

oilers will be located. All the cabins will be finished in oak or mahogany, with painted fibreboard panelling.

"Steam will be supplied by 4 Scotch boilers, 13½ ft. diameter by 12 ft. long (actually 13'0" x 11'10 7/16" -Ed.), with a total heating surface of 9,088 sq. ft. Each boiler will be fitted with three furnaces, 36 in. inside diameter; the total grate surface will be 210 sq. ft., and the ratio of heating to grate surface 43 to 1. The boilers are designed for a working pressure of 190 lb. per sq. in. A forced draft installation will be fitted and there will be a 75 in. diameter fan driven by two 7 x 5 in. vertical engines in the engine room. The flue blowers will be of the direct type, located in the smokeboxes, and operated by levers from the fire room floor. (The coal-fired boilers were built by Engineering & Machine Works Limited in 1926 -Ed.)

"The propelling machinery will consist of a vertical triple expansion engine, arranged with the high pressure cylinder forward, followed by the intermediate and low pressure cylinders, respectively. The cylinder diameters will be 25½, 41½ and 72 in. and the pistons will have a stroke of 48 in. The high pressure and intermediate cylinders will be fitted with piston valves, and the low pressure with a double-ported slide valve. All valves will be operated by double-bar link motion, and fitted with assistant cylinders. The engine will be arranged with 3 back and 3 front columns, fitted with ahead and astern slipper guides. The bedplate will be of the girder type, and will have 6 main bearings 14 in. in diameter. The connecting rods will be of heavy fork type construction 9 ft. between centres, with the bottom ends of cast steel, lined with white metal. The crank pins will be 14 3/8 in. diameter by 13½ in. long. The crosshead pins will be 6 3/4 in. diameter by 7 3/4 in. long, double. The crossheads will be solid steel forgings, fitted with adjustable slippers lined with white metal on both ahead and astern faces. The usual type of horseshoe thrust bearing will be used, with 9 collars, water cooled inside, and running in an oil bath. (This engine was war surplus equipment, built in 1919 by the Hooven, Owens & Rentschler Company, of Hamilton [a suburb of Cincinnati], Ohio -Ed.)

"The stern tube will be of heavy cast iron design, fitted with brass bush, lined with lignum vitae, 2 lengths, to permit of easy withdrawal and removal of the wood liners. The propeller shaft will be 15 1/8 in. diameter, and the propeller will be of the sectional type with 4 blades, and will be 16 ft. diameter by 18 ft. pitch.

"All pumps will be independent of the main engine. The air pump will be of the vertical simplex type, direct connected to the jet condenser, having 18 in. steam cylinder and 40 in. pump chamber, with a common stroke of 24 in. Two main ballast pumps of the centrifugal type, 20 in. diameter, will be arranged to empty the double bottom and side tanks through double manifolds fitted between the pumps. The cargo hold may also be flooded and used for ballast in rough weather, 2 filling and emptying pipes being connected to it from the manifolds in the engine room.

"There will be 2 auxiliary ballast pumps of the horizontal duplex type, 14 x 14 x 18 in. stroke, the suction and discharge connections being 12 in. diameter. Two main feed pumps of the vertical simplex type 12 x 8 x 24 in. will be fitted and arranged independently of each other, so that either can supply the boilers while the other is being overhauled. Other auxiliaries included in the installation will be: general service pump, 8 x 5 x 12 in., horizontal duplex; two 2½ in. injectors; vertical spiral coil, film feed water heater; mate's pump, 10 x 6 x 12 in., horizontal duplex; 2 bilge pumps, 6 x 4 x 6 in., horizontal duplex; fresh water pump, 4 x 2 3/4 x 4 in., horizontal duplex; 2 ash elevators in the boiler room, one on each side of the ship. The electrical equipment will consist of two 15 k.w. direct connected generating sets. Refrigeration will be amply provided for in a special chamber adjacent to the pantry."