

MARITIME REPORTER

AND
ENGINEERING NEWS



**M/S Yulius Fuchik, First Of Two Valmet-Built
Lykes SEABEE-Type Barge Carriers For USSR**
(SEE PAGE 7)

DECEMBER 1, 1978

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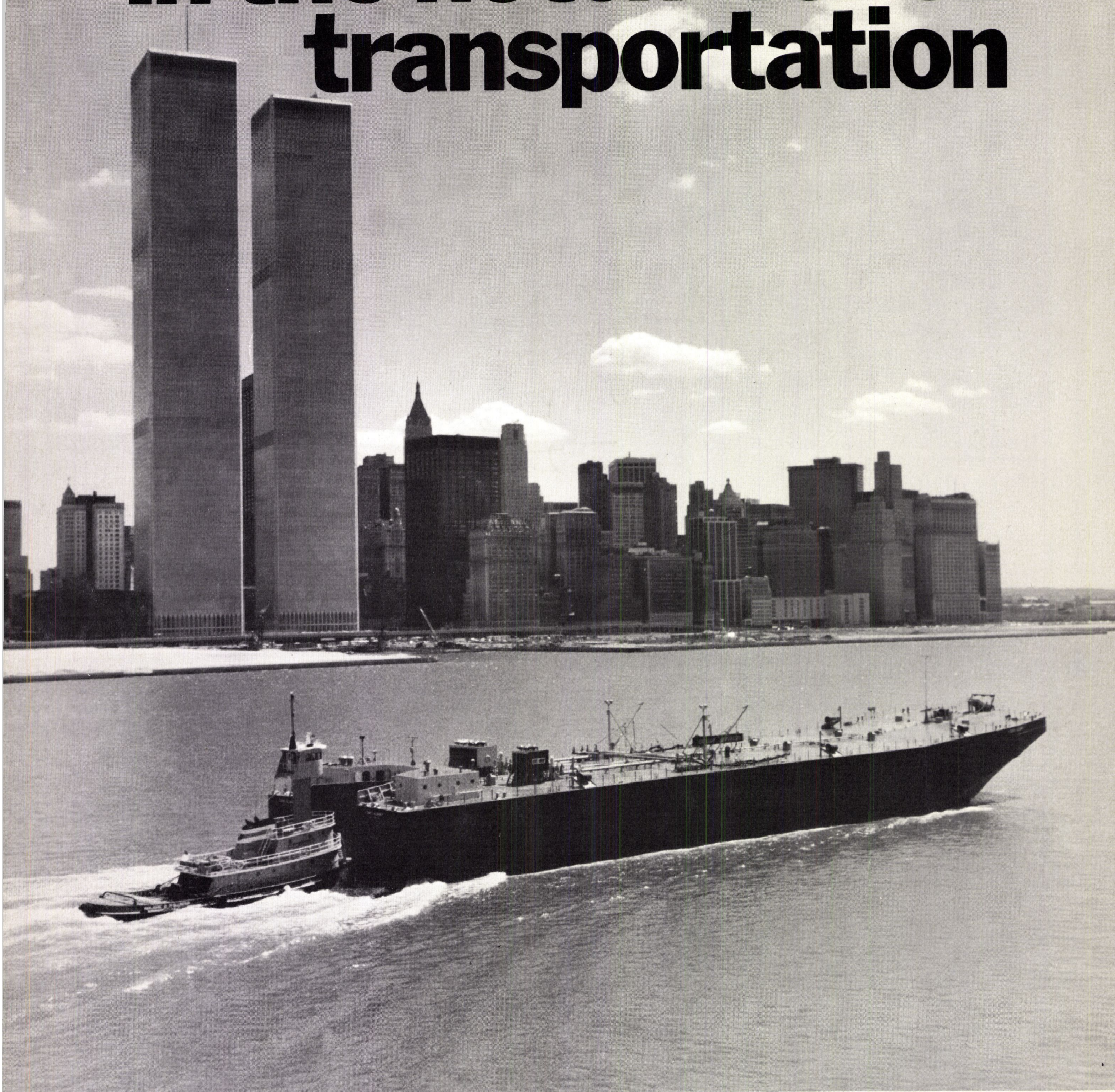
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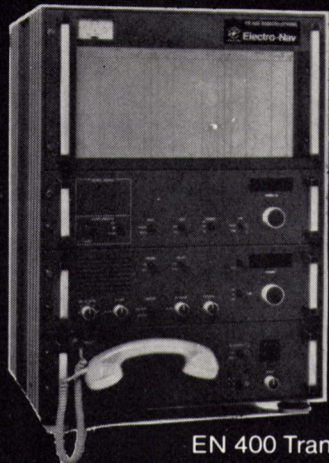
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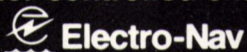
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Agreement In Principle Announced On U.S.-U.S.S.R. Marine Insurance

For the first time since the U.S.-U.S.S.R. Maritime Agreement was signed on October 14, 1972, the Soviet Union has agreed in principle to share with U.S. underwriters the placement of marine insurance on cargoes moving between the two countries, it was announced by **Robert J. Blackwell**, Assistant Secretary of Commerce for Maritime Affairs.

Mr. Blackwell, chief American negotiator of the basic U.S.-U.S.S.R. Maritime Agreement, headed a U.S. delegation which met recently with representatives of the Soviet Union in Vienna, Austria. **Viktor M. Ivanov**, Deputy Minister of Foreign Trade, headed the U.S.S.R. delegation.

"This agreement breaks a six-year impasse on the insurance issue, and will enable American underwriters finally to participate in this growing trade," Mr. Blackwell said. "We shall continue to work diligently in the weeks ahead, in the cooperative spirit that prevails, to implement this accord at the earliest possible date."

On October 26, the negotiators agreed to the text of a Memorandum of Understanding which recognizes the interest of U.S. marine insurance companies in underwriting a substantial share of the marine cargo insurance in the bilateral trade, and calls for meetings — beginning immediately — between the marine insurance entities of both countries to develop implementing procedures.

Insurance premiums on these cargoes in recent years have averaged \$6.5 million and are expected to exceed \$7 million this year. U.S.-Soviet trade totaled \$1.9 billion in 1977, and in the first seven months of 1978 was running 53 percent ahead of last year's, according to the U.S. Commercial Office in Moscow.

The Vienna negotiators agreed to assess the progress of the implementation talks before April 30, 1979.

The negotiations were the fourth in a series of major talks on the marine insurance question. The last previous formal sessions had been held in London last January 10-12.

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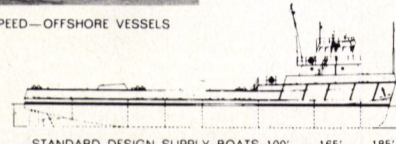
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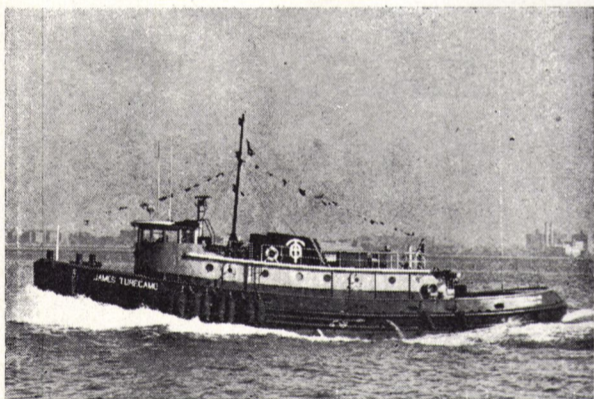
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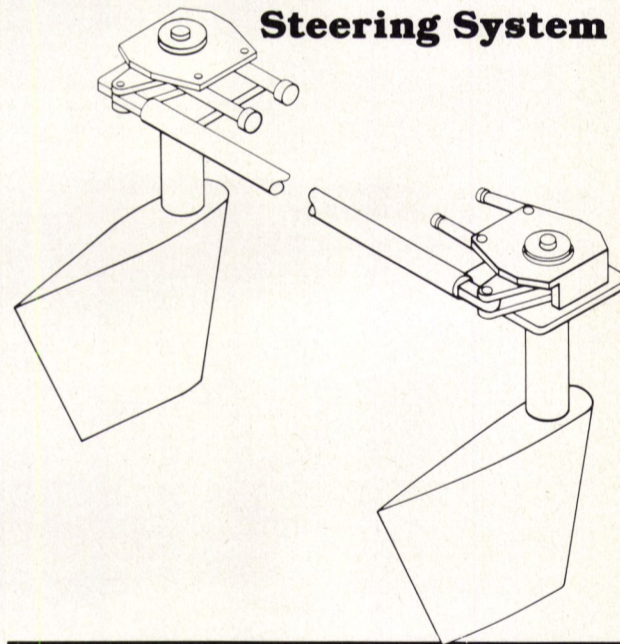
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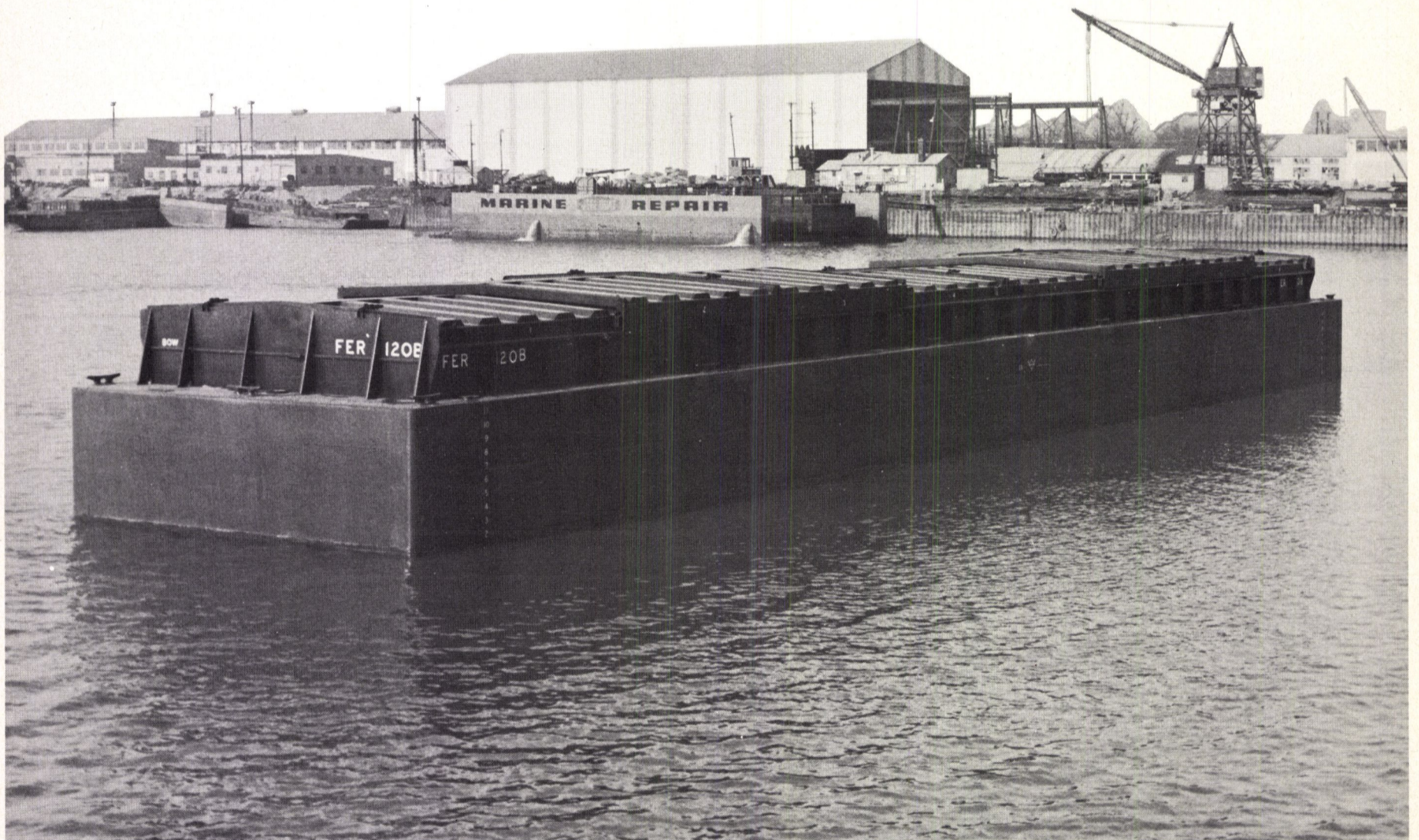
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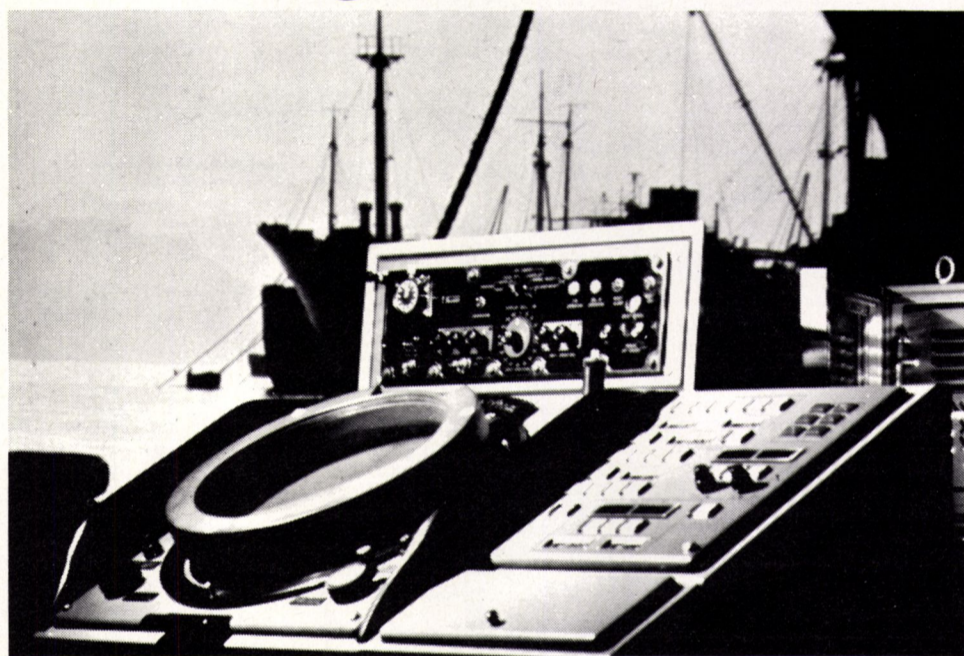
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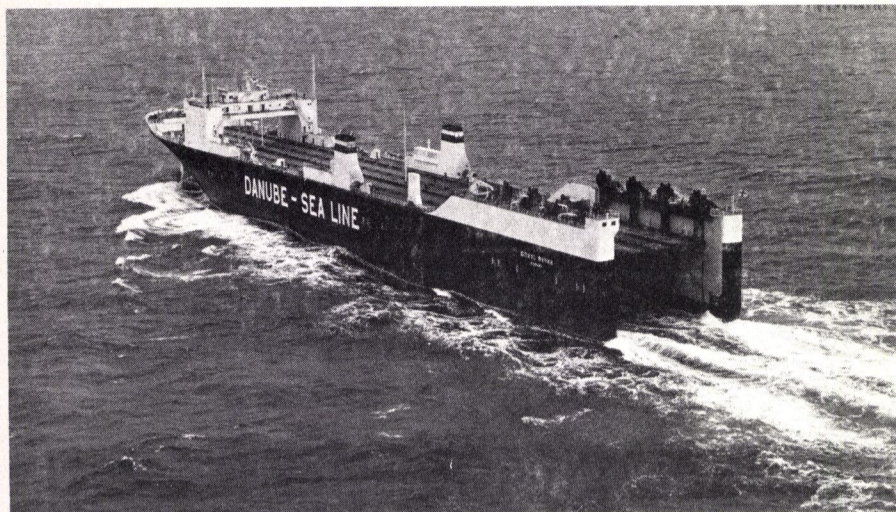
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Maritime Reporter/Engineering News

M/S Yulius Fuchik, First Of Two Valmet-Built Lykes SEABEE-Type Barge Carriers For USSR



The home port of the Yulius Fuchik will be Izmail, on the lower Danube, from where the vessel will operate to Middle East and Southeast Asian ports.

The first Lykes SEABEE-type barge carrier for the Soviet Union, the M/S Yulius Fuchik, was delivered in Helsinki on October 20 by the builder Valmet Oy of Finland. Valmet had previously contacted Lykes Bros. Steamship Company in Europe and received license rights to build two SEABEE-type vessels for the USSR, and an agreement on an exchange of know-how.

The barge carrier Yulius Fuchik is a diesel-powered twin-screw vessel of usual welded-steel construction, with the following main dimensions: length overall, 266.44 meters (about 874 feet); length between perpendiculars, 222.81 meters (731 feet); breadth, molded, 35 meters (115 feet); depth, molded, 22.95 meters (75 feet); draft on construction waterline, 9 meters (30 feet); draft, maximum, 11 meters (36 feet), and international tonnage, 36,382.62 grt.

A total of 26 Danube-Sea (D-M) type barges, each weighing a maximum of 1,300 tons, can be loaded into the ship. Thus the total loading capacity is 26 x 1,300 tons = 33,800 tons. If a possibly more realistic barge weight is used (1,000 tons), the loading capacity is about 26,000 tons.

Containers can be carried in two different ways: in the hold and on the hatch covers of the

barge or with special container adapters.

In the stern, two cantilevers have been added on both sides of the vessel supporting the hoisting machinery of the loading platform of 2,700 tons capacity and protecting the barge handling from a heavy sea.

The vessels are built according to the rules of the Register of the USSR for the notation KM + L3, A2, and to fulfill the international rules (Load Line Convention, SOLAS, etc.).

The average service speed will be 9.8 m/s (19 knots), main engines running at 26,500 kw with a main engine consumption of heavy fuel oil of 130 tons/days. Endurance will be 12,000 nautical miles, and other stores are sufficient for 40 days' consumption.

The propulsion plant consists of two c-p propellers each driven by diesels via twin input-single output reduction gear. The diesel-type is S.E.M.T.-Pielstick 16 PC 2.5-V400.

The home port of the Yulius Fuchik will be Izmail on the lower Danube, from where the vessel will operate to Middle East and Southeast Asian ports. The barges will be handled in Europe by the international organization "Interlihter," situated in Budapest.

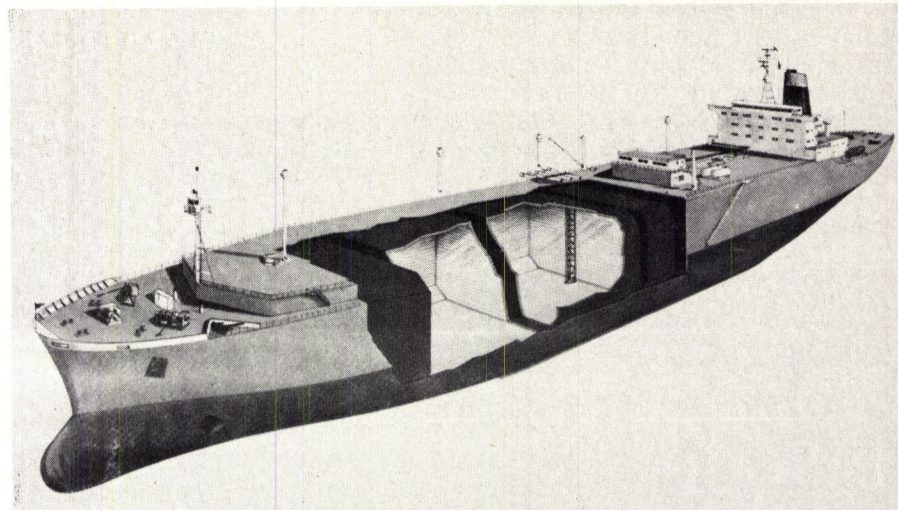
The next vessel in the series will be delivered late 1979.

Hull dimensions are 148 feet long, 160 feet wide and 16 feet deep. It will accommodate a crew of 40. Delivery is scheduled for July 1979.

Marathon LeTourneau also is the proposed builder for the second rig, designed to operate in water depths up to 250 feet, with wave heights of 38 feet and wind speeds to 100 knots. Hull dimensions are 207 feet long, 176 feet wide, and 20 feet deep. It will accommodate a crew of 60, and delivery is scheduled for June 1980.

The Title XI guarantee requested totals \$28,126,000, an amount not to exceed 75 percent of the actual cost of the rigs.

Davie Shipbuilding Signs License Agreement For Gaz-Transport LNG Containment System



Typical carrier equipped with the Gaz-Transport LNG containment system.

Davie Shipbuilding Limited of Lauzon, Quebec, Canada, and Gaz-Transport S.A.R.L. of France have signed a license agreement whereby Davie obtains the right to utilize the GT Standard Technique liquefied natural gas (LNG) containment system. The double-walled system provides the cargo-hold barrier which enables the cryogenically cooled liquefied natural gas to be stored or shipped via large specialized vessels.

The agreement is another major step in Davie's preparation to respond to long-term projects aimed at bringing Canadian Arctic natural gas to southern markets—in particular, the combined Petro-Canada, Melville Shipping "Arctic Pilot Project." This project will need containment systems for Petro-Canada's LNG storage barges to be used in conjunction with a barge-mounted liquefaction plant. Melville Shipping plans to use ice-strengthened carriers to ship the LNG south.

It is expected that a final decision on these long-term projects will be made within the coming year, with the project being fully operational by the mid-80s.

The "Arctic Pilot Project" was

given reason for optimism when provisions for U.S. domestic gas price increases were included in the Carter Administration's Energy Bill which recently passed the House of Congress.

With the signing of the license, Davie becomes the first Canadian company to import the complex marine technology into Canada, and the decision will give the country the opportunity to be among the nations of the "LNG Club," with the capability to build LNG carriers. The importance is that these ships are one of the few classes of vessels to have a strong current and projected demand within the presently depressed marine market. Davie plans in the long term to be able to actively compete on an international basis for this type of vessel.

One of the major advantages of the Gaz-Transport system is that due to the design, it is possible to obtain a very high degree of Canadian content in both materials and labor. Hence, it is possible to attain an economic "spin-off" from constructing LNG carriers in Canada, using the GT Standard Technique.

Vaporphase To Supply Systems For Four New USCG Cutters

Vaporphase by Engineering Controls Division of Pott Industries Inc., St. Louis, Mo., has received an order for the complete Waste Heat Recovery Systems for four 270-foot Medium Endurance Coast Guard Cutters being constructed by Tacoma Boatbuilding Co., Inc., Tacoma, Wash.

A pioneer in the development of high-temperature cooling of reciprocating engines and waste heat recovery since the late thirties, Engineering Controls has more installed horsepower than anyone else in the field.

A first for the Coast Guard, the Caterpillar D-398 diesel ship service generator sets will be high-temperature cooled by Vaporphase to recover jacket water

and exhaust heat, normally rejected to the sea and to atmosphere, in the form of low-pressure steam. The utilization of the heat recovered increases the thermal efficiency of the diesel generator sets by approximately 42 percent.

This recovered heat will be used for the quarters heating and distillation load, eliminating the need for a fired boiler and its fuel requirements onboard.

Other innovations in the cutter design include a computerized command display and control system, which integrates vital functions such as weapons, sensors, navigation, and bridge into a two-man computer station, Navy-supplied sophisticated weaponry, and helicopter.

Engineering Controls is an affiliate of St. Louis Ship, a Division of Pott Industries Inc., a Houston Natural Gas Corporation subsidiary.

Marathon LeTourneau Building Two Rigs For Keyes Offshore, Inc.

Keyes Offshore, Inc., 2425 Fountainview Drive, Houston, Texas, has applied for a Title XI guarantee to aid in financing the construction of two offshore jackup drilling rigs. The applicant indicates the rigs will be operated in the Gulf of Mexico.

One rig presently is under construction by Marathon LeTourneau Company, Vicksburg, Miss. It is designed to operate in water depths up to 150 feet, with wave heights to 47 feet and sustained wind speeds to 90 miles per hour.

Bethlehem Steel Corp. Elects Anthony St. John

The election of **Anthony P. St. John** to assistant vice president, Industrial Relations Department, was announced by **George A. Moore Jr.**, vice president, Bethlehem Steel Corporation, in charge of industrial relations.

Mr. St. John, advancing from manager of labor relations in the

Industrial Relations Department, is succeeding Mr. **Moore**, whose election to vice president has been announced.

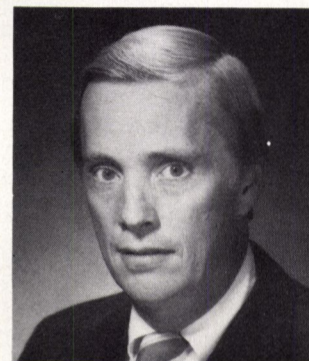
As assistant vice president, Mr. **St. John** will have responsibilities in the areas of labor relations, employee benefit programs, accident prevention and workmen's compensation benefits. **Benjamin C. Boylston**, also an assistant vice president on Mr. **Moore's** staff,

has responsibility for personnel, environmental quality control, medical services and management development and manpower planning.

A native of Washington, D.C., Mr. **St. John** was graduated from the University of Virginia with a Bachelor of Laws degree in 1960. Prior to joining Bethlehem as an arbitration attorney in 1965, he was employed as a trial lawyer

for the National Labor Relations Board in Baltimore, Md.

Subsequent to his initial assignment as an arbitration attorney with Bethlehem, he has held the positions of senior labor attorney and assistant to the manager of labor relations. He was promoted to manager of labor relations on January 1, 1973. Since 1973, he has chaired company-level negotiations with the United Steelworkers of America (USW) in both 1974 and 1977, and with the Industrial Union of Marine and Shipbuilding Workers of America in 1975 and 1978. In addition, he has been responsible for day-to-day administration of 40 collective bargaining agreements covering approximately 75,000 employees.



Anthony P. St. John

Mr. **St. John** has been admitted to the practice of law before the Maryland Court of Appeals, the Supreme Bench of Baltimore, and the Federal District Court for the State of Maryland.

Mr. **St. John** is a member of the American Iron and Steel Institute and Lehigh Country Club, Allentown, Pa.

USCG Contract For Oil Spill Pumps To Offshore Devices, Inc.

The U.S. Coast Guard Department of Ocean Engineering has awarded Offshore Devices, Inc., Peabody, Mass., a contract to build lightweight double-acting diaphragm pumps specifically for use with oil containment barriers to pick up spilled oil on the high seas. The pumps are compact, self-priming, and hydraulically driven. They yield minimum emulsification of oil-water mixtures due to low surface speeds. The pumps are non-clogging and will pass solid objects up to 3 inches in diameter.

These pumps are able to pump up to 350 gpm when used singly, and three are used together to pump up to 900 gpm. Although the pumps are designed for oil-spill collection, other uses are for pumping slurries or trash or for dewatering operations. A single pump can also be used with a lightweight separator on a vessel to provide an economical oil pick-up unit.

For further information, write to Ms. Eleanor Swett, Offshore Devices, Inc., Summit Industrial Park, Building 43, Peabody, Mass. 01960.

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Thomas M. Reinhardt, president of International Paint Company, Inc., recently announced the promotion of **George J. Robinson** to vice president. Mr. Robinson will be located at the Executive Sales Office of International Marine Coatings located at 17 Battery Place North, New York, N.Y. 10004.



George J. Robinson

Mr. Robinson has been active in the marine industry since his release from active duty with the United States Navy in 1945. He attended Niagara University and graduated from Notre Dame Midshipman School, and served as an officer in the United States Navy during World War II. Mr. Robinson is an active member of The Propeller Club, Port of New York, and many other marine associations.

**Artemis Marine Amends
Application For Catug
Title XI Guarantee**

By letter of November 2, 1978, Artemis Marine Company has amended its application filed May 9, 1976, for a Title XI guarantee to aid in financing the construction of an integrated tug-barge unit of the Catug (catamaran-tug) design. Artemis, located at 410 Lakeville Road, Lake Success, N.Y., is a limited partnership affiliated with the "Berger Group" companies.

The amended application shows the estimated actual cost of the vessel as \$54,050,000. Up to 87½ percent of that amount, or \$47,293,000, would be eligible for a guarantee.

Originally, the Berger Group had submitted Title XI, construction-differential and operating-differential subsidy applications for two vessels. The Maritime Subsidy Board recently denied those applications, finding they did not further the purposes and policy of the Merchant Marine Act of 1936, as amended. (This action was noted in the Press Book item B78-472, October 24, 1978). The single vessel covered in the amended Title XI application would engage in domestic trades and would not receive operating or construction subsidies.

**Livanos Elected To ABS
Management Committee**

George P. Livanos, president of Seres Shipping, Inc., New York, N.Y., was elected to the Management Committee of the American Bureau of Shipping (ABS) by the board of managers at its recent Semiannual Meeting. Announcement of his election was made by

Robert T. Young, chairman of the board of ABS.

A member of ABS since 1965, Mr. Livanos also serves on the ABS Greek Technical Committee, and was elected to the ABS board of managers in 1973. The ABS Management Committee oversees, on a monthly basis, the business of the Bureau on behalf of the board of managers.

Mr. Livanos's company operates large bulk carriers and mini-bulkers—feeder vessels—in many areas of the world.

The American Bureau of Shipping is an international ship classification society that establishes standards, called Rules, for the design, construction, and periodic survey of merchant vessels and other marine structures.

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Theriot And Mitsui Form THERIOT-MODEC Enterprises, Inc.

THERIOT-MODEC Enterprises, Inc. is a new firm conceived by Nolty J. Theriot, Inc., Golden Meadow, La., and Mitsui Ocean Development & Engineering Co., Ltd., a Japanese firm. THERIOT-MODEC Enterprises, Inc. is located on the 308 side of Bayou Lafourche in Larose, La., and is situated along the Intercoastal Canal. The creation of this new firm is quite interesting since both parent companies are very knowledgeable in the marine industry. Theriot was established in the early 1950s by Nolty J. Theriot, a native of Golden Meadow, who converted a trawling vessel into a tugboat. After many years of diligent planning, Mr. Theriot built his fleet into the largest fleet of marine vessels owned by a sole owner.

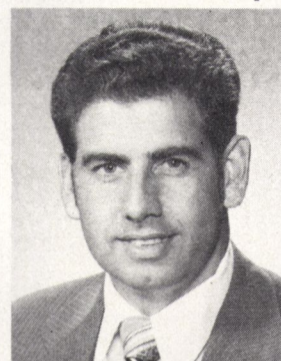
Upon Mr. Theriot's death, March 14, 1976, he was succeeded by his son Paris (Pye) Theriot II. Today, Theriot is known for its marine towing and anchor-handling operations, while also mastering the art of rig moving. MODEC, a well-established and world renowned firm from Japan, is known for its proficiency in engineering and marine construction.

Although THERIOT-MODEC is in its preliminary stages, it is expected that the new firm will be in operation by February 1979. The yard will be utilized in construction of deck cargo barges and other various types of marine equipment. It will use highly automated equipment and is expected to employ about 100 employees at the initial start-up period.

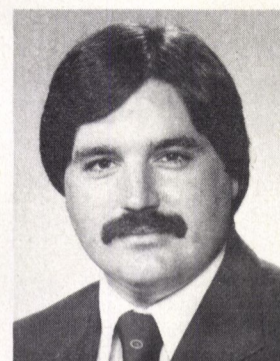
John W. Arendt, a resident of Lockport, La., and former vice president of Nolty J.

Theriot, Inc., has been appointed president of THERIOT-MODEC. Along with his years of service with Theriot, Mr. Arendt served with the U.S. Coast Guard. Mr. Arendt's knowledge of marine construction will be an asset to the new firm.

Adams & Porter Associates Names Glotfelty And Currie



James D. Glotfelty



John Currie

James D. Glotfelty has been appointed a vice president for Adams & Porter Associates, Incorporated, Houston, Texas, and John Currie has joined the firm's Employee Benefits Group as an account manager. Announcement of the new additions was made by Richard R. McKay, president.

Mr. Glotfelty joins the company after having been associated with another Houston insurance broker for the past four years. Prior to that, he spent 10 years with Travelers Insurance Company where he specialized in large property and casualty accounts. Mr. Glotfelty is a graduate of Indiana Central University in Indianapolis, Ind.

Mr. Currie joined the Employee Benefits Group in September of this year. Previously, he was group representative for Aetna Life & Casualty, and during the past 5½ years has worked in Oklahoma City, El Paso, and Houston. Mr. Currie is a graduate of Bowdoin College in Brunswick, Maine.

Adams & Porter Associates, Inc., is a Houston-based international insurance brokerage firm founded in 1907.

Jardine Offshore Promet To Construct Paceco Equipment Under License In Singapore

Jardine Offshore Promet Pte. Limited, one of the leading steel fabricating firms in Southeast Asia, recently signed a license agreement with Paceco, Inc., a subsidiary of Fruehauf Corporation, to manufacture offshore equipment, to Paceco design, at their Singapore production facilities.

Jardine is a member of the Jardine Matheson group of Hong Kong, and has extensive marketing services in Southeast Asia as well as in the United Arab Emirates. They operate through three divisions and have considerable involvement in marine engineering and steel fabrication, offshore construction, oilfield equipment, marketing and offshore drilling. The Promet Division builds a wide range of marine craft and other fabricated steel structures such as tugs, barges, jackup jetties, offshore loading terminals, pipes, pressure vessels, offshore production platforms and modules as well as modular accommodation units.

The license agreement gives JOPCO the rights to manufacture and market Paceco Revolving Cranes in Southeast Asia.

Paceco maintains its International Office for the United Kingdom and Europe in London, and its Headquarters Office is located in Alameda, Calif.

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Work is progressing at the site of the land based terminal to be completed in late 1979. Cayman Energy, Ltd. is now prepared to negotiate terms and conditions of through-put contracts.

Agents for CAYMAN ENERGY, Ltd.:

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MarAd Amends Two Research Contracts

The Maritime Administration has executed amendments to research and development contracts with two firms for additional work to be performed for the agency.

Under one of the contracts, Daedle Associates, Inc., Woodbine, Md., has been developing an adequate protective covering system for steel propellers in order

to replace bronze propellers, thereby reducing manufacturing and operating costs. The purpose of this second phase of work is to demonstrate the technical and economic feasibility of such propellers. The amendment covers a final test and evaluation of a large steel propeller protected by a selective covering system. The negotiated price of \$882,742 includes the cost of the full-scale propeller.

The other contract—with Mechanical Technology, Inc., Latham, N.Y.—covers the second phase of a three-phase program expected to culminate in the demonstrated operation of improved stern tube bearings and seals for merchant ships. The tasks required under the contract include the performance of immersion, wear, corrosion and endurance tests of candidate seal and bearing materials; fabrication, assembly and check-

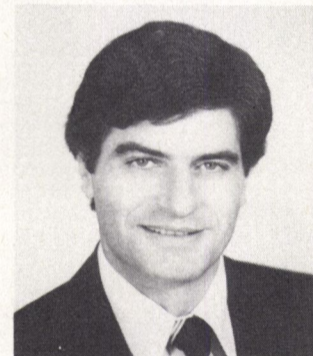
out of a seal-testing fixture and a bearing-testing fixture; and the design, fabrication and testing of seal and bearing configurations. The negotiated price is \$489,181.

Title XI Approved For Rig To Be Built By Marathon At Cost Of \$26 Million

U.S. Department of Commerce, Maritime Administration, Deputy Assistant Secretary of Commerce for Maritime Affairs **Samuel B. Nemirow** has approved in principle an application from Western Company of North America, 6100 Western Place, Fort Worth, Texas, for a Title XI guarantee to aid in financing the construction of a non-self-propelled cantilevered independent leg jackup drilling rig.

The rig will be approximately 208 feet in length, with a beam of 176 feet and hull depth of 20 feet. It will be built by Marathon LeTourneau Company, Brownsville, Texas, with delivery estimated for November 1, 1979. The estimated actual cost of the rig is \$26,000,000, and up to 75 percent of that amount is eligible for the guarantee.

