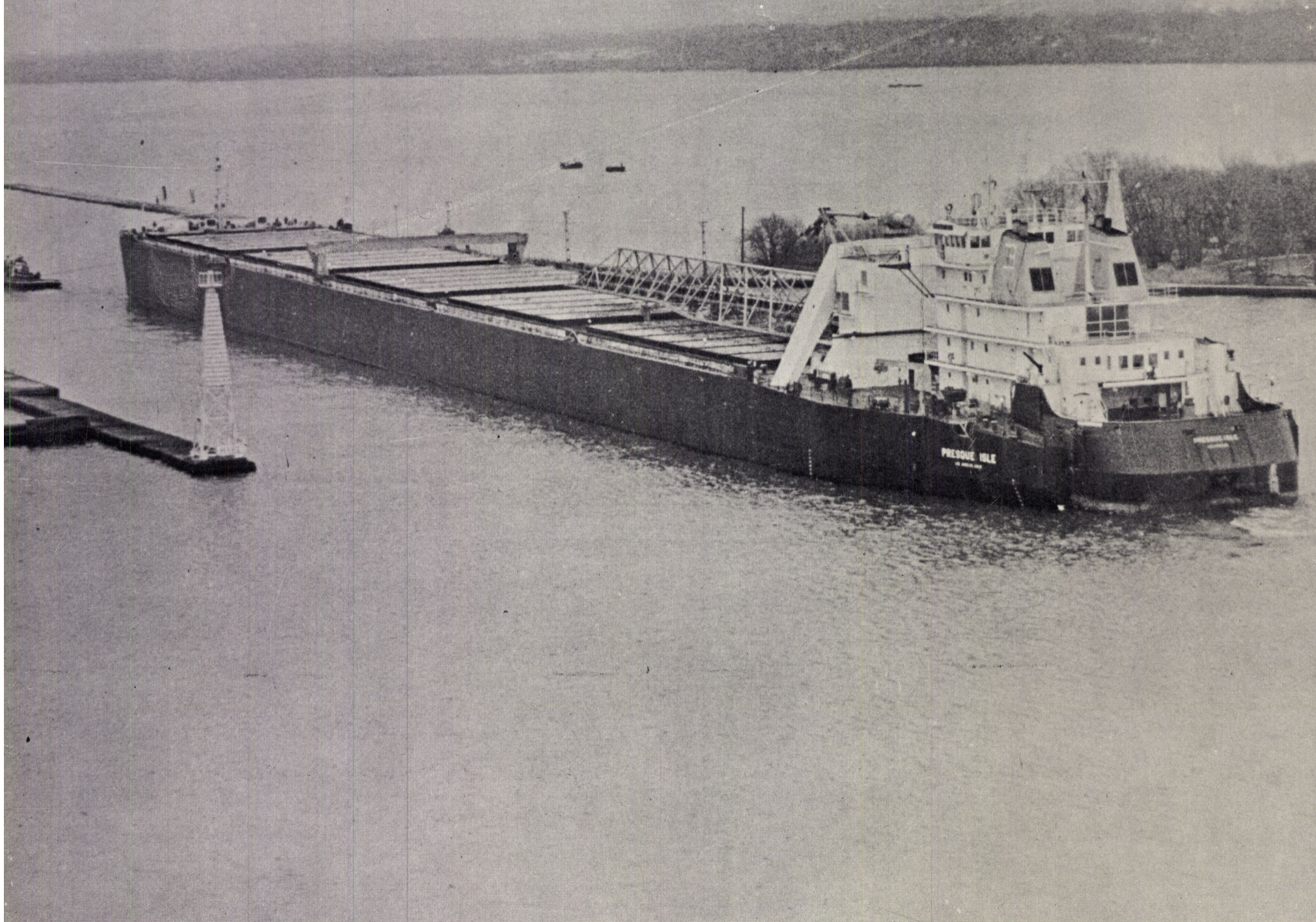


MARITIME REPORTER

AND
ENGINEERING NEWS



The Presque Isle

**Litton's New Giant Tug/Barge
Delivers First 50,000-Ton Ore Cargo**

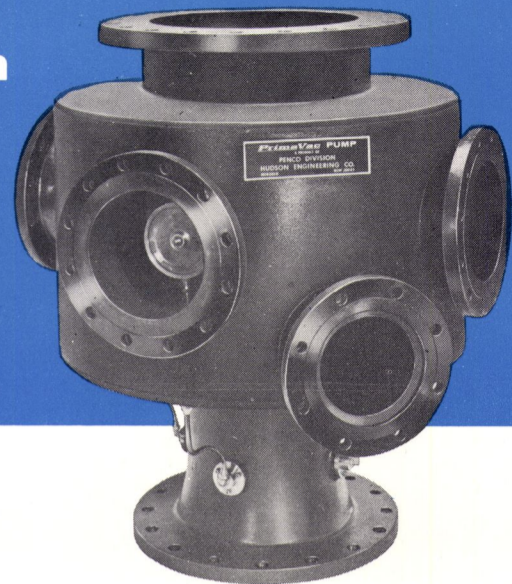
(SEE PAGE 7)

JANUARY 15, 1974

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■ Any centrifugal pump can be converted to a completely automatic, vacuum-creating, self-priming pump. The PrimaVac Unit is sensitive only to the flow of fluid from the discharge of the pump. It is not affected by variations in pressure, specific gravity or viscosity of the fluids being pumped. The pump and mechanical seals are protected from overheating or running dry because, as the flow of liquid stops for any reason, recycling starts automatically.

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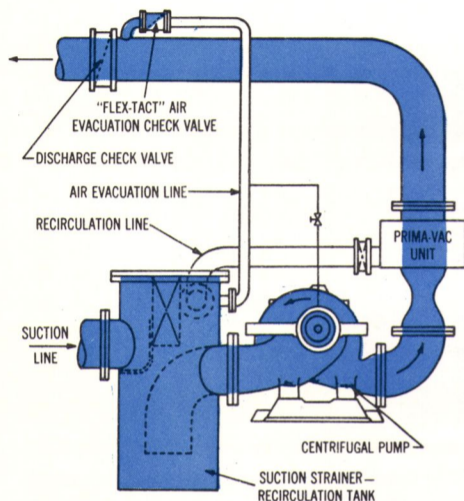


Fig. 1 — NORMAL OPERATION

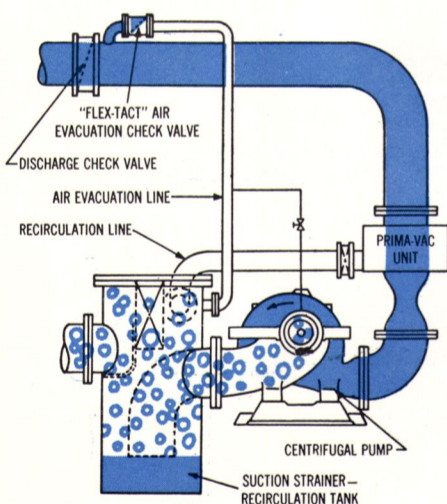


Fig. 2 — LOSS OF SUCTION

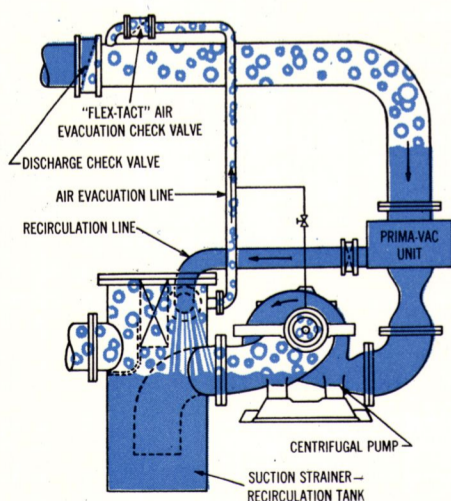


Fig. 3 — RECIRCULATION

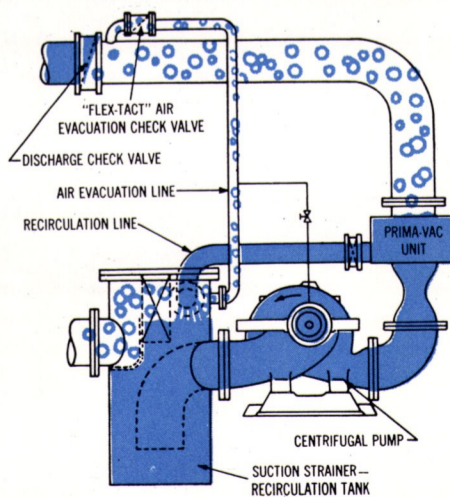


Fig. 4 — REPRIMING COMPLETE

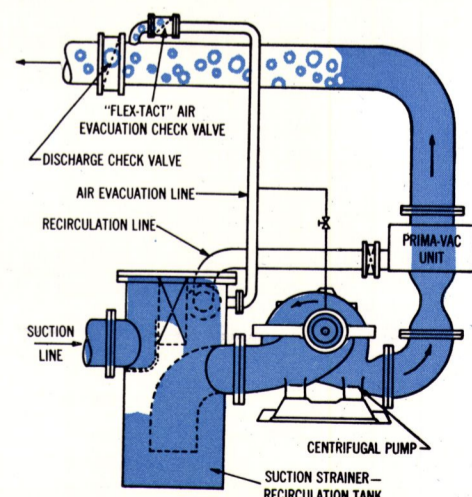


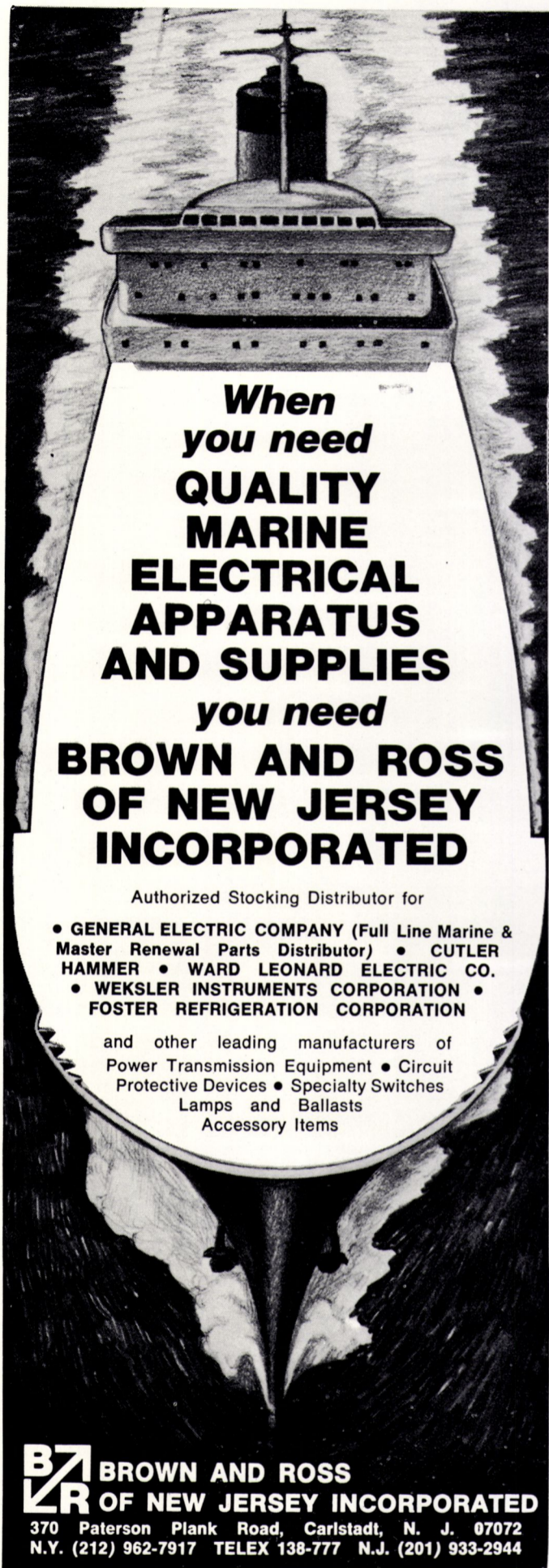
Fig. 5 — PUMPING RESUMED

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Offshore Seminar To Be Held Feb. 4-8 In Houston, Texas

The Houston, Texas-based ETA Offshore Seminars, Inc. (ETAOS) has scheduled a seminar session for February 4-8, 1974, in Houston. ETAOS has presented six previous training seminars for the offshore industry on an international scale. The seminars, aimed at updating experienced personnel or training new men for offshore service, have attracted participants from many countries. Representatives from over 30 oil companies, drilling contractors and operators, vessel designers and builders, product/service suppliers, engineering firms, and pipeline companies have completed the comprehensive five-day seminar.

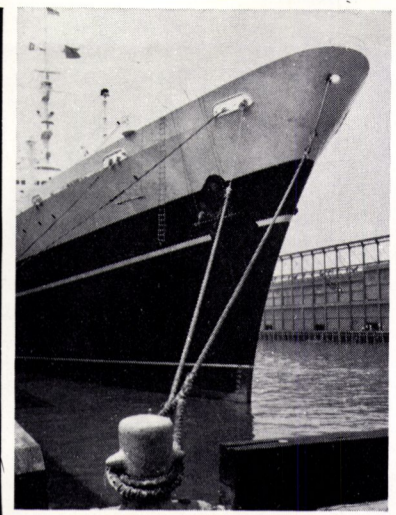
The ETAOS Seminars zero in on the theory, selection, and operation of offshore drilling, completion, and production equipment. Company executives, engineers, toolpushers, and trainees attending the ETAOS Seminars are presented with the latest technology in offshore drilling, completion, and production. The seminar presentations cover topics ranging from basic oceanengineering to detailed techniques for drilling and producing in deeper and more hostile waters.

As ETAOS president Ralph G. McTaggart points out, the speakers represent vital segments of the offshore industry and are leading experts in their fields. The speakers and topics are carefully selected so that the seminar presentations cover a broad spectrum of the offshore industry.

ETAOS is also planning future seminars to be held in Houston, Singapore, London, and Stavanger. For further information, contact Ralph G. McTaggart, president, ETA Offshore Seminars, Inc., 4140 Southwest Freeway, Houston, Texas 77027, or call (713) 621-0072.

Crowley Maritime Asks Title XI For Four Tugs And Ten 400-Ft. Barges

The Maritime Administration has received a Title XI loan and mortgage application from Crowley Maritime Corp., Pier 50, San Francisco, Calif. 94107, in connection with four 7,000-hp tugs and ten 400-foot flatdeck barges. To cost \$8 million, all 14 vessels will be built by J. Ray McDermott & Co., Harvey, La. 70058.



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No. 2

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Delaval Turbine Div. Names D.B. Carpenter Marine Sales Manager



Donald B. Carpenter

B.B. Cook Jr., vice president and general manager of the Turbine Division of Delaval Turbine Inc., recently announced that **Donald B. Carpenter** has joined the Delaval Turbine Division as manager, marine sales, reporting to **R.J. Nesbitt**, manager, marine department.

Mr. Carpenter was formerly with Turbo-Power and Marine Systems, where he was the manager of commercial marine marketing for Pratt & Whitney Aircraft gas turbine systems.

He is active in The Society of Naval Architects and Marine Engineers and is currently serving as the chairman of the New York Metropolitan Section. Mr. Carpenter is also a member of the American Society of Naval Engineers and the Institute of Marine Engineers.

Delaval Turbine was recently awarded the contract to supply the main turbines and reduction gears for the LNG carriers being built by Newport News Shipbuilding & Dry Dock Company. Main propulsion units for the 225,000-dwt tankers being built by Seatrain Shipbuilding, and the LASH ships at Avondale Shipyards, Inc., are also being manufactured by Delaval at its Trenton, N.J., works.

Marine Ventures Ltd. Moves To New Offices

Marine Ventures Ltd. has relocated in new offices at London Metropole, Edgware Road and Praed Street, London, W.2, England, the company announced.

Marine Ventures is headed by **R.P. Holubowicz**, who serves as chairman and managing director. He formerly headed International MacGregor.

ICHCA To Hold Its 12th Conference In Italy May 11 To 15, 1975

The International Cargo Handling Coordination Association will hold its 12th biennial conference in Florence, Italy, from May 11 to May 15, 1975, according to action recently taken by the organization's international council in London.

ICHCA is a worldwide group engaged in gathering and disseminating information relative to the movement of cargo in ocean, land and air modes of transportation.

Dearborn-Storm To Add New Jackup Rigs At Cost Of \$29 Million

Dearborn-Storm Corporation, Chicago, Ill., has announced it will add two new rigs to its Storm Drilling Company subsidiary at a total cost of \$29 million. These units will be mat-type jackup rigs capable of drilling in 250 feet of water. Both

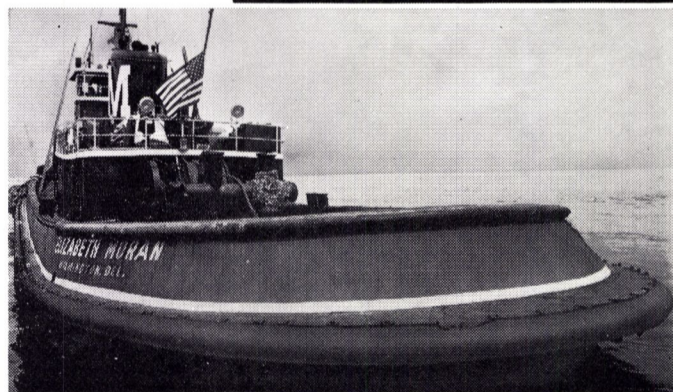
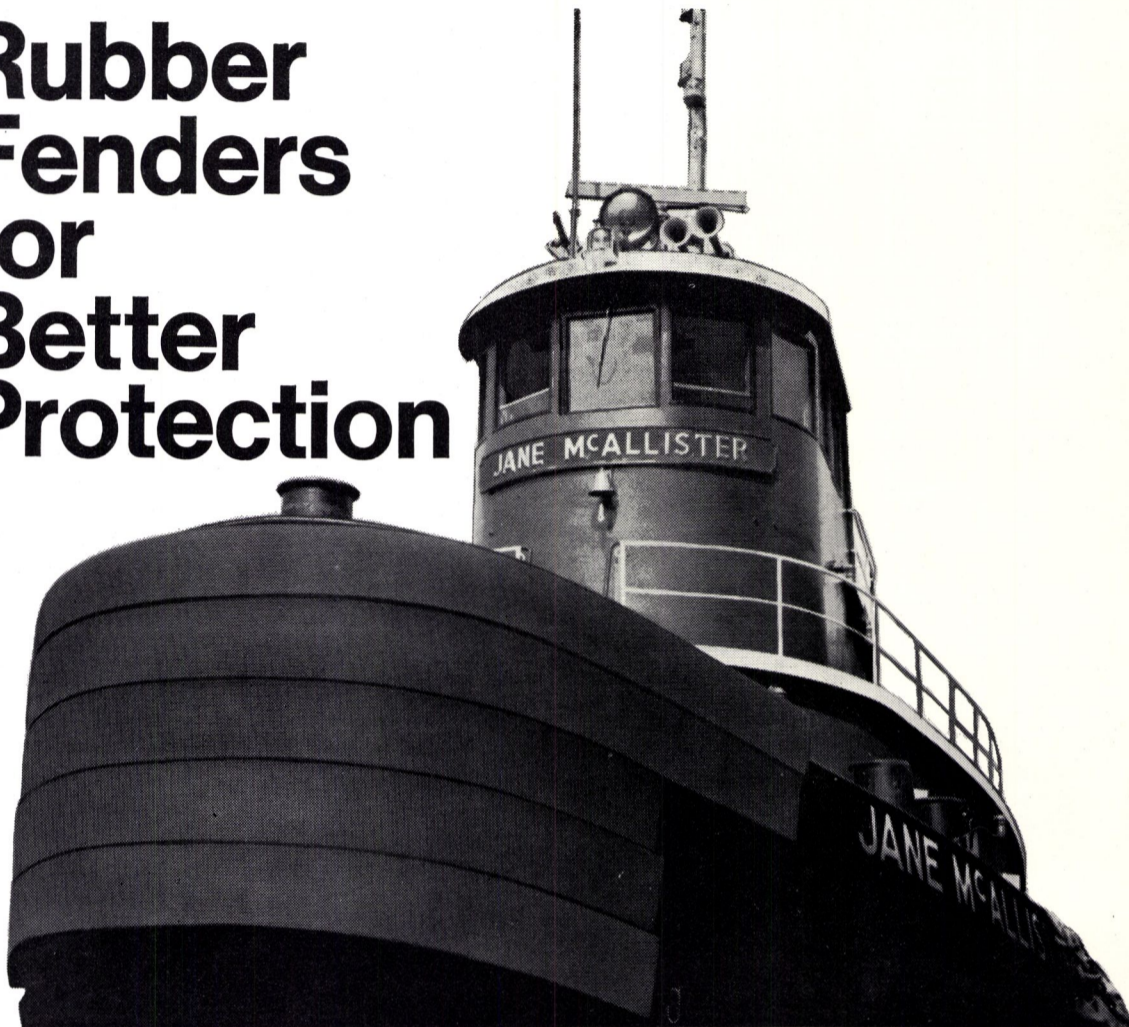
units will be built by Bethlehem Steel Corporation, one in their Beaumont, Texas, shipyard while the other will be built in Singapore. Delivery on both is expected no later than October 1975.

Arthur Weiss, president of Dearborn-Storm Corporation, stated that he was pleased to announce this important expansion of Storm Drilling's offshore drilling capabilities, enabling it further to serve

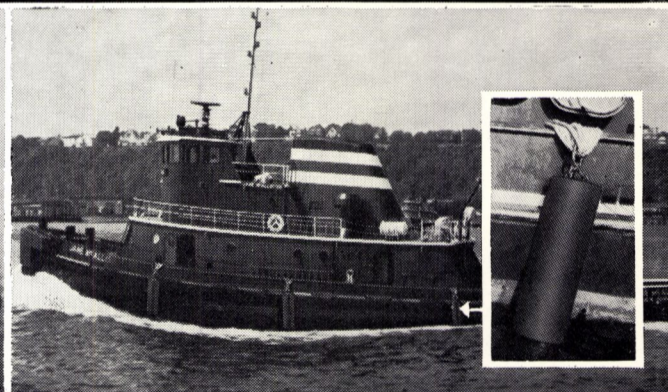
the worldwide needs of the petroleum industry. This brings to four the number of drilling rigs under construction. In addition, Dearborn-Storm is currently building five tug/supply boats. Combined rigs and vessels currently under construction approximate \$75 million. One of these units, the semi-submersible Zephyr II, will be jointly owned with the A.P. Moller Company.

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Meet 'Presque Isle'



The biggest pusher on the Great Lakes

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**Mirrlees
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Litton Industries new vessel M.V. 'Presque Isle' built by its Erie Marine Division is the largest diesel installation on the Great Lakes. The twin Mirrlees Blackstone KV16 Major engines each develop 7500 BHP at 525 RPM and burn low cost heavy fuel with viscosity up to 1700 SSU at 122°F. Presque Isle's power supply is another example of how we come to lead the field in medium speed heavy fuel burning engines. We'll install a diesel propulsion engine or an auxiliary power unit for you and back it up with continuing service and fast spare parts supply — *no matter where you're located or where you're going.*

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**Litton's Erie Marine
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The Presque Isle

**The Self-Unloading 1,000-Foot
Tug/Barge Combination Transports
50,000 Tons Of Iron-Ore Pellets
Per Trip And Unloads At Rates
Up To 10,000 Tons Per Hour**



Presque Isle leaving Litton's Erie Marine Division on her maiden voyage.

The world's largest tug-barge—Litton Industries' 1000-foot-long Presque Isle—sailed into the Gary, Indiana harbor of U.S. Steel Corporation on December 26 to deliver her first 50,000 ton cargo of iron ore after her 700-mile voyage from Two Harbors, Minn.

When the Presque Isle arrived at Gary, she offloaded her huge cargo at the rate of about 10,000 tons per hour. Each trip will deliver enough iron ore for the manufacture of about 10,000 automobiles.

The tug-barge is committed to a long-term transport contract with U.S. Steel Corporation. She will sail between the steel company's facilities in Gary and Two Harbors, completing the round trip in less than six days.

The giant \$35 million vessel was built by the Erie Marine division of Litton Industries, at Erie, Pa. Her 1000-foot length is seven times the height of Gary's Downtown Holiday Inn, or two-thirds the 1450-foot height of the world's tallest building, the new Sears unit in Chicago.

The barge measures 975 feet long by 105 feet wide, with 28½ foot draft. The pusher

tug, built to Litton specifications by Halter Marine Services, Inc., New Orleans, is 152 feet long by 54 feet wide by 75 feet high. The pusher tug fits and locks into a specially designed notch at the stern of the barge, and the integrated vessel is 1000 feet long.

The tug's two 7500-hp Mirrlees Blackstone diesel engines, supplied by Hawker Siddeley, Ontario, Canada, propel the huge tug-barge at a speed of 15 mph (or 13 knots). The tug's 250-foot unloading boom was designed and built by the Hewitt-Robins division of Litton.

This \$35 million vessel involved the talents of many firms during its design and construction. Marine Consultants and Designers, Inc. was assigned the technical responsibility for the complete design of the barge and the machinery and electrical components of the tug, together with total responsibility for coordination of the complete design project.

Breit Engineering was retained to design the hull, outfit all necessary connection hardware for the tug and also the configuration and structural requirements of the barge notch.

Hewitt-Robins, a division of Litton Industries, was assigned the task of studying vari-

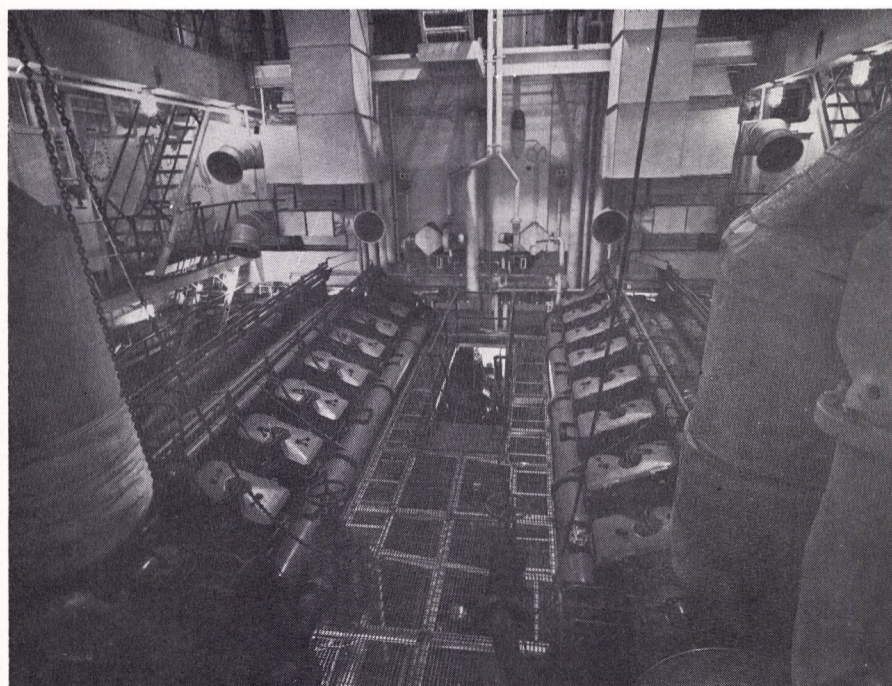
ous subsystems and finalizing the design of the complete unloading system for the barge.

The bow section of the barge was contracted to Defoe Shipbuilding Company of Bay City, Mich. The bow was built to a length of 68 feet and out to the full beam of slightly less than the midbody molded beam of 104 feet 7 inches. The bow as completed by Defoe was essentially fully outfitted and finished, includ-

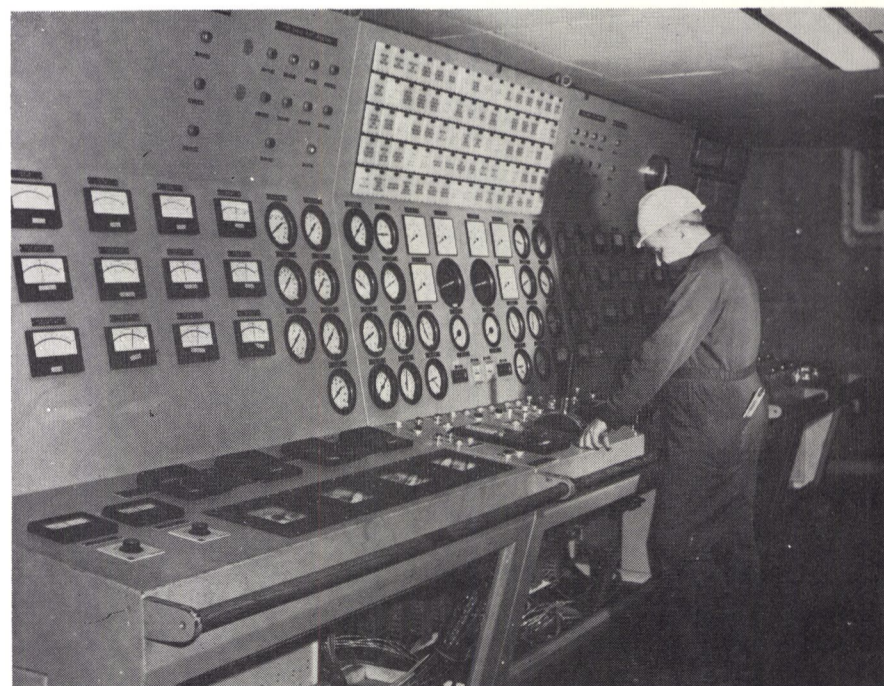
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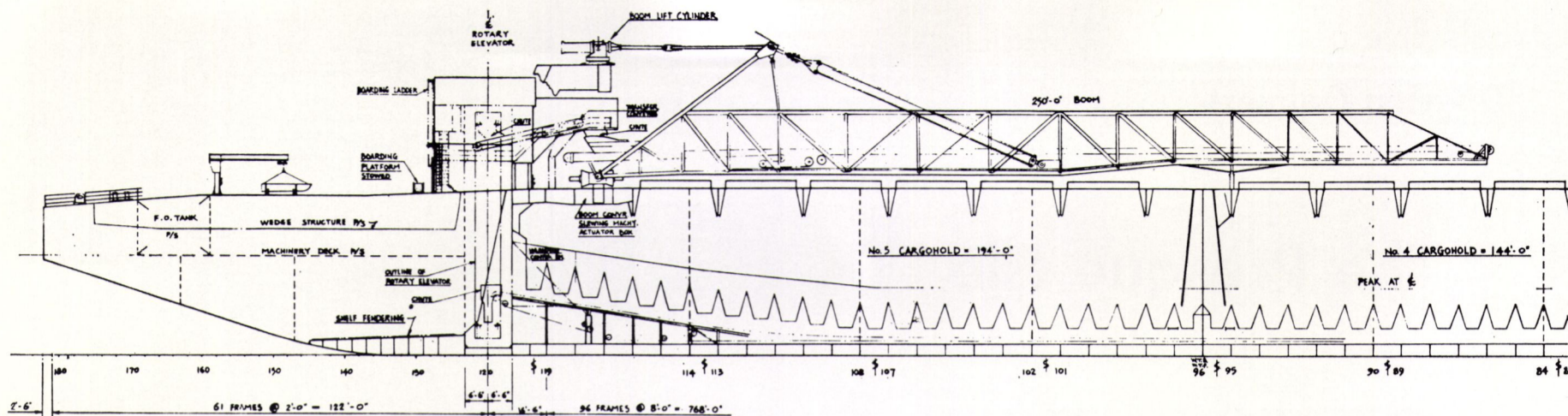
Mrs. Ralph W. Biggs Jr., wife of the yard's general manager, christens the Presque Isle. Her matrons of honor are Mrs. Ralph A. Whitaker, wife of Erie Marine's manager of administration (center), and Mrs. Keith Branton, wife of the general superintendent of the shipyard.



Overall view of the Presque Isle engine room taken across the top of the Mirrlees Blackstone KV-16 main engines, each developing 7,500 bhp, supplied by Hawker Siddeley.



Chief engineer Oscar W. Garnett monitoring the tug's propulsion plant from the central control panel located on the flat in the engine room. The room is air-conditioned.



Inboard profile of the after section of the barge showing the shelf fingering and wing walls that support the tug, and the location of the rotary elevator and boom.

The Presque Isle—

(Continued from page 7)

ing the installation of all necessary machinery, switchgear, deck machinery and equipment.

The Barge

As in the case of Erie Marine's Hull 101, the Stewart J. Cort, a longitudinally framed midbody was designed to suit the special manufacturing process and modular construction at the shipyard. The center space between the hold conveyor tunnels is utilized for both ballast tank and ballast pump space. The 40-degree hopper slopes were designed for the discharge of coal and therefore are ideal for unloading a taconite pellet cargo.

There are 27 cargo hatches, each 20 feet long by 70 feet 8 inches wide at the deck, arranged on 24-foot longitudinal centers, with a hatch omitted in way of the transverse cargo-hold bulkheads, to provide stowage space for the hatch covers. The 20-foot longitudinal opening allows two 12-foot spaced chutes to load simultaneously into the same cargo hatch. The hatch covers, each 20 feet 6 inches long by 75 feet 3 inches wide and weighing approximately 35,000 pounds, are of the conventional Great Lakes type with Kestner clamps and are lifted and stowed by an Alliance diesel-hydraulic traveling bridge crane.

A minimum of auxiliary machinery is included on the barge with that prime source of electrical power being from unloading generators on the tug. A standby electric generating plant for the barge is installed. The set consists of a six-cylinder in-line Caterpillar



Capt. Bill E. Jeffery shown at the wheelhouse controls during trials. He can control the propeller rpm and engine speed, plus the bow thrusters from the pilot house.

D353TA Series E diesel engine powering a 300-kw, 2400-volt generator. It is the same as the ship-service generators installed on the tug.

A single, 1,500-hp, electrically driven, controllable-pitch bow thruster is installed on the barge. The thruster is of the conventional Bird-Johnson type, driven by a 1,500-hp, 2,400-volt, alternating current motor. The electric power for driving the thruster during maneuvering is provided from the engine-driven unloading generators on the tug. Control of the thruster is electrical from the pilot house or bridge wings on the tug.

The main ballast spaces on the barge consist of five side ballast tanks, port and star-



The tug receives finishing touches at Halter Marine Services before leaving for the Great Lakes.

board, and five center ballast tanks. Three smaller ballast tanks also are provided in the wings of the barge notch, port and starboard. Each side ballast tank has its own ballast system, which includes a 5,100-gpm horizontal centrifugal ballast pump manufactured by Allis-Chalmers and supplied by Pumps Inc. Electrical power for the ballast system during loading, unloading or while ballasting at sea is from the tug.

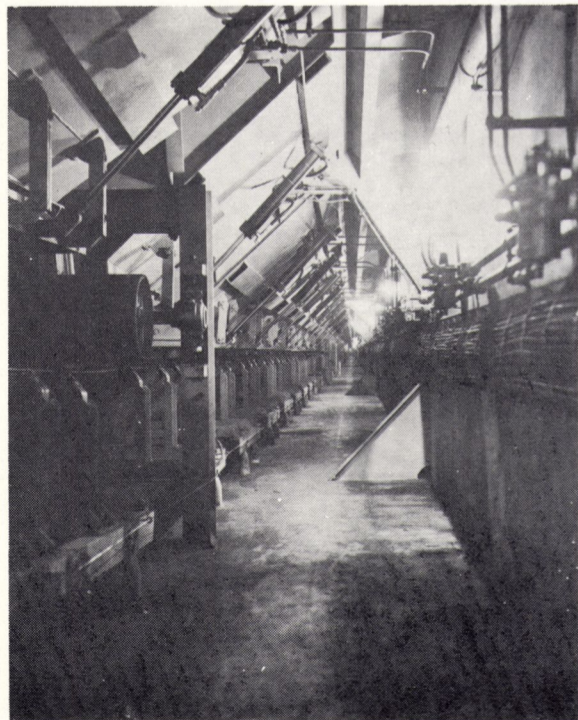
Seven Collomatic, electro-hydraulic, automatic constant-tension mooring winches are provided on the barge.

