

REPORT ON OIL ENGINE MACHINERY.

No 21432

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Date of writing Report 2nd January 1942 When handed in at Local Office 2nd January 1942 Port of Grimsby
 No. in Survey held at Sainsborough & Hull Date, First Survey 17th July 1941 Last Survey 31st December 1941
 Reg. Book. Single on the Twin Triple Quadruple Screw vessel

"EMPIRE RIVER"
 Tons Gross 319.74
 Net 149.78

Built at Sainsborough By whom built J. S. Watson (Sainsborough) Ltd Yard No. 1521 When built 1941
 Engines made at Heighley By whom made H. Widdop & Co. Ltd Engine No. 4062 When made 1941
 Donkey Boilers made at ✓ By whom made (Mk) British Channel Islands Ship Co. Ltd Boiler No. ✓ When made ✓
 Brake Horse Power 300 Owners Ministry of War Transport Port belonging to London
 Nom. Horse Power as per Rule 140 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended Coasting Vessel

OIL ENGINES, &c.—Type of Engines Vertical Solid Injection 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 650 lbs Diameter of cylinders 11.5" Length of stroke 13.5" No. of cylinders 6 No. of cranks 6
 Mean Indicated Pressure 53.5 lbs Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 16.75" Is there a bearing between each crank Yes
 Revolutions per minute 330 Flywheel dia. 36.75" Weight 15.6 cwt. Means of ignition Compression Kind of fuel used Heavy oil
 Crank Shaft, Solid forged dia. of journals as per Rule Approved 6.75" Crank pin dia. 6.75" Crank Webs Mid. length breadth 9" Thickness parallel to axis Solid
4 1/2 inch as fitted 6.75" as fitted 3.75" Mid. length thickness 3.75" Thickness around eye hole
 Flywheel Shaft, diameter as per Rule ✓ Intermediate Shafts, diameter as per Rule Approved 4" Thrust Shaft, diameter at collars as per Rule Approved 4.75"
as fitted as fitted 4" as fitted
 Tube Shaft, diameter as per Rule ✓ Screw Shaft, diameter as per Rule Approved 4 5/8" Is the tube shaft fitted with a continuous liner ✓
as fitted as fitted 4 5/8"
 Bronze Liners, thickness in way of bushes as per Rule ✓ Thickness between bushes as per Rule ✓ Is the after end of the liner made watertight in the propeller boss ✓
as fitted as fitted
 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 Yes If so, state type Rotating Rubber Sleeve Type Length of Bearing in Stern Bush next to and supporting propeller 19.5"
 Propeller, dia. 59.5" Pitch 43" No. of blades 4 Material C.I. whether Moreable No Total Developed Surface 9.6 sq. feet
 Method of reversing Engines Direct Is a governor or other arrangement fitted to prevent racing of the engine when de-clutch Yes Means of lubrication Forced
 Thickness of cylinder liners 1 1/8" 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. One main eng. One ME Bilge pump 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. One Diameter 4.25" Stroke 3" Can one be overhauled while the other is at work ✓
 Pumps connected to the Main Bilge Line { No. and Size (2) One 4.25" x 3" One 2" Centrifugal Pump
 How driven Main Engine Auxiliary Engine
 Is the cooling water led to the bilges No If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements ✓
 Ballast Pumps, No. and size None Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 3-1.75" dia x 3" stroke
 Are two independent means arranged for circulating water through the Oil Cooler One Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 3-2 1/2" In Pump Room 2-2 1/2"
 In Holds, &c. 2-2 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size None as per plan
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces Yes
 ed 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 platform plates Yes Are the Overboard Discharges above or below the deep water line Above
 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 ✓
 What pipes pass through the bunkers None How are they protected ✓
 What pipes pass through the deep tanks None Have they been tested as per Rule Yes
 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 ✓ Is it fitted with a watertight door ✓ worked from ✓
 If 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 Two Diameters 6" x 2 3/4" Stroke 3" Driven by Main Engine
 Auxiliary Air Compressors, No. One No. of stages One Diameters 4.5" Stroke 2 3/4" Driven by Aux. Engine
 Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
 What provision is made for first Charging the Air Receivers Independent Air Compressor
 Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓
 Auxiliary Engines crank shafts, diameter as per Rule Approved 2.25" No. 3 Position Forward service port side E.R., 2 Generating sets star. side E.R.
as fitted 2.25" Is a report sent herewith Yes Wd. Rpt. 10525, 10526.
 Have the Auxiliary Engines been constructed under special survey Yes

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