George E. Chronakis Joins Electro-Nav



George E. Chronakis

Electro-Nav president **Robert E. Negron** has announced that **George E. Chronakis**, navigator, marine electronic sales representative, and most recently program manager for a major firm of naval consulting engineers has joined the Electro-Nav sales staff.

After graduating from the Maritime Academy in Crete in 1968, Mr. Chronakis served for five years as navigation officer aboard ships of the Goulandris Shipping Company. In 1973, he joined a prominent Japan-based marine electronics firm, specializing in sea trials of navigation and communications equipment on fishing craft and other vessels. In 1976, he transferred to the naval consulting firm of Systems Engineering Associates where, as program manager, he prepared proposals and evaluations for repair, modification and retrofitting, with emphasis on electronics. He comes from there to Electro-Nav.

Mr. Chronakis is a member of the American Society of Naval Engineers and of the Greek Merchant Marine Association.

Time-Tested Performance

Navigating through ice demands top performance. Reliability, operating efficiency and maximum flexibility aren't optional extras in this environment—they're mandatory.

U.S. Steel's *M/V ROGER BLOUGH* meets these requirements. She's successfully maneuvered in the ice-covered waters of the Great Lakes since 1972. Season after season, this bulk carrier has made her way through floating fields of solid blue lake ice, navigated in ice-packed ports and channels, and operated in brash ice often measuring more than 8 feet deep.

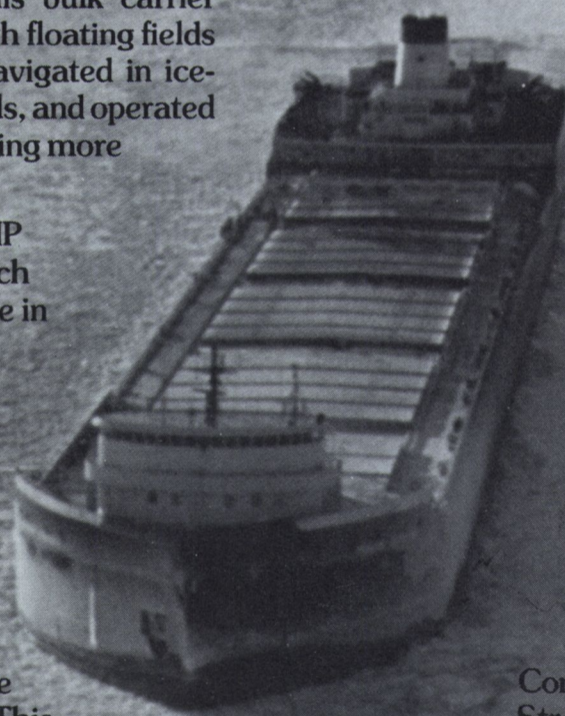
The *BLOUGH*'s 14,000 HP KaMeWa controllable pitch propeller played a key role in these operations. Engineered to absorb full horsepower—while automatically adjusting pitch to maintain a safe engine load—the CPP system enables the vessel to sustain headway in heavy ice. Full power also can be used in the astern mode. This improves the ship's performance

during ice ramming operations. So, too, does the continuous, unidirectional rotation of the propeller shaft. Further, the system can be manually controlled from the bridge or engine room. This means better speed control and reduces hull damage risks when navigating in port or narrow waterways.

These operating advantages have been tested over time.

Five years after installation, the *BLOUGH*'s KaMeWa CP propeller passed ABS's special survey with flying colors.

For details on how we can improve your vessel's performance, write or call Ole H. Midttun, Sales Manager, Bird-Johnson Company, 110 Norfolk Street, Walpole, Mass. 02081, (617) 668-9610.



BIRD-JOHNSON COMPANY

MARINE DIVISION

Photo by Artec, Incorporated



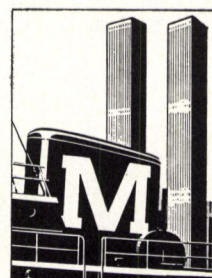
Two Famous Landmarks of New York Harbor

A continuously expanding Moran fleet has kept pace with the soaring skyline of New York for more than a century. By providing the power, experience, and versatility to efficiently and economically meet the full range of the port's transportation needs, Moran has helped make the Port of New York a leader in world commerce.

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**Agri-Trans Elects
Paul J. Staadeker
VP Transportation**

Paul J. Staadeker has been elected vice president, Transportation Services for Agri-Trans Corporation in Long Grove, Ill., reporting to R.A. Wilson, executive vice president and general manager.

Mr. Staadeker will have responsibility for equipment dispatch, traffic management, member services, non-member sales and equipment charters within Agri-Trans, as well as coordinating CF Industries' waterborne product movements. His duties over the last 12 months have been greatly expanded because of substantial involvement in the following new operational areas:

the UAN towing contract between CF Industries, Inc. and Agri-Trans Corporation; the CF Industries, Inc. tug/barge operations, and the Agri-Trans expansion into the barge freight trading areas.

He has been with CF Industries since 1974, beginning as a logistical analyst in the long-range planning of CF's water-oriented distribution system. Since Febru-

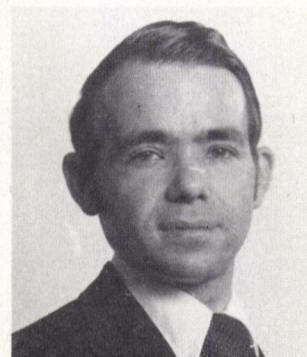
ary 1976, Mr. Staadeker served as director of Transportation Services, responsible for dispatch operations, member services and marketing services with respect to the river barging fleet of Agri-Trans Corporation and for CF Industries' Marine Transportation Operations (UAN towing and integrated tug/barge).



Paul J. Staadeker

Mr. Staadeker holds an MBA degree in business logistics from Pennsylvania State University and a BBA degree in economics from the University of Cincinnati. He also served from 1972-74 as an officer in the United States Air Force.

**Arnessen Corporation
Appoints Stephen Keller**



Stephen P. Keller

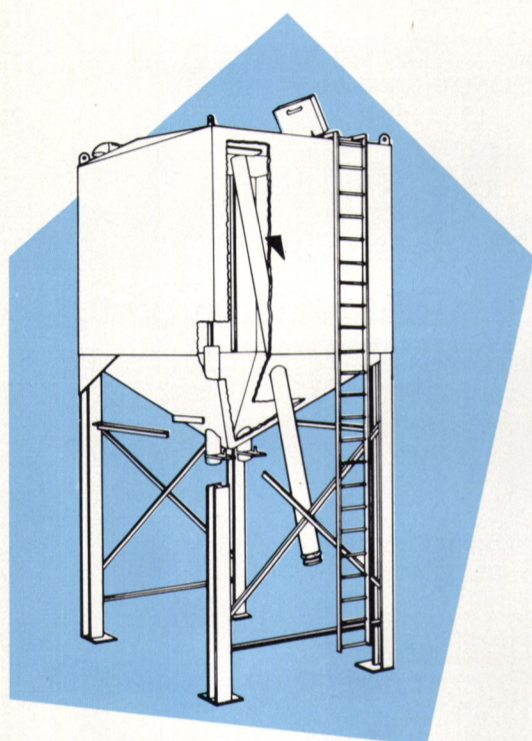
Egil Arnessen, president of The Arnessen Corporation, recently announced the appointment of Stephen P. Keller as manager, Navigation and Communication Systems. The Arnessen Corporation, through its subsidiary Arnessen Marine Systems, Inc., supplies and services a full range of vessel engineering, deck radio and bridge equipment. Mr. Keller will be responsible for the marketing of all navigation and communication equipment supplied by Arnessen.

Mr. Keller entered the maritime industry at ITT World Communications, where he served as marine sales specialist. Prior to joining Arnessen, he was responsible for the development of sales of satellite communications equipment and service for COMSAT General Corporation. He was involved with MARISAT from its inception.

Mr. Keller received a B.S. degree from St. Francis College, Brooklyn, N.Y., and an M.S. degree from the State University of New York Maritime College, Fort Schuyler.

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System components include an EVERCLOR® Marine Duty Chemical Feeder and appropriate models of RT pre-coat water filters. All components are adaptable to meet most marine and offshore applications. For detailed information, call or write:



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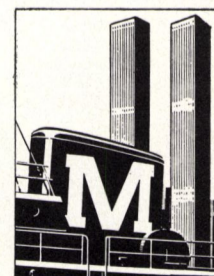
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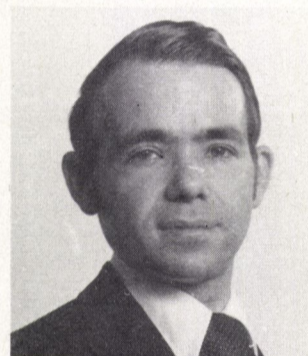
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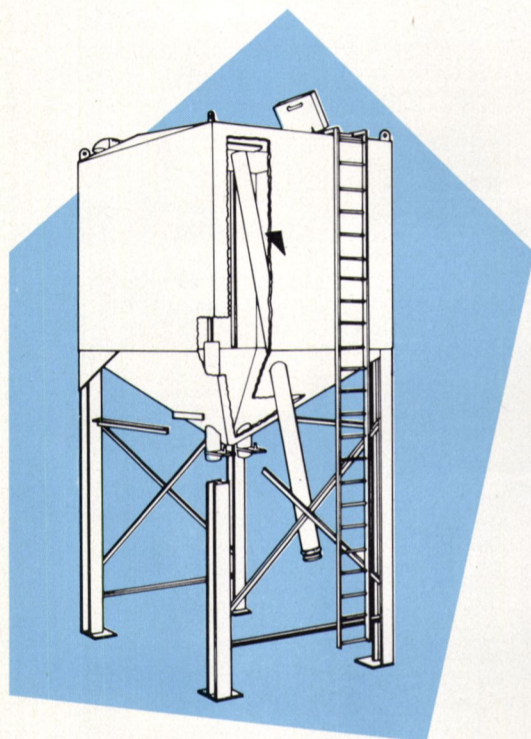
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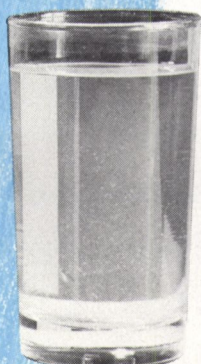
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Union Mechling Names Weber Fleet Manager

Harry A. Weber has been named fleet manager for Union Mechling Corporation, a barge transportation subsidiary of Dravo Corporation, Pittsburgh, Pa.



Harry A. Weber

Mr. Weber will be responsible for scheduling and assigning Union Mechling's 700 barge and 18 towboat fleet. He was formerly equipment coordinator for Dravo's Mineral and Metals Division, and has served Dravo in various divisions, including Union Mechling, for more than 30 years.

Union Mechling is one of the nation's largest barge lines, furnishing common and contract towing service as well as intermodal transportation expertise on the river system and the Gulf Intracoastal Waterway.

Delaval Turbine Wins \$20-Million Contract To Power New Cargo Fleet

Delaval Turbine Inc., Oakland, Calif., has won a \$20-million contract to supply marine engines to a new U.S. dry bulk cargo fleet, Delaval Division vice president and general manager Douglas H. Martini announced.

Delaval's Engine and Compressor Division of Oakland, under the project awarded by Livingston Shipbuilding Co., Orange, Texas, will provide each of the five new cargo ships with two RV-12 direct reversing engines. Each 12-cylinder engine is rated at 7,800 bhp. Because no new ships of this type have been built in the U.S. since 1944, Mr. Martini said, the program represents a significant revitalization of the U.S.-flag dry bulk fleet, which now consists of only 19 vessels.

Under a federally-subsidized ship construction program, the Maritime Shipping Administration will assist the shipowner, Livingston Falcon I Shipping Co., with nearly half the cost of the five cargo carriers. Total cost of building the 36,414-dwt, 616-foot ships will be more than \$200 million.

Delivery of the engines will be spread over a period of two years, starting in July 1979.

Delaval Turbine Inc., headquartered at Princeton, N.J., is a wholly owned subsidiary of Transamerica Corp.

Farboil Introduces STA-CLEAN Coating

An extra-strong antifouling coating, specifically developed to provide long-term protection to commercial ships in tropical waters, has been introduced by Farboil Company.

Trade named STA-CLEAN, the new coating is formulated with an organic antifouling compound that

synergizes the inorganic portion in order to extend the protection time between drydockings. It is based on an isoprene resinated polymer, and has been extensively tested in Florida for over two years.

STA-CLEAN can be applied by spray, brush or roller, although airless spray is the suggested method. At 77°F and 50 percent relative humidity, the coating dries to the touch in one hour,

and can be recoated after four hours.

Farboil Company, an operating unit of Beatrice Chemical, division of Beatrice Foods Co., produces and markets worldwide a full line of protective coatings for deepwater and inland waterways vessels.

For further information, contact Joseph Harrington, Farboil Company, 8200 Fischer Road, Baltimore, Md. 21222.



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Congressional Coalition To Seek Solutions To Shipyard Problems

A group of 41 members of Congress have banded together to form a bipartisan Congressional Shipyard Coalition that will direct its efforts toward the promotion of federal policies which will expand American shipbuilding and repairing.

At a news conference, **Lindy Boggs** (Dem.-La.) and **Paul S. Tribble Jr.** (Rep.-Va.), co-chairmen of the Coalition, explained that the group was created partially in response to the Administration's recommendation that naval shipbuilding be cut by 50 percent over the next 10 years. Congressman **Tribble** echoed **Mrs. Boggs's** concern that "There's no coherent recognition of the problems shipbuilders face and, without a coordinated policy on national shipbuilding, this trend will continue."

During the news conference that was held in the Capitol, the Congressmen expressed alarm over the sharp drop in merchant marine and naval ship construction in recent years. In a "Memorandum of Purpose," Coalition spokesmen declared that many shipbuilding facilities lie idle, and industries allied with shipbuilding are also suffering decline and unemployment. The Congressional Shipyard Coalition plans to seek "rational and reasonable" solutions to these problems within the existing framework of federal legislation, regulations and other policies which affect American shipbuilding.

"We plan no massive outlays of federal funds," states the Memorandum. Instead, Coalition members will work toward more cohesion and more coordination at all levels of government, industry and labor "in the evolution of a fully efficient and competitive U.S. shipyard industry. Noting the long tradition of shipbuilding in the United States, the Coalition expressed the hope that coordinated action could reduce unemployment and insure the availability of high quality shipyards for national defense and trade.

The complete text of the Congressional Shipyard Coalition's "Memorandum of Purpose" follows:

"The people of the United States, even before this Nation achieved its Independence, have been shipwrights and mariners. From Colonial times, the national security of the United States has relied on the availability of quality shipyard facilities for both shipbuilding and shiprepairing. Today, American shipyards employ in excess of 176,000 men and women. It is essential that this national resource be maintained.

"With alarm we observe the pace of merchant marine and naval ship construction dropping sharply. Prospects for additional work are now uncertain at best. Production facilities incorporating

modern shipbuilding techniques are threatened with inactivity. As a direct result, many supporting endeavors which employ skilled workers in all parts of the nation will be severely affected.

"Recognizing that positive actions to reverse developing trends are imperative, we, the undersigned, have joined together to form a Congressional Shipyard Coalition to pursue legislative as well as administrative remedies to the present situation. Our con-

cerns extend beyond parochial interests. Our purposes are to enhance the national security and gross national product.

"Accordingly, we the members of the Congressional Shipyard Coalition, pledge ourselves to the task of ensuring the continuity and sufficiency of a balanced shipyard capability and a trained shipyard workforce to accommodate the shipbuilding and ship-repairing needs of the United States at all times. We seek ra-

tional and reasonable solutions to current and coming problems. We seek the advice and countenance of those, in and out of government, who are equally concerned, but will exercise independent judgments.

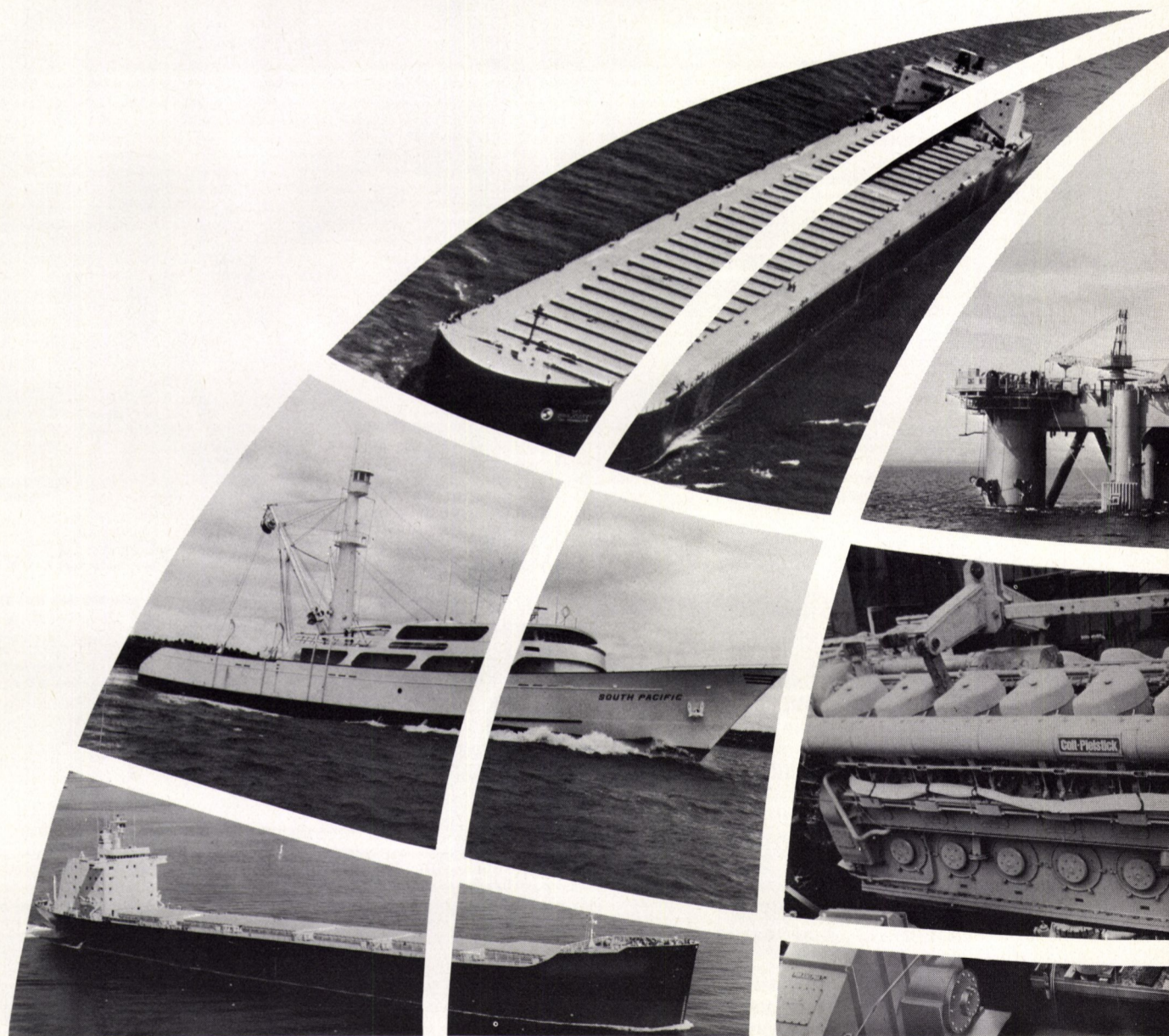
"We contemplate no unorthodox experimentation. We plan no massive outlays of federal funds. Within the framework of existing statutes, regulations and policies, we shall promote change pointed toward more cohesion, more co-

Look into the engine rooms of ships and work boats in every harbor. You'll find Fairbanks Morse engines. The Colt-Pielstick PC-2 and Fairbanks Morse 38D8-1/8 Series Opposed Piston diesel—both recognized around the world for reliability and operating economy.

Colt-Pielstick* PC-2

The Pielstick PC-2 is the most experienced, most widely used medium speed, high horsepower diesel engine in the world today. Over 41 million hours of operation—30 million hours on heavy fuels—attest to its reliability. Operating economy is also a matter of record. The U.S. built Colt-Pielstick PC-2 is more economical than conventional steam or gas turbine power plants. It is compact for greater space savings and bigger payloads. And that's why it's so widely used in tankers, ore carriers, bulk carriers, and ocean going tug-barges. Available in a 12 to 18 cylinder V-type configuration with ratings from 6,000 to 11,700 horsepower.

Fairbanks Morse



ordination and more effectiveness at all levels of government, industry and labor in the evolution of a fully efficient and more competitive U.S. shipyard industry.

"To these ends, we, the members of the Congressional Shipyard Coalition, hereby dedicate our best efforts and earnestly solicit the cooperation of our colleagues."

Members of the Congressional Shipyard Coalition are: **Joseph P. Addabbo** (D-N.Y.), **Glenn M. An-**

derson (D-Calif.), **Thomas L. Ashley** (D-Ohio), **Lindy Boggs** (D-La.), **John B. Breaux** (D-La.), **Clair W. Burgener** (R-Calif.), **James A. Burke** (D-Mass), **Goodloe E. Byron** (D-Md.), **William S. Cohen** (R-Maine), **John E. Cunningham** (R-Wash.), **Robert W. Daniel Jr.** (R-Va.), **Mendel Davis** (D-S.C.), **Norman D. Dicks** (D-Wash.), **Robert W. Edgar** (D-Penna.), **Jack Edwards** (R-Ala.), **David F. Emery** (R-Maine), **James J. Florio** (D-N.J.), **Bo Ginn**

(D-Ga.), **Marjorie Holt** (R-Md.), **Joseph A. LeFante** (D-N.J.), **Robert L. Livingston** (R-La.), **Clarence D. Long** (D-Md.), **Gillis W. Long** (D-La.), **Trent Lott** (R-Miss.), **Barbara Ann Mikulski** (D-Md.), **Parren J. Mitchell** (D-Md.), **Henson Moore** (R-La.), **John M. Murphy** (D-N.Y.), **Morgan Murphy** (D-Ill.), **Mary Rose Oaker** (D-Ohio), **Joel Pritchard** (R-Wash.), **Fred B. Rooney** (D-Penna.), **Gladys Noon Spellman** (D-Md.), **Fortney H. Stark** (D-Calif.), **David C.**

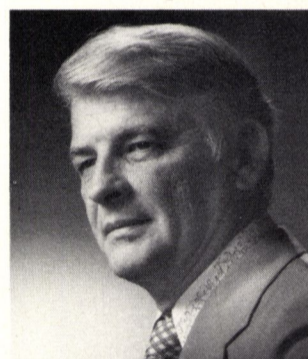
Treen (R-La.), **Paul S. Tribble** (R-Va.), **Lionel Van Deerlin** (D-Calif.), **Joe D. Waggoner** (D-La.), **G. William Whitehurst** (R-Va.), **Bob Wilson** (R-Calif.), and **Leo Zeferetti** (D-N.Y.).

G.A. Watkins To Head Global Transport's International Division

Global Transport Organisation, San Francisco, has formed a separate division for international tug and barge transports which will be headed by **G.A. Watkins**, according to a recent announcement by **Leo L. Collar**, chairman of GTO's Management Committee.

GTO already has established a reputation as a worldwide transporter of offshore drilling rigs, mammoth modules, dredging equipment and other heavy-lift and outsized cargoes.

"Though GTO pioneered many of the innovative techniques in ocean transport of heavy-lift cargo," said Mr. Collar, "we now find ourselves in a very competitive market for this type of work. Formation of the Ocean Transport Division enables GTO to focus its resources on aggressive pursuit of more business in this market, which in turn will allow our continued advancement in modern transportation."



G.A. Watkins

Mr. Watkins has been appointed manager of the division with responsibility for directing GTO's expanded marketing efforts and overall operations in international ocean transportation. He has been a long-time executive with Crowley Maritime Corporation, and was initially involved with the formation of GTO several years ago.

The Ocean Transport Division will maintain its own marketing staff in San Francisco and utilize operational and technical personnel, equipment, international offices and other resources of GTO and its member companies.

Member companies include Crowley Maritime International, a subsidiary of Crowley Maritime Corporation, San Francisco; Federal Pacific Limited, a part of Federal Commerce and Navigation, Montreal; and Genstar Overseas Limited, a division of Genstar Limited, Montreal. The collective resources of these companies make available over 200 oceangoing tugs, 400 barges, some 40 offices throughout the world, and a variety of skilled and experienced cargo transport personnel.

Fairbanks Morse 38D8-1/8 Series

The Fairbanks Morse 38D8-1/8 Series Opposed Piston diesel engine is also a standout for propulsion and other marine applications. Its success spans more than 40 years—almost 9,000 engines built. Marine use includes tow boats, tugs, naval and coast guard vessels, tuna boats, offshore drilling rigs, ships service, even standby use on nuclear submarines. The opposed piston design delivers maximum power in limited space. Available with 4 to 12 cylinders, up to 4,200 horsepower.

For complete information about Fairbanks Morse and Colt-Pielstick engines for your marine requirements, write Colt Industries, Fairbanks Morse Engine Division, Beloit, WI 53511.

Fairbanks Morse

Engine Division

Colt Industries



*S.E.M.T.—Pielstick is a registered trademark of Societe d'Etudes de Machines Thermiques, Paris, France.

covers the globe.



Mobil Oil Corporation Names Harmon Hoffmann And Walter C. Mink Jr.

Harmon F. Hoffmann has been appointed vice president and general manager, Marketing, for Mobil Oil Corporation's U.S. Marketing and Refining Division, succeeding William V. Butler, who has elected early retirement at the end of this year.

Mr. Hoffmann, who since 1976 has served as general manager, Marine Transportation, Middle East Transportation and Supply, will be succeeded by Walter C. Mink Jr. Mr. Mink rejoins Mobil Oil as a vice president after serving as president of Seabrokers, Inc., and as a director of Seabrokers' parent company, H. Clarkson and Co., Ltd., London.

Mr. Butler joined Mobil in 1944 and held a number of marketing

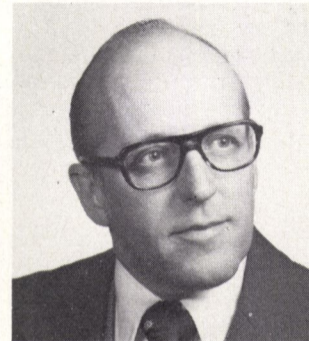
positions before being named general manager, West Coast Division, in 1966. Two years later, he was appointed general manager, Resale Marketing. He was promoted to vice president and general manager in 1976.

Mr. Hoffmann joined Mobil in 1954. Before a transfer to the Marine Transportation Department in 1972 as manager, Operations and Charting, he was general manager, Planning and Fi-

nancial Analysis for the then North American Division.

In 1964, Mr. Mink joined Mobil Oil as manager, Scheduling, Marine Department. A few months later, he was named manager, Traffic. In 1968, he joined Seabrokers as executive vice president, chief operating officer and director. In 1976, he was elected president and chief executive officer, retaining responsibilities as the company's chief operating officer.

Bird-Johnson Opens Washington, D.C. Office



Robert C. Case

Bird-Johnson Company, Walpole, Mass., has opened an office in the Washington, D.C. area, located at 2300 Ninth Street, South, Arlington, Va. 22204. It will be headed by Robert C. Case, who has been named director of special projects.

"In this capacity," stated company president Howard H. Scott, "Mr. Case will function as a liaison with government agencies, providing both sales and technical support for all products marketed by the Marine and Fluid Power Divisions. His involvement in major government programs during the past 12 years, and working knowledge of power transmission systems, is ideally suited to the responsibilities of this position."

Having joined Bird-Johnson in 1971, Mr. Case previously served as project manager for the DD963 and FFG programs. This entailed interfacing with the U.S. Navy on all aspects of the main propeller equipment supplied for these vessels, including contract negotiations, proposal preparation, technical support, financial management and scheduling. Prior to this assignment, he was employed by Litton Industries as manager of system integration during the contract definition phase of the FDL project, LHA project and DD program. Mr. Case has also served within the U.S. Navy's Propeller Design Code and Shafting Branch, and has worked as Chief of the Machinery Design Branch for the United States Coast Guard.

Having obtained his BME degree from New York State Maritime College, he holds a P.E. license in Washington, D.C. In addition, full membership is held in The Society of Naval Architects and Marine Engineers, as well as the American Society of Naval Engineers.



Tom Degnan, vice president, tells how A&A works from a client's point of view:

"We realize shipowners today who stand still are out of business in three years."

"To survive in today's climate of overabundant shipping, owners have to do one of two things: they can either tighten their belts or they can diversify, expand, look for new concepts. Our marine department has a tradition of innovation, and we can adapt regardless of trends. We'll continue to come up with the new ideas and create markets for new concepts. Our job is to anticipate all the needs of our worldwide clients and translate them into creative programs that fully protect them in any eventuality. We determine the exposures and get the best markets to cover them, negotiate difficult contracts, assist general averages, do com-

puterized loss studies and work with government officials, environmentalists and marine architects on legislative matters. Our full-time job is doing whatever we can from the insurance side to help shipowners."

Working from a client's point of view is our way. In New York, where Tom Degnan heads the marine department. And in over 110 cities here and overseas. That means working as allies, solving business problems together. Because our marine group is thoroughly diversified, with fully-staffed marine adjustment facilities and first-rate overseas correspondents, we can meet any

client need through the whole spectrum of the maritime industry, from heavy hulls and river transportation to liners, charters, crude carriers, chemical ships and offshore operations.

We think our dedication to acting as an ally of the clients we represent is a big reason why A&A has become a worldwide leader in the insurance brokerage and financial services business. We have the facilities, expertise and strength to act as effective allies. We work from the client's point of view, whether the corporation is large or small.

**Alexander
& Alexander
The Allies**

Our LTG reheat boiler.

For increased reliability in today's energy-saving reheat steam plants.

The LTG (Low Temperature Gas) reheat boiler from Combustion Engineering utilizes either C-E's reliable V2M-8 or V2M-9 boiler configuration, with a separately fired, water-cooled reheat furnace added after the main generating bank. The reheater is mounted above the boiler outlet in a relatively low temperature gas environment.

During the reheat mode of operation, fuel flow is divided between the superheat and reheat furnaces. But during non-reheat modes of operation, the fuel flow to the reheat furnace is secured. The reheat tubes are not subjected to high temperature gases. So no cooling steam is required. There are no dampers to fail.

There's no chance of exposure to high radiant heat output.

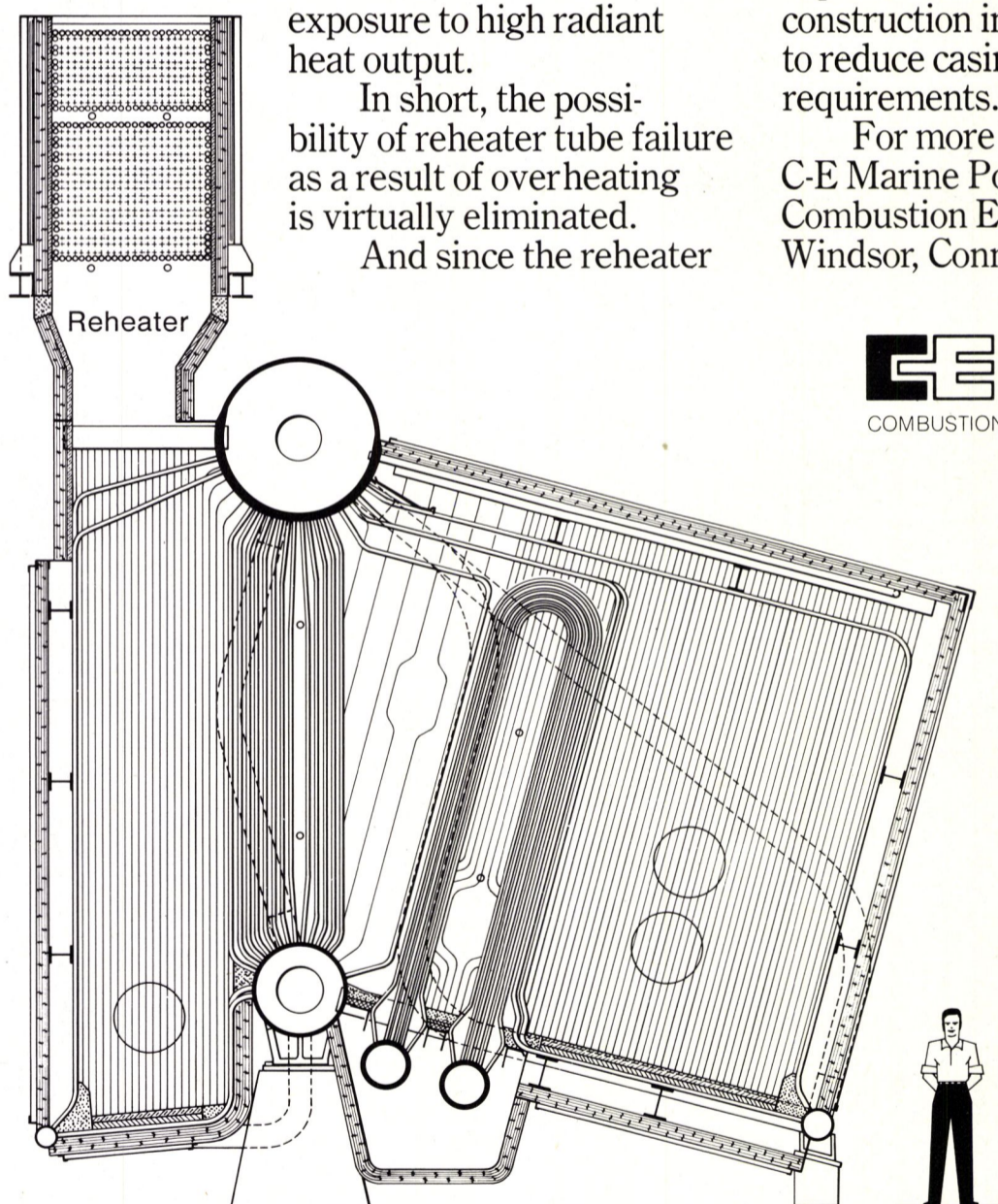
In short, the possibility of reheater tube failure as a result of overheating is virtually eliminated.

And since the reheater

is located in a relatively low temperature gas environment, maldistribution of steam flow during normal reheat operation becomes less critical, allowing for a lower pressure drop.

Then, too, dependability is increased and maintenance needs are decreased through the use of bare alloy steel tubing in the reheater, vertical superheaters, and welded wall construction in both furnaces to reduce casing and refractory requirements.

For more information, write C-E Marine Power Systems, Combustion Engineering, Inc., Windsor, Connecticut 06095.



CE POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

C-E experience pays off. On the bottom line.

The Third Generation Roll-On/Roll-Off Ship

The M/S Boogabilla

H. Ando, A. Miura and S. Namba*

The recently completed M/S Boogabilla is classed by its builders and owners as the third generation of deepsea roll-on/roll-off vessels. The ship incorporates several new items for this type of vessel, such as a large-bore, slow-speed diesel engine; three parallel trafficways, and a jumbo angled stern ramp.

The Boogabilla was designed and built by Mitsubishi Heavy Industries, Ltd. at its Koyagi Works of Nagasaki Shipyard for Scan Carriers, under contract by Transatlantic Reederi. The owner's unique ro/ro service requirements also were integrated into the design.

The vessel has four cargo decks consisting of tank top (deck 1), weather deck (deck 4) and two in-between decks. A hoistable car-deck in the cargo space below deck 3 and two tiers of hoistable and partly fixed car-decks at the forward part of deck 3 are also provided. A large quarter stern ramp, designed for a total load of 400 tons, is fitted at the stern end of deck 3, from which cargoes are loaded or unloaded and distributed to other decks through onboard rampways.