The barge anchor windlass, supplied by Hyde Products, is of the vertical double-wildcat, electro-hydraulic type. The port windlass is designed to lower, under control, the anchor and chain by means of a remote F.M. radio signal from the pilothouse of the tug.

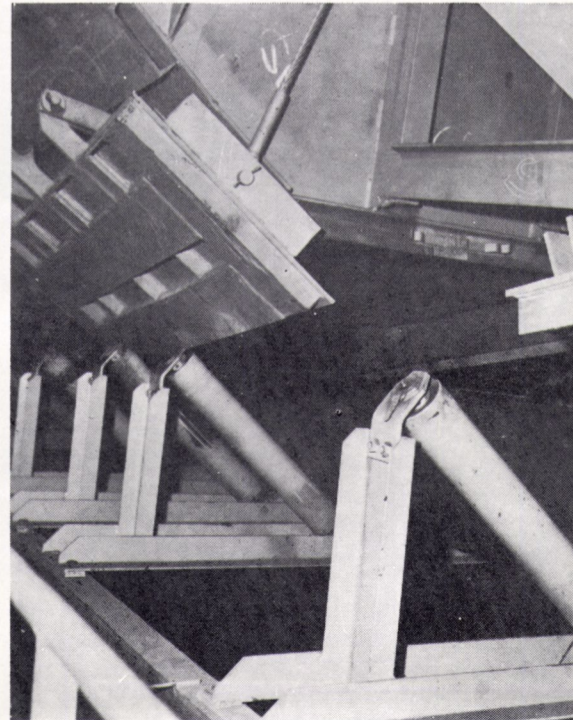
The cargo unloading system that was selected was established after considerable study. A transverse rotary elevator was found to fit the stern configuration and to satisfy the requirements of maximum cubic capacity. The selection of the hold subsystem was based on many years of satisfactory operation on the Great Lakes. It consists of an arrangement of two conveyor belts running the length of the barge and feeding the rotary elevator.

The 250-foot slewing, luffing boom was selected to provide maximum versatility. This type of off-loading provides the barge with the capability of unloading at all major terminals on the Great Lakes.

The two hold conveyor belts are fed by a



View of the cargo-hold conveyor tunnel, starboard side.



Typical cargo unloading gate showing conveyor belt.

series of 198 gates. Each gate is individually controlled locally by a single-lever hydraulic control valve. The two conveyor belts are 66 inches wide and operate at a speed of 750 fpm.

The transverse rotary elevator is a structural-steel, centerless wheel made up of two circular girders, 67 feet 6 inches in diameter. The girders are 4 feet deep. The wheel is driven by a flat reinforced rubber belt which also forms the outside enclosure of the wheel. The mold board section of the inside portion of the wheel is formed by a flat reinforced rubber seal belt. These two belts together with the girder webs form a compartment which contains the cargo while it is being elevated. The seal belt opens up at the top of the elevating cycle and allows the cargo to discharge by gravity onto a transfer conveyor. This conveyor transfers the cargo from the middle of the wheel to the tail end of the boom conveyor.

The operation of unloading the vessel requires four operators. One is located on the deck to supervise the boom positioning requirement, one to operate the material-handling system, and two gate operators.

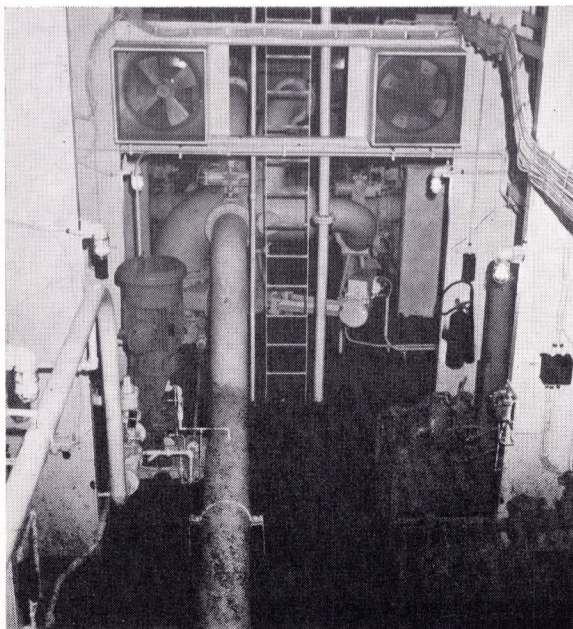
The entire unloading system was designed and built by Hewitt-Robins.

The Tug

The main hull of the tug is a rather complex steel structure that provides a restricted sized machinery space and incorporates the necessary tank spaces and connection structure.

The tug-barge hydraulic connection system, supplied by Victoria Machine Works, was designed to enable one operator to control, position, engage or disengage the tug into or out of the barge notch.

For normal connection the tug is propelled into the barge notch as far as possible. The operator on the tug will then extend and position the main hydraulic cylinder from the local control panel until the rod eye is engaged with the barge bracket. The main cylinder is then retracted until the tug is pulled into the final position within the barge notch. The emergency-release-lock bolt assemblies are placed in position through the slotted flanges on the cylinder and the rod eye and the hammer nuts tightened. The above results in a mechanical connection for maintaining holding power without depending upon hydraulic pressure. There is an emergency disconnect arrangement that may be used but it results in tearing apart hoses and electric cables connecting the two vessels.



View of one of the Allis-Chalmers main ballast pumps.

Principal Particulars

	Tug	Barge	Tug/Barge Combination
Length overall	153 ft. 3 in.	974 ft. 6 in.	1,000 ft. 0 in.
Length between perpendiculars	140 ft. 0 in.	—	988 ft. 6 in.
Beam, molded	54 ft. 0 in.	104 ft. 7 in.	104 ft. 7 in.
Depth, molded	31 ft. 3 in.	46 ft. 6 in.	46 ft. 6 in.
Draft, molded (scantling, all seasons)	25 ft. 3 in.	28 ft. 6 in.	28 ft. 6 in.
Molded displacement, long tons, F.W.	3,500	71,800	75,300
Full displacement, long tons, F.W.	3,540	72,180	75,720
Lightship weight, long tons, est.	2,300	15,100	17,400
Deadweight, total long tons, est.	1,240	57,080	58,320
Block coefficient	0.629	0.888	0.914
Prismatic coefficient	0.655	0.888	0.915
Midship coefficient	0.960	0.999	0.999
Hold cubic, less hatches, cu. ft.	—	1,779,750	1,779,750
Hold cubic, trimmed, less hatches, cu. ft.	—	1,655,850	1,655,850
Hatch cubic, cu. ft.	—	75,600	75,600
Ballast capacity, long tons, F.W.	1,662	55,690	57,352
Gross tonnage, est.	1,850	25,000	26,850
Brake hp, max. continuous @ 525 rpm	14,840	—	14,840
Propeller rpm	115	—	115
Propeller diameter	17 ft. 6 in.	—	17 ft. 6 in.
Designed sea speed, mph	14.0	—	16.0

Hyde Products furnished the single hydraulically driven vertical anchor windlass and the one capstan on the tug. The tug's windlass acts as the stream anchor windlass required for the tug/barge unit.

Two hydraulically operated, rotary-vane-type steering motors are provided, one for each rudder. Each steering motor is mechanically linked together with a tie rod so that the rudders operate in unison. With both hydraulic pumps in operation, the rudders are capable of being moved hard over to hard over in 19 seconds. The steering gear was supplied by Propulsion Systems, Inc./Frydenbo.

The main propulsion plant consists of two Mirreles Blackstone KV16 main engines, each rated at 7,420 bhp maximum continuous service at 525 rpm. Each engine drives through a Holset flexible coupling into a Lufkin single input, single output horizontal offset reduction gearbox. Each gearbox is fitted with a Fawick pneumatic disconnect clutch and a power take-off for driving the main unloading generators. The vessel is twin screw with one engine and reduction gear for each shaft. The controllable-pitch propellers were manufactured by Bird-Johnson. While in port, the shafting is declutched and one main engine is used to drive a main unloading generator.

The main propulsion and auxiliary machinery have been fitted with a comprehensive automation control system, which has been designed to meet the requirements of the Coast Guard and the American Bureau of Shipping classifications, to permit unattended engine-room operation.

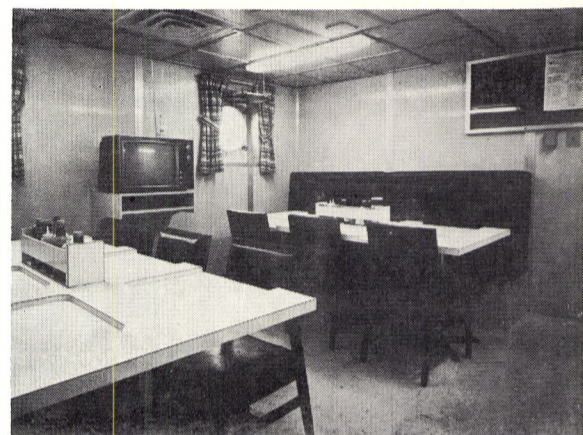
A fuel-oil treatment and preinjection plant is provided to enable the main engines to burn residual fuel having a viscosity of 3,500 seconds Redwood No. 1 at 100° F.

A sewage treatment system consisting of a 25-man Pall thermally accelerated aerobic digestion sewage unit, arranged to automatically treat the wastes, has been installed. The treated effluent can be discharged overboard or into a 6,000 gallon retention tank.

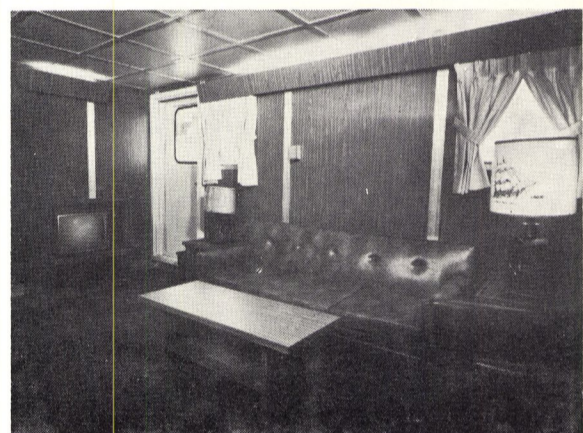
The unloading generators, manufactured by the Electric Products Division of Portec, Inc., are rated at 3,000 kw, 1,200 rpm, 2,400 volt, three phase, 60 Hz. The three ship's service generators are driven by Caterpillar Model D353TA, Series E diesel engines. The generators were made by Columbia and are rated at 300 kw each.

The heating boiler, a Milwaukee Reliance Model 250RWX, has a capacity of 6,695,000 BTU/hour at 95 psig and 310° F.

All quarters are air conditioned by means of a Norris-Warming heating, ventilation and air-conditioning system. This system uses a



The Presque Isle's main dining room doubles for recreation.



The captain's office/lounge area is well appointed. Carrier 5F60 air-conditioning compressor/condenser unit.

The 14-man crew is quartered mostly in single staterooms with separate toilets and bath or shower.

The combined wheelhouse and chartroom has a conventional Great Lakes layout, and is carpeted throughout. Kearfott windows have been installed around all four sides to provide an unobstructed view.

The Presque Isle is outfitted with the latest navigation equipment, including: Henschel navigating telephones and ship service telephones, Carlisle & Finch searchlights, Mackay 4004-A radio direction finder, Endress & Hauser draft meter, Hose-McCann mates and engineers watch call, Bendix wind speed and direction indicators, Sperry MK 37 Mod. 0 gyro compass, No. 1885518 gyro pilot and No. 1880271-1 course recorder; Propulsion Systems rudder-angle indicator, Lorain Electronics LRK-4 weather receiver, Decca main and auxiliary radars, R.F. Communications radiotelephone (AM) (SSB), and Lorain Electronics MM14C radiotelephone (FM).



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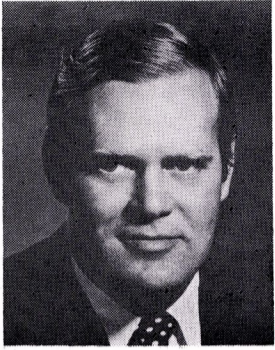
We aim to get your ships moving as quickly as we can so that your repair at Hongkong will be as economical as possible. We think we succeed and maybe that's why our lion wears such a smile!



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Matson Navigation Names Robert Colson Senior Vice President



Robert T. Colson

Robert T. Colson has been named a senior vice president of Matson Navigation Company, it was announced by R.J. Pfeiffer, president.

Mr. Colson joined Matson last April as vice president-finance. Before that, he was executive vice president of Falstaff Brewing Corp. in St. Louis, Mo.

Bergesen Heads Firm Seeking To Purchase Boston Navy Yard

Gerald W. Bush, Boston's commerce and manpower director, has announced that a newly formed corporation headed by a former General Dynamics executive is seeking to acquire the facilities of the Boston Naval Shipyard and the South Boston Naval Annex for conversion into a commercial shipbuilding operation.

The two installations are due to be deactivated May 1—casualties of the Navy Department's program to cut its shore-based activities.

Several groups have indicated interest in taking over all or part of the two facilities.

The recently organized Boston Shipbuilding Corp., however, has come up with proposals, final decision on which is expected within 90 days, for taking over the yards and their conversion into commercial ship construction and repair operations.

The new corporation is headed by Lloyd Bergesen, former general manager of General Dynamics' Quincy shipyard and a vice president of the big conglomerate. Mr. Bergesen was a leading figure in the development of General Dynamics' liquefied natural gas carrier shipbuilding program.

The company plans to use the facilities for building ships and barges for proposed oil drilling operations off the coast of New England.

The company has indicated it is preparing to put up \$50 million in a financing arrangement involving the takeover of the properties by the city and a leaseback agreement in which the corporation would operate the plants.

According to Mr. Bush, Boston Shipbuilding wants two-thirds of the Boston Naval Shipyard, includ-

ing a foundry, machine shops and other appurtenances formerly used in the construction and repair of Naval vessels.

A 20-acre portion of the yard, located in the Charlestown section of the city, has been reserved as a national park and a berth for the frigate Constitution.

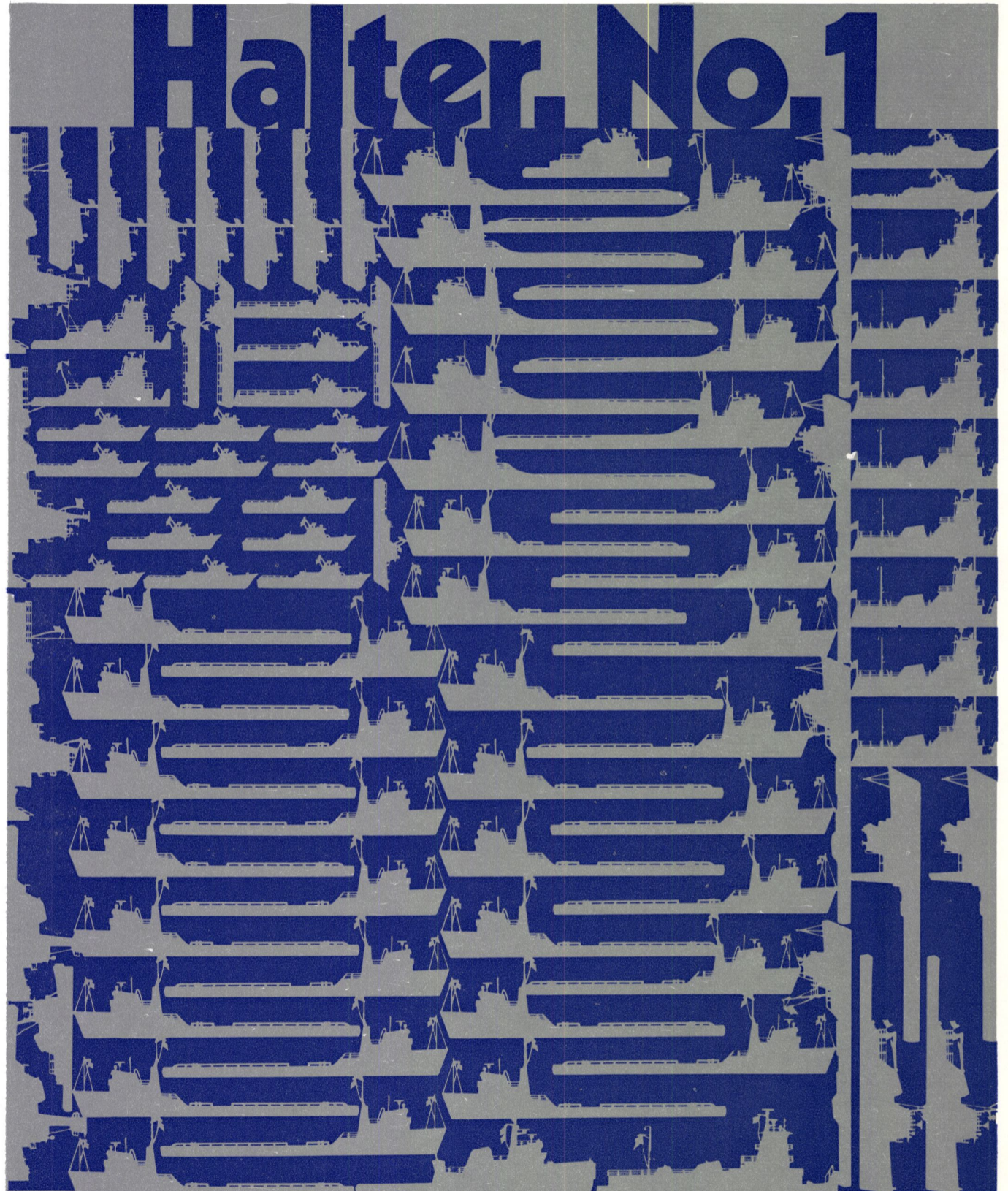
The company wants the entire South Boston facility, which contains one of the longest graving docks on the Atlantic Coast.

According to William Semich, Boston's director of special projects, the corporation's plans appear to involve the prefabrication of ships at Charlestown and the assembly and launching of new tonnage at the South Boston plant.

The South Boston unit is also being eyed by the U.S. Coast Guard, which is considering relocating its Boston base from a cramped area in the north end of the city to the more spacious an-

nex. The Massachusetts Port Authority has under study the possibility of acquiring part of the South Boston property for a new fish pier and processing plant.

City and Massachusetts officials met in Washington with legislators and Navy, Coast Guard, Interior and Defense Department representatives to consider the various plans which have been forthcoming in the disposition of the two facilities.



Above is a graphic representation of the number and type of vessels we have delivered or had

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53 supply and tug/supply boats, 14 pushboats, and 7 tugs.



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Pacific Resources Plan Construction Of Four Tankers At Total Cost Of \$140 Million

Pacific Resources Inc. said it has filed an amended application with the Federal Maritime Commission for oil-tanker-construction subsidies, raising the number of tankers requested to four from three and increasing the size of each ship to 89,000 tons from 80,000; since the original request was filed in October, the company has formed a subsidiary—Hawaiian International Shipping Corp.—to operate the tankers.

The ships are expected to cost an aggregate \$140 million, the company said. Of this amount, 39 percent would be covered by subsidies if approval is granted by June 30, 1974. Assuming approval, the company said, three of the ships could be in operation by 1977 and the fourth by 1978.

The ships are primarily designed to carry crude oil from Indonesia and the Persian Gulf to U.S. ports, but they would also be able to handle ore or grain.

Navy Energy R&D Office Relocated

The Navy has announced that its Energy R&D Office, formerly at the Naval Material Command Headquarters, Crystal City, Arlington, Va., has been relocated to the Naval Ship Research and Development Center, Annapolis, Md.

Comdr. Paul A. Petzrick, USN, has been appointed Director of the Navy Energy and Natural Resources R&D Office. Prior to his new appointment, Commander Petzrick was head of the Naval Material Command Support Technology Branch, and was associated with the Environmental Protection Research and

Development Program. The Energy R&D Office, MAT 03Z, will remain a part of the Naval Material Command headquarters, but will be a tenant activity at the Annapolis Laboratory.

In this office, Commander Petzrick will administer the energy portion of the Department of the Navy Exploratory Development Program, and will coordinate the execution of the Advanced and Engineering Development Energy programs. Experiments and demonstrations in the application of technology emerging from the energy R&D programs of other military departments, other Federal agencies, and industry will be coordinated with Navy programs.

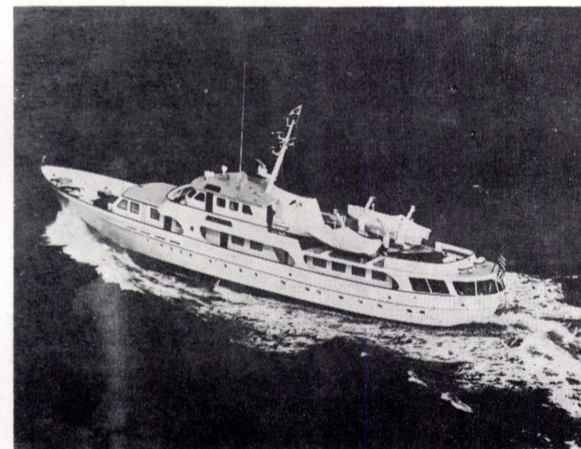
Moore And McCormack Co. Plan To Change Firm's Name

Moore and McCormack Co., Inc. (NYSE: Pacific) plan to change its name to Moore McCormack Resources, Inc., according to an announcement by James R. Barker, chairman and chief executive officer.

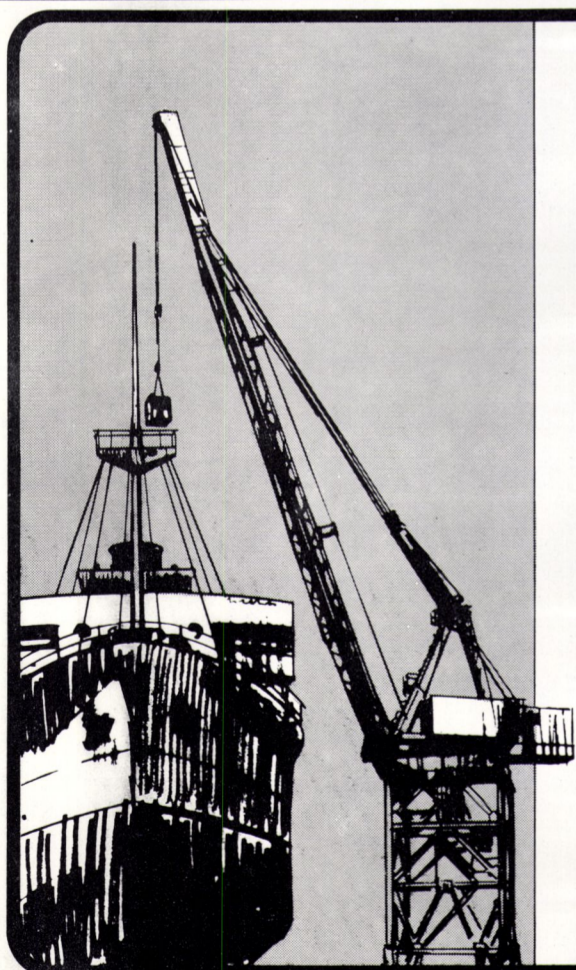
Mr. Barker said this change, which is subject to approval of shareholders at a special meeting to be held February 6, is being made to "more accurately reflect the present scope and direction of the company's business, which is focused on water transportation, natural resources and related logistics."

Moore and McCormack's principal activities include Pickands Mather & Co. of Cleveland, Ohio, which operates iron ore and coal mines, Great Lakes ore carriers, and acts as sales agent for various materials, and Moore-McCormack Lines, Incorporated, which offers ocean shipping services from U.S. East Coast ports to the East Coast of South America and to South and East Africa.

Other company subsidiaries include Moore-McCormack Bulk Transport, Inc., which will operate oil tankers now under construction and other bulk carriers, and Moore-McCormack Energy, Inc., which develops participation in projects requiring transportation and related logistics of energy-oriented resources.



NEVER A WATER SHORTAGE: This 146-foot-long luxury yacht will never have a water shortage. Designed by Bureau DeVoogt of Haarlem, Holland, DeVries Scheepsbouw, b.v., Aalsmeer, Holland, built the yacht for James A. Ryder of Miami, Fla. The M/Y Jardell makes use of a pair of Maxim HJ10 desalinators and one HJ50 to meet her freshwater needs. Electric power is supplied by two 115-kw sets, with one Maxim HJ10 desalinator operated by recovery of engine jacket water heat from each diesel generator set. Main propulsion, providing for a cruising speed of 16 knots, is by two 900-hp GM diesels. The big Maxim HJ50 desalinator is operated by the rejected engine jacket water heat from the main propulsion engines. Her appointments include three double guest rooms, each with a bathroom and shower, owner's cabin with bathroom and shower, captain's cabin with bath, a kitchen, dining room, bar and lounge, living room, two studios, and sun deck, five double crew cabins with four bathrooms and showers, crew's recreation room, mess room, and laundry. The three Maxim desalinators, supplied by Riley-Beard, Inc., Shreveport, La., can provide all freshwater requirements and operate economically from engine jacket water heat that might otherwise be wasted.



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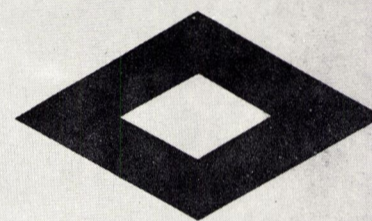
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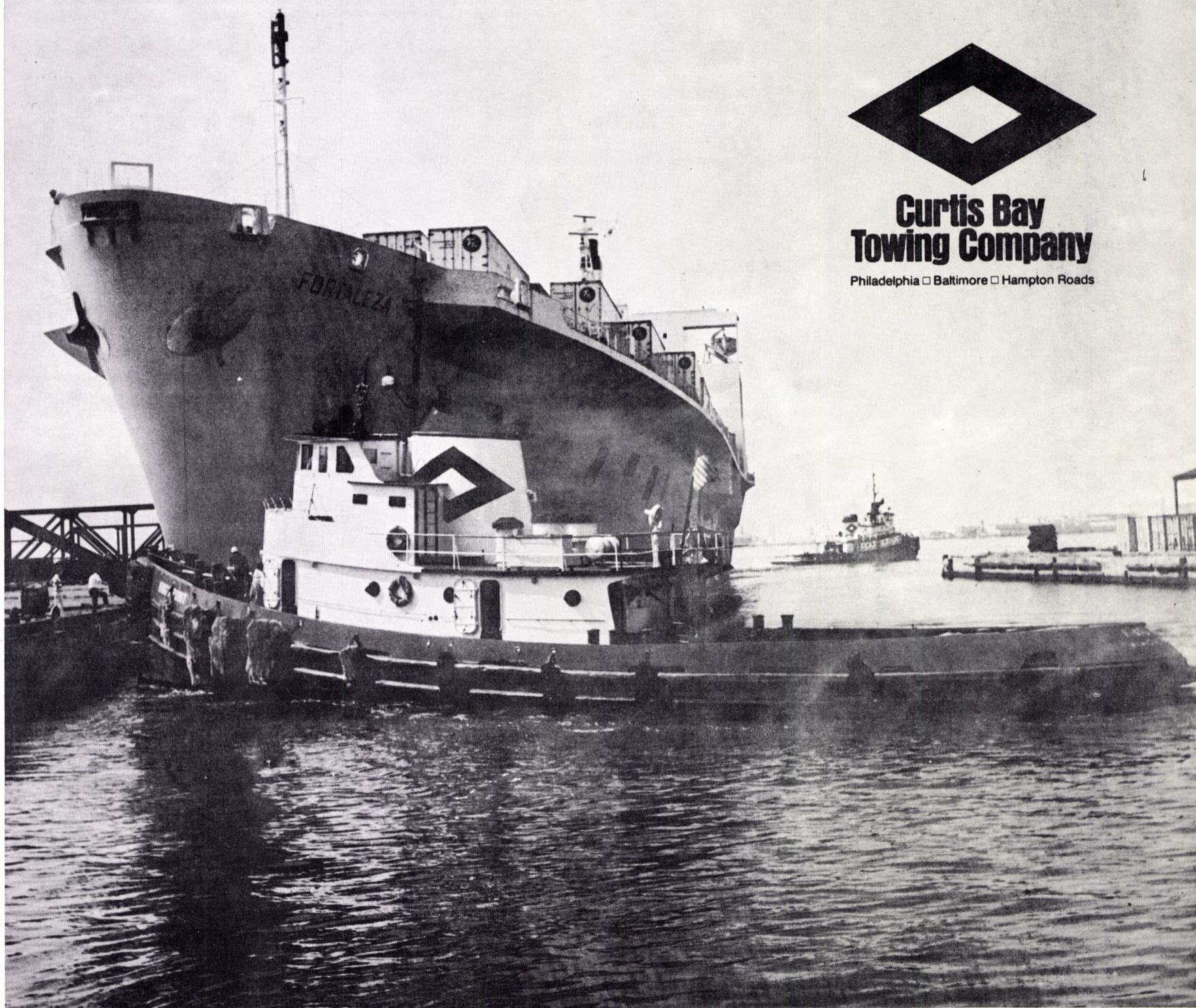
In the photograph, the new tug CAPE HENLOPEN exerts her 3300 horsepower on the stern of the ship. The 2400 horsepower tug KINGS POINT controls the bow.

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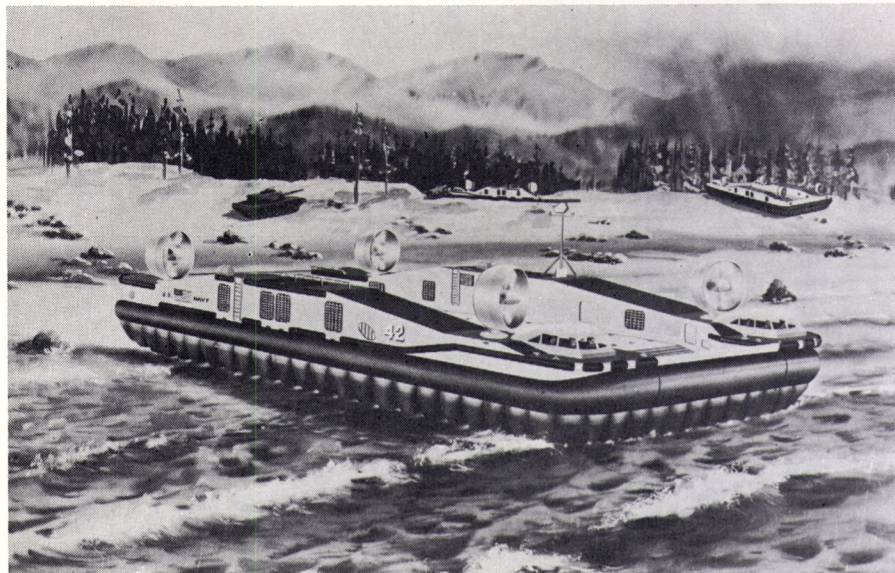


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Navy Amphibious Assault Landing Craft To Be Built By Todd Seattle Shipyard



The versatile craft is fitted with an advanced concept skirt design, developed by Aerojet, for air cushion vehicles. The hull is constructed of welded aluminum, using corrugated plating to minimize weight.

Todd Shipyards Corporation, Seattle, Wash., has been selected to construct the Navy's amphibious assault landing craft (AALC).

The announcement was made by **E.D. Ward**, vice president and general manager of Aerojet Surface Effect Ships Division of Tacoma, which designed and will supervise construction of the craft under contract to the Naval Ship Systems Command.

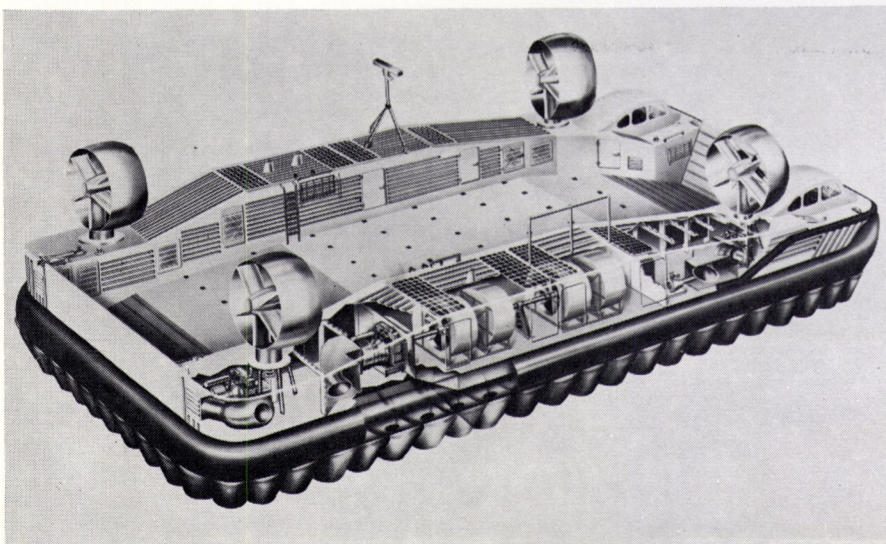
Mr. Ward stated: "Todd's 55 years' experience in the construction of a wide variety of Naval and commercial ships eminently qualifies them for building this versatile Naval vessel. Through fabrication of the amphibious assault landing craft, Todd's shipyards will become the first major shipbuilder with experience in forming aluminum hulls for use in the high-speed Navy."

Most recently, Todd's Seattle facility has turned out guided missile destroyers and destroyer escorts. **J.T. Gilbride**, president of Todd Shipyards Corporation, said: "Our extensive experience, applied to the challenge of this advanced ship technology, gives us a unique capability to build these lightweight high-strength aluminum ships of the future."

This new versatile landing craft, called the JEFF(A), is the first significant improvement in surface transport from ship to shore since prior to World War II, and is designed to transport heavy Marine Corps vehicles and equipment over both water and land from cargo-ships stationed well offshore.

The unique seal design of this air cushion vehicle (ACV) was developed by Aerojet and will provide craft stability several times greater than any other existing cushion system. For rapid unloading, room is provided for three lanes of traffic at the stern where off-loading occurs, while two lanes are provided at the bow for loading. Other JEFF(A) features are its propulsion system—four shrouded air propellers, pylon mounted and rotatable for steering as well as propulsion—and welded marine aluminum hull using corrugated plating to minimize weight.

Tacoma Boatbuilding Company, which built a 100-ton surface effect ship testcraft Aerojet designed for the Navy, worked closely with the Aerojet Surface Effect Ships Division on initial design of this new type landing craft. Construction of the hull and superstructure



Cutaway view—The JEFF(A) is equipped for rapid loading and off-loading, with three lanes of traffic at the stern for off-loading and two lanes at the bow for loading.

will be accomplished by Todd Shipyards Corporation.

Recognition by the U.S. Marine Corps for the necessity of an improved amphibious assault landing system resulted in a Navy development program to evaluate and define criteria in terms of flexibility, speed and cost effectiveness in the movement of material and equipment from ship to shore. Delivery of the first JEFF(A) craft to the Navy is planned for late 1976, upon completion of contractor trials by Aerojet Surface Effect Ships Division, Tacoma.

The JEFF(A) has an overall length of 96.2 feet, overall beam of 48 feet, overall height of 23 feet 1 inch, nominal payload of 120,000 pounds, displacement of 333,000 pounds, a speed of 50 knots in three-foot waves, endurance of four

hours, and obstacle clearance of 5 feet.

