

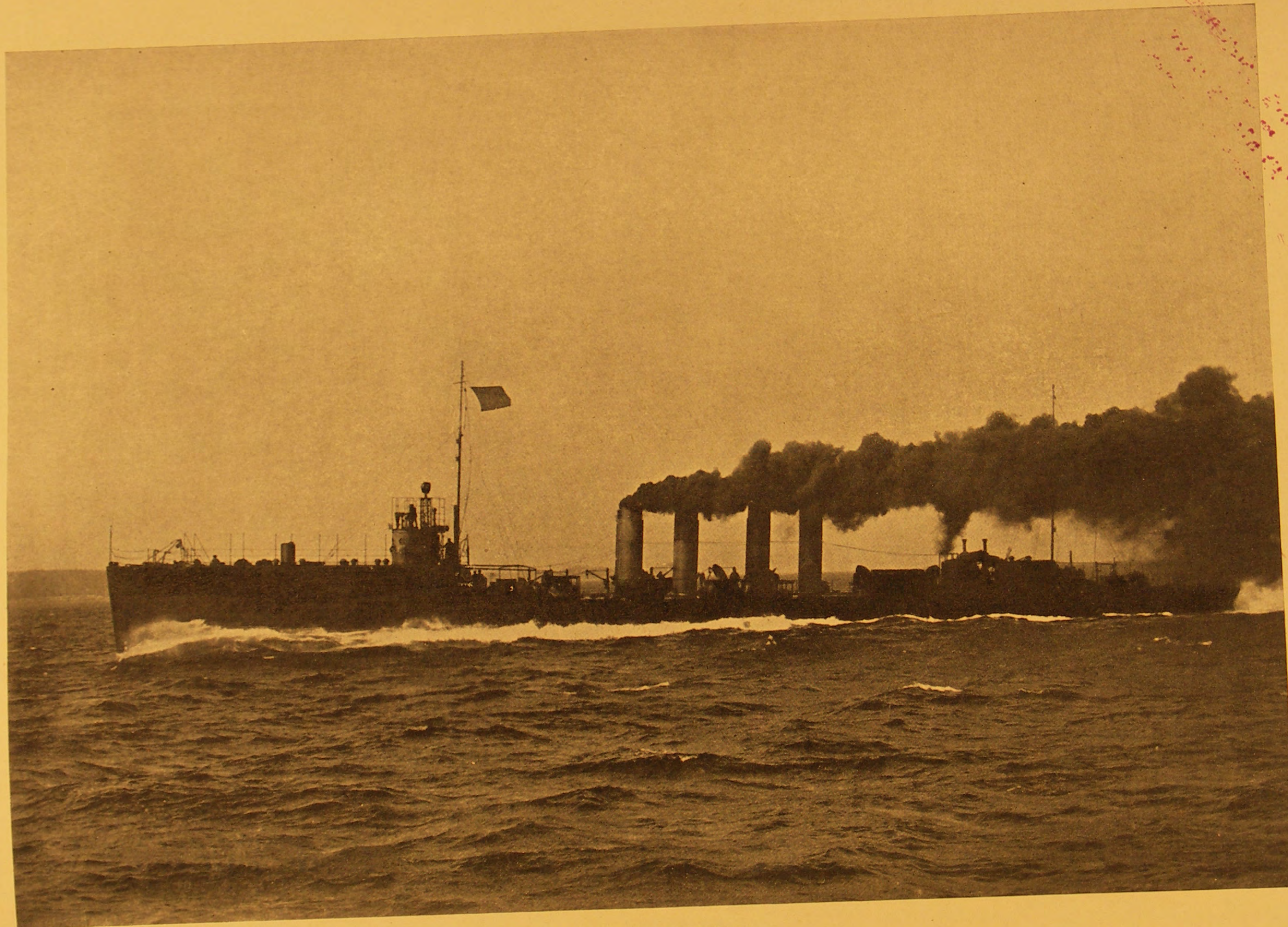
RESTRICTED

GENERAL INFORMATION

TORPEDO BOAT DESTROYER NO. 22

U. S. S. PAULDING

INFORMATION RELATIVE TO ITEMS UNDER THE
COGNIZANCE OF THE BUREAU OF
CONSTRUCTION AND REPAIR
NAVY DEPARTMENT



U. S. S. PAULDING

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SUPERINTENDING CONSTRUCTOR
FOR THE
UNITED STATES NAVY
NEW YORK SHIPBUILDING CO., CAMDEN, N. J.

GENERAL INFORMATION

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INFORMATION RELATIVE TO ITEMS
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Bureau of Construction and Repair

NAVY DEPARTMENT

Office of the Superintending Constructor
For U. S. Navy,
Bath Iron Works, Bath, Maine.

INTRODUCTION

The Act of Congress authorizing the construction of the "PAULDING" was dated May 13, 1908.

The advertisement was issued by the Navy Department, June 15, 1908, and bids were received August 31, 1908.

The contract with the Bath Iron Works, Ltd., of Bath, Maine, was signed September 29, 1908; the date of completion to be September 29, 1910; the price \$644,000.00.

The dates of the principal events during the construction are as follows:

First hull material ordered.....	October	23, 1908.
Lines faired in the Mold Loft.....	February	15, 1909.
Keel laid.....	July	24, 1909.
First frame raised.....	July	28, 1909.
First compartment tested.....	November	30, 1909.
Vessel launched.....	April	12, 1910.
Standardization trial.....	August	23, 1910.
Speed trial.....	August	25, 1910.
Inspected by Board of Inspection.....	August	23, 1910.
Delivered to Navy Department at Navy Yard, Boston, Mass.,...	September	27, 1910.