The machinery space and accommodations are located aft. Deck 4, below the accommodations, also is utilized as a cargo space. A funnel for the engine exhaust is located on the starboard side aft and is also used as the stern-ramp post. In order to obtain additional versatility, breakbulk refrigerated cargo spaces and tallow-oil tanks are provided in the aft part of deck 2 and the forward end of the cargo spaces respectively.

Cargo spaces, including the weather deck, are designed and equipped with a complete stowage pattern for containers. However, the capacity for carrying all kinds of general cargo was pronounced in the design criteria. All decks have neither sheer nor camber. Clear deck heights for cargo loading and other design conditions are: deck 1—10 feet 6 inches; deck 2—20 feet 8 inches; deck 3—20 feet 8 inches, and deck 4—17 feet 8½ inches (below deck 5) and elsewhere 20 feet 8 inches.

Fifty tons of axial load with six wheels, assuming fork lifts with a 20-foot container, a trailer loaded with two 20-foot containers, LUF trailer loaded with eight 20-foot containers and 150 tons payload wagon also were considered as design conditions. In addition, the aft section of deck 3 is specially reinforced to load heavy cargo.

*Mr. Ando, deputy manager, No. 2 Ship Designing Department, Nagasaki Shipyard & Engine Works; Mr. Miura, project manager, Ship Engineering Department, and Mr. Namba, project manager, Ship Engineering Department, Mitsubishi Heavy Industries, Ltd., Japan, presented the paper abstracted here before a recent meeting of the New York Metropolitan Section of The Society of Naval Architects and Marine Engineers. Copies of the paper may be obtained through the SNAME headquarters in New York.



The ro/ro ship Boogabilla performing during sea trials.

The pillars in the cargo space are located along the centerline at intervals of about 52 feet. The width of the double hull as well as the pillar intervals were decided from both a structural and a loading configuration point of view. Sunken-type sockets for container positioning cones are arranged on each deck for standard modules, arranged to fix 10 units of 20-foot containers or five units of 40-foot containers athwartship or longitudinal. Inside the cargo space, structural members are constructed so smooth and fair that vehicles can work safely without caution to protrusions.

The clear width of rampways was decided, taking the forklift with a 20-foot container into consideration. The width of ramps is as follows: deck 3 to deck 4—27 feet 3 inches, deck 3 to deck 2—38 feet 5 inches, and deck 2 to deck 1—25 feet. The average gradient of rampways is 1:8 to horizontal, but the details of the shape near each end were carefully designed to suit the type of vehicles used onboard.

Hull Construction

Complete double-hull construction and a watertight bulkhead with very large watertight doors, located forward of midships, are provided. The double hull and the bulkhead with doors are vertically extended up to deck 4 from deck 1, although the freeboard deck is deck 3. In addition, the ramp cover on deck 3, which covers the inboard rampway between deck 3 and 2 is watertight. These features, even though they are not required by national and classification regulations, greatly improve the total ship's safety against penetration damage.

There is neither vertical cargo hatchways nor cargo gear for lift-on/lift-off service. There is no cargo lift connecting each deck

Principal Characteristics

Length overall	749 feet 6 inch
Length between perpendiculars	688 feet 10 inch
Breadth, molded	105 feet 10 inch
Depth, molded	66 feet 3 inch
Draft, loaded	35 feet 5 inch
Deadweight tonnage	31,500
Block coefficient	abt. 0.66
Classification	Lloyd's Register
Flag	Sweden
Main propulsion	Mitsubishi Sulzer 9RND90M 30,150 hp @ 122 rpm 27,140 hp @ 118 rpm
Speed @ 27,140 hp and 29 feet 8 inch draft	22 kt
Container capacity (TEU)	1707

so that simple and quick cargo-handling work and less maintenance work can be expected.

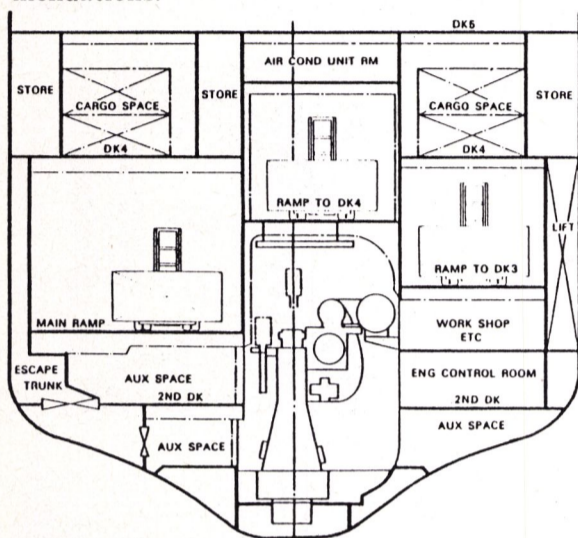
Ventilation

As is the case in ro/ro ships, an important item is the hold ventilation system. The ventilation of cargo holds is by many exhaust and supply fans located on deck 4, forward end and both starboard and port side, with ducts led inside the double hull construction. Air in the hold flows in an athwartship direction during the voyage and in a longitudinal direction during loading and unloading, exhausting air through the opened stern door, the casing door on deck 4 and the inboard ramp covers. The ventilation was designed taking account of the gas content of CO and NOx below certain levels during an assumed cargo-handling condition. Air changes are: deck 1—30 times per hour, deck 2—25 times per hour and deck 3—20 times per hour. Additionally, an air-agitation system for preventing local concentration of exhaust gas is provided.

Generally, the environmental working conditions for the stevedores will be the same

on all decks although there are a different number of air changes per hour. It is not sufficient to use the number of air changes as a design criteria, and consequently new criteria was developed and used for this vessel.

As to fire protection for cargo holds a smoke-detecting system, gas-detecting system and carbon-dioxide fire-extinguishing system are provided. The carbon dioxide system is of the low-pressure type and has a quantity corresponding to 45 percent of the largest compartment. Two-thirds of the gas capacity can be discharged within 10 minutes so as to meet IMCO's latest recommendations.



Section through the engine room showing location of ramps.

Hydrodynamic Design

To fulfill the basic characteristics of the vessel, such as, geometrical configurations, deadweight, ship's speed, trim and stability and precautions for vibrations, ship's hull form was carefully developed on the basis of extensive builder's experience and investigations in this field.

As the ship's breadth and draft were given by the owner from the cargo handling and operation point of view, the ship's length was the only variable parameter in the optimization of the ship's dimension. After parametric studies of variation in ship's length, block coefficient and required power of the main engine, a ship's length of 688 feet 10 inches was selected.

So as to obtain an optimum hull form, five kinds of hull forms were tested. Starting with the original hull form designed on the basis of existing data, investigations were made into the effect of size and shape of bulbous bow, load waterline and frame line shapes.

The aft body lines were very carefully designed to minimize the propeller exciting forces with an improved wake distribution and frame lines as well as for obtaining a good performance of ship's speed. The difficulty of the design of the aft body consisted of resolving inconsistent demands. Full breadth was required even at the aft end, and the draft was shallow compared with the breadth and the higher main engine power (larger propeller diameter).

Safety Measures

Various safety measures have been adopted at the owner's request.

The rampway between deck 3 and deck 2 is covered by a watertight ramp cover, dividing the vessel into two compartments horizontally. The cover is designed to have watertightness with flooding above or below deck 3. Bilge suction lines from deck 3 are

directly led to the engine room. These lines are separated from those from deck 1.

Eight sets of freeing ports with valves with a 19½-inch diameter are arranged on the side shell just above deck 3. The valves can be remotely controlled from the deck control room with hydraulic devices. These freeing ports are provided for releasing the water directly overboard.

A watertight bulkhead with very large watertight doors is arranged between the decks from deck 1 to deck 4, on a vertical line, in order to divide the cargo space into two compartments vertically. These doors were carefully designed and arranged not to interfere with the requirements for easy cargo handling.

Pipe passages on both sides on deck 1 are cross-connected at the forward end, which enables the list of the vessel to be smaller automatically when one side passage is damaged.

Double-hull construction was provided from deck 1 up to the weather deck, although deck 3 is designated as the freeboard deck. This construction makes the inner surface flat which enables rapid cargo handling and also makes the ship safer. The double hull between deck 3 and deck 4 contributes to the adjustment of the rolling period in ballast conditions by providing ballast-water tanks as well as increasing the residual buoyancy and residual BM when full vertical penetration should occur.

Each ventilating duct from the cargo spaces was fitted with a watertight damper on the top of the fan, which is remotely controlled from the deck control room. It prevents the air from flowing out freely and makes the flooding time longer when the cargo space is flooded, as well as acting as a fire damper.

All ventilating ducts for cargo spaces are independently led from the weather deck to each deck concerned and the ducts are led with triple hull construction below the freeboard deck to avoid direct flooding into the cargo spaces from a small damage to the outer shell.

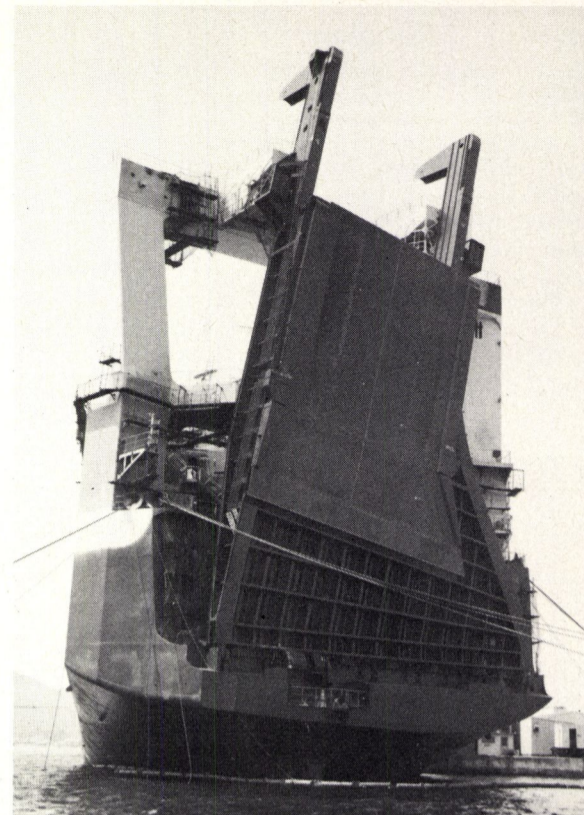
Escape trunks are arranged from the cargo spaces to the weather deck through the double-hull construction and a watertight door is provided on every entrance to the trunk to avoid free connection between each deck space and also to avoid direct flooding into the cargo spaces by damage to the outer shell.

No side port opens directly into the engine room or cargo space below the freeboard deck. This concept avoids eventual flooding from the side port when it is opened or damaged.

Design Items

One of the main points of the vessel is the installation of a slow speed diesel engine (Mitsubishi Sulzer 9RND90M rated at 30,150 hp maximum and 27,140 hp normal rating, 122 rpm and 118 rpm respectively) for propulsion. Generally, the slow-speed diesel engine is advantageous due to the lessened fuel costs of heavy fuel oil, lower lubricating-oil consumption, and less maintenance due to the smaller number of cylinders. However, the engine height required for overhauling is a major disadvantage for ro/ro arrangements.

This problem was studied together with the machinery room arrangement and the inboard traffic arrangement. The machinery is arranged within the limited space incorporating the main engine, four diesel alternators, engine control room, work shops and



The jumbo stern ramp on the Boogabilla in the housed position.

many tanks as well as all the usual auxiliaries. The engine room length is 110 feet 3 inches.

The exhaust trunking from the main engine and the auxiliaries are horizontally led to the starboard side and up to the offset funnel which is also used as the stern ramp post.

One side thruster is installed at the bow and one at the stern.

Three traffic lanes on the aft end of deck 3, consisting of an upward rampway to deck 4, a downward rampway to deck 2 and a horizontal way to deck 3 forward, are arranged in parallel just above the engine room. This arrangement was required from a cargo-handling point of view. The solution was attained by arranging the upward rampway at the ship's center so that the space below could be utilized to install the diesel engine.

A very big fixed quarter-type stern ramp with a separate weathertight stern door is the third special item. The access at the aft end of deck 3 is 86 feet 7 inches wide and 22 feet high. The height of deck 3 above the baseline at the stern, that is the "threshold height" is 47 feet 7 inches. The height of the kingpost for supporting the ramp is about 158 feet above the baseline.

In order to make this arrangement feasible, together with a wide stern access, the full breadth of the ship had to be extended to almost the aft end on deck 3.

In addition, ro/ro ships generally have a tendency to trim by the stern due to cargo and lightweight distribution, consequently the longitudinal center of buoyancy has to be located further aft than on ordinary cargo ships.

Mitsubishi Heavy Industries, Ltd., at the time of delivery of this special vessel, acknowledged that without the extensive co-operation rendered by the owner, regulatory bodies, subcontractors, and all people concerned with the initial design, detail design, research and experiments, approval of the design, procurements of many components, fabrication at site, tests and inspections, etc. this project would not have been as successful as it has been.

Dredge Technology Announces Contracts

Dredge Technology Corporation, a company owned jointly by IHC Holland and John J. McMullen Associates, Inc., has been selected to provide dredging equipment for the new dredge Eagle I, owned by Eagle Dredging Corporation, a joint venture of Royal Adriaan Volker Company of Rotterdam, Holland, and C.F. Bean

Company in New Orleans, La. This order covers most of the dredging system for the vessel and is valued at several million dollars. The preliminary and contract designs for this ship were prepared by Dredge Technology Corp., utilizing the services of McMullen Associates and IHC Holland.

At the same time, Dredge Technology announced receipt of a contract for the preliminary design

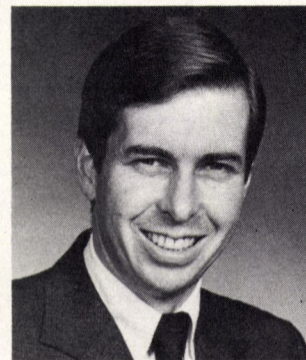
of a new split hull trailing suction hopper dredge for T.L. James & Company of Ruston, La. This ship design will also be a joint effort by IHC Holland and McMullen Associates, with IHC Holland preparing the preliminary design and McMullen Associates preparing the contract design to U.S. standards.

John J. McMullen Associates, Inc. is one of the world's leading firms of naval architects, marine

engineers and consultants, and IHC Holland is the largest supplier of dredges and dredging equipment in the world. Dredge Technology Corporation is located at One World Trade Center, New York, N.Y. 10048.

Worthington Compressors Names Hands President

The appointment of **Geoffrey W. Hands** as president and chief operating officer of Worthington Compressors, Inc., Holyoke, Mass., effective January 1, 1979, has been announced.



Geoffrey W. Hands

Mr. Hands, presently president of Worthington-Turbodyne International, Inc., Brussels, Belgium, will be headquartered at Worthington Compressors' corporate headquarters in Holyoke, according to **O.E. Powers**, chairman and chief executive, who made the announcement.

Mr. Hands joined Turbodyne Corporation as chief financial officer in December 1973. In January 1977, he was appointed president of Worthington-Turbodyne International, Inc., when all international activities of both the Compressor and Turbodyne companies were placed under a single management, including manufacturing, marketing and sales. He is a certified public accountant, and received his A.B. degree from Dartmouth College and his MBA degree from Amos Tuck School of Business Administration. Prior to joining Turbodyne, he was associated with McKinsey and Company, and Arthur Andersen & Co.

Gdynia America Line Names Eccles And Mullen

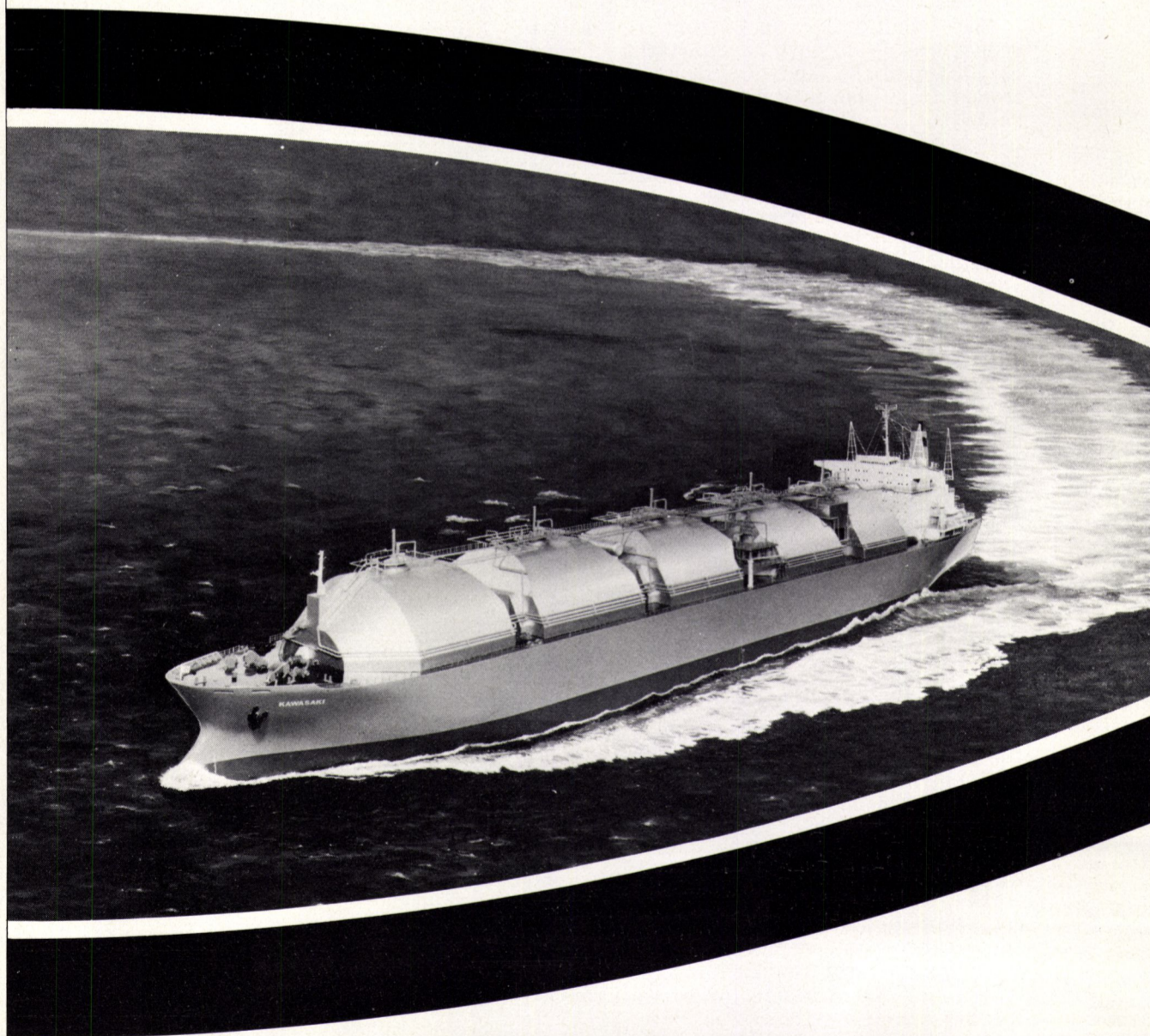
Gdynia America Line, Inc., general agents for Polish Ocean Lines, has announced the appointments of **Walter Eccles** and **Gregory F. Mullen** as account managers in their Sales and Marketing Department.

Mr. Eccles joined Gdynia America Line, Inc., after having previously served Funch Edye & Co., America Mail Line, Kerr Steamship Co. and most recently, Barber Steamship Co. in the capacity of sales and traffic representative.

Mr. Mullen was previously associated with Seatrain Agencies Inc., and Boise Griffin Steamship Co., Inc., in sales/marketing capacity.

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M/V *Dennis Hendrix* is 180 ft. long, has a 52-ft. beam and a 9-ft. draft. High-alkalinity CAPRINUS R Oil 40 is helping each of her three EMD16-645 E5's dependably deliver 2,800 hp at 900 rpm.

How Shell's CAPRINUS[®] R Oil 40 is helping keep EMD's clean with low wear in the 8,400-hp Dennis Hendrix

High dispersancy and anti-wear properties of Shell's high-alkalinity oil contribute to excellent condition of EMD16-645 E5's after ten months' service.

One of the most powerful towboats on the waterways, the M/V *Dennis Hendrix*, was built by Jeffboat, Inc. It has been in service since July, 1977 for the American Commercial Barge Line located in Jeffersonville, Indiana.

Under her three stacks are three EMD16-645 E5's on Shell CAPRINUS[®] R Oil 40, each rated at 2,800 hp to give the vessel her payload thrust of 8,400 hp.

CAPRINUS R has delivered trouble-free performance for over

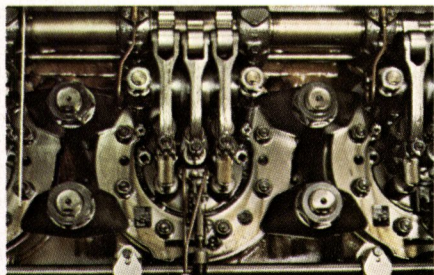


Ports are virtually 100 percent open for this cylinder after 5,564 hours on CAPRINUS R Oil 40. Average top ring side clearance .0096 inches. No chipping or scuffing of rings. CAPRINUS R Oil 40 fights deposit buildup and wear, helps lengthen the service life of critical engine parts.

5,560 hours in the port and starboard engines, and for slightly fewer hours in the center engine.

Exceptional cleanliness; low wear

When the vessel docked for a minor mechanical repair, there was an opportunity to inspect her engines. Appearance: excellent. Top decks were clean, free of sludge and lacquer. There were only light carbonaceous deposits in the airbox.



After 5,564 hours on CAPRINUS R Oil 40, the top deck of the port engine is sparkling clean; cams polished; heads metal bright. This demonstrates the effectiveness of the high dispersant additive system in CAPRINUS R Oil 40.

CAPRINUS R Oil's dispersant additive system helps keep contaminants in suspension, prevents heavy deposit buildup on filters. That can mean important savings.

High alkalinity stays on guard

CAPRINUS R Oil *retains* its high alkalinity in extended high-stress service. It neutralizes combustion acids, combats piston and liner wear and the formation of deposits — all at a moderate ash level. Another benefit: CAPRINUS R Oil offers superior resistance to oxidation and viscosity increase over long periods.

Send for our new brochure. See why nearly 100 towboats have made the switch to CAPRINUS R Oil 40! Just write: Shell Oil Company, Manager, Commercial Communications, One Shell Plaza, Houston, Texas 77002.

*CAPRINUS is a trademark and is used as such in this writing.

Garland Bradley, Chief Engineer, summed up his impression in one word: "Beautiful!"

Wear levels were equally impressive. Top ring side clearance of port and starboard engine pistons averaged a low .0096 inches. No scuffing or chipping of rings.

Filter life up to 2,776 hours

Filter life is running longer than with the previously used oil — up to 2,776 hours on one of the engines. That's not surprising.



**Come to
Shell for answers**

GE Credit Buys 188,500-DWT Tanker For \$84.9 Million

The General Electric Credit Corporation (GECC), Stamford, Conn., announced it has acquired through a leveraged lease transaction its 12th tanker, the 188,500-dwt B.T. San Diego, from National Steel and Shipbuilding Company, San Diego, Calif.

Purchase price of the new vessel, which completed its sea trials in September, was \$84,878,000.

The B.T. San Diego is a sister-ship to the B.T. Alaska, which was acquired by GECC in March 1978. It is 951 feet long and has a cargo capacity of 1.3 million barrels of oil.

Under the leveraged lease arrangement, GECC made an equity investment of more than \$29 mil-

lion, and has entered into a 23-year bareboat charter to Marine San Diego, Inc. Marine San Diego, a wholly owned subsidiary of Marine Transport Lines, Inc., has in turn arranged a time charter to Shell Oil Company.

The B.T. San Diego, like the B.T. Alaska, will initially be utilized to transport Alaskan crude to Balboa, Canal Zone, for transshipment through the Panama

Canal to Gulf and East Coast refineries.

With the addition of the B.T. San Diego, the General Electric Company financial subsidiary now owns 12 tankers with an aggregate tonnage of 1,732,000-dwt and a first cost of more than \$817 million. It is the largest fleet of U.S.-flag tankers under one owner.

GECC also expects to acquire two additional tankers this year, and has 1979 commitments for two supertankers to be chartered to Shell Oil.

GECC is the world leader in leveraged leasing of transportation and industrial equipment, with more than \$3 billion of such equipment on its books.

W. Craig Borneman Joins The Ohio River Company



W. Craig Borneman

Earle Faig, vice president, Sales, for The Ohio River Company, announced that **W. Craig Borneman** has joined the company as general sales manager. Mr. Borneman will be handling sales for the Cincinnati-based Ohio River Company, Eastern Associated Terminals Company, Orgulf, and Red Circle Transport Companies. All four companies are subsidiaries of Midland Enterprises Inc., one of the nation's largest inland waterways transportation companies.

Mr. Borneman is a graduate of the University of Cincinnati, and a member of the American Society of Civil Engineers.

New Caterpillar Brochure Features Marine Systems For Cargo Transport

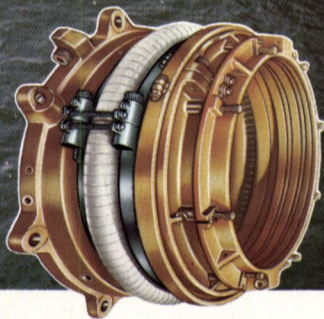
Caterpillar offers a new eight-page brochure featuring Marine Systems in worldwide cargo transport applications. Diesel engines, matching transmissions, generator sets, and customer benefits are discussed.

Cat offers marine diesels for propulsion, pumps and mechanical drives from 85 hp to 1,125 hp (63 kw to 839 kw); matching marine transmissions for maximum power train performance; and generator sets for auxiliary power from 55 kw to 800 kw (60 Hz), 50 kw to 330 kw (50 Hz).

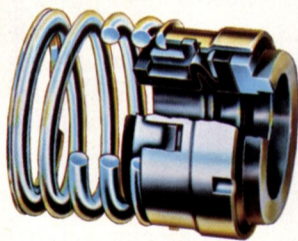
The brochure, "If You Make Your Living from Shipping," is available from Caterpillar Dealers by asking for Form No. LEDM-1416, or by writing Caterpillar Sales Development, Engine Division, NS-682, Peoria, Ill. 61629.



John Crane* engineered sealing goes aboard the USS Arthur Radford



Type 383MA on the propeller shaft.



Type 1 Shaft Seal in the fire pumps, sea water cooling pumps, SSTG cooling water pumps, distiller feed pumps, waste heat boiler recirculating pumps, air compressor cooling water pumps and sewage plant effluent, transfer and grinder pumps.

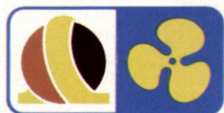
Once again, John Crane demonstrates its engineered sealing expertise with the recent successful installation of its Type 383 stern shaft seal on board the USS Arthur W. Radford—DD968 for an operational evaluation.

This innovative seal design can be expected to provide maintenance-free operation for a period in excess of 48 months, eliminates shaft liner wear and reduces gland leakage, thereby virtually eliminating corrosion problems with the line shaft bearing and other components in the immediate area of the seal.

This seal design has currently demonstrated the capability to accommodate gross misalignment and axial shaft motions in excess of $\pm .600"$ without hampering performance.

In addition to main propulsion shaft sealing, John Crane also proves its capability to meet tough Navy Mil-spec requirements for dependability in supplying quality pump shaft seals for auxiliary equipment on this class of destroyer.

John Crane engineered sealing means dependability and longer-lasting high performance. Write for Catalog No. 62 or contact one of our qualified marine field engineers for more information on John Crane engineered fluid sealing products.



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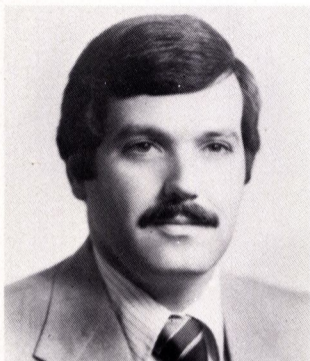
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Patrick J. Marcello
Elected Vice President
Moran Shipping Agencies

Patrick J. Marcello has been elected vice president of Moran Shipping Agencies, Inc., according to F. Robert Black, chairman of the board and chief executive officer. Headquartered in Providence, R.I., Moran Shipping Agencies, Inc., serves over 50 ports from Maine to Texas, through eight offices in six states.



Patrick J. Marcello

Mr. Marcello has most recently served as operations manager in New York, before which he was operations manager in the Providence office. Prior to joining Moran Shipping Agencies, Inc., in 1974 as an agent, he served in the U.S. Coast Guard, with his last assignment the Marine Inspection Zone in Providence.

A native of Warwick, R.I., Mr. Marcello studied business administration at Providence College.

Founded in 1937, Moran Shipping Agencies, which handles tankers, LPG and LNG, container, general and bulk cargo vessels, is owned by Moran Transportation Industries, Inc. Other MTI companies are J.F. Moran Co., Inc., custom house brokers and international freight forwarders, and Moran Air Cargo, air freight forwarders.

Mr. Black, who is also president and chairman of the board of Moran Transportation Industries, Inc., stated: "Mr. Marcello's responsibilities as vice president of Moran Shipping Agencies, Inc., will also involve sales activities and strengthen our overall expansion program."

Jackson Marine And
Abu Dhabi Form
Operating Company

Jackson Marine Corporation, P.O. Box 1087, Aransas Pass, Texas 78336, and the Abu Dhabi National Oil Company (ADNOC) have established National Marine Services to operate boats in the waters of Abu Dhabi. ADNOC owns 60 percent of the venture, and Jackson Marine owns 40 percent. It is proposed that four existing charter agreements for Jackson vessels will be assigned to the firm. Jackson Marine's A.E. (Gene) Domaschk will be general manager.

December 1, 1978

Extensive Line Of
Industrial Tachometers
Described In New Catalog

An extensive line of self-generating electric tachometers with various magnetos, indicators, drives, and accessories is described in a new catalog available from the Electric Tachometer Corp.

The 12-page catalog shows the many stock variations of the company's Model 120 line, including eight standard magnetos and over 20 different digital and analog (dial) indicators suitable for precise, long-term measurement of any speed function such as RPM, Feet Per Second, Units Per Hour, etc. Also shown are various drive systems supplied by the company — couplings, gears, pulleys,

rack and pinions, etc. — that connect the system to virtually any type of machine or process control system and provide accurate indication at input shaft speeds as low as 1/100 rpm or as high as 30,000 rpm, as required.

For a copy of the new Catalog 780, write to F.M. Porter, Electric Tachometer Corp., 68th and Upland Streets, Philadelphia, Pa. 19142.

Why settle for less?

Economical 12-inch Raytheon Radars give you 78% more picture than 9-inch sets and 44% more than 10-inch sets ...plus more standard features than any radar in its class.



Why buy small? Now you can get a 12-inch, 64-mile, 25-kW radar with a big picture and performance features that only Raytheon offers as "standard equipment."

In fact, add available options to other 9 and 10-inch sets and they can cost more and still not deliver all the performance features that are standard on every 12-inch Raytheon Mariners Pathfinder® Radar.

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- Direct daylight viewing without hoods or curtains.
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- "Three-dimensional" effect aids in target identification.

STANDARD

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- Ensures noise-free picture.
- Improves contrast, especially for weak targets.
- Can be used full-time, even near land.

STANDARD

Exclusive Automatic Intensity Control

- Entire scope uniformly bright.
- Increases CRT life by eliminating center burn-out.

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Big 12-inch picture

- 78% larger than 9-inch radar.
- 44% larger than 10-inch radar.
- Larger presentation of vital data.

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Powerful 25-kW transmitter

- Long distance punch.
- Defines weak targets.
- Penetrates heavy weather.

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Variable Range Marker

- Precise ranging out to 64 NM.
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STANDARD

Exclusive Power Boost

- Positive pick-up of small targets on 3-mile range.

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Unmatched warranty and worldwide service back-up.

All Raytheon products have a two-year limited parts warranty plus one-year free on-board service within 50 miles of any of our U.S. dealers and worldwide service network in major ports everywhere. To get the big radar picture, contact any authorized dealer or Raytheon Marine Company, 676 Island Pond Road, Manchester, New Hampshire 03103 (603) 668-1600



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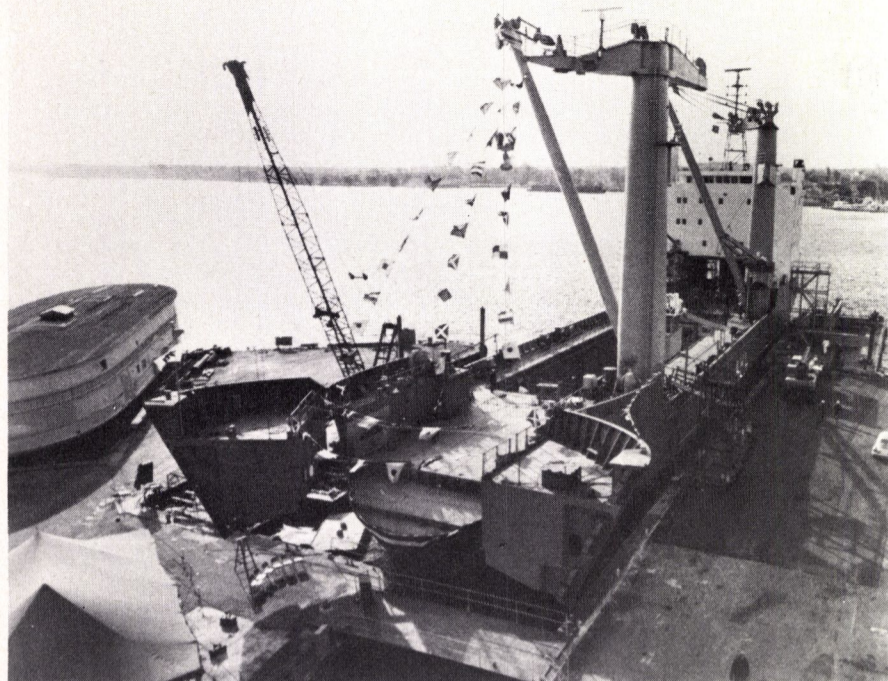
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First Heavy Lift Ships Built In U.S.



The huge bow doors of the John Henry are ready to receive their first piece of industrial cargo. The vessel, and her sistership the Paul Bunyan, can handle single pieces weighing up to 1,000 tons using the roll-on/roll-off method, or smaller equipment up to 432 tons using the lift-on/lift-off method.

The first heavy lift ships ever built in a U.S. shipyard, the John Henry and the Paul Bunyan, were christened recently at the shipyard of Peterson Builders, Inc. in Sturgeon Bay, Wis. They are owned by American Heavy Lift Shipping Company (AHL), a joint venture of Gulf Trading & Transportation Company (75 percent), a division of Gulf Oil Corporation, and Hansa Line (25 percent) of West Germany.

Mrs. Elaine Schreiber, wife of Wisconsin Governor Martin J. Schreiber, christened the John Henry in the traditional champagne ceremony. The Paul Bunyan was sponsored by Mrs. Alice Hoskins, wife of Richard Hoskins, vice president of GT&T's marine department.

Construction of the two 3,000-deadweight-ton vessels began in early 1977, shortly after AHL was formed.

The John Henry is scheduled to pick up its first cargo this month. The Paul Bunyan will be delivered next spring.

Herbert I. Goodman, president of GT&T, said the vessels represent "this country's initial venture into a new maritime frontier" that will provide American manufacturers with U.S.-flag ships that "will complement their

efforts to supply the growing world market with large industrial equipment.

"Almost all of the overseas heavy lift trade required for U.S.-financed projects until this time has been waived to foreign-flag ships," Mr. Goodman noted. "This was because few U.S.-flag ships could handle heavy lift cargoes."

