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Rpt. 4b.  
29 FEB 1944

# REPORT ON OIL ENGINE MACHINERY.

No. 111723

Received at London Office 25 FEB 1944

IN D.O.

Date of writing Report 15<sup>TH</sup> FEB 1944 When handed in at Local Office

25 FEB 1944 Port of IPSWICH

No. in Survey held at Reg. Book.

LOWESTOFT

Date, First Survey 19 Oct 1943

Last Survey 14<sup>TH</sup> FEB 1944

Number of Visits 15

on the Single Twin Triple Quadruple Screw vessel

N.A.V. "CHATTENDEN"

Tons Gross 322.02  
Net 144.09

Built at LOWESTOFT

By whom built RICHARDS IRONWORKS LTD. Yard No. 311 When built 1943

Engines made at MANCHESTER

By whom made CROSSLEY BROS. LTD. Engine No. 13167 When made 1942

Donkey Boilers made at

By whom made Boiler No. When made

Brake Horse Power 330

Owners ADMIRALTY

Port belonging to LONDON

Nom. Horse Power as per Rule 116

Is Refrigerating Machinery fitted for cargo purposes NO

Is Electric Light fitted YES

Trade for which vessel is intended

GOVERNMENT SERVICE

2 or 4 stroke cycle Single or double acting

## OIL ENGINES, &c.—Type of Engines

Maximum pressure in cylinders ✓ Diameter of cylinders ✓ Length of stroke ✓ No. of cylinders ✓ No. of cranks ✓  
 Mean Indicated Pressure ✓ Span of bearings, adjacent to the Crank, measured from inner edge to inner edge ✓ Is there a bearing between each crank ✓  
 Revolutions per minute ✓ Flywheel dia. ✓ Weight ✓ Means of ignition ✓ Kind of fuel used ✓  
 Crank Shaft, dia. of journals as per Rule ✓ as fitted ✓ Crank pin dia. ✓ Crank Webs Mid. length breadth ✓ Mid. length thickness ✓ shrunk Thickness parallel to axis ✓ Thickness around eyehole ✓  
 Flywheel Shaft, diameter as per Rule ✓ as fitted ✓ Intermediate Shafts, diameter as per Rule APPROVED ✓ as fitted 4 3/4" Thrust Shaft, diameter at collars as per Rule ✓ as fitted ✓  
 Tube Shaft, diameter as per Rule ✓ as fitted ✓ Screw Shaft, diameter as per Rule APPROVED ✓ as fitted 5 3/8" Is the tube screw shaft fitted with a continuous liner NO ✓  
 Bronze Liners, thickness in way of bushes as per Rule ✓ as fitted ✓ Thickness between bushes as per rule ✓ as fitted ✓ Is the after end of the liner made watertight in the propeller boss ✓ 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 ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 20" ✓  
 Propeller, dia. 65" ✓ Pitch 46" ✓ No. of blades 4 ✓ Material BRONZE ✓ whether Moveable NO ✓ Total Developed Surface 10.98 sq. feet ✓  
 Method of reversing Engines ✓ Is a governor or other arrangement fitted to prevent racing of the engine when declutched ✓ Means of lubrication ✓  
 Thickness of cylinder liners ✓ Are the cylinders fitted with safety valves ✓ Are the exhaust pipes and silencers water cooled or lagged with non-conducting material MANIFOLD WATERCOOLED ✓ PIPES LAGGED ✓ If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓

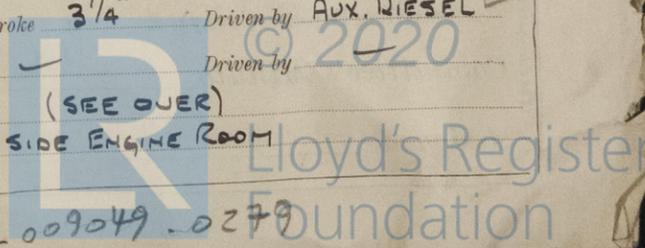
Cooling Water Pumps, No. ✓ Is the sea suction provided with an efficient strainer which can be cleared within the vessel YES ✓  
 Bilge Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓  
 Pumps connected to the Main Bilge Line No. and Size ONE 4 1/4" x 3" ✓ How driven MAIN ENGINE ✓ Aux DIESEL ✓  
 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 ONE 2" S.P. CENT. PUMP ✓ Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size ✓  
 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 THREE — 2 @ 2" + 1 @ 2 1/2" ✓ In Pump Room ✓  
 In Holds, &c. THREE @ 2" ✓ Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE — 2 1/2" ✓  
 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 ✓  
 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 VALVES ✓  
 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 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 ✓  
 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 ✓  
 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 NONE ✓ 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. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓  
 Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by HAND START ✓  
 Small Auxiliary Air Compressors, No. ONE ✓ No. of stages ONE ✓ Diameters 3 1/4" ✓ Stroke 3 1/4" ✓ Driven by AUX. DIESEL ✓  
 Scavenging Air Pumps, No. ✓ Diameter ✓ Stroke ✓ Driven by ✓

