

REPORT ON OIL ENGINE MACHINERY.

No. 46840

27 JUL 1927

Received at London Office

Date of writing Report 12th July 1927 When handed in at Local Office 14th 7th 1927 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 29-9-25 Last Survey 10-7-1927
 Reg. Book. Number of Visits 210

Single
on the Twin
Triple
Quadruple

Screw vessel

"CHESHIRE"

Tons Gross 10560
Net

Built at Glasgow By whom built The Fairfield S.B. & C. Co. Yard No. 620 When built 1927
 Engines made at Glasgow By whom made The Fairfield S.B. & C. Co. Engine No. 620 When made 1927
 Donkey Boilers made at Annan By whom made Cochran & Co. Annan, Ch. Boiler No. 9971 When made 1927
 Brake Horse Power 7700 Owners Billy Bros & Co. Port belonging to Liverpool
 Nom. Horse Power as per Rule 2196 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which vessel is intended London / Rangoon

OIL ENGINES, &c.—Type of Engines Fairfield Sulzer 2 or 4 stroke cycle 2 Single or double acting Single
 Maximum pressure in cylinders 600 lb Diameter of cylinders 28" Length of stroke 39" No. of cylinders 8 No. of cranks 8
 Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 38 1/2" Is there a bearing between each crank Yes.
 Revolutions per minute 110 Flywheel dia. 86 5/8" Weight 10.5 Tons Means of ignition Compression Kind of fuel used Diesel fuel oil
 Crank Shaft, dia. of journals as per Rule 18.23" 18-3" Crank pin dia. 19" Crank Webs Mid. length breadth 32" Thickness parallel to axis 12" shrunk Thickness around eyehole 8 1/2"
 Flywheel Shaft, diameter as per Rule 18.23" Intermediate Shafts, diameter as per Rule 14.11" 14-3" Thrust Shaft, diameter at collar as per Rule 14.81" 14-98"
 Tube Shaft, diameter as fitted 19" Screw Shaft, diameter as per Rule 15.53" 15-69" Is the tube shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule 13/16 Thickness between bushes as fitted 5/8" 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 No joints
 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 Yes 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 66"
 Propeller, dia. 17'-0" Pitch 15'-0" No. of blades 3 Material Bronze whether Moveable Yes Total Developed Surface 87.1 sq. feet
 Method of reversing Engines Cam Is a governor or other arrangement fitted to prevent racing of the engine when disengaged Yes Means of lubrication Mechanical
 Thickness of cylinder liners 2 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 funnel
 Cooling Water Pumps, No. 2 Jacket 2 Piston 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. 4 Diameter 7" Stroke 10" Can one be overhauled while the other is at work Yes
 Pumps connected to the Main Bilge Line No. and Size 1 Bilge 100, 1 General Service 100, 1 Ballast 200, 1 Emergency 100 How driven Electric Motors
 Ballast Pumps, No. and size One 200 T.P.H. Lubricating Oil Pumps, including Spare Pump, No. and size Two 8" x 7 1/2" Duplex.
 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 5-3 1/2", 1-5 1/2" Tunnels 1-3", 4-2 1/2" Tunnel Well 1-2 1/2" Bone
 In Holds, &c. In 1 Hold 3-2 1/2", In 2 Hold 2-3", 1-2 1/2", In 3 Hold 2-3", 1-2 1/2", In 4 Hold 2-3", 1-2 1/2", In 5 Hold 3-3"
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-8" Bone In 6 Hold 3-3"
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 and on Wells Are they fitted with Valves or Cocks Both
 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
 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 Yes Is it fitted with a watertight door Yes worked from Bld. Deck
 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. Two 2 Gals. No. of stages 3 Diameters 23 3/4", 21 1/4", 5 1/2" Stroke 20" Driven by Main Crankshaft
 Auxiliary Air Compressors, No. Two 2 Gals. No. of stages 3 Diameters 14 1/2", 12 3/4", 7 1/2" Stroke 7 1/2" Driven by Electric Motors
 Small Auxiliary Air Compressors, No. One 1 Gal. No. of stages 2 Diameters 6", 2 1/8" Stroke 4 1/2" Driven by Steam
 Scavenging Air Pumps, No. Two 300 lbs. Capacity Each 600 lbs. of free air per hour Driven by Electric Motors
 Auxiliary Engines crank shafts, diameter as per Rule 22 1/2" as fitted 23 1/2" See London Report No. 91283