With cruising speeds of 13.5 knots, the ships are designed to handle single pieces of equipment weighing up to 432 tons using the lift-on/lift-off method, and up to 1,000 tons via the roll-on/roll-off technique. They are powered by twin-screw, twin-rudder primary propulsion aft and thru-type thruster forward engines.

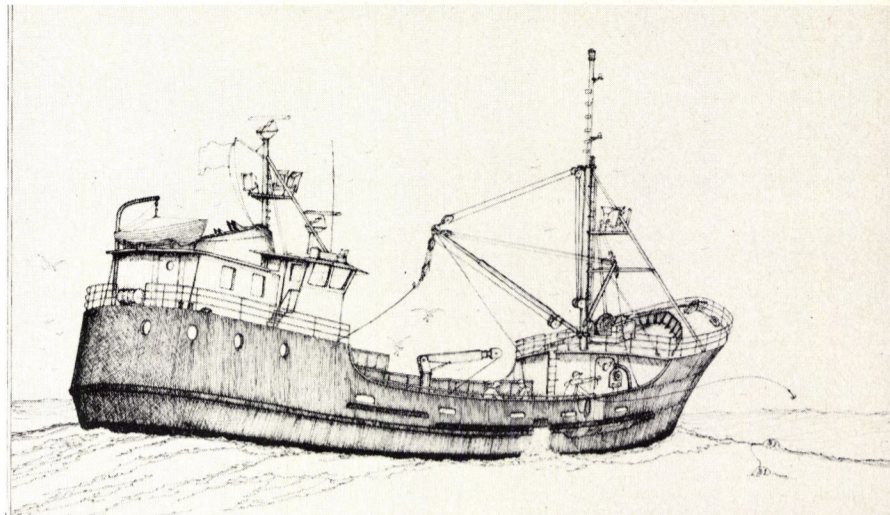
Heavy lift cargoes consist of steam electrical power equipment, gas turbines, nuclear power reactors, electrical combustion engines, refinery and chemical plant equipment, metal working machinery, and other industrial equipment in growing demand around the world, due to increased modernization and industrialization.

The AHL ships trade primarily from the U.S. to industrialized countries such as Japan, Canada, and those of Western Europe, and developing areas such as the Middle East.

JOHN HENRY/PAUL BUNYAN

Deadweight	3,000 tons
Length	91.5 meters
Cargo Hold (Clear Opening)	40.8 meters long, 11.8 meters wide, 6.5 meters overhead
Propulsion	Twin-screw, twin-rudder, twin EMD diesel engines
Speed	13.5 knots
Builder	Peterson Builders, Inc., Sturgeon Bay, Wisconsin
Owner/Operator	American Heavy Lift Shipping Company
Partners	Gulf Trading & Transportation Company (75%) and Hansa Lines (25%)
Accommodations	Suitable for crew of 21 plus two pilots and two cadets
Cargo Handling	Lift-On/Lift-Off, Roll-On/Roll-Off
Cargo Capacity	Lift-On/Lift-Off 432 MT, Roll-On/Roll-Off 1,000 MT
Contract Cost	\$16.77 Million Each

Nickum & Spaulding Completes Design Of Crab Boat For Operation In Bering Sea



Artist's conception of the 100-foot by 30-foot by 12-foot 11-inch crab boat which will be delivered in the spring of 1979.

Nickum & Spaulding Associates, Inc. of Seattle, Wash., has completed the design of a 100-foot crab boat for Stuart Ferris of Kodiak, Alaska. The boat will be built by Mitchell D. Phares/Boat Construction, 221 Mar Vista Avenue, Wilmington, Calif. The boat will be delivered in the spring of 1979 to begin king and tanner crabbing operation in the Bering Sea and Gulf of Alaska.

The aft superstructure and wheelhouse configuration allows the master full view of deck activity at all times, and provides better coordination between helmsman and crew. The compact accommodations consists of a four-man stateroom, a two-man stateroom, galley, mess area, head, laundry and stores space on the main deck aft, and the master's stateroom with head on the bridge deck behind the wheelhouse. A deck stores space, workshop, and bait freezer are located in the fo'c'sle. The fishing equipment aboard will include a davit-mounted pot hauler, hydraulic pot launcher, main boom, picking boom, and hydraulic telescoping crane.

Below decks, the vessel will have a four-crab-tank configuration with a centerline passage and pipe trunk joining the aft engine room to the forward hold and fo'c'sle. Careful consideration has been given to the propulsion system design in order to ensure high-efficiency operation with a minimum of vibration.

This compact and versatile vessel represents another able addition to Nickum & Spaulding Associates' numerous collection of small commercial vessel designs, many of which are employed in worldwide service. It should provide the durability and seaworthiness to stand up to the rugged demands of Alaskan fishing.

Vessel characteristics are as follows: length, waterline, 100 feet; beam (maximum), 30 feet; depth, 12 feet 11 inches; draft (full load) 11 feet 6 inches; gross tonnage, 194; speed, 12 knots; propulsion, twin diesels — 500 hp each; propellers, 72 inches, five blades; fuel capacity (maximum), 20,000 gallons, freshwater capacity, 2,700 gallons, and crab tanks capacity, 6,500 cubic feet.

Engelhard Brochure Describes Chlorinators

In over 400 installations, from waste treatment plants to ships, Engelhard Industries' Chloropac® electrolytic hypochlorite generating systems are providing safe hypochlorination.

A new brochure describes several of the many advantages Chloropac offers over traditional chlorination. Equipment with capacities of 50 to 10,000 pounds per day is in use in industrial and petrochemical plants, electric generating stations and offshore oil drilling rigs. The brochure also provides a convenient reply card for the reader interested in other literature about Chloropac applications.

For additional information, contact Paul Byrne, Engelhard Customer Service, 2655 U.S. 22, Union, N.J. 07083.

General Oceanographics Changes Name To Nekton

General Oceanographics, Inc., 11578 Sorrento Valley Road, San Diego, Calif., has announced that the company, which was founded in 1955, is changing its name to Nekton, Inc. Company president Carroll Hoyt stated: "The change is being made to simplify pronunciation and improve recognition of the company name and to reflect diversification into activities other than oceanography." Nekton, Inc. performs high resolution geophysical surveys, maps seafloor geology, and prepares interpretive reports. The company is presently undertaking the manufacture and marketing of two newly developed microprocessor control units for seismic recording systems. The firm, which has approximately 40 employees, owns and operates two surface vessels and three small submarines.

Stevedoring Companies Cited For Reducing Accidents On Piers

Seventeen stevedoring and marine terminal companies were honored in New York City for safety efforts over the past two years that helped reduce the frequency of accidents among some 11,000 waterfront workers in the bistate Port of New York and New Jersey.

They were cited at a special awards luncheon sponsored by the New York Shipping Association,

the management group that represents port employers in collective bargaining with union longshoremen, and helps coordinate safety programs run by the individual companies.

The event attracted upward of 210 leaders of marine industry management, longshore labor, the Federal Government and the City of New York, among others. NYSA president **James J. Dickman** noted that the gathering at the Downtown Athletic Club was the largest waterfront safety function ever held in the port.

"This is a fitting climax to the efforts of both labor and management to make marine facilities in the New York-New Jersey Harbor as safe as possible. The success of these efforts is a testament to our commitment to advance the safety and health of the longshoremen and others who work on the piers," he said.

Included among the guests were Vice Adm. **Robert I. Price**, Coast Guard Commander of the Atlantic Area and the Third District; **Anthony Gliedman**, Commissioner of New York City's Department of

Ports and Terminals; **Nicholas A. Di Archangel**, Area Director of the Occupational Safety and Health Administration in the U.S. Department of Labor, and Capt. **S. Fraser Sammis**, General Chairman of the Marine Section of the National Safety Council.

Also participating were **Thomas W. Gleason**, president of the International Longshoremen's Association, AFL-CIO; **Anthony M. Scotto**, an ILA vice president and head of the union's Local 1814 in Brooklyn, N.Y., and the presidents of many of the port stevedoring companies and union locals.

The three types of awards and the winning organizations are listed in alphabetical order as follows:

Trophies — United Terminals, Inc., Bayonne, N.J.; Universal Maritime Service Corp., New York, N.Y.

Plaques — Howland Hook Marine Terminal Corp., Staten Island, N.Y.; Maher Terminals, Inc., Jersey City, N.J.

Citations — Hamilton Marine Contracting Co. Inc., Brooklyn, N.Y.; Frank J. Holleran, Inc., Brooklyn, N.Y.; International Terminal Operating Co. Inc., New York, N.Y.; Lee & Palmer, Inc., Brooklyn, N.Y.; Maersk Container Service Co. Inc., New York, N.Y.; Maher Terminals, Inc., Jersey City, N.J.; R. Martorella & Co. Inc., New York, N.Y.; John W. McGrath Corp., New York, N.Y.; Moore-McCormack Lines, Inc., New York, N.Y.; Northeast Marine Terminal Co. Inc., Brooklyn, N.Y.; Pittston Stevedoring Corp., New York, N.Y.; Prolerized Schiabo-Neu Co., New York, N.Y.; Quin Marine Services, Inc., New York, N.Y.; Universal Maritime Service Corp., New York, N.Y., and Weeks Stevedoring Co. Inc., Cranford, N.J.

The companies are among some 135 ship industry employers represented by New York Shipping Association in collective bargaining and contract administration with ILA in the New York and New Jersey seaport. In addition to stevedores and marine terminal operators, they include ocean carriers who transport passengers and cargoes by vessel through the harbor.

APL Opens Southern Region Headquarters In Houston, Texas

American President Lines has opened a Southern Region Headquarters Office at Houston, Texas, according to **T.J. Rhein**, vice president, North America.

The new office, headed by **Russel S. Levinton**, will be responsible for all APL operations in a 10-state area, extending from Texas to South Carolina, Georgia, and Florida on the Atlantic Coast.

The new office is located at 608 Fannin Street.

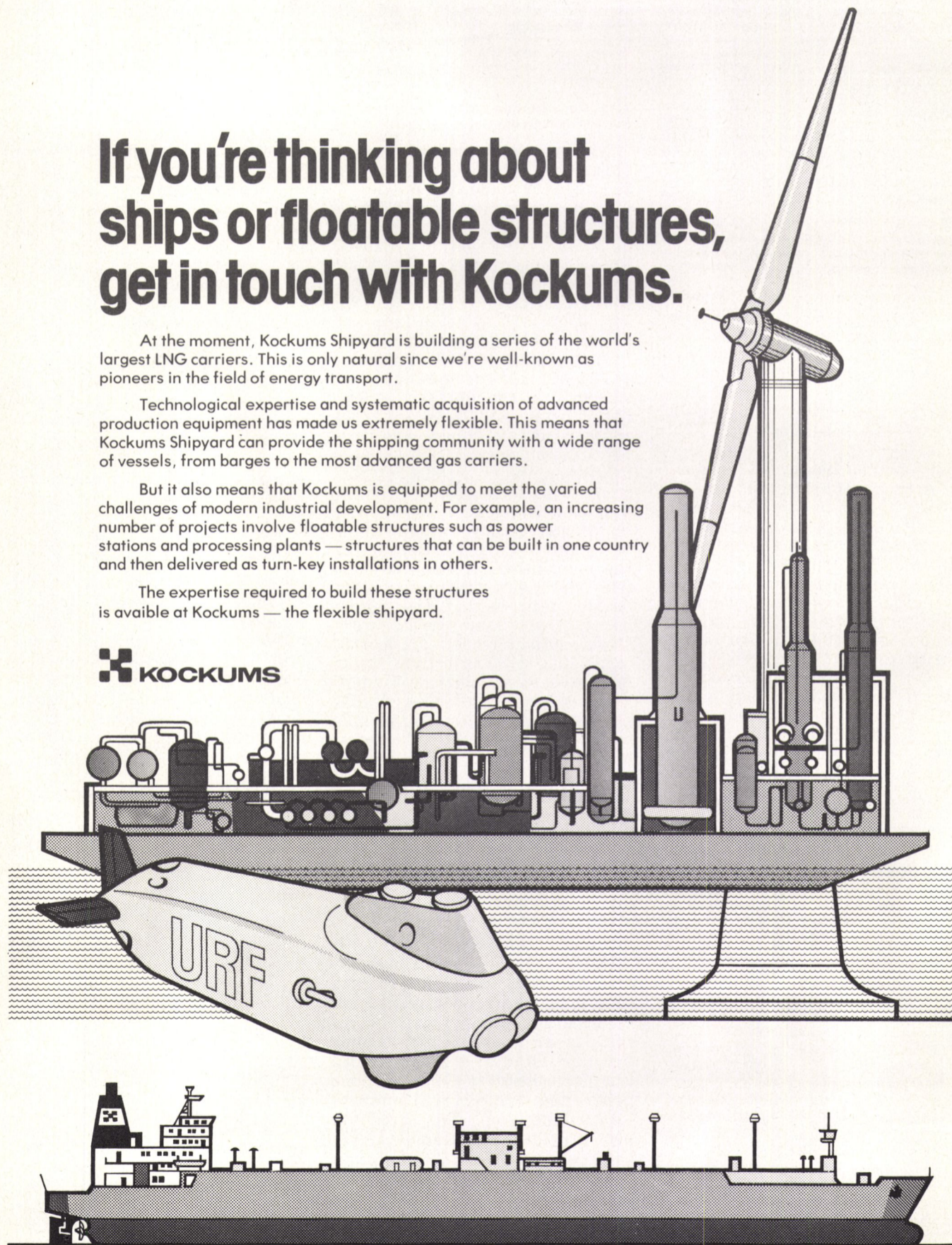
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Technological expertise and systematic acquisition of advanced production equipment has made us extremely flexible. This means that Kockums Shipyard can provide the shipping community with a wide range of vessels, from barges to the most advanced gas carriers.

But it also means that Kockums is equipped to meet the varied challenges of modern industrial development. For example, an increasing number of projects involve floatable structures such as power stations and processing plants — structures that can be built in one country and then delivered as turn-key installations in others.

The expertise required to build these structures is available at Kockums — the flexible shipyard.



For further information: Kockums Shipyard, S-201 10 Malmö, Sweden Telex 331 90

MSC Seeks Bids To Operate Five Tankers

The Navy's Military Sealift Command has issued a request for proposals (November 8) to operate five command-controlled tankers that deliver petroleum products worldwide for the Department of Defense.

The T-5 type tankers now are operated by Hudson Waterways Corp. of New York City under a contract initially awarded in October 1972. An extension to the original contract will terminate April 30, 1979.

Proposals submitted in response to the MSC industry-wide solicitation are due by December 28. It is anticipated that an award will be made by April 16, 1979.

While requesting offers for contractor operation of the five tankers, MSC also will submit its own sealed bid for Civil Service manning of the tankers. Submission of an offer in behalf of Civil Service mariners is in accord with administration contracting-out policy contained in Office of Management and Budget Circular A-76.

Normal Federal procurement policy calls for an award to the low bidder, who is responsive to the requirements and conditions set forth in the request for proposals.

MSC also announced that it issued a similar request for proposals prior to November 30 for contractor operation of four Columbia-class tankers. The four tankers, all under long-term bareboat charter to the command, now are operated for the command by Cove Shipping, Inc. of New York City. The second request for proposals also will include a provision providing for submission of an offer in behalf of Civil Service manning. Ships involved are the USNS Columbia, Neches, Hudson, and Susquehanna.

MSC has 21 tankers in its nucleus fleet, all either Government-owned or bareboat chartered for long-term periods. Eighteen of the 21 are currently contractor operated.

As of November 1, the Navy's sealift operating agency also has five privately owned tankers under charter for delivery of Department of Defense petroleum products. Another 11 tankers were under charter for movement of crude oil for the Department of Energy-sponsored Strategic Petroleum Reserve Program.

Built between 1956 and 1959, the five T-5 tankers include the USNS Maumee, Shoshone, Yukon, and American Explorer, all Government-owned ships. The USNS Potomac is bareboat-chartered from Keystone Shipping Co. of Philadelphia, Pa.

The Maumee, Shoshone and Yukon are all nearly 27,000 deadweight tons, and the Potomac ap-

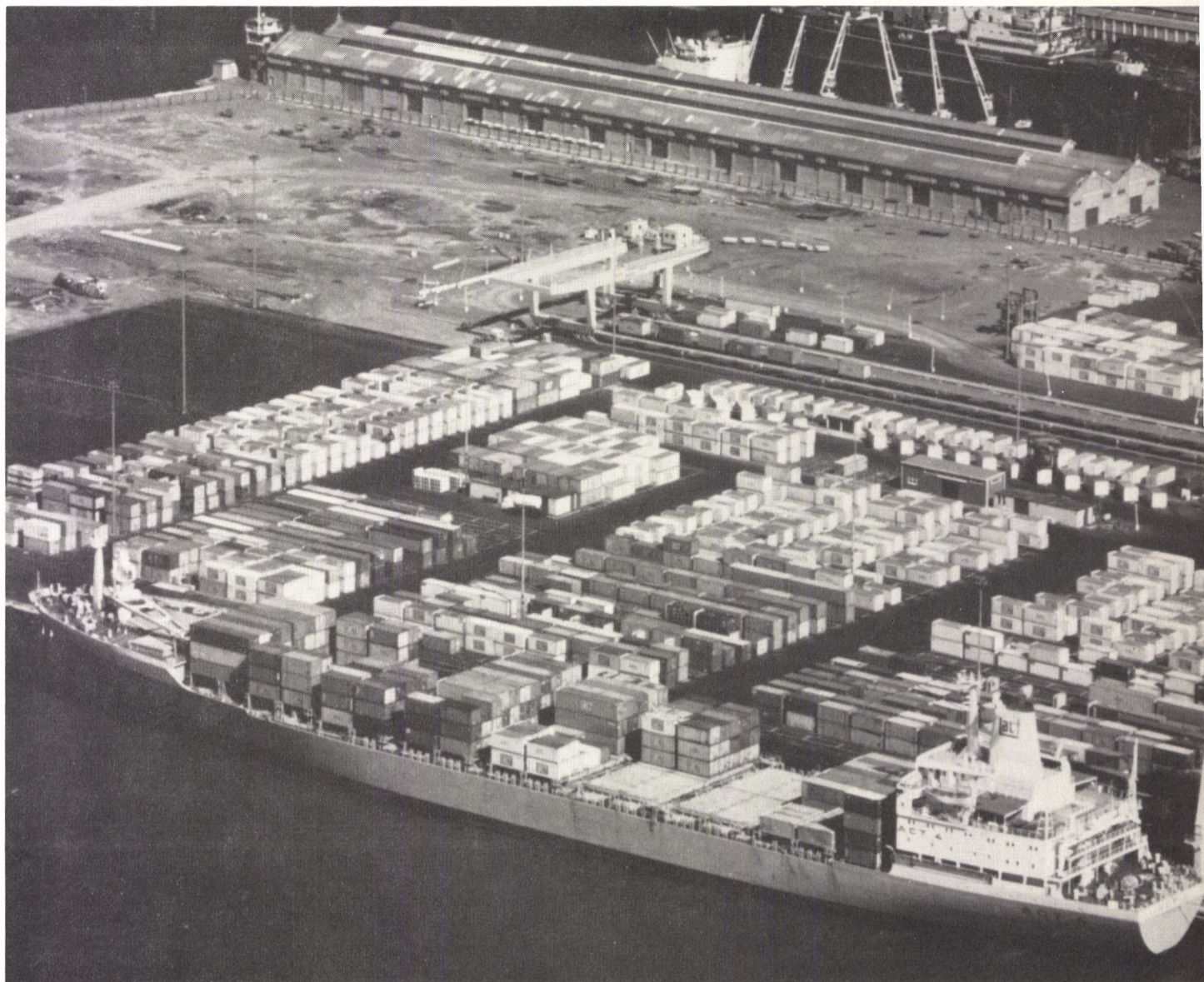
proximately 27,470 deadweight. The American Explorer is about 24,300 deadweight tons.

Further information concerning the request for proposals may be obtained from the MSC deputy contracting officer, Comdr. **Ralph Q. Flint** (202) 282-2671, or from **George E. Rieber**, Director of Special Projects and Systems Acquisition Division at (202) 282-2834.

Bechtel Awarded \$97,834 To Study Cost Of Building Tanker Terminal In Arctic

The cost of building a marine terminal for icebreaking tankers in the Arctic is being studied by Bechtel Inc., San Francisco, Calif., under a \$97,834 contract from the Maritime Administration. The study is related to the transpor-

tation of oil and gas from potential production fields in the Chuckchi Sea area, and in western sections of the National Petroleum Reserve-Alaska. The results, expected to be available in late February 1979, will be used by MarAd, the U.S. Department of the Interior in evaluation of marine transportation and pipeline alternatives.



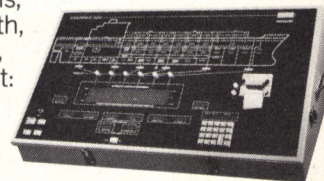
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Face it. Time is money. And so is accuracy when you're making load distribution calculations. So, if you have a way to make them faster than a LOADMAX system can, don't read any further. If not, then our LOADMAX story could open the door to greater profit per voyage for your ships.

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to make stability, draft and stress calculations simultaneously in a fraction of the time required by other calculation methods. And with unsurpassed accuracy.

If you're a shipowner you probably already know about Raytheon's reputation for reliability and service. Now, if you're interested in maximizing your ship's profitability, there's a lot more you should know about the Raytheon LOADMAX. To get the whole story contact the Marketing Manager at Raytheon Company, Maritime Systems, West Main Road, Portsmouth, R.I. 02871. (401) 847-8000, ext. 2236. In Europe contact: Raytheon Copenhagen, Siljengade 6, Copenhagen 2300, Denmark.



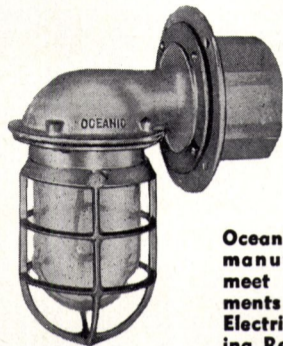
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Institute Of Marine Engineers Hears Guest Speaker From BP Tanker Company, Ltd.

The Institute of Marine Engineers, Eastern U.S.A. Branch, held its first meeting of the 1978-79 season on October 31 at the Seamen's Church Institute in New York City.

Guest speaker for the occasion was **W.R.O. Mann, B.A., C.Eng., Fellow I.M.E.** Mr. Mann is engineering superintendent for BP Tanker Company, Ltd., London, England.



Pictured above, left to right: **Alfred E. Deeble**, honorary treasurer, Eastern USA Branch, Institute of Marine Engineers; **W.R.O. Mann**, engineer superintendent, BP Tanker Co. Ltd., London, speaker; **Robert H. Imlah**, chairman, Eastern USA Branch, Institute of Marine Engineers, and **David Tawse**, vice chairman.

He presented the paper titled "Condition Monitoring and Maintenance — Four Years Fleet Experience," authored by **S. Speed, R.B. Smedley, and D.N. Loynes**, all of whom are with BP Tanker Company, Ltd.

This paper describes a planned maintenance system using condition monitoring as the main method of determining when main-

tenance should be done. A summary of four years' operating experience of this system, now used in 56 ships, is given, together with details of the equipment and methods used.

The authors conclude that the system has proved effective and has shown benefits in reduced maintenance manhours and spare gear usage, and outline the next steps in the development of the system.

New \$20-Million Jackup Built By Marathon LeTourneau Placed In Service By Fluor

A new \$20-million self-elevating jackup rig is going into service in the Gulf of Mexico, **Ross A. McClintock**, president of Fluor Drilling Services, announced. The vessel is contracted to Samedan Oil Corporation of Oklahoma for one year, with options.

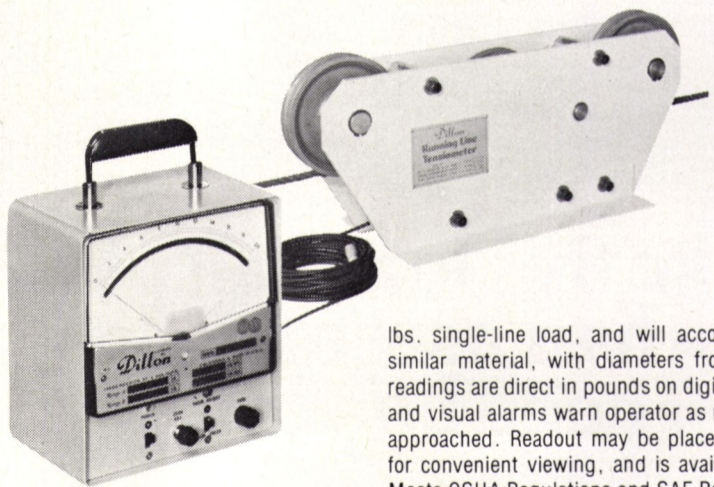
Operated by the Coral Division of FDS, a subsidiary of Fluor Corporation (NYSE), the rig features a cantilever design which allows multiple holes to be drilled without changing location. It also can be used as a tender on existing production platforms.

Named **Mr. Dave**, after **David S. Tappan Jr.**, vice chairman of the board of Fluor Corporation, the vessel is designed to operate worldwide with a crew of 72 persons, and is capable of drilling to a depth of 20,000 feet in water up to 250 feet deep. The 7,700-horsepower class 82 SD-C jackup was christened on November 4, in Brownsville, Texas, at Marathon LeTourneau's Marine Division yard.

This fifth jackup in Fluor Drilling's 11 rig fleet features a 147-foot derrick whose load capacity exceeds one million pounds. The rig has a rack-and-pinion jacking system, with 12 jacking motors on each of its three 360-foot legs, and it can withstand winds of 100 miles per hour.

Fluor Drilling Services, operating internationally, now offers a fleet of two drillships, four drilling barges and five jackups.

Maritime tensiometer measures tension in moving or static lines



The Dillon Maritime Tensiometer has been specially designed for use on and off shore, wherever tension measurement of either moving or stationary line or wire rope is critical. Corrosion resistant with stainless steel load cell sensor. Unit is available in three capacities: 0-6,000, 0-20,000 and 0-40,000

lbs. single-line load, and will accommodate wire rope, or any similar material, with diameters from 1/4" to 1-1/8". Tension readings are direct in pounds on digital or analog readout. Audible and visual alarms warn operator as maximum safe load limits are approached. Readout may be placed near or far from operation for convenient viewing, and is available in weatherproof model. Meets OSHA Regulations and SAE Recommended Practices. State of California approved. Accuracy within $\pm 1\%$ of full range. Rugged construction. Dillon Maritime Tensiometer with automatic limit controls assures safer operation—added protection for workers and equipment.

Free! Tensiometer Bulletin serves as a valuable planning guide in solving line tension measurement problems. Includes dimensional drawings, specifications and offers application ideas.

TENSIONER

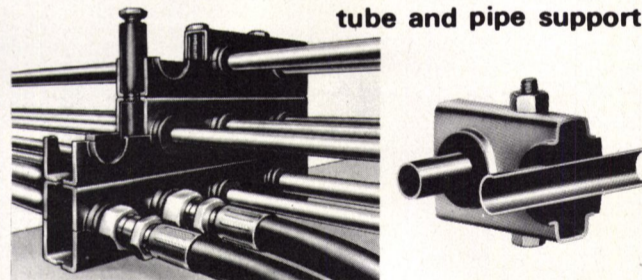
Tensiometer on ship deck in conjunction with winch. Measures drag tension in towing rope.

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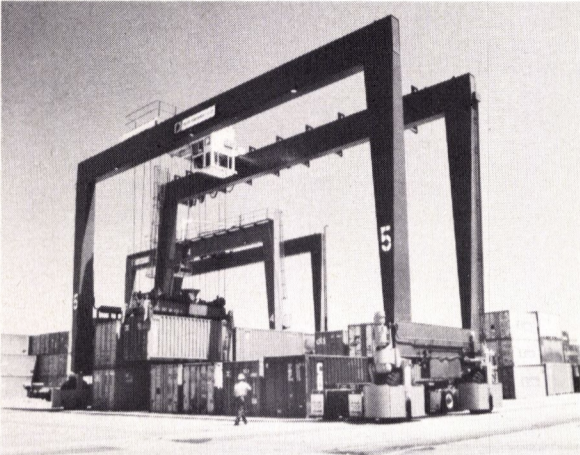
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California United Terminals Orders Three Paceco Cranes

Paceco, Inc. a subsidiary of Fruehauf Corporation, Alameda, Calif., recently received an order from California United Terminals Co., Inc., Long Beach, Calif., for three Transtainer® Cranes.



C.U.T. Paceco Transtainer Cranes are similar to the crane in foreground, built for I.T.S.

The three Paceco Rubber-Tired terminal cranes, a 30-Long-Ton and two 40-Long-Tonners, have identical specifications with exception of their lift capabilities. All have reeved-in telescopic spreaders capable of handling 20-foot/40-foot containers. They have a 74-foot span, with a container stacking area of four-high and six-wide, plus a tractor roadway.

C.U.T. will utilize the New Paceco Transtainer cranes in their new Port of Long Beach Omni-Terminal facility. Two Paceco 40-Long-Ton Portainer® Cranes will also be of service in the system.

Paceco's Gulfport, Miss., manufacturing facility will fabricate one of the terminal cranes, while number two and three are being produced at their Alameda plant.

Waukesha Corrosion-Resistant Pumps Detailed In Catalog

Waukesha Foundry Div., Abex Corporation of Waukesha, Wis., announces the availability of a new 12-page catalog detailing its line of corrosion-resistant stainless-steel and wear-resistant ductile iron industrial pumps in nominal capacities from 1 to 450 gpm.

In the Waukesha rotary positive displacement design, the combination of pumping action, materials of construction and close-running tolerances makes its pumps among the most efficient in the industry for han-

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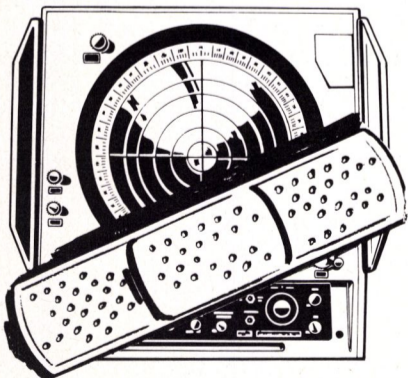
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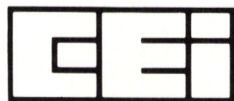
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AWO Spokesman Views User Tax Bill With Cautious Anticipation



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Mr. Potter, a trade association executive, representing the domestic water carrier industry, said: "The historical implications of the President's actions should not be taken casually. Two hundred years of toll-free use of the nation's waterways, a policy fashioned by our founding fathers and reaffirmed annually until this year, has served the country well." He said: "The world's most sophisticated, multipurpose water resources system serving water-dependent plants, municipalities, industries, the all-important agribusiness, and a wide variety of others is tangible evidence of the success and wisdom of this policy."

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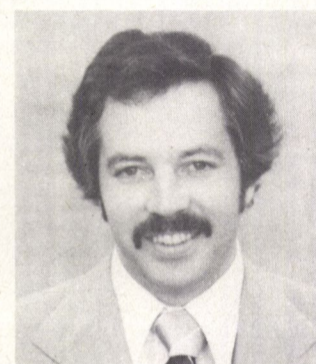
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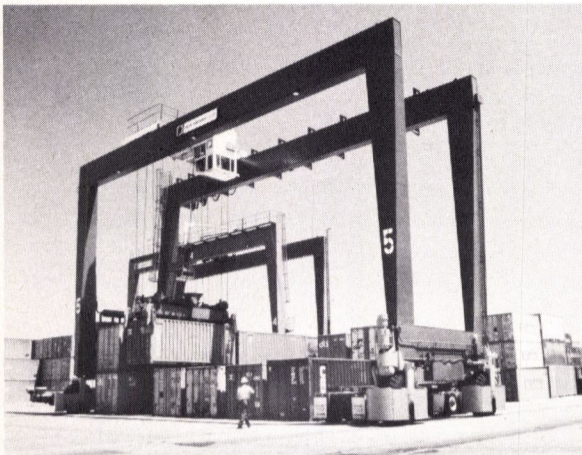


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California United Terminals Orders Three Paceco Cranes

Paceco, Inc. a subsidiary of Fruehauf Corporation, Alameda, Calif., recently received an order from California United Terminals Co., Inc., Long Beach, Calif., for three Transtainer® Cranes.



C.U.T. Paceco Transtainer Cranes are similar to the crane in foreground, built for I.T.S.

The three Paceco Rubber-Tired terminal cranes, a 30-Long-Ton and two 40-Long-Tonners, have identical specifications with exception of their lift capabilities. All have reeved-in telescopic spreaders capable of handling 20-foot/40-foot containers. They have a 74-foot span, with a container stacking area of four-high and six-wide, plus a tractor roadway.

C.U.T. will utilize the New Paceco Transtainer cranes in their new Port of Long Beach Omni-Terminal facility. Two Paceco 40-Long-Ton Portainer® Cranes will also be of service in the system.

Paceco's Gulfport, Miss., manufacturing facility will fabricate one of the terminal cranes, while number two and three are being produced at their Alameda plant.

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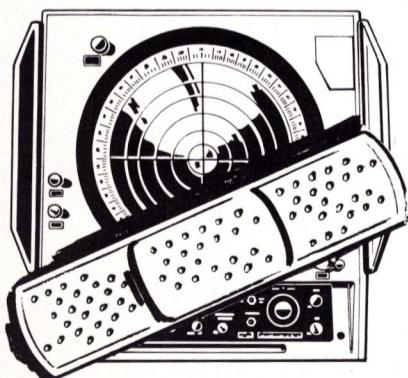
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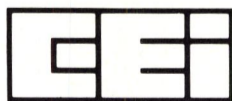
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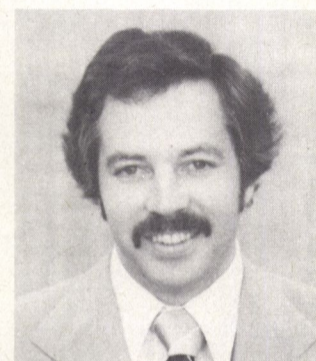
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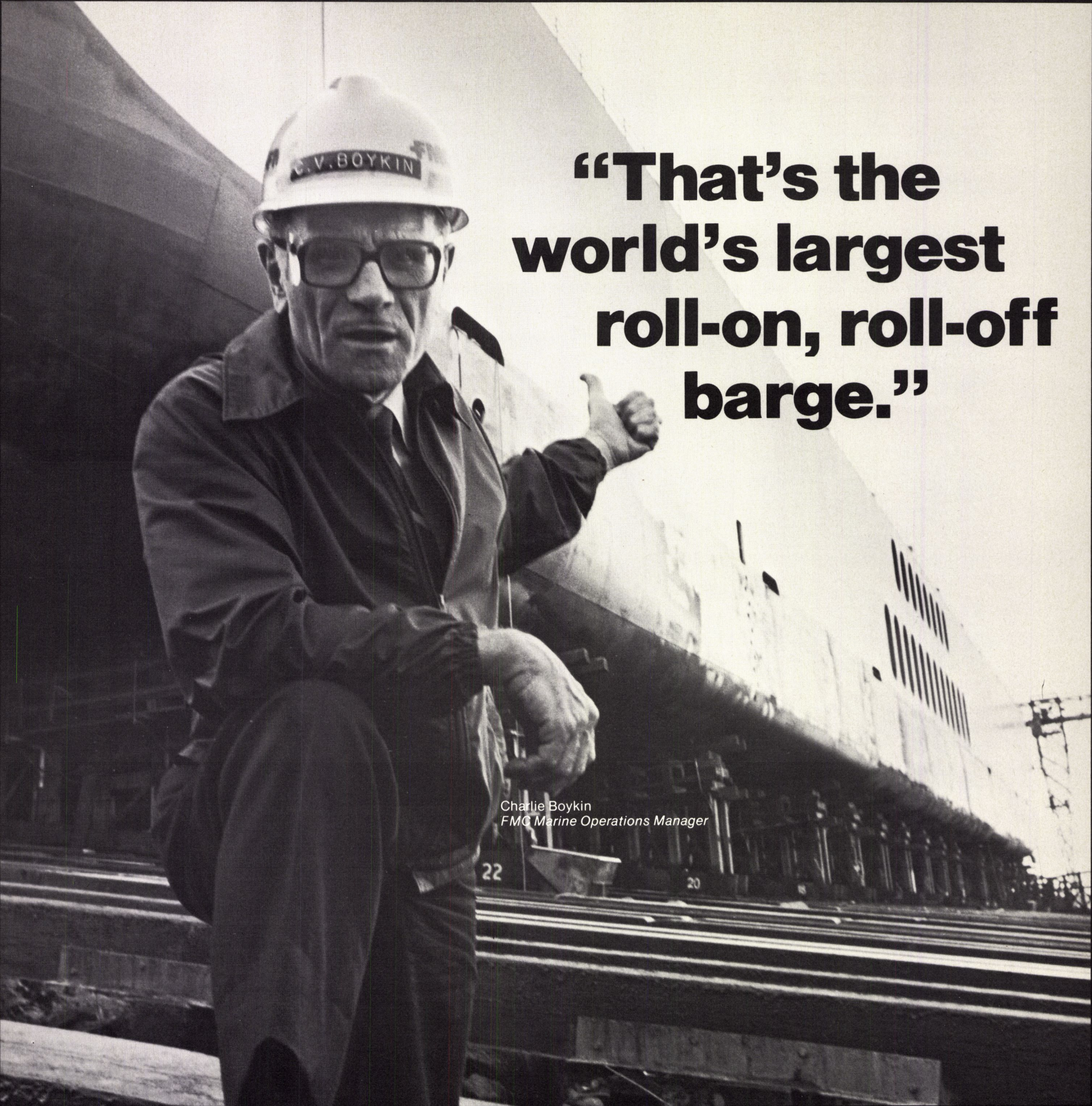
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- 13 TURBINE: 538 KW @ 5010 RPM — 438 PSIG — 750° TT — 28 1/2" vacuum. GEAR: 5010/1200 RPM. A.C. GENERATOR: 400 KW — 450/3/60/1200 — 0.8 PF. DC EXCITER: 32.5 KW — 120 volts (variable voltage) — shunt — 4-pole — DC excitation 5 KW. ALWAYS WELL MAINTAINED BY MAJOR OIL CO.

