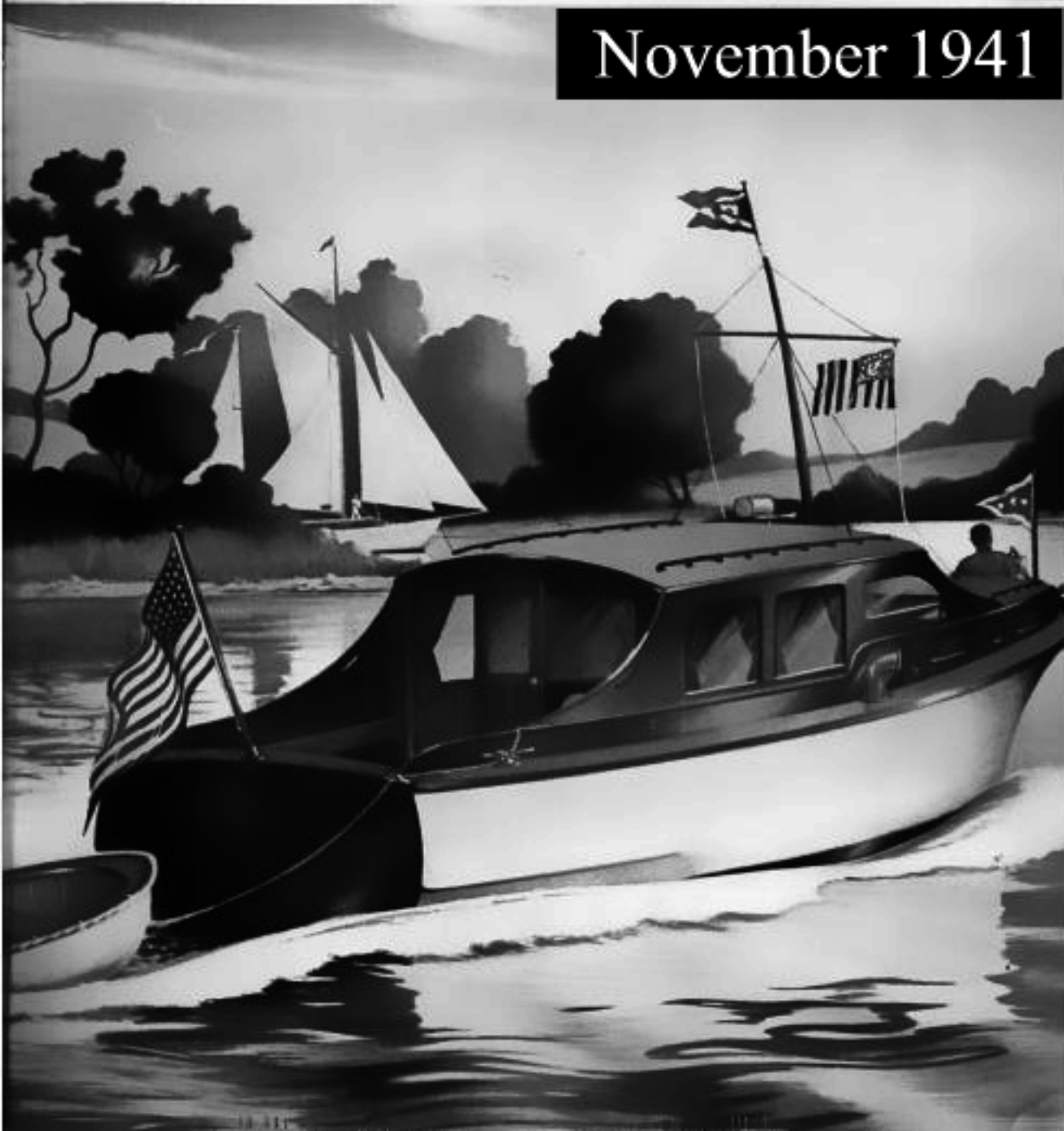


MOTOR BOATING

November 1941





of defense work. Taken together, the combined output of all these yards is swelling rapidly into a great fleet of motor boats that will inevitably play a vital role in the great national defense effort.

In the interval since the survey quoted above was made, new yards have gone into production and many of those mentioned have taken on additional contracts so that, as of today, the picture of the motor boat industry's part in defense work as indicated by the figures given is entirely inadequate.

Included in the great program are torpedo boats, sub-chasers, mine sweepers, patrol boats, aircraft rescue boats, surf boats, assault boats, pontoon boats, whale boats, ambulance boats, landing boats, lighthouse launches, target boats, harbor tugs, life boats, tank lighters, Navy launches, harbor communication boats, Coast Guard picket boats and cutters, mine yawls, ferry boats, aircraft tenders, shallow draft craft for special duty, diesel yawls, and even amphibians.

In every case the nature of the problem involved in turning out these widely diversified types is such that the small boat builders

Left: One of the forty new 83-foot Coast Guard Cutters taking shape in the Wheeler Shipyard at Coney Island. Planking of the hull has been completed, and sanders are at work. Below: A dozen models are being made of the new boats, to be sent to various bases

Photographs by M. Rosenfeld

Forty More Cutters

For the

COAST GUARD

WHILE a list of the various motor craft under construction today for defense purposes in the yards throughout the country is indeed impressive, it is still somewhat difficult for the average yachtsman to form an accurate impression of the real magnitude of the program.

A survey made in mid-summer, though not put forth as by any means complete, showed that approximately 80 different boat builders throughout the country were at work on nearly 5,000 boats up to 135 feet in length. Of these a good percentage were in the larger classes—say, upwards of 50 feet. Of course all of this work is also in addition to the construction of motor boats and yachts for pleasure purposes.

Practically all of this defense work is being done on contract from the U. S. Army, Navy or Coast Guard and the program is nation-wide in its scope. There is hardly a yard of any consequence on the Atlantic, Pacific and Gulf Coasts or on the Great Lakes but has its quota



of the country are well qualified by experience and their organization to meet this emergency construction problem. Especially is this true in the case of those who have already been geared up to relatively large scale production in the building of standardized cruisers and motor yachts.

