers Office In Washington, D.C.

Edward N. Dickson

Sperry Rand Corporation's Vickers Division has announced the appointment of **Edward N. Dickson** to manager of its Marine and Ordnance Division district office in Washington, D.C.

Prior to this appointment, Mr. **Dickson** served as sales manager of the Tulsa, Okla. district office for Vickers Mobile Division.

Mr. **Dickson** is an aeronautical engineering graduate of the University of Illinois and a member of the Society of Automotive Engineers. He joined Vickers in 1958.

## ESCAPE SCUTTLES

### 18″ Steel

**Quick Acting**

Complete with coaming

Wheel control from above and below.

**$125.00 ea.,** F.O.B. Portland

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Submarine Type

## PROPULSION MOTORS AND GENERATORS

**ELLIOTT MOTORS,** 1362 HP, 415 Volts DC, 2585 Amperes, Design 28AN02.

**ELLIOTT GENERATORS,** 1122 KW, 720 RPM, 415 Volts DC, 2705 Amperes, Design 37C02.

**GENERAL ELECTRIC MOTORS,** 1375 HP, 415 Volts DC, 2600 Amperes, Type MCF.

**GENERAL ELECTRIC GENERATORS,** 1100 KW, 750 RPM, 415 Volts DC, 2650 Amperes, Type MCF.

---

## ELECTRIC MOTORS

### 230 VOLTS D.C.

**1—250 HP, G.E.,** Type CY, Form HJ, Model 24G, 1200 RPM Horizontal, 2 B.B., Shunt Wd.

**2—220 HP, G.E.,** Type CDM—1348S, Form HA, Model 25G 339, 1800 RPM, Stab. Sh. Wd. Horizontal, 2 B.B.

**6—100 HP, Westinghouse,** Type SK, FR. 163, Style 1B4631 1150 RPM, Shunt Wd. Horizontal, 2 B.B.

**2—55 HP, Electro-Dynamic,** FR 25-SL, 550 RPM, Compound Wound, Single Ball Bearing. Originally for high pressure Air Compressor.

**1—40 HP, Allis-Chalmers,** 1750 RPM, Compound Wound, Horizontal, 2 B.B.

**1—40 HP, G.E.,** Type CDM, FR 95, Model 35A1663, 1800 RPM, Compound Wound, Horizontal, 2 B.B.

**6—15 HP, Allis-Chalmers,** 1225/1750 RPM, Stab. Sh. Wd., Type EB90, Horizontal, 2 B.B.

**2—10 HP, Allis-Chalmers,** 1225/1750 RPM, Compd. Wd., Type EB80, Horizontal, 2 B.B.

**4—9.3 HP, Westinghouse,** 640/852 RPM, Type SK, FR. 93.

**70—WESTINGHOUSE 50 HP**

230 Volts DC, 600 RPM, Type CK, Frame 9, Compound Wound, 181 Amperes, Double Shaft, Totally Enclosed—Waterproof, Horizontal, Approximate Weight 2000 lbs.

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**$239.50 each**

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# MARINE DIESEL GENERATORS

**SUPERIOR,** 10 KW, 120 Volts DC.

**HERCULES DOOC,** 10 KW, 120 DC, Radiator cooled.

**CATERPILLAR,** radiator cooled, 15 KW, 120/240 Volts DC.

**GM,** 2055, 25 KW, 120/208/3/69.

**HERCULES,** DJXC, 25 KW, 120 DC.

**CUMMINS A1,** 30 KW, 120 DC.

**MURPHY,** Model ME 66, radiator cooled, 75 KW, 120/240 Volts DC.

**CATERPILLAR DIESEL ENGINE,** Model D17000, 167 HP, 900 RPM, with Louis-Allis Generator, 85 KW, 220/3/60.

**LORIMER F5SS,** 75 KW, 120/240 DC, radiator cooled.

**COOPER-BESSEMER,** JS-5, 250 KW, 240 DC.

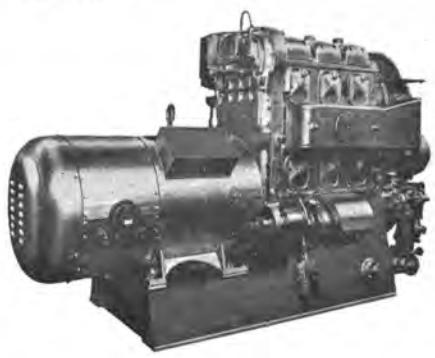
**LORIMER 100 KW,** 450/3/60 Volts DC.

**BUDA 6DHG691,** 60 KW, 120 Volts DC.

**SUPERIOR GBD-8,** 100 KW, 240/120 Volts DC.

**GM-3-268A,** 100 KW, 240/120 Volts DC.

**SUPERIOR,** Model 1DB-8 100 KW, 450/3/60.



**GENERAL MOTORS** Model 3-268A, 152 BHP, 1200 RPM, with 100 KW Generators, 450 Volts AC, 3 phase, 60 cycles.

**GM 8-268A,** radiator cooled, air start with Westinghouse Generator, 250 KW, 440/3/60, complete with switchboard.

**GENERAL MOTORS DIESEL ENGINES,** Model 8-278, with 500 KW Generators, 115/230 DC.

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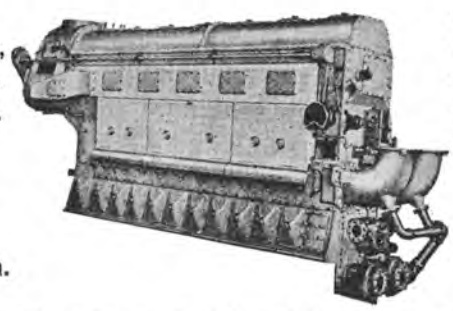
# 8 FAIRBANKS-MORSE MARINE DIESEL ENGINES

**4-Model 38D8-⅛,**
**9 Cylinders, 1600 HP,**
**720 RPM, 8½″ Bore,**
**10″ Stroke, Air Start.**

**Condition:**
***Used, Very Good***

**$5950 ea.**



**4-Model 38D8-⅛,**
**10 Cylinders, 1600 HP,**
**720 RPM, 8½″ Bore,**
**10″ Stroke, Air Start.**

**Condition:**
***Used, Very Good***

**$7950 ea.**

Take advantage of these well priced Engines, for use as standby Power Units and/or a Self-contained Warehouse of spare parts.