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule Yes
 Can the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Access by opening in end
 Is there a drain arrangement fitted at the lowest part of each receiver Yes
 High Pressure Air Receivers, No. 2 INJN. STARTS 6 Cubic capacity of each 5.5, 28.0 Internal diameter 11 3/8", 3 1/4" thickness 9/16", 1/4"
 Seamless, lap welded or riveted longitudinal joint Seamless Material S. Y. S. Range of tensile strength 32, 1/37.4 Working pressure by Rules 1270, 1500 lb.
 Starting Air Receivers, No. 4 Total cubic capacity 868 ft. Internal diameter 48" thickness 1 1/8"
 Seamless, lap welded or riveted longitudinal joint Riveted Material S. Range of tensile strength 28 1/2" Working pressure by Rules 606 lb.

IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Yes.*

GL 46534

PLANS. Are approved plans forwarded herewith for Shifting (If not, state date of approval)

Receivers *E. D. C. St. John*

Separate Tanks *Yes.*

Donkey Boilers *Yes*

General Pumping Arrangements *Yes*

Oil Fuel Burning Arrangements

SPARE GEAR

In accordance with Rule requirements a number of items additional thereto, one propeller shaft, three propeller blades.

The foregoing is a correct description,

**THE FAIRFIELD SHIPBUILDING AND
ENGINEERING CO., LIMITED.**

Manufacturer.

Ref. 11.8.1915
Dates of Survey while building
During progress of work in shops--
During erection on board vessel--
Total No. of visits

Dates of Examination of principal parts—Cylinders 21.10.26 Covers 21.9.26 Pistons 27.12.26 Rods 27.12.26 Connecting rods 10.1.27
Crank shafts 13.9.26 Flywheel shafts 13.9.26 Thrust shafts 13.9.26 Intermediate shafts 14.9.26 Tube shaft 26.8.27
Screw shafts 16.12.26 Propeller 10.1.27 Stern tube 21.12.26 Engine seatings 19.11.26 Engines holding down bolts 2.6.27
Completion of fitting sea connections 21.1.27 Completion of pumping arrangements 10.7.27 Engines tried under working conditions 9.10.27
Crank shaft, Material S.M.S. Identification Mark 2.R.620.14.6 Flywheel shaft, Material S.M.S. Identification Mark 448.458.
Thrust shaft, Material S.M.S. Identification Mark 448.458. Intermediate shafts, Material S.M.S. Identification Mark 66.875.88.12.
Tube shaft, Material S.M.S. Identification Mark 63.488. Screw shaft, Material S.M.S. Identification Mark 63.488.

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. SHROPSHIRE*

General Remarks

(State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under Special Survey in accordance with the Society's Rules and approved plans. The materials and workmanship employed in its manufacture are sound and good. It has been satisfactorily fitted on board and found satisfactory under working conditions and, in my opinion, is suitable for service 4.7.27.

The amount of Entry Fee ... £ 6 : 0

Special ... £ 154 : 18

4. *Revised* ... £ 12 : 12

Travelling Expenses (if any) £ - : -

Committee's Minute

Assigned + LMC 7.27

When applied for, 14 JUL 1927

When received, 6.10.27

GLASGOW 26 JUL 1927

W. L. Luce

Engineer Surveyor to Lloyd's Register of Shipping.



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CERTIFICATE WRITTEN 27