As indicated previously, a large percentage of these small craft—small, in comparison to the big commercial and military vessels which larger shipyards are building—are going to the U. S. Coast Guard. The very able Commandant of this branch of the service, Rear Admiral



Above: One of the first of the new Wheeler-built 83-footers for the Coast Guard. Left: Representatives of the builders, the Wheeler Shipyard, the Coast Guard, and the Sterling Engine Company on the deck of CGC-450 as she undergoes trials



thousands of trained Coast Guardsmen were drawn upon for service in the Navy, to man transports. Other vessels of the Coast Guard fleet were required to release Naval vessels for duty elsewhere.

On top of all this the Coast Guard was charged with the responsibility of organizing all available units of the pleasure boat fleet into a Coast Guard Reserve for patrol and inspection work and prevention of sabotage along the waterfronts of the nation.

How speedily and effectively this has been accomplished is evidenced

by the fact that a recent check showed that almost 5,000 yachtsmen had been enrolled in the Coast Guard Auxiliary with thousands of boats, and in the regular Reserve hundreds of patrol yachts have already engaged in active duty, usually with their owners aboard to man them.

While its organization was so constituted that the regular work of the organization was not interfered with in any sense by the transfer of part of its personnel and while the Commandant had already set in motion the machinery necessary to enlist the services of yachtsmen and their boats in the Reserve, nevertheless the new defense program required not only the construction of new cutters to replace those transferred, but also the building of many other craft to handle regular and extraordinary duties.

For example, there are 20 and 26-foot utility craft for lighthouse service, 23-foot surf boats and motor whaleboats, 25 and 36-foot self-bailing motor life boats, 26-foot drill boats, 30-foot aircraft

(Continued on page 74)

Russell R. Woesche, has instituted far-sighted and fore-sighted programs calculated to make his organization of maximum service and efficiency through full cooperation with the U. S. Navy, of which it becomes a part in time or war or whenever the President may so direct.

In the fulfillment of its functions of law enforcement on the navigable waters of the United States and its possessions; the saving of life and property at sea and along the Coasts and other waterways; and the maintenance of aids to navigation; not to mention innumerable other related duties, the United States Coast Guard requires a great fleet of boats of a wide variety of types. In addition, the personnel required to man them must be provided and trained by their organization.

Even in normal times the Coast Guard's task is one of considerable magnitude, but recently it has been required to assume additional responsibilities. Last Spring they were called upon to supply a group of large cutters which were to be transferred to Great Britain. Then

On duty with the Coast Guard...

MONEL Shafts

Widely used on cutters and rescue craft, the "Seagoin' Metal" is standard for shafts and couplings

One thing about this speedy 83-footer that is *not* new to the Coast Guard... Monel shafting. For years a big user of the "Seagoin' Metal," the Coast Guard now makes this staunch metal standard for shafting and muff couplings on cutters and rescue boats.

On patrol duty and rescue work, repairs, maintenance and clean-up time must be kept to a minimum. Hence the use of Monel for keel bolts, strut bolts, radio antenna and galley trim.

Write today for full information on strong, rust proof Monel.

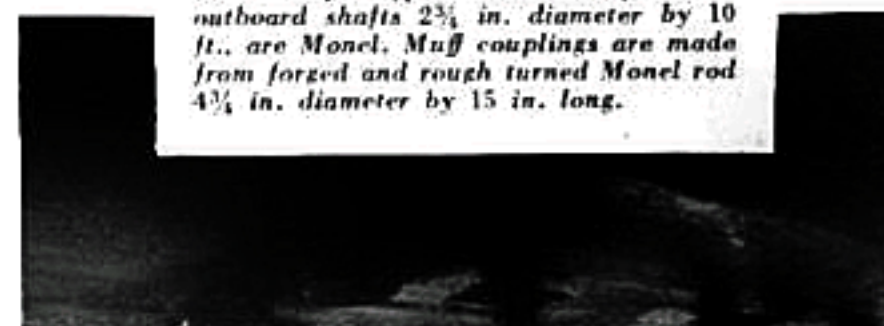
ONE MOMENT PLEASE

Due to the Defense Program the supplies of Monel, Nickel and Nickel Alloys are being diverted from their normal channels. Although major efforts at this time must be directed toward serving Defense needs, The International Nickel Company will continue to report developments for the information of metal users who are concerned with defense today and with commercial progress tomorrow.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET NEW YORK, N. Y.



83 ft. Coast Guard boat designed by Eldredge-McInnis of Boston, built by Wheeler Shipyards, Inc., Brooklyn. In-board shafts 2 3/4 in. diameter by 11 ft., outboard shafts 2 3/4 in. diameter by 10 ft., are Monel. Muff couplings are made from forged and rough turned Monel rod 4 3/4 in. diameter by 15 in. long.



COAST GUARD CHOOSES



SEARCHLIGHTS



83' Wheeler built C. G. Cutter

Two 20" "RAYLITE" Searchlights on each of these sturdy Cutters will help to protect our harbors. For many years the Coast Guard has used "RAY-LINE" Searchlights and found them dependable in this demanding service.

Send today for free catalog MB-11

THE PORTABLE LIGHT CO., Inc.
25 WARREN STREET NEW YORK, N. Y.

FORTY MORE CUTTERS FOR THE COAST GUARD

(Continued from page 29)

rescue boats, 38-foot boats for special service tending navigational aids and mine fields at overseas bases, 73-foot cutters for use in flood water areas in the middle west, larger 83-footers, 110-foot harbor cutters, 180-foot steel cutters for maintenance of navigational aids, big 240-footers for off-shore patrol, and even the largest 327-footers of the Bibb class. At the extreme opposite end of the list are little 10-foot sailing dinghies and Star class sailboats, in use at the Coast Guard Academy at New London.

USUALLY when one thinks of Coast Guard vessels his mind turns naturally to the picket boats and cutters that maintain a perpetual vigil along the coastlines of our nation. These are the boats with which most yachtsmen come in contact, the ones which seemingly are always at hand whenever a pleasure boat requires assistance.