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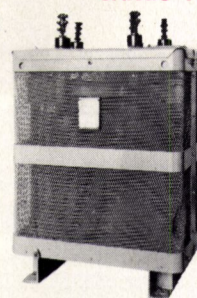
- 24 G.E. Model 5M505FE-1 — frame 5055 — type M — 440/3/60 — serial S.E.6731807. Controller available. (Complete with fan impeller)

T-2 SHIPS SERVICE AIR COMPRESSORS

- 25 Worthington — 5 1/2 x 3 1/2 x 3 1/2 — VA2 — 20 C.F.M. — 100 lbs. — 5 H.P. Motors — 440/3/60 — 1750 RPM.

WESTINGHOUSE DRY TYPE T-2 CARGO PUMP TRANSFORMERS

26



200 KVA — single phase — 60 cycle 2300/450 volts — weight 3720 lbs. each. 4 available.

G.E. PYRONOL OIL COOLED TRANSFORMERS

- 27 200 KVA — single phase — 60 cycles — 2300/450 volts — 3 available.

MISCELLANEOUS DRY-TYPE TRANSFORMERS

- 28 Lighting Transformers — 15 KW — 450/120 volts
Galley Power Transformers — 15 KW — 450/220 volts

INGERSOLL-RAND

14,000 GPM MAIN CIRCULATOR

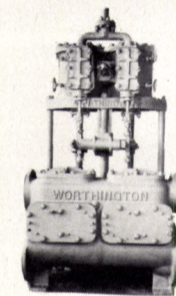
- 29 14,000 GPM @ 25' head — model 24UCM — bronze — with 125 HP 440/3/60 580 RPM motor. 26" suction — 24" discharge. Can furnish with Westinghouse type CS frame B-876C or GE type KF vertical motors.

PUMPS

BRONZE T-2 TANKER STRIPPING PUMPS

14x14x12 — 700 GPM at 100 lbs. Same pump available in steel for fuel oil transfer, etc.

30



WESTINGHOUSE 200 H.P. CARGO PUMP MOTORS

- 31 440/3/60 1750 RPM — 40°

MISSION TANKER T2SEA2 CIRCULATING PUMP MOTOR

- 32 150 HP — 440/3/60/590 RPM. Frame 6335 — type KF — 204 amps

T-2 MAIN ROTOR

- 33 LARGE G.E. MAIN PROPULSION SCHENECTADY TURBINE ROTOR

Turbine serial 77418 — reconditioned with certificate. Just out of Beth shop 1970

T-2 MISCELLANEOUS, PUMPS ETC.

- 34 10 HP Labour Self-Priming Bilge Pumps • Rudder 13 1/2" Rudder Stocks • Main Injection 3-Way Valve Main Condensate Pumps • Fuel Oil Service Pumps Magnablast Breaker • 1 Set New Bull Gear & Pinion for G.E. 525 K.W. Diesel Gen Model S-162 • 32", 24", 15" Rubber Expansion Joints • Mission Tanker Steering Gear Pumps

TURBINE FIRE PUMPS — BRONZE

- 35 Worthington turbine — 440# — 448° — 3500 RPM — 75 HP — 15# back pressure — 750 GPM @ 125 lbs — 6" suction — 4" discharge.

KNOWN 'ROUND THE WORLD

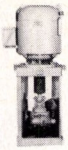
THE BOST

313 E. BALTIMO

Main Office: (301) !

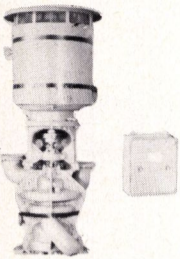
NEW BLACKMER FUEL OIL TRANSFER PUMP

36



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

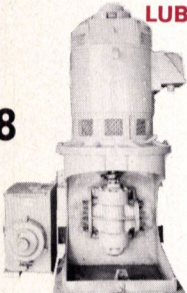
37



UNUSED 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 USN

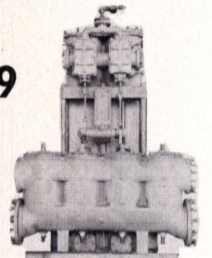
38



LUBE OIL SERVICE PUMP

Quimby-Rotex — size 6D —
500 GPM @ 70 lbs — 6"x6"
flange — 720 RPM. MOTOR:
Allis-Chalmers — 40 HP —
230 VDC — type EBV-147S —
stab. shunt — 148 amps. Com-
plete with starter and rheostat
— designed originally for
C-1MAV-1 vessels.

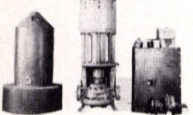
39



WORTHINGTON 16"x14"x18" VERTICAL DUPLEX STRIPPING PUMP

1400 GPM @ 110 PSI; suction
lift 11.5 ft. Steam back pres-
sure 15 lbs. Suction 14" —
discharge 10" — steam 2 1/2"
— exhaust 4". Overall width
6' 8" — overall height 9' 1 1/2"
— depth 3' 9 1/2" — approx.
wt. 10,000 lbs.

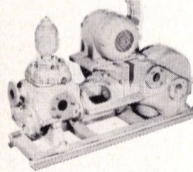
40



NEW WORTHINGTON VERTICAL SUBMERSIBLE BILGE PUMP

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

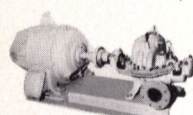
41



MOTOR-DRIVEN GARDNER-DENVER RECIPROCATING BILGE PUMP

50 GPM—150 PSI—Model
ALAXE — serial #106335.
3 3/4" bore—4" stroke—2 1/2"
suction — 2" discharge. 51"
long—21" wide—21" high
—weight 750 lbs. MOTOR:
Diehl—2.5 HP—440/3/60
— 1750 RPM — 3.53 amps.

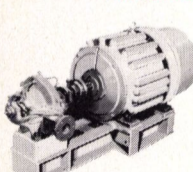
42



GOULD FIRE AND BILGE PUMP

Ex-LST — horizontal centrifu-
gal—bronze—4" suction—
3" discharge—250 GPM @
100 PSI — 2200 RPM. MO-
TOR: 30 HP — 230 VDC
with magnetic starter.

43



AURORA HEAVY DUTY BRONZE FIRE SERVICE PUMP

Single stage — 2 1/2" suction
— 2" discharge. 3000 RPM
— 250 GPM. 100 lb. head.
Impeller diameter 9 1/2". MO-
TOR: Air cooled heavy duty
25 HP Reliance T type ON-
2S-2 1/2 230 VDC—110 amps
—stab. shunt.

DIESEL GENERATOR SETS

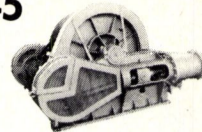
44

410 KW ENTERPRISE DIESEL GENERATOR SET

Enterprise DSG-6 6-cylinder diesel engine driving
Westinghouse generator. 250 volts DC — 1640
amps — 650 RPM — shunt wound.

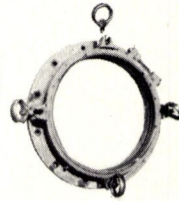
AUTOMATIC TENSIONING 12X14 STEAM WINCH

45



American Engineering. Drum
diameter 24". Will stow 1500
ft of 1 1/2" in 8 layers. Ca-
pacity 1st layer: 20,000 lbs/50
FPM — 16,000 lbs/50
FPM. Drum width 2' 6 3/4".
Steam inlet 3"—exhaust 4".
8' 4 1/2" wide over cylinders.
Base 6' x 6' 3 1/2".

46



16" BRASS PORTLIGHTS

15" and 16" brass portlights.
16" portlights are 3-dog type.

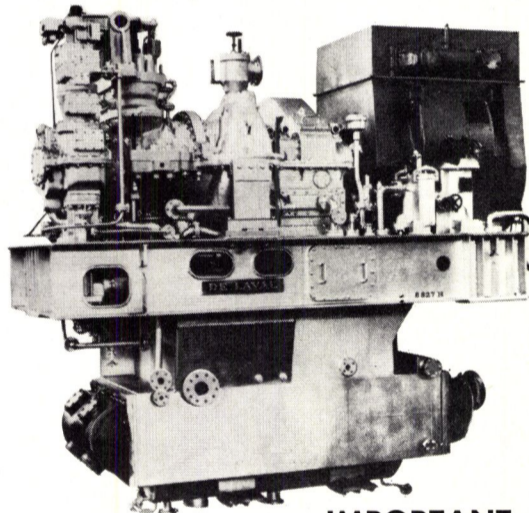
MISCELLANEOUS

47

IF YOU'RE GOING TO JUMBO-IZE YOU CAN ECONOMIZE WITH THESE

ALLIS-CHALMERS — DELAVAL 1000 KW GEARED MARINE TURBO-GENERATORS

If you are contemplating the new construction of
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and money ahead!

IMPORTANT INFORMATION

DELAVAL TURBINE: 1442 HP — 10019 RPM — Class GJ-N — 9-stage — 10,000 RPM — 1050
PSI — 950°TT — condensing steam rate 10.30 lbs. Typical serial number 652468. DELAVAL
DOUBLE HELICAL GEAR: 10000/1200 RPM—Allis-Chalmers—1000 KW—450 volts—3-phase
—60 cycle—1200 RPM—0.8 PF—static excitation—totally enclosed air-to-water cooling—tem-
perature rise: Stator 130°C—Rotor 110°C—class H insulation—typical serial number 160615
—type M.A.K.G. Complete with 525 sq.ft. condenser—190 lbs/hr air ejector—oil coolers—
strainer—piping & valves—generator switchgear—static excitation control—voltage regula-
tor. Total weight of unit 40,300 lbs. OAL 12' 9"—OAW 6'. Turbo-generator height 5' 8"—
total height of turbo-generator & condenser 12' 8". UNITS IN EQUAL-TO-NEW CONDITION.
Originally designed for DLG Guided Missile Frigate Program. Installed only about 2 years,
then removed and carefully re-boxed by U.S.N. at Bath Iron Works 1964-65. Navy in-
stalled larger units due to increased load requirements.

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9-1900 Marine Dept.: (301) 752-1077



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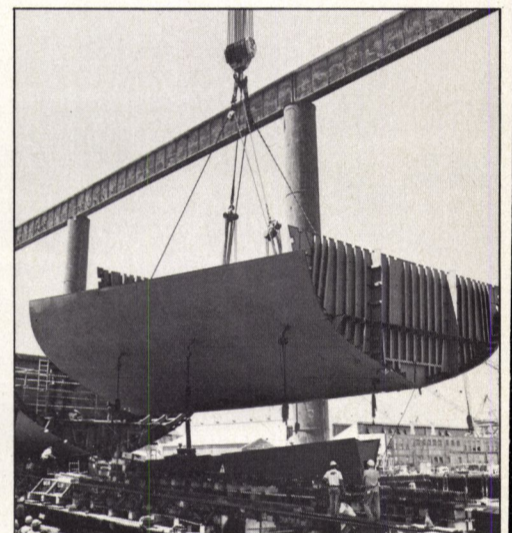
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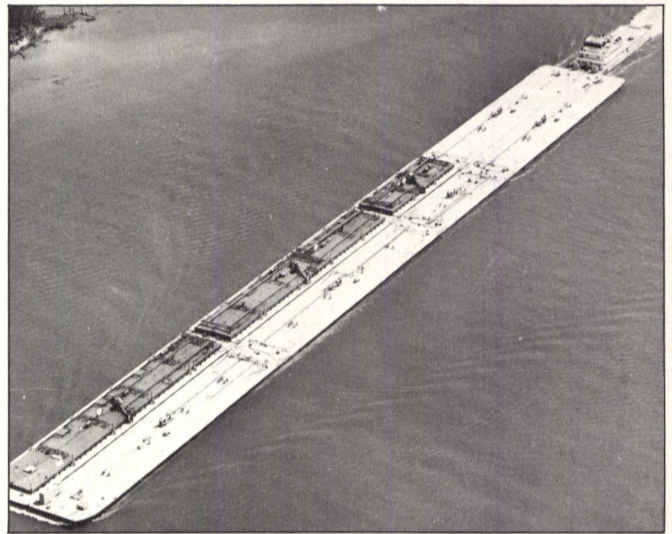
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**MARITIME
REPORTER**
AND
ENGINEERING NEWS

Bird-Johnson Appoints Green To Great Lakes, Nielson To Gulf Coast

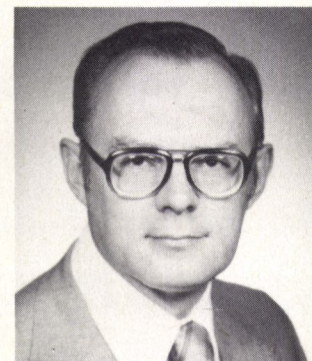
Bird-Johnson Company, Walpole, Mass.—a leading supplier of marine propulsion and maneuvering systems—has named **Erwin (Ed) D. Green** Great Lakes regional manager, and has appointed

Carl R. Nielson sales engineer for the Gulf Coast. In their respective positions, both will be responsible for the marketing of KaMe-Wa controllable-pitch propellers and thrusters, as well as SKF OK-type shaft couplings.

Mr. Green brings extensive marketing and manufacturing experience to his position. Prior to

joining Bird-Johnson, he was employed for six years as manager of Business Planning and Special Projects, Babcock & Wilcox Company, specializing in nuclear-powered propulsion, navigation and water-treatment systems. An additional 10 years was spent in business planning and market research with Goodyear Aerospace

and General Precision, Inc. His educational background includes a Bachelor of Science degree in mechanical engineering and a Master of Science degree in engineering management from Newark College of Engineering, New Jersey.



Erwin D. Green

As Great Lakes regional manager, **Mr. Green** will be based at Bird-Johnson Company's regional office in Westlake, Ohio. He is currently a member of the American Marketing Association, Cleveland Chapter, and The Society of Naval Architects and Marine Engineers.



Carl R. Nielson

Mr. Nielson also brings years of experience to his position, having represented various suppliers to the marine industry since the 1950s. In his previous assignment with Baldt Inc., an international manufacturer of mooring equipment, **Mr. Nielson** serviced owners, shipyards, drilling contractors, marine supply distributors and offshore service companies in the Gulf Coast area. Other assignments of note include experience as a sales engineer for hydrocarbon equipment, and employment with National Supply Company, division of Armco Steel.

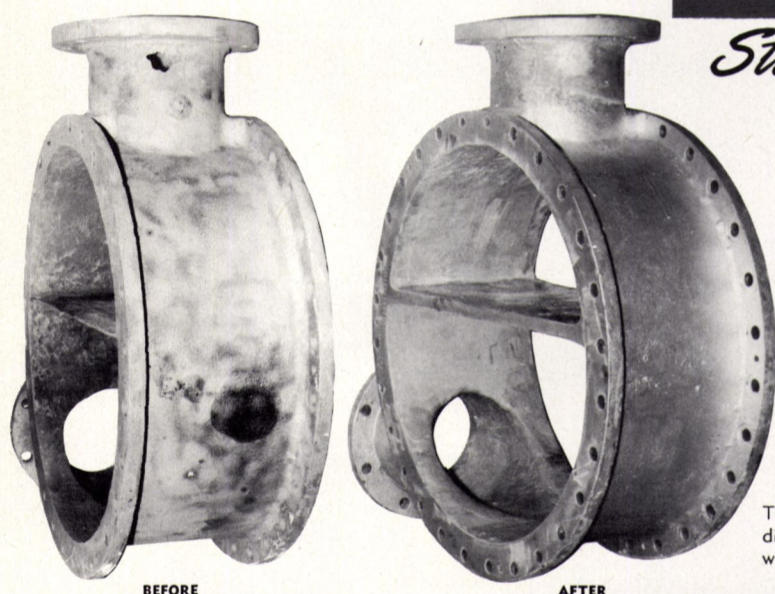
As sales engineer for Bird-Johnson, **Mr. Nielson** will be based at the company's regional office in Houston, Texas, working in conjunction with **Jim Darby**, also a sales engineer for the Gulf Coast. **Mr. Nielson** is a graduate of the U.S. Maritime Service Officers Candidate School, Connecticut. In addition, he has received his master's license, any ocean, any gross tonnage, from the United States Coast Guard. Full membership is held in The Society of Naval Architects and Marine Engineers.

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VIRGIN ISLANDS—St. Croix
Virgin Islands Marketing Corporation
WEST GERMANY—Hamburg
Van Lessen & Punt GmbH
WEST INDIES—Trinidad
R. Landry & Company, Ltd.

MarAd To Liberalize Investment Rule

The Maritime Administration has decided to liberalize its rule governing investments that can be made by water carriers having tax-deferred Capital Construction Funds.

The change would permit monies in such funds to be used to buy the very short-term repurchase agreements covering those "transactions between the issuing bank and the purchaser wherein a stated face amount of U.S. treasury obligations of a specific description (or other securities) are 'purchased'." When a purchaser buys such securities, he simultaneously agrees to resell them back to the bank at an agreed-upon date and at the purchase price, plus interest.

The change is included as an amendment to Chapter 46 of the Code of Federal Regulations, Part 390.

Allweiler Pump Opens Office In United States

Allweiler International A.G., one of Germany's largest pump manufacturers, has announced the establishment of Allweiler Pump Inc. to market and service two lines of positive displacement pumps in the United States and Canada. The new corporation, headquartered in the Chicago area at 1801G Hicks Road, Rolling Meadows, Ill. 60008, will be selling the Allweiler two-screw and three-screw pump lines.

"The market for screw pumps has demonstrated a definite need to have an additional source for this type of equipment," stated Larry R. Shanley, chief executive and operating officer. "Allweiler is best equipped to meet this need and provide quality products and service."

Mr. Shanley brings many years of pump experience to the new corporation. Mr. Shanley had national responsibilities as industrial sales manager with the Fluid Handling Division of ITT, and as product sales manager for Roper Pump Co.

The Allweiler screw pumps are known worldwide in the marine, chemical and petrochemical industries. The three-screw pump design finds ready acceptance in the compressor industry for lube and seal oil application, fuel oil burner/transfer applications, and hydraulic applications. The two-screw pump design is applicable to a wide range of corrosive and contaminated fluids, as well as fluids with viscosities to 4,500,000 SSU. Both lines of pumps are available with cast iron, nodular and steel case.

A stocking distributor network is being developed throughout the U.S. and Canada. Allweiler Pump Inc. will establish a manufacturing plant in the near future.

MarAd Report Forecasts Bunker Fuel Prices

The Maritime Administration has released a technical report, "Marine Bunker Fuels-Analysis and Forecast of Price and Availability," which forecasts the possible prices and availability of two major bunker fuels — No. 2 marine diesel and high sulfur residual fuels.

The forecasts were based on such factors as foreign and domestic crude oil processing, and desulfurization costs. The report also considered the influence of the Energy Policy and Conservation Act, Amendments to the Clean Air Act, and the Crude Oil Equalization Tax.

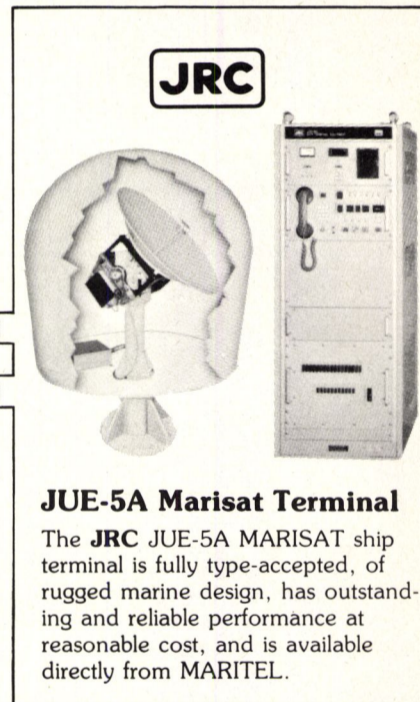
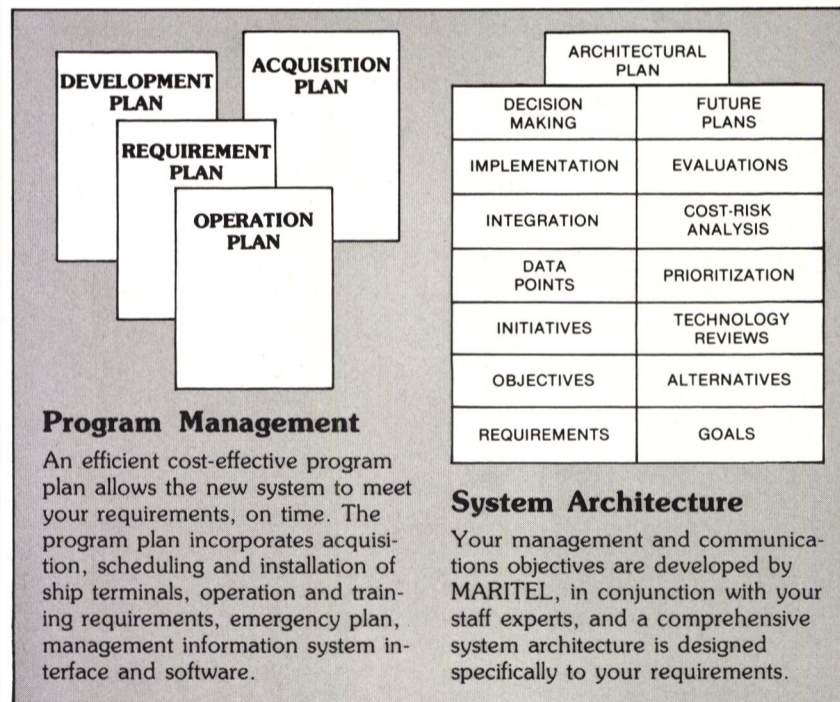
The study, which was prepared under an agency-sponsored contract by Mortada International,

Dallas, Texas, contains estimates of the supply and demand for marine bunker fuels and expected prices for these fuels in different time periods from 1977 through 1993.

The 148-page report is available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Va. 22161. The order number is PB-286683; the cost is \$6.

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MarAd Awards Contracts To Study Port Needs In Alaska, Hawaii, Oregon

The Maritime Administration (MarAd) has awarded contracts totaling in excess of half a million dollars for the assessment of present facilities and future needs of ports in Alaska, Hawaii, and Oregon. Robert J. Blackwell, Assistant Secretary of Commerce for Maritime Affairs, announced.

In its continuing program to promote port development, Mr. Blackwell said, MarAd will share the costs of the three studies on approximately a 50-50 basis.

"With transportation technology ever changing," he said, "it's imperative that terminal operations in all American ports—on the oceans, Great Lakes and inland waterways—be equally innovative and of sufficient capacity to maintain America's leadership

in foreign trade and foster domestic waterborne commerce. Port capability is, in fact, a basic criterion to an efficient and effective American merchant marine, which in turn is basic to the nation's continued economic growth and national security."

Mr. Blackwell noted that over the past five years, MarAd has jointly funded port studies in more than half of the 50 states. Major regional studies currently

are underway in the Mississippi River-Gulf Basin and along the Great Lakes-St. Lawrence Seaway System.

The latest awards provide for individual state studies as follows:

Alaska — A \$150,000 contract with the Alaska Department of Transportation and Public Facilities, equally shared by MarAd and the State of Alaska; subcontractors: Louis Berger & Associates, Inc., East Orange, N.J., and Phillio Engineering & Architectural Services, Fairbanks, Alaska.

The 18-month study will evaluate marine transportation in western and Arctic Alaska, a region in which transportation systems either do not exist, are seriously underdeveloped, or only marginally effective. The state seeks a comprehensive plan which (1) takes into account the potential future demand for Alaska's mineral and energy resources, and their movement to marketing and processing centers in the contiguous 48 states and throughout the world, and (2) provides residents in the western and Arctic sections with a transportation system that meets their present and future needs and also interfaces with a statewide transportation system.

Hawaii — A \$255,000 contract with the Hawaii Department of Transportation, with MarAd's share \$125,000. (A subcontractor is to be selected.)

The objectives of this 18-month study include the definition of existing and potential cargo flows of all types in domestic and foreign commerce to and from Hawaiian ports and to a cargo transshipment center; and investigation of an interisland ferry network, including a study of passenger demand, along with the services, vessel technology, and port facilities required for such a passenger system.

This contract covers the first phase of a continuing study to be funded over a three-year period. Later phases, among other things, will examine Hawaii's total transportation system and future requirements and map marketing and planning strategies to assure the port capability that will be required by projected waterborne cargo and passenger service.

Oregon — An equally shared \$150,000 contract with the Oregon Department of Economic Development; cooperating agency: Oregon Land Conservation and Development Commission; subcontractor: Ogdan Beeman, Portland, Ore.

The objective is to identify Oregon port and land resources needs and integrate these into the statewide comprehensive planning process.

The study will be in two phases of 12 months each—first to compile and analyze all existing technical, physical, commercial, and planning data related to Oregon

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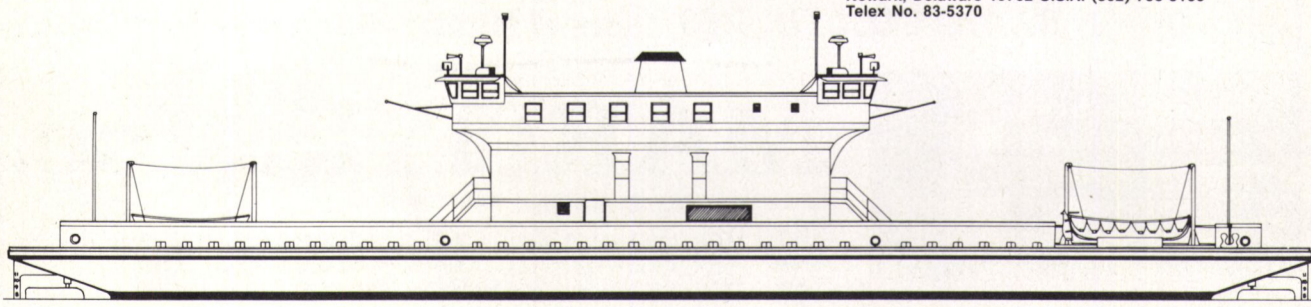
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ports, and then to coordinate the study's recommendations into state and local planning documents, including Coastal Zone Management plans.

The port analyses will focus in part on the current role of individual Oregon ports in the state and local economies and of major Oregon ports in the regional economy, and present trends in the movement of waterborne cargo by regions within the state and adjacent regions of Washington, Idaho, and California.

End products of the study will include both analyses and forecasts of (1) the technological capability and throughput capacity of Oregon's ports and supporting transportation network, and (2) expected future commerce and commodity flows through ports of Oregon and elsewhere in the Pacific Northwest. And finally, it will provide options and alternatives for individual Oregon ports and for the state itself, with recommendations on priorities and a schedule for their implementation.

Tidewater Sending Ten Additional Vessels To Work Offshore Mexico

Tidewater Inc., 1440 Canal Street, Suite 2100, New Orleans, La. 70112, announced that its Tidewater Marine Service, Inc., subsidiary has signed letters of intent to send 10 additional vessels into Mexico to work in support of the current offshore program being pursued by PEMEX, the national oil company of Mexico. Under the terms of the agreement, Tidewater will charter five supply vessels and five crewboats to Tragosa (a Mexican marine company) to be used in support of PEMEX's extensive offshore drilling program. Tidewater currently has 11 vessels in service in the area.

Damon B. Bankston, president of Tidewater Marine Service, said "the marine support equipment had been ordered by PEMEX to support platform installations and development drilling activity now in progress in the Gulf of Campeche." While declining to place a dollar value on the contracts, he said the agreement represented "a multi-year, multi-million-dollar revenue-producing program for Tidewater."

The Mexican Government has recently announced that the country's proved hydrocarbon reserves, including crude, liquid and natural gas, are up 25 percent from the end of 1977 to 20 billion barrels. Offshore activities are apparently playing a significant role in these increased reserve estimates as evidenced by published reports of successful drilling efforts in the Gulf of Campeche.

In making the announcement, Mr. Bankston stated that "the

stepped-up pace in offshore activity in the Western Hemisphere is providing excellent opportunities for the company. In addition to the program emerging offshore Mexico," he said, "offshore Venezuela is opening up, and Tidewater has moved five vessels into this new territory during the last month" (October). Mr. Bankston also said that three more vessels were on their way to work offshore Brazil, bringing the total

number of units in services to 15, while a new contract for another major international oil company had recently been awarded for work offshore Honduras.

Tidewater is currently involved in a capital expansion program, including some \$46 million for the construction of 22 new oilfield support vessels. As of September 30, 1978, nine vessels of the new construction program had been delivered. By the end of

June 1979, delivery of the 13 additional vessels is expected.

Tidewater Inc. is an oil and gas service firm providing marine support services to the world's offshore oil and gas industry. The company also provides gas and air compression equipment and services, is engaged in onshore oil and gas exploration and production through its Hilliard Oil & Gas unit, and has interests in insurance and real estate.

MEMO FROM MARSH & MCLENNAN

The river keeps changing all the time. The same goes for marine insurance.

There's one thing you learn quickly when you're involved in barge traffic: the river is full of surprises. As soon as you start taking it for granted—watch out!

Much the same can be said about marine insurance. On the surface, it may appear simple and serene—but watch out!

Resist the temptation to coast along.

Continuing insurance programs "the same as always" might be easy—but it could be costly. There may be a better way. Start looking at your needs from a new angle and you may be surprised at what you find.

Marsh & McLennan would like to help you. We know our way around the inland waterways business because we've been in it for over 100 years. Maybe you didn't know it, but we handle more marine business than any other insurance broker.

If all this experience has taught us anything it's this: insurance premiums should not be an expense you pay and kiss goodbye. This cash is a management tool, to be applied in the way it can do the most good for the organization.

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you, not just *take from* you.

We're near when you need us, too.

And when it comes to fast service, we have a network of offices up and down the rivers, from the headwaters to the Gulf. When the unexpected happens, we're on the spot in a hurry.

We think you'll find many advantages in dealing with the world's leading insurance broker. Not only are our global resources applied to your needs, but our offices everywhere provide the contact points to put them at your disposal.

If you'd like to learn more about how we can help you in any

area of marine insurance, write Jim Wilmers, Marsh & McLennan, Incorporated, 120 E. 4th St., Suite 520, Cincinnati, Ohio 45202. Phone: (513) 721-5557.

Marsh & McLennan river insurance specialists are located in key cities throughout the country.



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Texas Gas Transmission Executive Honored At Towboat Christening

The motor vessel Bob Koch, a new 4,200-horsepower towboat in the Inland Waterways Services Division of Texas Gas Transmission Corporation, was recently christened in ceremonies at the Owensboro, Ky., riverfront.

The vessel, with unique features that will enable it to serve as an icebreaker when rivers are frozen, is named to honor **Robert O. Koch**, executive vice president and general counsel of Texas Gas Transmission Corporation and chairman of the company's Gas Transmission Services Division.

The highlight of the traditional ceremonies came when **Mrs. Robert O. Koch** broke a bottle of

champagne over a capstan on the forward deck of the vessel and officially named it in honor of her husband.

The motor vessel Bob Koch is a true towboat, in that it is designed to pull barges as well as push them, a feature that facilitates continuous operations in adverse weather conditions, including ice, while minimizing the risk of possible damage to the

tow. The unusually heavy construction of the vessel's hull plate, rudders and shafts aid in ice-breaking operations. A double-bottomed engine room gives extra protection from heavy grounding damage.

The special capabilities of the Bob Koch will frequently be put to use on the Illinois River, a vital service link to Chicago, which historically freezes over every two or three years and which has been ice-bound during each of the last two severe winters.

Powered by two four-cycle engines of 2,100 horsepower each, the Bob Koch is capable of moving tows of 22,500 tons or more of cargo. Like all vessels in the company's Inland Waterways Services Division, it features the most modern in navigation, ship-control, and communications equipment to assure safe and efficient operation and maximum productivity. All quarters and enclosed working areas of the 150-foot by 35-foot vessel are air-conditioned for the comfort of the crew. The Bob Koch was built by Jeffboat, Inc., and will see service in the fleet of American Commercial Lines, Inc., both units of Texas Gas's Inland Waterways Services Division.

Nelson Crews Elected President Raymond International

Henry F. LeMieux, chairman and chief executive officer of Raymond International Inc., Houston, Texas, has announced that the board of directors elected **Nelson Crews** as president and chief operating officer of this major international engineering and construction company.

Mr. Crews joined Raymond in 1975, and was executive vice president and chief operating officer until his election. **Mr. Crews** serves as a director of Raymond and is a registered civil engineer in Louisiana and Texas.

Brochure Describes Sea-Lift Cranes

Appleton Marine, Division of Appleton Machine Company, has available a full-color eight-page brochure which describes the complete Sea-Lift marine crane line.

Featured are general-purpose Sea-Lift cranes which are available in knuckleboom, fixed boom and extendible boom models. Also illustrated are Sea-Lift cargo and hose-handling cranes, as well as special cranes designed to perform specialized operations on dock or deck.

