

RESTRICTED

GENERAL INFORMATION

TORPEDO BOAT DESTROYER NO. 17

U. S. S. SMITH

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

DECLASSIFIED

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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
Wm. Cramp and Sons Ship and Engine Building Company
Philadelphia, Pa.

**BUREAU OF SHIPS
NATIONAL ARCHIVES FILES**

1911

BOOKLET No. 38

50608

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Authority NND 974382

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GENERAL INFORMATION

INTRODUCTION

The Act of Congress authorizing the construction of the "SMITH" was dated June 29, 1906.

The advertisement was issued by the Navy Department, May 18, 1907, and bids were received September 3, 1907.

The contract with the Wm. Cramp and Sons Ship and Engine Building Company of Philadelphia, Pa., was signed October 10, 1907, the date of completion to be October 10, 1909, the price \$585,000.

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

First hull material ordered.....	October	10, 1907.
Lines faired in the Mold Loft.....	September	15, 1907.
Keel laid.....	March	18, 1908.
First frame raised.....	March	24, 1908.
First compartment tested.....	November	6, 1908.
Vessel launched.....	April	20, 1909.
First sea trial by contractors.....	May 17 to	25, 1909.
Standardization trial.....	September	22, 1909.
Speed trial (4 hour).....	September	23, 1909.
Inspected by Board of Inspection.....	September	22-24, 1909.
Delivered to Navy Department at Navy Yard, Phila- delphia, Pa.....	November	24, 1909.
Commissioned.....	November	26, 1909.

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

BUREAU OF SHIPS
NATIONAL ARCHIVES FILES

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GENERAL INFORMATION

DESCRIPTION OF STEERING GEAR

The ship is equipped with a steam steering engine built by Williamson Bros. Co., Philadelphia, Pa., located in the forward end of the pilot house on the forecastle deck, operated by a wheel in the pilot house (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 seven-eighths-inch diameter plow steel galvanized wire rope, with $\frac{3}{4}$ -inch galvanized wrought steel chain at the turns, running along the sides of the ship above the main deck to a sliding block, on each side between frames 150 and 154½. The tails of these sliding blocks are direct connected to the yoke by one and five-sixteenths-inch diameter galvanized steel rods with one and one-sixteenth-inch galvanized wrought steel chain over the arc of the yoke. The leads from forward pass over the sliding blocks to fixed blocks on the main deck between frames Nos. 149-150 and from there inboard and up over the drum of the hand steering wheel, forming an endless line between the forward and after steering stations. The spur gear of the hand steering machine aft is fitted with a lock bolt on the after side, which when in place makes the after wheel drum the standing part of the gear for steering from the forward stations. A pad eye is fitted on each side of the main deck between frames Nos. 145-146 to be used as a standing part of the gear when the after steering machine is being used. An emergency relieving tackle is fitted consisting of $\frac{3}{4}$ -inch galvanized steel wire rope pendants, attached to eyes on top of the yoke arms, with 10-inch double and 10-inch single blocks and 3½-inch manila rope leading to pad eyes on the main deck at frame No. 150 each side of the center line of the ship.

STEERING GEAR DATA

Steering Engine: Type Vertical, $\frac{3}{4}$ -inch chain, Williamson Bros. Co., Philadelphia, Pa., makers.	
Number of cylinders.....	2
Diameter of cylinders, inches	5
Stroke of piston, inches.....	5
Working steam pressure, pounds.....	200
Steam pipe, diameter, inches.....	1½
Exhaust pipe, diameter, inches.....	2
All parts sufficiently strong to withstand full boiler pressure of, pounds	300
Angle of steering engine stops, degrees.....	35
Angle of rudder stops, degrees.....	38
Revolutions of forward steering wheels, from hard-a-starboard to hard-a-port.....	11.16
Revolutions of after steering wheels, from hard-a-starboard to hard-a-port.....	22.2
Radius of rudder yoke, to center line of chain, feet.....	5.148
Total area of rudder, square feet.....	53.61
Area of balanced portion of rudder, square feet.....	9.73
Time required by steering engine to swing rudder from hard-a-starboard to hard-a-port, seconds.....	15

U. S. S. SMITH

To steer by hand from pilot house : Throw out clutch on main worm wheel shaft, throw clutch on controlling valve shaft into mitre gear, lock steering wheel to shaft, unlock hand wheel on bridge. See that lock bolt at spur wheel on after steering machine is in place, also that line of gear is continuous.

(Method No. 1) To steer by hand from after steering machine unlock spur wheel and see that line of gear is continuous, the steering engine in pilot house acting as the standing part of the gear.

(Method No. 2) Remove bolt at turnbuckles, connect the first long link of the chain to pad eyes on main deck located between frames Nos. 145-146 port and starboard, unlock spur wheel on steering machine.

To steer by steam from pilot house : See that lock bolt at spur wheel in after steering machine is in place and line of gear continuous. Throw in clutch on main worm wheel shaft. Throw out clutch on controlling valve shaft, lock steering wheel to shaft, unlock hand wheel on bridge.

To steer by steam from bridge : Proceed as above, except unlock steering wheel in pilot house and lock hand wheel on bridge.