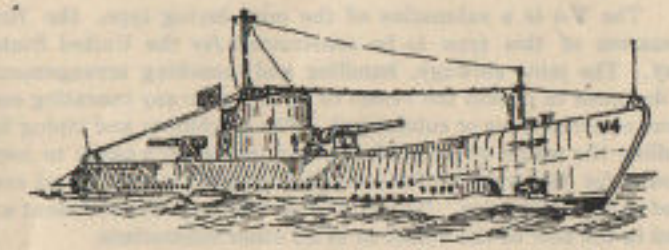
FLEET SUBMARINE

U. S. S. V-4



BUILT BY
U. S. NAVY YARD
PORTSMOUTH, N. H.

KEEL LAID
1 May, 1925

LAUNCHED
10 November, 1927

SPONSOR
Mrs. Philip Mason Sears

The construction of Fleet Submarine V-4 was authorized by the Act of Congress of 29 August 1916, but funds for work were not appropriated until passage of the Act of Congress of 28 May 1924.

Her keel was laid on 1 May 1925 and it is expected that she will be commissioned for service in the spring of next year.

The V-4 is the fourth of a new class of large sea-going submarines, of which the V-1, V-2 and V-3 have already been built and placed in service.

The V-4 is a submarine of the mine-laying type, the first submarine of this type to be constructed for the United States Navy. The mine stowage, handling and launching arrangements are designed to permit the vessel to lay mines in any operating condition, either surface or submerged. The machinery and piping for handling the water which is admitted to the vessel's tanks to compensate for the weight of the mines launched are the largest ever fitted in any submarine. Torpedo tubes and torpedo armament are fitted in the bow of the vessel as in all other submarines.

The vessel is at the time of launching about 85 per cent complete.

GENERAL INFORMATION

The V-4 is the largest submarine so far laid down in the United States and, so far as can be learned from authoritative sources, the largest submarine ever constructed for any Navy. The vessel has been especially designed for making long cruises of extended duration and every effort has been made to render the vessel self-sustaining under these conditions with the maximum of comfort for both officers and crew.

The outer hull of the vessel has been specially designed to obtain the best seagoing qualities. The "dory" type of bow, so called because of its resemblance to the bow of a fisherman's dory, is designed to lift the forward part of the vessel more readily when meeting heavy seas.

Corrosion-resisting or "stainless" steel has been extensively used for shafts and important parts of machinery working in the water, to withstand the excessive corrosion previously experienced on submarines. Many of the fittings in the interior of the vessel are of aluminum, to save weight. Increased strength of important parts of the main and auxiliary machinery with a decrease in weight has been obtained by the extensive use of nickel steel and other alloy steels, following automotive practice.

The radio apparatus on the V-4 will be of the latest type, as developed by the Naval Research Laboratory, which is acknowledged as one of the leading scientific organizations in this art at the present time.

The V-4 will be propelled on the surface by Diesel engines and submerged by electric motors and storage batteries of types that have proved very satisfactory on previous submarines in the United States Navy.

The complement of the vessel will be 8 officers and 80 men.

LAUNCHING

The V-4 at the time of launching weighs over 2,000 tons. The weight of the vessel during launching is taken on two sets of sliding ways, each 26 inches wide and 310 feet long, resting upon layers of launching grease ½ inch thick. The fixed or ground ways upon which the vessel slides are set at an inclination of 1 to 16 and extend outward and downward to the sea wall to a depth of about 10 feet below water.

The V-4 is released by the dropping of a pair of shores or struts placed at an angle between the fixed and sliding ways and by the unlatching of a set of mechanical triggers placed under the after end of the vessel. A whistle will be blown underneath the vessel as a warning for the launching crew to keep clear and the vessel will be released immediately thereafter.

In order to prevent the V-4 from getting adrift and possibly striking the opposite bank of the river, a large steel cable is attached to the bow and led through a hydraulic friction brake on the port side of the ship.

Two 12 inch manila hawsers manufactured at the Navy Yard, Boston, especially for this launching are secured to the sliding ways and the cradle, in order to pull this wood work out from under the vessel after she is launched.

The heavy weights in the forward part of the vessel will not be on board at the time of launching as the vessel would otherwise draw too much water forward and might strike the submerged edge of the quay wall when going over. This accounts for the fact that the ship will, after launching, draw more water aft than forward.