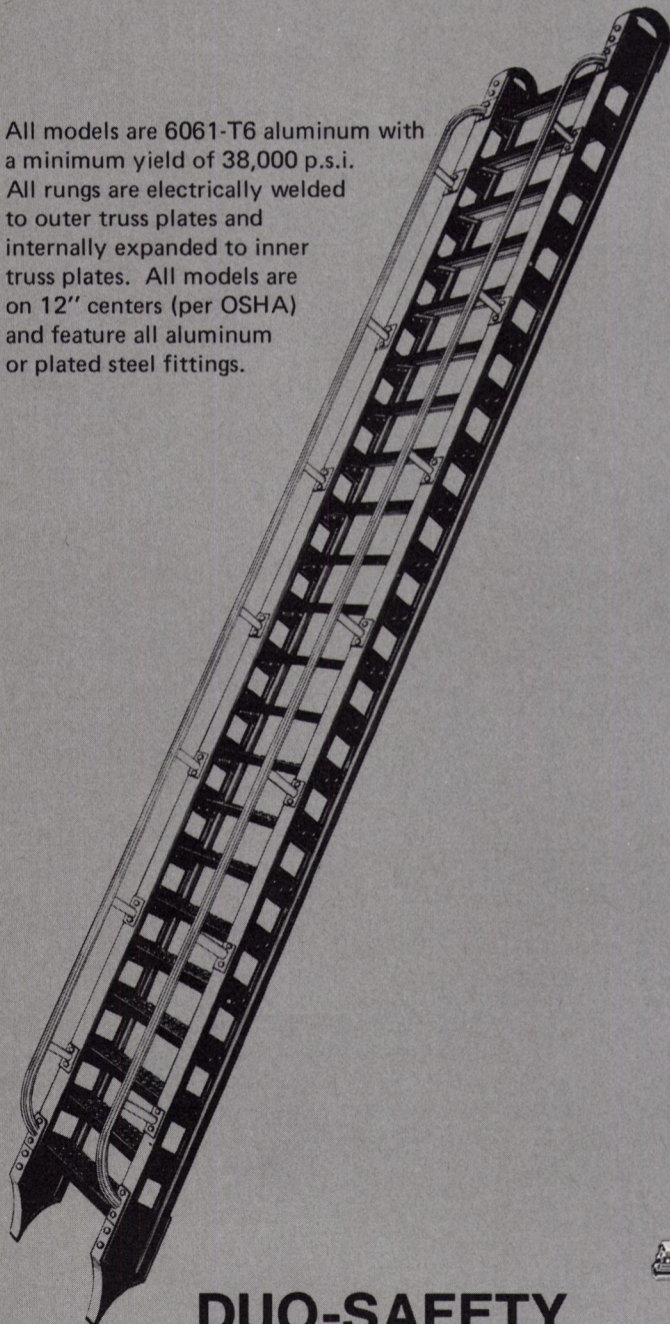
Appleton Marine designs, builds and tests all its cranes to meet or exceed ABS and U.S. Coast Guard specifications.

For a copy of the brochure, write **Lewis Krueger**, Appleton Marine, Division of Appleton Machine Company, P.O. Box 2339, Appleton, Wis. 54913.

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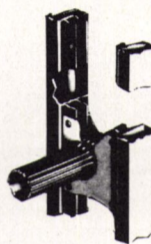


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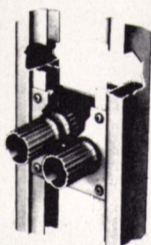
TYPE MH —

Single rung - with
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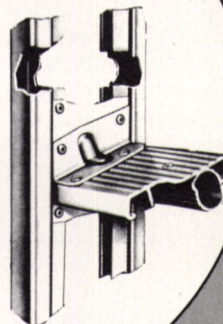
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or without
hand rails.



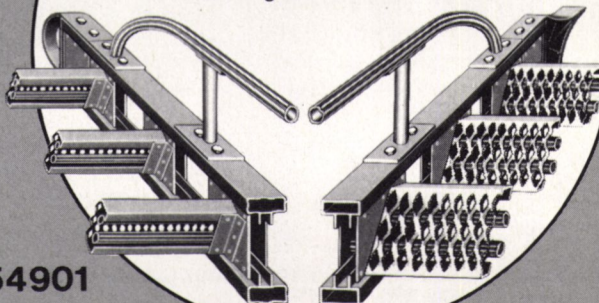
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Moss Rosenberg has 60 years of shipbuilding experience, plus over 150 inert gas plants aboard ships around the world. Foster Wheeler has 50 years of marine experience, including a leadership role in boiler design and manufacture.

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For details on this service, and a copy of our new brochure on inert gas systems, write or call Mr. Arthur Christenson.

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Manlift For Hazardous Environment Announced

Chamberlain Manufacturing Corporation has announced a first for self-propelled aerial platforms—a unit designed for use in hazardous environments. The new machine is the latest addition to the large and growing Manlift® line of platforms produced by the company. It meets National Elec-

trical Code requirements for use in Class I, Division I, Group D hazardous locations.

The new model is designated MSM25BEP, and is a pneumatically controlled, electrically powered scissors lift. Working height is 25 feet, with a 1,250-pound-lift capacity. The machine is fully operable by one person on the platform, and standard features include three speeds forward and

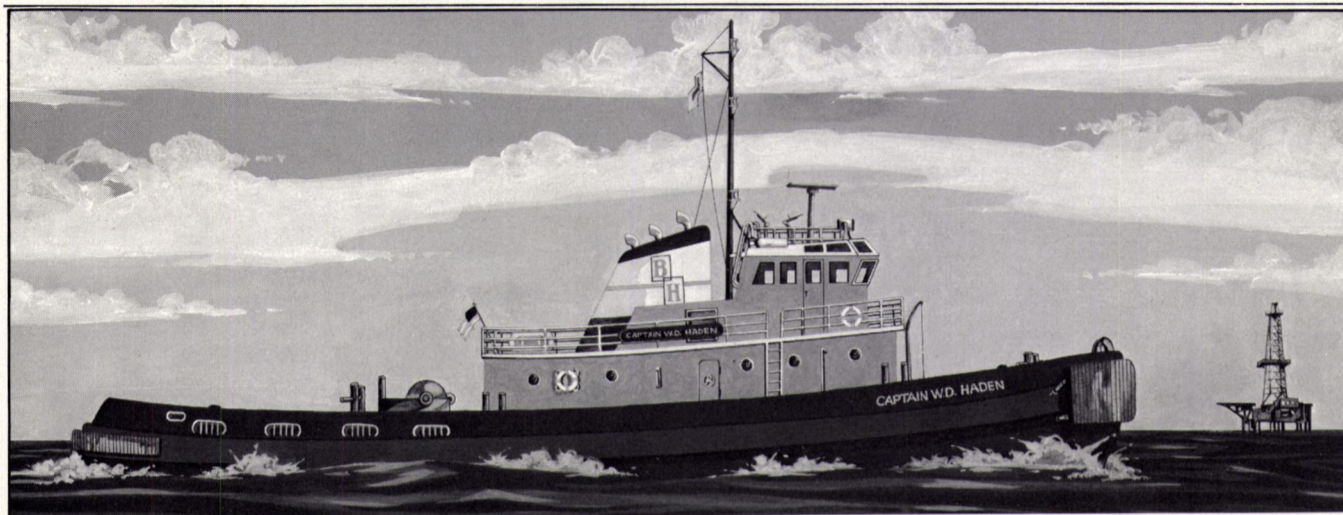
reverse, automatic drum-type brakes, and modularized control and drive systems for easy maintenance. Work platform size is 42 by 67 inches. When fully retracted, the machine is 75 inches long, 42 inches wide and 52 inches high. Nominal weight is 3,170 pounds. In addition to meeting NEC requirements, the MSM25-BEP is designed, built and tested to U.S. ANSI and Canadian CSA specifications.

NEC requirements are met by use of a unique pneumatic control system, powered by compressed carbon dioxide. Electrical components in the control system are minimized, and are housed in a certified explosion-proof container. All functions (drive and lift) are hydraulic, with a 5-hp 36-volt d-c explosion-proof electric motor driving the hydraulic pump. Power is supplied by a 36-volt battery pack housed in roll-out drawers that are locked to prevent access in hazardous areas. The only function that must be performed in a "safe" area is battery charging. This is done with a built-in automatic charger.

The MSM25BEP is suitable for use in shipyards, refineries, or other areas where fire or explosion hazards may be present.

Chamberlain also advises that the MSM25BEP system is adaptable to other models in the Manlift line. These include two scissors lifts, with working heights to 42 feet and capacity to 2 tons, and five telescoping booms, with working heights to 66 feet and capacities to 1,000 pounds.

For more information, contact Gregg Hoskins, Chamberlain Manufacturing Corporation, Manlift Division, Department CD, P.O. Box 120, Selma, Calif. 93662.



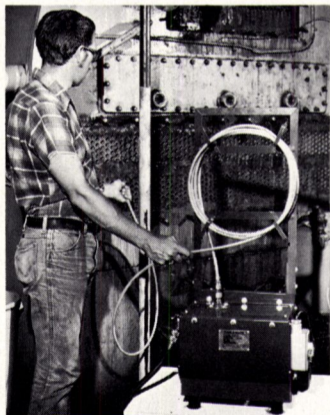
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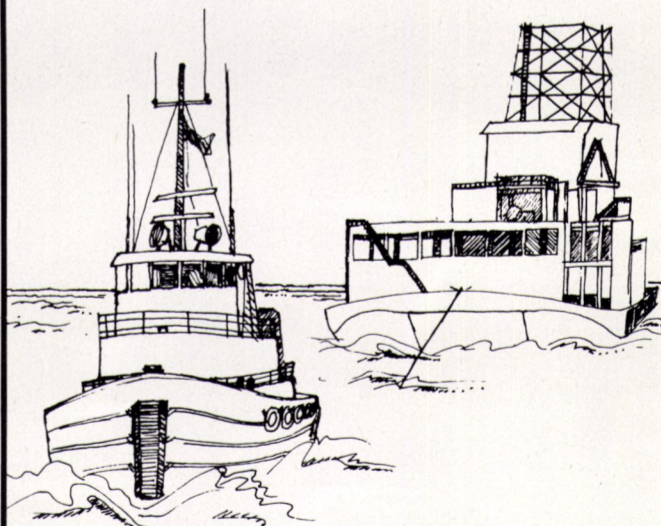
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New MIPCO Brochure Describes Full Line Of Reefer Power Systems

At a recent exhibit presented at the Sheraton-Newark (N.J.) Airport, MIPCO, Inc., a leading supplier of electrical power outlets, plugs and connectors for reefer containers, held an exhibit of their complete product line.

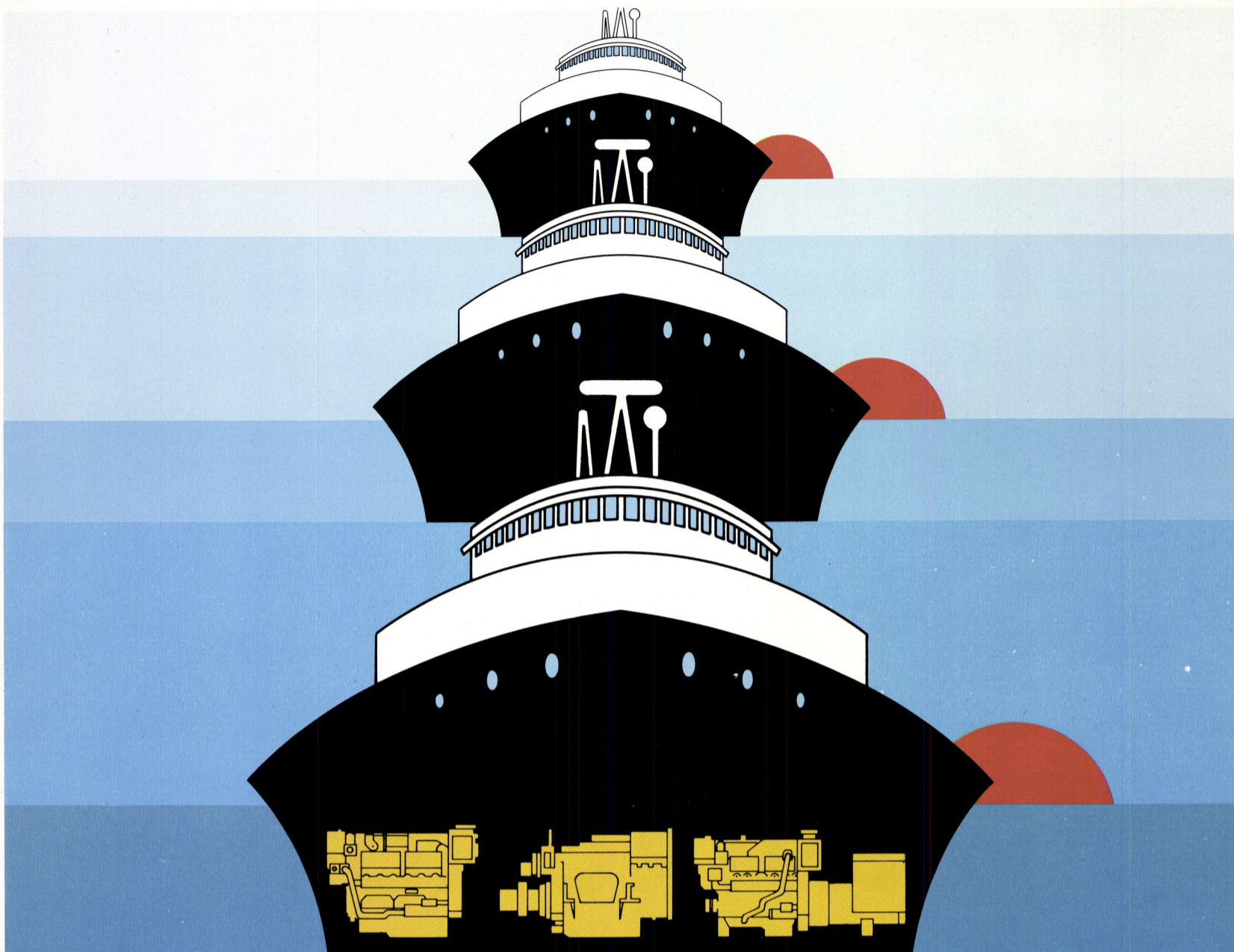
The exhibit included all "Standards" currently in use, including the CEE 17 European Common Market Standard. The focal point was the new 30A 480 VAC, "Safety Sleeve" designed to comply with USCG-proposed 111.79.7 rule change.

The line also included Hi-Pact Plugs and Connectors, as well as replacement receptacles and watertight automatic interlock adapters for converting existing manual interlocked receptacles to the MIPCO Modular System.

The exhibit was attended by every major East Coast reefer container shipper and port terminal personnel, as well as reefer manufacturers who were guests of MIPCO for luncheon and dinner.

In attendance for MIPCO were Gunnar Nelson, president; Stephen H. DeCoste, vice president; Abe Picker, product engineer, and Robert Eissmann, production manager.

A full-color descriptive brochure on the complete MIPCO line is available upon request. Write directly to Stephen H. DeCoste, vice president, MIPCO, Inc., 1275 Bloomfield Avenue, Fairfield, N.J. 07006.



One Source...One Quality Standard


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SNAME Gulf Central Section Hears Paper On Underwater Welding At Annual Fall Meeting



Shown above during the fall meeting of the SNAME Gulf Central Section are, left to right: **Leo G. Provencher**, Publicity chairman; **Anil Raj**, Arrangements chairman; **Subodh Prasad**, author; **Ralph Martin**, Section vice chairman, and **Ron McAlear**, filling in for the Papers chairman.

The 30th Annual Fall Meeting of The Society of Naval Architects and Marine Engineers (SNAME) Gulf Central Section was held recently at the Saxony Restaurant in New Orleans, La.

Following cocktails and dinner, the new vice chairman of the Gulf Central Section, **Ralph Martin**, introduced the new committee chairmen for the period from September 1978 through August 1979. They are as follows: **Anil Raj**, Arrangements chairman; **Leo G. Provencher**, Publicity chairman; **Arthur Darden Jr.**, Papers chairman, and Lt. Comdr. **Richard Meyer**, Membership chairman.

After the introductions, the technical paper of the evening, entitled "Recent Developments in

Underwater Welding," was presented by **Subodh Prasad** of C.F. Bean Corporation. In his talk and slide presentation, Mr. **Prasad** first explained the theory behind underwater welding and how it is accomplished. He then went on to discuss the research he participated in with Dr. **Masubuchi** and Dr. **Dsai** while at M.I.T. The testing procedures they used and the results they obtained were then discussed in some detail. The presentation proved to be most interesting and concluded with the author responding to questions from the audience.

The next meeting will be for the entire Gulf Section of SNAME and guests, and will be held in New Orleans on February 9, 1979.

Louis L. Frierson Elected President George Engine Company



Louis L. Frierson

Louis L. Frierson has been elected president and chief executive officer of George Engine Company, Inc. (GECO).

Mr. **Frierson** will continue as chairman of the board of GECO, a position he has held for the past two years.

H.F. Colby, whom Mr. **Frierson** succeeds, recently resigned as president, but will continue serving in the position of senior vice president. He has been associated with the company since its founding in 1945.

A native of New Orleans, La.,

Mr. **Frierson** holds a degree in business administration from Tulane University. He started with George Engine as a mechanic's helper, and has been affiliated with the company throughout his business career.

Mr. **Frierson** is active in numerous business, civic and philanthropic affairs. Prior to being elected to his new position, he was GECO's senior vice president for marketing and finance, in addition to chairman.

George Engine was founded in 1945 as a distributor for diesel engines and related products manufactured by General Motors Corporation. The company presently ranks as one of the world's largest distributors for GMC's Detroit Diesel Allison Division, with wholly owned branches in Baton Rouge, Lafayette, and Morgan City, La., and more than three-dozen dealers throughout south Louisiana.

The company's main plant and offices are situated at 1401 Destrehan Avenue in Harvey, La. GECO also has a subsidiary, Key Power Systems, Inc., which serves as distributors for Detroit Diesel Allison engines and related products throughout southern Florida.

Fleetweather, Inc. Consulting Meteorologists To Provide New Services

Tore H. Jakobsen and **James F. Witt**, owners of Fleetweather, Inc., have announced broadening of their firm's services to include offshore/coastal advisory forecast services for the coastal waters from the Canadian Maritimes to Florida. Currently, the firm specializes in in-port forecast con-

sultation for some 50 steamship companies from the Great Lakes to Texas. According to Mr. **Jakobsen**, the new area of specialization will provide individualized consultation for all coastal marine interests, including towing, barge operations, commercial fishing, and offshore drilling platforms and supply boats. These new services will be provided from Fleetweather's present offices at Orbit Lane, Hopewell Junction, New York 12533.

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Polyolefin center strands

Polyester jacket strands

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2"	93,000	52,000	60,000
3"	200,000	114,000	117,000
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¹For New Rope under standard test conditions.


²From published literature.

Samson Dura-Plex™ 12 Strand Single Braid

Polyester/polyolefin 12-strand construction makes Dura-Plex stronger, size for size, than plaited or twisted manila, polypropylene, and "poly-dac" type ropes. That means Dura-Plex can handle much higher working loads even under rugged marine conditions.

Samson Dura-Plex is non-kinking and torque-free, with low stretch and minimum snapback. It's also very flexible, easy handling, and quick splicing. In fact, Tug and Barge operators find that Dura-Plex is the most cost-effective composite fiber tie-up and locking line available.

Sizes to 4" diameter, strengths to 335,000 lbs. Check the tensile chart above. Send for data and a rope sample, or ask about our special evaluation program. Write Samson, M&I Division, 99 High St., Boston, MA 02110. In Canada: Canada Ropes Limited, Richmond, B.C.

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Battery-Operated Barge Running Lights

Automatic Power barge running lights are "ready-to-go" units for all types of unpowered barges. All running lights include an on-off switch, photocell, Saft AN-110 or Pri-Gel 350 batteries, lamp and port/starboard/stern sector screening. Lanterns are available with red, green, yellow and clear lenses.

Types III and IV (60-night battery power) include a fiberglass, top-opening battery box and 4-place lampchanger.

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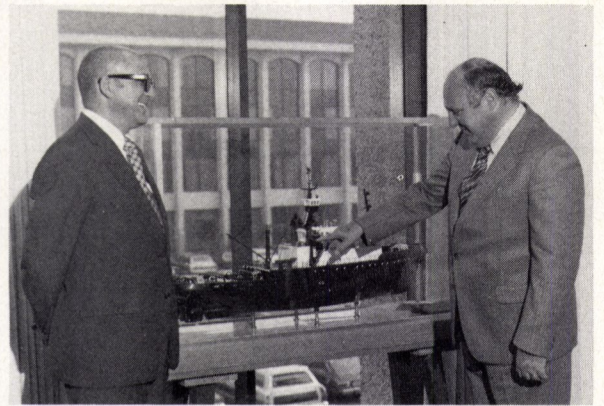
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Managing Director, I.T.C. Holland, Inspects First U.S.A. Subsidiary



L.P.M. Burghouwt (right), managing director of I.T.C. Holland B.V., Haarlem, Holland, inspects the offices of their new subsidiary, together with **Edward A. Punch Sr.**, vice president of (I.T.C. — USA) International Transport Contractors (USA) Inc., Houston, Texas.

Because of the unprecedented growth of the Holland Headquarters, I.T.C. has established subsidiaries in Houston, Singapore, and Japan to better serve various phases of the marine industry.

I.T.C. involves its fleet (tugs and barges) in worldwide ocean transportation of heavy objects. I.T.C. was the very first to transport a jackup drilling rig on an oceangoing barge (1973), and thus began the "Dry Towing" of rigs as it is known today.

Electronic Autopilot Brochure Available From Anschuetz

A nine-page full-color brochure from Anschuetz of America describes in detail their electronic autopilot systems for all sizes of ships. The booklet contains color photos, detailed drawings and specifications for two complete systems for both large and small vessels. It includes full descriptions of all components, and shows the various combinations of equipment available from the bridge consoles through hydraulic power steering equipment.

For a free copy of "Electronic Autopilot" write **Lee Marcroft**, Anschuetz of America, 444 Fifth Avenue, New York, N.Y. 10018.



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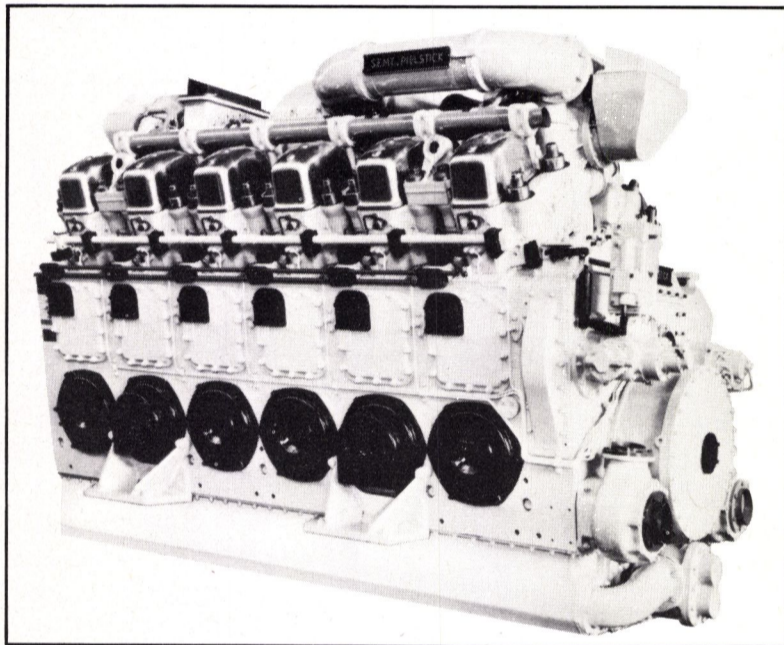
SAVE 15 %

of your fuel consumption expenses

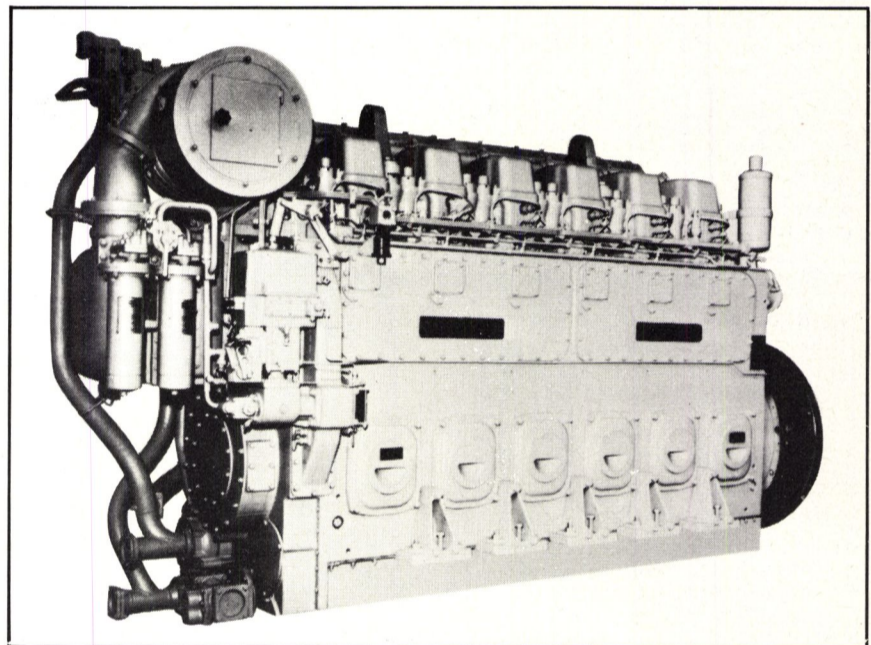
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S.E.M.T. PIELSTICK PA6 - 280 Vee type



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 - Easy maintenance
- Very compact (400 HP per cylinder)
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	8 PA6 L 280	8	1000	3200	185	56	105	31.746
	9 PA6 L 280	9	1000	3600	202	56	105	35.274
VEE TYPE	12 PA6 V 280	12	1000	4800	145	70	98	41.446
	14 PA6 V 280	14	1000	5600	163	70	98	47.399
	16 PA6 V 280	16	1000	6400	181	70	98	53.131
	18 PA6 V 280	18	1000	7200	199	70	98	57.761

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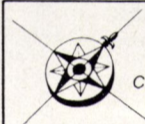
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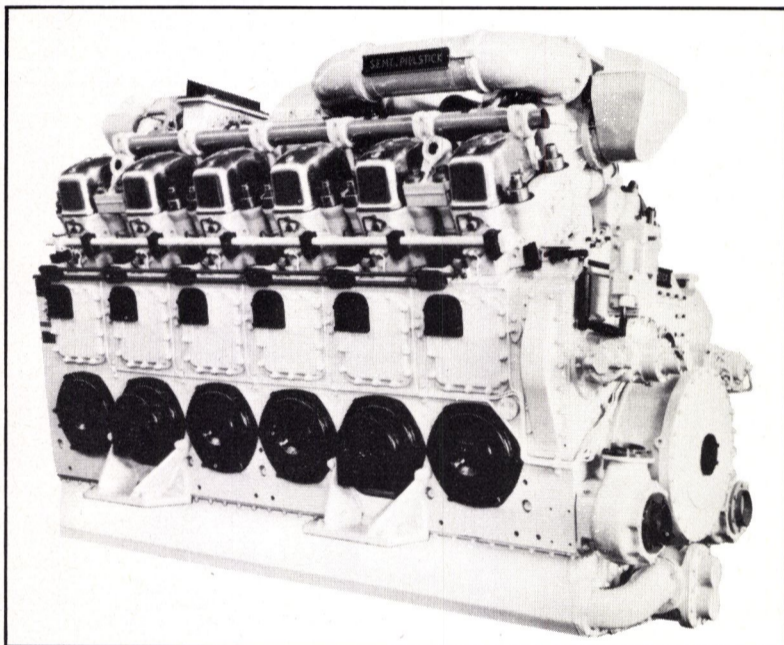
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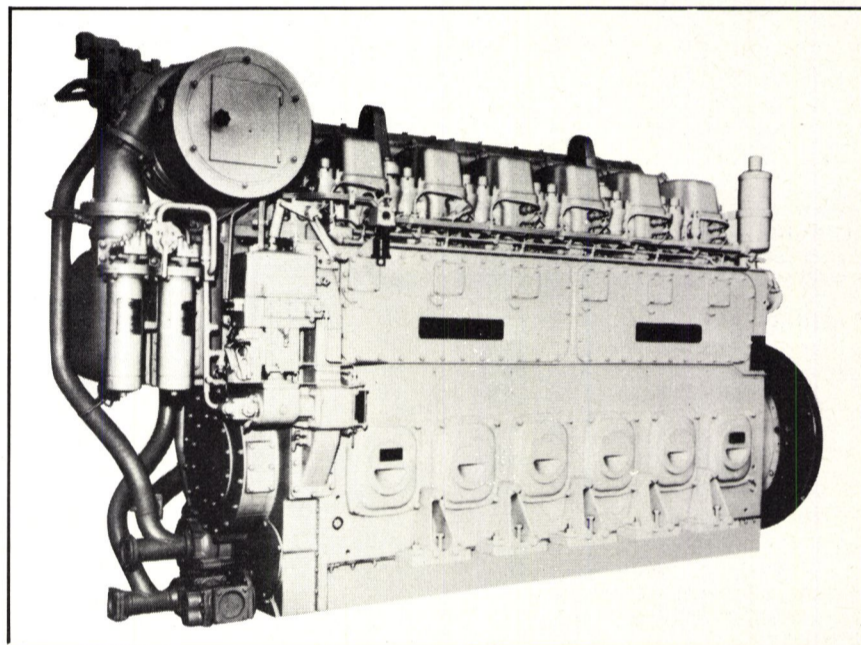
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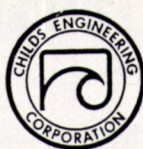
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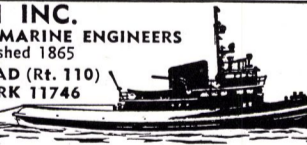
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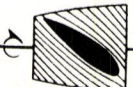
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Crowley Subsidiary TMT Orders 400

Specialized Truck Trailers

Trailer Marine Transport Corporation has recently ordered 400 specialized truck trailers for its expanding fleet of equipment, according to a recent announcement by **Robert G. Homan**, senior vice president of the Caribbean Division of Crowley Maritime Corporation.

Some 250 high-cube drop-frame trailers are on order, which will be among the largest available in the ro/ro trade. These trailers are 45 feet long and have 3,401 feet of capacity. Delivery began October 15, with all 250 trailers to be in service by year-end.

One hundred 40-foot high-cube

reefer trailers are on order, with delivery starting in December and scheduled for completion by March 1979. TMT currently has 120 reefer trailers in the Caribbean service.

Also ordered are fifty 7,200-gallon stainless-steel tank trailers, 25 insulated and 25 uninsulated. These tanks have the greatest volume capacity of any in the

Caribbean trade and will be used for transporting soybean oil, corn syrups, and food grade chemicals such as glycols. Delivery on the tanks also began October 15. TMT currently has twenty-five 7,000-gallon tanks in service between the U.S. mainland and Puerto Rico.

TMT is the largest ro/ro carrier in the Caribbean trade, operating out of the Southeast and Gulf. The company utilizes mammoth ro/ro barges, some capable of carrying as many as 374 forty-foot trailers, under tow of 9,000-hp oceangoing tugs.

TMT operates between Jacksonville/Miami/Lake Charles and San Juan, Puerto Rico. Other Crowley subsidiaries provide feeder services to some 20 Caribbean ports of call.

Anixter Bros., Inc. Names Tom Flood Vice President



Tom Flood

Tom Flood has been named vice president-purchasing for Anixter Bros., Inc., Skokie, Ill., worldwide electrical wire and cable specialists, it was announced by **Robert Wilson**, Group vice president.

Mr. Flood joined Anixter Bros. in 1973 as shipboard cable product manager. He previously was operations manager for General Cable Corp. in New York from 1969 to 1973.

As vice president of purchasing, Mr. Flood will direct the buying activity for wire and cable products for the Anixter network. He will also be responsible for the day-to-day control of the entire Anixter wire and cable inventory.

Farboil Company Appoints East Wind In Northern Europe

East Wind, GMBH of Hamburg, West Germany, has been appointed sales agent for Farboil marine paints and coatings in Northern Europe, it was announced by **J. Harrington**, general marine sales manager of Farboil Company, Baltimore, Md.

East Wind is located at Sandtorkai 23, 2000 Hamburg 11, West Germany.

Farboil produces and markets worldwide a full line of marine coatings for both deepwater and inland shipping. It is a Beatrice Chemical Company, a division of Beatrice Foods Co.

Public Auction

NO MINIMUM STARTING BIDS
NO ITEMS WITH RESERVE PRICES



294' CRUISE SHIP D.E.V. "XANADU"

SHOWN IN ALASKAN WATERS IN APPROXIMATELY 1976

BY ORDER OF SECURED CREDITOR

SATURDAY, DECEMBER 16 AT 10 AM

PREVIEW AND INSPECTION: 10 AM-5 PM, TUESDAY 12/12 THROUGH FRIDAY 12/15
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A LUXURY CRUISE SHIP

The diesel electric vessel "Xanadu" was manufactured in 1955 in Germany. 293.5' length, 43.3' breadth, 21.5' depth, 12.5' draft, 2599 gross tons, 1557 net tons, 428 deadweight tons, 72,618 gallons bunker capacity, 64,890 fresh water capacity, 166 guests in 75 cabins on three decks. Each cabin has a private telephone, service paging & music, shower, air conditioning controls. The lounge/ballroom serves 130, a dining room for 120, a boutique shop, beauty salon, library, card room, and swimming pool. The crew capacity is 73 in 44 cabins, with separate crew dining, recreation and laundry rooms. Two 32' sightseeing launches are air conditioned and will be auctioned separately. The "Xanadu" is registered in Panama and is classed with the American Bureau of Shipping.

PROPULSION/NAVIGATION/DETAILS

The propulsion system is four diesel Maybach Mercedes Benz M.D. 665 engines, four generators, and two shunt motors connected directly to the propeller shafts for smooth and direct propulsion with minimum vibration. Navigation includes modern Decca and Marconi radars plus all navigational instruments. Details of the ship's equipment and mechanical systems are available in the auction brochure and by personal inspection.

"XANADU" FITTINGS

The Van Atten Mural portrays the majestic procession of Kubla Khan and his royal entourage on their journey to Xanadu. The Brass Planters are massive in size and were hand-wrought in India. The Bronze Statue is an antique Buddha statue. The Ceramic Portrait of Kubla Khan is by Kay Pencost. The Silk Scroll of Ancient China is an oriental silk. The Columned Lamps are twenty-three feet high twin fixtures and span three decks. The Antique Silk Panel represents a European galleon arriving in Cathay. The Illustrated Manuscript is a complete text of Coleridge's "Kubla Khan." The 17th Century Breakfront is used to display oriental art and small china pieces. The Gilded Carvings represent Chinese peasant life. The Library Furniture was custom made in Hong Kong. The Phoenix Plaques are in each cabin. The Royal Plaque is a portrait of an ancient Chinese emperor with his two children. The Coromandel Screen has fifteen panels and depicts a garden scene. The Dining Room Chairs are white Chinese bamboo and are lemon cushioned. The Mirror is smoked and etched with an oriental design. The Dinnerware is patterned after an original 18th century design. The Lounge Chairs are the same design as the dining room and are black bamboo with orange cushion. Note: The fittings to be auctioned will be auctioned after the vessel so the new vessel owner may bid.

ABSENTEE BIDS WILL BE ACCEPTED. CONTACT THE JAMES G. MURPHY COMPANY FOR DETAILS.

ILLUSTRATED BROCHURE

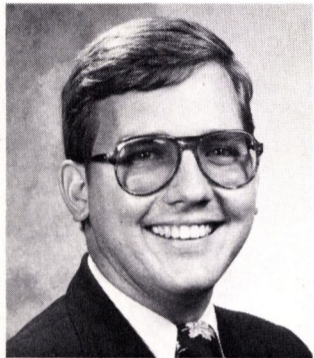
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James G. Murphy Co.

COMMERCIAL/INDUSTRIAL AUCTIONEERS

John Kuchta Joins Gulf Mississippi Marine Corporation

Richard M. Currence, president of the Offshore Marine Services Division of Pott Industries, St. Louis, Mo., has announced that John P. Kuchta Jr. has joined Gulf Mississippi Marine Corporation, New Orleans, La., as sales representative for the company's North Sea and European activities.



John P. Kuchta Jr.