Aerojet-General Corporation's Surface Effect Ships Division is solely committed to the development of the high-speed Navy of tomorrow, and is working on three other projects to modernize the U.S. fleet:

★ 2,200-ton surface effect ship (SES), an advanced waterjet-propelled ship concept.

★ SES-100A, a waterjet-propelled 100-ton surface effect testcraft which set a world speed record for surface effect craft of 76 knots (88 miles per hour) on July 2, 1973. The SES-100A was designed and is currently being tested for the Navy by the SES Division.

★ ARPA program, a research effort to evaluate surface effect vehicles for Arctic use.

SNAME New England Section And AWS Hear Japanese Shipbuilding Report At Joint Meeting



Shown at the SNAME-AWS joint meeting (left to right), **James Cameron**, New England regional director of AWS; **Richard Jones**, chairman of the Boston Chapter of AWS; **Dr. Koichi Masubuchi**, author; **Richard Roberts**, SNAME New England Section chairman, and **Prof. J. Harvey Evans** of M.I.T.

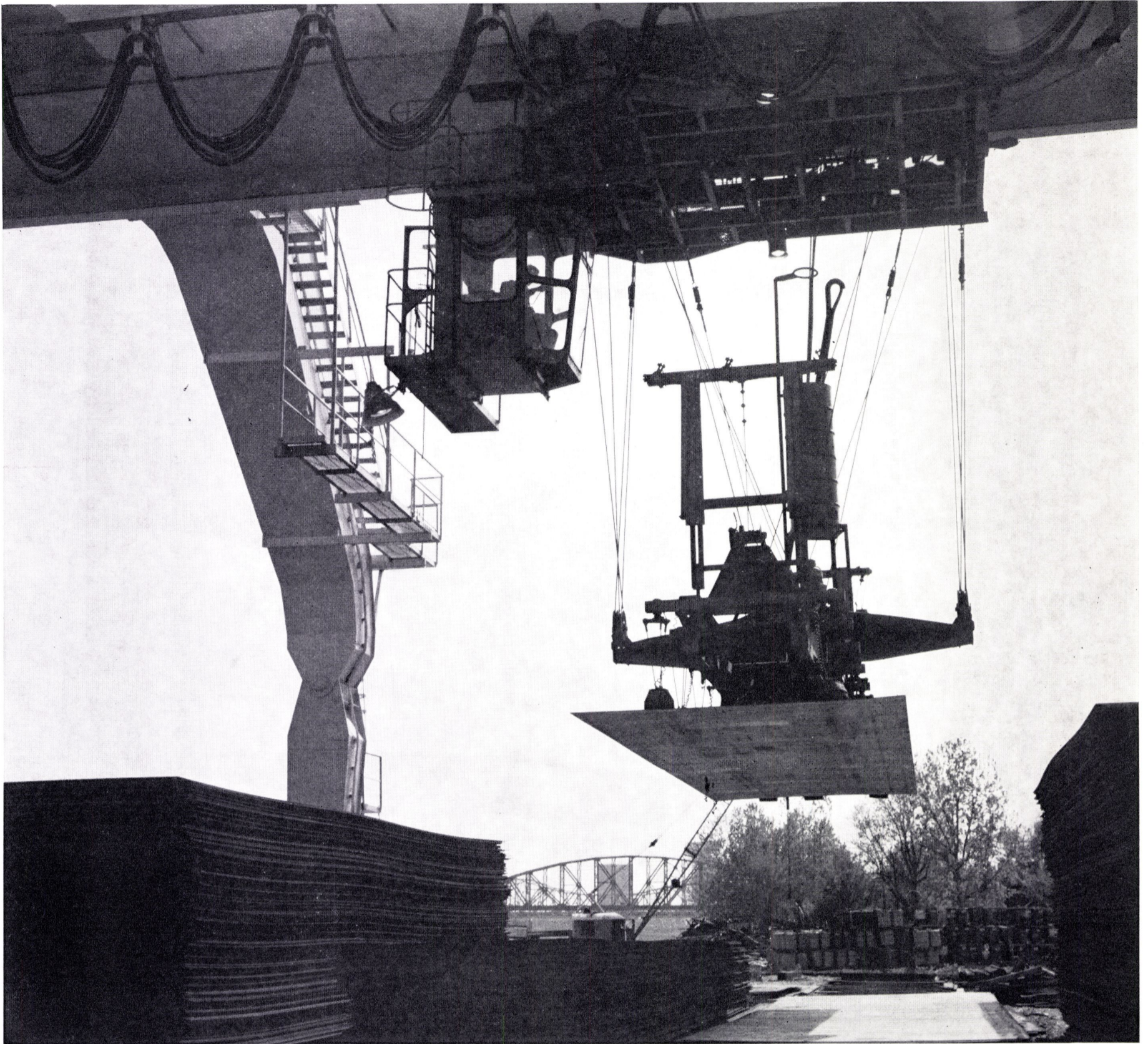
On December 7, 1973, one hundred and five members and guests of the New England Section of The Society of Naval Architects and Marine Engineers and the Boston Section of the American Welding Society heard Dr. **Koichi Masubuchi**, professor of ocean engineering at the Massachusetts Institute of Technology, present a paper entitled "Assessment of the Japanese Shipbuilding Industry," which he co-authored with Dr. **Kiyoshi Terai**, manager of the Welding Research Laboratory at Kawasaki Heavy Industries, Ltd., in Japan. Unfortunately, Dr. Terai could not attend the meeting, which was held at the A.D. Little Inc. facilities in Cambridge, Mass.

The technical session, following a social hour and dinner, was called to order by **Richard Roberts**, chairman of the New England Section of SNAME. He called on Prof. **J. Harvey Evans** of M.I.T. to introduce the speaker. The presentation not only included the material in the paper, but also a number of slides showing the facilities and fabrication techniques used by various shipyards in Japan. Dr. **Masubuchi** briefly reviewed the history of Japanese shipbuilding from the late 1940s to the present,

and discussed some of the influences on its development. Among these influences were the effect of the shipbuilding market, the availability of well-trained engineers, and the emphasis placed on developing new fabrication technology. Dr. **Masubuchi** pointed out the willingness of the Japanese industry to adopt and apply fabrication technologies developed in other countries, including those of the American aerospace industry. Dr. **Masubuchi** also discussed how teamwork between competing firms in Japan was used to solve industry-wide problems, a practice not usually followed in this country.

The discussion which followed was quite active and interesting. The topics brought up included labor unions, automation, the role of classification societies and regulatory bodies, new fabrication techniques which have been developed or adapted by the Japanese shipbuilding industry, and the relationship between technology and production.

Copies of the paper are available at a cost of two dollars each from **Robert Baseler**, Editor, New England Section, SNAME, General Dynamics Corporation, Quincy, Mass. 02169.



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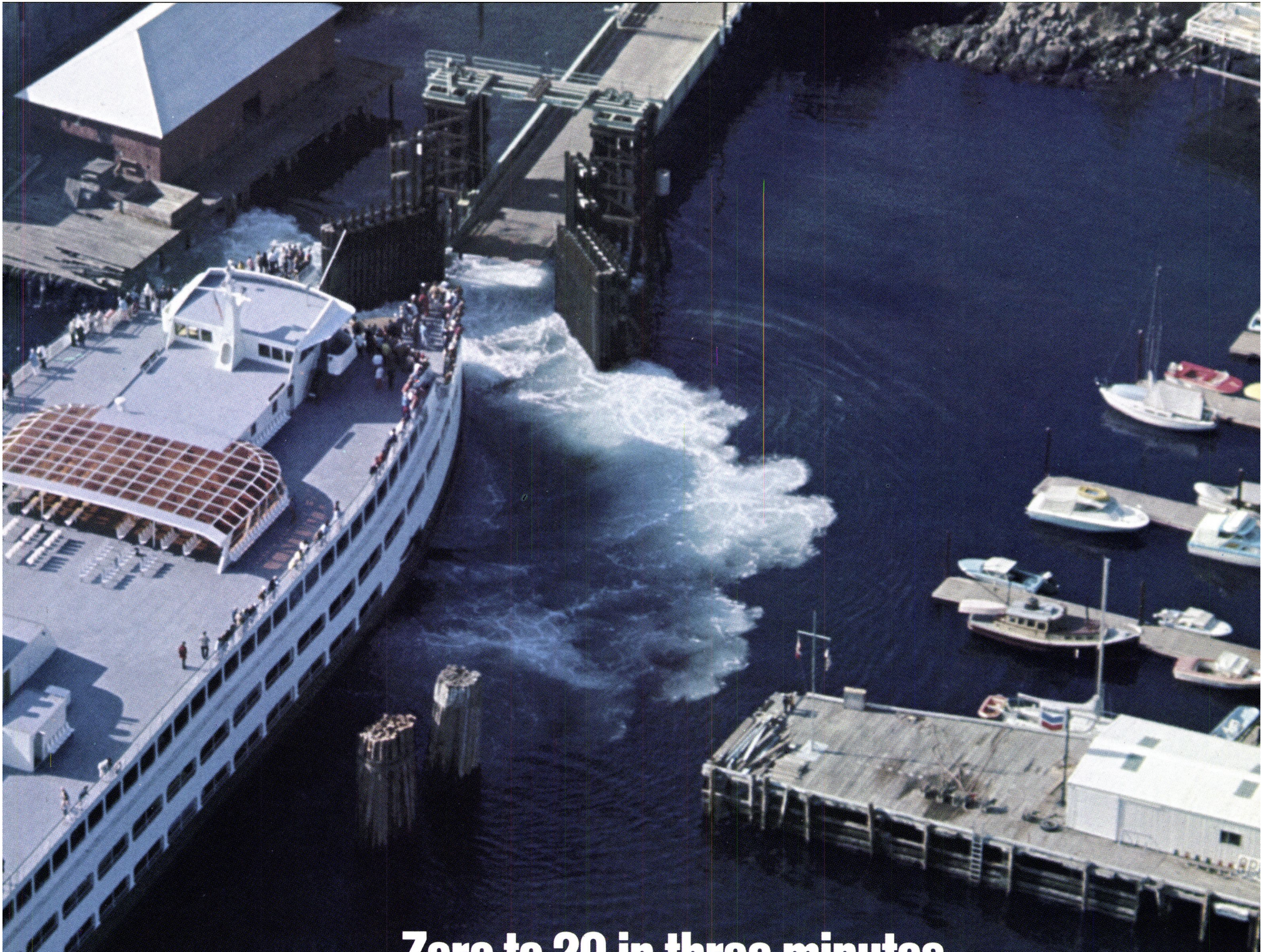
and erection of the vessel. The result: extended barge life for increased productivity and profitability.

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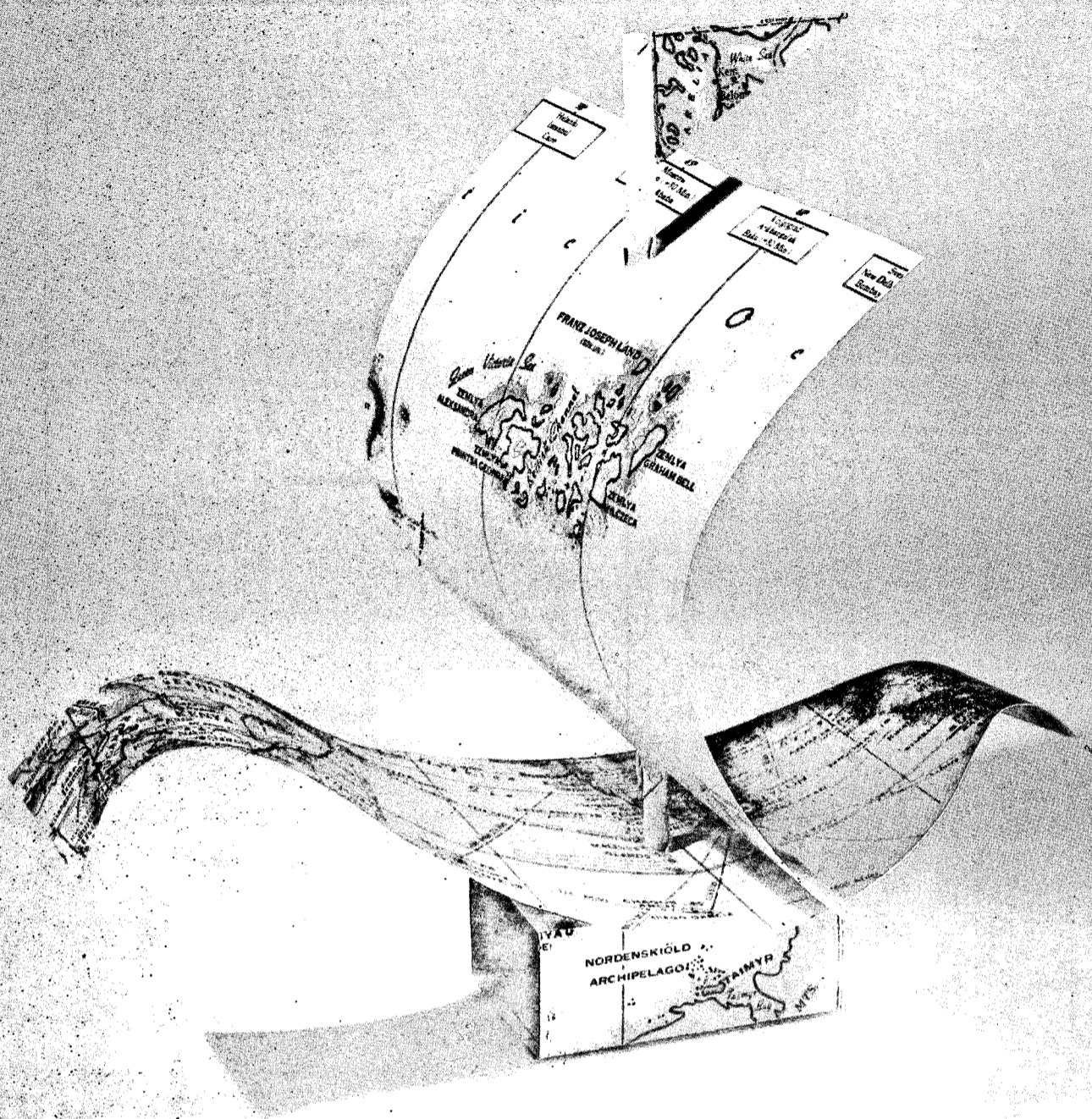
Three minutes after she leaves the dock, the Walla Walla will be cruising across Puget Sound at 20 knots. And if she has to stop fast, she can do it in less than three times her own length. At the end of her run, she'll glide into dock with a gentle nudge, and unload 2000 passengers and 206 vehicles on a busy day.

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Midshipmen Hear Panel Of Four Discuss Offshore Drilling Careers For USMMA Graduates



Members of the offshore drilling panel at the U.S. Merchant Marine Academy at Kings Point, left to right: Capt. **Raymond Eisenberg**, who organized the proceedings; **H. Edward Denzler**; **John Davis**; **Dave Downs**; Capt. **William Mayberry**; and Capt. **Charles Renick**, who also helped arrange the evening.

A panel of four members of the offshore drilling industry was present on the evening of December 11, 1973, at the U.S. Merchant Marine Academy to discuss and answer questions concerning the career opportunities in this rapidly expanding field.

The evening was arranged as a general information session for an audience of some 400 third and fourth-year midshipmen who will be choosing a career in the near future.

Taking part in the panel were **John Davis**, the Chief of the Office of Ocean Domestic Shipping for the Maritime Administration's Research and Development branch; Capt. **William Mayberry**, USCG (ret.), the executive director of the Offshore Marine Services Association; **H. Edward Denzler**, consultant to the International Association of Drilling Contractors, and **Dave Downs**, a member of the Offshore Company.

The evening opened with a slide presentation by Mr. **Davis**, who traced the development of offshore drilling techniques from the crude wooden platforms used off the coast of Mexico in the 1930s to today's multimillion dollar jackup, semisubmersible and drilling ship operations. He stressed the importance of offshore oil drilling by revealing that a 40-year supply of oil and natural gas lies untapped under the ocean, with 30-billion barrels alone under the North Sea.

Logistic support of the offshore drilling operations was the subject of Captain **Mayberry's** talk. Revealing that the field presently has the need for 800 to 1,200 licensed officers to man support vessels for the rigs, Captain **Mayberry** expressed the belief that the manpower shortage would continue for at least another five years, due to the tremendous growth of offshore drilling. He also stressed the need for well-trained shoreside operation managers for the industry, which touches all corners of the world.

H. Edward Denzler spoke next about the job requirements for both the construction of the semisubmersible and flat drill ships, as

well as the on-location crafts necessary aboard the rig. A variety of skilled personnel are required, he stated, ranging from electricians to engineers to drilling specialists.

Life aboard the drilling vessels was brought home to the audience by the final speaker, a 1972 Academy alumnus who worked aboard a semisubmersible drill ship in the China Sea. Mr. **Downs** served aboard the *Discover II* as a junior officer in 1972 for the Offshore Company. He used his own experience to describe the work and hours involved, as well as living quarters and personal relationships aboard ship.

All the members of the panel stressed the importance of offshore drilling as a viable means for combating the impending oil shortage. They emphasized that the Academy training program well prepared its graduates to enter the offshore field.

The U.S. Merchant Marine Academy is a national institution, a part of the Maritime Administration of the Department of Commerce.

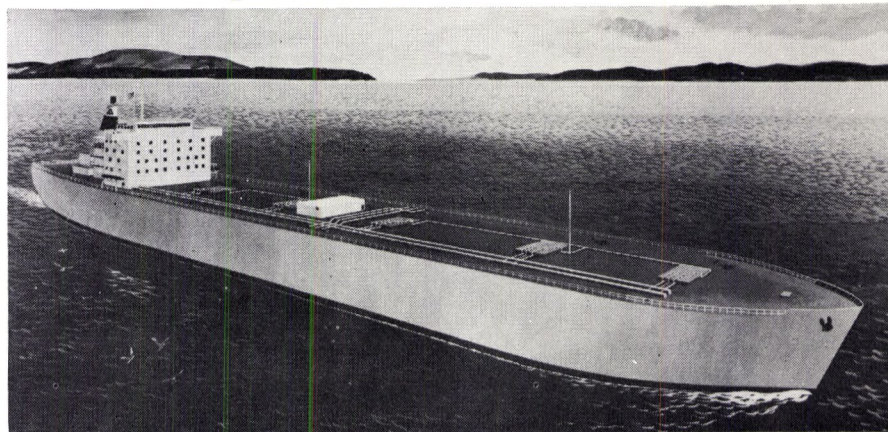
Rose Barge Line Files Title XI For 117 Barges

A Title XI loan and mortgage guarantee in connection with 117 barges for inland waterways has been filed with the Maritime Administration by Rose Barge Line, 222 South Central Avenue, St. Louis, Mo. 63105. Already built are 67 box style, open hopper barges, ranging from 76,000 to 80,000-cubic-foot capacity, at a cost of \$7.9 million. The remaining 50 semi-integrated open hopper type barges of 72,000-cubic-foot capacity would be built by Hillman Barge and Construction Co., Brownsville, Pa., at a total cost of \$7 million.

ITC Enterprises Elects L.A. Wist V P

Lawrence A. Wist has been elected vice president of ITC Enterprises, Ltd., Baltimore, Md.-based conglomerate whose activities include shipping and ocean terminal operations. Mr. **Wist** will continue as finance director of the corporation.

Pacific Lighting Marine Awards Contract For Two LNGs To Sun Shipbuilding With Option To Build Three More Ships



Artist's conception of the liquefied natural gas carrier to be built by Sun Ship to carry LNG from south Alaska or Indonesia to southern California.

A subsidiary of Pacific Lighting Corp., Los Angeles, Calif., contracted on December 28, 1973, with Sun Shipbuilding & Dry Dock Co., Chester, Pa., for the construction of two liquefied natural gas (LNG) ships, it was announced by **Paul A. Miller**, chairman of the board of Pacific Lighting.

Signed by Pacific Lighting Marine Co., the contracts provide for the construction of two specially designed ships and an option for three additional vessels. The first ship is to be delivered in mid-1977, with subsequent vessels to be delivered at nine-month intervals.

Mr. **Miller** said the vessels will be used to transport LNG from south Alaska or Indonesia to southern California.

Pacific Lighting has signed a contract with Pertamina, the Indonesian Government-owned oil and gas company, for the equivalent of 550 million cubic feet of gas per day. An application has been filed with the Federal Power Commission (FPC) for permission to import the LNG, Mr. **Miller** explained.

"Pacific Lighting is also currently negotiating with producers in the Cook Inlet area of south Alaska and anticipates an LNG project from that area, with initial deliveries of 200 million cubic feet of gas

per day," Mr. **Miller** said.

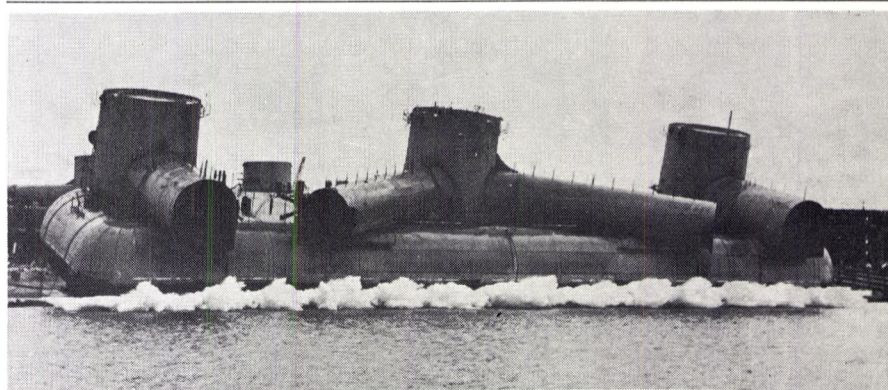
A total of up to 10 vessels similar to those contracted for will be required to move the LNG from both sources.

The price of each of the first two vessels is \$102.5 million. The contract also provides for labor and material escalations which will cause limited increases in the purchase price. These escalations, together with financing and other indirect purchasing costs, should bring the total in-service cost of each vessel to about \$135 million.

Each ship has a cargo capacity of 130,000 cubic meters of LNG, which is equal to about 2¾ billion cubic feet of natural gas, in insulated cryogenic tanks. Preliminary plans for the vessels are based on using the Conch self-supporting aluminum system. The cargo containers are insulated to maintain a temperature of minus 260 degrees F.—the temperature at which natural gas becomes a liquid.

The vessels will have an overall length of 989 feet, will be 136 feet wide, and have a draft of 38 feet.

Powered by two 50,000-horsepower steam turbines and twin propellers, the vessels will cruise at a speed of 23 knots. Other features of the ships include a bow thruster for low-speed maneuverability and double hull construction.



OFF THE WAYS FROM MARATHON AT BROWNSVILLE: A giant starboard sponson (pontoon section) of the Penrod 71 semisubmersible drilling platform is shown here being launched from Marathon Manufacturing Company's Gulf Marine Division shipyard at Brownsville, Texas. This sponson weighs 3,600 tons and was launched from Marathon's new hydraulic side launch system. The port sponson is now being readied for launch. In total, 12,500 tons of steel will make up the completed Penrod 71. The drilling platform will measure 216 feet wide by 288 feet long by 138 feet high. The mooring system, eight 15-ton anchors, is designed for operation in waves up to 85 feet and winds up to 138 miles per hour. It will crew 84 workmen, drill in water depths up to 1,000 feet, and when the drilling platform is complete in the latter part of 1974, it will work in the North Sea.

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Companies, Presidents, Vice Presidents, Secretaries, Treasurers, General Managers, Purchasing Agents, Passenger & Freight Agents		2,721
Marine Superintendents, Port Captains, Port Engineers, Port Stewards		1,224
Deck Captains, First, Second & Third Mates Only	1,979	
Engine Room Chiefs & Licensed Assistants	2,935	
Ship Operating Personnel Ashore & Aboard not included in above classifications	398	
PROFESSIONAL MEN:		
Naval Architects & Marine Engineers		1,476
Admiralty lawyers	20	
Insurance Companies, Agents & Brokers	55	
NAVY	313	
MARINE SUPPLIES & EQUIPMENT: Manufacturers		
Ship Chandlers, Dealers & Agents	1,777	
Bunkers (Coal & Fuel Oil)	34	
	4	
ALLIED MARINE INDUSTRIES:		
Freight Agents & Forwarders	1	
Exporter & Importers	7	
Stevedoring Companies not owning Floating Equipment	25	
Government Schools, Libraries, Students & Commercial Organizations	1,069	
Miscellaneous	863	
Awaiting Classification by Business & Industry	51	
NON BUYING POWER		9,985

WORLD-WIDE BUYING POWER TOTAL **8,212**

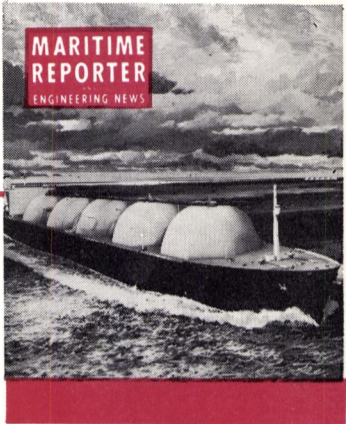
Why settle for less MARITIME REPORTER/Engineering News

Source of information—Each publication's own official circulation statement—Available July, 1973.

MARINE BUYERS IN 1973-'74 ENGINEERING NEWS

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OCCUPATIONAL BREAKDOWN OF TOTAL WORLD-WIDE CIRCULATION

	BUYING POWER
SHIPBUILDING & SHIP REPAIR (Commercial, U.S. Navy and U.S. Coast Guard):	
Companies, directors, owners, presidents, vice-presidents, secretaries, treasurers, superintendents, managers and purchasing agents.	4,044
Naval architects, engineers and chief draftsmen	1,166
Other employees (draftsmen, inspectors, foremen and others em- ployed by shipbuilding and repair companies) not included in above classifications	110
VESSEL OPERATING COMPANIES	
OCEAN, RIVERS, HARBORS, OFFSHORE OIL DRILLING AND RELATED OPERATIONS	
(Owners, Agencies & Brokers) Companies, directors, owners, agents, presidents, vice-presidents, managers, secretaries and treasurers	5,600
Port engineers, superintendents, purchasing agents, port captains, port stewards, naval architects and engineers shoreside	1,719
Other employees ashore not included in above classifications	49
PROFESSIONAL MEN:	
Naval architects, engineers and consultants shoreside	1,625
Admiralty lawyers and insurance	35
MARINE SUPPLIES & EQUIPMENT:	
Manufacturers, dealers and agents	1,896
Ship Chandlers	172
Allied marine industries	302
GOVERNMENT:	
U.S. Maritime Administration, U.S. Senators, U.S. Congressmen and others in official capacities	31
SCHOOLS, LIBRARIES AND ORGANIZATIONS	54
NON BUYING POWER	2,649

WORLD-WIDE BUYING POWER TOTAL **14,154**

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Supertanker Brooklyn Sold By Seatrain To General Electric Credit

Seatrain Lines, Inc. has announced the sale of its 225,000-dwt supertanker Brooklyn to General Electric Credit Corporation.

The first vessel built by the company's Seatrain Shipbuilding subsidiary at the former Brooklyn Navy Yard, and the largest commercial ship ever built in the United States, the Brooklyn will be leased

by General Electric to a corporation which has a 25-year time charter to American Petrofina, Inc., a Dallas, Texas-based oil company.

Joseph Kahn, Seatrain chairman, said as soon as an anticipated favorable tax ruling is received, the proceeds will be released from escrow and applied to make the company current in its term bank debt.

The leasing of the Brooklyn brings together for the first time the country's largest leasing company—which is approaching the

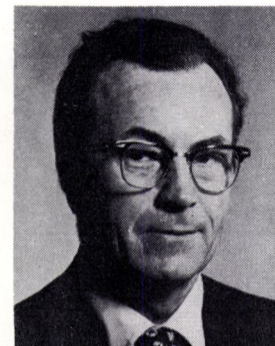
\$1.5-billion mark in original cost of equipment on lease—and Seatrain Shipbuilding Corporation, builder of America's largest commercial vessels.

John F. Duncan, vice president of GE Credit, called the Brooklyn a major long-term weapon in combating the energy crisis. With a cruising range of 15,000 miles, the new supertanker will carry 1.6 million barrels of oil on one voyage, with "major savings in cost, fuel, and time, as compared with using

perhaps half a dozen ships to carry the same amount."

Seatrain Shipbuilding is currently building a sister tanker, the Williamsburgh, scheduled for delivery in mid-1974, and a third sister ship, the Stuyvesant, scheduled for completion in 1975. Arrangements have been completed for construction of a fourth vessel which will begin building as soon as the Williamsburgh is floated out of the drydock.

Bethlehem Hoboken Promotes Clifford Wolfe



Clifford R. Wolfe

The promotion of Clifford R. Wolfe to assistant general manager of Bethlehem Steel Corporation's Hoboken, N.J., yard has been announced by John J. Brangan, general manager of the shipyard.

Mr. Wolfe was previously the yard's chief estimator. His service dates back to 1937, when he started as an electrician's helper at Bethlehem's former Brooklyn 56th Street shipyard. By 1947, he had reached the position of estimator, and in 1948 was transferred to the Hoboken yard. In 1954 he was promoted to assistant chief estimator and became chief estimator in 1968.

Mr. Wolfe studied electrical engineering at Pratt Institute, Brooklyn, N.Y.

Phillip Gresser Assoc. —New Company Name

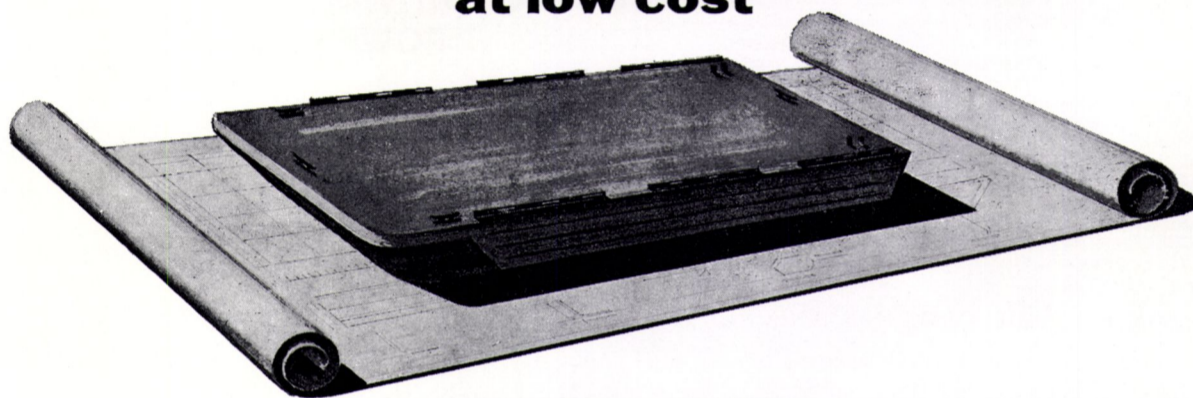
Olsen Gresser Associates Pte. Ltd., Singapore, has announced that the name is now Phillip Gresser & Associates Pte. Ltd. This well-known firm of marine consultants carries out work on a worldwide basis, covering engineering, repair supervision, surveys of all types, design and construction supervision, as well as expediting of bulk cargo discharges.

Their new address is 122 Eng Neo Avenue, Singapore 11; cables: GRESSERCO.

Phillip Gresser is a graduate of New York University in mechanical engineering and also holds a science degree from the U.S. Merchant Marine Academy at Kings Point, N.Y. He has over 30 years' experience in the marine industry and has sailed on merchant ships and for the U.S. Navy, where he was engineering officer on a destroyer. His last position prior to coming to Singapore was manager of engineering, ocean transportation department, Amoco International Oil Company.

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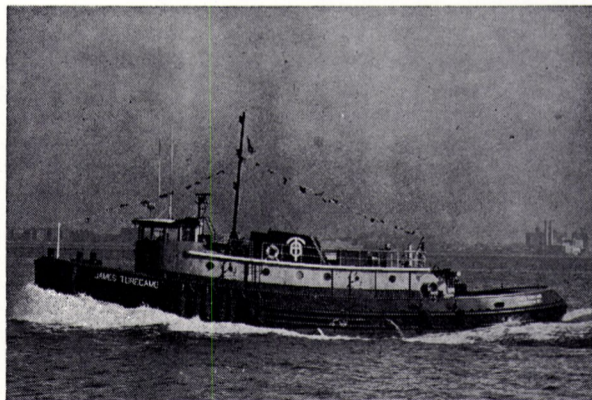
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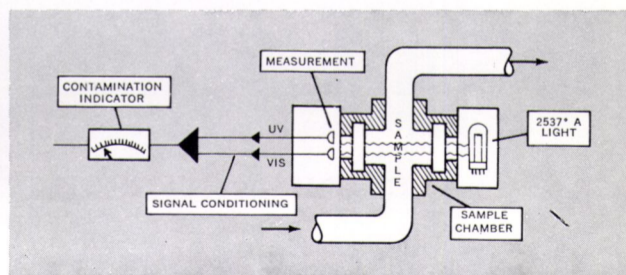
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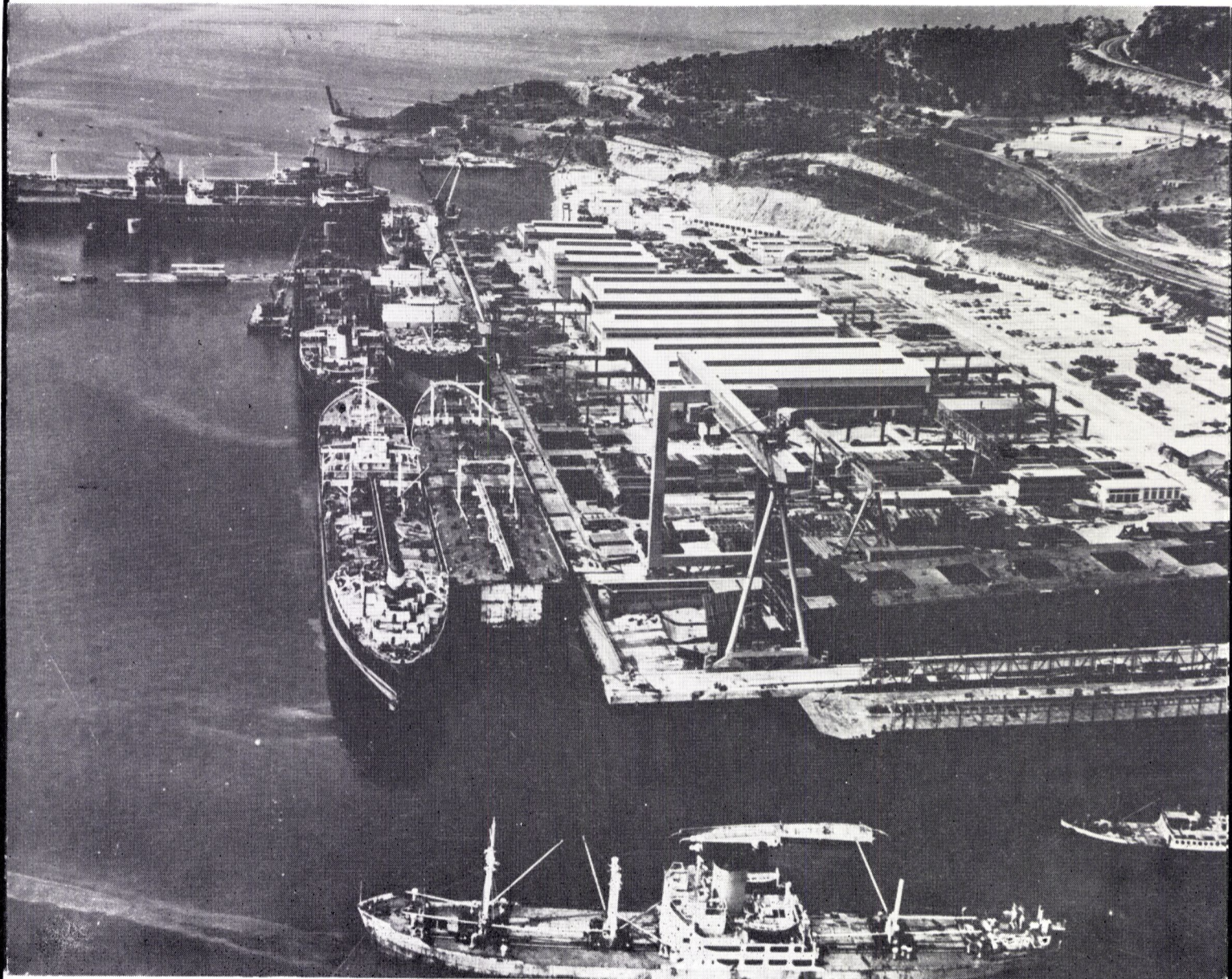
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Lykes Elects Four New Vice Presidents

The board of directors of Lykes Bros. Steamship Co., Inc., and Lykes Lines Agency, Inc., have elected four new vice presidents, effective January 1, it was announced by **Joseph T. Lykes Jr.**, chairman of the board of each of the companies.