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# AIR COMPRESSORS

**INGERSOLL-RAND,** 50 CFM, 150 PSI, 20 HP, 440/3/60.

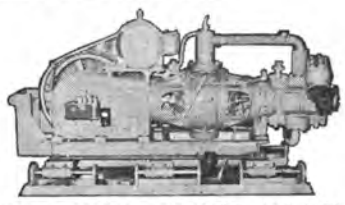
**INGERSOLL-RAND,** 150 CFM, 600 PSI, Model 75, with Westinghouse Motors, 75 HP, 230 DC.

**INGERSOLL-RAND,** 194 CFM, 110 PSI, 40 HP, 230 DC.

**INGERSOLL-RAND,** 50 CFM, 600 PSI, Model 30, with Westinghouse Motors, 15 HP, 230 DC.

**CHICAGO-PNEUMATIC,** 161 CFM, 100 PSI, 40 HP, 230 DC.

**WESTINGHOUSE** Air Brake, 246 CFM, 140 PSI, with 50 HP Motors, 440/3/60.



**WORTHINGTON,** 175 CFM, 125 PSI, with 50 HP Motors, 440/3/60.

**JOY Air Compressors** Class WG82, 2-stage rated 100 CFM at 300 PSI, water cooled, size 7″ x 3⅜″ x 7″ Typical Shop #75652, with Reliance motor, 30 HP, 220/440/AC/3/60.

**STEAM AIR COMPRESSORS Westinghouse Air Brake Co.,** Size 9½ x9x10 Vertical.

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# TURBINE GENERATORS

**JOSHUA HENDY** Turbines, 300 PSI, temperature 550° F with Westinghouse Generators, 300 KW, 120/240 Volts DC.

**WORTHINGTON** Turbines, Form S-4, 440 PSI, 740°F, driving on same common shaft a 250 KW Generator, 440/3/60, and a 90 KW Generator, 125 Volts DC.

**WORTHINGTON** Turbines, Form S-4, 440 PSI, 740° F, with Crocker-Wheeler Generators, 300 KW, 120/240 Volts DC.

**DE-LAVAL** Turbines, 450 PSI, 750° F, with Crocker-Wheeler Generators, 300 KW, 120/240 DC.

**ALLIS-CHALMERS,** 440 PSI, 740° F, with Allis-Chalmers Generators, 300 KW, 120/240 DC.

**TERRY** Turbines, Type TM5, 440 PSI, 750° F, with Crocker-Wheeler Generators, 300 KW, 120/240 DC.

**GENERAL ELECTRIC** Turbine, Type FN3-FN24, Steam 265#G., Serial 54110, with G.E. Generator, 750 KW, 440/3/60, Frame 985 Y, Serial 580447.

**2—G.E. DORV** Turbines, with G.E. Generators, 200 KW, 440/3/60.

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**Motors:** Each leg (4 tot.) 7½ HP, 230 DC.—

**Power:** Diesel electric (DC)

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## Sun Ship Buys Swedish Data Ship Design System

Kockums shipyard of Malmo, Sweden, have sold their "Styrbjorn" (Steer Bear) data programme system to the Sun Shipbuilding and Dry Dock Company, Chester, Pa.

The system, said to be one of the most advanced of its kind in the world, gives instructions, directions, and designs from the initial stages to the final assembly of the ship. It is reported to be of particular value for the working out of complicated geometrical forms. Employing a numerical technique, it is also used on hull designs, shell plating, punched tapes for numerically-controlled cutting, steel structure designs, and as a guide to ordering of materials, etc.

Application of the system need not be limited to shipbuilding, say Kockums. Adaptation for use in the textile, motor, building, and other industries—any dealing with three-dimensional forms—would be perfectly feasible.

## Commonwealth Oil Names Robert Gamble Manager Supply And Transportation

**Robert S. Gamble** has been named manager of raw materials procurement in the supply and transportation department of Commonwealth Oil Refining Company, Inc., San Juan, P.R. During the past two years, Mr. **Gamble** has served as manager of technical administration at Corco.

Before joining Corco, Mr. **Gamble** had worked with affiliates of Esso and Caltex. For eight of his 16 years with Caltex, he resided in England, Spain, and Lebanon, where his duties included planning and engineering of construction projects and operation of manufacturing facilities.

## Foster Wheeler Corporation Promotes Thomas Schroppe

Thomas Schroppe has been named manager of marine engineering for Foster Wheeler Corporation, Livingston, N.J. He started with the company in 1962 as a proposal engineer, then became supervisor of proposal engineering in 1965.

Mr. **Schroppe** holds a bachelor of science degree in marine engineering from New York State Maritime College and is a member of The Society of Naval Architects and Marine Engineers.

Foster Wheeler designs, fabricates, and constructs process plants and steam generators for chemical producers, petroleum refineries, public utilities, and shipbuilders. With general offices at Livingston, N.J. it has manufacturing plants at Mountaintop, Pa., and Dansville, N.Y.; engineering headquarters at Houston, Texas; and subsidiaries and licensees in 14 countries.