Mr. Kuchta, a graduate of Louisiana State University, brings with him several years of sales experience in the offshore marine transportation field. He and his family will reside in Edinburgh, Scotland, although his sales effort will take him throughout the United Kingdom, Scandinavia and Europe.

Pott Industries is a wholly owned subsidiary of Houston Natural Gas Corporation (HNG).

Pott Industries' Offshore Marine Services Division maintains a fleet of 93 vessels, and provides a full range of offshore marine transportation service on a worldwide basis. Its fleet consists of seagoing tugs, combination towing/supply vessels, supply vessels, offshore deck barges and crew/utility boats.

HNG's other lines of business include construction and repair of barges and towboats, inland waterways transportation, intrastate natural gas transmission, oil and gas exploration and production, coal mining and production, and marketing of industrial gases.

American Abrasive Metals Develops New Non-Slip Coating For Marine Use

A new non-slip coating, proven in use by the U.S. Navy, is now available as original safety equipment for new or existing ships and offshore rigs, regardless of age. The safety coating is manufactured and marketed by American Abrasive Metals Co.

Called Epoxo, the low-cost coating simply rolls on in minutes to help stop slips and falls at sea. Epoxo's unique high traction surface protects personnel and equipment, as well as providing vital non-skid safety for helicopter landing pads on offshore rigs. The coating is easily applied by shipyard or shipboard personnel. Simply roll, trowel, or spray on. A

two-man team can roll on up to 1,000 square feet in only 60 minutes.

For ships at sea, Epoxo Non-Skid Safety Coating should be used on all exposed weather decks, work areas, storage decks, walkways, passageways and vehicular traffic areas to protect crews, equipment and machinery from costly slips, skids and falls.

For offshore rigs, Epoxo's unique high-traction surface en-

ables men and equipment to secure a good "grip" even on wet, slippery and oily decks.

Epoxo's tough resin binder locks in the almost diamond-hard abrasive granules, preventing them from being loosened or kicked out, so it resists gouging and chipping. Because its unique combination of epoxy resins forms a chemical and mechanical bond with steel, Epoxo features superior adhesion even under the most

severe impact. And its special blend of resins remains unaffected by seawater, oil, gasoline, grease, most chemicals, hydraulic fluids, acids, alkalines, solvents and detergents. It can be applied to any properly prepared, clean, sound surface.

For a free sample and literature, contact Richard W. Glaubinger, American Abrasive Metals Co., 460 Coit Street, Irvington, N.J. 07111.

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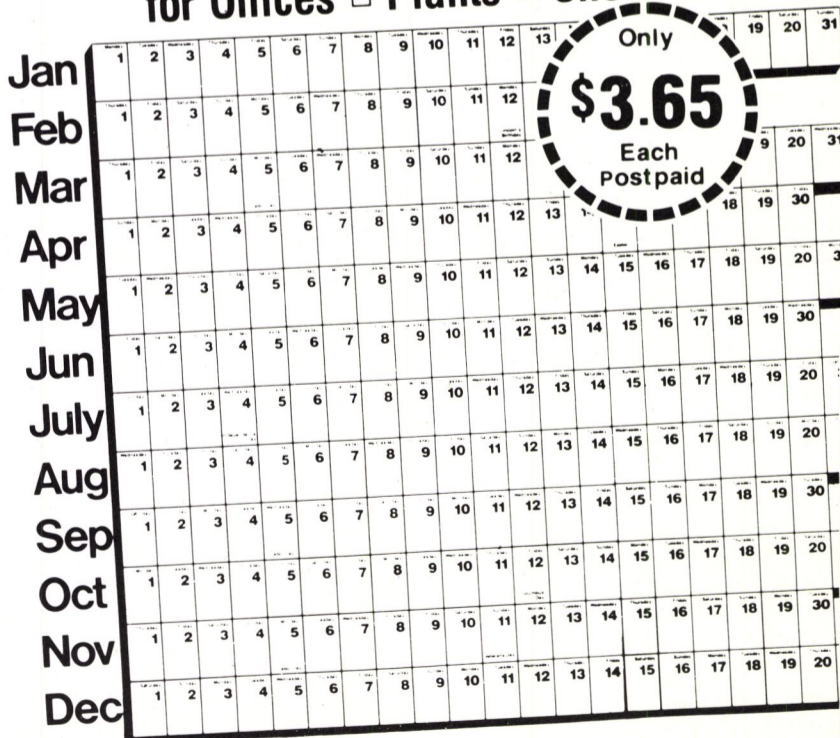
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Krogen Designs Landing Craft Built By Lantana Boatyard For Alaskan Service



The new Arndt Brothers landing craft is powered by a pair of 365-horsepower Caterpillar 3405 diesel engines with a cruising speed of 10 knots.

A 134-foot multipurpose peacetime landing craft for delivering deck cargo and/or bulk fuels to areas of Alaska without port facilities has been designed by Miami, Fla., naval architects James Krogen & Co. for the Arndt Brothers Construction Company of Homer, Alaska.

The all-steel 183-gross-ton, 32-foot-beam vessel, which was built by another Florida firm, Lantana Boatyard of Lantana, has accommodations for a crew of seven, and draws 7 feet 4 inches loaded with its capacity of 353 tons of cargo, or 103,000 gallons of bulk fuel products, or a combination of both. A pair of 365-horsepower

Caterpillar 3405 diesel engines give the landing craft a cruising speed of 10 knots. Fuel capacity is 12,280 gallons, with potable water storage 2,678 gallons. It is U.S. Coast Guard certified for both deck cargo and bulk fuels, and is classified by the American Bureau of Shipping.

Other designs in-house according to Krogen are a 100-foot steel landing craft, an 85-foot-glass-bottom aluminum sightseeing boat, a 65-foot-fiberglass passenger schooner, a conversion of a 165-foot U.S. Navy PG to a survey vessel for the Environmental Protection Agency, and 22-foot and 28-foot aluminum ship's launches.

New Appointments At Bailey Group



Benjamin A. Bailey



Santo Russo



Ronald J. Rosa

Sigurd Nilsen, president of the various companies of the Bailey Group, has announced the following appointments.

Benjamin A. Bailey as vice president of Bailey Distributors, Inc. and assistant to the president of the Bailey affiliates. He served with the U.S. Navy as a radioman and was graduated "cum laude" from Lehigh University with a degree of Bachelor of Science in mechanical engineering, at which time he joined the Bailey organization. He is a member of The American Society of Mechanical Engineers, and the Society of Marine Port Engineers.

Santo Russo as vice president of Bailey Joiner Co., Inc., a distributor of marine furniture. After serving in the U.S. Army Artillery Unit, Mr. Russo was a naval architect for 18 years with the Marine Design Section, Cleveland Diesel, and the Electro-Motive Division, General Motors, in ship design and construction.

He joined Bailey in 1971 as an

estimator and supervised major construction projects for new vessels, varying from joiner to insulation. He recently completed a two-year tour involving a jumbORIZATION program on refrigerated containerships for Farrell Lines, incorporating the Bailey 1000 Foam Insulation System. He has been an associate member of The Society of Naval Architects and Marine Engineers for 20 years.

Ronald J. Rosa as vice president of Richards Refrigeration & Supply Co., Inc. Mr. Rosa studied accounting and finance at Morningside College and Hofstra University. Prior to joining the Bailey organization in 1967, he was in the wholesale refrigeration field. In his present position, he will supervise all credit, finance, purchasing and accounting operations.

Robert T. Svennevik, vice president of Bailey Refrigeration Co., Inc. since 1972, has been named senior vice president of that company.



NEWLY ELECTED — The photo above shows some of the new officers and board members of The Propeller Club of the United States, Port of San Diego. On deck with a nautical background are, left to right: board member/past president **William C. Harman**, employed by National Steel and Shipbuilding Company (NASSCO); board member **Roger Leonard**, employed by Crescent Wharf and Warehouse; third vice president **Al Bell**, employed by Santa Fe Railway Company; board member **Gordon Phelps**, employed by NASSCO; Port secretary **Charlie Hurd**, employed by Southwest Marine; board member/past president **William T. Egan**, employed by NASSCO; Port president **Arthur G. Lyon**, employed by Rene D. Lyon Company, and second vice president **John Leach**, employed by Zapata Corporation. Others not shown in the photo include first vice president **David Nissenberg**, and board members **Richard Bailey**, **David Duea**, **Donald Gillman**, and **Russel Seley**. The local port has approximately 270 active members. One of its proudest achievements during the past two years is the donation of approximately \$15,000 to various local and national maritime-related activities.

American President Lines Promotes Richard Hill

W.B. Seaton, president, American President Lines, Ltd., Oakland, Calif., has announced the promotion of **Richard L. Hill** to the newly created position of vice president-traffic.

Mr. Hill, who joined APL in 1976 as director-operations, California Terminals, assumes his new assignment immediately and will report to **Henry Kozlowski**, senior vice president-planning and control.

In making the announcement, Mr. Seaton commented that the promotion reflects Mr. Hill's personal contribution to APL over the past year in restructuring the company's traffic system, and the importance of the traffic function to the profitable operations of the company.

Prior to joining American President Lines, Mr. Hill was with Sea-Land Services, Inc., where he served 10 years in various corporate, terminal, marine and equipment management positions.

A native of Sacramento, Calif., Mr. Hill is a 1964 graduate of the United States Merchant Marine Academy at Kings Point, N.Y.

E.L. Post & Co. Names Hans Hansen Welding

Walter L. Vaughan, president of E.L. Post & Co., Inc., 233 Broadway, New York City, recently announced the appointment of **Hans Hansen Welding Co., Inc.** of 2824 Summit Street, Toledo, Ohio, as their authorized exclusive marine and industrial agent in the Great Lakes Area.

Post's, century-old manufacturer of Babbitt metals and tinning compounds, had for 20 years been represented by the late **T.V. Sords** of Cleveland, Ohio.

The Hans Hansen Welding Company of Toledo is headed by **H.W. Hansen**, president, whose firm has been engaged in ship repair work for the last 55 years in the Great Lakes Region.

Mr. Vaughan announced further that the Hansen Welding Company will stock the Post metals and fluxes in addition to the new Sovereign 87-S Babbitt metal manufactured by The Glacier Metal Company of London, England, for which E.L. Post & Co., Inc. is the exclusive U.S.A. importer.

The Corporate Executive And The Videotape Pirate

DEAR EXECUTIVE:

Is your company engaged in a program using unauthorized videotapes to provide entertainment to your personnel wherever they may be based?

Are you buying or renting unauthorized videotapes of motion pictures and television programs for use by your overseas or ship-based personnel?

Is your company videotaping material off conventional or pay television for use by your personnel based in remote areas?

If so, you and your company are in violation of the United States Copyright Act (Title 17, U.S. Code) and subject to both criminal and civil penalties.

The new U.S. Copyright Act which went into effect on January 1, 1978 (Public Law 94-553) grants to the copyright owner the exclusive rights, among others, to sell, lease, duplicate, and exhibit his product.

Any wilful infringement of these rights "for purposes of commercial advantage or private financial gain" is a Federal crime. The first offense is punishable by up to one year in jail or a \$25,000 fine, or both; the second and each subsequent offense is punishable by up to two years in jail or a \$50,000 fine, or both.

In addition, under the new law, even innocent or inadvertent infringers of the exclusive rights granted to a copyright owner are subject to substantial civil penalties.

Courts may also order the confiscation and destruction of all equipment involved in illegal duplication or processing.

The video cassette recorder has spawned a legion of videotape "pirates"—those who sell, lease, duplicate, or exhibit copyrighted material without authority of the copyright owner.

If your company is engaged in a videotape program, you, as a responsible executive, should make sure that the program does not involve a violation of Federal law and that your company is not dealing with a "pirate."

The companies listed below support the

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which will be glad to assist you in resolving any questions you may have about the legal propriety of your company's videotape program.

If your company's product were stolen, you would insist upon seeking appropriate legal redress. So will the undersigned companies.

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- Columbia Pictures Industries, Inc.
- Metro-Goldwyn-Mayer Inc.
- Paramount Pictures Corporation

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- Universal Pictures, a division of Universal City Studios, Inc.
- Walt Disney Productions
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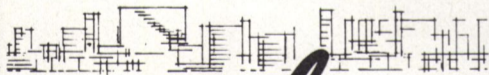
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Mobile, Alabama—Marine Specialty Co.—205-432-0581
New Orleans, La.—Alexander Ind. Inc.—504-525-9042
Norfolk, Va.—William H. Swan & Sons—804-855-4711
Rotterdam, Netherlands—Molam BV—010-76-87-11 (Telex 22161)
Tampa, Fla.—Bonnani Ship Sply.—813-229-6411

John Cassedy Urges Congress To Stem Tide Of Soaring Liability Awards To Seamen

Calling upon Congress to enact a "good and fair" Seamen's Compensation Act in 1979 to help stem the tide of soaring liability awards to seamen, **John H. Cassedy**, president of the Shipowners Claims Bureau and secretary of the American Club (The American Steamship Owners Mutual Protection & Indemnity Association), urged shipowners to support such legislation as a "step toward putting American ships on a competitive basis with the foreign-flag owner."

Speaking before the 52nd Annual Propeller Club National Convention in Honolulu, Mr. Cassedy explained that because most foreign-flag owners are covered by national compensation laws that protect seamen in their employ in case of injury or death, liability crew claims represent only about 11 percent of their total Protection and Indemnity insurance premiums. This puts U.S. shipowners at a competitive disadvantage because P&I insurance is one of the most expensive items in their insurance budgets, since crew claims represent close to 70 percent of their total P&I premiums. Thanks to the Merchant Marine Act of 1920, better known as the Jones Act, which gives the American seaman—as a ward of the court—the right to sue his employer directly if his injury is the result of unseaworthiness or negligence on the part of the shipowner, insurance costs are spiraling upward as juries award huge settlements to claimants, Mr. Cassedy said.

In emphasizing the need for Congress to pass a Seamen's Compensation Act next year, Mr. Cassedy warned that U.S. shipowners will continue to find it difficult to compete with foreign flags in terms of crew injury claims because, "I cannot see our courts reversing themselves (on) shipowners' liability, and I cannot see our juries cutting back on the amounts awarded seamen today."

Mr. Cassedy agreed that there was a definite need for a Merchant Marine Act in the 1920s to protect seamen against serious social abuses, but said that today the American seaman is one of the highest paid in the world, with "as good, if not better, employment conditions than most Americans." Even so, the obsolescent legislation is still in effect. As an example, he cited the case of a seaman who broke his leg jumping from the window of a house of ill repute. Although he was miles from his ship, as a ward of the court he sued the shipowner directly for maintenance—and the court found in his favor on the grounds that he was injured "while in the service of the ship."

Insisting that the owner of an American-flag vessel "has the cards stacked against him" regarding liability for crew injury claims, Mr. Cassedy told of a seaman who slipped on the deck of an American-flag ship and injured his back. His attorney sued the shipowner for \$255,000 on the grounds of unseaworthiness. He was willing, according to Mr. Cassedy, to settle out of court for \$60,000 but the shipowner's side felt that at best the case had a settlement value of \$25,000. The case went to court, and five years after the accident the jury handed down a verdict awarding the seaman \$205,494. Thus, "The American-flag owner thinks long and hard before he decides to step on the scales of American justice," Mr. Cassedy said.

Continuing, Mr. Cassedy also described how another seaman slipped on a dock near to his ship. To break his fall, he instinctively

put up his hand and it hit a moving electrical exhaust fan, immediately amputating the thumb and two fingers of his hand. He sued the ship for \$5,000,000, and after two years the case was settled for \$600,000. The shipowner's lawyers called it a "bargain" because if the case had gone to court, the probability was that the jury, said Mr. Cassedy, would award him between \$800,000 and \$950,000.

Mr. Cassedy emphasized that a fair compensation act would protect all seamen, regardless of who is at fault, and further noted that the seaman would benefit by receiving payment almost at once instead of waiting years, and that he would be keeping 100 percent of the award by not sharing it with a lawyer. In appealing to Congress to act upon national compensation, Mr. Cassedy also urged the merchant marine to choose a road toward "survival, growth and true competitiveness" by helping to eliminate the seaman's right, as a ward of the court, to sue his employer.

The Inverto Marine Bilge And Ballast Water Separator

This IMCO-approved marine separator is designed to comply with the most stringent legislation on marine pollution. The effluent is far below the 15 ppm requirements. The unit mainly consists of three consecutive treatment stages: first the oily water passes the pre-separation chamber where large slugs of oil are separated from the water; the remaining oily water continues its way through the coalescer compartment, where very small oil droplets are coalesced to relatively large globules.

The coalescer compartment contains two identical beds of granular medium of which one is in up flow (fluidized state) and the other is in down flow. This means that part of the coalescer medium is continuously being cleaned while the other part is performing the coalescing function. Due to the reversible current, no clogging will occur and continuous operation is guaranteed.

The large oil globules coming from the coalescing compartment are subsequently separated in the fine separation compartment, containing a pack of parallel plates. The treated water is thereafter disposed to sea.

The main features of this marine separator are self-cleaning, very compact in size, minimum maintenance, effluent quality independent of influent oil concentration, continuous automatic or semi-automatic operation.

For additional information, write to **M.A. Reymers**, Skimovex B.V., de Liesbosch 5, P.O. Box 2028, 3500 GA, Utrecht, the Netherlands.

Gulf Maritime Agencies Opens New Orleans Office

William H. Pruitt, president of Gulf Maritime Agencies, Inc., headquartered at 609 Fannin, Suite 2101, Houston, Texas, has announced the opening of a New Orleans office at the International Trade Mart, Suite 922, New Orleans, La. 70130, under the management of **Richard A. Perry**.

This office was opened in conjunction with the company's appointment as Port Agent by Alltrans International, Inc. for their new A.B.C. Containerline N.V. vessels calling at Houston and New Orleans monthly to Europe and the United Kingdom, as well as demand for expansion by other principals.

Cummins To Manufacture Diesel Engines In Singapore

Cummins Engine Company has been selected by the Economic Development Board of the Republic of Singapore to manufacture diesel engines of 200 horsepower and above in Singapore. The Singapore operation will be wholly owned by Cummins, and will serve markets in the Far East.

Cummins said it hopes to begin assembly of its 6-cylinder NH engine series and 12-cylinder Vee engine models in 1980.

Initially, engines will be assembled from kits produced in Columbus, Ind., but as volumes increase, Singapore-produced content will increase, the company said.

Volumes are expected to be five units per day in 1983.

The company said its investment in the project will be in the range of \$3 million, and that it will either operate in leased facilities or will build a new plant.

Primary markets for the Cummins engines will be construction, industrial and marine equipment in Southeast Asia.

Dickieson Appointed To Three Marine Classification Societies

Capt. R.W. Dickieson of Robert W. Dickieson, Inc., has been appointed nonexclusive surveyor to the marine classification societies Germanischer-Lloyd, Nippon Kaiji Kyokai, and Det norske Veritas. His areas of responsibility are the State of Hawaii and the mid-Pacific Basin. The company recently relocated its offices to Suite 211 at 126 Queen Street, Honolulu, Hawaii.

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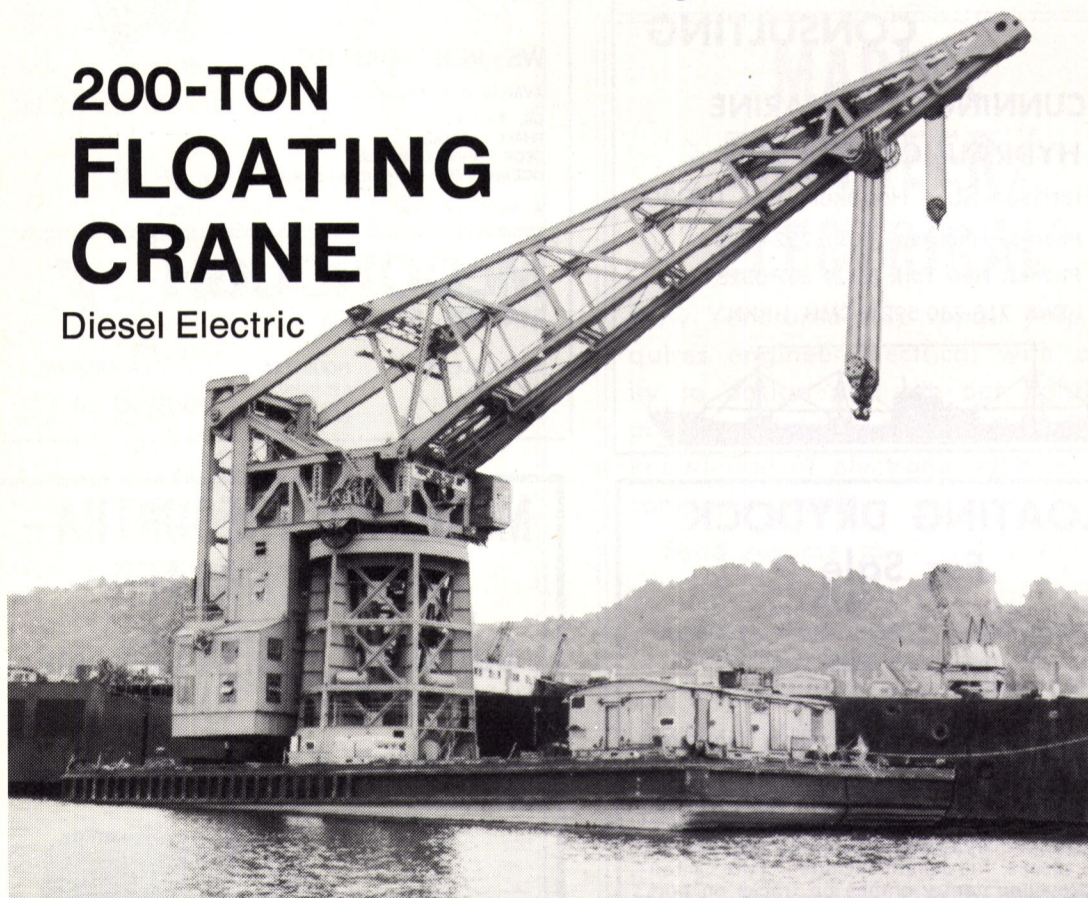
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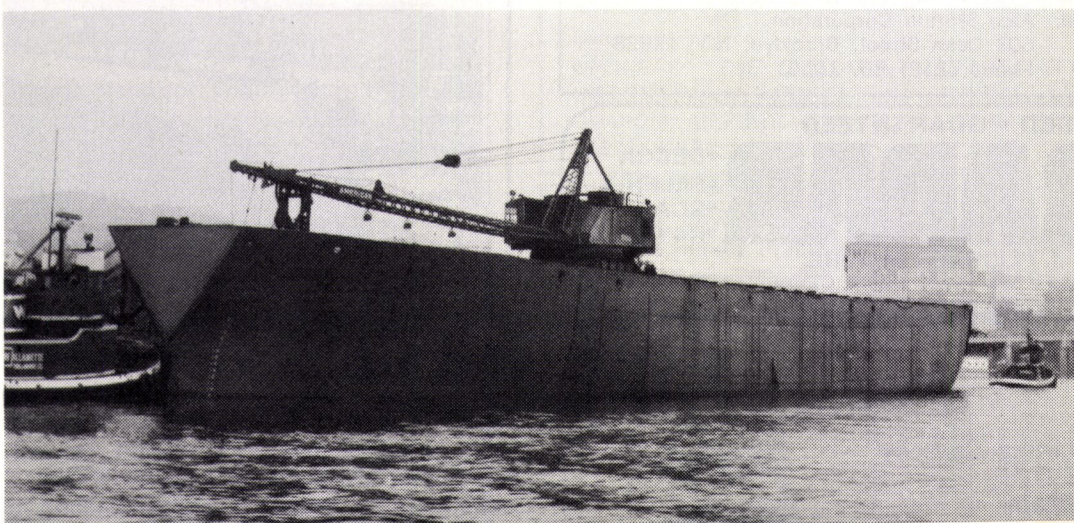
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Cummins To Manufacture Diesel Engines In Singapore

Cummins Engine Company has been selected by the Economic Development Board of the Republic of Singapore to manufacture diesel engines of 200 horsepower and above in Singapore. The Singapore operation will be wholly owned by Cummins, and will serve markets in the Far East.

Cummins said it hopes to begin assembly of its 6-cylinder NH engine series and 12-cylinder Vee engine models in 1980.

Initially, engines will be assembled from kits produced in Columbus, Ind., but as volumes increase, Singapore-produced content will increase, the company said.

Volumes are expected to be five units per day in 1983.

The company said its investment in the project will be in the range of \$3 million, and that it will either operate in leased facilities or will build a new plant.

Primary markets for the Cummins engines will be construction, industrial and marine equipment in Southeast Asia.

Dickieson Appointed To Three Marine Classification Societies

Capt. R.W. Dickieson of Robert W. Dickieson, Inc., has been appointed nonexclusive surveyor to the marine classification societies Germanischer-Lloyd, Nippon Kaiji Kyokai, and Det norske Veritas. His areas of responsibility are the State of Hawaii and the mid-Pacific Basin. The company recently relocated its offices to Suite 211 at 126 Queen Street, Honolulu, Hawaii.

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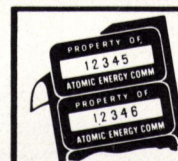
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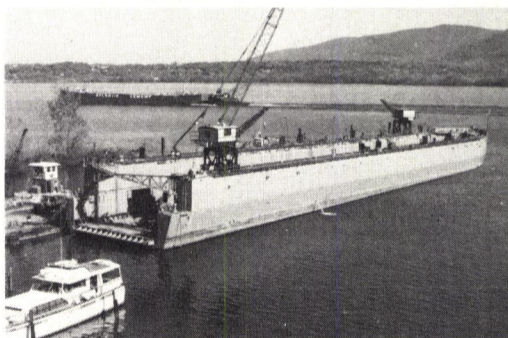
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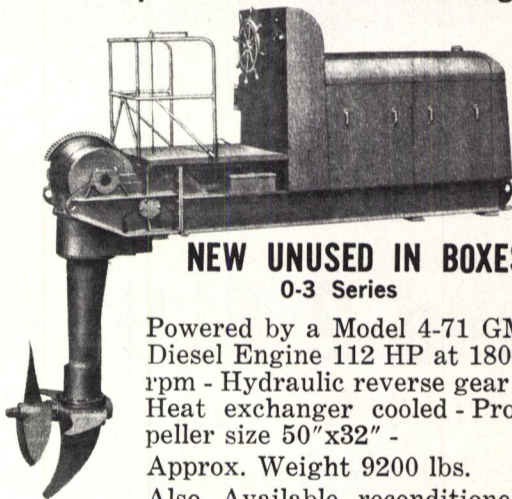
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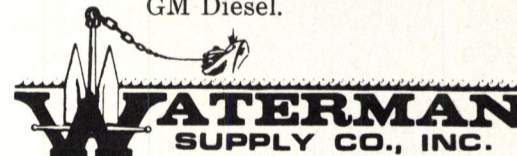
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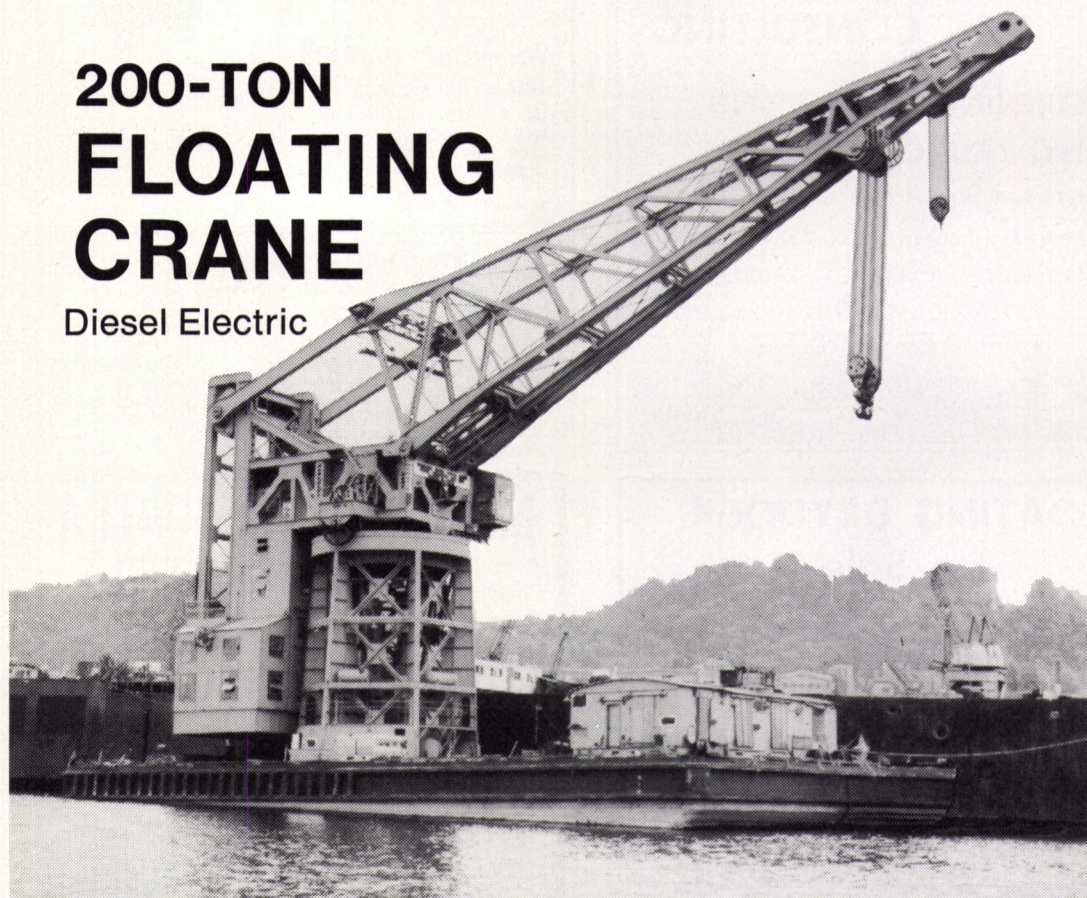
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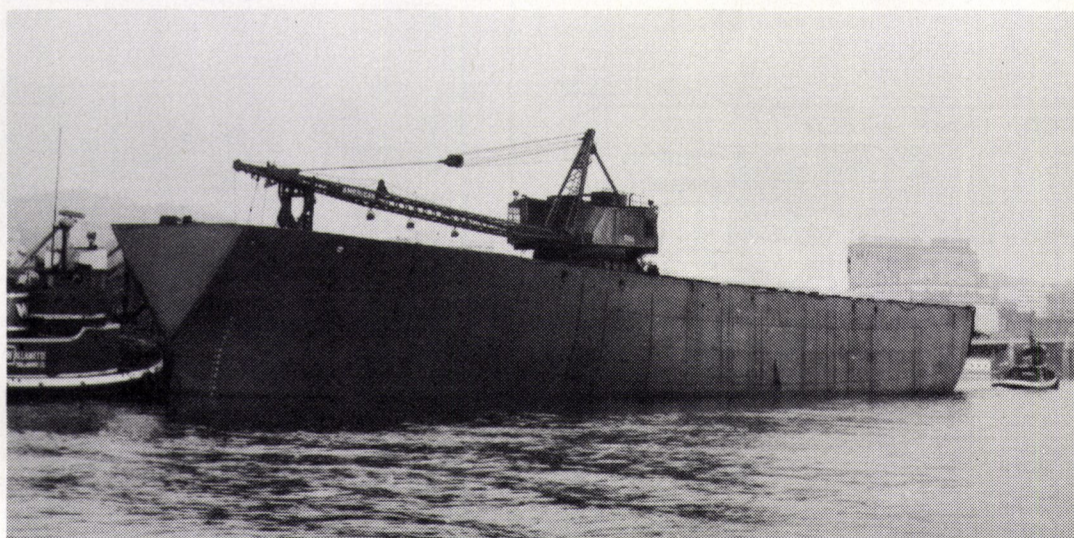
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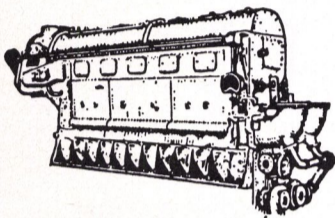
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4—GENERAL MOTORS, Model 3-268A, marine, 150 BHP, 1200 RPM, 3 cylinders, with 100 KW Generators, 450/3/60.

3—GENERAL MOTORS, Model 3-268A, Marine, 150 HP, 1200 RPM, 3 cylinders, with Allis-Chalmers Generators, 100 KW, 120/240 DC.

Many other units in stock

TURBINE GENERATORS—AC and DC Voltage

A. C.

4 — 1250 KW, GENERAL ELECTRIC Turbines: Type FSN, 525 PSI, 7938 RPM. Generators: 1250 KW, 450/3/60, 3600 RPM, Type ABT2.

7 — 750 KW, GENERAL ELECTRIC Turbines: Type FN3-FN24, 525 PSI, 10,033 RPM. Generators: 750 KW, 450/3/60, 1200 RPM, Type ATI.

2 — 500 KW, GENERAL ELECTRIC Turbines: Type FN3-FN20, steam 375/425 PSI, 6 Stage, 9987 RPM. Generators: 500 KW, 450/3/60, 1200 RPM, Type ATI.

D. C.

1 — 400 KW, WORTHINGTON Turbine, 200 PSI with Crocker-Wheeler Generator, 400 KW, 120/240 Volts DC, Type CDC, 1200 RPM.

7 — 300 KW, ALLIS-CHALMERS Turbines, 440 PSI, 5645 RPM, with Westinghouse Generators, 300 KW, 120/240 Volts DC, 1200 RPM.

2 — 300 KW, WESTINGHOUSE Turbines, 440 PSI, 5920 RPM, with Westinghouse Generators, 300 KW, 120/240 Volts DC, 1200 RPM.

2 — 300 KW, TERRY Turbines, 440 PSI, Type TM-5, 5965 RPM, with Crocker-Wheeler Generators, 300 KW, 120/240 Volts DC, 1200 RPM.

1 — 300 KW, ALLIS-CHALMERS Turbine, 440 PSI, 470 HP, 8000 RPM, with Allis-Chalmers Generator, 300 KW, 240/240 Volts DC, Type HO, 1200 RPM.

1 — 250 KW, DE LAVAL Turbine, 440 PSI, 360 HP, 10,000 RPM, with Crocker-Wheeler Generator, 250 KW, 240/120 Volts DC, Type CCD, 1200 RPM.

12 — 60 KW, WESTINGHOUSE Turbines, 89.4 HP, 200 PSI, 7283 RPM, Type M-20-EH, with Westinghouse Generators, 60 KW, 120 Volts DC, 1800 RPM.

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1—INGERSOLL - RAND, Model 40B, 155 CFM, 110 PSI, 870 RPM, with 40 HP Motor, 230 DC.

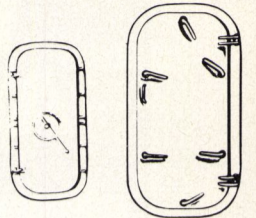
2—WORTHINGTON, 20 CFH, 3000 PSI, 4 stage, 585 RPM, with Worthington Steam Turbine, 47 HP, 5502 RPM.