Yachtsmen do not regard them as a policing force for their duties in connection with the inspection of motor craft and the enforcement of navigation laws all revolve about the protection of the yachtsman's interests and the promotion of his safety at all times and in all places when he is enjoying recreation afloat.

These cutters are built in various sizes depending on the nature of the work they have to perform, the distances at sea to which they may be called upon to range and other considerations of this nature.

New Class of Cutters

BACK in February of this year the Coast Guard called for bids on an entirely new class of cutters. An initial group of about 40 were to be constructed, to be used for general service. Specifications called for wooden-hulled twin-screw craft of a good turn of speed.

Original designs for the new class were drawn up at Coast Guard headquarters, under the direction of Alfred Hansen, Chief Naval Architect. From these original designs Walter J. McInnis of Boston was then commissioned to prepare the detailed construction plans.

WHEELER

Keeps them Rolling
for the
ARMY, NAVY and COAST GUARD



As finished 83-foot Coast Guard hull moves along production line—the keel for next boat is laid and its prefabricated transom is ready to be placed in position. Above: C. G. C. 450 leaves Wheeler yard for successful test run while four others are receiving finishing touches prior to trial run and delivery to the Coast Guard.

EVERY fifth working day a gleaming new 83-foot Cutter for the United States Coast Guard slides down the ways at the Wheeler Shipyard. Forty of these big, capable, clean-lined and fast boats are to be delivered in record time. With equal expediency we have built boats for the Army and Navy. Thus this famous yard, home of the world-renowned Wheeler Cruisers, “Keeps Them Rolling” for the defenders of freedom.

WHEELER SHIPYARD /nc.

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**Wheeler's
Choice
for the
Cutters**



is this Electromaster Seagoing Space-Saver. For Rescue Boats, it is used by Cambridge Shipbuilders, Manteo Boatbuilding Co., Ventnor Boat Works; for Geodetic Survey Boats by Lake Washington Shipyards; and a battery of them are in the famous Sea-Otter II (Levingston Shipbuilding Co.) . . . The Seagoing Space-Saver is a "perfect fit" for many types of galleys. Write for specifications.



Electromaster, largest U. S. independent manufacturer of Electric Ranges exclusively, makes a line of heavy duty marine ranges. Information on request.

ELECTROMASTER INC.

1803 E. ATWATER ★ DETROIT, MICH.

**BULKHEAD DOORS • VENTILATORS
AMMUNITION and
PYROTECHNIC CHESTS
for Wheeler-Built
83-FOOT COAST GUARD CUTTERS**

Manufactured by

CHARLES W. CARLL SONS

TRENTON

NEW JERSEY

*Since 1888 Fabricators of Sheet Metal Work
for the Marine Trade*

The original intention was to distribute the construction work in a number of contracts to be let to various boat yards throughout the country. Of these, about one-fourth were to have been built on the West Coast, with the remainder divided among yards on the Atlantic and Gulf Coasts, and also the Great Lakes.

Forty bids were received from the builders. On examination of these it was found that the lowest, submitted by the Wheeler Shipyards at Coney Island, Brooklyn, would permit construction of the entire lot of 40 within the limits of the appropriation. As a result, the Coast Guard decided to award the entire contract, amounting to nearly two million dollars, to this firm.

Wheeler's Building Facilities

ANY one who has any familiarity with the extent of the production program under which Wheeler Playmate cruisers and yachts had been built prior to their engagement in this national defense contract will readily understand how their experience in the mass production of pleasure craft fitted them to assume the responsibility of turning out this entire lot of forty 83-footers for delivery to the Coast Guard within a year.

Behind this organization were the plant, the production facilities, and the experience that had enabled them to produce 200 pleasure craft a year. Coupled with this was a familiarity with Coast Guard requirements based on the contract they filled in 1934 under which they had built a dozen fast 34-foot single-screw picket boats powered with Liberty engines. Consequently they were well prepared to undertake the new program with efficiency, speed, and economy. At the same time the Coast Guard profits as a result of having construction of the whole group centralized in one yard in a convenient location.

The new cutters have a waterline length of 78 feet, waterline beam of 14 feet, and a draft of 4½ feet. Powered with pairs of Sterling Viking gasoline engines turning large Columbian propellers, they are really capable of a fine turn of speed in the off-shore patrol duty for which they are designed. When completed, they will go to United States bases wherever required, including Cuba, Puerto Rico and elsewhere. About 10 are tentatively scheduled to go to the West Coast, of which a few will probably be used in Alaskan service.

Forty Cutters in a Year

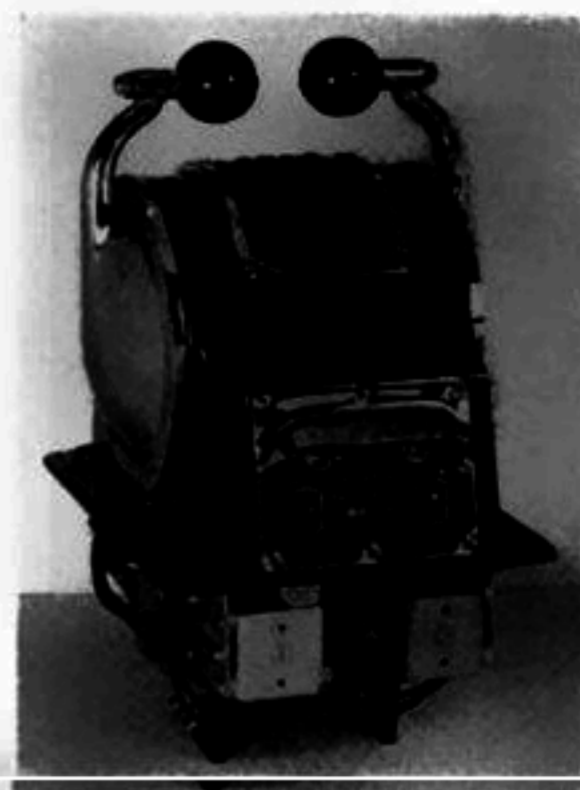
NATURALLY the builders can allow no grass to grow under their feet if the contract is to be fulfilled before the deadline—all 40 to be completed and delivered by March 25, 1942. By the 17th of last March the first keel had been laid and production was under way. Subsequently a keel was laid every week and before long building facilities had been stepped up to the point where the schedule now calls for a launching every four or five days.