## York Equipment Specified For New Navy Amphibious Assault Vessels And Carrier

Nine LHA ships and an aircraft carrier will have York equipment, according to **J.W. Chandler,** manager, marine-military and government sales for York Division of Borg-Warner Corp., a leading manufacturer of air-conditioning and refrigeration equipment. The carrier is the reconstructed Midway.

The multimillion-dollar contract for the LHA vessels was awarded to York Division by Litton Systems, Inc., Ingalls West Division, Pascagoula, Miss. The ships are being built in Pascagoula at the newly mechanized Ingalls shipbuilding facility. York is supplying the equipment for the air-conditioning and for the refrigeration of ship's stores.

The air-conditioning equipment for each LHA will consist of four 300-ton centrifugal water-chilling packages. The ship's stores requires 20 tons of refrigeration at minus 20 degrees Fahrenheit. This will be obtained by three "Marinepaks" per vessel, each consisting of reciprocating compressor, condensing units and necessary coils. Deliveries will begin during the first quarter of 1971 and extend through 1974.

Similar in size and shape to a flattop, the LHAs are officially designated as "general-purpose assault ships." The highly versatile craft can carry troops, tanks, vehicles, helicopters, landing craft, and combat supplies for amphibious operations. Each is 820 feet long and has a full-length flight deck.

Five 300-ton York air-conditioning systems were installed aboard the Midway during her four-year, $202,000,000 reconstruction job at Hunter's Point Naval Shipyard. The restored giant can carry a crew of 4,300 men and has conventional boilers capable of 200,000 hp. The air-conditioning was provided for crew comfort, considered an important criterion during the reconstruction.

## Allis-Chalmers Demonstrates New Container Sideloader

With its cab lowered for unobstructed visibility, the Allis-Chalmers Lancer sideloading container handler retracts its mast into the deck well, preparatory to lowering a suspended container to the carrying surface. The toplift attachment holds the container firmly at the four upper corners by means of latches.

Allis-Chalmers demonstrated a new approach to containerized freight handling equipment—a vehicle called a sideloader that is a first in United States port operations.

The new sideloader, capable of handling 20, 30, or 40-foot-long cargo containers, was demonstrated at Pier J, Berth 248, Long Beach, Calif., for Trans-Ocean Gateway Corporation, a division of American Export Corporation of New York. **R.L. Thomas,** of Allis-Chalmers Material Handling Sales and Service of Los Angeles, said the demonstrations show how the new container handling equipment functions.

The Lancer series vehicle is capable of handling containers weighing up to 67,200 pounds and can travel up to 28 miles an hour, according to Mr. **Thomas.** One operator can deposit or pick up a container in one minute or less. Because the vehicle loads from the side, it can pick cargo up from the ground or another vehicle and deliver to storage.

Safety for containers, the vehicle, ground personnel and the operator are provided by the basic design. Mr. **Thomas** said that the sideloader controls the load by supporting it on the deck during transport. The sideloader lifting frame is also electrically interlocked to the container by corner locks on the top of the container during lifting and depositing.

One of the unique capabilities of this machine, according to Mr. **Thomas,** is solid block stacking of containers by weight and destination for high speed loading and discharging of a ship. This is in addition to the standard pattern for random access, in which the containers are "ribbon stacked" in rows, two and three high, two containers wide, with a 16-foot aisle between rows.

Trans-Ocean Gateway is presently expanding its facilities at Long Beach, Calif., one of the newest container ports in the United States.

## Malcolm McLean Testifies On Shipbuilding Program As Aid To Unemployment

Appearing before the House Merchant Marine & Fisheries Committee on February 17, **Malcolm P. McLean,** board chairman, Sea-Land Service, Inc., offered this testimony on the impact of shipbuilding—as contemplated by the Nixon merchant marine program—on overall poverty and unemployment problems:

". . . Our company has completed a study as to the utilization of the proposal as a means of aiding people in the poverty areas. We have located seventy shipyards, as a sampling, on a map of the United States. It is recognized that not all of the shipyards involved are capable of the type of construction envisioned, but many would certainly receive the ancillary benefits of increased repair and maintenance and subcontracting.

"Through the offices of OEO, we obtained the three volumes published by that agency showing by street boundaries the geographical locations of the principal poverty areas of every city in the United States in excess of 250,000. We then related the shipyards involved in these particular hard-core centers of poverty. In every instance, we found that the shipyards were either in or immediately adjacent to the hard-core poverty areas.

"Thus . . . each $1,000,000 of shipbuilding activity creates one year of employment for 43 shipyard workers and for 67 manufacturing employees . . . each 1-million of shipbuilding activity contributes 220 to 330 man-years of employment to the economy. Thus, the (Nixon) proposal should create jobs that can come right from the hard-core unemployment areas, and does so without direct government grants.

"It is clear that the people directly located in these areas could benefit the most from the additional jobs that this bill can create . . . According to the OEO statistics, the total obligations incurred by the Department of Health, Education and Welfare, the Department of Labor, the Department of Agriculture and Office of Equal Opportunity in the anti-poverty programs for the fiscal year 1967 was $954,000,000. For 1968, it was $1,323,000,000. The program envisioned by the Tax Deferment Proposal can go a long way into lifting the burden of these specific grants by providing jobs and on-the-job training in the very areas to which these funds are directed."

Mr. **McLean** made these statements in context of supporting creation of tax deferred construction reserve funds for nonsubsidized operators.