Newly elected were: **Barton W.B. Jahncke**, vice president, Sales

and Marketing Division; **Capt. Ernest B. Hendrix**, vice president, Marine Division, and **Joseph Bernstein Jr.**, vice president, Maintenance and Repair Division, all of New Orleans, La., and all with Lykes Bros. Steamship Company. **J.G. Tompkins III** of Antwerp, Belgium, was elected vice president, Continent/United Kingdom, of Lykes Lines Agency.

Mr. **Jahncke** has been with the Lykes organization since 1961. Ex-

cept for duty in Lykes's Dallas, Texas, office, he has been assigned to various duties in New Orleans and has been assistant vice president, sales, since 1969.

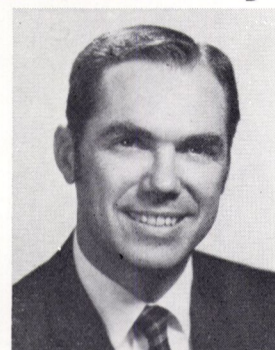
Captain **Hendrix** has been with Lykes since 1941, first as a member of its seagoing organization and then shore assignments in Galveston and Houston. He was named assistant vice president of the Marine Division in 1972.

Mr. **Bernstein** joined the Lykes

seagoing staff as an engineer in 1947. He came ashore as a port engineer in 1957, and has been manager of the Maintenance and Repair Division since 1972.

Mr. **Tompkins** has been with Lykes since 1945. In addition to various traffic assignments in New Orleans, he has also had assignments in Durban, South Africa, and Brownsville, Texas, and was transferred to Europe in 1961. He became manager of the London office in 1962, and a year later was named Continental director with headquarters in Antwerp.

Kent E. Hoffmeister Named Engineering VP At Nashville Bridge



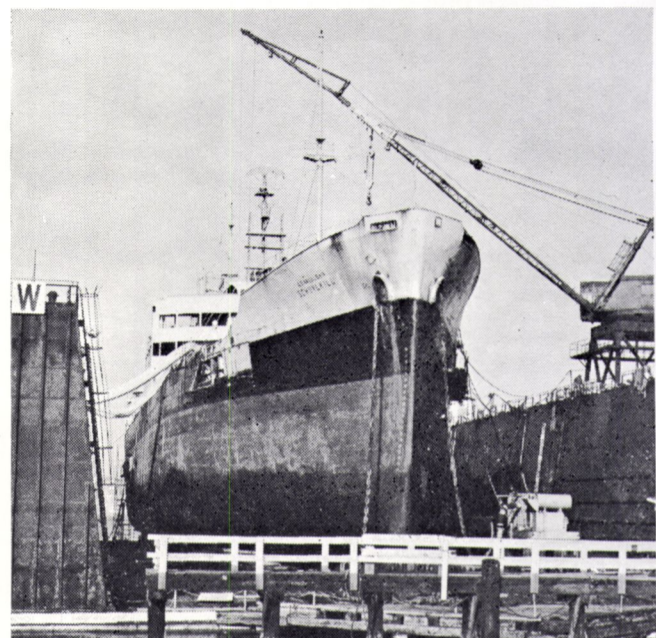
Kent E. Hoffmeister

William H. Barton Jr., president of the Nashville Bridge Company, has announced the election of **Kent E. Hoffmeister** to vice president of engineering. Nabrico is a division of The American Ship Building Company.

Mr. **Hoffmeister** received his bachelor of science degree from Southeast Missouri State University in 1961, where he was a member of the Tau Kappa Epsilon fraternity. His marine experience started at the Missouri Dry Dock and Repair Co., where he served from 1959 to 1961 as a marine draftsman. Upon graduation, he came to Nashville Bridge Company as marine engineer and in 1963 went to Gibbs Shipyards, Inc., as a design engineer.

Mr. **Hoffmeister** then spent five years with Rudolph F. Matzer & Associates, where he was naval architect and an associate member of the firm. Returning to the Nabrico operation in 1969, he has been hull designer and chief naval architect until his recent election as vice president, engineering. In his new position, he heads a substantial engineering department that has created many innovations in marine equipment.

Mr. **Hoffmeister's** professional affiliations include memberships in The Society of Naval Architects and Marine Engineers, The Royal Institute of Naval Architects, The Society of Naval Engineers, The American Welding Society, The Propeller Club of the United States-Port of Nashville, HS-2 Slamming Panel-The Society of Naval Architects and Marine Engineers, Western Rivers Technical Committee, and The American Bureau of Shipping.



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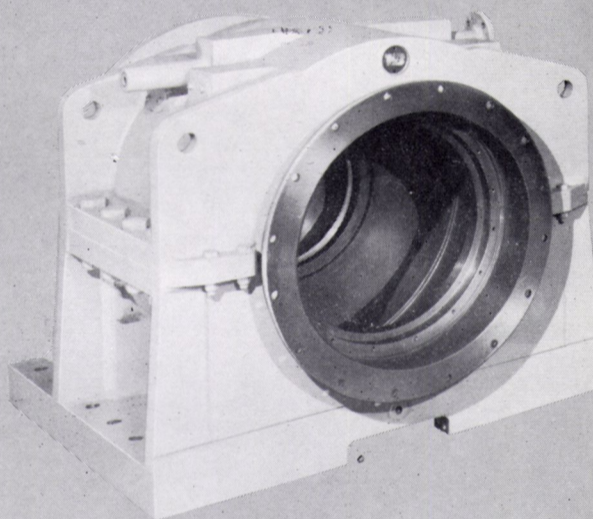
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South African Marine Elects Charles Parkhill



Charles B. Parkhill

The board of directors of South African Marine Corporation (N.Y.) has announced the election of **Charles B. Parkhill** as president and chief executive officer of the shipping corporation. He succeeds **F.A. Demarco** who has retired from the presidency.

Mr. **Parkhill**, together with **H.J. Thieck** and **Capt. D.T. Breckon**, both senior vice presidents and directors of the company, will comprise Safmarine's new executive committee.

Mr. **Parkhill** joined Safmarine on November 7, 1966 as general traffic manager. In October 1967, he was appointed vice president of traffic and, in December 1968, appointed vice president of traffic and sales. He was named senior vice president in April of 1969 and elected a director of the company on November 8, 1971. Mr. **Parkhill** is widely known in steamship circles, having spent a large portion of his steamship career in the U.S. Gulf area. He attended the University of Florida in Gainesville, Fla., and served as a pilot in the U.S. Army Air Force during World War II.

At the same time, the company has announced the appointments of **Anthony D. Sette** as vice president in charge of marketing and sales, **Stephen R. Cooney** as vice president in charge of traffic and operations, and **Capt. James Palmer** as senior marine superintendent, New York.

Mr. **Sette** commenced his steamship career in 1961 with Safmarine, where he has worked in the operations, traffic and sales divisions. In 1972, he was appointed general sales manager. He attended Iona College, and served in the U.S. Marine Corps.

Mr. **Cooney** joined Safmarine in 1966. He was general traffic manager prior to his new appointment. Before that, he worked in accounting, operations, sales and traffic. A 1961 graduate of Hamilton College, he was with J.P. Stevens & Co., Inc. after active duty in the U.S. Army. With Stevens, Mr. **Cooney** rose to regional manager of their Detroit office.

Captain **Palmer** joined Safmarine in 1966 as assistant marine superintendent, New York. Born in England, he received his initial marine training aboard British-flag vessels.

Giant Gantry Crane Ordered From Krupp By Newport News Ship

Krupp International, Inc., 350 Executive Boulevard, Elmsford, N.Y. 10523, a wholly owned subsidiary of Fried. Krupp GmbH of Essen, Germany, has announced that it assisted Krupp Kranbau Wilhelmshaven, the crane division of Fried. Krupp GmbH, in recently being awarded an order for the

supply of Krupp's 27th goliath gantry crane. The contract was awarded by Newport News Shipbuilding & Dry Dock Company.

The crane has a total lifting capacity of 900 metric tons. It has three hoisting gears of 300-metric-tons capacity each, allowing the turning in the air of sections of up to 600-metric-tons capacity. The span between the legs will be almost 540 feet and the lifting height above rail almost 200 feet. The crane will be traveling on a length

of almost 1,960 feet and serves a working area of more than 25 acres.

The crane will be installed in the new North Yard of Newport News Shipbuilding & Dry Dock Company. This new yard will be used for the construction of commercial vessels.

This contract covers the 27th gantry crane built or being designed presently by Krupp Kranbau Wilhelmshaven. After completion, it will be one of the largest cranes of this type.



GATX Subsidiary Orders Second Coal Carrier From Bay Shipbuilding

American Steamship Company, Buffalo, N.Y., a subsidiary of General American Transportation Corporation (GATX), has ordered construction of a second new Great Lakes coal carrier.

The \$22-million 770-foot self-unloading motor vessel is sched-

uled for delivery in 1977. It will be a sister ship to a coal carrier ordered by ASC in October for delivery in April 1976. Contracts for both were awarded to Bay Shipbuilding Corporation, Sturgeon Bay, Wis., a subsidiary of the Manitowoc Company, Inc.

The freighter will have a capacity of 42,000 tons and will be able to carry between 1.8-million to 2-million tons of coal during the Great Lakes shipping season.

Twin diesel engines will move the vessel at 16 miles per hour, and a 1,000-horsepower bow thruster will provide added maneuverability.

GATX provides major financial services worldwide, including the leasing of aircraft, railcars, barges and other capital equipment; construction and real estate financing; insurance and banking; owns and operates fleets of oceangoing and

Great Lakes vessels, as well as on-shore terminal facilities, and manufactures heavy industrial and transportation equipment.

Francis J. Barry Named Chairman N.Y.C. Port Development Group



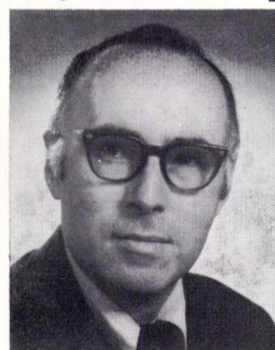
Francis J. Barry

New York City Mayor John V. Lindsay and Mayor-elect Abraham Beame recently appointed Francis J. Barry, president of the Circle Line, as chairman of the Cityport Development Committee. The appointment coincides with New York's \$500-million waterfront development program.

The Cityport Development Committee will be composed of representatives of the shipping industry, the waterfront unions and municipal government to direct the port's promotion activities.

The appointment was announced at a breakfast slide-presentation of the program at the Whitehall Club, followed by a helicopter tour of New York Harbor.

Dravo Corporation Names James Feeny



James E. Feeny

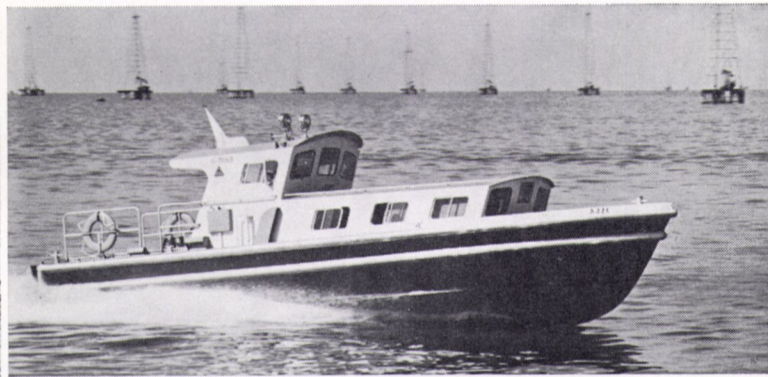
James E. Feeny has been appointed safety director of Dravo Corporation's Engineering Works Division.

Located at Neville Island near Pittsburgh, Pa., the division manufactures towboats and barges, heavy bulk materials handling equipment, and other specialized heavy equipment.

A safety supervisor since joining Dravo in 1966, Mr. Feeny will assist in the development, implementation and operation of the division's loss prevention program.

Mr. Feeny attended the University of Illinois at Chicago, and Northwestern University. He was previously employed as a construction engineer, and later as a safety engineer, at United States Steel Corporation's Gary (Indiana) Works.

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Shipbuilders Council Of America

Year-End Report

Edwin M. Hood

The rapid momentum of American shipbuilding, initiated with the enactment of legislation in 1970 (the Merchant Marine Act of 1970), designed to restore the United States to a position of prominence and substance among world maritime powers, continued to accelerate in 1973.



Edwin M. Hood, President
Shipbuilders Council of America

International economic and monetary developments, in conjunction with cost saving emphasis domestically, have furthermore prompted an eventful and partial closing of the differential between U.S. and foreign shipbuilding costs and prices. New lows in levels of Federal construction subsidy support for tankers and liquefied natural gas (LNG) carriers have thus resulted during 1973. For the same reasons, many U.S. yards received merchant ship repair work which otherwise would have been done abroad.

During the year, merchant ship construction contracts totaling 38 vessels of 2,636,000 dwt have been placed with American yards. The aggregate value of these orders is estimated at slightly more than \$1.5 billion. About 40 percent of these contracts are supported by Federal subsidy funding. In addition, U.S. shipyards have on order contracts for 35 offshore oil drilling rigs.

Simultaneously, appropriations for U.S. naval ship construction reached a new high of approximately \$3.5 billion. Most of these funds have financed the cost of incremental stages of earlier building contracts for submarines, destroyers, aircraft carriers and other vessels, including sophisticated electronics and armaments. Only one procurement for a new naval ship program was awarded in 1973: the lead ship contract of a 50-ship innovative Patrol Frigate (PF) program. Also, a greater volume of Navy ship repair work has been placed with shipyards in the private sector.

This crescendo of activity has contributed to an unprecedented peacetime backlog of work in U.S. shipyards. Capital improvements have increased substantially. Capacity has been improved accordingly, and additional expansion of production facilities has progressed beyond the planning stage. Productivity of individual shipyard workers has reached new levels of proficiency and is said to be on a par with that in other countries. On the other hand, profit margins, in many instances, have left much to be desired.

U.S. tanker building capacity, in particular, is anticipated to expand further from the present annual level of approximately 1,500,000 dwt to considerably more than 3,000,000 dwt in 1978. Some of this capacity will be devoted to the construction of very large crude carriers (VLCC's) of 400,000 dwt or larger, and a maximum eventual output of six or seven VLCC's annually would not seem unrealistic.

Along with the balance of American industry, the U.S. shipbuilding industry, at the start of the New Year, faces an array of problems, challenges and opportunities far different from the past. More and more, the conduct and planning of shipyard activity will be influenced by energy and environmental considerations as well as by geopolitical, economic, governmental and management actions.

The report of the Commission on American Shipbuilding, released in mid-October, concluded that the U.S. shipbuilding industry, given "the opportunity to build ships in series" and "a reasonable stability in its orderbook," is "fully capable of equalling the production efficiency in any foreign shipbuilding industry for the construction of similar ships." This Congressionally-mandated, Presidentially-appointed Commission was chartered in 1970 to "review the status of the American shipbuilding industry, its problems and its progress toward increasing its productivity and reducing production costs." The verdict was unqualifiedly complimentary in terms of shipyard operations and technology, capital improvements, productivity, and labor-management relations.

The importance of ship financing to ship construction was especially emphasized by the Commission. The "U.S. Ship Financing Package," it was stated, "is substantially better than any alternative financing available for the con-

struction and acquisition of foreign built ships." Domestic and foreign groups have to date combined and employed this "Package" in an effective manner. Desirable contracts for U.S. shipyards have resulted. Other prospects are now in various stages of negotiation, and should soon materialize as firm orders.

Even more, the Commission's report supported the concept of a limited cargo preference for U.S. flag, U.S. built tankers—a subject which, despite the ambiguities of present-day world oil diplomacy, has generated considerable favorable discussion in recent months. Out of the Yom Kippur conflict in the Middle East, the concurrent posture of U.S.-NATO relations, and the ensuing Arab oil boycott, the inherent belief that the United States must establish and maintain positive control over a reasonable portion of available transportation resources has re-emerged in public view with substantial impact. Potential future effects in terms of tanker requirements and new building are now being realistically weighed.

Shipbuilding opportunities in the United States will, of course, continue to have a direct relationship to the prosperity, reliability and stability of the American flag merchant marine, to the expanding missions of the United States Navy, to requirements for oil and gas tankers to transport energy supplies from Alaska and elsewhere, and to needs for specialized vessels and floating equipment (drilling rigs, barges, mining ships, research vessels, and so on).

Shipyards management objectives, financing and contract conditions, production planning, steel throughput, material and component availabilities, existing workload, and other factors, will continue to govern decisions of individual shipbuilders to participate in these kinds of markets and to undertake additional contracts. Nevertheless, American shipyards remain firm in the conviction that capacity will expand in direct proportion to demands for new ships and that the 1973 impetus will carry the industry on to greater accomplishments in the coming year.

N.Y. SNAME, NYPE, IME And ASNE Joint Meeting Hears Paper On Silencing Marine Gas Turbines



Shown at the joint meeting, left to right: (seated) **Robert G. Mende**, national secretary, SNAME; **Robert E. Yohe**, secretary, Institute of Marine Engineers/Eastern USA Branch; **Morton I. Schiff**, vice president, Industrial Acoustics Company, Inc., speaker; **John C. Fox Jr.**, chairman, board of directors, Exxon International, Tanker Department; **Phillip Eisenberg**, national president of SNAME; (standing) **Donald B. Carpenter**, chairman of New York Metropolitan Section; **Edward M. English**, Atlantic Repair Co., chairman, program committee; **Theodore G. Lindsay**, C.R. Cushing & Co., sponsor; **John Antonetz**, Texaco Inc., chairman, papers and technical committee; **Thomas Jones Jr.**, American Export Lines, chaplain, and Lt. Comdr. **George Ireland**, USCG, chairman of New York Metropolitan Section.

The New York Metropolitan Section of The Society of Naval Architects and Marine Engineers held a joint meeting with The Society of Marine Port Engineers, the Institute of Marine Engineers, and the American Society of Naval Engineers on December 12, 1973, at the Downtown Athletic Club in New York City. The Society of Marine Port Engineers was the sponsoring society for the meeting.

After a social hour and dinner, the technical session was held at which a paper was presented entitled "Case Histories of the Silencing of Marine Gas Turbines," by **Morton I. Schiff**, vice president, Industrial Acoustics Company, Inc.

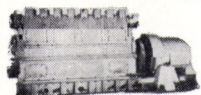
The author states that while techniques for silencing gas tur-

bines have been applied with great success to numerous land systems, only limited experience has been gained aboard ship. The silencing of shipboard gas turbines is made more complex due to the unique problems imposed by the effects of a sea/air environment, as well as the necessity for minimization of dead load and limitations on available space.

Experiences in silencing the main propulsion system aboard the Admiral Wm. M. Callaghan, Military Sea Transport Service roll-on/roll-off cargo ship and the U.S. Coast Guard icebreaker Polar Star, as well as the auxiliary power units aboard the Royal Canadian DDH-280 destroyers are discussed in the paper.

DIESEL GENERATOR SETS

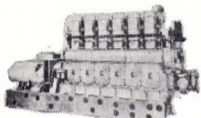
1



350 KW DIESEL GENERATOR SET

350 KW—120/240 volts DC—600 RPM—compound wound G.E. generator with switchgear. ENGINE: Ingersoll-Rand—heavy-duty type S—505 HP—10½x12—reconditioned to ABS.

2



250 KW DIESEL GENERATOR SET

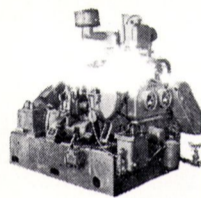
ENGINE: Enterprise 12 x 15 DSG-6—6 cyl.—450 RPM crank No. 50J. GENERATOR: Westinghouse 250 KW—120/240 DC—1040 amps—450 RPM. Typical serial No. 35-10P-913. Complete with switch gear.

3

EMERGENCY GENERATOR SUPERIOR 75KW 120/240 VOLT D.C. DIESEL GENERATOR SET

With switchgear. ENGINE: Radiator cooled Superior GBD-8—6 cylinder—1200 RPM GENERATOR: Electric Machinery Co.—120/240 volts DC—316 amps—1200 RPM—stab. shunt.

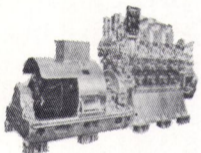
4



UNUSED 10 KW SUPERIOR DIESEL GENERATOR SET

GENERATOR: Delco 10 KW—120 VDC—83.3 amps—1200 RPM. ENGINE: Superior diesel—2 cyl.—4½x5¼—15 HP—heat exchanger cooled.

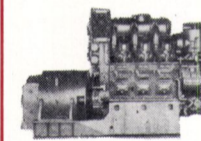
5



500 KW—120/240 VOLT DC DIESEL GENERATOR SET EQUAL TO NEW

GENERATOR: Allis Chalmers—Compound wound. Has Class "A" insulation. Output 500 KW—120/240 volts DC—2080 amperes—720 RPM—drip-proof—self-cooling. Ambient 50°C—temperature rise 40°C. ENGINE: Model GM 8-278—2-cycle—Vee type—8½"x10½"—air starting—720 RPM. Complete with switchgear. Condition very good. Still aboard naval vessel. Has Ross shell & tube type lube oil & raw coolers—temp. control valve—shock mounts.

6

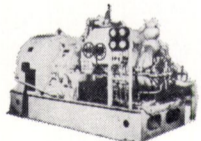


300 KW DIESEL GENERATOR SET

ENGINE: G.M. 6-278—6-cylinder—2 cycle—8¾"x10½"—750 RPM—with oil and water Ross Shell and Tube Heat Exchangers, instrument panel, pyrometer, etc. Vibro Isolators. GENERATOR: G.E. 300 KW—120/240 volts DC—1250 amps—shunt wound—continuous overload rating 375 KW—2 hours—55° Weight of unit approximately 26,000 pounds. Complete with shock mounts. Unit 13' 2" long, 64" wide, 8' high.

TURBO GENERATOR SETS

7



400 KW WESTINGHOUSE TURBO GEN SETS FOR BETH. SPARROWS PT. HULLS 400 TO 4500; QUINCY HULLS 1600

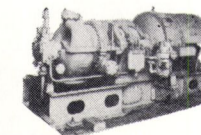
400 KW (500 KVA)—80% PF—1200 RPM—450/3/60. TURBINE: 585 lbs—840°TT—28½" vacuum—9018 RPM—serial 10A4462-3 & 10A4462-4. GEAR: 9018/1200 RPM. A.C. GENERATOR: 500 KVA—400 KW—450 volts—641 amps—80%PF—3 phase 60 cycle—1200 RPM—CR 40°—excitation amps 41—excitation voltage 120. Instruction book 5442. Switchgear available.

8

UNUSED 300 KW—240 VOLT DC WESTINGHOUSE LOW-PRESSURE TURBO-GENERATOR SET

GENERATOR: 300 KW—240 VDC—1250 amps—1200 RPM. GEAR: 5286/1200—frame 6x15—serial 10A-2612-4. TURBINE: Frame C-325—225 PSI—397° TF—5286 RPM—Serial 10-A-2611-4. Wt. 16,700 lbs.—complete in original factory crate.

9



LOW-PRESSURE UNUSED 300 KW G.E. 120/240 VOLT DC TURBO-GENERATOR SET

GENERATOR: 300 KW—120/240 VDC—1250 amps—1200 RPM. REDUCTION GEAR: 8.344:1—10012/1200 RPM—type S-182. TURBINE: DOR418N—449 H.P.—10012 RPM—working pressure 180/220 PSIG.

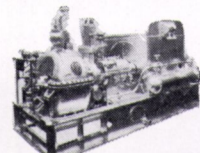
10



WESTINGHOUSE 440/3/60 200 KW UNIT

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

11

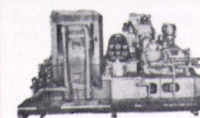


1250 KW G.E. 10-STAGE TURBO GENERATOR SET

TURBINE: 525—615 PSI—850°TT—7938 RPM—10-stage—type FSN. GEAR: Single helix—7938/3600. GENERATOR: 1250 KW—450/3/60/3600—80 PF—type ATB with surface air cooler. Overload 25%—2 hours—1563 KW.

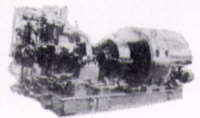
6 EQUAL-TO-NEW LATE TYPE 500 KW SHIPS SERVICE TURBO GENERATORS

12



1962—DeLaval. Very little use. Completely preserved with rotors and diaphragms crated separately. TURBINE: DeLaval—585 PSI—840°TT—6-stage—6391 RPM—class CD—Also suitable 440 lbs.—740°TT—25" vac. GEAR: 6391/1200 RPM. GENERATOR: Allis-Chalmers—450/3/60. Totally enclosed, with static exciter and voltage regulator system. Weight 17,665 lbs. Complete with latest dead front switch gear. Also available are the condensers, circulating and condenser pumps. All very up-to-date, compact construction. Turbines will easily handle 600 KW if up-grading is desired.

13



AP2 VICTORY WORTHINGTON-MOORE CROCKER-WHEELER 300 KW UNIT

TURBINE: 440 PSI—740°TT—28½" vacuum—type S4—5-stage—6097 RPM—serial 7547 & 7548. GEAR: 6097/1200. GENERATOR: 300 KW—120/240 volts DC—1250 amps—compound wound—973643—999759. Armature flange 8½", B.C. 7"—12 holes. ALSO NEW ARMATURES IN STOCK & 300 KW SHUNT ARMATURES.

14

UNUSED C-4 CROCKER-WHEELER 500 KW GENERATOR ENDS ONLY 120/240 VOLTS D.C.—1200 R.P.M.

FORMERLY USED WITH WORTHINGTON-MOORE TURBINES & GEARS

Upgraded by U.S. Navy—rewound in glass. Generator Frame and Armature—Marine 500 KW type 3-1200—dripproof enclosure—base mount. Modified from Crocker-Wheeler generator frame 152HD—240/120 volts DC—2083/521 amps—1200 RPM. Ambient temperatures 50°C. APPLICATION: For C-4-SA1; C4-SA-3; T-AP-134 vessels, using Worthington-Moore Turbine—Form S-6 and generator Form 14 x 10. No pedestal bearing.

15

WESTINGHOUSE 400 KW TURBO-GEN 835 LBS—840°TT

Newport News Hulls 480—541 Esso ships. TURBINE: Westinghouse 835 lbs/840°TT—9018 RPM—6-stage—instruction book 1430-C1—serial 5A-7090-7 & 8. GEAR: 9018/1200 RPM. GENERATOR: Westinghouse 400 KW—440/3/60/1200 RPM—rewound field—instruction book 5442. EXCITER: 5.5 KW.

16

TWO 538 KW WESTINGHOUSE T-2 AUX. GENERATORS (COMPLETE)

TURBINE: 538 KW @ 5010 RPM—438 PSIG—750°TT—28½" 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.

17

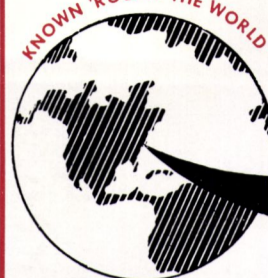
TURBINES & ROTORS

MAIN PROPULSION

BETH. CLASS—13,600 H.P.

Sparrows Point & Quincy 1600 hulls. H.P. turbine casing only. Excellent blading & labyrinth packing.

KNOWN 'ROUND THE WORLD



THE BOSTON

313 E. BALTIMORE

Main Office: (301) 453-1111

H.P. & L.P. COUPLINGS

18

1 Set—for Beth Class 13,600 HP 4400 hulls and Quincy 1600 hulls.

G.E. 6690 HP @ 7062 RPM HIGH PRESSURE 8-STAGE TURBINE

19

835 lbs—840°TT—#83341—originally built for Esso Christobol—Newport News.

T-2 TURBINES & ROTORS

20

COMPLETE WESTINGHOUSE T-2 MAIN TURBINE—UNSHROUDED 6600 HP—435 PSI—750°F 28" VACUUM—3720 RPM

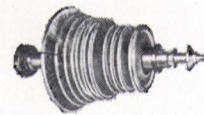
Instruction book IB-8345—type D—serial No. 5A-2124-6—unshrouded. Unit complete with all packing, stationary blading, linkage, governors, diaphragms, nozzles, etc. WILL SELL ROTOR SEPARATELY OR COMPLETE TURBINE CASING & ROTOR. Always well maintained by major oil company.

21

2 COMPLETE T-2 G.E. TURBINES

#61818 and #61834—large Lynn—all stages magnafluxed. ROTOR WILL INTERCHANGE WITH ELLIOTT MAIN TURBINE Will Sell Rotors Separately

22



T2-SE-A1 MAIN PROPULSION ROTOR—G.E.

Large Schenectady—serial 77418—reconditioned Bethlehem Steel 1970—all stages magnafluxed.

23

T-2 TANKER UNUS—4 UNITS AVAILABLE AUX. G.E. TURBO GEN. ROTORS



DORV—325M—5645 RPM—for 525 KW G.E.

VICTORY SHIP TURBINES & ROTORS

24

8500 H.P. 8-STAGE TURBINES FOR LARGE VICTORY SHIPS L.P. — 3509 RPM H.P. — 6159 RPM

LP Serial #77943—HP Serial #77942—Interchanges Ingalls C-3—Class 442 & Sun C-4 vessels—U.S. Navy Victory "Liberty".

LP Serial #72272—HP Serial #72271—Interchanges Ingalls C-3—10 boxes of spares.

LP Serial #62042—HP Serial #62043—GEI 16263—Ridgeway Victory.

WRITE OR PHONE FOR DETAILED INFORMATION AND PRICES

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DRE ST. • BALTIMORE, MD. 21202

539-1900 Marine Dept.: (301) 355-5050

25 VICTORY SHIP AP2 H.P. & L.P. TURBINES NEW — UNUSED — 6000 H.P. SETS

G.E.—H.P. & L.P.—with throttle valve
Westinghouse—L.P.—with throttle valve
Allis-Chalmers—H.P. & L.P.—with throttle valve
6000 H.P. G.E. — NORTH CAROLINA C-2
H.P.—8-stage—serial 78040
L.P.—7-stage—serial 78043
G.E.I. 16262

26 6000 H.P. G.E. — NORTH CAROLINA C-2

19 STAGE
WESTINGHOUSE
H.P. ROTOR FOR
AP2 VICTORY
Reconditioned — balanced —
with ABS. Serial 4A-2079 —
type B — 19 stage reaction
blades. Excellent — just out
of shop. 13" Flange diameter
with 14 bolts.

27 28 G.E. 8500 H.P. REDUCTION GEAR FOR LARGE AP3 VICTORY & C3

MD-48A—8500 HP—6159/
3509/763/85 RPM.

29 ALSO 6000 H.P. VICTORY AP2 REDUCTION GEAR

Westinghouse 4A-1640.

PUMPS

30 CARGO STRIPPING PUMPS

BRONZE T2 TANKER STRIPPING PUMPS

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

31 WORTHINGTON 16"x14"x18" VERTICAL DUPLEX STRIPPING PUMP

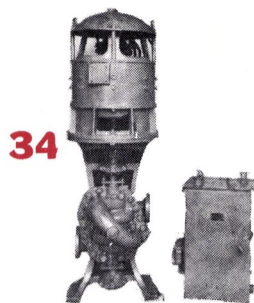
1400 GPM @ 110 PSI—
suction lift 11.5 ft.—
steam back pressure 15
lbs. Suction 14"—dis-
charge 10"—steam 2 1/2"
—exhaust 4". Overall
width 6'8"—overall height
9'1 1/2"—depth 3'9 1/2"
wt. approx. 10,000 lbs.

32 UNUSED DELAVAL IMO ROTARY PUMP

175 GPM—35 PSIG—10 HP
—120 volts DC—1750 RPM
—serial E-8619—frame 324
VY—76 amps—mfg. by Elec-
tro Dynamics. With magnetic
control. Excellent condition.

33 NEW TURBINE DRIVEN FIRE AND GENERAL SERVICE PUMP

Allis-Chalmers 6 x 5 pump,
type SKH—1200 GPM—125
PSI—3500 RPM. Coppoos tur-
bine type TF-22-21 1/2 — 3500
RPM. 273#—50° superheat.

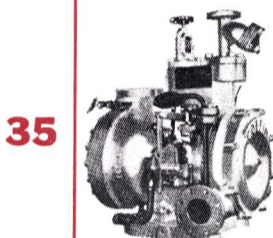


DAYTON-DAWD
2-STAGE
FIRE
AND
BILGE
PUMP

Vertical 2-stage type TDV-10—20 HP—200 GPM @
184"—3" discharge—4" suction—1775 RPM—Mau-
mee Sun. Motor: 120 volts DC—20 HP—1775 RPM.

BOILER FEED PUMPS

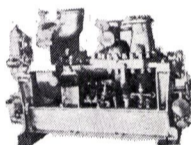
*Suitable for Navy and
Merchant Vessels*



COFFIN
TYPE
CG-4A
FEED PUMP

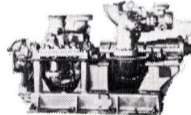
2 Available—very little use. Maximum 325
GPM—1760' head or 750 lbs Steam inlet 575
lbs. — 540° TT — exhaust 20 lbs. — speed 760
RPM.

36 UNUSED DD445 CLASS WORTHINGTON TURBINE-DRIVEN FEED PUMP



Worthington — draw-
ing SL5043—425 GPM
—1675' total dyna-
mic head—5000 RPM
3-stage—double suc-
tion. Flanged 4 1/2"
inlet—4" outlet. Pow-
ered by Sturtevant steam turbine—282 HP—
590 PSI. For Fletcher DD-445 Class Destroyers.

37 BUFFALO SIZE 4 FEED PUMPS



Terry Turbine—BM—273 HP—550 RPM—ex-
haust 15 lbs—590 PSI—superheat 0°—425
GPM Buffalo Pump—discharge pressure 750
lbs—5"x4"—built for USN DD destroyers. DD
445 Class Fletcher.

38 WORTHINGTON 3-STAGE UNUSED BOILER FEED PUMP



PUMP: 5" Worthington—460 GPM @ 750 PSI
—5000 RPM—305 HP—steam flow 8052/hr—
26.4 lbs HP hr. TURBINE: Sturtevant C-22—
type 21—575# dry saturated steam—15 lb.
back pressure—259°F water temperature—15
lbs/inch suction pressure.

39 INGERSOLL-RAND BRONZE CARGO PUMP

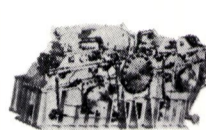
10GT—4500 GPM at 125 lbs.—2-stage—size 14x12.