As may well be imagined, the plant is a bee-hive of activity. A dozen of these big cutters are in work at all times—eight on land in various stages from the keel up and four more launched and receiving the finishing touches afloat, including installation of machinery and equipment.

The plant expansion required to take care of this program was handled with a minimum of delay, even as the first of the new vessels entered early stages of construction in the existing yard. Three new railways were laid and the building sheds were extended to provide for the eight boats simultaneously under construction. An

PANISH CONTROLS

the Engines on the New 83' Coast Guard Cutters with Split-second Maneuvering



PANISH MASTER CONTROL BOX

(Shown below)

General Features

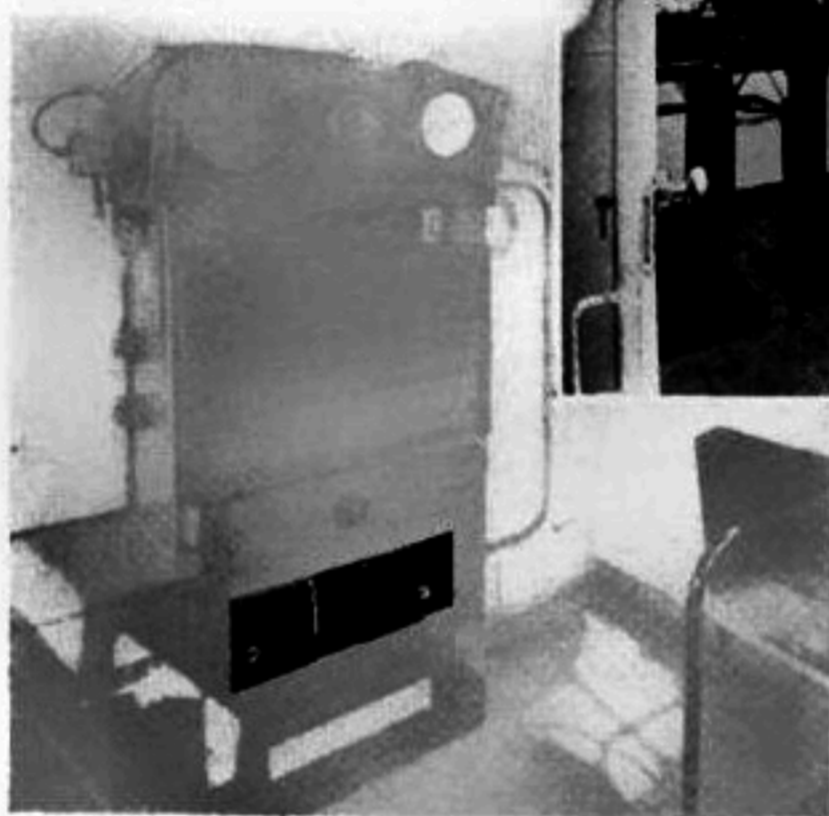
1. Used with multi-point control only.
2. Single selector lever switches throttle connections and electrical connections simultaneously from one control point to the other.
3. Selector lever mechanically interlocked with all control stations.
4. Remote control point cannot be shifted unless all control levers are in NEUTRAL positions.
5. Selector lever automatically locked in selected position.
6. Arranged for vertical mounting on transom or bulk-head.
7. Large front and rear covers for inspection and oiling.

PANISH REVERSING SWITCH

(Enclosed in box on left corner bottom photograph)

General Features

1. Standard magnetic relay type reversing switch.
2. Non-fusing large carbon to silver contacts on power circuits—solid silver contacts on control circuits.
3. Ahead and Astern switches mechanically interlocked and heavily spring loaded.
4. Switches cannot close accidentally due to the ship's motions.
5. Switch mounted on one panel enclosed in heavy sheet metal cabinet with hinged and latched cover.
6. Large cable outlets for all control and power circuits.
7. Standard type cable connectors.
8. All equipment arranged for use of standard "Navy specification" color coded communication cables.



PANISH CONTROL STATION

(Shown above and mounted on cutter at left)

General Features

1. Single lever controls both Reverse Gear and Throttle.
2. Twin levers for twin engines arranged for one hand operation.
3. Finger-tip control at any speed.
4. Either mechanical or hydraulic throttle operation with either single or multi-point control.
5. Mechanical or hydraulic operation of throttle, optional at any time.
6. One single type of remote Control Station for both mechanical and hydraulic throttle operation and single or multi-point control.
7. Controls levers mechanically locked and electrically interlocked with reverse gear operating unit.
8. Throttles cannot be opened unless reverse gear is fully engaged in either direction.
9. Operation of the reverse gear is indicated at remote Control Station in three ways—it can be seen; it can be heard; and it can be felt.
10. Construction all bronze and extremely rugged.
11. Immune to rough handling and definitely fool-proof.
12. Low-battery warning signal provided at remote station.
13. Automatic elimination of magnetic compass interference.
14. Splash and rain proof. Immune to temperature variations.
15. All interior parts accessible through large hand hole cover.
16. Arranged for horizontal mounting near steering position.
17. Large, ten screw mounting flange for water-tight installation.