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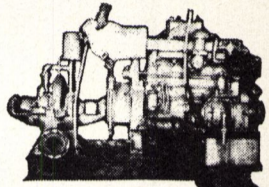
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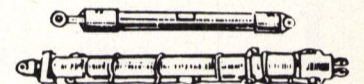
26"x48"-4 Dogs
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FIRE PUMPS



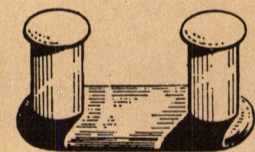
2—BUDA, Model 6-LD-468, Diesel Engine
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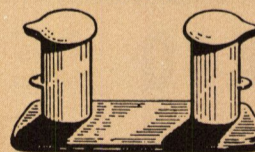


Bore	Overall Stroke	Rod Diameter	Retracted Length	Action
10"	12"	3.75"	45 1/2"	double
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2"	8"	1 1/2"	20"	double
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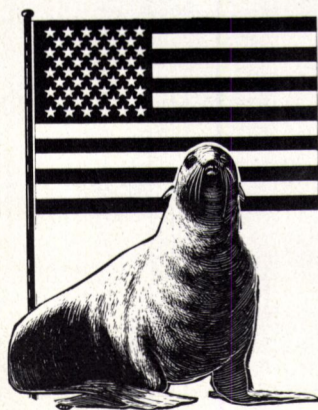


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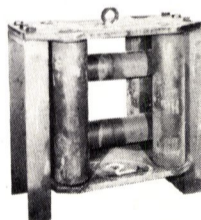



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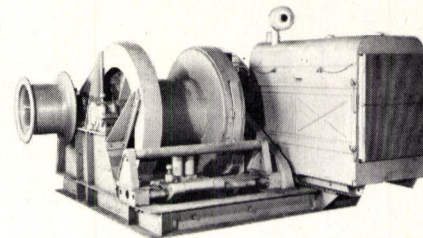
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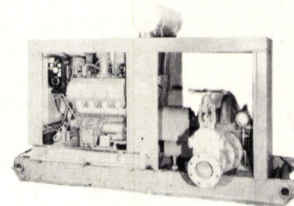
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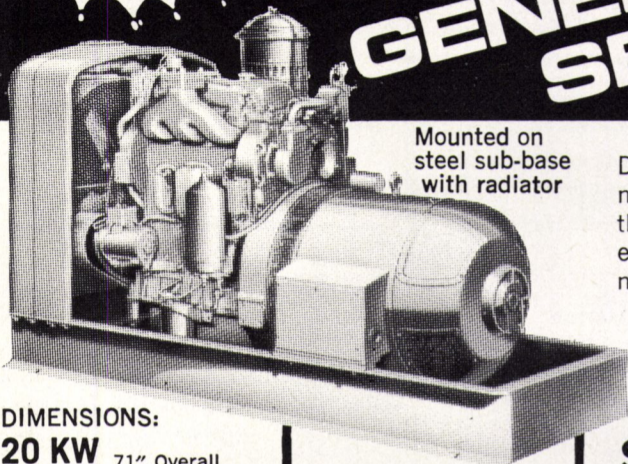
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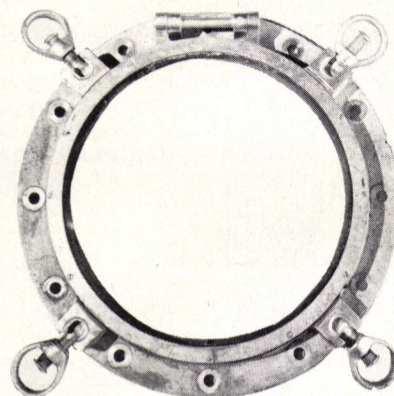
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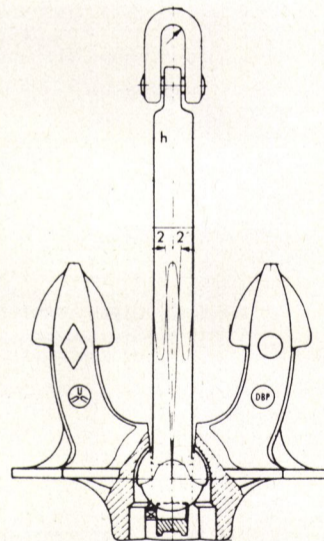
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Gulf Oil Trading Co., 1290 Ave. of the Americas, N.Y., N.Y. 10019

CABLE—Electrical

Seacoast Electrical Supply Corp., 225 Passaic St., Passaic, N.J. 07055

CARGO TRANSFER & ACCESS EQUIPMENT

MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016

CHOCKING SYSTEMS

Philadelphia Resins Corp., 20 Commerce Drive, Montgomeryville, Pa. 18936

CLOCKS

Wempe Chronometerwerke Germany, Stubbenhuk 25 2000 Hamburg 11, Germany

COILS—Cooling, Heating, Ventilating

Colmac Coil, Inc., Colville, Wash. 99114

CONTAINERS—Cargo Container Handling

Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

CONTAINER LASHINGS & COMPONENTS

Line Fast Corp., 805 Grundy Ave., Holbrook, N.Y. 11741

CONTROL SYSTEMS

The Bendix Corporation, 1400 Taylor Avenue, Baltimore, MD 21204
 Delaval Turbine Inc., (Gems Sensors Div.) Spring Lane, Farmington, Conn. 06032
 Foxboro Marine Operations, P.O. Box 435, Burlington, Mass. 01803
 Henschel Corporation, 14 Cedar St., Amesbury, Mass. 01913
 Marine Electric RPD Inc., 166 National Road, Edison, N.J. 08817
 National Marine Service, Inc., 1750 Brentwood Blvd., St. Louis, Mo. 63144
 Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.

CORROSION CONTROL

Carboline Co., Marine Div., 350 Hanley Industrial Court, St. Louis, Mo. 63144

CRANES—HOISTS—DERRICKS—WHIRLEYS

Clyde Iron, a unit of AMCA International Corp., Suite 200/Stockton Bldg., University Office Plaza, Newark, Del. 19702
 AB Hagglund & Soner, Rep. in U.S.A. by Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
 M. P. Howlett, Inc., 410 32nd St., Union City, N.J. 07087
 Marathon LeTourneau Company, P.O. Box 2307, Longview, Texas 75601
 Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

DECK COATINGS—Non-skid

American Abrasive Metals Co., 460 Coit St., Irvington, N.J. 07111

DECK COVERS—Chain Pipe

MacGregor-Comarain, Inc., 135 Dermody St., Cranford, N.J. 07016
 Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
 Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

DECK MACHINERY—Cargo Handling Equipment

AB Hagglund & Soner, Rep. in U.S.A. by Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
 Markey Machinery Co., Inc., 79 S. Horton St., Seattle, Wash. 98134

DIESEL ACCESSORIES

B & W Marine Service, One State Street Plaza, New York, N.Y. 10004
 General Thermodynamics Corporation, 150 Ballardvale St., Wilmington, Mass. 01887

DIESEL ENGINES

Alco Power Inc., 100 Orchard St., Auburn, N.Y. 13021
 Burmeister & Wain, One State Street Plaza, New York, N.Y. 10004
 Caterpillar Tractor Co., Industrial Division, Peoria, Ill. 61629
 Colt Industries' Fairbanks Morse Engine Division, Beloit, Wisc. 53511
 Indeck Power Equipment Co., 1075 Noel Ave., Wheeling, Ill. 60090
 M.A.N. AG Werke Augsburg Postfach 10 00 80 D-8900 Augsburg 1 Germany
 Mitsui Engineering & Shipbuilding Co. Ltd., 6-4 Tsukiji, 5-chome, Chuo Ku, Tokyo, Japan
 Oosterhuis Industries Inc., 1800 Engineers Road, Belle Chasse, La. 70037
 Power & Propulsion Systems, Inc., 9821 Katy Freeway, Houston, Texas 77024

DIVERS

International Underwater Contractors Inc., 222 Fordham Street, City Island, New York 10464

DOORS—Watertight—Joiner

Waltz & Krenzer Inc., 400 Trabold Road, Rochester, N.Y. 14624

DUCTORS

Vita Motivator Co., 200 West 20th Street, New York, N.Y. 10011

ELECTRICAL EQUIPMENT

Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N. Y. 10013
 Merrin Electric, 1120 Clinton Street, Hoboken, N. J. 07030
 Midland Ross Corp., Electrical Products Div., P.O. Box 1548, Pittsburgh, Pa. 15230
 Oceanic Electrical Mfg. Co., Inc., 159 Perry Street, N.Y. 10014
 Port Electric Supply, 157 Perry Street, N.Y., N.Y. 10014
 Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

EQUIPMENT—Marine

Argo Marine, Div. of Argo Intl., 140 Franklin St., New York, N. Y. 10013
 Comet Marine Supply Corp., 157 Perry St., New York, N.Y. 10014
 Kearfott Marine Products, 550 South Fulton Ave., Mount Vernon, N.Y. 10550
 Nicolai Joffe Corp., P.O. Box 2445, 445 Littlefield Ave., So. San Francisco, Calif. 94080
 Merrin Electric, 1120 Clinton Street, Hoboken, N.J. 07030
 Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wisc. 53186

EVAPORATORS

Riley-Beard, Inc., P.O. Box 1115, Shreveport, La. 71130

EXPANDED METALS

Niles Expanded Metals Inc., 700 North Pleasant Ave., Niles, Ohio 44446

EXPANSION JOINTS

H.S. White Co., 2056 Dixie Highway, Ft. Lauderdale, Fla. 33305

FANS—VENTILATORS

Joy Manufacturing Co., 338 So. Broadway, New Philadelphia, Ohio 44663
 Merrin Electric, 1120 Clinton Street, Hoboken, N.J. 07030
 Zidell Explorations, 3121 S.W. Moody St., Portland, Ore. 97201

FENDERING SYSTEMS—Dock & Vessel

Hughes Bros., Inc., 17 Battery Place, New York, N.Y. 10004
 Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062
 Morse Chain Company, Div. Borg Warner, So. Aurora St., Ithaca, N.Y. 14850

FINANCING—Leasing

General Electric Credit Corp., P.O. Box 8300, Stamford, Conn. 06904
 Kidder, Peabody & Co., Inc., 10 Hanover Square, New York, N.Y. 10005
 Lehman Brothers Inc., One Williams Street, New York, N.Y. 10004
 Warburg Paribas Becker, Inc., 2 First National Plaza, Chicago, Ill. 60670

FITTINGS & HARDWARE

Robvon Backing Ring Co., 675 Garden St., Elizabeth, N.J. 07207

FURNITURE

Bailey Joiner Co., Inc., 74 Sullivan Street, Brooklyn, N.Y. 11231

GANGWAYS

Rampmaster Inc., 1226 N.W. 23rd Ave., Fort Lauderdale, Fla. 33311

GAUGES—Pressure

General Instrument Corp., 3811 University Blvd. W. #26, Jacksonville, Fla. 32217

HULL CLEANING

Butterworth Systems Inc., 224 Park Ave., Florham Park, N.J. 07932
 East Coast Marine Associates, Inc., 80 Broad St., New York, N.Y. 10004
 Fekete & Co., Storgt, 47, P.O. Box 250, 3101 Tonsberg, Norway
 Phosmarin Equipment (Phocenne Sous-Marine S.A.), 21 Boulevard de Paris, 13002 Marseille, France
 RMP Marine Services, Inc., Pier D. Berth 34, Long Beach, Calif. 90802 — Norfolk, VA, Houston, TX, Honolulu, HA

HYDRAULICS

Abex Corp., Denison Div., 1160 Dublin Rd., Columbus, Ohio 43216
 Voss, Inc., Building J, 7029 Huntley Road, Columbus, Ohio 43229

INERT GAS—Generators—Systems

Foster Wheeler Boiler Corp., 110 So. Orange Ave., Livingston, N.J. 07039
 Gaulin Corporation, Garden Street, Everett, Mass. 02149
 Smit Nymegen Corporation, 1511 K Street, N.W., Washington, D.C. 20005

INSULATION—Cloth, Fiberglass

Bailey Carpenter & Insulation Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

INSURANCE

Adams & Porter, 1819 St. James Place, Houston, Texas 77027
 Adams & Porter, 5 World Trade Center, Suite 6433, New York, N.Y. 10048
 Alexander & Alexander, Inc., 1185 Ave. of the Americas, New York, N.Y. 10036
 R.B. Jones Insurance, 911 Main St., Kansas City, MO 64199
 R.B. Jones Insurance, 120 S. Central Ave., St. Louis, MO 63105
 R.B. Jones Insurance, 160 Water St., New York, N.Y. 10038
 Marsh & McLennan Inc., 1221 Ave. of the Americas, New York, N.Y. 10020

KEEL COOLERS

Johnson Rubber Co. (Marine Div.), 16025 Johnson St., Middlefield, Ohio 44062

LADDERS

Duo-Safety Ladder Co., 513 West 9th Ave., P.O. Box 497, Oshkosh, Wisc. 54901

LIGHTING EQUIPMENT—Lamps, Fixtures, Searchlights

Automatic Power Inc., 213 Hutchinson Street, Houston, Texas 77003
 Midland Ross Corp., Electrical Prod. Div., P.O. Box 1548, Pittsburgh, Pa. 15230
 Oceanic Electrical Mfg. Co., 157 Perry Street, New York, N.Y. 10014
 Perko Inc., P.O. Box 6400D, Miami, Florida 33164
 Port Electric Supply Corp., 157 Perry Street, New York, N.Y. 10014
 Tideland Signal Corp., P.O. Box 52430, Houston, Texas 77052

LNG CONTAINMENT

McDonnell Douglas Astronautics Co., 5301 Bolsa Ave., Huntington Beach, CA 92647

MACHINE TOOLS

Master Machine Tools, Inc., 1300 East Avenue A, Hutchinson, Kansas 67501

MARINE MACHINERY REPAIR

Worthington Service Corp., 233 Mount Airy Road, Basking Ridge, N.J. 07920

MOORING SYSTEMS

Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110

NAVAL ARCHITECTS, MARINE ENGINEERS, SURVEYORS

Advanced Marine Enterprises, Inc., Suite 500, 2341 Jefferson Davis Highway, Arlington, Va. 22202
 Alpha Engineers, 7215 N.E. 13th Ave., Vancouver, Wash. 98665
 American Standards Testing Bureau, Inc., 40 Water Street, New York, N.Y. 10004
 Amirikian Engineering Co., Chevy Chase Center Bldg., Suite 505, 35 Wisconsin Circle, Chevy Chase, Md. 20015
 J.L. Bludworth, 8207 Glen Loch, Houston, Texas 77061
 Breit & Garcia, Naval Architects, 441 Gravier St., New Orleans, La. 70130
 CADCOM Inc., 2024 West St., Suite B, Annapolis, Md. 21401
 R.A.CADY-Marine Survey Practice, 2301 Leroy Stevens Road, Mobile, Ala. 36609

C.D.I. Marine Co., Regency East, Suite 222, 9951 Atlantic Blvd., Jacksonville, Florida 32211
 Childs Engineering Corp., Box 333, Medfield, Mass. 02052
 Coast Engineering Co., 711 W. 21st St., Norfolk, Va. 23517
 Crandall Dry Dock Engrs., Inc., 21 Pottery Lane, Dedham, Mass. 02026
 Crane Consultants Inc., 15301 1st Ave., So. Seattle, Washington 98148

Francis B. Crocco, Inc., Box 1411, San Juan, Puerto Rico
 CTS & Associates, 11320 S.W. 108 Court, Miami, Fla. 33176
 C.R. Cushing & Co., Inc., One World Trade Center, New York, N.Y. 10048

Daniel Yacht & Ship Brokerage Ltd., 1861 S.E. 17th St., Suite 206, Ft. Lauderdale, Fla. 33316

Norman N. DeJong & Associates, Inc., 1734 Emerson St., Jacksonville, Fla. 32207

Design Associates, Inc., 3308 Tulane Ave., New Orleans, La. 70119

Designers & Planners Inc., One State Street Plaza, New York, N.Y. 10004

M. Mack Earle, 103 Mellor Ave., Baltimore, Md. 21228

Parker C. Emerson & Associates, 17935 Cardinal Drive, Lake Oswego, Oregon 97034

Frank J. Ferri & Associates, Inc., 1218 South Lakeside Drive, Lake Worth, Fla. 33460

Christopher J. Foster, Inc., 14 Vanderventer Ave., Port Washington, N.Y. 11050

Friede and Goldman, Ltd., 225 Baronne St., New Orleans, La. 70112

Gibbs & Cox, Inc., 40 Rector Street, New York, N.Y. 10006

John W. Gilbert Associates, Inc., 58 Commercial Wharf, Boston, Mass. 02110

Arthur A. Grant & Son, Inc., 1745 First National Bank of Commerce Bldg., New Orleans, La. 70112

Phillip Gresser & Associates (PTE) Ltd., 122 Eng Neo Ave., Singapore 11

Morris Guralnick Associates, Inc., 550 Kearny Street, San Francisco, Calif. 94108

J.J. Henry Co., Inc., Two World Trade Center—Suite 9528, New York, N.Y. 10048

Hydronautics, Incorporated, 7210 Pindell School Road, Howard County, Laurel, Maryland 20810

Jantzen Engineering Co., 6655-H Amberton Drive, Baltimore, Md. 21227

James S. Krogen & Co., Inc., 3333 Rice St., Miami, Fla. 33133
 Littleton Research and Engrg. Corp., 95 Russell St., Littleton, Mass. 01460

MacClear & Harris, Inc., 28 West 44 Street, New York, N.Y. 10036

Robert H. Macy, P.O. Box 758, Pascagoula, Miss. 39567

Marine Consultants & Designers, Inc., 308 Investment Insurance Bldg., Corner E. 6th St. & Rockwell Ave., Cleveland, Ohio 44114

Marine Design Inc., 401 Broad Hollow Road, Rte. 110, Melville, N.Y. 11746

Maritime Service Company, 1357 Rosecrans St., Suite B, San Diego, CA 92106

Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225

Alan C. McClure Associates, Inc., 2600 South Gessner, Houston, TX 77063

John J. McMullen Associates, Inc., 1 World Trade Center, New York, N.Y. 10048

George E. Meese, 194 Acton Rd., Annapolis, Md. 21403

Metritape, Inc., 77 Commonwealth Ave., West Concord, Mass. 01742
 Nelson & Associates, Inc., 2001 N.W. 7th Street, Miami, Florida 33125

Nickum & Spaulding Associates, Inc., 811 First Ave., Seattle, Wash. 98104

Norgaard and Clark, 114 Sansome St., San Francisco, CA 94104

Ocean-Oil International Engineering Corporation, 3019 Mercedes Blvd., New Orleans, La. 70114

Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156

S.L. Petchul, Inc., 1380 SW 57th Ave., Fort Lauderdale, Fla. 33317

M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013

and 657 Mission St., San Francisco, Calif.

Sargent & Herkes, Inc., 611 Gravier St., New Orleans, La. 70130

Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Florida 33316

Seaworthy Engine Systems, 73 Main Street, Essex, Conn. 06426

George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007

T. W. Spaetgens, 156 West 8th Ave., Vancouver, Canada V5Y 1N2

SRS Shipping Research Services Inc., 205 S. Whiting St., Alexandria, VA 22304

The Stanwick Company Maritime Systems Department, 3661 E. Virginia Beach Blvd., Norfolk, VA 23502

R. A. Stearn, Inc., 100 Iowa St., Sturgeon Bay, Wisc. 54235

Richard R. Taubler Inc., 8 Columbia St., Milford, Del. 19963

H.M. Tiedemann & Co., Inc., 295 Greenwich Ave., Greenwich, Conn. 06830

Thames Engineering Consultants Inc., P.O. Box 589, New London, Ct. 06320

Timco, 951 Government St., Suite 2161, Mobile, Alabama 36604

Undersea Systems, 112 W. Main St., Bay Shore, N.Y. 11706

Wesley D. Wheeler Associates, Ltd., 104 East 40 St., Suite 207, New York, N. Y. 10016

NAVIGATION & COMMUNICATIONS EQUIPMENT

American Hydromath Co., Buckwheat Bridge Rd., Germantown, N.Y. 12526

Anschuetz of America, 444 5th Ave., New York, N.Y. 10018

Automated Marine Systems Division, Litton Systems Canada Limited, 21101 Oxnard St., Woodland Hills, CA 91364

Calvert Electronics, Inc., 220 East 23rd Street, New York, N.Y. 10010

Communication Associates, Inc., 200 McKay Road, Huntington Station, N.Y. 11746

Comsat General Corp., 950 L'Enfant Plaza, S.W., Washington, D.C. 20024

Electro-Nav, Inc., 1201 Corbin St., Elizabeth Marine Terminal, Elizabeth, N.J. 07201

Frank Beier Radio Company, P.O. Box 10307, Jefferson, La. 70181

Furuno U.S.A., 271 Harbor Way, S. San Francisco, CA

BUYERS DIRECTORY (continued)

OILS—Marine—Additives

Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019
Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002
Mobil Oil Corporation, 150 East 42nd St., New York, N.Y. 10017
Texaco, Inc. (International Marine) 135 East 42nd St., N.Y., N.Y. 10017

PAINT—Coatings, Protective

Carboline Co., Marine Div., 350 Hanley Industrial Court, St. Louis, Mo. 63144
Devoe & Raynolds Co., Inc., P.O. Box 7600, Louisville, Ky. 40207
Farbail Company, 8200 Fischer Road, Baltimore, MD 21222
Hanline Bros., Inc. (Consol Paint), 1400 Warner St., Baltimore, Md. 21230
International Paint Co., 17 Battery Place North, Suite 1150, New York, N.Y. 10004
Mobil Chemical Co., Maintenance & Marine Coatings Dept., P.O. Box 250, Edison, N.J. 08817
Patterson Sargent Co., 1471 Jersey Ave., New Brunswick, N.J. 08901
Products Research & Chemical Corp., (PRC Coating and Sealants Div.) 5430 San Fernando Road, Glendale, California 91203

PETROLEUM SUPPLIES

Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002

PILOT LADDERS—Wood Products

A.L. Don Co., 58 Grant Avenue, Carteret, N.J. 07008

PIPE—HOSE—Cargo Transfer, Clamps, Couplings

Camlock Flange Sales Corp., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696
Hydro-Craft, Inc., 4223 Edgeland, Royal Oak, Mich. 48073
Kubota, Ltd., 22, Funade-cho 2-chome, Naniwa-Ku, Osaka, Japan
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

PLASTICS—Marine Applications

Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231

PLATENS

Welding Wholesale Co., Div. J.A. Cunningham Eqpt., Inc., 2151 Dreer St., Philadelphia, Pa. 19125

PROPELLERS: NEW AND RECONDITIONED—SYSTEMS

Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150
Bird Johnson Company, 110 Norfolk St., Walpole, Mass. 02081
The Columbian Bronze Corp., 216 North Main Street, Freeport, N.Y. 11520
Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
Voith Schneider—U.S. Agent: Krupp International, Inc., 550 Mamaroneck Ave., Harrison, N.Y. 10528

PROPULSION—Marine

Combustion Engineering, Inc., Windsor, Connecticut 06095
Delaval Turbine Inc., Turbine Div., Trenton, N.J. 08602
In-Place Machining Co., 1929 N. Buffman St., Milwaukee, WI 53212
Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
Schottel of America, Inc., 8375 N.W. 56 Street, Miami, Fla. 33166
Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523

PUMPS—Repairs—Drives

Delaval Turbine Inc., IMO Pump Division, P.O. Box 321, Trenton, N.J. 08602
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030
Worthington Pump Inc., P.O. Box 1250, Mountainside, N.J. 07092

RATCHETS

CM American, Division Columbus McKinnon Corp., P.O. Box 74, McKees Rocks, Pa. 15136

REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231
Port Refrigeration Div., 157 Perry Street, New York, N.Y. 10014
Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 19523

RIGGING & BLOCKS

D. Van Beest En Zn.B.V., P.O. Box 57, Merwestraat 1-5, Slidrecht, The Netherlands

ROPE—Manila—Nylon—Hawesers—Fibers

American Mfg. Co., Inc., Willow Avenue, Honesdale, Pa. 18431
Samson Ocean Systems, Inc., 99 High Street, Boston, Mass. 02110
Wall Rope Works, Inc., Beverly, N. J. 08010

RUDDER ANGLE INDICATORS

Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.

SCAFFOLDING EQUIPMENT—Work Platforms

Chamberlain Manufacturing Corp., 845 Larch Ave., Elmhurst, Ill. 60126
Patent Scaffolding Co., 2125 Center Ave., Fort Lee, N.J. 07024
Spider Staging Sales Co., P.O. Box 182, Renton, Washington 98055
Trus Joist Corp., P.O. Box 60, Boise, Idaho 83707

SEWAGE—Pollution Control

Argo Marine, Pollution Systems Division, 140 Franklin St., New York, N.Y. 10013
Clear Water, Inc., N. Main Street, Walworth, WI 53184
Colt Industries, Water & Waste Management Operation, Beloit, Wisc. 53511
Demco, Inc., P.O. Box 94700, Oklahoma City, Oklahoma 73109
Marine Moisture Control Co., Inc., 449 Sheridan Blvd., Inwood, L.I., N.Y. 11696
Marland Environmental Systems, Inc., N. Main Street, Walworth, WI 53184
Microphor, Inc., P.O. Box 490, Willits, CA 95490
Red Fox Industries, P.O. Drawer 640, New Iberia, La. 70560
Research Products/Blankenship, 2639 Andjon, Dallas, Texas 75220
St. Louis Ship FAST Sewage Systems, 611 East Marceau St., St. Louis, Mo. 63111

SHACKLES

West Footscray Engineering Works Pty. Ltd., P.O. Box 144, West Footscray, Victoria, 3012 Australia

SHAFTS, SHAFT SEALS, REVOLUTION INDICATOR EQUIPMENT

Armco Steel/Advanced Materials Div., 703 Curtis St., Middletown, OH 45043
Crane Packing Co., 6400 Oakton St., Morton Grove, Ill. 60053
Electric Tachometer Corp., 68th & Upland St., Philadelphia, Pa. 19142
Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
Penco Division/Hudson Engineering Co., 1114 Clinton St., Hoboken, N.J. 07030

SHIPBREAKING—Salvage

American Ship Dismantlers, Inc., Division of Schnitzer Industries, 3300 N.W. Yeon Avenue, Portland, Ore. 97210
The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202
National Metal & Steel Corp., 691 New Dock St., Terminal Island, Cal. 90731
Zidell Explorations, Inc., 3121 S. W. Moody St., Portland, Ore. 97201

SHIPBUILDING STEEL

Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042
Bethlehem Steel Corp., 25 Broadway, New York, N.Y. 10004

SHIPBUILDING—Repairs, Maintenance, Drydocking

Arab Shipbuilding & Repair Yard Co., P.O. Box 5110, Bab-Al-Bahrain Building, Bahrain, Arabian Gulf
Astilleros Espanoles, S.A., 17, Padilla, Madrid 6, Spain
Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150
Bergeron Industries Inc., P.O. Box 38, St. Bernard, La. 70085
Bethlehem Steel Corp., Shipbuilding, 25 Broadway, N.Y., N.Y. 10004
Blohm + Voss AG, D-2000 Hamburg 1, P.O.B. 10 07 20
Blohm + Voss Co., 55 Morris Ave., Springfield, N.J. 07081
Boston Marine Industrial Park, Public Drydock No. 3, 60 Congress St., Boston, Mass. 02109
Bremer Vulkan Schiffbau und Maschinenfabrik, P.O. Box 70023/24, 2820 Bremen 70, W. Germany
Camden Ship Repair Co., Inc., Point & Erie Streets, Camden, N.J. 08102

Carrington Slipways Pty. Ltd., Old Punt Road, Tomago, N.S.W., Australia 2322

CCL Shipcare Limited, Easton Lane Winnall Estate, Winchester Hampshire, England SO237QU

Centromor, One World Trade Center, Suite 3557, New York, N.Y. 10048

China Shipbuilding Corp., c/o Allegro Transportation Supply Co., 393 Seventh Ave., Room 234, New York, N.Y. 10001

Conrad Industries, P.O. Box 790, Morgan City, La. 70380

Curacao Drydock Co., Inc., P.O. Box 153, Willemstad, Curacao, Netherlands Antilles

Curacao Drydock, 26 Broadway, Suite 741, New York, N.Y. 10004

Delmar Systems, Inc., 160 Industrial Parkway, Lafayette, La. 70501

Dravo Steelship Corp., R.4, Box 167, Pine Bluff, Ark. 71602

Equitable Shipyards, Inc., P.O. Box 8001, New Orleans, La. 70122

FMC Corp., Marine & Rail Equipment Div., 4700 N.W. Front Ave., Portland, Oregon 97208

General Dynamics, Quincy Division, Quincy, Mass. 02169

Halter Marine, Inc., P.O. Box 29266, New Orleans, La. 70189

Havre de Grace, Havre de Grace, Md.

Hillman Barge & Construction Co., P.O. Box 510, Brownsville, Pa. 15417

Hitachi Shipbuilding & Engrg. Co., Ltd., 47 Edobori 1-Chome, Nishi-Ku, Osaka, Japan

Hongkong United Dockyards Ltd., Kowloon Docks, Hong Kong

Hyundai Shipbuilding & Heavy Industries Co., Ltd., 5 World Trade Center, Suite 679, New York, N.Y. 10048

Jeffboat, Inc., Jeffersonville, Ind. 47130

Kawasaki Heavy Industries, Ltd., Kawasaki Kisen Kaisha, Ltd., 8 Kaigan-dori, Kura-ku, Kobe, Japan

Kockums Shipyard, S-201, 10 Malmo 1, Sweden

Lisnave Estaleiros, Navais de Lisboa, Apartado 2138, Lisbon 3 Portugal

Lockheed Shipbuilding and Construction Co., 2929 16th Avenue, S.W., Seattle, Wash. 98134

Marathon Manufacturing Company

Marathon LeTourneau Offshore Company, 1700 Marathon Building, 600 Jefferson, Houston, Texas 77002

Marathon LeTourneau Gulf Marine Division, P.O. Box 3189, Brownsville, Texas 78520

Marathon LeTourneau Marine Division, LeTourneau Rural Station, Vicksburg, Mississippi 39180

Marathon LeTourneau Offshore Pte., Ltd., P.O. Box 83, Taman Jurong Post Office, Singapore 22, Singapore

Marathon Shipbuilding Company, P.O. Box 870, Vicksburg, Miss. 39180

Marathon Shipbuilding Company (U.K.) Ltd., Clydebank Dunbartonshire, G81-1YB, Scotland

Marinette Marine, Ely Street, Marinette, WI 54143

Matton Shipyard Co., Inc., P.O. Box 645, Cohoes, New York 12047

J. Ray McDermott & Co., Inc., P.O. Box 60035, New Orleans, La. 70160

Misener Industries, Inc., 5353 Tyson Avenue, P. O. Box 13625, Tampa, Fla. 33681

Mitsui Shipbuilding & Engrg. Co. Ltd., 6-4, Tsukiji 5-chome, Chuo-ku, Tokyo, Japan

Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655

Murray & Stewart (Marine) (PTY) Ltd., Ocean Road-Table Bay Harbour, P.O. Box 1909, Cape Town 8000, South Africa

Nashville Bridge Co., Box 239, Nashville, Tenn. 37202

National Steel & Shipbuilding Corp., San Diego, Calif. 92112

Newpark Shipbuilding & Repair, P.O. Box 5426, Houston, TX 77012

Newport News Shipbuilding & Dry Dock Co., 4101 Washington Ave., Newport News, Va. 23607

Northwest Marine Iron Works, P. O. Box 3109, Portland, Oregon 97208

O.A.R.N. (Officine Allestimento-Riparazioni Navi), P.O. Box 1395, Genoa, Italy 16100

Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

Pearlson Engineering Co., P.O. Box 8, Kendall Branch, Miami, Fla. 33156

Perth Amboy Dry Dock Co., Perth Amboy, N.J. 08862

Port Allen Marine Service, Inc., P.O. Box 108, Port Allen, LA 70767

St. Louis Shipbuilding—Federal Barge, Inc., 611 East Marceau, St. Louis, Mo. 63111

Savannah Machine & Shipyard Co., P.O. Box 787, Savannah, Ga. 31402

Sembawang Shipyard (Pte) Ltd., P.O. Box 3, Sembawang, P.O. Singapore, 27

Sumitomo Heavy Industries, Ltd., 2-1 Ohtemachi, 2-Chome, Chiyoda-Ku, Tokyo, Japan

Sun Shipbuilding, Foot of Morton Ave., Chester, Pa. 19013

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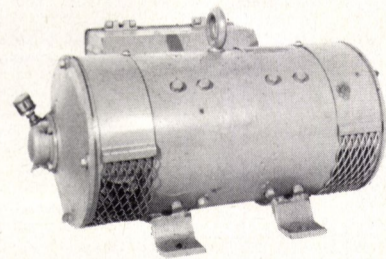
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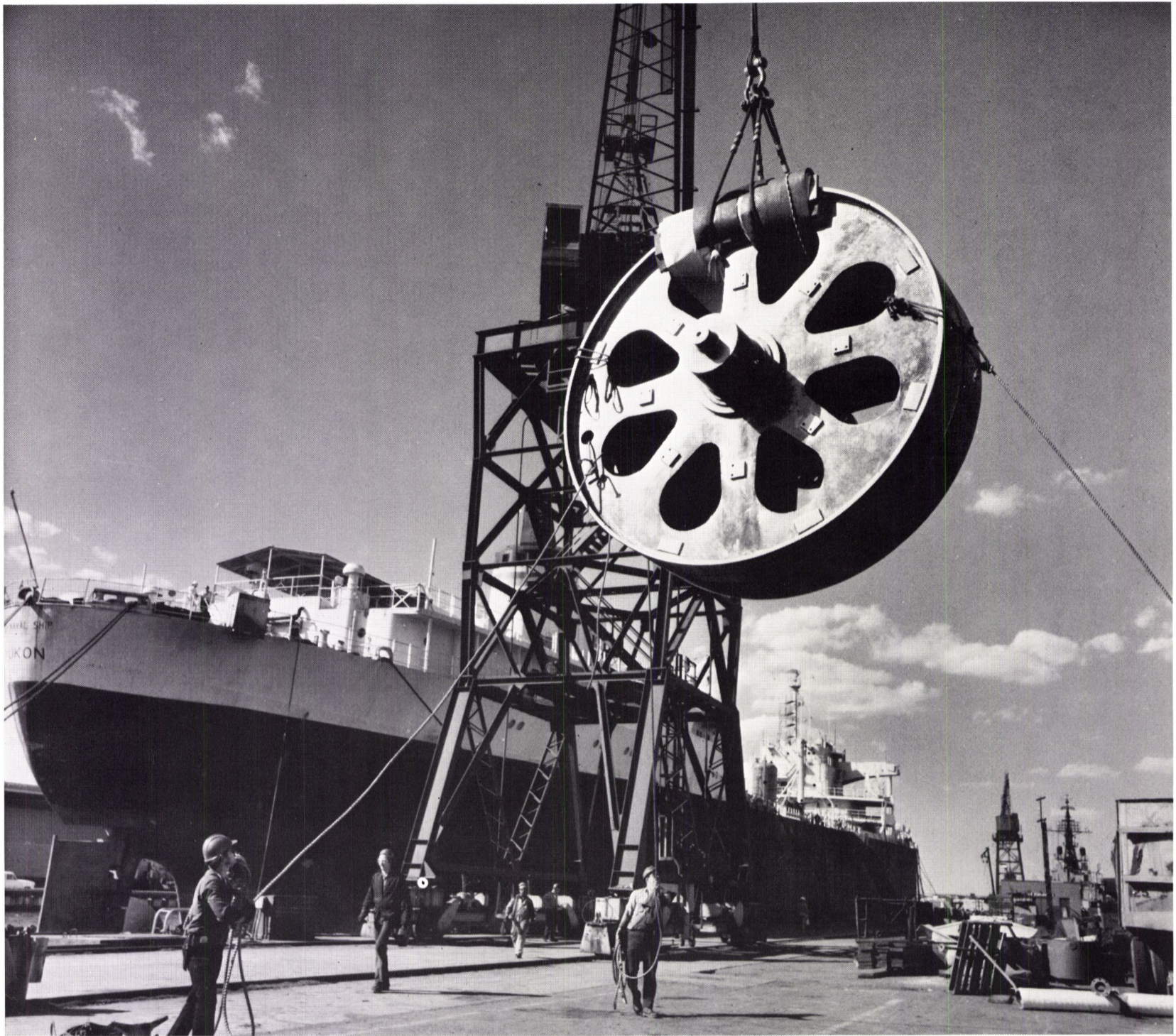
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