C-25 CARGO PUMP TURBINE SPARE GEARS

40 One set of gears available for Westinghouse C-25
Cargo Pump Turbine.

MISCELLANEOUS

DOUBLE REDUCTION GEARS for Diesel Drive



3200 HP
DOUBLE INPUT
SINGLE OUTPUT
DIESEL
REDUCTION GEARS
20 DEGREE OFFSET

Farrell-Birmingham — 3200 SHP. REDUCTION
GEAR: 1.81:1—handles two 1600 HP diesels
@ 720 RPM. With hydraulic couplings & Fa-
wick clutch. Port and starboard. Gear output
400 RPM. Suitable for dredge pumps. Non-
reversing. OK for 38D8-1/8 engine.

2:67:1 RATIO DOUBLE IN-LINE GEARS

Farrell-Birmingham 3200 HP non-reversing —
from seaplane tenders. Ratio 1.867:1. Complete
with hydraulic couplings, etc. Will handle two
38D8-1/8 FM diesels. Has Fawick clutch.

2100 HP DOUBLE INPUT SINGLE OUTPUT GEARS—3:435:1 RATIO

Farrell-Birmingham — heavy duty — originally
built for 2 heavy-duty direct-reversing engines
—300 RPM—1050 HP each. Ratio 3.435:1.

SINGLE ENGINE REDUCTION GEAR

Farrell-Birmingham — non-reversing—1600 HP
at 2.4909:1. With hydraulic couplings.

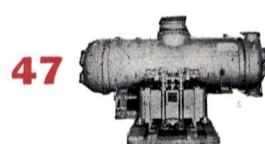
ANCHOR WINDLASS

Hyde 2-11/16"—12x14 — 100 PSI — steam — 54,100
lbs.

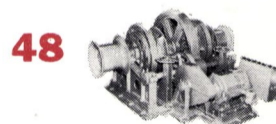


SHARPLES
LUBE & DIESEL
OIL PURIFIERS

Type M-34-W22-UM—15,000
RPM. BOWL MOTOR: 2 HP
—230 volts DC—8.5 amps—
3450 RPM—250 to 300 GPH.
Originally built for C-1-A
diesel vessels.



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

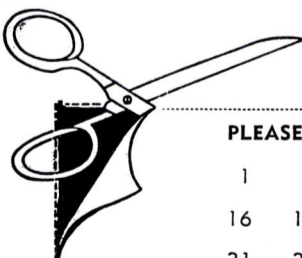


UNUSED 70 HP
McKIERNAN-TERRY
WINDLASSES

Chain and two 10640 lb anchor & 30 fathoms chain
@ 30 FPM. 70 HP—230 volts—shunt DC motors—233
amps—550 RPM—55°C rise. Wildcat centers 47 1/2".
Base 9'5" wide x 11' long. Weight 36,000 lbs.

INQUIRE FOR ALL OTHER ITEMS

Forced draft blowers, reduction gear parts, bilge and
ballast pumps, main circulators, general service
pumps, F.O. transfer pumps, lube oil service, standby
feed pumps, condensate pumps, aux. circulating
pumps, feed water heaters, wash water pumps, etc.



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46	47	48												

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American Ship Receives Orders Totaling \$31 Million For Towboats And Barges

The American Ship Building Company, Cleveland, Ohio, has announced that since the first of December it has received orders for hopper barges and towboats totaling \$31 million. **Jacob O. Kamm**, president of American Ship, who made the announcement, related the influx of orders to the current energy crisis.

"The order for coal-carrying hopper barges and our November contracts for \$95 million in new ship construction are all related to the country's energy problem," Mr. **Kamm** said.

"The barges will haul coal on the rivers, and the ships will haul it on the Great Lakes as suppliers gear up to move increasing quantities of coal to energy generating outlets."

These latest orders cover the building of 210 hopper barges and two towboats to push them. They will be built by AmShip's Nashville Bridge Division in the present Nashville plant and in the company's new Ashland City, Tenn., plant when it is completed early this summer.

William H. Barton Jr., president of the Nashville Bridge Division, indicated the barges will be 195 feet long and have a beam of 35 feet. Capacity of each will be 1,400 tons of coal.

All will eventually be used in tows on the Ohio and Mississippi Rivers between mines and electric power plants.

The two 7,500-horsepower towboats included in the orders are of triple-screw design, and are each capable of pushing 30 fully loaded barges. Both will be constructed in the Nashville plant.

Financing Approved For Supply Vessels For Germany Built By Zigler Shipyards

To help finance a \$3,278,000 sale of two off-shore supply vessels to Germany, the Export-Import Bank has authorized a direct loan of \$1,311,200 to finance 40 percent of the total U.S. costs.

The European-American Banking Corp. will provide a loan of \$1,311,200 from non-U.S. funds to cover another 40 percent of the total costs. The borrower, Deutsche Dampfschiffahrts-Gesellschaft "Hansa" of Germany, will make cash payment of the balance of 20 percent of the U.S. costs, or \$655,600.

Zigler Shipyards, Inc. of Jennings, La., is the U.S. supplier of the two vessels, which are scheduled for delivery in March and May 1975.

The loans are to be repaid in 16 semi-annual installments beginning November 15, 1975, with Eximbank's direct loan of \$1,311,200 to be repaid out of the last eight installments with interest at an annual rate of 6 percent on outstanding balances. Repayment of Eximbank's loan is to be guaranteed by the European-American Banking Corp.

'Package' Order Received By Maxim Products For Three LNG Carriers

Maxim Products Group of Riley-Beard, Inc. gets a "package" order which includes six marine heat exchangers, a deaerator and seawater desalinator for each of three 125,000-cubic-meter LNG ships. **C.D. Rose**, division vice president, announced the new award from Newport News Shipbuilding and Dry Dock Company. The 20,000-gallon-per-day desalinators will be of the new Maxim flash design.

The three technologically advanced LNG tankers are those recently contracted by El Paso Natural Gas Company to Newport News. Fabrication will be at the Riley-Beard Shreveport, La., plant, with the first shipset scheduled for shipment in the last half of 1974.

This order and the options for additional shipsets represent one of the largest Maxim Evaporator contracts in recent years for commercial ship application. Maxim supplies a wide range of heat exchange and distillation equipment for both military vessels, commercial ships, and offshore drilling rigs and platforms.

COMET MARINE SPARE PARTS and EQUIPMENT

For **FAST** delivery

OUR WAREHOUSE CONTAINS A LARGE INVENTORY
OF DECK AND ENGINE SUPPLIES

... READY FOR IMMEDIATE SHIPMENT

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BURNER REPLACEMENT PARTS

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Babcock & Wilcox

GLASSES, GAUGE

INDICATORS, SALINITY

PUMPS & REPLACEMENT PARTS

Allis-Chalmers Warren
Dean Bros. Worthington
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SAFETY EQUIPMENT

Stewart R. Browne

TURBINES & REPLACEMENT PARTS

24 HOUR SERVICE

**Complete machine shop for specialty
work and pump repairs**

Write for free brochure showing our complete list of products and services.

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First Semisubmersible Drilling Rig Built On U.S. East Coast Christened At Bethlehem Steel's Baltimore, Md. Shipyard



Gathered on the christening stand just prior to the christening of the Ocean Scout, from left to right: Father **Martin A. Schwalenberg**; **Mrs. Alden J. Laborde**, wife of the president of Ocean Drilling & Exploration Company; **Mrs. William H. Collins**, wife of the general manager of Bethlehem's Sparrows Point shipyard; **David H. Klinges**, general manager of sales, shipbuilding dept., Bethlehem Steel Corp.; **Charles Murphy**, chairman of the board, ODECO; **William A. Hover**, group vice president of the Pennzoil Company; **Mrs. John W. Colbert**, wife of the general manager of the Sparrows Point steel plant; **Mrs. William A. Hover**, sponsor; **Alden J. Laborde**; and **Joseph D. Ingham**, general manager of Bethlehem's Baltimore yards.

The Ocean Scout, the first semisubmersible oil well drilling rig to be constructed on the East Coast of the U.S., was christened on December 10, 1973, at Bethlehem Steel's Fort McHenry shipyard, Baltimore, Md. It was delivered to Ocean Drilling & Exploration Company of New Orleans, La. Sponsor of the rig was **Mrs. William A. Hover**, wife of the group vice president of the Pennzoil Company, which will operate the rig in the Gulf of Mexico.

Designed to be a mobile offshore drilling unit suitable for unrestricted ocean service, the Ocean Scout, with a lower hull length of 202 feet and width of 182 feet, carries a drilling derrick on its upper deck and was designed by Breit Engineering, Inc. of New Orleans.

The lower hull consists of two watertight structures 202 feet long, 32 feet wide and 28 feet deep, joined so that they are 150 feet apart on centers. Main members of the structure rising from the two sections of the lower hull are four 32-foot-diameter corner stability columns and four 10-foot-diameter interior columns all interconnected by truss work.

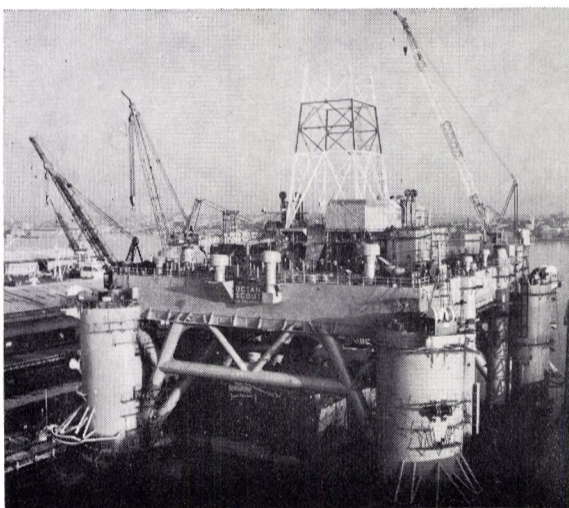
Atop them is the upper deck, which is 170 feet long, 150 feet in width, and 14 feet deep. The upper deck is watertight and contains the machinery spaces. Overall, the rig will measure 108 feet from the bottom of the lower hull base line to the upper deck.

The operational draft will be 48 feet in depths of water from 80 feet to 600 feet. Towing will be done with wire towing hawsers.

Provisions are made for carrying drilling water, fuel oil, liquid mud, cement and other drilling supplies. The living quarters, including staterooms, galley, mess, lounge, hospital, offices and passageways, will be air-conditioned. Accommodations are designed for a crew of 59.

The most modern fire-fighting equipment, as well as all necessary navigation aids are provided.

About 7,000 tons of steel were used in constructing the rig which, with its drilling derrick installed to full height, will tower 231 feet above the water when under tow. Since clearance under the Chesapeake Bay Bridge



The Ocean Scout nears completion at Bethlehem Steel's Fort McHenry shipyard in Baltimore, Md.

is only 186.5 feet, the upper portion of the derrick will be erected at an anchorage just below the Bay Bridge.

The Ocean Scout will be moored by eight 30,000-pound anchors, each with 2,500 feet of 2½-inch-diameter stud link anchor chain.

The unit is capable of drilling a hole in excess of 20,000 feet. Major items of drilling equipment include a 147-foot derrick, a 3,000-hp drawworks and two 1,300-hp mud pumps. The main power plant for both drilling and vessel service includes diesel engines with over 5,100-hp combined capability.

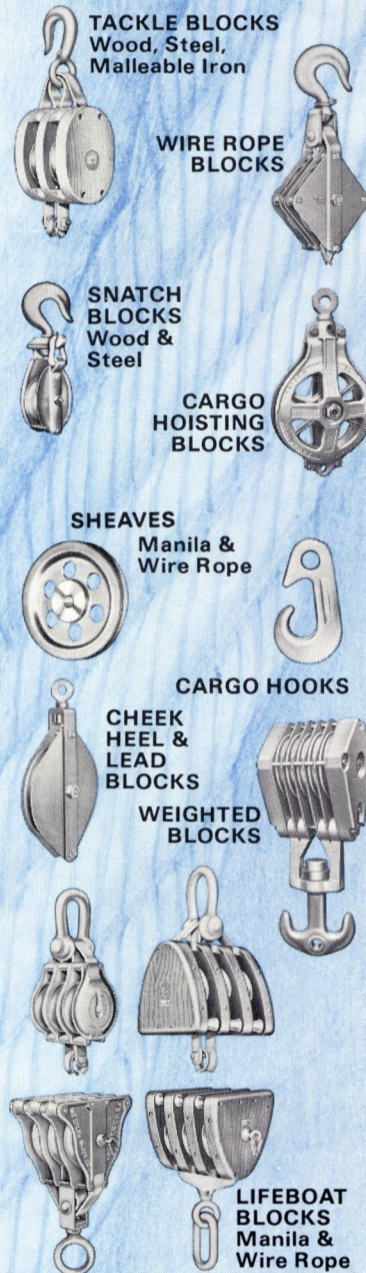
The sub-sea system includes a 20-inch blowout preventer stack with a 24-inch integral marine riser and a 13½-inch 5,000-psi blowout preventer stack with a 16-inch integral marine riser. The marine riser is equipped with a hydraulic tensioning system. An underwater TV system is utilized to monitor and assist with sub-sea operations.

Two revolving cranes are situated aboard the drilling rig to provide loading and unloading capability.

Following the christening, **Joseph D. Ingham**, general manager of the Bethlehem's Baltimore ship repair and conversion yards, was the host at a luncheon in honor of the sponsor.

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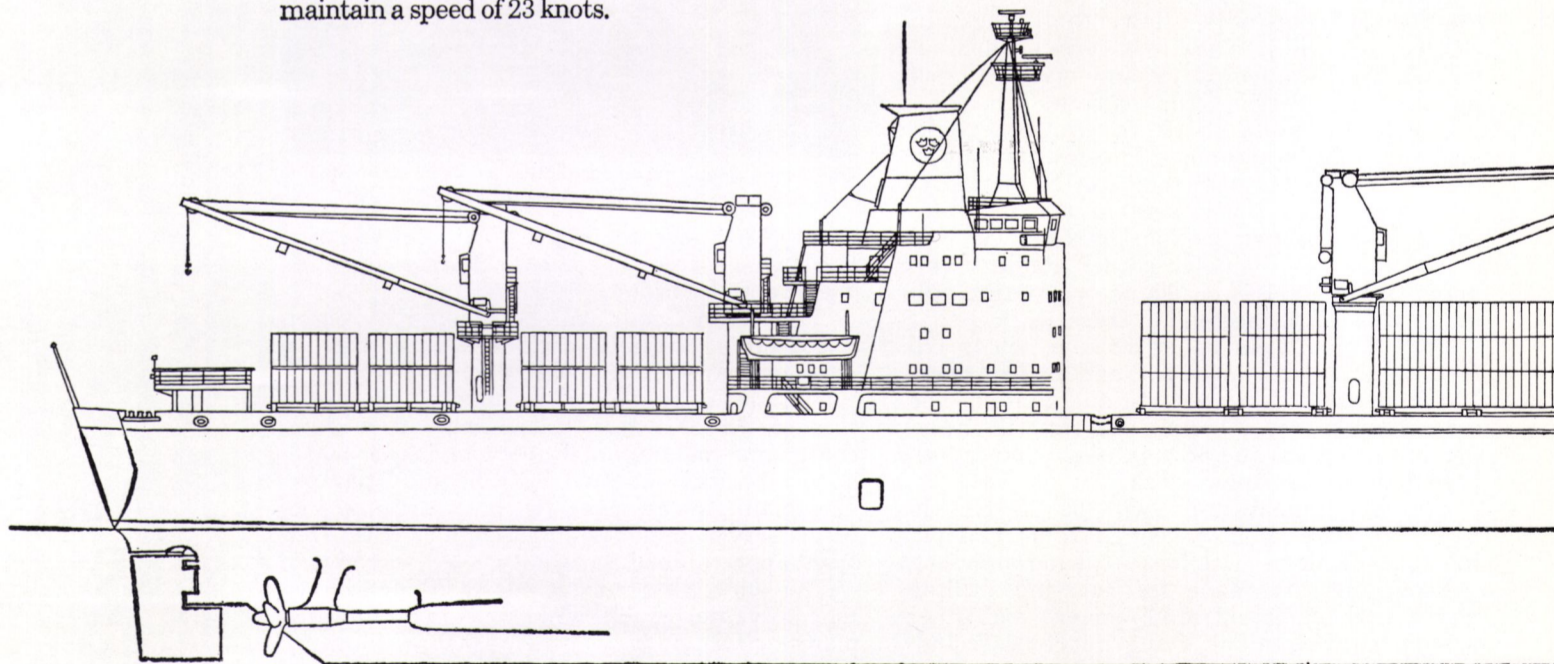
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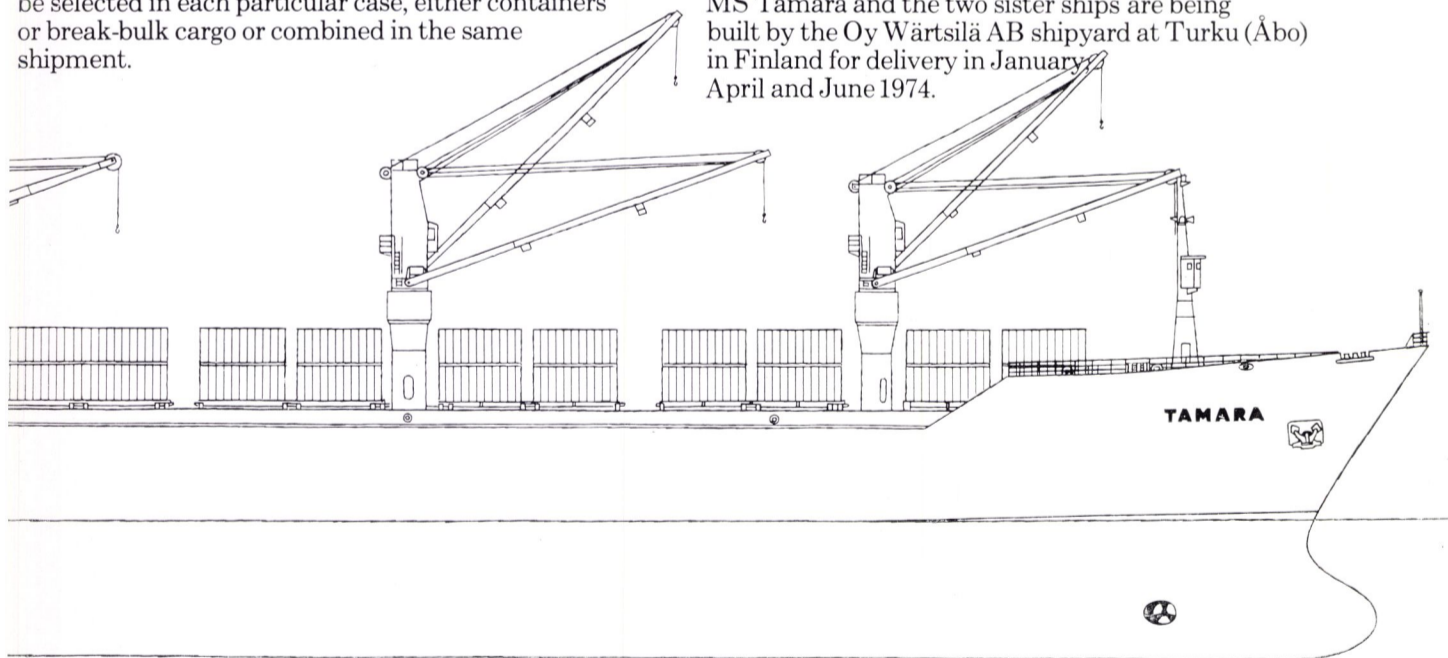
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MS Tamara and the two sister ships are being built by the Oy Wärtsilä AB shipyard at Turku (Åbo) in Finland for delivery in January, April and June 1974.



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services on these routes with the new vessels.

Colt Industries Names J.F. Morgan President Power Systems Div.



John F. Morgan

Colt Industries has announced the appointment of **John F. Morgan** as president of the company's Power Systems Division in Beloit, Wis. The announcement was made by **Philip Wallach**, Colt group vice president.

Mr. **Morgan** has been vice president-finance for the division since January 1969. In that position, he has been responsible for all divisional finance and accounting.

He went to Beloit from Colt's Crucible Steel Division in Pittsburgh, Pa., where he had been since 1955. He was appointed assistant corporate controller for Crucible in 1968, and prior to that was manager of corporate accounting. He is a certified public accountant and was previously associated with Haskins and Sells, certified public accountants, also in Pittsburgh, and is a graduate of Robert Morris College.

In making the announcement, Mr. **Wallach** emphasized the 19 years of experience with Colt Industries that Mr. **Morgan** brings to his new position. "His lengthy financial management experience and his long personal experience with the Power Systems Division gives him the necessary background to provide the division with effective leadership," Mr. **Wallach** said.

J.J. Henry Company Moorestown/Norfolk Announces Promotions



David F. McMullen

A.C. Brown, vice president of J.J. Henry Company Moorestown/Norfolk Operations, has announced several management promotions.

David F. McMullen has been appointed director of marketing and contracts for commercial works. Previously, he was contracts manager and in that capacity has dealt with major shipyards and industrial throughout the United States.

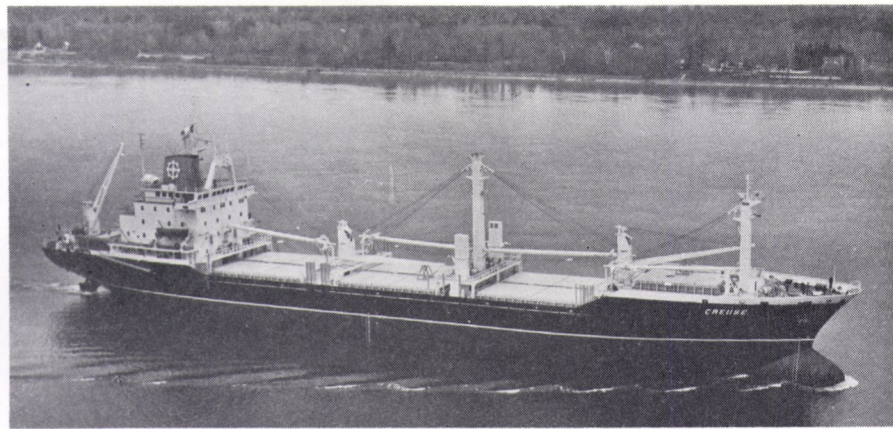
Mr. **McMullen** will be responsible for all sales efforts and marketing development with commercial clients, including the handling of all contractual matters and administration for the Moorestown Division on commercial contracts.

Richard Hopkins, current director of marketing for Government works and responsible for the Norfolk offices operations, will be assisted by **Richard Watson**, who has been appointed manager of Government contracting.

Mr. **Watson** was previously contracts representative dealing with Government activities. In addition to his contract and sales experience, he participated in a number of submarine design projects.

Mr. **McMullen** and Mr. **Watson** are active members of the American Society of Naval Engineers, the Society of Naval Architects and Marine Engineers and AOA.

Second French Cargo Vessel Delivered At Sorel



The 15,600-ton *Creuse* built by Marine Industries Limited of Sorel is designed to transport containers, grain and ore in bulk and is specially reinforced to carry logs.

Marine Industries Limited shipyards at Sorel, Quebec, was recently the scene of the christening and delivery of the 15,600-ton cargo vessel *Creuse*, second of five multipurpose containerships to be built for the Societe Navale Chargeurs Delmas-Vieljeux, one of the largest shipping companies in France.

The *Creuse* is an identical copy of her sister ship, the *Cotes du Nord*, completed by Marine Industries in August 1973. The ships are intended for two-way trade between Northern Europe and the countries of Africa.

The traditional bottle of champagne was broken against the new sophisticated vessel by **Mme. Jean Velitchkovitch**, wife of the Secretaire General of the Marine Marchande.

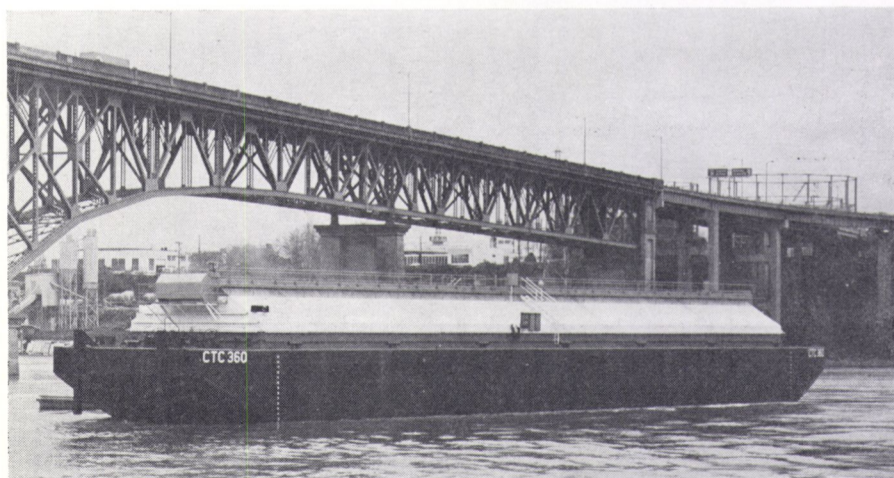
The *Creuse*, named after a geographical region of France, is designed to carry containers and is reinforced to transport logs, while being readily adaptable to handle grain and/or ore in bulk. Outward

bound, her main cargo will consist of European-built automobiles, construction materials, machinery and other commodities. On the return journey, she will bring back coffee, cocoa, logs, grain and other tropical products.

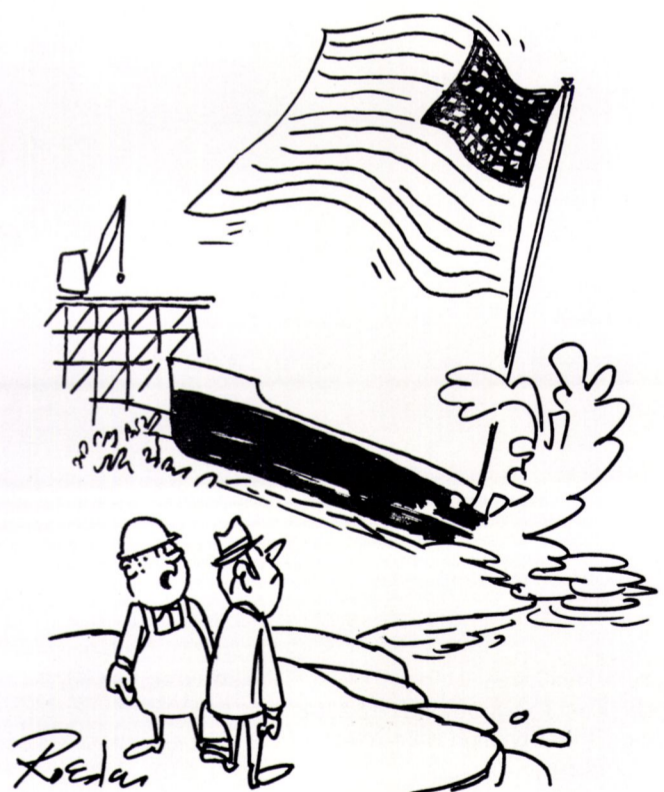
Marine Industries' order book includes, among others, contracts for two other similar vessels to be built for the Compagnie Maritime des Chargeurs Reunis.

This series of seven multipurpose vessels being built by Marine Industries Limited is the largest contract ever negotiated between a French buyer and a Canadian supplier. The transaction was made possible by the Federal Department of Industry, Trade and Commerce's Shipbuilding Temporary Assistance Programme, and by long-term credit made available by the Export Development Corporation.

The *Creuse* left Sorel after the ceremonies and was placed in service immediately.



143RD FROM ZIDELL: Two more self-unloading grain barges have been launched by Zidell Explorations, Inc. They bring to 143 the number of barges of all kinds built by Zidell at its Portland yard since 1961. Both of the new barges are 242 feet in length and intended for use on the Columbia-Snake River System. The Knappton CTC360 (shown above) is the fourth grain barge, each of 3,300-ton capacity, built by Zidell for Knappton Towboat Co., Portland, Ore. It is also the second built in the U.S., utilizing the French "Magoroll" hatch system, in which two motor-driven aluminum doors, 100 feet long, replace conventional hatch covers. The first U.S.-built barge incorporating the system was delivered to Knappton by Zidell last summer. The other new barge, ZB-1007, was delivered to Zidell, Inc., which in turn has leased it to Western Farmers Association, Seattle, Wash. It has a capacity of 3,000 tons.



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Norris Mong Joins Mathers Controls, Inc.



Norris Mong

Harold M. Mathers, president of Mathers Controls, Inc., a Seattle, Wash.-based marine propulsion control firm, has announced that **Norris Mong** will join the firm on February 1, 1974.

Mr. Mong brings 39 years of marine experience and expertise with him. For the past 16 years he has held the position of port engineer for Foss Launch & Tug Company. He leaves the Foss Company on early retirement to follow, full time, the marine control field in which he has been instrumental in new development for many years. Mr. Mong is a member of the Port Engineers, where he was named "Man of the Year" in 1971.

Mr. Mong's title at Mathers Controls, Inc. will be application engineer. He will be on call to his many marine friends and others throughout the world to help solve their marine control problems.

Leif Hoegh Orders LNG Carrier From Kawasaki

Kawasaki Heavy Industries, Ltd. received an order for a 130,000-cubic-meter type LNG carrier from Leif Hoegh & Co. A/S of Norway. The contract was concluded in Oslo, Norway, on December 3, 1973, between **Kiyoshi Yotsumoto**, president of Kawasaki, and **Alex Vedeler**, director of Leif Hoegh.

The vessel is the third LNG carrier ever to be built by Kawasaki, following two similar LNG carriers for which it signed a contract with Gotaas-Larsen Inc. of the U.S.A. in May 1973.

The vessel, as well as those for Gotaas-Larsen, will be fitted with the Moss tank system (through a technical tie-up with Moss Rosenberg Verft A/S). The system features five interdependent, spherical, aluminum-alloy tanks mounted on the hull to carry LNG at a temperature of -162°C .

Personnel Changes At Swan Hunter

Reginald Ibson relinquished his position as managing director of Swan Hunter Shipbuilders December 31, 1973. Dr. **Peter A. Milne**, technical director, became joint deputy managing director of the company and Dr. **Frederick Taylor**, development director, will advise on developments of other shipyards and dockyards within the group. **Norman Gilchrist**, industrial relations manager, was made a director.

Sydney Swan Retires From American Bureau

The retirement of **Sydney Swan**, vice president in charge of operations, was announced by **Robert T. Young**, chairman and president of the American Bureau of Shipping, effective December 31, 1973. His duties will be assumed by **William N. Johnston**, assistant to chairman.

Mr. Swan began his 36-year career with the international ship classification society as a member of the Philadelphia survey staff. He served as an ABS surveyor in Pascagoula, Miss., Yokohama, Japan, and New York, N.Y., before his appointment in 1952 as principal surveyor for the New York surveying staff. He was elected a vice president in 1963.

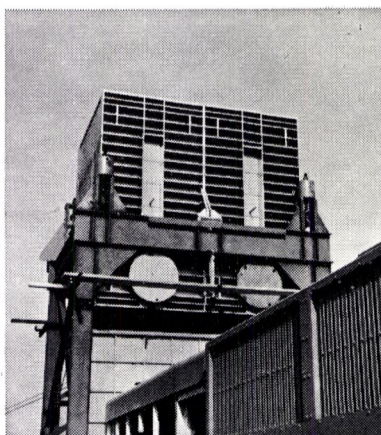
Mr. Swan is a graduate of the University of Michigan, where he received a bachelor of science degree in naval architecture and marine engineering. He is a member of The Society of Naval Architects and Marine Engineers, the American Welding Society, and the Section Committee of Gas Hazards of the National Fire Protection Association.



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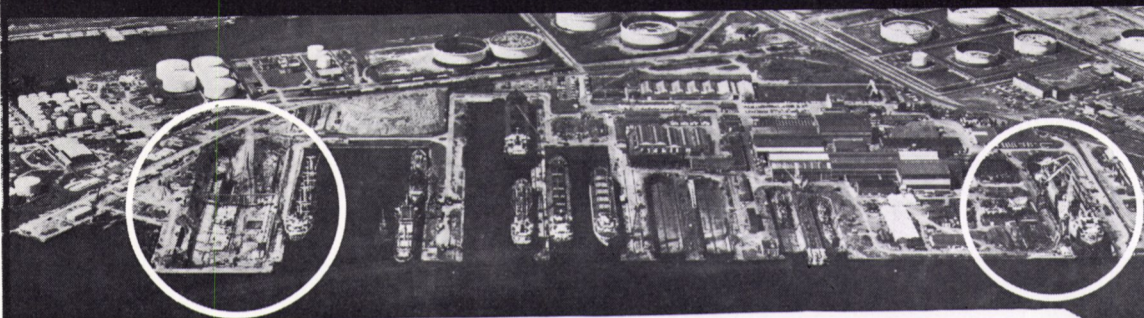
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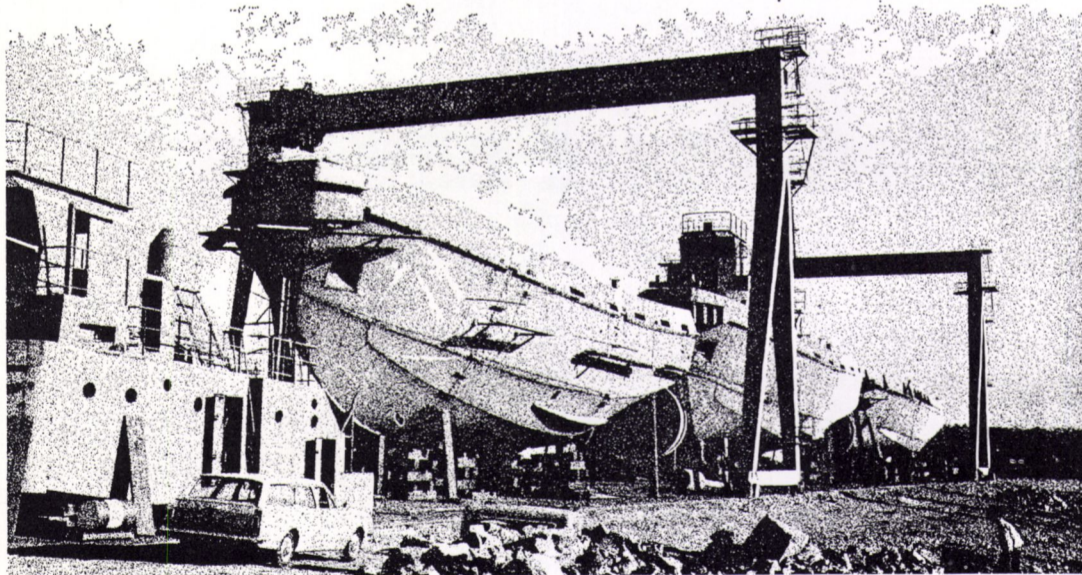
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Radcliff Materials Orders Its Third Steermaster Unit From The Waterways Company

Walter Todd, president, The Waterways Company, Pass Christian, Miss., has announced the signing of a contract with Radcliff Materials, Mobile, Ala., for that company's third Steermaster bow steering system. The vessel is under construction at Bayou Steel Corporation in Gulfport, Miss.

The new Radcliff Materials Steermaster is a Model 54, powered by a D346 Caterpillar diesel engine and housed in a vessel 45 feet by 35 feet by 12 feet. The bow steering system will operate with a three to four barge shell tow on the Alabama River, and should increase the tonnage handling capability of Radcliff Materials on that river.

The Steermaster bow steering system is a maneuvering assist device mounted in a lead barge at the head of tows on the inland waterways, and is designed to reduce appreciably underway time and river accidents through its capabilities of steering a tow at its front.