**ELECTRONIC MARINERS TO MEET:** A recent review of the first month s operating results of harbor advisory radar at the Golden Gate served as a prelude to the April 29-May 1 spring assembly in San Francisco of the Radio Technical Commission for Marine Services. **Lester C. Bedient** (left), general manager of Harbor Tug and Barge Co., is general chairman of the event which will attract more than 200 telecomunications experts from throughout the United States and abroad. He explained the program of 20 presentations scheduled to Capt. **Robert Wilcox,** Maryland Port Authority operations director, and Capt. **George A. Quick,** president of the Association of Maryland Pilots, while Capt. **William F. Adams** (right) of the Coast Guard looked on.

## The National River Academy Bill Introduced To Congress

Congressman **Bill Alexander** of Arkansas has introduced legislation to incorporate The National River Academy under the Acts of Congress.

"We have emphasized from the very beginning that this academy is designed to fill a national need and that its training program will be national in scope," the Congressman stated.

Fourteen leaders in the inland waterways industry from 12 different states were listed in the bill, H.R. 15631, as original incorporators of The National River Academy.

In a speech on the floor of the House of Representatives concerning the bill Congressman **Alexander** said, "This bill is an outgrowth of a great deal of work in the past few months on behalf of myself and many, many people throughout this country who are interested in the orderly and rapid growth of the inland waterways industry and the continued development and utilization of our rivers' resources."

He pointed out that it is estimated that waterborne tonnage will increase by 450% during the coming 50 years. More sophisticated equipment and technology is constantly being introduced onto the nation's waterways, he said.

Congressman **Alexander** further stated, "These factors add up to a challenge, in the name of both efficiency and safety, to offer the best possible training programs and opportunities to the people employed in this key industry."

The Congressman said his bill, when approved by the Congress, would provide national recognition and status to The National River Academy, although the academy would not be under Federal control.

"This academy will be national in scope, it will be national in emphasis, and it will produce results that will be felt nationally," the Congressman said in his House speech.

"I am hopeful that early hearings and consideration of this proposal can be scheduled, and that my colleagues in the Congress will join me in recognizing the inland waterways industry as one which is vital to the future development of this country and which needs and deserves our support."

Those included in the bill as incorporators are: **Orin E. Atkins,** president, Ashland Oil and Refining Company, Inc., Ashland, Ky.; **Gale H. Chapman Sr.,** vice-president, Upper Mississippi Towing Corporation, Minneapolis, Minn.; **John M. Donnelly Jr.,** executive vice-president, Ingram Barge Company, New Orleans, La.; **T.F. Ellis Jr.,** T.F. Ellis Towing Company, Galveston, Texas; **L.R. Fiore,** president, The Ohio River Company, Cincinnati, Ohio; **Noble Gordon,** president, Mid-South Towing Company, Tampa, Fla.; **Percy LeMay,** LeMay Barge and Supply, Greenville, Miss.; **William C. McNeal,** vice-president, Oil Transport Company, Inc., New Orleans, La.; **Harry Mack,** president, Neare, Gibbs and Company, Cincinnati, Ohio; **Floyd A. Mechling,** president, A.L. Mechling Barge Lines, Joliet, Ill.; **Alvan D. Osbourne,** Union Barge Line Corporation, Pittsburgh, Pa.; **Charles B. Southern,** Southern Towing Company, Caruthersville, Mo.; **Jim Walden,** president, Helena Marine Service, Inc., Helena, Ark.; and Capt. **Jack Wofford,** vice-president in charge of operations, American Commercial Barge Line Company, Jeffersonville, Ind.

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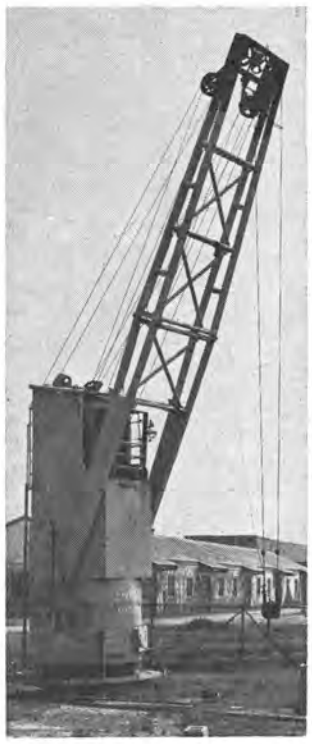

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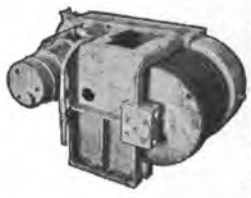

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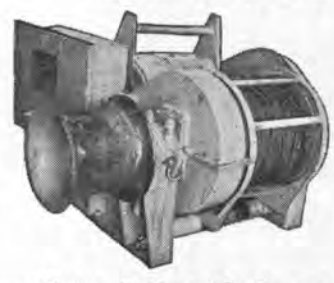

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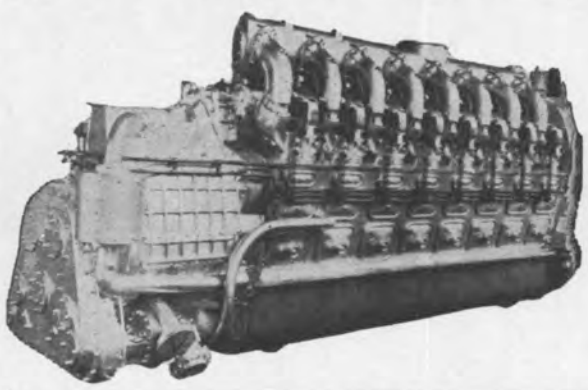