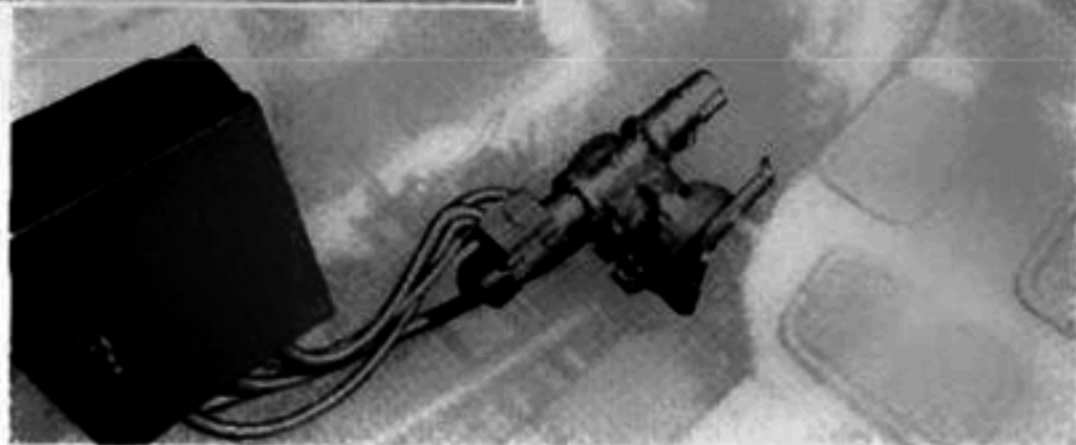
OTHER

PANISH PRODUCTS

REMOTE LANDING GEAR CONTROLS FOR AEROPLANES

REMOTE CONTROLS FOR DIRECT REVERSING DIESEL ENGINES

HYDRAULIC THROTTLE ACTUATORS



PANISH REVERSE GEAR OPERATING UNIT (Shown above)

General Features

1. Small and compact, powerful and noiseless in operation.
2. Permanent, flange type mounting on side of reverse gear housing.
3. Reversible for right or left hand installation.
4. Unit does not obstruct inspection and adjustment openings of reverse gear.
5. Power Unit coupled permanently to reverse gear operating shaft.
6. Automatic mechanical overload protection for reverse gear and power unit.
7. Controlled torque output adjustable and permanently maintained.
8. Instantaneous and automatic release of thrust load without backing off, after reverse gear has been engaged in AHEAD or ASTERN.
9. Reverse gear positively held in engaged position while thrust load is removed.
10. Reverse gear is fully engaged irrespective of variations in angle of movement required on operating shaft.
11. Power unit automatically compensates for any change of operating angles in either direction.
12. No adjustments of any sort required for the end positions of AHEAD and ASTERN. NEUTRAL position only adjustable.
13. Eliminates all end position limit switches, overload clutches, solenoid brakes, time fuses, or other current limiting devices.
14. The Reverse Gear is engaged positively without jamming in either direction.
15. Electrically operated from starting battery or any other electrical power supply.
16. Motor cannot be stalled.
17. High mechanical efficiency and low current consumption.
18. Maximum operating time per maneuver is from three-fifths to one second for FULL AHEAD to FULL ASTERN and from one to two-fifths of a second for NEUTRAL to AHEAD or ASTERN.
19. Instantaneous emergency hand operation without the need of uncoupling the power unit or any other preparatory operation.
20. The unit declutches itself automatically when the reverse gear is operated by hand.

PANISH CONTROLS, BRIDGEPORT CONNECTICUT

New COAST GUARD CUTTERS



Equipped with DANFORTH Anchors

- SELF-BURYING
- NEVER FOULS
- STOWS FLAT
or in
HAWSE PIPES
- NO
UNFOLDING
- HUSKY ALLOY
STEEL

Also used in many sizes by
UNITED STATES NAVY

Danforth Anchors decrease total anchor weight . . . increase holding power per pound of anchor. That's why Danforth is specified on an increasingly large number of Naval and Coast Guard craft . . . that's why Wheeler Shipyard is equipping forty new 83 ft. Coast Guard cutters with 75 and 150 lb. Danforths. Your purchase of a Danforth gives you 10 to 70 times the holding power per pound of anchor. Buy this lighter Danforth and release the extra pounds of steel for Defense! See your ship chandler. Write for size recommendations for your boat.

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ROD—SHEET—SHAFTING—TUBING

Supplied for

Wheeler-Built Coast Guard Cutters

by

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DURKEE MARINE PRODUCTS CORPORATION

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WHEELER COAST GUARD BOATS

with
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Manufacturers of non-ferrous
DECK — CABIN — UNDERWATER
MARINE HARDWARE

2053 Clove Road, Gramere, Staten Island
New York City

additional force of 300 skilled boatbuilders were employed.

By the early part of the summer eight of the new cutters had been launched, and in the latter part of July the first one underwent trials off City Island, while the ninth keel was being laid. This first one was taken to Boston. On October 17, the seventh cutter ran her trials.

Construction Supervised by Coast Guard

ALL of the construction is under the close supervision of Coast Guard officials. Lieutenant E. A. Anderson, Inspector in Chief at the yard, has a staff of a dozen men on duty at all times. Both the builders and the Coast Guard inspectors on the job work in close collaboration with Coast Guard officials in Washington, to whom much credit is due for the phenomenal speed and efficiency with which the entire construction program is planned, coordinated and carried into execution. Under Admiral Waesche, in charge of this program, is Admiral Harvey Johnson, aided by Lieutenant Commander Rutherford B. Lank, Jr. Naval Architect A. Hansen has charge of construction activities, while in another section, Lieutenant Roberts handles the engineering aspects of the problem.

Among the factors that are directly responsible in enabling the builders to handle a job of this magnitude so efficiently are the practice of prefabricating many of the parts entering into the completed vessel and also the sub-contracting of parts and sub-assemblies to outside yards.

With respect to the first of these factors, this principle of pre-fabrication is applied to the stem, the frames, the transom, the plywood bulkheads, pilothouses and so on. Finished complete in their respective departments, they are brought to the work ready to be assembled in the hull much as chassis, body, fenders and other parts grow into a finished automobile on the assembly line in automotive production practice.

Pilothouses are a complete assembly, sub-contracted to another manufacturer who fabricates them of welded Everdur sheets, moulded to shape, ready to install on the main deck of the cutter. These pilothouses are lined with block cork for insulation and are fitted with Plexiglas windows which conform to the semi-streamlined shape of the deck structure.

