

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office.

Date of writing Report 19 When handed in at Local Office 6 10 1945 Port of Glasgow
 No. in Survey held at Glasgow & Grangemouth Date, First Survey 2 6 44 Last Survey 21 9 1945
 Reg. Book (Number of Visits 59)
 on the S.S. "EMPIRE JEWEL"
 Built at Grangemouth By whom built The Grangemouth Dockyard Co. Ltd Yard No. 462 When built 1945
 Engines made at Glasgow By whom made David Rowan & Co. Ltd Engine No. 1173 When made 1945
 Boilers made at - do - By whom made - do - Boiler No. 1173 When made 1945
 Registered Horse Power Owners The Ministry of War Transport Port belonging to Grangemouth
 Nom. Horse Power as per Rule 242 ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted Yes ✓
 Trade for which vessel is intended International

GINES, &c.—Description of Engines Triple Expansion Revs. per minute 86½ ✓
 Dia. of Cylinders 18" - 31" - 52" ✓ Length of Stroke 39" ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓
 Crank shaft, dia. of journals as per Rule 10.653" ✓ Crank pin dia. 10¾" ✓ Crank webs Mid. length breadth 21" ✓ Thickness parallel to axis 6¾" ✓
 as fitted 10¾" ✓ Mid. length thickness 6¾" ✓ shrunk Thickness around eye-hole 4¾" ✓
 Intermediate Shafts, diameter as per Rule 10.145" ✓ Thrust shaft, diameter at collars as per Rule 10.653" ✓
 as fitted None ✓ as fitted 10¾" ✓
 Tube Shafts, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 11.311" ✓ Is the {tube screw} shaft fitted with a continuous liner { Yes ✓
 as fitted ✓ as fitted 11½" ✓
 Bronze Liners, thickness in way of bushes as per Rule 6.42" ✓ Thickness between bushes as per Rule 48" ✓ Is the after end of the liner made watertight in the
 as fitted 1½" ✓ as fitted 5" ✓
 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 Yes ✓
 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
 at No. ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 3'-10" ✓
 Propeller, dia. 14'-0" Pitch 14'-0" No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 64 sq. feet ✓
 Feed Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 3½" Stroke 21" Can one be overhauled while the other is at work Yes ✓
 Feed Pumps { No. and size 2 @ 8½" x 6" x 18" ✓ Pumps connected to the Main Bilge Line { No. and size General Service one @ 4" x 8" x 18" ✓
 How driven Steam ✓ How driven Steam ✓
 Ballast Pumps, No. and size None in E.R. Lubricating Oil Pumps, including Spare Pump, No. and size ✓
 Are two independent means arranged for circulating water through the Oil Cooler ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps:—In Engine and Boiler Room 3 @ 2½" & one @ 2" ✓
 In Pump Room One @ 4" ✓ In Holds, &c. None ✓
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 6" ✓ Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size One @ 4" ✓ Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes ✓
 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 Both ✓
 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 Both ✓
 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 ✓
 That Pipes pass through the bunkers None ✓ How are they protected ✓
 That pipes pass through the deep tanks None ✓ 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 No tunnel Is it fitted with a watertight door ✓ worked from ✓
 MAIN BOILERS, &c.—(Letter for record (5) ✓) Total Heating Surface of Boilers 3360 ft² ✓
 Which Boilers are fitted with Forced Draft Main ✓ Which Boilers are fitted with Superheaters None ✓
 No. and Description of Boilers One S.E. ✓ Working Pressure 220 LBS/SQ. IN. ✓
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes ✓
 IS A DONKEY BOILER FITTED? No ✓ If so, is a report now forwarded? ✓
 Can the donkey boiler be used for domestic purposes only ✓
 PLANS. Are approved plans forwarded herewith for Shafting Yes ✓ Main Boilers Yes ✓ Auxiliary Boilers — Donkey Boilers —
 (If not state date of approval)
 Superheaters — General Pumping Arrangements Yes ✓ Oil fuel Burning Piping Arrangements Yes ✓

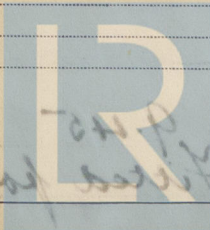
SPARE GEAR.

Is the spare gear required by the Rules been supplied Yes ✓
 State the principal additional spare gear supplied List attached

The foregoing is a correct description.

For David Rowan & Co. Ltd

Manufacturer.



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Lloyd's Register
Foundation

002717-002724-0118

1944 Jan 2. 10.20 Feb 6. 11 Aug 18. 10 Sep 6. 7. 8. 24. 26 Oct 5. 9. 18. Nov 7. 9. 14. 28 Dec 9. 12. 18. 26 1945 Jan 11. 12. 26. 30 Feb 7. P. 9.
During progress of work in shops - - -
During erection on board vessel - - -
Total No. of visits 59

Dates of Examination of principal parts - Cylinders 7-2-45 Slides 30-3-45 Covers 7-2-45
Pistons 17-4-45 Piston Rods 17-4-45 Connecting rods 30-3-45
Crank shaft 9-2-45 Thrust shaft 10-4-45 Intermediate shafts ✓
Tube shaft ✓ Screw shaft 19-3-45 Propeller 19-3-45
Stern tube 25-5-45 Engine and boiler seatings 5-6-45 Engines holding down bolts 9-7-45
Completion of fitting sea connections 5-6-45
Completion of pumping arrangements 7-9-45 Boilers fixed 9-7-45 Engines tried under steam 7-9-45
Main boiler safety valves adjusted 7-9-45 Thickness of adjusting washers F 3/8" A 5/16"
Crank shaft material S.M. Steel Identification Mark 11428 J.S. Thrust shaft material S.M. Steel Identification Mark 13741 J.S.
Intermediate shafts, material ✓ Identification Marks ✓ Tube shaft, material ✓ Identification Mark ✓
Screw shaft, material S.M. Steel Identification Mark 13741 J.S. Steam Pipes, material Steel Test pressure 660 lb/sq. in. Date of Test 2-7-45
Is an installation fitted for burning oil fuel yes ✓ Is the flash point of the oil to be used over 150° F. yes ✓
Have the requirements of the Rules for the use of oil as fuel been complied with yes ✓
Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules been complied with ✓
If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with

Is this machinery duplicate of a previous case. Yes. If so, state name of vessel. "Empire Junna" Glas. Regt No. 69254
General Remarks (State quality of workmanship, opinions as to class, &c.) This machinery has been built under special survey in accordance with the Rules & approved plans and the materials and workmanship are good. It has been satisfactorily installed in the vessel, tested under working conditions, and in our opinion, is eligible to be classed with record & L.M.C. 9-45. and notation C.L. Fitted for oil fuel 9-45. F.P. above 150°F.
The specification requirements have been carried out satisfactorily.

The amount of Entry Fee ... £ 4 : 0 : 0 When applied for, 9 OCT 1945
Special Specification Fee ... £ 60 : 10 : 0
Donkey Boiler Fee ... £ 15 : 2 : 0
Travelling Expenses (if any) £ : : : When received, 19

Jas. Stevenson & M. Dale
Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute ... GLASGOW 9 OCT 1945
Assigned -1- Lmc 9.45
Fitted for oil fuel 9.45 F.P. above 150°F