

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 8 FEB 1945

Date of writing Report 19th Nov. 1942 When handed in at Local Office 19 Port of Portland, Maine (New York) U.S.A.
 No. in Survey held at South Portland, Maine Date, First Survey 10th September Last Survey 12th November 1942
 Reg. Book. on the s.s. "OCEAN CRUSADER" (Number of Visits Continuous) Tons Gross 7178
Net 4280
 Built at So. Portland, Maine By whom built Todd-Bath Iron Shipbuilding Corp. Yard No. 28 When built 1942
 Engines made at Lachine, P.Q. By whom made Canadian Allis-Chalmers Ltd. Engine No. 115 When made 1942
 Boilers made at Schenectady, New York By whom made American Locomotive Co. Boiler No. 598, 103, 194 When made 1942
 Registered Horse Power x Owners British Ministry of War Transport Port belonging to
 Nom. Horse Power as per Rule 505 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended Carrying Dry and Perishable Cargoes.

ENGINES, &c.—Description of Engines Triple Expansion Revs. per minute 76
 Dia of Cylinders 24½ x 37" x 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.97" Crank pin dia. 14.25 Crank webs Mid. length breadth 24½ Thickness parallel to axis 9" & 9½" L.P.
 as fitted 14¼" Mid. length thickness 9" & 9½" L.P. Thickness around eye-hole 6.625"
 Intermediate Shafts, diameter as per Rule 13.32" Thrust shaft, diameter at collars as per Rule 13.97"
 as fitted 13.5" as fitted 14-1/4"
 Tube Shafts, diameter as per Rule none Screw Shaft, diameter as per Rule 14.86" Is the xxx shaft fitted with a continuous liner x
 as fitted 14.25" as fitted 14.25" Is the screw shaft fitted with a continuous liner yes
 Bronze Liners, thickness in way of bushes as per Rule .75" Thickness between bushes as per Rule .56" Is the after end of the liner made watertight in the
 as fitted .78" as fitted .69" propeller boss yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner one length
 If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive tight fit.
 If two liners are fitted, is the shaft lapped or protected between the liners x Is an approved Oil Gland or other appliance fitted at the after end of the tube
 shaft no If so, state type x Length of Bearing in Stern Bush next to and supporting propeller 5'1"
 Propeller, dia. 18.6" Pitch 16.0" No. of Blades 4 Material whether Moveable no Total Developed Surface 117 sq. ft.
 Feed Pumps worked from the Main Engines, No. none Diameter x Stroke x Can one be overhauled while the other is at work x
 Bilge Pumps worked from the Main Engines, No. two Diameter 4½" Stroke 26" Can one be overhauled while the other is at work yes
 Feed (No. and size Two 12"x8"x24", One 9"x6"x10" Pumps connected to the { No. and size 2@4½"x26" and One Duplex 10"x11"x12"
 Pumps (How driven Steam Steam Main Bilge Line { How driven Main Engine Steam
 Ballast Pumps, No. and size One 10"x11"x12" (Duplex) Lubricating Oil Pumps, including Spare Pump, No. and size none
 Are two independent means arranged for circulating water through the Oil Cooler x Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room 5 @ 3", 1 portable hose connection 2½"
 In Pump Room x In Holds, &c. 2 @ 3" in each hold, 1 @ 5" in each deep tank.

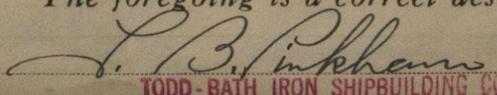
(main bilge line size)
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One 10" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size One 5" Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes No. Strainers on Bilge Wells.
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes
 Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks yes
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the Overboard Discharges above or below the deep water line Below
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate no
 What Pipes pass through the bunkers Bilge & Ballast Pipes How are they protected Strong wood casings.
 What pipes pass through the deep tanks none Have they been tested as per Rule x
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
 Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one
 compartment to another yes Is the Shaft Tunnel watertight yes Is it fitted with a watertight door no worked from x

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 7140 sq.ft.
 Which Boilers are fitted with Forced Draft 3 main Which Boilers are fitted with Superheaters 3 main.
 No. and Description of Boilers 3 Multibular Scotch Marine Working Pressure 220 lb. per sq.in.