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J. J. Henry Co., Inc., 90 West St., New York, N.Y. 10006
L. K. Homyer, Box 408, Corona Del Mar, California 92625
James S. Krogen, 1460 Brickell Ave., Miami, Fla. 33131
Littleton Research and Engineering Corp., 95 Russell Street, Littleton, Mass. 01460
Robert H. Macy, P.O. Box 758, Pascagoula, Miss. 39567
Marine Applications Co., Inc., P.O. Box 167, Mineola, N.Y. 11502
Marine Computer Application Corp., 70 Oak St., Norwood, N.J. 07648
Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114
Marine Design Inc., 1180 Ave. of Americas, N.Y., N.Y. 10036
Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225
John J. McMullen Associates, Inc., 17 Battery Pl., New York, N.Y.
George E. Meese, 194 Acton Rd., Annapolis, Md. 21403
Robert Moore Corp., 350 Main St., Port Washington, N.Y. 11050
Gunnar Nelson, 2185 Lemoine Ave., Ft. Lee, N.J. 07024
Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156
Philip L. Rhodes, Inc., 369 Lexington Ave., New York, N.Y. 10017

M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013 and 45 Second St., San Francisco, Calif.
George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007
George Slifer, 1422 Lakewood Rd., Jacksonville, Fla. 32207
T. W. Spaetgens, 156 West 8th Ave., Vancouver 10, Canada
Philip F. Spaulding & Associates, 65 Marion St., Seattle, Wash. 98104
Specialty Ships Unlimited Inc., 1000 Vermont Ave., N.W., Washington, D.C. 20005
The Stanwick Corporation, 1401 Wilson Blvd., Arlington, Va. 22209
R. A. Stearn, Inc., 100 Iowa St., Sturgeon Bay, Wisc. 54235
Richard R. Taubler, 44 Court St., Brooklyn, N.Y. 11201
H. M. Tiedemann & Co., Inc., 74 Trinity Pl., New York, N.Y. 10006

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Peck Equipment Co., 3500 Elm Avenue, Portsmouth, Virginia 23704

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Gulf Oil Trading Co., 1290 Ave. of the Americas, New York, N.Y.
Mobil Oil Corp., 26 Broadway, New York, N.Y. 10004
Refineria Panama, S. A., 277 Park Ave., New York, N.Y. 10017
Shell Oil Co., 50 W. 50 St., New York 10020
Texaco, Inc., 135 E. 42nd St., New York, N.Y. 10017

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Devoe & Raynolds, Subsidiary Celanese Coats Co., 224 E. Broadway, Louisville, Ky. 40201
Enjay Chemical Co., 60 West 49th St., New York, N.Y. 10020
Farboil Company, 90 West St., New York, N.Y. 10006
International Paint Co., 21 West St., New York, N.Y. 10006
Mobil Chemical Company, Metuchen, N.J. 08840

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Refineria Panama, S. A. 277 Park Ave., New York, N.Y. 10017
Shell Oil Co., W. 50 St., New York 10020
Texaco, Inc., 135 E. 42nd St., New York, N.Y. 10017
The West Indies Oil Co., Ltd. St. John's, Antigua, W. I.

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Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231
Philadelphia Resins Co., 20 Commerce Dr., Montgomeryville, Pa. 18936
Rotocast Plastic Products, Inc., 6700 N.W. 36th Ave., Miami, Florida 33147

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Specialty Ships Unlimited Inc., 1000 Vermont Ave., N.W., Washington, D.C. 20005

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Bethlehem Steel Corp., Shipbuilding, 25 Broadway, N.Y., N.Y. 10004
Bird-Johnson Co., 883 Main Street, Walpole, Mass. 02081
Federal Propellers, 1501 Buchanan Ave. S.W., Grand Rapids, Mich. 49502
Marine Propulsion Engrg. Inc., Statler Office Bldg., Boston, Mass. 02116

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De Laval Turbine, Inc., 853 Nottingham Way, Trenton, N.J. 08602
Gilbarco, Inc., Greensboro, No. Carolina 27420
Goulds Pumps, Seneca Falls, N.Y. 13148
Worthington Corporation, Harrison, New Jersey 07029

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W. W. Patterson Co., 830 Brocket St., Pittsburgh, Pa. 15233

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Cating Rope Co., 309 Genesee St., Auburn, N.Y. 13022
Columbian Rope Co., 309 Genesee St., Auburn, N.Y. 13022
Jackson Rope Corp., 9th & Oley, Reading, Pa. 19604
Tubbs Cordage Company, P.O. Box #709, Orange, Calif. 92669
Wall Rope Works, Inc., Beverly, N. J. 08010

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La Favorite Rubber Mfg. Co., 275 Wagaraw Rd., Hawthorne, N. J. 07507

**RUDDER ANGLE INDICATORS**
Electric Tachometer Corp., 68th & Upland Street, Phila., Pa. 19142
Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.

**SEALS**
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Syntron, a division of FMC Corp., 398 Lexington Ave., Homer City, Pa. 15748

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Snelson Oilfield Lighting Co., 1201 E. Daggett St., Forth Worth, Texas 76104

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Northern Metal Co., Minor & Bleigh Sts., Philadelphia, Pa. 19136
Peck Equipment Co., 3500 Elm Ave., Portsmouth, Va. 23704
Zidell Explorations, Inc., 3121 S. W. Moody St., Portland, Ore. 97201