Finest of Construction Required

CONSTRUCTION of these vessels is of the very finest, in order to measure up to Coast Guard specifications. Frames are of white oak, planking of fir, Everdur screw fastened, manganese bronze underwater fittings including struts and rudders, and Monel for shafting and fastenings. They are of round bilge design, single-planked of wood, sheathed at the water line, and have water-tight bulkheads of waterproof marine plywood.

Extensive use is made of electric welding wherever possible on all metal parts, including not only pilothouses, but also tanks, engine beds and keelsons.

The power plants consist of a pair of Sterling Viking gasoline engines. The Sterling Engine Company has concentrated all its production facilities on defense work and the contract for powering these cutters alone ran into a figure somewhat in excess of \$800,000. Since the Vikings for this Coast Guard job are only a part of the large volume of orders Sterling has for engines to power other craft, for the U. S. Army and Navy and for Great Britain, it has been necessary for them to build a new factory, while various parts for the motors are manufactured in other plants.



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In the Wheeler-Built Coast Guard Chasers, HUDVALCO OAK IS USED wherever strong oak is needed.

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by

TIEBOUT

for the 83 FOOT COAST GUARD
CUTTERS being built by
WHEELER SHIP YARDS

SINCE
1853

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SINCE
1853

118 CHAMBERS ST



WHISTLES-HORNS-SIRENS

FOR ALL DEFENSE PURPOSES

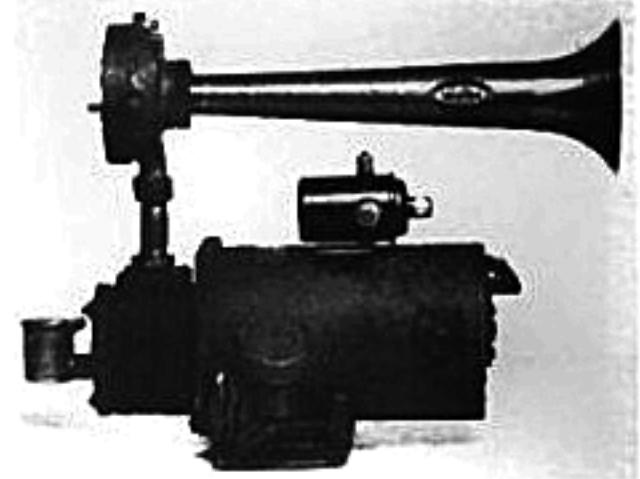
CLARK COOPER CO.

Electro-Phonic powerful
air horn supplies its own
compressed air

Types and sizes for every
marine requirement

Clark Cooper Co. Elec-
tro-Phonic air horns are
used on the Wheeler-
built 83-foot Coast
Guard Cutters

CLARK COOPER CO.
Palmyra, N. J.



CLARK COOPER CO.
ELECTRO-PHONIC AIR HORN
Bulletin EP 138 D

The power plants are installed on steel engine beds which, in conjunction with the inherent smoothness of these engines, and the heavy substantial construction of the hulls, results in an amazingly smooth running vessel, free from excessive vibration. The 2 3/4-inch Monel shafts are each carried in four special Goodrich bearings which also contribute to the smoothness of the complete installation.

In addition to the main engines, each cutter carries two 120-volt auxiliary generating plants for lighting, heating and cooking by electricity. These generators function continuously while the current is being drawn, no batteries being required.

Living quarters are provided for two officers and eight men, a total complement of 10 on each cutter, and there are other usual facilities such as galley, mess room, etc.

Exceptionally Seaworthy Craft

TO anyone who appreciates fine sea-going lines in a wholesomely constructed vessel, these cutters are really a pleasure to see. They are, as might be expected, built to go to sea and take in their stride anything that the ocean has to offer. They are reported to be steady, rolling little, and the high flaring bows help to keep them exceptionally dry in heavy weather.



Controls, supplied by Panish, are electric. One set is arranged up on the flying bridge, another below in the pilot house. There are two powerful Portable Light Company searchlights.

MOTOR BOATING

BLACKMER • ROTARY • PUMPS

... A part of the Coast Guard Program for National Defense.

Blackmer Rotary Pumps, hand operated, are used in the water circulatory system on the Wheeler 83 ft. Cutters.

Our compliments to Wheeler Marine construction genius which builds so rapidly and so well.

BLACKMER PUMP COMPANY
GRAND RAPIDS MICHIGAN

DANDUX

• We have been proud to furnish the Canvas outfits for the Wheeler 83 ft. Cutters and thus, to have had a part in the construction of these sturdy additions to the Nation's Defenses.

• Dandux Marine Canvas Products have been recognized as quality leaders in their field for more than a quarter century by America's leading shipbuilding organizations.

C. R. DANIELS, Inc.

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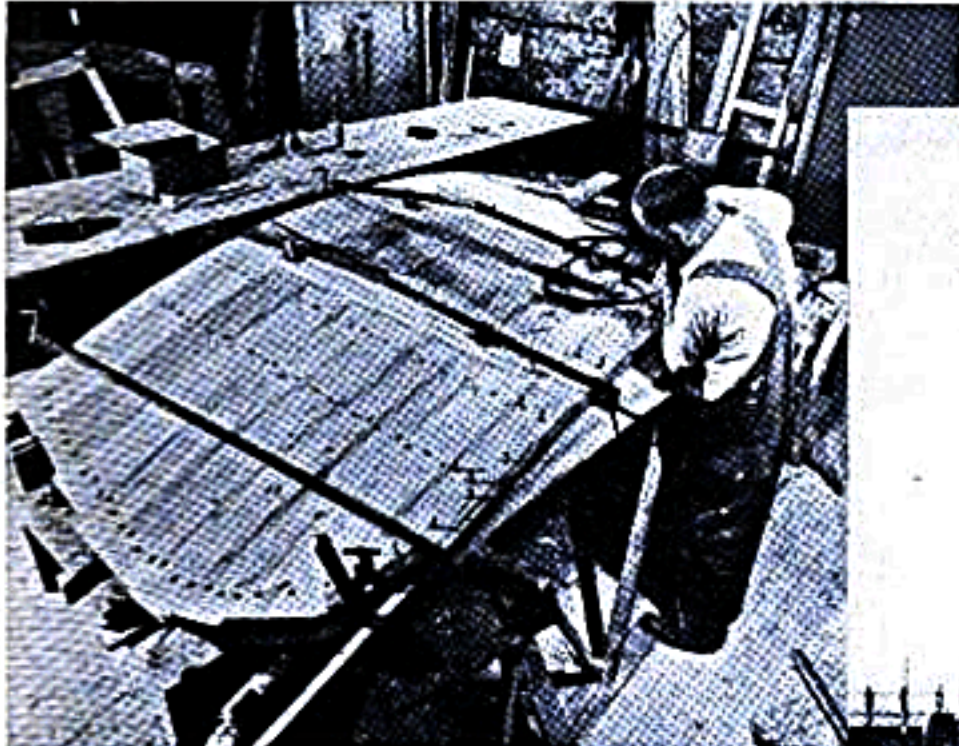
Branch Plants and Offices at