New Hatch Cover Crane For Bulk Carriers

Illustrated specifications literature describing their new hatch cover crane for bulk carrier cargo vessels has been developed by Marine Travelift, Inc. The new material includes large pictures showing both the entire crane and a close-up view of major components. Typical operating specifications are also listed.

Travelift's crane of this type was installed on American Steamship Company's self-unloading bulk carrier, the Charles E. Wilson. This single belt self-unloader is 680 feet long, with a 78-foot beam and a 45-foot depth. It has a 28,000-long-ton cargo capacity for handling stone, iron ore pellets and coal. The Travelift crane is used to handle the ship's 50-foot by 11-foot 6-inch hatch covers, weighing about 5 tons each.

Besides their new hatch cover crane, Marine Travelift also builds straddle-type mobile hoists for boat handling and transport in marina and boatyard operations. There are eight models in this line of hydraulic-powered boat hoists. They range for 10 through 50-ton capacity. Most models are open-end design for fast handling of flying bridge or sailing type vessels.

Copies of the new hatch cover crane literature are now available from Marine Travelift, Inc. at 49 East Yew Street, Sturgeon Bay, Wis. 54235.



More Navy Ship Repair Work For Private Shipyards

For the first time since 1965, the Defense Appropriations Act contains a provision allocating a specific percentage of Navy ship repair funds to private shipyards. The provision in the fiscal 1974 Act (H.R. 11575) calls for a 70/30 split of Navy ship repair, alteration and overhaul work between naval and private yards. Although this is a lesser percentage than that mandated by the 65/35 provision of the fiscal 1963, '64 and '65 Acts, it will actually mean more work for private repair yards, because excluded from this year's provision are the large conversion jobs (accomplished in three or four Eastern yards) that usually ate up a major portion of the funds provided under 65/35. Under the new 70/30 provision, private yards in fiscal 1974 will be allocated approximately \$360 million in Navy ship repair, alteration and overhaul work, more than twice the \$179 million received in 1973.

Passage of this legislation, which is of such great importance to the welfare of the private shipyard industry and hundreds of related industries and suppliers on the West Coast, climaxes a year-long effort on the part of Western Shipbuilding Association. During this time WSA officers, directors and many members communicated by letter, wire, telephone and other means with every member of the U.S. House of Representatives and Senate, stressing the great need for this legislation, its importance to the nation's economy and security. Many factual statements and documents were prepared and presented to Administration officials as well as members of the Congress.

Western Shipbuilding Association was joined in this concerted effort by the New England Ship Repair Yard Association, New York New Jersey Dry Dock Association, and Shipbuilders Council of America. The Industrial Union of Marine and Shipbuilding Workers of America (IUMSWA) and Pacific Coast Metal Trades District Council, both WSA member labor organizations, were also highly active and extremely helpful in the Congressional contact program.

Language of the 70/30 provision, which is included under Title 3 of the Defense Appropriations Act, calls for "no less than \$851,672,000" in Navy ship repair funds to be spent in naval shipyards and "no less than \$359,919,000" in private yards. The amount designated for private yards is approximately 30 percent of the total \$1.2 billion appropriated for Navy ship repair, alteration and overhaul work. This is the actual percentage of Navy ship repair funds that Navy spokesmen had earlier in the year told members of the House Appropriations Committee would be spent in private yards during fiscal 1974. Despite the promises, however, Congressmen with naval shipyards in their districts made strong efforts to have the provision deleted from the Act.

Representatives **Glenn R. Davis** (R.-Wis.) and **George H. Mahon** (D.-Texas) were in the forefront of the adherents of 70/30 legislation. At one point during floor discussion of an amendment that would have deleted it, Congressman **Mahon** questioned Navy credibility, when he said: "... at times, the military services have considerable resistance to the desire of Congress to have control over the purse strings. The question of credibility arises here. Navy witnesses appeared before the Committee—and it is printed in the hearings—they said in July and they said in September, 'We are going to give about 70 percent of overhauls, repairs and alterations to Navy shipyards, and we are going to give about 30 percent to the private yards.' They said it and

resaid it... therefore, why do we have this amendment, since the Navy is going to do it anyway? This sort of tests the credibility of the Navy, I say, if we cannot depend upon the armed services to be square with us, it is time we were learning that they cannot be relied upon to give us the facts."

Congressman **Mahon**, commenting further during debate on the issue, said: "... what we have simply done here is to put the imprimatur of the Congress on the decision of the Navy as to the way it is going to divide the repair and alteration work to be done in fiscal year 1974. So, I am amazed that there would be so much interest in this by all the people from the naval shipyard areas, and there are eight of them. They do have a special interest and I do not blame them for being concerned, but we are all concerned about the maintenance of an adequate public yard program. We have these eight public yards and we want to keep them, and so we simply say in this amendment (70/30 provision), 'Navy, you go do what you told us you are going to do.' The committee proposes to hold the feet of the Navy to the fire."

In responding to critics of the 70/30 provision, the Texas Congressman went on: "I think the Navy end runs the Congress too much. I just want to say that I do not have any shipyards, public or private, in my inland area. However, I do have a sense of fairness and I do hope this amendment will be voted down with a resounding vote. This will convince the Navy that making end runs, by telling the committee and the Congress one thing, even putting it in black and white in the hearings, and then trying to get it changed will get them nowhere. I want to warn the Navy that this type of tactics has to stop and the committee will not put up with it."

The amendment to delete the 70/30 provision was defeated in the House by a vote of 203 to 170, a majority of only 33 votes. As noted above, passage of the measure was not without tremendous opposition from Congressmen with Navy shipyards in their districts. From the vote in the House, it is well evident that Representatives hailing from such districts on the Pacific Coast were highly successful in convincing fellow Congressmen from their own state delegations—people without Navy yards, in fact, many with private yards in their districts—to vote against this measure that is so essential to the welfare of the private ship repair industry. Congressmen from Oregon, where there is no naval shipyard, were unanimous in support of the 70/30 provision, but in Washington only two out of seven votes—**Brock Adams** and **Joel Pritchard**—were cast in favor of the measure. In California, where two naval shipyards are located, the vote was overwhelmingly lopsided, with only six of 43 Congressmen—**William S. Mailliard**, **Paul N. McCloskey Jr.**, **Charles S. Gubser**, **George E. Brown Jr.**, **Charles H. Wilson**, and **Carlos J. Moorhead**—voting for 70/30.

In the issue, an important matter of Government competition with private industry, the heavy vote against private enterprise in the California and Washington Congressional delegations is disappointing, at the very least. It is evident that many WSA members either did not contact their Congressmen when requested to do so, or were unable to convince their representatives of the merits of more Navy ship repair work for private shipyards, the positive impact it will have on the sorely depressed industry and hundreds of related industries as well as the employment picture in this area.

Since this issue must be voted on each year, Western Shipbuilding Association members should be prepared to work toward changing this disappointing voting record of their elect-

ed delegates to the Congress. It is simply a matter of contacting these people and letting them know what the situation is in your own area and what this will do to aid this industry, the survival of which is essential to the economy and security of this nation.

Sun Ship Builds Big, Fast Trailership In Record Time



The trailership S/S Matsonia steams down the Delaware River for the open sea and service on the U.S. West Coast to Hawaii trade route.

Sun Shipbuilding and Dry Dock Co., Chester, Pa., recently delivered the S/S Matsonia, marking the completion of a nine-month trailership construction program that was the fastest in the shipyard's history. The keel for the Matsonia was laid on March 15, 1973, and the vessel turned over to its operators, Matson Navigation Company, on December 11, 1973. The trailership departed Chester, Pa., for Los Angeles, Calif., where it will join its Sun-built sister ship, S/S Lurline, in providing roll-on/roll-off cargo service between the West Coast and Hawaii.

The Matsonia is Sun Ship's basic trailership, but includes several customized features such as a bow thruster, liquid products tank for the transportation of molasses, and special auto decks. The Matsonia is the fifth trailership of the Ponce de Leon class built by Sun Ship. Although the construction of the Matsonia is a shipyard record, all of Sun Ship's trailership construction programs have been marked by rapid construction time. The construction of the S/S Lurline was accomplished in a little more than 10 months.

The delivery of the Matsonia is Sun Ship's fourth in the 1973 calendar year. Previous ship deliveries in 1973 have included the S/S Lurline, the deep ocean mining ship Hughes Glomar Explorer, and the 80,000-deadweight-ton tanker Notre Dame Victory.

Rockport Yacht Appoints Thomas N. Smith III VP —John P. Mitchell Jr. Retires

T. Noah Smith Jr., president of Rockport Yacht & Supply Co., Inc. (Rysco) has announced the retirement of **John P. Mitchell Jr.** as vice president and general manager of the Rockport, Texas yard. Mr. Mitchell will be succeeded by **Thomas N. Smith III**, who has been a director of the Rockport facility for the past eight years. **Tommy Smith**, as he is known to the trade, has taken an active interest in the design and production of boats since early youth, and is an officer of the parent company, Luling Oil & Gas Co.

Mr. Mitchell will continue active in the management of the Ocean Bounty, Inc. fleet of shrimp trawlers in Aransas Pass, and will be available as a consultant to the marine industry. The year 1974 will be his 43rd year in fishing and marine related industries.

Stewart & Stevenson Open London Office; Knapp Named Manager

The establishment of offices in London, England, has been announced in Houston, Texas, by C.L. Ward, vice president and general manager of Stewart & Stevenson Services, Inc.

Logan Knapp, formerly manager of generator sales for the company in Houston, will manage the London offices. Mr. Knapp has been with the firm for 10 years, and is a mechanical engineering graduate of the University of Texas.

Stewart & Stevenson has its headquarters in Houston and is the world's largest distributor of

diesel engines. The company also has branches throughout Texas, with dealers and service representatives available worldwide.

The London office's principal efforts will be devoted to following up and taking care of Stewart & Stevenson's many customers in the petroleum industry. However, in addition, the company's capabili-

ties include manufacturing and building virtually any kind of engine-driven equipment for any industry.

Products, largely built around the General Motors Detroit Diesel engine, include any kind of engine/generator sets, oil field service equipment, emergency standby power units for all industries, electrical and pneumatic ground support units for commercial airlines, Allison gas turbines and automatic transmissions, Pow-R-Quik air starting motors for all makes of engines, irrigation systems, specially "packaged" commercial boats, DIESELDRIVE inboard/outboard, inboard and Dieseljet units, plus a variety of other engine-driven products.

Equitable Awarded \$10-Million Contract For Tug Construction



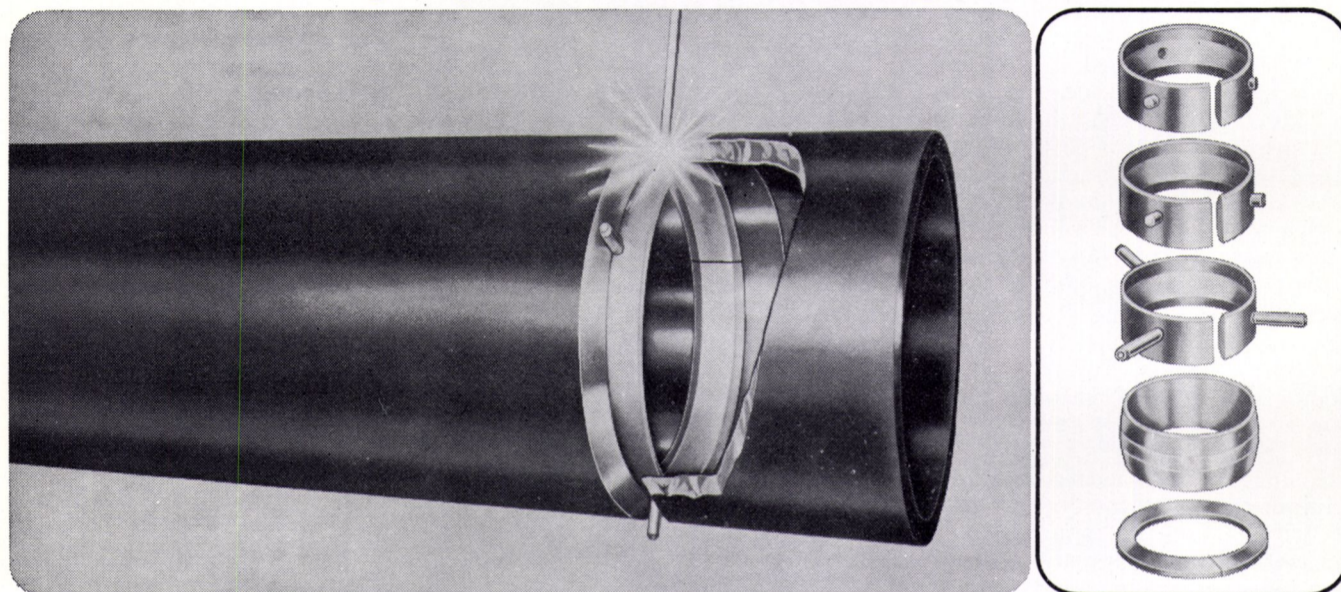
C.R. Sanders (seated), executive vice president of Noltz J. Theriot, Inc., and Cecil M. Keeney, president of Equitable Equipment Company, Inc., are shown as they signed the contract in New Orleans, La.

Equitable Equipment Company, Inc., New Orleans, La., shipbuilder, has been awarded a contract of approximately \$10 million by Noltz J. Theriot, Inc., international offshore vessel operator, to build four 149-foot 6-inch twin-screw 8,500-horsepower oceangoing tugs, with fixed propellers and stainless steel Kort propulsion nozzles. They will be built to ABS Maltese Cross A-1, Unlimited Ocean Towing Service, Ice Class C-1, AMS. The estimated total cost, including owner-furnished equipment of the tugs, exceeds \$14 million. The contract for these four tugs and three identical tugs contracted in January 1973 brings to a total of seven such vessels to be built by Equitable for Noltz J. Theriot, Inc., with an estimated total value of approximately \$25 million.

These vessels, upon completion, will be put into service with other Theriot tugs presently engaged in the field of oil exploration and construction worldwide.

Equitable is a wholly owned subsidiary of Trinity Industries, Inc.

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Captain Robert E. Hart Named New President Marine Index Bureau



Capt. Robert E. Hart

The election of Capt. Robert E. Hart as president of the Marine Index Bureau, Inc., effective January 1, 1974, has been announced by the bureau's board of directors.

Bruno J. Augenti, who founded the bureau in 1937 and has served as its president for the past 35 years, will become chairman of the board and chief executive officer. The bureau is the only commercial depository for data concerning personnel injuries and illnesses for the American merchant marine and affiliated industries. Its membership comprises employers of marine personnel on the deep seas, inland waterways, Great Lakes, harbors and rivers, as well as long-shoremen, shipbuilding and ship repair workers and offshore drilling personnel.

Captain Hart has served as the bureau's executive vice president for the past five years. Prior to that, he served eight years as executive assistant to the president and chairman of the board of American Export Lines, Inc. In 1967, he was the line's management representative at conferences with American ambassadors and foreign ministers at Moscow, Bucharest and Sofia, prior to the visit of the first American-flag passenger liner S/S Independence to the Black Sea ports of Odessa and Yalta, USSR; Constanza, Roumania, and Varna, Bulgaria.

The bureau's new president served 20 years on active duty with the United States Navy and retired in 1961 with the rank of captain to accept employment with the American-flag steamship company. While in the Navy, he served at sea aboard tugboats, cargo and transports, amphibious and battleships, and his shore assignments included the Military Sea Transportation Service during the establishment of the Arctic Operations, including the Dewline and Missile Lines of defense, as well as other assignments with Congressional and U.S. Government staff.

Captain Hart attended Culver Military Academy, Western Reserve and Kent State Universities, and is a graduate of Northwestern University.

For the past two years, Captain Hart has served on the Ad Hoc Advisory Panel of the National Re-

search Council's Maritime Transportation Board of the National Academy of Sciences. He is a member of the executive council of the New York World Trade Committee and has served as chairman of Maritime Day for the Port of New York World Trade Committee. He is also a member of the executive committee, National Safety Council, The Propeller Club

Port of New York, Whitehall Lunch Club, Downtown Athletic Club, Bayway Beach and Cabana Club, and the National Social Fraternity of Phi Gamma Delta. Captain Hart is also a director of the National Defense Transportation Association, vice chairman, National Propeller Club Convention for 1974, and past president of the Bay Shore Quarterback Club.

Dravo Corp. To Build 10 Dry-Cargo Barges For Marine Leasing Co.

Marine Leasing Co., One Rockefeller Plaza, New York, N.Y., has had a Title XI application approved by the Maritime Administration for 10 dry cargo river barges. Dravo Corp., Pittsburgh, Pa., will build the barges at a total cost of \$1.3 million.

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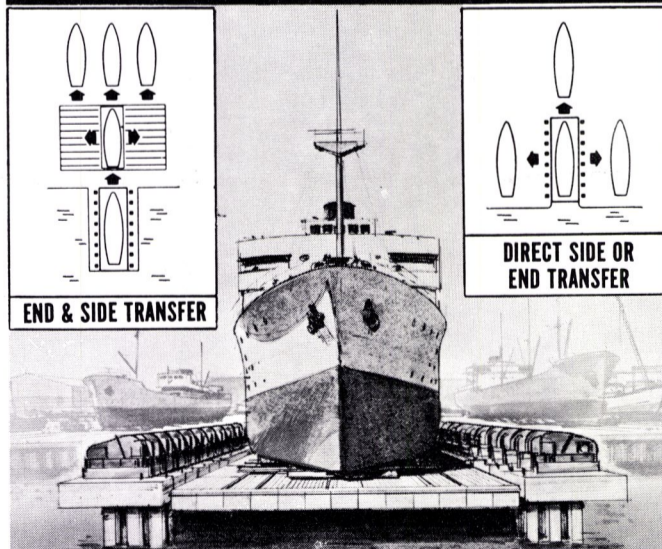
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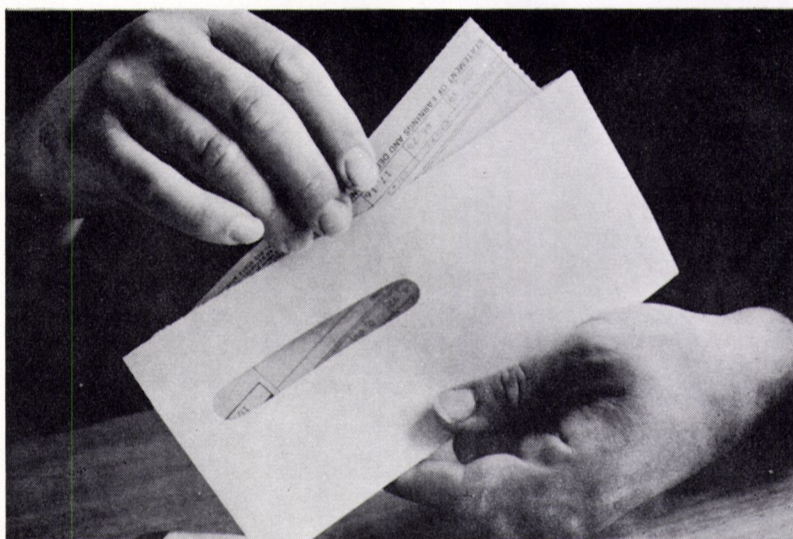
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Military Sealift Command Invites Offers To Operate Nine 25,000-Dwt Tankers

The Military Sealift Command (MSC) has asked for offers by February 4, 1974, from ship operators interested in running the nine 25,000-deadweight-ton diesel-powered tankers being built for long-term charter to the Navy.

The charter period on which offers must be based are for an initial period of five years, with the MSC to retain an option to extend the charter for two-year periods through a total of 23 years, a notice explained.

Offers must be filed on the basis of all nine vessels, five of which are being constructed at Bath Iron Works, Bath, Maine, and the other four by Todd Shipyards, San Pedro, Calif. The first of the nine is due for delivery next June and the last by late December 1974, MSC said.

The proposals are to be evaluated on the basis of total fixed price per diem, management staff of the operator, and the experience of the potential operator.

These nine tankers are the first of the build-and-charter arrangements which MSC has initiated as a means of acquiring new tonnage for long term without the expense of going to Congress for appropriations to build its own vessels. MSC acquired use of a roll-on/roll-off vessel under similar terms, and Falcon tankers built four vessels for use by MSC.

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Box 102 Maritime Reporter/Engineering News
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Hydro Products Introduces New Right Angle Adaptor For Underwater TV Camera

Hydro Products announces the introduction of a new Right Angle adaptor for their Model TC-125-SN standard Radiation Tolerant Underwater Television Camera.

The Right Angle adaptor provides distortion-free 90-degree off-axis viewing. It attaches to the camera front by an outside threaded collar. One unique feature is that the camera's watertight seal is not disturbed during installation or removal of the adaptor, thus preventing any possibility of water leakage.

The new Right Angle adaptor is fabricated entirely of electro-polished stainless steel for

corrosion resistance and ease of decontamination. The adaptor includes a unique first-surface all-stainless-steel mirror which eliminates the need for expensive non-browning glass.

Hydro Products' Model TC-125-SN is the world's first self-contained underwater nuclear tolerant camera. All components are packaged inside a 2¾-inch-diameter by 20-inch-long underwater housing. The camera has been designed specifically for underwater operation in a radiation environment, including nuclear reactor and spent fuel storage inspection work. It has been fully tested and certified for radiation tolerance by an independent agency.

For additional information, contact **Bob Catalano**, Hydro Products, P.O. Box 2528, San Diego, Calif. 92112.

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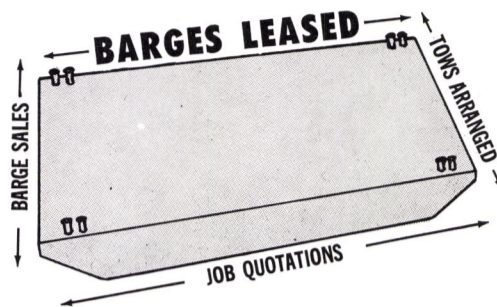
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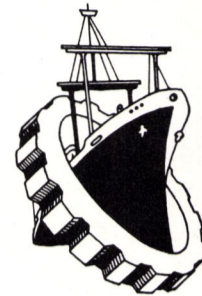
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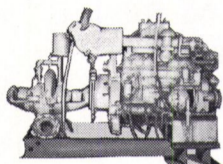
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1—WARREN, 600 GPM, 50 PSI, 8¼ HP, 440/3/60, 1135 RPM.

4—WORTHINGTON, 200 GPM, 100 PSI, 3½" suction, 3" discharge, Size 2UB1, with Wagner Motor, 25 HP, 440/3/60.

1—GARDNER-DENVER, 5" suction, 3" discharge, 350 GPM, 336' head, 50 HP, 440/3/60, 3500 RPM.

1—CARVER, 400 GPM, 100 PSI, 3½" suction, 2½" discharge, 3500 RPM, 35.7 HP, 440/3/60.

2—BUFFALO, 250 GPM, 100 PSI, Class CCS, Size 4x3½", with Westinghouse Motors, 25 HP, 440/3/60.

DC, VERTICAL-CENTRIFUGAL

2—ALLIS-CHALMERS, 170 GPM, 208' head, Type CF2V, 6" suction, 3½" discharge, 20 HP, 230 DC.

2—ALLIS-CHALMERS, 30 GPM, 208' head, Type CF2V, 2½" suction, 1½" discharge, 7½ HP, 230 DC.

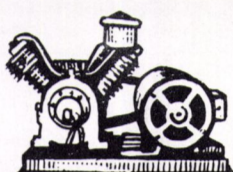
1—ALLIS-CHALMERS, 400 GPM, 100 PSI, 4"x3", 50 HP, 230 DC.

1—WORTHINGTON FIRE & BUTTERWORTH, Size 3 UBS, 400 GPM, 200 PSI, 75 HP, 230 DC.

2—ALLIS-CHALMERS, Type SGV, 600 GPM, 30 PSI, 20 HP, 230 DC.

THE ABOVE LIST REPRESENTS BUT A FRACTION OF OUR MARINE PUMP STOCK. PLEASE INQUIRE FOR SPECIFIC TYPES AND SIZES NOT SHOWN.

AIR COMPRESSORS



2—SULLIVAN, Size WL60, Model A-UB-8, 100 PSI, 2 stage, with 30 HP G.E. Motors. 440/3/60.

1—GARDNER-DENVER, 150 CFM, 125 PSI, Class WB, Size 7x5¼x5, with Diehl Motors, 45 HP, 230 Volts, DC, 870 RPM, 167 Amperes.

3—INGERSOLL-RAND, Size 5x5x4x4, 50 CFM, 150 PSI, with G.E. Motor, 20 HP, 440/3/60.

2—WESTINGHOUSE Air Brake Steam, Size 11x11x12, approximately 60 CFM at 100 PSI.

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.

MARINE DIESEL GENERATORS

HERCULES, DOOC, 10 KW, 120 DC.

CATERPILLAR, D3400, 15 KW, 120/240 DC.

BUDA, 4 cylinder, 15 KW, 120/240 DC.

HERCULES, DJXC, 25 KW, 120 DC.

CUMMINS, WA255, 30 KW, 120 DC.

P&H, 387C-18, 45/56 KVA, 120/208/3/60.

BUDA, 6DH909, 40 KW, 120 DC.

BUDA, 6 DHG691, 60 KW, 120 DC.

GENERAL MOTORS, 6067, 60 KW, 450/3/60.

BUDA, 6DC844, 75 KW, 125-250 DC.

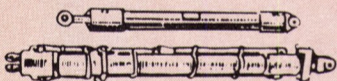
1—CUMMINS, Model HCD, 60 KW, 120/240 DC.

CATERPILLAR, D17000, 85 KW, 220/3/60.

4—COOPER-BESSEMER, Model FSN6, 6 cylinders, 375 HP, 900 RPM, with General Electric Generators, 250 KW, 440/3/60.

MORE DIESEL GENERATORS ON FOLLOWING PAGE

HYDRAULIC CYLINDERS



Bore	Overall Stroke	Rod Diameter	Retracted Length	Action
10"	12"	3.75"	45½"	double
10"	26"	3.75"	58½"	double
2"	8"	1½"	20"	double
2.5"	15"	1.12"	25½"	double
3"	8"	1.37"	15½"	double
6"	8"	4"	144"	double

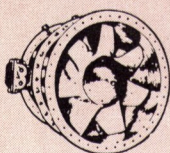
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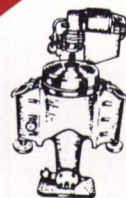
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EXAMPLE LISTING:

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150 GPH—440 AC
230 DC

350 GPH—230 DC

600 GPH 230 DC



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WESTINGHOUSE, as orig. used on two 1362 HP electric motors in submarine, 2 pinions, single gear.

FALK Reduction Gears—Port & Starboard, Interchangeable with T-3 Tanker Gears, Falk No. 148-300. Also interchangeable with Falk Gears on AO51 Class Tankers (14 ships). Also on AO97 and AO100 Tankers.

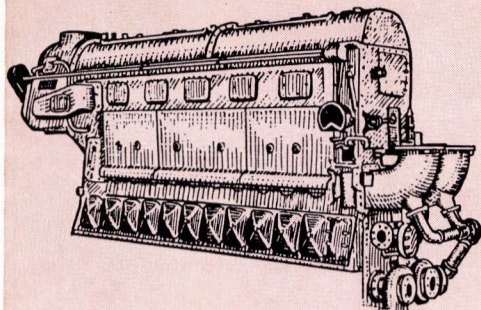
1—L.S.T. TYPE VESSEL HULL



328'

Steel Hull, 328' overall, 50' extreme beam, maximum draft 14', approximate displacement 1780 tons. To be sold stripped of all machinery and deck house. Located in Portland, Oregon.

MARINE DIESEL ENGINES



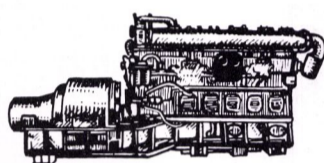
MATCHED PAIR... FAIRBANKS MORSE

Model 38D8 1/2 — 1 port; 1 Starboard. Used condition, 1800 HP, 800 RPM, 2 cycle, 8 1/2" bore, 10" stroke, Air Start. Complete with Westinghouse Reduction Gears, 2.216:1 ratio—with Hydraulic Coupling.

3—COOPER-BESSEMER DIESEL ENGINES, Model LS-8-DR, 1300 HP, 277 RPM, direct reversing, turbo charged.

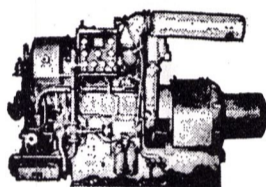
2—SUPERIOR DIESEL ENGINES, Model VDSS, 1160 HP, 325 RPM.

MARINE DIESEL GENERATORS



3—DE LAVERGNE, Marine, 560 HP, 514 RPM, Serials #2180 and #2181, with Electric Machinery Generators, 375 KW, 450/3/60.

2—SUPERIOR Diesel Engines, Model GBD-8, Marine, 150 HP, 1200 RPM, 8 cylinder, with Delco Generators, 100 KW, 120/240 DC.



1—GENERAL MOTORS, Model 3-268A, Marine, 150 BHP, 1200 RPM, 3 cylinders, with 100 KW Generator. 120/240 DC.

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

TURBINE GENERATORS A.C. AND D.C. VOLTAGES

A.C.

2—1500 KW, GENERAL ELECTRIC Turbines: Type FN4-FN30, Steam 525 PSIG, 8145 RPM, with G.E. Generators, 1500 KW, 450/3/60.

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

4—600 KW, GENERAL ELECTRIC Turbines: Type FN3-FN20, Steam 525/565 PSIG, 10033 RPM, with G.E. Generators, 600 KW, 450/3/60.

8—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—WORTHINGTON, 225 PSI, 397°F, 6510 RPM, with Westinghouse Generator, 150 KW, 120 DC, 1250 Amperes.

6—WESTINGHOUSE, 200 PSI, with Westinghouse Generators, 60 KW, 120 DC.

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

1—GENERAL ELECTRIC, 525 PSI, with G.E. Generator, 250 KW, 440/3/60.

1—GENERAL ELECTRIC, with G.E. Generator, 350 KW, 440/3/60.

ALLIS-CHALMERS, 440 PSI, 740°F, 300 KW, 120/240 DC.

JOSHUA HENDY, 300 PSI, 550°F, with Westinghouse Generator, 300 KW, 120/240 DC.

WORTHINGTON, Form S4, 440 PSI, 740°F to a Westinghouse Generator, 250 KW, 440/3/60, and to a 90 KW, 120 DC.

DELAVAL, 450 PSI, 750°F, 300 KW, 120/240 DC.

SUBMARINE DIESEL GENERATOR ENGINES (Without Generators)

2—GENERAL MOTORS, Model 16-278A, 1600 HP, 750 RPM.

1—FAIRBANKS-MORSE, Model 38D8-1/8, 16 cylinder, O.P., 1600 HP, 720 RPM.

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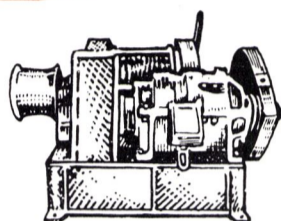
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American Hoist
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with Westing-
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HP, 230 Volts DC,
complete with
Contractor
Panels, Master
Switches, and
Resistors.



Single Speed, Single Drum

UNIT WINCHES

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U3H—SINGLE DRUM, Single speed (4)
Line Pull: 7450#—223 FPM,
6360#—237 FPM,
3720#—287 FPM.

U6H—DOUBLE DRUM, Single Speed (2)
Line Pull: 7450#—223 FPM,
6360#—237 FPM,
3720#—287 FPM.

Motor: Westinghouse, 50 HP, 230 Volts DC,
1900 RPM, Model 288212, 183 Amperes,
compound wound, Frame 9 UW, horizontal.

Unit Winches complete with Contactor Pan-
els, Resistors, Master Switches.



CAPSTAN WINDLASSES

Model CWP-3, Vertical 24"
Planetary Capstan Wind-
lasses, Single Wildcat—
using 1 1/4" Anchor Chain,
Single Gypsy with 20 HP
Motor, 230 Volts DC, com-
plete with Contactor Panel, Master Switch,
and Resistors.

2—HESSE-ERSTED VERTICAL, Single Wild-
cat—for 1 3/8" Anchor Chain, single gypsy,
with 35 HP General Electric Motor, 230 Volts
DC, complete with Controller equipment.

HYDE, VERTICAL, Single Wildcat, for 1 1/8"
Anchor Chain, single gypsy, with 20/5 HP
Motor, 440/3/60.

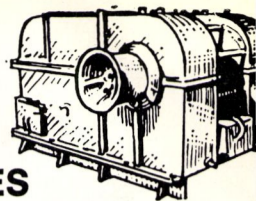
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12" and 14" sizes.



\$44.50 ea.

\$49.50 each
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LAKEHORE UNIWINCHES, with Allis-Chal-
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Single speed, double drum, 7450 # at 220
FPM.

Single speed, single drum, 7450 # at 220 FPM.

ANCHOR WINDLASSES

1—HORIZONTAL, of German Mfg., double
wildcat for use with 3" anchor chain, double
gypsy with 230 VDC motor, complete with
electrical control equipment.

AMERICAN ENGINEERING, horizontal, dou-
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2—AMERICAN HOIST AND DERRICK COM-
PANY, horizontal, double wildcat for 2 1/4"
chain, double gypsy, 70 HP, 230 Volts DC,
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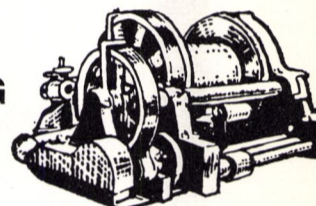
2—HESSE-ERSTED, horizontal, double wild-
cat, 2 1/8" chain, 60 HP, 230 DC.

1—HYDE HORIZONTAL ANCHOR WINDLASS
double wildcat for use with 2 1/8" Anchor
Chain, and with General Motors Electric
Motor, 60 HP, 230 volts DC, 560/1700 RPM,
Type CDM 18831 AE. Complete with Con-
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1 3/8" size	2 1/8" size	2 3/4" size
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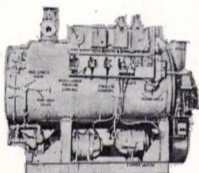
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GPM @ 300 ft. head—3 HP—
440/3/60) Blower 5 HP—440/3/
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RPM. TUBES: 22 at 2 1/2" x 0.110
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Furnace 16" OD x 3/8" thick.
Head 1/2" thick. Steel plate 5/16".

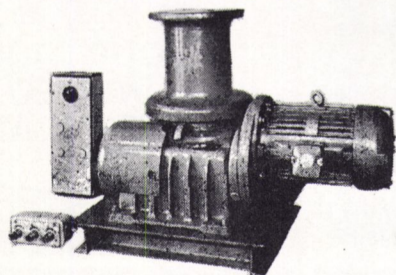
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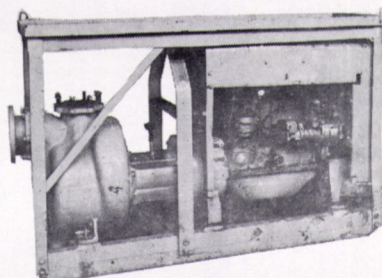
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RPM—1100 GPM @ 100' head; 1500 GPM @ 70' head;
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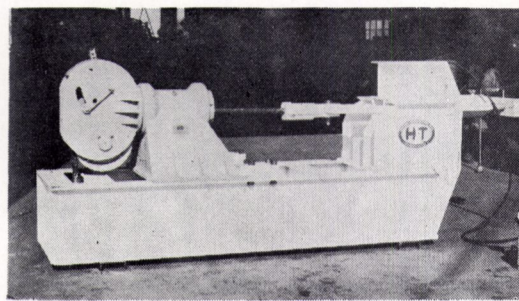
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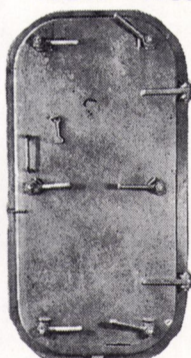


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Built and tested to A.B.S. spe-
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SIZE	NET WT.
26"x48"	250 lbs.
26"x60"	300 lbs.
26"x66"	320 lbs.
30"x60"	330 lbs.