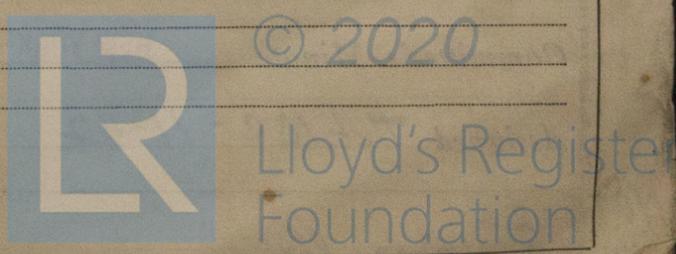
IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded? x

Can the donkey boiler be used for domestic purposes only x
PLANS. Are approved plans forwarded herewith for Shafting 22/8/41 Main Boilers 28/4/41 Auxiliary Boilers x Donkey Boilers x
 (If not state date of approval)
 Superheaters 5/11/41 General Pumping Arrangements 5&22/9/41&1/10/41 Oil fuel Burning Piping Arrangements Coal fired.

SPARE GEAR.
 Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied 1 Spare Propeller.
1 main bearing complete (2 halves).

The foregoing is a correct description

 TODD-BATH IRON SHIPBUILDING CORP.

Manufacturer.



W254-0010

Dates of Survey while building
 During progress of work in shops - -
 Continuous from 10th September, 1942, until 12th November, 1942.
 During erection on board vessel - - -
 Total No. of visits

Dates of Examination of principal parts — Cylinders 30th July, 4, 6, August 1942 Slides 30th July, 4, & 6th August, 1942 Covers 30th July, 4, 6, August 1942
 Piston 30th July, 4, 6, August, '42 Piston Rods 7th August, 1942 Connecting rods 7th August, 1942
 Crank shaft 13th August, 1942 Thrust shaft 14th August, 1942 Intermediate shafts 15, 18, 19, 24 September & 7th October, 1942
 Tube shaft x Screw shaft 15th December, 1941 Propeller 30th July, 1942.
 Stern tube 5th October, 1942 Engine and boiler seatings 21st October, 1942 Engines holding down bolts 21st October, 1942

Completion of fitting sea connections 7th October, 1942
 Completion of pumping arrangements 28th October, 1942 Boilers fixed 21st October, 1942 Engines tried under steam 21st October, 1942
 Main boiler safety valves adjusted 23rd October, 1942 Thickness of adjusting washers No washers - lock nuts.

Crank shaft material O.H. Steel Identification Mark Lloyd's 4336 HP Thrust shaft material O.H. Steel Identification Mark Lloyd's 701
 Intermediate shafts, material O.H. Steel Identification Marks Lloyd's 3843, 4656, 3722, 4653, 3757, 3707. Tube shaft, material x Identification Mark x
 Screw shaft, material O.H. Steel Identification Mark Lloyd's 3910 GD Steam Pipes, material S.D. Steel Test pressure 660 lbs Date of Test 22nd Octo

Is an installation fitted for burning oil fuel no Is the flash point of the oil to be used over 150°F. x
 Have the requirements of the Rules for the use of oil as fuel been complied with x
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo no If so, have the requirements of the Rules been complied with x
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with x

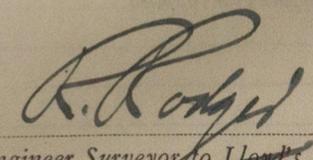
Is this machinery duplicate of a previous case yes If so, state name of vessel "OCEAN VANGUARD", "OCEAN LIBERTY" Et

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under Special Survey as stated in Montreal Rpt. No. 5735 attached hereto. Also see New York Rpts. Nos. 425 42561, 42562. The machinery has been fitted on board the vessel in accordance with the Rules and approved plans and been tried under working condition with satisfactory results.

In my opinion, the machinery of this vessel is in good and safe working condition and is eligible to be classed with records of L.M.C. 10.42 and tail shaft seen C.L. with notation 3 S.B. (Spt). H.S. 7140, G.S. 172, 220 lbs. F.D. 9 c.f.

Certificate to be sent to
 The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ...	\$ 30,00	:	When applied for,
Special ...	\$ 912:34	:	19
Donkey Boiler Fee ...	£ :	:	When received,
Travelling Expenses (if any) £	:	:	19


 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK JAN 6 - 1943
 Assigned + LMC-11-42



NOTE - CL
 3 S.B. (Spt) 220 lbs.