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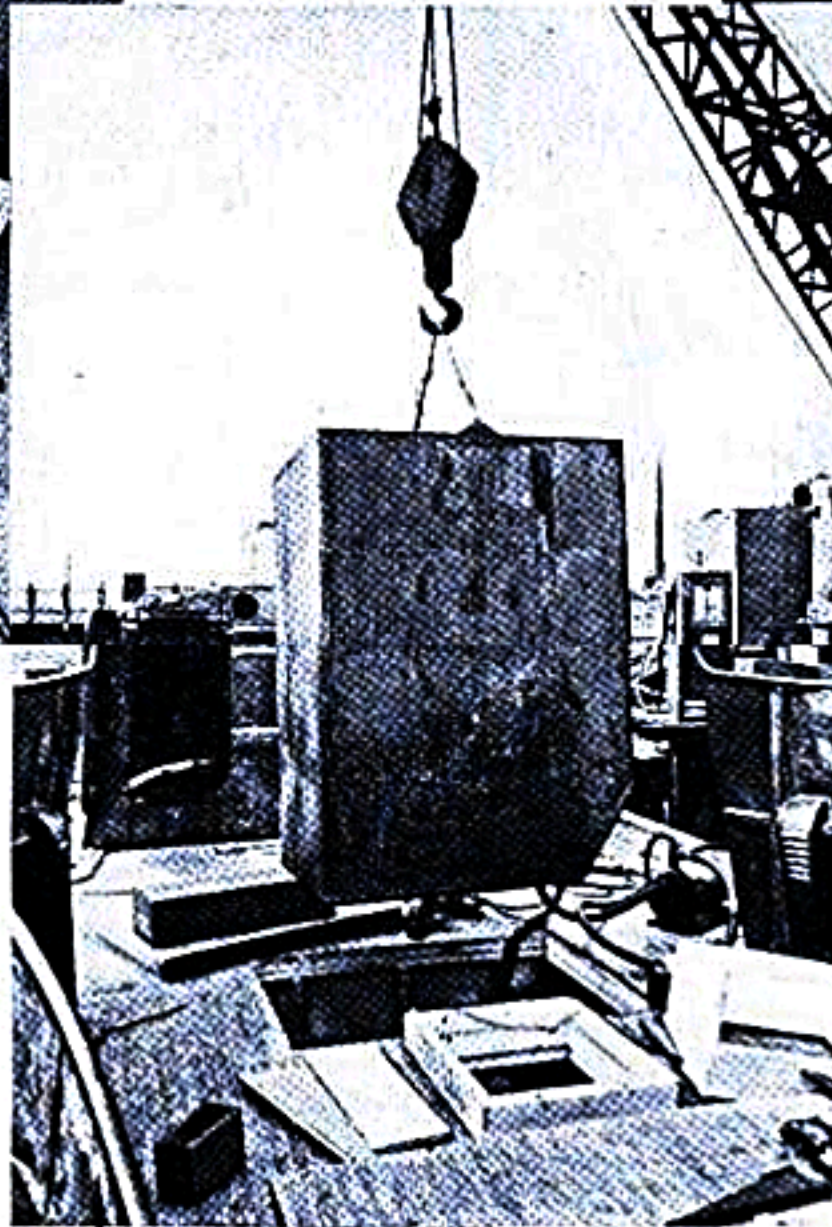
COTTON DUCK MILLS AT ALBERTON, MD.

Everdur ENLISTS!

See how this familiar seagoin' metal
is helping National Defense
in Wheeler-made Coast Guard cutters



Above: IT SHOULDN'T SURPRISE YOU to find screws of Everdur going into the transom for this staunch 83-footer. Everdur screws also fasten all hull and deck planking. The finished cutter below is but one of many being built not only by Wheeler Shipyards, but also by other leaders in the industry that serves your pleasure in peacetime, and your security today.



Above: LOWER AWAY! And into position swings a welded Everdur pilot house—made by the Gerstein & Cooper Co., South Boston, Mass. The wings already standing in position are also constructed of Everdur. Here's why: because EVERDUR Metal combines strength, *plus* corrosion-resistance, *plus* weldability, PLUS non-magnetic properties.

At left: DOWN THE HATCH goes the copper-silicon gasoline tank, also made by the Gerstein & Cooper Co. These tanks are made of this unique alloy for the same reasons you find them in so many well-built pleasure craft—high strength, rustless, and welded.



Everdur ANACONDA **COPPER-SILICON Metal**

THE AMERICAN BRASS COMPANY, General Offices: Waterbury, Conn.

Subsidiary of Anaconda Copper Mining Company

In Canada: Anaconda American Brass Limited, New Toronto, Ontario

EVERDUR is a trademark of The American Brass Company, registered in the United States Patent Office.

DEFENSE NEEDS EVERDUR—And lots of it! Not just for 83-foot Coast Guards, but for many other types of craft, for fuel, oil and hydraulic pressure lines on airplanes, for elevator and control apparatus on gun mounts, for tanks and pressure vessels of many kinds in our defense-vital chemical industries. Everdur, today, is a *precious* metal.