EACH DOOR

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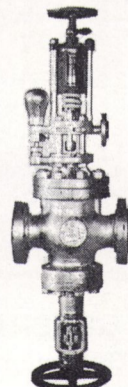
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Complete with L.O. Cooler. Turbine: General Electric 525 KW, Type DORV-325M, 5645 RPM. Reduction Gear: General Electric Type S-162-D, 5645/1200 RPM, single helical. Generators: General Electric. (1) Type ABT, 3 phase, 400 KW, 450 VAC, 1200 RPM. (2) Type MPC, 75 KW, 110 VDC, 1200 RPM, Exciter. (3) Type MPLI, 55 KW, 120 VDC, 1200 RPM, Generator. (4) Auxiliary DC generators.

538 KW WESTINGHOUSE TURBOGENERATOR UNIT

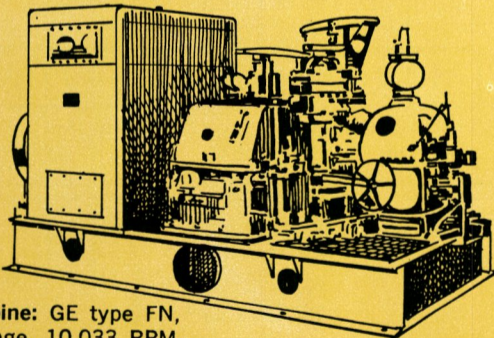
Complete with L.O. Coolers and exciters. Turbine: Westinghouse 538 KW, 5010 RPM. Inlet pressure 435 psi. Temp. 750 degrees F.T.T. Exhaust pressure 28 1/2 hg vac. Generators: (1) 400 KW, 450 VAC, 3 pole, 60 cycle, PF 80%, 1200 RPM, ship's service. (2) 32.5 KW, 125 VDC, 1200 RPM, variable voltage exciter. (3) 110 KW, 125 VDC, 1200 RPM, constant voltage generator. (4) 5 KW, 125 VDC, 1200 RPM, ship's service Generator-Exciter. Reduction Gear: Ratio 5010/1200 RPM.

535 KW GENERAL ELECTRIC TURBOGENERATOR UNIT

Complete with L.O. Coolers and exciters. Turbine: General Electric Mfg. drawing P-8453535, 3 stages, type DORV-325, 5645 RPM, rating 535 KW, inlet pressure 590 lbs., Superheat 325 degrees F., exhaust pressure 1 3/4 ABS. Reduction Gear: General Electric, type S-162-D, Class, 535 KW, Mfg. dwg. T-8453535, 5645/1250 RPM. Generator: General Electric, Dwg. T-8453535, type ATB-976, KNA 500, 450 volts AC, 3 phase, 60 cycle, 400 KW, 642 amps, 1200 RPM, PF .8, Frame 976, Exciter 120 volts DC. Control panel: General Electric, Dwg. 6367270, Type XF-100492, 6 circuits, 450 volts AC.

★★ ALSO AVAILABLE!! ★★

600 KW GENERAL ELECTRIC TURBOGENERATOR UNIT



Turbine: GE type FN, 6-stage, 10.033 RPM.

Reduction gear: GE triple-helix, triple reduction, 10033/1200 RPM. Generator: GE type ATI, 600 KW, 6-pole, 0.8 pf, 450 VAC, 3 phase, 60 cycle, 1200 RPM. Exciter: GE type MPLI, 7.5 KW, 120 VDC, direct connected. Air cooler: Surface type, for generator, complete with control panel.

MAIN MOTOR FOR T2

Gen. Elect. #5690714 Type TSM-80, 6000 HP, 90 RPM, form H.L., 2300 Volts, Amps. arm. 1160, P.F. 1.0, KVA 4625 Phase 3 cycle 60, Exciter volts 120, amps field 390 contin. @ 60°C. rise.

5400 KW MAIN GENERATOR

General Electric, S/N 79938, Marks 6937958 G-4, 5F-1690-2, 164-M.

PUMP UNITS

CARGO STRIPPING PUMP

(Steam) Worthington, vertical duplex, double acting, size 14" x 14" x 12", speed 46 ft./min., 700 GPM, 150 psi operating pressure.

MAIN FEED PUMP

Pump: Coffin Turbo Pump Co., single stage, centrifugal, size CG-12A, 6980/7030 RPM, 240/280 GPM, 254/280 HP, 6" x 3", 750 psi @ 1760 ft. head, complete with turbine.

MAIN FEED PUMP

Coffin, turbine drive, Type F, 7200 RPM, 200 GPM, 150 HP, 150 psi w 1329 ft. head.

MAIN CIRCULATING PUMP

Pump: Ingersoll Rand, type 24 VCM, single stage; double suction centrifugal, 585 RPM, 16,500 GPM against TDH 25 ft. @ 30 psi, 26" x 24". Motor: General Electric, Model 5K633AP1, Frame N-6336-B, 585 RPM, 440 volts AC, 191 amps, 3 phase, 60 cycle, complete with controller.

MAIN CIRCULATING PUMP

Pump: Ingersoll Rand, type 24 VCM, size 24", 585 RPM, 14,000 GPM @ 25 ft. TDH, 26" x 24", operating pressure 15 psi. Motor: Westinghouse, Model CS, Frame 876C, 125 HP, 585 RPM, 440 volts AC, 159 amps, 3 phase, 60 cycle, complete with controller.

MAIN CARGO PUMP UNIT

Pump: Ingersoll Rand, type 2 stage horizontal, size 6-GTM, 1750 RPM, 2000 GPM, 12" x 12", 100 psi @ 280 ft. head. With motor.

FUEL AND LUBE OIL PUMP

Pump: Quimby, size 2 1/2 head screw, 1200/600 RPM, 15 GPM @ 325 psi disch. press. Motor: General Electric, Model 5KF364PP1, Frame 364, 7.5/3.75 HP, 1160/580 RPM, 440 volts AC, 10/9.7 amps, 3 phase, 60 cycle, complete with controller.

LUBE OIL SERVICE PUMP

Pump: Quimby, Type vertical rotex, size 4-B, 1150 RPM, 175 GPM @ 60 psi with 20 ft. head, 6" x 5". Motor: General Electric, Model 5KF365AJX1, Frame 365, 5 HP, 1170 RPM, 440 volts AC, 20 amps, 3 phase, 60 cycle, complete with controller.

MAIN CONDENSATE PUMP

Pump: Ingersoll Rand, size 2VHM, 1760 RPM, 180 GPM @ TDH 165 ft., 5" x 2", disch. press. 67 psi. Motor: General Electric, Model 5KF365AJN-1, Frame 365V, 20 HP, 1765 RPM, 440 volts AC, 3 phase, 60 cycle, 25.5 amps, with controller.

AIR COMPRESSORS

COMBUSTION CONTROL AIR COMPRESSOR UNIT

Compressor: Ingersoll Rand, type 30, Model 253 x 5, 20 CFM at 100 psi, 600 RPM. Motor: General Electric, Model 5KG254B2782, Frame 254, Type K, 440 volts, AC, 7.5 amps, 3 phase, 60 cycles, 5 HP, 1723 RPM, complete with controller and switch.

SHIP SERVICE AIR COMPRESSOR UNIT

Compressor: Ingersoll Rand, Type 30, Model 5 x 5 x 4, 545 CFM at 100 psi, 750 RPM. With motor and base.

VALVES

Gate: 10", 12", 14", 16", 20" and 24"
Angle: 12", 14" and 18" Crossover: 16"
High suction: 26" Low suction: 26"

TURBINE ROTORS

5400 KW GENERAL ELECTRIC TURBINE ROTOR

ABS, 6275-31, AB-142-WD-8-10-44, 1701461
T8604259, 6275-31 67-KU-102032, A853BY 21 Jan. 1967.

525 KW GENERAL ELECTRIC TURBINE ROTOR

S/N 60137, ABS 71-LA-12430-624 A624 B, Reconditioned April 21, 1971.

5400 KW WESTINGHOUSE TURBINE ROTOR

ABS report 66KU11942 A853B, 6 Sept., 1966,
Marks: 6275-45. AB-142 WD9-30-44, 170-1467,
8604259-1, 6275-45.

5400 KW WESTINGHOUSE MAIN TURBINE (Profile type):

5400 KW ELLIOTT TURBINE ROTOR

ABS, 67-LA9644-830, AB-JCB-3-31-67, 9013039-9230P1, 66-KU-11895, A853 1071941, AB142 WDG-4-45.

MISCELLANEOUS T-2 EQUIPMENT

MAIN AIR EJECTOR

Main air ejector, Graham Mfg. Co., type 2 stage twin, size 163B, capacity, 65 PPH of air (220 GPM cont. @ 79°F.), oper. press. 150 PPH.

MAIN CONDENSER END Graham (waterbox).

MAIN CONDENSER END Westinghouse (waterbox).

MAIN CONDENSER END Westinghouse (return head).

AUXILIARY CONDENSER END

Graham (waterbox and return head), surface condenser, size 1500 sq. ft., S/N 2915, Design press Shell 15-Tubes 25, Test press Shell 30-Tubes 50.

TAIL SHAFTS

ABS 59-S1768-AB810
Reconditioned, ABS 70-LA-11901-946

RUDDER WITH STOCK (complete)

SEND NOW FOR NEW 1974 CATALOG

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Area Code (213) 775-3321 • Telex: TWX 213-548-0990

**1200KW - 525 Volt DC - 2290 Amp
750 R.P.M.**

G.M. DIESEL GENERATOR SETS

ENGINE: G.M. 16-278A—16 cylinder—1700 B.H.P. VEE-type—8 $\frac{3}{4}$ x10 $\frac{1}{2}$ "—2 cycle—750 RPM. GENERATOR: Allis-Chalmers—1200 KW—525 volts DC—2290 amps—totally enclosed—self-ventilated, with surface air coolers. Separately excited from 120 volt source. Continuous duty—frog-leg winding—Class B insulation. Ambient temperature 40°C—temperature rise on commutator 75°C; on winding 70°C. Manufacturers type MHC—10-pole. EXCITATION SETS: 30 HP—440/3/60—driving two 8 $\frac{1}{2}$ KW 120 volt DC generators.

**20 UNITS IN STOCK
& IMMEDIATELY AVAILABLE
PRICED TO SELL**

Will sell generators or engines separately

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NEW 7" RADIUS PANAMA CHOCKS (MEET PANAMA REGULATIONS)

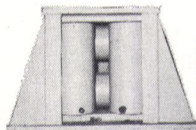
With extended legs for welding to deck. IMMEDIATE DELIVERY FROM STOCK.

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NEW UNUSED NAVY SURPLUS UNIVERSAL FAIRLEADS

SHIPBOARD TYPE

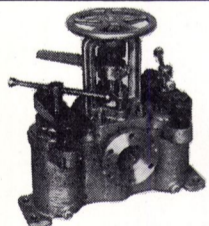


4 Rollers—8" x 18"—2 horizontal mount—2 vertical mount. OAL of fairlead 36" wide—24" high—24" deep. 28 available.

\$995 Each

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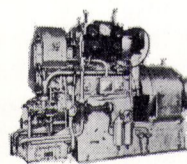
UNUSED 2" BRONZE STRAINERS (DUPLEX)

Flanged—mfg by Derbyshire Machine & Tool Co. Flange has 6 holes 9/16".

\$299.00

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G.M. 3-268A 100 KW A.C. Diesel GENERATOR SET

Like new, ENGINE: G.M. 3-268A—3 cylinder—6 $\frac{1}{2}$ "x7" bore & stroke. GENERATOR: Century—100 KW—440 volts—3-phase—60 cycle.

AIR
STARTING

\$2450

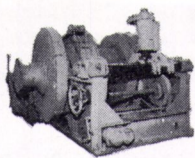
ELECTRIC
STARTING

\$2775

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100,000 lb. Almon Johnson Series 232 Constant Tension Mooring Winches

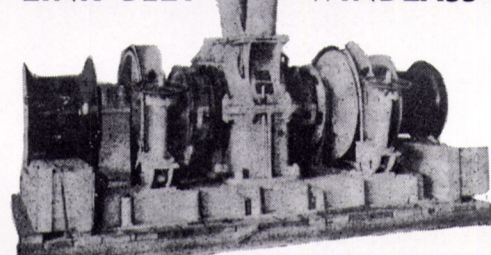


5 Available. In very good condition. Series 232 mooring & anchoring winches—automatic self-tensioning. Wide range from 100,000 lb line pull at 10 FPM to 26,000 lbs at 400 FPM. Gypsy line pull 12,000 lbs at 125 FPM. Drum de-clutchable through spiral jaw clutch for free spooling. Driven by 50 HP—230 VDC motors—Westinghouse CK—575 RPM— $\frac{1}{2}$ hour—75°C rise—stab. shunt—181 amps—max. RPM 1900. Cutler-Hammer brake—18"—type NM. Complete with magnetic control panel, resistor banks & remote control pedestal—mounted master switch. **Can spool up to 2000' 1 $\frac{1}{4}$ " wire.**

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UNUSED 1 $\frac{5}{8}$ " HEAVY DUTY LINK BELT WINDLASS

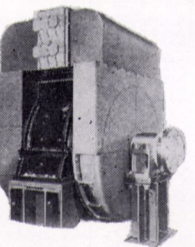


Below deck motor drive. Double wildcat—driven by 50 HP 230 VDC motor with vertical shaft and worm drive. Single speed—handles 7000 lb anchors and 60 fathoms of 1 $\frac{5}{8}$ " chain at 7 fathoms per minute. Wildcat centers 56". Complete with all controls and warping features. Total weight 27,500 lbs. With spares.

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ALLIS-CHALMERS 1200 KW D.C. GENERATORS



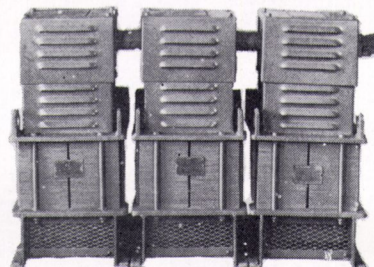
SUITABLE FOR DIESEL
ELECTRIC TUGS AND
VESSELS OR OIL
FIELD DIRECT DRIVE
D.C. GENERATORS

1200 KW—525 Volts D.C.—750 RPM—2290 amps—totally enclosed—self-ventilated with surface air coolers. Frame: split type. 2-Bearings: split sleeve, spherical seat, self-aligning. Separately excited from a 120 volt source. Continuous duty. Very good condition.

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TRANSFORMERS



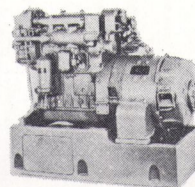
15 KVA—3 per bank—450 V primary—177 volt secondary. **\$295.00 PER BANK**

Also inquire about other sizes: 10 KVA/20 KVA/25 KVA/37 KVA

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DIESEL GENERATOR SETS



30 KW GM 3-71 DIESEL SET

GENERATOR: Delco 30 KW—120 Volts DC—250 amps—1200 RPM—Type I-3563. ENGINE: GM 3-71—45 HP—electric starting—shock mounted. In Navy crate. New Navy rebuilt.

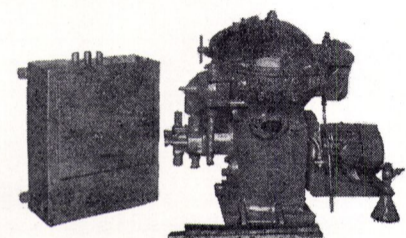
20 KW GM 2-71 DIESEL SET

GENERATOR: Delco I-3665—20 KW—120 volts DC—167 amps. ENGINE: GM 2-71—reconditioned—in very good condition.

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FUEL OIL OR LUBE OIL PURIFIER



DeLaval—600 G.P.M.—type B-1529C-60—with 3 H.P. 440/3/60 Motor. Mfg. by German DeLaval. Spare parts available.

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8" x 8" WATEROUS HEAVY DUTY ROTARY CARGO PUMP

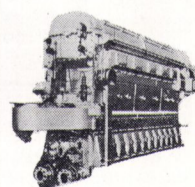


Mfg. Waterous Co.—730 GPM—pump speed 232 RPM—reduction ratio 900/232—8" suction—type P-1256—80 PSI pressure—60 HP—herring-bone reduction gear—8" discharge.

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FAIRBANKS-MORSE 38D8-1/8 OP DIESEL



1800 HP @ 800 RPM—2-cycle—8 $\frac{1}{2}$ x10—air starting. Still aboard naval vessel and in very clean, complete condition. Equipped with engine operating panel board. Mufflers, heat exchangers and filters are available. Priced to sell at

\$8750

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Communication Associates, Inc., 200 McKay Road,
Huntington Station, N.Y. 11746
Edo Corporation, 12-10 111th Street, College Point, N.Y. 11356

Dillingham Shipyard, Pier 41, P.O. Box 3288, Honolulu, Hawaii 96801
Dravo Corporation, Neville Island, Pittsburgh 25, Pa.
Empresa Nacional Bazan, 65 Castellana, Madrid 1, Spain
Equipment Systems, Inc., A Microdot Co., P.O. Box 95,
Port Deposit, Md. 21904

G.M. 16-278A

NATIONAL METAL'S CURRENT T-2 INVENTORY

MANY OTHER ITEMS NOT LISTED • ALL ITEMS FURNISHED WITH A.B.S. OR LLOYDS'

TURBOGENERATORS

525 KW GENERAL ELECTRIC AUXILIARY TURBOGENERATOR UNIT

Complete with L.O. Cooler. Turbine: General Electric 525 KW, Type DORV-325M, 5645 RPM. Reduction Gear: General Electric Type S-162-D, 5645/1200 RPM, single helical. Generators: General Electric. (1) Type ABT, 3 phase, 400 KW, 450 VAC, 1200 RPM. (2) Type MPC, 75 KW, 110 VDC, 1200 RPM, Exciter. (3) Type MPLI, 55 KW, 120 VDC, 1200 RPM, Generator. (4) Auxiliary DC generators.

538 KW WESTINGHOUSE TURBOGENERATOR UNIT

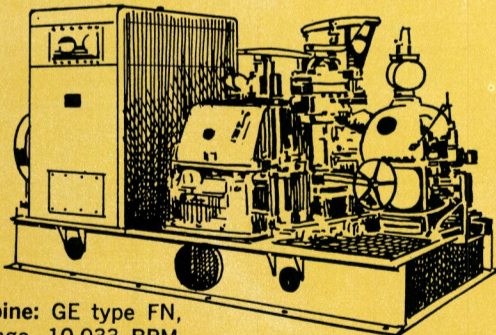
Complete with L.O. Coolers and exciters. Turbine: Westinghouse 538 KW, 5010 RPM. Inlet pressure 435 psi. Temp. 750 degrees F. TT. Exhaust pressure 28 1/2 hg vac. Generators: (1) 400 KW, 450 VAC, 3 pole, 60 cycle, PF 80%, 1200 RPM, ship's service. (2) 32.5 KW, 125 VDC, 1200 RPM, variable voltage exciter. (3) 110 KW, 125 VDC, 1200 RPM, constant voltage generator. (4) 5 KW, 125 VDC, 1200 RPM, ship's service Generator-Exciter. Reduction Gear: Ratio 5010/1200 RPM.

535 KW GENERAL ELECTRIC TURBOGENERATOR UNIT

Complete with L.O. Coolers and exciters. Turbine: General Electric Mfg. drawing P-8453535, 3 stages, type DORV-325, 5645 RPM, rating 535 KW, inlet pressure 590 lbs., Superheat 325 degrees F., exhaust pressure 1 3/4 ABS. Reduction Gear: General Electric, type S-162-D, Class, 535 KW, Mfg. dwg. T-8453535, 5645/1250 RPM. Generator: General Electric, Dwg. T-8453535, type ATB-976, KNA 500, 450 volts AC, 3 phase, 60 cycle, 400 KW, 642 amps, 1200 RPM, PF .8, Frame 976, Exciter 120 volts DC. Control panel: General Electric, Dwg. 6367270, Type XF-100492, 6 circuits, 450 volts AC.

★★ ALSO AVAILABLE!! ★★

600 KW GENERAL ELECTRIC TURBOGENERATOR UNIT



Turbine: GE type FN, 6-stage, 10,033 RPM.

Reduction gear: GE triple-helix, triple reduction, 10033/1200 RPM. Generator: GE type ATI, 600 KW, 6-pole, 0.8 pf, 450 VAC, 3 phase, 60 cycle, 1200 RPM. Exciter: GE type MPLI, 7.5 KW, 120 VDC, direct connected. Air cooler: Surface type, for generator, complete with control panel.

MAIN MOTOR FOR T2

Gen. Elect. #5690714 Type TSM-80, 6000 HP, 90 RPM, form H.L., 2300 Volts, Amps. arm. 1160, P.F. 1.0, KVA 4625 Phase 3 cycle 60, Exciter volts 120, amps field 390 contin. @ 60°C. rise.

5400 KW MAIN GENERATOR

General Electric, S/N 79938, Marks 6937958 G-4, 5F-1690-2, 164-M.

PUMP UNITS

CARGO STRIPPING PUMP

(Steam) Worthington, vertical duplex, double acting, size 14" x 14" x 12", speed 46 ft./min., 700 GPM, 150 psi operating pressure.

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Coffin, turbine drive, Type F, 7200 RPM, 200 GPM, 150 HP, 150 psi w 1329 ft. head.

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SHIP SERVICE AIR COMPRESSOR UNIT

Compressor: Ingersoll Rand, Type 30, Model 5 x 5 x 4, 545 CFM at 100 psi, 750 RPM. With motor and base.

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Gate: 10", 12", 14", 16", 20" and 24"
Angle: 12", 14" and 18" Crossover: 16"
High suction: 26" Low suction: 26"

TURBINE ROTORS

5400 KW GENERAL ELECTRIC TURBINE ROTOR

ABS, 6275-31, AB-142-WD-8-10-44, 1701461
T8604259, 6275-31 67-KU-102032, A853BY 21 Jan. 1967.

525 KW GENERAL ELECTRIC TURBINE ROTOR

S/N 60137, ABS 71-LA-12430-624 A624 B, Reconditioned April 21, 1971.

5400 KW WESTINGHOUSE TURBINE ROTOR

ABS report 66KU11942 A853B, 6 Sept., 1966.
Marks: 6275-45. AB-142 WD9-30-44, 170-1467, 8604259-1, 6275-45.

5400 KW WESTINGHOUSE MAIN TURBINE (Profile type):

5400 KW ELLIOTT TURBINE ROTOR

ABS, 67-LA9644-830, AB-JCB-3-31-67, 9013039-9230P1, 66-KU-11895, A853 1071941, AB142 WDG-4-45.

MISCELLANEOUS T-2 EQUIPMENT

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MAIN CONDENSER END

Graham (waterbox).

MAIN CONDENSER END

Westinghouse (waterbox).

MAIN CONDENSER END

Westinghouse (return head).

AUXILIARY CONDENSER END

Graham (waterbox and return head), surface condenser, size 1500 sq. ft., S/N 2915, Design press Shell 15-Tubes 25, Test press Shell 30-Tubes 50.

TAIL SHAFTS

ABS 59-S1768-AB810
Reconditioned, ABS 70-LA-11901-946

RUDDER WITH STOCK (complete)

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**1200KW - 525 Volt DC - 2290 Amp
750 R.P.M.**

G.M. DIESEL GENERATOR SETS

ENGINE: G.M. 16-278A—16 cylinder—1700 B.H.P. VEE-type— $8\frac{3}{4} \times 10\frac{1}{2}$ "—2 cycle—750 RPM. GENERATOR: Allis-Chalmers—1200 KW—525 volts DC—2290 amps—totally enclosed—self-ventilated, with surface air coolers. Separately excited from 120 volt source. Continuous duty—frog-leg winding—Class B insulation. Ambient temperature 40°C—temperature rise on commutator 75°C; on winding 70°C. Manufacturers type MHC—10-pole. EXCITATION SETS: 30 HP—440/3/60—driving two $8\frac{1}{2}$ KW 120 volt DC generators.

**20 UNITS IN STOCK
& IMMEDIATELY AVAILABLE
PRICED TO SELL**

Will sell generators or engines separately

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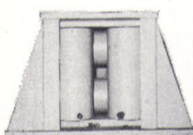
NEW 7" RADIUS PANAMA CHOCKS (MEET PANAMA REGULATIONS)

With extended legs for welding to deck. IMMEDIATE DELIVERY FROM STOCK.

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NEW UNUSED NAVY SURPLUS UNIVERSAL FAIRLEADS



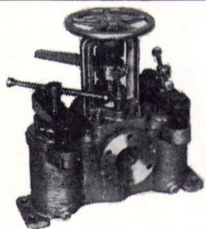
SHIPBOARD TYPE

4 Rollers—8" x 18"—2 horizontal mount—2 vertical mount. OAL of fairlead 36" wide—24" high—24" deep. 28 available.

\$995 Each

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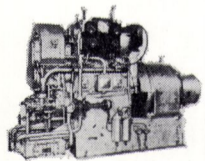
UNUSED 2" BRONZE STRAINERS (DUPLEX)

Flanged—mfg by Derbyshire Machine & Tool Co. Flange has 6 holes $9/16$ ".

\$299.00

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313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050



G.M. 3-268A 100 KW A.C. Diesel GENERATOR SET

Like new, ENGINE: G.M. 3-268A—3 cylinder— $6\frac{1}{2} \times 7$ " bore & stroke. GENERATOR: Century—100 KW—440 volts—3-phase—60 cycle.

AIR
STARTING

\$2450

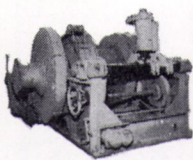
ELECTRIC
STARTING

\$2775

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

100,000 lb. Almon Johnson Series 232 Constant Tension Mooring Winches

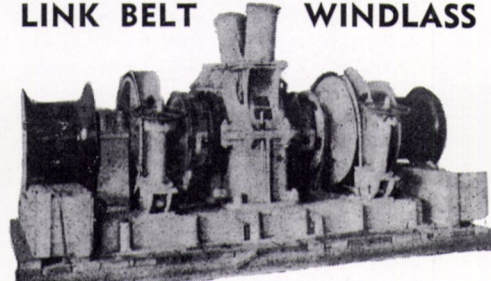


5 Available. In very good condition. Series 232 mooring & anchoring winches—automatic self-tensioning. Wide range from 100,000 lb line pull at 10 FPM to 26,000 lbs at 400 FPM. Gypsy line pull 12,000 lbs at 125 FPM. Drum de-clutchable through spiral jaw clutch for free spooling. Driven by 50 HP—230 VDC motors—Westinghouse CK—575 RPM— $\frac{1}{2}$ hour—75°C rise—stab. shunt—181 amps—max. RPM 1900. Cutler-Hammer brake—18"—type NM. Complete with magnetic control panel, resistor banks & remote control pedestal—mounted master switch. **Can spool up to 2000' $1\frac{1}{4}$ " wire.**

THE BOSTON METALS COMPANY

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UNUSED $1\frac{5}{8}$ " HEAVY DUTY LINK BELT WINDLASS

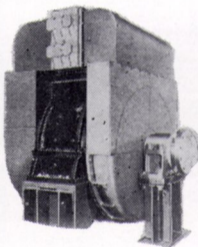


Below deck motor drive. Double wildcat—driven by 50 HP 230 VDC motor with vertical shaft and worm drive. Single speed—handles 7000 lb anchors and 60 fathoms of $1\frac{5}{8}$ " chain at 7 fathoms per minute. Wildcat centers 56". Complete with all controls and warping features. Total weight 27,500 lbs. With spares.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
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ALLIS-CHALMERS 1200 KW D.C. GENERATORS



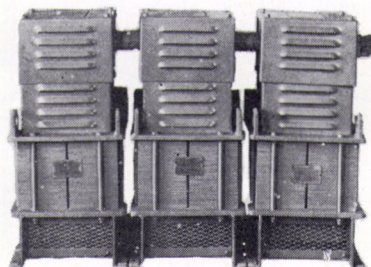
SUITABLE FOR DIESEL
ELECTRIC TUGS AND
VESSELS OR OIL
FIELD DIRECT DRIVE
D.C. GENERATORS

1200 KW—525 Volts D.C.—750 RPM—2290 amps—totally enclosed—self-ventilated with surface air coolers. Frame: split type. 2-Bearings: split sleeve, spherical seat, self-aligning. Separately excited from a 120 volt source. Continuous duty. Very good condition.

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TRANSFORMERS



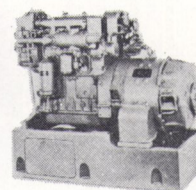
15 KVA—3 per bank—450 V primary—177 volt secondary. **\$295.00 PER BANK**

Also inquire about other sizes: 10 KVA/20 KVA/25 KVA/37 KVA

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

DIESEL GENERATOR SETS



30 KW GM 3-71 DIESEL SET

GENERATOR: Delco 30 KW—120 Volts DC—250 amps—1200 RPM—Type I-3563. ENGINE: GM 3-71—45 HP—electric starting—shock mounted. In Navy crate. New Navy rebuilt.

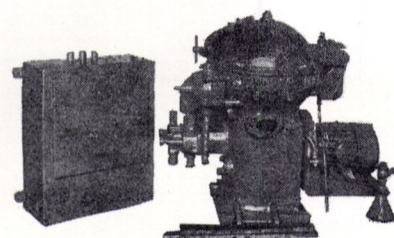
20 KW GM 2-71 DIESEL SET

GENERATOR: Delco I-3665—20 KW—120 volts DC—167 amps. ENGINE: GM 2-71—reconditioned—in very good condition.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

FUEL OIL OR LUBE OIL PURIFIER



DeLaval—600 G.P.M.—type B-1529C-60—with 3 H.P. 440/3/60 Motor. Mfg. by German DeLaval. Spare parts available.

THE BOSTON METALS COMPANY

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8" x 8" WATEROUS HEAVY DUTY ROTARY CARGO PUMP

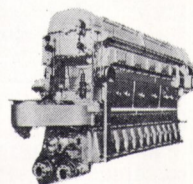


Mfg. Waterous Co.—730 GPM—pump speed 232 RPM—reduction ratio 900/232—8" suction—type P-1256—80 PSI pressure—60 HP—herring-bone reduction gear—8" discharge.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
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FAIRBANKS-MORSE 38D8-1/8 OP DIESEL



1800 HP @ 800 RPM—2-cycle— $8\frac{1}{2} \times 10$ —air starting. Still aboard naval vessel and in very clean, complete condition. Equipped with engine operating panel board. Mufflers, heat exchangers and filters are available. Priced to sell at

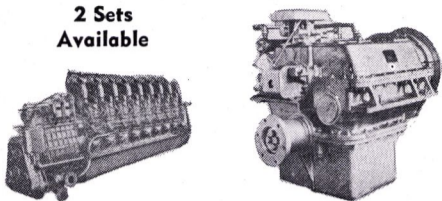
\$8750

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

ATTENTION! TUG OWNERS GM 1700 HP Geared Diesel Sets

2 Sets
Available

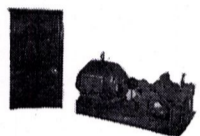


ENGINE: GM 16-278A—Vee type 8 $\frac{3}{4}$ "x10 $\frac{1}{2}$ "—air starting—heat exchanger cooled and complete with filters, strainers, engine operating panel board and all accessories. GEAR: Falk—3.05:1 ratio—vertically offset in line.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

1000 GPM—125 LB BRONZE FAIRBANKS-MORSE FIRE & GENERAL SERVICE PUMP

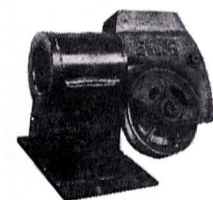


PUMP: Mfg by Fairbanks-Morse. Horizontally split case—1000 GPM—281' head—3545 RPM. Suction pressure flooded—6" suction—5" discharge. Steelflex coupling. MOTOR: Fairbanks-Morse—440/3/60—squirrel cage—3600 RPM—class A insulation. Type KZK—continuous duty—dripproof—ambient temp. 50°C. Complete with Cutler-Hammer controller (reduced voltage magnetic starter). DIMENSIONS: 5' 5" OAL—23" OAW—2' 11" OAH. UNIT HAS HAD VERY LITTLE USE.

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

Berger-Type Deck-Mounted FAIRLEADS



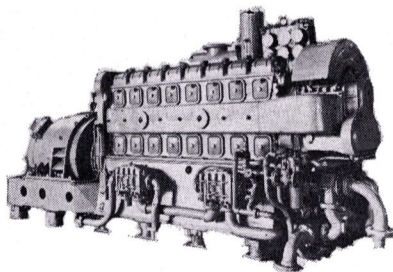
For 1" wire rope—12" diameter sheave—steel frame—self-aligning—180° swing. Formerly in Naval use on LCT.

\$745 EACH

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

G.M. 8-268A 200 KW A.C. DIESEL GENERATOR SETS



ENGINE: 8-268A—6 $\frac{1}{2}$ " bore x 7" stroke—1200 RPM—driving 200 KW Westinghouse generator—440 volts—3 phase—60 cycle—321 amps—80% power factor at 1200 RPM.

\$3750

THE BOSTON METALS COMPANY

313 E. Baltimore St. Baltimore, Md. 21202
539-1900 (301) 355-5050

BUYERS DIRECTORY

AIR CONDITIONING AND REFRIGERATION—REPAIR & INSTALLATION
Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

ANCHORS AND ANCHOR CHAINS
Lockstad Co., Inc., 179 West 5th Street, Bayonne, N.J. 07002

AUTOMATIC DRAFTING SYSTEMS
Gerber Scientific Instruments Co., P.O. Box 305, Hartford, Conn. 06101

BEARINGS
BJ Marine Bearings, a Borg-Warner Industry, P.O. Box 2709, Terminal Annex, Los Angeles, Calif. 90054
Lucian Q. Moffitt, Inc., P.O. Box 1415, Akron, Ohio 44309
Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wis. 53186

BOILERS
Babcock & Wilcox Co., 161 E. 42nd Street, New York, N.Y. 10017
Combustion Engineering, Inc., Windsor, Connecticut 06095

BOW THRUSTERS
Murray & Tregurtha, Inc., 2 Hancock St., Quincy, Mass. 02171

BUNKERING SERVICE
Gulf Oil Trading Co., 1290 Ave. of the Americas, N.Y., N.Y. 10019
Independent Petroleum Supply Co., 1345 Ave. of Americas, New York, N.Y. 10019
The West Indies Oil Co., Ltd., St. John's Antigua, W. I.

