

REPORT ON OIL ENGINE MACHINERY.

No. 18864

4 APR 1928

Date of writing Report 23/2/24 When handed in at Local Office 29/3/28 Port of Greenock
 No. in Survey held at Greenock Date, First Survey 15th February 1924 Last Survey 29/3/1928
 Reg. Book. 10033 on the Single Screw vessel 881/r "British Courage" Number of Visits 90

Built at Greenock By whom built Lithgown Ld Yard No. 802 When built 1928
 Engines made at Greenock By whom made John & Macaulay Ld Engine No. 1120 When made 1928
 Donkey Boilers made at ditto By whom made ditto Boiler No. 118 When made 1928
 Brake Horse Power 2400 Owners British Tankers Ld Port belonging to London
 Nom. Horse Power as per Rule 653 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Foreign

IL ENGINES, &c.—Type of Engines Burmeister & Wain 4 stroke cycle H Single or double acting Single
 Maximum pressure in cylinders 500 m/m Diameter of cylinders 440 m/m Length of stroke 1500 m/m No. of cylinders 8 No. of cranks 8
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 990 Is there a bearing between each crank Yes

Revolutions per minute 98 Flywheel dia. 2489 m/m Weight 2400 lbs Means of ignition Compression Kind of fuel used Diesel Heavy Oil
 Crank Shaft, dia. of journals as per Rule 480 m/m as fitted 495 m/m Crank pin dia. 495 m/m Crank Webs Mid. length breadth 804 m Thickness parallel to axis 310 m
 Mid. length thickness 310 m shrunk Thickness around eye-hole 209 m
 Flywheel Shaft, diameter as per Rule as fitted Intermediate Shafts, diameter as per Rule 14" as fitted 15" Thrust Shaft, diameter at collars as per Rule 14.7" as fitted 15"

Tube Shaft, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 15.4" as fitted 15.7/8" Is the tube screw shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 1.44 as fitted 13/16" Thickness between bushes as per rule 609 as fitted 25/32" Is the after end of the liner made watertight in the 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 —
 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 —
 If two liners are fitted, is the shaft lapped or protected between the liners — Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft No

Length of Bearing in Stern Bush next to and supporting propeller 5.3 1/2"
 Propeller, dia. 16.9" Pitch 12-6 No. of blades 4 Material Stainless whether Moveable No Total Developed Surface 887 sq. feet
 Method of reversing Engines Air Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication Forced

Thickness of cylinder liners 38/53 m/m Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine —
 Cooling Water Pumps, No. 3 Drysdale Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes
 Bilge Pumps worked from the Main Engines, No. None Diameter — Stroke — Can one be overhauled while the other is at work —

Pumps connected to the Main Bilge Line No. and Size 2 (1-15" Centrex) one (9-10-10") How driven Electric Steam
 Ballast Pumps, No. and size one 9-10-10" Lubricating Oil Pumps, including Spare Pump, No. and size Two 6-6"
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 3 3"

In Holds, &c. 2-10 in each
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 2-15"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 lots
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform 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 Yes

How are they protected — Have they been tested as per Rule —
 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 Not fitted Is it fitted with a watertight door — worked from —

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork —
 Main Air Compressors, No. one No. of stages 3 Diameters 150-675-150 m/m Stroke 610 m/m Driven by Main Engines
 Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 318-286-48 m/m Stroke 220 m/m Driven by Electric

Small Auxiliary Air Compressors, No. one No. of stages 3 Diameters 218-114-9" Stroke H Driven by Steam
 Ventilating Air Pumps, No. — Diameter — Stroke — Driven by —
 Auxiliary Engines crank shafts, diameter as per Rule — as fitted see London Repl. 810 92312

RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Manhole
 Is there a drain arrangement fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 5 Cubic capacity of each 3 at 200 lbs Internal diameter 3 at 14 2.93/4 thickness 3 at 1/2 2 at 3/8"
 Seamless, lap welded or riveted longitudinal joint Seamless Material S Range of tensile strength 29-33 Working pressure by Rules 1000 lb
 Working Air Receivers, No. 3 Total cubic capacity 144.09 Internal diameter 6-6" thickness 1 1/16"
 Seamless, lap welded or riveted longitudinal joint T.R. Material S Range of tensile strength 28-32 Working pressure by Rules 359

IS Available
PLANS. Are approved
Done Boilers
SPARE GEAR

see list attached

The foregoing is a correct description,
FOR JOHN G. KINCAID & COY. LIMITED

J. G. Kincaid Manufacturer.
DIRECTOR

Dates of Survey while building
During progress of work in shops - (1924) Feb. 15, Mar. 3, 9, 28, 29, 31, Apr. 1, 4, 18, 22, May 13, 23, 24, June 3, 10, July 12, 22, 25, 26, Aug. 1, 3, 12, 14, Sept. 5, 10, 14, 16, 20, 23, 25, 26, Oct. 11, 14, 17, 25, 26, 27, Nov. 1, 4, 8, 9, 16, 21, 22, 24, 25, 26
During erection on board vessel - Dec. 5, 6, 4, 8, 9, 13, 15, 16, 19, 20, 22, 26, 30 (1928) Jan. 6, 9, 11, 16, 23, 24, 25, 31, Feb. 2, 3, 6, 8, 9, 10, 14, 16, 17, 22, 28, Mar. 1, 2, 4, 8, 9, 13, 22, 26, 27, 29
Total No. of visits 90

Dates of Examination of principal parts - Cylinders 31-3-24, Covers 26-10-24, Pistons 8-12-24, Rods 8-12-24, Connecting rods 25-10-24, Crank shaft 25-10-24, Flywheel shaft 5-9-24, Thrust shaft 5-9-24, Intermediate shafts 26-12-24, Tube shaft 15-12-24, Propeller 5-12-24, Stern tube 21-11-24, Engine seatings 22-12-24, Engines holding down bolts 8-3-24
Completion of fitting sea connections 22-12-24, Completion of pumping arrangements 27-3-28, Engines tried under working conditions 29-3-28
Crank shaft, Material S Identification Mark LR 1120 WGM, Flywheel shaft, Material 5-9-24 Identification Mark LR 4554 WGM
Thrust shaft, Material S Identification Mark LR 4554 WGM, Intermediate shafts, Material S Identification Marks LR 2281 WGM
Tube shaft, Material ✓ Identification Mark ✓, Screw shaft, Material S Identification Mark LR 326 WGM

Is the flash point of the oil to be used over 150° F. Yes
Is this machinery duplicate of a previous case Yes If so, state name of vessel M/V "British Valour" (Enk. Reg. 190188)

General Remarks (State quality of workmanship, opinions as to class, &c.) These engines have been built under special survey in accordance with the approved plans & the workmanship & material are of good quality, they are now securely fitted on board. Tried under working conditions & found satisfactory. The Machinery is eligible in my opinion for the record.
✠ L M C 3+28 (Notation of Dokey Bolts 150 lbs)

Note The Builders request the classification certificate in duplicate. Damage caused by the running of the Main Compressor Head. The ahead side, a crack developed for about 6" in a vertical direction, when on the special trial on 27th March 1928. Now done. New Compressor (Main) Pistons (complete) fitted & a satisfactory trial carried out on completion of same (for further details see Damage Repl. attached)

The amount of Entry Fee ... £ 6 :
Special ... £ 104 : 13 :
Boiler Fee ... £ 23 : 2 :
Travelling Expenses (if any) £ 12 : 12 :
Damage 3-3
Committee's Minute GLASGOW 3 - APL 1928

W. Gordon-Mitchell
Engineer Surveyor to Lloyd's Register of Shipping.

Assigned + L M C 3, 28