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MOUNT VERNON, NEW YORK

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for

**WHEELER-BUILT
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Marine Coppersmiths Since 1897

They are also said to show remarkable qualities when it comes to the matter of maneuverability. Aside from their hull design, much of this may undoubtedly be attributed to the special Panish electric controls. These are combination throttle and clutch controls, all electrically operated. There are two electric motors mounted on the reverse gear housings which operate, through reduction gears, to actuate the reverse gear mechanism when throwing it into the ahead or astern position. Each cutter has dual controls with one set up in the open on the flying bridge, while the other set is in a protected position in the pilothouse.

Equipment, in all particulars, is of the finest. Each boat carries a light and a heavy Danforth anchor and it is particularly interesting to note how light and small an anchor has been found to be adequate in this design as compared with old-fashioned kedges or Navy anchors. Two big powerful Portable Light Company searchlights are mounted atop the pilot house and for the radio equipment there is a telescoping antenna just forward of the pilot house. The cutters will be equipped with radiotelephones, and armament suitable to their probable use.

PANISH REMOTE CONTROLS

THE propulsion plants in the new 83-foot Coast Guard Cutters are veritable tornadoes of power. Reverse gears of heroic proportions are required to transmit hundreds of horsepower at comparatively low revolution rates. It is safe to assume that the reverse gears in these engines are among the largest ever built in this country. Of necessity they require a high operating effort, which allows for hand operation only in extreme emergencies. The problem of operating these reverse gears by power and at speeds expressed in fractions of a second, without ruinous effects on the clutches and the power operating unit as well is even more complicated by the inherent requirement of definitely fool proof operation. To open the throttles of these engines without having the clutches positively engaged would be courting disaster, to say the least.

Yet, throttles and clutches must be coordinated to allow for split-second maneuvering in any emergency.

Specifications for such a remote control include single lever control for throttle and clutch, interlocked, so that the former cannot be opened until the latter is fully engaged. Freedom of action for the pilot requires single-hand operation of both engines in any direction, and he should be able to feel the clutches respond to his maneuvers.

Furthermore, they include a power operating unit which will smoothly and silently operate the reverse gear in either direction at any speed without jamming. It should be small enough not to encumber the engine, leaving the reverse gear fully accessible for inspection and adjustment. It should provide automatic and instantaneous release of the enormous thrust loads involved without backward movement, and its power output must be subject to unfailing overload protection to save both reverse gear and operating unit from harm. It should automatically compensate for variation in the reverse gear operating angles due to clutch adjustments for wear. Its installation and maintenance should offer no difficulties to the average engine room personnel. It should provide instantaneous hand operation in case of power failure without any preparatory operations. It should have a high mechanical efficiency in order to keep its power consumption within limits safely handled by standard equipment. Additional requirements for multi-point control, indication of clutch operation at the remote control point in three distinctly different ways, interlocks, etc., etc., make the problem one of major proportions.

It required radically new ideas and advanced engineering methods to produce a reverse gear control which would meet these exacting requirements. However, Panish Controls, of Fairfield, Connecticut, met them all to the full satisfaction of the Coast Guard. No small credit belongs to the engineers of the U. S. Coast Guard, who have added to our naval forces a unit of spectacular maneuverability.



83' COAST GUARDS by WHEELER



While speed of construction and finishing is demanded in building for the Coast Guard today, the same high standards of durability and efficiency are maintained. The selection of paints,

therefore, assumes a new importance. We are proud of the fact that Wheeler is using so many International bottom, topside and deck paints and seam compounds for this Coast Guard work.

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Produced for the upholstery field for over 10 years, Paratex is a standard padding for all types of upholstery. Paratex is lighter in weight, cooler, more economical, vermin proof and odorless. It holds shape indefinitely and reduces maintenance. It is the ideal marine upholstery padding material.

IT is an extreme pleasure to share in the Coast guard building program at the Wheeler Brooklyn yard and in the equipment of other defense craft now under construction throughout the nation. Proper rest and comfort for fighting men who patrol the seas is of paramount importance. Blocksom Curled Hair and Blocksom Paratex (The Original Rubberized Curled Hair), widely used in modern upholstery, are contributing to the comfort of service men at sea.

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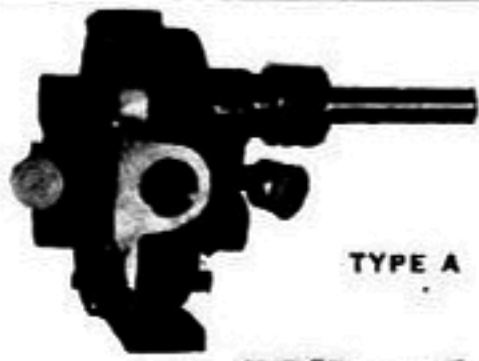
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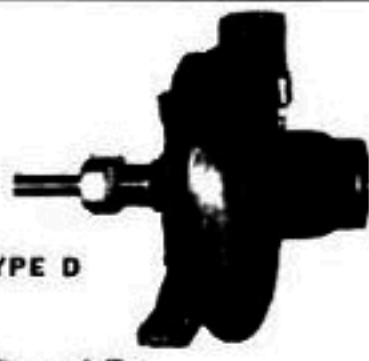
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TO THE COAST GUARD

Americans everywhere pay enthusiastic tribute to the U. S. Coast Guard and its long record of distinguished service to country and countrymen.

News that the Coast Guard is being expanded to 25,000 men is warmly received. So, too, is the news that a large fleet of modern 83-foot patrol boats is now building for the Coast Guard. Designed by Naval Architect Walter McInnis, of Boston, these sturdy, trim and speedy boats

are of wood construction and have rounded-bilge hulls.

Significantly, each of these new patrol boats is being powered by a pair of husky 8 cylinder Sterling Viking engines, turning out 600 horsepower apiece.

Built into every one of these Vikings are the mechanical efficiency, dependability and durability that have made Sterling engines a favorite in Coast Guard service for many years.



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