This book was prepared by authority of the Bureau of Construction and Repair, and contains lists and descriptions of the various features and systems that have been installed under cognizance of that Bureau.

GENERAL INFORMATION

SUCTION PIPES FROM TANKS

Three 4½-inch cutout valves fitted up as a manifold and located on the forward side of bulkhead 124 at centerline with 4½-inch branches to each of the after oil tanks. From this manifold a 4½-inch pipe fitted with a 4½-inch Macomb strainer to the 6-inch by 7-inch by 12-inch supply pumps between frames 76-78 and 78-80 starboard, which discharge through 4-inch connections into each of the settling tanks. A similar arrangement of valves fitted up as a manifold is also located on the after side of bulkhead 59, port, with 4½-inch branches leading to each of the forward oil tanks with connections to the before mentioned supply pumps arranged in similar manner to the after oil tanks for discharging into settling tank. In addition a 4-inch hose by flange connection is located on main deck between frames 79-80 starboard side, connected to the supply pumps which will take oil from a tank or a barge alongside and deliver into any of the oil tanks.

SUPPLY TO BOILERS

In each fire room there are two 4½-inch x 3-inch by 4-inch service pumps connected to the settling tanks through a 2-inch two-way manifold and 2-inch angle suction strainers for supplying oil to the furnaces through heaters.

STEAMING OUT CONNECTIONS

A 3-valve ¾-inch manifold is located on berth deck between frames 43-44 with ¾-inch connections to each of the forward oil tanks A-10, A-11 and A-12.

Each of the sounding tubes for after oil tanks is fitted with a ¾-inch steam connection just under the main deck.

Location of sounding tubes for D-1 and D-2 is between frames 124-125, starboard and port side, respectively. To D-7 between frames 145-146, starboard side.

No steaming out connection to settling tanks is provided.

STEERING GEAR

The ship is equipped with a steam steering engine, made by the Hyde Windlass Co., of Bath, Maine, located in the forward end of the pilot house and operated by a wheel (which can also be used for hand steering) and by a wheel on the bridge.

The engine is connected to the yoke on the rudder head by a 2¾-inch galvanized plow steel rope, with ¾-inch galvanized steel chain at the turns, running along the sides of the ship above the main deck to a sliding block in each side between frames 150-155. The tails of these sliding blocks are direct connected to the yoke by 1½-inch galvanized steel rods with 1¼-inch galvanized steel chain over arc of yoke. The leads from forward pass over the sliding blocks to fixed blocks on the main deck between frames 149-150 and from there inboard and up over the drum of the hand steering gear, forming an endless line between the forward and after steering station. The spur gear of the hand steering wheel aft is fitted with a lock on the after side, which, when closed, makes the after

wheel drum the standing part of the gear for steering from the forward station. A pad-eye is fitted on each side of the main deck at frame 145 to be used as a standing part of the gear when the after hand wheel is being used. An emergency relieving tackle is fitted, consisting of short lengths of $2\frac{1}{2}$ -inch galvanized steel wire rope, attached to the padeye on yoke arms, two 10-inch iron blocks with $3\frac{1}{2}$ -inch manila rope leading to pad-eyes on the main at frame 153, 4 feet 6 inches each side of center line. For belaying the fall ends of the relieving tackles, cleats are located at frame 139, 3 feet 6 inches each side of center line.

STEERING GEAR DATA

Steering Engine, Hyde Windlass Company, Maker.	
Number of cylinders.....	2
Diameter of cylinders.....	$5\frac{1}{2}$ "
Stroke of piston.....	$5\frac{1}{2}$ "
Working steam pressure, pounds.....	200
Steam pipe diameter, inches.....	$1\frac{1}{2}$
Exhaust diameter, inches.....	2
All parts sufficiently strong to withstand full boiler pressure.	
Angle of steering engine stops, degrees.....	35
Revolutions of engine from hard-a-starboard to hard-a-port.....	195
Revolutions of chain wheel from hard-a-starboard to hard-a-port.....	4.07
Revolutions of forward steering wheels from hard-a-starboard to hard-a-port.....	12
Radius of rudder yoke, feet.....	5
Total area of rudder, square feet.....	45
Area of balanced portion.....	9
Revolutions of after steering wheels hard-a-starboard to hard-a-port....	33

TO STEER BY HAND FROM PILOT HOUSE: Open main clutch between spur gear and worm wheel. Throw in clutch in front of pinion and clutch to steering wheel and out clutch on vertical shaft leading to steering stand on bridge. See that the line of gear is continuous and lock spur gear at after hand wheel.

TO STEER BY HAND FROM AFTER WHEEL STAND: Open shackles in line of gear, port and starboard side just forward of the wheel and connect them to the padeyes on deck, throw out lock bolts in after side of spur gear.

TO STEER BY STEAM FROM PILOT HOUSE: Lock spur gear at after wheel stand and see that the line of gear is continuous. Throw in main clutch and out clutch in front of pinion and clutch on vertical shaft leading to wheel stand on bridge. Throw in clutch to steering wheel.

TO STEER BY STEAM FROM BRIDGE: Proceed as above but throw out clutch to steering wheel in Pilot House and throw in clutch to vertical shaft.

Turnbuckles are provided for taking in the slack in line of gear and are located one on each side just forward of the after steering wheel stand.