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Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042
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Atlantic Gulf & Pacific Co. of Manila Inc., 45 Muelle De La Industria, Manila
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans, La. 70150
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Bethlehem Steel Corp., Shipbuilding, 25 Broadway, N.Y., N.Y. 10004
Blount Marine Corp., P.O. Box 360, Warren, Rhode Island 02885
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General Dynamics, Quincy Division, Quincy, Mass. 02169
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Halter Marine Services, Inc., Route 6, Box 287H, New Orleans, La. 70126
Harbor Boat Building Co., 258 Cannery St., Terminal Island, Calif.
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Hitachi Shipbuilding Co.,25 Nakanoshima2-chomeKitaku,Osaka-Japan
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Jeffboat, Inc., Jeffersonville, Ind. 47130
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St. Louis Shipbuilding—Federal Barge, Inc. 611 East Marceau, St. Louis 11, Mo.
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G & H Towing Company, 509 Texas Building, Galveston, Texas 77550
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McAllister Bros., Inc., 17 Battery Pl., New York, N.Y.
McDonough Marine Service, P.O. Box 26206, New Orleans, La.
P. F. Martin, Inc., Mall Bldg., 325 Chestnut St., Philadelphia, Pa.
Moran Towing & Transportation Co., Inc., 17 Battery Place, N.Y.
Red Star Towing & Transportation Co., 500 Fifth Ave., N.Y. 10036
L. Smit & Co., 11 Broadway, New York 4, N.Y.
Suderman & Young Towing Co., 329 World Trade Center, Houston, Texas 77002
M. & J. Tracy, Inc., 1 Broadway, New York, N.Y.
Turecamo Coastal and Harbor Towing Corp., 1752 Shore Parkway, Brooklyn, N.Y.
Vancouver Tug Boat Co., Ltd., 10 Pemberton Ave., No. Vancouver, B.C., Canada

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Hydrasearch Co., Inc., Riva Rd., Annapolis, Md. 21401
Marine Moisture Control Co., 39 Redfern Ave., Inwood 96, L.I., N.Y.
Mechanical Marine Company, 45-15 37th St., Long Island City, N.Y.
Todd Products, Div. of Todd Shipyards Corp., Halleck St., Brooklyn, N.Y. 11231

**WIRE ROPE**
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Bethlehem Steel Corp., Bethlehem, Pa. 18018
Disco International Div., 141 Andros Ave., Staten Island, N.Y. 10303
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**TURBO-GENERATORS, SHIP'S SERVICE**—Worthington turbine, 240 K.W., 5 stage, 6097 R.P.M., 440 P.S.I., 740 Deg. F., with reduction gear, Westinghouse D.C. Generator, 90 K.W., 125 volt, 1200 R.P.M., and Westinghouse A.C. Generator, 3/60/450, 400 Amps, 312 K.V.A., 250 K.W., Reduction gear ratio— 5:081.

**TURBO-GENERATORS, AUXILIARY**— Westinghouse Turbine, 440 P.S.I., 740 Deg. F., 7288 R.P.M., Westinghouse 100 K.W., D.C. Generator, 240/120 Volts, 416 Amps, 1800 R.P.M.

**WINCHES, CARGO**—Lake Shore Engineering Co. UNIWINCH, Type VB, Model 21, single speed double drum, line pull-7450 lbs. at 220 Ft. per min., Allis-Chalmers D.C. motor, 50½ H.P., 230 Volts, 180 Amps, Cutler Hammer marine brake.

**WINCHES, CARGO**—Lake Shore Engineering Co. UNIWINCH, Type 4-B, model 12, two speed, single drum, single line pull—7450 lb. at 220 Ft. per min. and 14,440 lbs. Allis Chalmers D.C. motors, 50½ H.P., 230 Volts, 180 Amps.

**PURIFIER, LUBE OIL**—Sharples Corp. **Type:** M-67-28, 8N39, Speed, 15,000 R.P.M. Wagner Elect. Corp. A.C. Motor, 1 H.P., 3/60/440, 3500 R.P.M.

**DIESEL ENGINE**—Buda, Mod. No. 6LD468, 6 cylinder, 4½ x 5½ 1850 RPM, 100 BHP.

**AIR COMPRESSORS**—Sullivan Machinery, Type EA, V Belt Driven, 60 C.F.M., free air, 880 R.P.M., 110 lb. disch., Press, Wagner Motor, 15 H.P., 1750 R.P.M., size: 4½" x 4½".

**MAIN CONDENSATE PUMPS**—Vertical Centrifugal Motor Driven, Allis Chalmers, Type SSC-V, 3" x 1½", 68 G.P.M. Wagner A.C. Motor, 7.5 H.P., 1750 R.P.M., 114 Ft. total Hd.

**AUX. CIRCULATING PUMPS**—Vertical Centrifugal Motor Driven, Dayton-Dowd Pump, 8"x10", 1150 RPM, type CSLHV, 5 P.S.I. suction, 15 P.S.I., disch., 22.4 Ft. head. Wagner Motor, 10 H.P., 3/60/440, 1600 R.P.M.

**FUEL OIL SERVICE PUMP**—Quimby Vertical Rotary, Motor Driven Screw Pump, Size 2½" x 1½", Capacity 10/6 GPM, Disch. Press 350 PSI, 1150 RPM. Wagner Motor; 6/3 H.P., 3/60/440, 1160/575 RPM.

**BOILER FEED PUMP**—Wilson Snyder, Vert, Simp., 95 GPM, 10"x7"x24", 4" Suction, 3" Discharge, 440 lbs. steam press @ 500°F.

**FIRE & SANITARY PUMP**—Wilson Snyder, Vert. Simp. 400 GPM, 14" x 12" x 12", 5 lbs. suction press, 100 lbs. disch. press., 150 PSIG @ 435°F.

**BILGE PUMPS**—Wilson Snyder, Vert, Simp., 410 GPM, 10" x 12" x 12", 6 lbs. Suction Press., 30 lbs. discharge.

**GENERAL SERVICE**—Wilson Snyder, Vert. Simp., 330 GPM, 10" x 12" x 12", 5 lbs. Suction Press, 35 lbs. discharge.

**FRESH WATER PUMP**—Wilson Snyder, Vert, Simp., 100 GPM, 10" x 7" x 12", 4 lbs. suction press., 80 lbs. discharge pressure.