CARGO HANDLING EQUIPMENT
MacGregor International Organization, 49 Gray's Inn Road, London W.C.1, England

CLUTCHES, GEARS & BRAKES
Wichita Clutch Co., Inc., Wichita Falls, Texas 76307

COATINGS—Protective
Ameron Corrosion Control Div., Brea, Calif. 92621
Carboline Co., 350 Hanley Industrial Court, St. Louis, Mo. 63144
International Paint Co., Inc., 21 West Street, New York, N.Y. 10006
Patterson-Sargent, P.O. Box 494, New Brunswick, N. J.
Philadelphia Resins Corp., 20 Commerce Dr., Montgomery, Pa. 18936

CONTAINERS—CONTAINER HANDLING SYSTEMS
Ameron Corrosion Control Div., Brea, Calif. 92621
Lighter Aboard Ship, Inc., 225 Baronne St., New Orleans, La. 70112
Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501
RPC Division, Midland-Ross Corp., P.O. Box 490, Roxboro, N.C. 27573

CONTAINER LASHINGS & COMPONENTS
American Engineered Products, P.O. Box 74 Nichol Ave., McKees Rock, Pa. 15136
Washington Chain & Supply Co., P.O. Box 3645, Seattle, Wash. 98124

CONTROL SYSTEMS
Frederick Cowan & Co., Inc., 120 Terminal Drive, Plainview, L.I. New York 11803
Galbraith-Pilot Marine Corp., 600 Fourth Ave., Brooklyn, N.Y. 11215
Henschel Corporation, 14 Cedar St., Amesbury, Mass. 01913
Sperry Marine Systems Div., Charlottesville, Va., 22901, Division of Sperry Rand Corp.
WABCO Fluid Power Division, 1953 Mercer Road, Lexington, Kentucky 40505

CORROSION CONTROL
Ameron Corrosion Control Div., Brea, Calif. 92621
Carboline Co., 350 Hanley Industrial Court, St. Louis, Mo. 63144

CRANES—HOISTS—DERRICKS—WHIRLIES
ASEA Marine, Rep. in U.S.A. by Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
Houston Systems Mfg. Co., P.O. Box 14551, Houston, Texas 77021
M.A.N. Maschinenfabrik Augsburg-Nürnberg AG, Werk Augsburg, West Germany
Paceco, Div. Fruehauf Corp., 2350 Blanding Ave., Alameda, Calif. 94501

CRANE LOAD INDICATORS
W.C. Dillon & Co., 14620 Keswick St., Van Nuys, Calif. 91407
Trans-Sonics, Inc., P.O. Box 326, Lexington, Mass. 02173

DECK COVERING
Randustrial Corp., 13311 Mar Union Ave., Cleveland, Ohio 44120

DECK COVERS (METAL)
Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

DECK MACHINERY
Anneton Machine Co., P.O. Box 2265, Iron Mountain, Mich. 49801
ASEA Marine, Rep. in U.S.A. by Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
Markev Machinery Co., Inc., 79 S. Horton St., Seattle, Wash. 98134
A. G. Weser, Seebekwerft, 2850 Bremerhaven 1, Germany

DIESEL ENGINES
Bruce GM Diesel, Inc., 180 Route #17 S. at Interstate 80, Lodi, N.J. 07644
Caterpillar Tractor Co., Industrial Div., 100 N.E. Adams St., Peoria, Ill. 61602
Colt Industries Inc., Power Systems Div., Beloit, Wisc. 53511
De Laval Turbine Inc., Engine & Compressor Div., 550 85th Ave., Oakland, Calif. 94621
Electro-Motive Division General Motors, La Grange, Illinois 60525
M.A.N. Maschinenfabrik Augsburg-Nürnberg AG, Werk Augsburg, West Germany
H.O. Penn Machinery Co., Inc., 1561 Stewart Ave., Westbury, N.Y. 11590
Waukesha Motor Co., 1000 W. St. Paul Ave., Waukesha, Wis. 53186

DIESEL ENGINE MUFFLERS
Marine Products & Engrg. Co., 20 Vesey St., New York, N.Y. 10007

DOCK BUILDERS
GHH Sterkrade Ferrostaal Overseas Corp., 17 Battery Place, New York, N.Y. 10004

DOORS—Watertight—Bulkhead
Overbeke-Kain Co., 20905 Aurora Rd., Cleveland, Ohio 44146
Walz & Krenzer, Inc., 20 Vesey St., New York, N.Y. 10007

ELECTRICAL EQUIPMENT
AMP Special Industries, P.O. Box 1776, Paoli, Pa. 19301
Arnessen Electric Co., Inc., 335 Bond St., Brooklyn, N.Y.
Brown and Ross of New Jersey Incorporated, 370 Paterson Plank Road, Carlstadt, N.J. 07072
Galbraith-Pilot Marine Corp., 166 National Rd., Edison, N.J. 08817
Harvard Murlin Div., P.O. Box 302, Quakertown, Pa. 18951
Merrin Electric, 162 Chambers St., New York, N.Y. 10007
Oceanic Electrical Mfg. Co., Inc., 159 Perry Street, N.Y. 10014
Zidell Explorations, Inc., 3121 S.W. Moody St., Portland, Ore. 97201

EVAPORATORS
Bethlehem Steel Corp., Shipbuilding, 25 B'way, N.Y., N.Y. 10004
Riley-Beard, Inc., Maxim Evaporator Profit Center, P.O. Box 1115, Shreveport, Louisiana 71130

FAIRLEADS
Anneton Machine Co., P.O. Box 2265, Iron Mountain, Mich. 49801
Crosby Group, Box 3128, Tulsa, Okla. 74101

FENDERING SYSTEMS—Dock & Vessel
BJ Marine Products, subsidiary of Borg-Warner, P.O. Box 2709, Terminal Annex, Los Angeles, Calif. 90054
Hughes Bros., Inc., 17 Battery Place, New York, N.Y. 10004

FITTINGS & HARDWARE
AMP Special Industries, P.O. Box 1776, Paoli, Pa. 19301
Robvon Backing Ring Co., 675 Garden St., Elizabeth, N.J. 07207

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

GAS ALARM SYSTEMS
Lisnave, P.O. Box 2138, Lisboa 3, Portugal

HATCH COVERS
MacGregor-Comarain, Inc., 135 Dermody St., Cranford, Md. 07016

HEATERS & COOLERS
Way-Wolff Associates, Inc., 45-10 Vernon Blvd., Long Island City, N.Y. 11101

HULL CLEANING
Butterworth Systems, Inc., P.O. Box 9, Bayonne, N.J. 07002

HULL INSPECTION SYSTEMS
Hydro Products (A Dillingham Co.), P.O. Box 2528, San Diego, Calif. 92112

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

LIGHTS—Emergency, Search & Navigation
Nelson Oilfield Lighting Co., P.O. Box 1284, Fort Worth, Texas 76101

LNG SHIP DESIGN AND LICENSING
PDM/GAZ Transport, 919 Third Ave., New York, N.Y. 10022

LNG TANKAGE
Gazocan U.S.A. Inc., 125 High St., Boston, Mass. 02110
LGA—Liquid Gas Anlagen Union GmbH, c/o Ferrostaal Overseas Corp., 17 Battery Place, New York, N.Y. 10004
Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa. 15225

LININGS
Ameron Corrosion Control Div., Brea, Calif. 92621
Carboline Co., 350 Hanley Industrial Court, St. Louis, Mo. 63144

MARINE BLOCKS & RIGGING
Crosby Group, Box 3128, Tulsa, Okla. 74101

MARINE DRIVES—GEARS
Hoffert-Lowe, Inc., 108 Ridge Road, North Arlington, N.J. 07032
Philadelphia Gear Corp., Schuylkill Expressway, King of Prussia, Pa. 19406

MARINE EQUIPMENT
Comet Marine Supply Corp., 157 Perry St., New York, N.Y. 10014
Homelite Corporation, 70 Riverdale Ave., Port Chester, N.Y. 10573
ITT Henze Service, P.O. Box 1745, Mobile, Ala. 36610
Kearfoot Marine Products, 780 South 3rd Ave., Mt. Vernon, N.Y. 10550
Nicolai Joffe Corp., P.O. Box 2445, 445 Littlefield Ave., So. San Francisco, Calif. 94080
Merrin Electric, 162 Chambers St., New York, N.Y. 10007
Waukesha Bearings Corp., P.O. Box 798, Waukesha, Wis. 53186

MARINE FURNITURE
Bailey Joiner Co., 115 King Street, Brooklyn, N.Y. 11231

MARINE INSURANCE
Adams & Porter, 1819 St. James Place, Houston, Texas 77027
Midland Insurance Co., One State St. Plaza, New York, N.Y. 10004
R.B. Jones Corp., 301 West 11th St., Kansas City, Mo. 64105
UK PGI Club (Bermuda): Thos. R. Miller & Son, Mercury House, Front St., Hamilton, Bermuda (P.O. Box 665)

MARINE PROPULSION
Babcock & Wilcox Co., 161 East 42nd Street, New York, N.Y. 10017
Combustion Engineering, Inc., Windsor, Connecticut 06095
Jacuzzi Bros., Inc., 11511 New Benton Highway, Little Rock, Ark. 72204
Murray & Tregurtha, Inc., 2 Hancock St., Quincy, Mass. 02171
Port Electric Turbine Div., 155-157 Perry St., New York, N.Y. 10014
Stal-Laval, Inc., 400 Executive Blvd., Elmsford, N.Y. 10523
Turbo Power & Marine Systems, Subsidiary of United Aircraft Corp., 1690 New Britain Ave., Farmington, Conn. 06032

MARINE SURVEYORS
McClain Marine Service, 2 Hazel Place, Hazlet, N.J. 07730
Schmahl and Schmahl, Inc., 1209 S.E. Third Ave., Fort Lauderdale, Fla. 33316

MARITIME FINANCING—Leasing
A.B. Becker & Co., 2 First National Plaza, Chicago, Ill. 60670
General Electric Credit Corp., 4 Corporate Drive, White Plains, N.Y. 10604
Qualpeco Services, Inc., 750 Third Ave., New York, N.Y. 10017
Rhode Island Hospital Trust National Bank, 15 Westminster Street, Providence, R.I. 02903

NAVAL ARCHITECTS AND MARINE ENGINEERS
American Standards Testing Bureau, Inc., 40 Water Street, New York, N.Y. 10004
J. L. Bludworth, 4030 Wynne St., Houston, Texas
Breit Engrg. Inc., 441 Gravier St., New Orleans, La. 70130
James G. Bronson Associates, 166 Altamont Ave., Tarrytown, N.Y. 10591
Childs Engineering Corp., Box 333, Medfield, Mass. 02052
Coast Engineering Co., 711 W. 21st St., Norfolk, Va. 23517
Crandall Dry Dock Engrs., Inc., 238 Main St., Cambridge, Mass. 02142
Francis B. Crocco, Inc., Box 1411, San Juan, Puerto Rico
C.R. Cushing & Co., Inc., One World Trade Center, New York, N.Y. 10048
Arthur D. Darden, Inc., 1040 International Trade Mart, New Orleans, La. 70130
Design Associates, Inc., 3308 Tulane Ave., New Orleans, La. 70119
Designers & Planners, Inc., 114 Fifth Ave., New York, N.Y. 10011
M. Mack Earle, 103 Mellor Ave., Baltimore, Md. 21228
Parker C. Emerson & Associates, 1795 Cardinal Drive, Lake Oswego, Oregon 97034
Christopher J. Foster, 14 Vanderventer Ave., Port Washington, N.Y. 11050
Friede and Goldman, Inc., 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
Morris Guralnick, Associates, Inc., 583 Market St., San Francisco, Calif. 94105
J. J. Henry Co., Inc., 90 West St., New York, 10006
Hydraulics, 6338 Lindmar Dr., P.O. Box 1068, Goleta, Calif. 93017
C.T. Ilariucci & Associates, Tourism Pier #3, San Juan, P.R. 00902
Jantzen Engineering Co., 15 Charles Plaza, Baltimore, Md. 21201
James S. Kroger, 2500 S. Dixie Hwy., Miami, Fla. 33133
Littleton Research and Engrg. Corp., 95 Russell St., Littleton, Mass. 01460
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., 1180 Ave. of Americas, N.Y., N.Y. 10036
Marine Design Associates, P.O. Box 2674, Palm Beach, Florida
Rudolph F. Matzer & Associates, Inc., 13891 Atlantic Blvd., Jacksonville, Fla. 32225
John J. McMullen Associates, Inc., 1 World Trade Center, New York, N.Y. 10048
Georae E. Meese, 194 Acton Rd., Annapolis, Md. 21403
Metritape, Inc., 77 Commonwealth Ave., West Concord, Mass. 01742
Robert Moore Corp., 350 Main St., Port Washington, N.Y. 11050
Nickum & Spaulding Associates, Inc., 71 Columbia St., Seattle, Wash. 98104
Ocean-Oil International Engrg. Corp., P.O. Box 6173, New Orleans, La. 70114
Pearlson Engineering Co., Inc., 8970 S.W. 87th Ct., Miami, Florida 33156
S.L. Petchul, Inc., 8-D So. New River Drive East, Ft. Lauderdale, Fla. 33301
Potter & McArthur, Inc., 253 Northern Ave., Boston, Mass.
M. Rosenblatt & Son, Inc., 350 Broadway, New York, N.Y. 10013
and 657 Mission St., San Francisco, Calif.
George G. Sharp, Inc., 100 Church St., New York, N.Y. 10007
Southern Engineering Associates, P.O. Box 748, Ocean Springs, Miss. 39564
T. W. Spaetgens, 156 West 8th Ave., Vancouver 10, Canada
R. A. Stearn, Inc., 100 Iowa St., Sturgeon Bay, Wisc. 54235
Richard R. Taubler, 50 Court St., Brooklyn, N.Y. 11201
H. M. Tiedemann & Co., Inc., 74 Trinity Pl., New York, N.Y. 10006
Trident Studio, Box 670, Spring House, Pa. 19477
Whitman, Requaardt & Associates, 1304 St. Paul St., Baltimore, Md. 21202
Yankee Shipwrights, P.O. Box 35251, Minneapolis, Minn. 55435

NAVIGATION & COMMUNICATIONS EQUIPMENT

American Hydromath Co., 55 Brixton Rd., Garden City, N.Y. 11530
 Communication Associates, Inc., 200 McKay Road,
 Huntington Station, N.Y. 11746
 Edo Corporation, 13-10 111th Street, College Point, N.Y. 11356
 Edo Western Corporation, 2645 South 2nd West, Salt Lake City,
 Utah 84115
 Electro-Nav, Inc., 501 Fifth Ave., New York, N.Y. 10017
 Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
 Hose McCann Telephone Co., Inc., 524 W. 23rd St., N.Y. 10011
 ITT Decca Marine, Inc., 386 Park Ave. South, New York, N.Y. 10016
 ITT Mackay Marine, 2912 Wake Forest Road, Raleigh, N.C. 27611
 Lorain Electronics Corp., 2307 Leavitt Road, Lorain, Ohio 44052
 Magnavox Navigation Systems, 2829 Maricopa St., Torrance, Cal.
 90503
 Raytheon Marine Co., 676 Island Pond Road, Manchester, N.H. 03103
 Raytheon Co., Submarine Signal Div., P.O. Box 360, Portsmouth, R.I.
 02871
 Sperry Marine Systems Div., Charlottesville, Va. 22901, Division of
 Sperry Rand Corp.
 Standard Communications Corp., 639 N. Marine Ave., Wilmington,
 Calif. 90744
 Teledyne Hastings Raydist, P.O. Box 1275, Hampton, Va. 23361
 Tracor, Inc., 6500 Tracor Lane, Houston, Texas 77021
 The Waterways Co., 3512 Metairie Hts. Rd., New Orleans, La. 70002

OILS—Marine—Additives

Exxon Company, U.S.A., P.O. Box 2180, Houston, Texas 77001
 Exxon International Company, 1251 Avenue of the Americas,
 New York, N.Y. 10020
 Gulf Oil Trading Co., 1290 Ave. of Americas, New York, N.Y. 10019
 Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002
 The West Indies Oil Co., Ltd., St. John's, Antigua, W. I.

PAINT—Marine—Protective Coatings

Ameron Corrosion Control Div., Brea, Calif. 92621
 Carboline Co., 350 Hanley Industrial Court, St. Louis, Mo. 63144
 International Paint Co., 21 West St., New York, N.Y. 10006
 Patterson-Sargent, P.O. Box 494, New Brunswick, N. J.
 Transocean Marine Paint Association, P.O. Box 456, Delftseplein 37,
 Rotterdam, Holland

PETROLEUM SUPPLIES

Independent Petroleum Supply Co., 1345 Ave. of Americas, New York,
 N.Y. 10019
 Shell Oil Co., 1 Shell Plaza, Houston, Texas 77002
 The West Indies Oil Co., Ltd., St. John's, Antigua, W. I.

PIPE—Cargo Oil

Kubota, Ltd., 22, Funade-cho 2-chome, Naniwa-Ku, Osaka, Japan

PLASTICS—Marine Applications

Ameron Corrosion Control Div., Brea, Calif. 92621
 Hubeva Marine Plastics, Inc., 390 Hamilton Ave., Bklyn, N.Y. 11231
 Philadelphia Resins Co., 20 Commerce Dr., Montgomeryville, Pa. 18936

PORTS

Port of Galveston, P.O. Box 328, Galveston, Texas
 Jacksonville Port Authority, 2701 Tallyrand Ave., Jacksonville, Fla.

PROPELLERS: NEW AND RECONDITIONED

Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150
 Coolidge Propellers, 1601 Fairview Ave. East, Seattle, Wash. 98102
 Escher Wyss GmbH, P.O. Box 798, Ravensburg, Germany
 Federal Propellers, 1501 Buchanan Ave. S.W., Grand Rapids, Mich.
 49502

PUMPS

Colt Industries, Inc., Fairbanks Morse Pump & Electric Div., 3601
 Kansas Ave., Kansas City, Kansas 66110
 Delaval Turbine Inc., IMO Pump Division, P.O. Box 321, Trenton,
 N.J. 08602
 Houttuin-Pompen N. V. Sophialaan 4, Utrecht, Holland
 Jacuzzi Bros., Inc., 11511 New Benton Highway, Little Rock,
 Arkansas 72204

REFRIGERATION—Refrigerant Valves

Bailey Refrigeration Co., Inc., 74 Sullivan St., Brooklyn, N.Y. 11231

REGENERATORS—Fuel Savings

Harrison Radiator Division, General Motors Corp., 200 Upper Mt.
 Road, Lockport, New York 14094

ROPE—Manila—Nylon—Hawser—Wire

American Mfg. Co., Inc., Noble & West Sts., Brooklyn, N.Y. 11222
 Atlantic Cordage & Supply Corp., 60 Grant Ave.,
 Carteret, N.J. 07008
 Du Pont Co., Room 31H1, Wilmington, Delaware 19898
 Jackson Rope Corp., 9th & Oley, Reading, Pa. 19604
 Wall Rope Works, Inc., Beverly, N. J. 08010

RUDDER ANGLE INDICATORS

Galbraith-Pilot Marine Corp., 600 Fourth Ave., Brooklyn, N.Y. 11215
 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.

SANDBLASTING EQUIPMENT

Pauli & Griffin Co., 826 Folsom St., San Francisco, Calif. 94107

SCAFFOLDING EQUIPMENT

Howmet Corporation, Southern Extrusions Division, P.O. Box 40,
 Magnolia, Arkansas 71753
 Patent Scaffolding Co., 2125 Center Ave., Fort Lee, N.J. 07024
 Western Gear Corp./Sky Climber Inc., 17311 S. Main St., Gardena,
 Calif. 90248

SEWAGE DISPOSAL

Babcock & Wilcox Co., 161 East 42nd Street, New York, N.Y. 10017
 Koehler-Dayton, Inc., P.O. Box 309, New Britain, Conn. 06050

SHAFT REVOLUTION INDICATOR EQUIP.

Henschel Corp., 14 Cedar St., Amesbury, Mass. 01913
 Ultra Products, Inc., 805 Central Ave., New Orleans, La. 70121

SHIPBOARD VENTILATION

Coppus Engineering Corp., P.O. Box 457, Worcester, Mass. 01613

SHIPBREAKING—Salvage

The Boston Metals Co., 313 E. Baltimore St., Baltimore, Md. 21202
 National Metal & Steel Corp., 1251 New Dock St., Terminal Island,
 Cal. 90731
 Zidell Explorations, Inc., 3121 S. W. Moody St., Portland, Ore. 97201

SHIP BROKERS

Agemar, P.O. Box 1465, Maracaibo, Venezuela
 Hughes Bros., Inc., 17 Battery Pl., New York, N.Y. 10004
 Mowbray's Tug and Barge Sales Corp., 21 West St., N.Y., N.Y. 10006
 Oaksmith Boat Sales, Inc., Fisherman's Terminal, Seattle,
 Wash. 98119

SHIPBUILDING STEEL

Armco Steel Corp., 703 Curtis St., Middletown, Ohio 45042
 Bethlehem Steel Corp., 25 Broadway, New York, N.Y. 10004
 Huntington Alloy Products, Div. International Nickel Co., Inc.,
 Huntington, W. Va. 25720
 International Nickel Co., 1 New York Plaza, New York, N.Y. 10004
 United States Steel Corp., P.O. Box 86, Pittsburgh, Pa. 15230

SHIPBUILDING—Repairs, Maintenance, Drydocking

Albina Engine & Machine Works, 2100 N. Albina Ave., Portland,
 Oregon 97208
 Astilleros Espanoles, S.A. Zurbano, 70, Madrid 10, Spain
 Avondale Shipyards, Inc., P.O. Box 52080, New Orleans La. 70150
 Bellard, Crighton & Cie, P.O. Box 2074, Route des Docks, 59, Dun-
 kirk, France
 Bellard Murdoch S. A., Kattendijkdok Westkaai 21, Antwerp, Belgium
 Bell Aerospace Company, Div. of Textron, P.O. Box 1, Buffalo, N.Y.
 14240
 Bethlehem Steel Corp., Shipbuilding, 25 Broadway, N.Y., N.Y. 10004
 Bludworth Shipyard, Inc., Box 5426, Cypress St., Brady Island,
 Houston, Texas 77012
 Carrington Slipways Pty. Ltd., Tomago, N.S.W. 2322, Australia
 C.M.R. (Compagnie Marseillaise de Reparations), 274 Chemin du
 Littoral, 13 Marseille (15E) France
 Conrad Industries, P.O. Box 790, Morgan City, La. 70380
 Curacao Drydock, Inc., P.O. Box 153, Willemstad, Curacao, N.A.

Dillingham Shipyard, Pier 41, P.O. Box 3288, Honolulu, Hawaii 96801
 Dravo Corporation, Neville Island, Pittsburgh 25, Pa.
 Empresa Nacional Bazan, 65 Castellana, Madrid 1, Spain
 Equipment Systems, Inc., A Microdot Co., P.O. Box 95,
 Port Deposit, Md. 21904

Equitable Equipment Co., Inc., P.O. Box 8001, New Orleans, La. 70122
 General Dynamics, Electric Boat Division, 99M Eastern Point Road,
 Groton, Conn. 06340
 General Dynamics, Quincy Division, Quincy, Mass. 02169
 Halter Marine Services, Inc., Route 6, Box 287H, New Orleans,
 La. 70126

Havre de Grace, Havre de Grace, Md.
 Hillman Barge & Construction Co., Grant Bldg., Pittsburgh 19, Pa.
 Hongkong United Dockyards Ltd., Kowloon Docks, Hong Kong
 Jeffboat, Inc., Jeffersonville, Ind. 47130

Kawasaki Dockyard Co., 8 Kaigon-dori, Ikuta-ku, Kobe, Japan
 Kelso Marine, Inc., P.O. Box 268, Galveston, Texas 77550
 Keppel Shipyard (Private) Ltd., P.O. Box 2169, Singapore
 Kockums Mekaniska Verkstads AB, Malmö 1, Sweden
 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, Browns-
 ville, Texas 77520

Marathon LeTourneau Marine Division, LeTourneau Rural Station,
 Vicksburg, Mississippi 39180
 Marathon LeTourneau Offshore Pte., Ltd., P.O. Box 83, Taman Ju-
 rong Post Office, Singapore 22, Singapore
 Marathon Shipbuilding Company, P.O. Box 870, Vicksburg, Miss.
 39180

Marathon Shipbuilding Company (U.K.) Ltd., Clydebank Bunbarton-
 shire, G81-1YB, Scotland
 Marine & Rail Equipment Division/FMC Corp., 4700 N.W. Front
 Ave., Portland, Oregon 97208

Matton Shipyard Co., Inc., P.O. Box 428, Cohoes, New York 12047
 Mercantile Marine Engineering & Graving Docks Co., N.V., Antwerp,
 Belgium

Mitsui Shipbuilding & Engrg. Co. Ltd., 6-4, Tsukiji 5-chome, Chuo-
 ku, Tokyo, Japan
 Monark Boat Co., P.O. Box 210, Monticello, Ark. 71655
 National Steel & Shipbuilding Corp., San Diego, Calif. 92112

Newport Ship Yard, Inc., 379 Thames St., Newport, R.I. 02840
 Northwest Marine Iron Works, P.O. Box 3109, Swan Island, Port-
 land, Oregon 97208

Odense Steel Shipyard Ltd., P.O. Box 176, DK-5100 Odense, Denmark
 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
 St. Louis Shipbuilding—Federal Barge, Inc.,
 611 East Marceau, St. Louis, Mo. 63111

Sasebo Heavy Industries Co., Ltd., New Ohtemachi Bldg., Chiyoda-
 ku, Tokyo, Japan

Savannah Machine & Shipyard Co., P.O. Box 787, Savannah, Ga.
 31402

Sembawang Shipyard (Pte) Ltd., P.O. Box 3, Sembawang, P.O.
 Singapore, 27

Service Machine & Shipbuilding Corp., Box 1578, Morgan City,
 La. 70380

Slocum Iron Works, Inc., P.O. Box 2506, 1752 Telegraph Road,
 Mobile, Ala. 36601

Sumitomo Shipbuilding & Machy. Co., Ltd. 2-1 Ohtemachi 2-chome,
 Chiyoda-ku, Tokyo, Japan

Todd Shipyards Corp., 1 State St. Plaza, New York, N.Y. 10004
 Tracor/Mas, Inc., P.O. Box 13107, Port Everglades, Fla. 33316

Union Dry Dock & Repair Co., Foot of Pershing Road, Weehawken,
 N.J. 07087

Vancouver Shipyards Co., Ltd., 50 Pemberton Ave., North Vancouver,
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SHIP MODEL BASIN

Hydraulics, Incorporated, Laurel, Maryland 20810

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John J. McMullen Associates, Inc., 1 World Trade Center, New York,
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STEAM GENERATING EQUIPMENT

Babcock & Wilcox Co., 161 East 42nd Street, New York, N.Y. 10017
 Combustion Engineering, Inc., Windsor, Connecticut 06095

STEERING SYSTEMS

Wm. E. Hough Co., 1125 P N.W. 45th St., Seattle, Wash. 98107

SWITCHBOARDS

Hose McCann Telephone Co., Inc., 524 West 23 St., N.Y., N.Y. 10011

TOWING—Vessel Chartering, Lighterage, Salvage, etc.

Bay-Houston Towing Co., 805 World Trade Bldg., Houston,
 Texas 77002
 Curtis Bay Towing Co., Mercantile Bldg., Baltimore, Md. 21202
 Henry Gillen's Sons Lighterage, West End Ave., Oyster Bay, N.Y. 11771

James Hughes, Inc., 17 Battery Pl., New York, N.Y. 10004
 McAllister Bros., Inc., 17 Battery Pl., New York, N.Y. 10004
 McDonough Marine Service, P.O. Box 26206, New Orleans, La.

Moran Towing & Transportation Co., Inc., One World Trade Center,
 Suite 5335, New York, N.Y. 10048

Puerto Rico Lighterage Co., P.O. Box 1072, San Juan, P.R. 00902
 Suderman & Young Towing Co., 329 World Trade Center, Houston,
 Texas 77002

Turecamo Coastal and Harbor Towing Corp., 1752 Shore Parkway,
 Brooklyn, N.Y. 11214

VALVES AND FITTINGS—Hydraulic—Safety Flanges

Dover Corp. / Norris Division, P.O. Box 1739, Tulsa, Okla. 74101.
 Fabri-Valve Co., 2100 N. Albina Ave., Portland, Oregon 97208

Hubeva Marine Plastics-Lining, 435 Hamilton Ave., Brooklyn, N.Y.
 11231

Marine Moisture Control Co., 449 Sheridan Blvd., Inwood, N.Y. 11696
 Mechanical Marine Co., 900 Fairmount Ave., Elizabeth, N.J. 07027

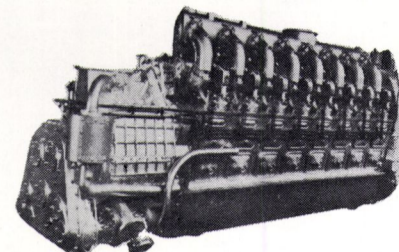
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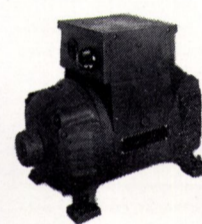
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M.G. SETS

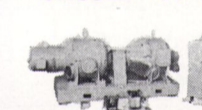
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 110/1/60 M.G. SET
 NEW—UNUSED



INPUT: 115 VDC—6.1 amps—3600 RPM. AC OUTPUT: 425 watts—4.55 amps—110/1/60. Ball bearing. 13 7/8" long—7 9/16" wide—10 1/2" high. Has radio noise suppression filter. Net wt. 58 lbs—83 lbs packed for shipping.

\$89.50 EACH

UNUSED—10 KW—120/1/60 M.G. SET



INPUT: Motor 25 HP — 120 VDC — 156 amps — 1800 RPM — flange-coupled to output generator.

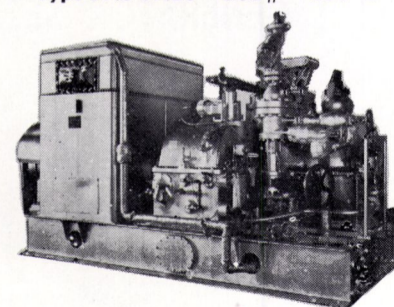
OUTPUT: 10 KW generator — 120 volts 60 cycle single phase — 108 amps — 0.80 PF — with direct-connected 125 volt 8 amp exciter. Motor starter by Cutler-Hammer. AC generator has voltmeter and ammeter. Bassler voltage regulator.

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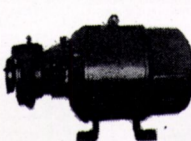
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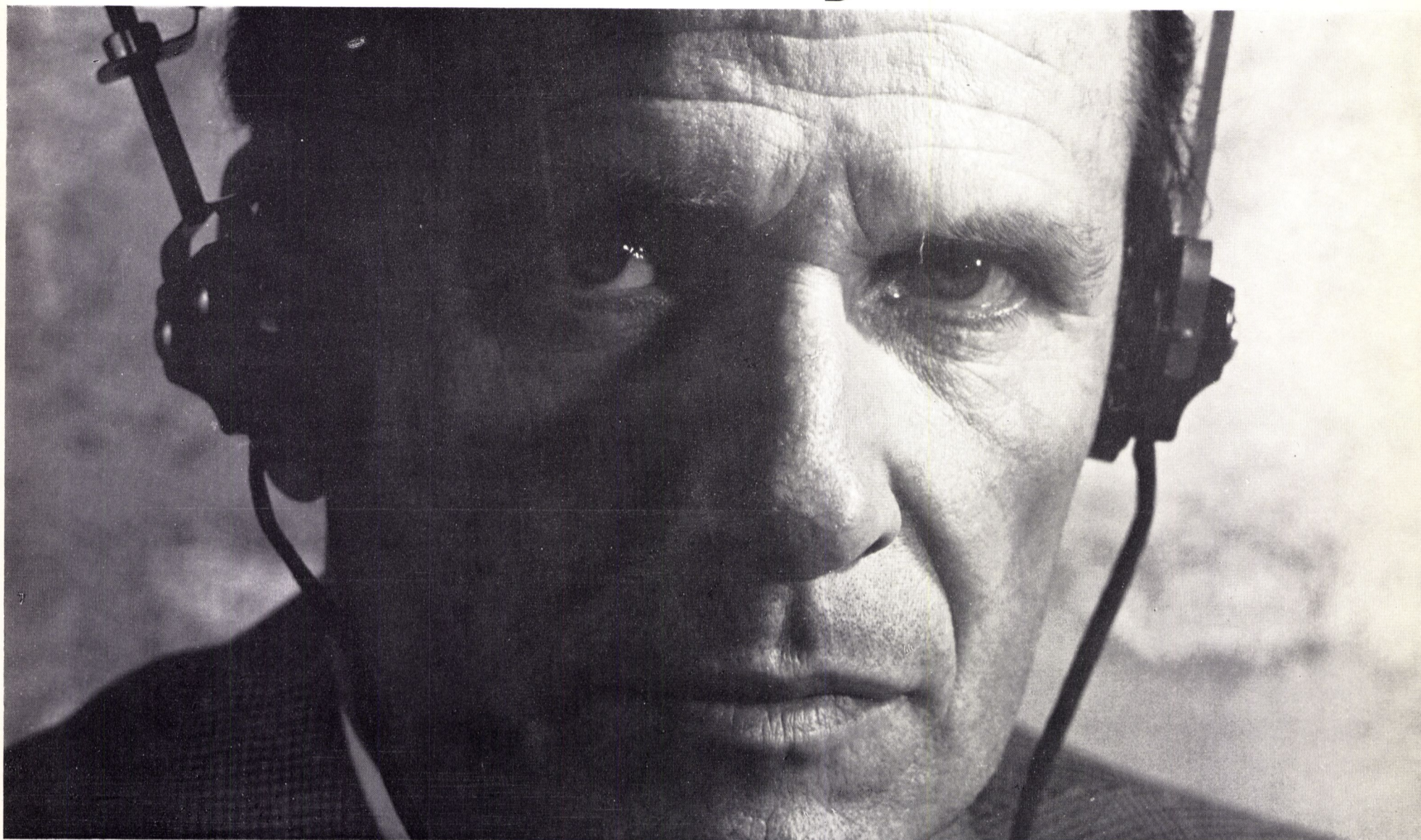


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 2 1/2"x2" — bronze — flange connections. MOTOR: 20 HP—115 volts DC—2400 RPM—153 amps.

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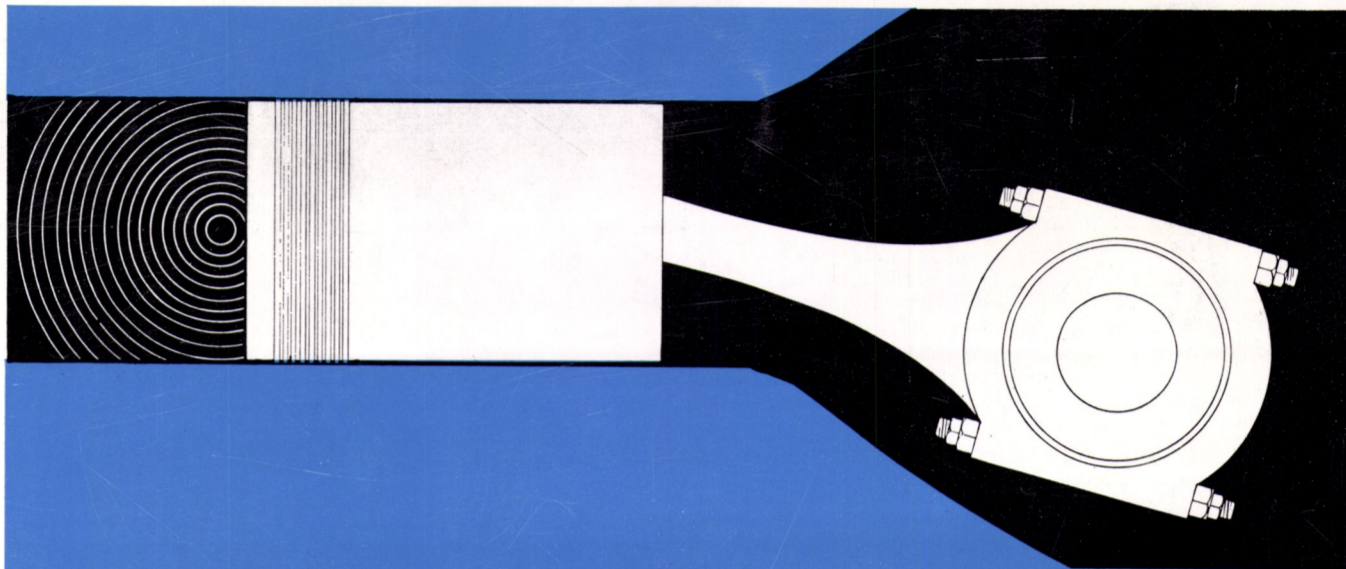
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