Auxiliary Engines crank shafts, diameter as per Rule APPROVED ✓ as fitted 3 1/2" JOURNALS ✓ 3 1/4" P.I.M.S. ✓ No. ONE (SEE OVER) ✓ Position PORT SIDE ENGINE ROOM ✓

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**AIR RECEIVERS:**—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Safety valves fitted on compressors*

Can the internal surfaces of the receivers be examined and cleaned  Is a drain fitted at the lowest part of each receiver

**High Pressure Air Receivers, No.**  Cubic capacity of each  Internal diameter  thickness   
 Seamless, lap welded or riveted longitudinal joint  Material  Range of tensile strength  Working pressure   
by Rules Actual

**Starting Air Receivers, No.**  Total cubic capacity  Internal diameter  thickness   
 Seamless, lap welded or riveted longitudinal joint  Material  Range of tensile strength  Working pressure   
by Rules Actual

**IS A DONKEY BOILER FITTED?** *no* If so, is a report now forwarded?   
 Is the donkey boiler intended to be used for domestic purposes only

**PLANS.** Are approved plans forwarded herewith for Shafting  Receivers  Separate Fuel Tanks *6-10-42*  
(If not, state date of approval)  
 Donkey Boilers  General Pumping Arrangements *10-4-41* Pumping Arrangements in Machinery Space *10-3-41*  
 Oil Fuel Burning Arrangements

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied *YES*  
 State the principal additional spare gear supplied

The foregoing is a correct description,  
**FOR RICHARDS IRONWORKS LIMITED**  
*L. G. Richards* Manufacturer.

Dates of Survey while building  
 During progress of work in shops --  
 During erection on board vessel -- *1943: Oct 19. 30 Nov 5. 10. 12. 29. 30 Dec 8. 15. (1944) Jan 3. 11 Feb 2. 8. 9. 14*  
 Total No. of visits *15*

Dates of Examination of principal parts—Cylinders  Covers  Pistons  Rods  Connecting rods   
 Crank shaft  Flywheel shaft  Thrust shaft  Intermediate shafts *14-10-43* Tube shaft   
 Screw shaft *14-10-43* Propeller *14-10-43* Stern tube *11-10-43* Engine seatings *24-9-43* Engines holding down bolts *11-1-44*  
 Completion of fitting sea connections *11-10-43* Completion of pumping arrangements *8-2-44* Engines tried under working conditions *8-2-44 29-2-44*  
 Crank shaft, Material  Identification Mark  Flywheel shaft, Material  Identification Mark   
 Thrust shaft, Material  Identification Mark  Intermediate shafts, Material *STEEL* Identification Marks *LLOYD'S T.M.B. 864 10-9-42*  
 Tube shaft, Material  Identification Mark  Screw shaft, Material *STEEL* Identification Mark *LLOYD'S T.M.B. 869 10-9-42*

Is the flash point of the oil to be used over 150° F. *YES*  
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *YES*  
 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   
 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 SPORTSMAN"*  
**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery (Manchester Report), nos. 11353 & 11387) has been efficiently fitted on board this vessel, in accordance with the approved plans & Rule requirements, examined under working conditions & found satisfactory and is eligible, in my opinion, to have notation of + L.M.C. 2,44.*

**NOTE!** In addition to the above, a generating set comprising a 2 cyl, 2-stroke diesel engine no. 56665 made by the National Gas & Oil Co., Ltd., driving a G.E.C. 7.5KW generator is fitted on the starboard side of the Engine Room for O.G. purposes only. This generating set is an Admiralty supply and has not been built in accordance with the requirements of the Society's Rules but the set has been efficiently installed under Survey, and in accordance with the Society's Rules, examined under working conditions & found satisfactory.

The amount of Entry Fee .. £ : : When applied for,  
 Special *12.29.00* (2%) £ : : *25 FEB 1944*  
 Less change in *24.0.0*  
 Donkey Boiler Fee ... £ : : *12 5 0*  
 Travelling Expenses (if any) £ : : 19

*J. E. Turpie*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned *+ L.M.C. 2.44*

*FRI. 3 MAR 1944*



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