**FUEL OIL TRANSFER**—Wilson Snyder, Vert. Simplex, 150 GPM, 14" x 10" x 12", 5 lb. suction, 150 lbs. discharge.

**FIRE PUMP**—(Handy-Billy), Johnson Motor Co., Model P-500E, 500 G.P.M., 4500-5000 R.P.M., 100 P.S.I.

**FORCED DRAFT FANS**—Buffalo Forge Co., 5000 CFM, 6000 CFM, 8000 CFM, 12,000 CFM, Wagner Motor, 3/60/440.

## LIBERTY SHIPS

**REFRIGERATION UNITS**—Compressor York Corp. Vertical 2 cylinder 4¼" x 3", 600 RPM Motor-Westinghouse Mod. 4B3608, 7.5 HP. Stab Shunt 1750 RPM, 57 amps, 120 Volts D.C.

**FUEL OIL HEATERS**—Coastal Eng. Co. Capacity 17,500 Lbs. per hour Bunkers "C" oil 100° to 230° F.

**FEED WATER HEATERS**—Davis Eng. Co. Size 11-13 E. Capacity 48,000 Lbs. per hour 125° to 230° F.
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**EVAPORATORS**—Vertical Type: Single Effect. Size 36 x 14. Capacity 24 Tons per day. Max Shell Press. 30 PSI. Max Tube Press 150 PSI.

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**WINCHES, CARGO**—Steam-EC2 (Liberty) 2 Cyl. Double Geared Horizontal 5/15 Tons. 7" x 12", Working Pressure 125 PSI. Also 9" x 12". Heavy Duty.

**WINDLASS, ANCHOR**—Steam-EC2 (Liberty) Manufacturer: Summer Iron Works—Size 10" x 12", Working Pressure 125 PSI. Chain Size 2-1/16".

**CARGO BOOMS**—EC 2 (Liberty) 5 Ton 47' & 55', 15 Ton 51', 30 Ton 51', 50 Ton 51'.

**PUMPS, BOILER FEED**—Worthington: Vertical Simplex. 12 x 8 x 24 Head 300 PSI. Capacity 200 GPM. Steam 220 PSI.

**PUMPS, VERT. DUPLEX**—Fuel Oil, Transfer-EC2 (Liberty) Manufacturer: Worthington—10" x 11" x 12"—320 GPM Working Pressure, 220 PSI.

**PUMPS, VERT. DUPLEX**—Ballast, Fire, Bilge and General Service—EC2 (Liberty) Manufacturer: Worthington—10" x 11" x 12"—560 GPM, 125' Head.

**PUMPS, VERT. SIMPLEX**—S. W. Service—EC2 (Liberty) Manufacturer: Worthington—6" x 8" x 8". With Air Chamber.

**PUMPS, HOR. DUPLEX**—F.W.—EC2 (Liberty) Manufacturer: Various—5" x 7" x 10". 220 PSI.

**PUMPS, AUX. COND.**—Circ. And Condensate, Under Condenser—EC2 (Liberty) Manufacturer: Worthington—Typ. Ser. 1075376—10" x 12" x 12" x 12"—220 PSI.

**PUMPS, MAIN COND.**—Circ. Centrifugal Pump—EC2 (Liberty) Manufacturer: Sturtevant—30 HP. Engine 5" x 6"—400 RPM, 220 PSI, 14" Pump. 3650 GPM, 25' Head.

**PUMPS, VERT. SIMPLE**—Fuel Oil Service—EC2 (Liberty) Manufacturer: Worthington—7½" x 4" x 10" 8 GPM.

*MANY OTHER ITEMS NOT LISTED ARE AVAILABLE. CONTACT US FOR COMPLETE INFORMATION.*

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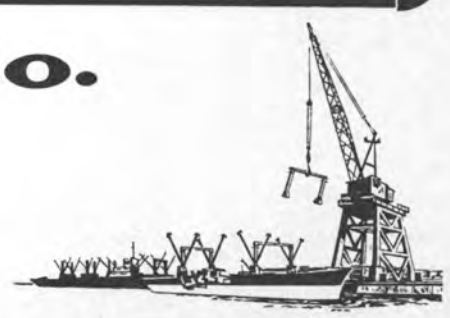

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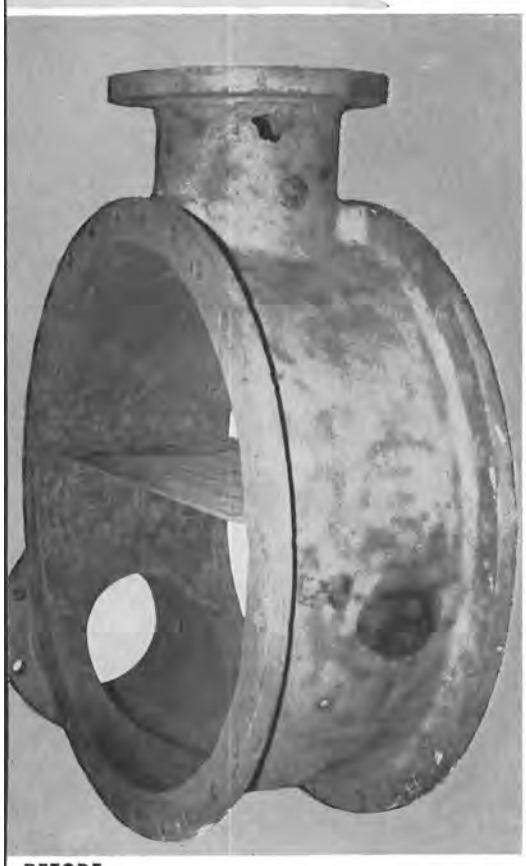

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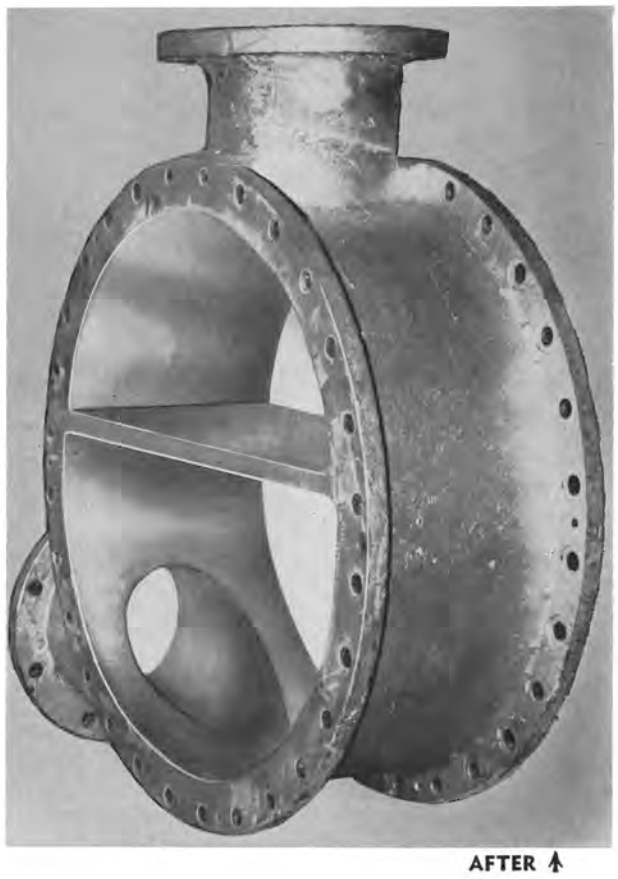

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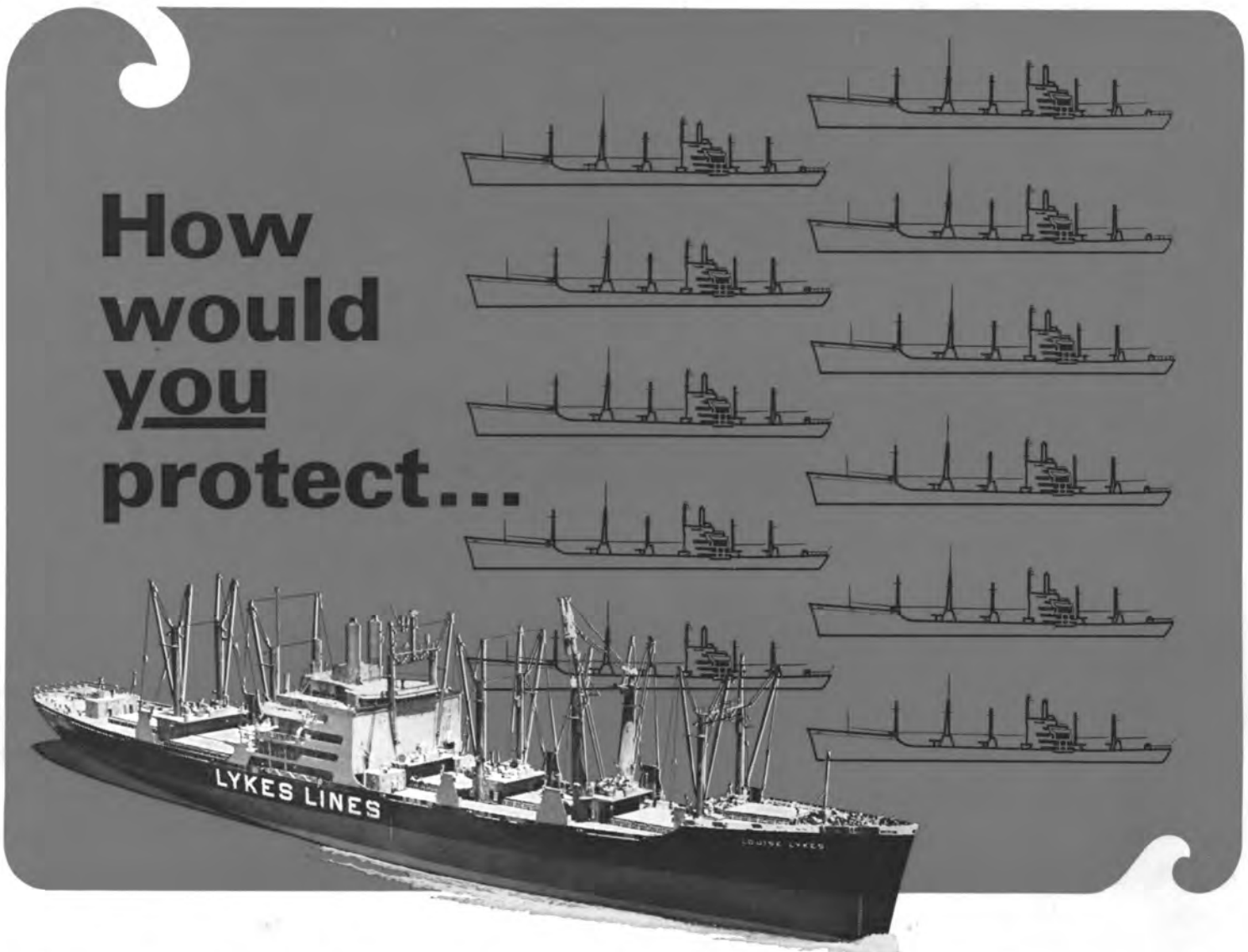


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