

# REPORT ON OIL ENGINE MACHINERY.

No 11696.  
20 DEC 1943

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Received at London Office

Port of **MANCHESTER.**  
Date, First Survey **22.9.43** Last Survey **29.11. 19 43.**  
When handed in at Local Office **18th Dec 1943.**

Survey held at **OPENSHAW.** Number of Visits **Seven.**  
on the **Triple** Screw vessel **"EMPIRE GUERNSEY" A/MS 680.** Tons: Gross **166/7/8/9** Net **168**

Yard No. **132220** When built **1943.**  
By whom built **J. Harker Ld.** Engine No. **132220** When made **1943.**  
By whom made **Crossley Bros. Ld.** Boiler No. **-** When made **-**  
By whom made **-** Port belonging to **-**  
Owners **-** Is Electric Light fitted **-**

Is Refrigerating Machinery fitted for cargo purposes **-**

Type of Engines **Direct Injection. Heavy Oil.** 2 or 4 stroke cycle **2** Single or double acting **Single.**

Maximum pressure in cylinders **850 lbs/sq.in.** Diameter of cylinders **10 1/2"** Length of stroke **13 1/2"** No. of cylinders **6** No. of cranks **6**

Indicated Pressure **76 lbs/sq.in.** Is there a bearing between each crank **Yes.**

Revolutions per minute **300** Flywheel dia. **37 1/2"** Weight **2166** Means of ignition **Compression** Kind of fuel used **Diesel Oil.**

Crankshaft: Solid forged  dia. of journals **7 1/2"** as per Rule **approved.** Crank pin dia. **7 1/4"** Crank Webs: Mid. length breadth **9 1/4"** Thickness parallel to axis **-** Mid. length thickness **3.23/32"** Thickness around eyehole **-**

Flywheel Shaft, diameter as per Rule **Flywheel mounted on Crankshaft coupling.** Intermediate Shafts, diameter as per Rule **-** Thrust Shaft, diameter at collars as per Rule **Approved.** as fitted **4 3/4"**

Propeller Shaft, diameter as per Rule **-** as fitted **-** Is the tube/shaft fitted with a continuous liner **-**

Brass 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 **-**

Does the liner do 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 **-**

Length of Bearing in Stern Bush next to and supporting propeller **-**

Propeller, dia. **-** Pitch **-** No. of blades **-** Material **-** whether Moveable **-** Total Developed Surface **-** sq. feet **-**

Method of reversing Engines **Direct.** Is a governor or other arrangement fitted to prevent racing of the engine **Yes.** Means of lubrication **-**

Are the cylinders fitted with safety valves **Yes** Are the exhaust pipes and silencers water cooled or lagged with insulating material **-**

Manifold Water cooled **Yes** If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine **-**

Bilge and Cooling Water Pumps Interchangeable. **Yes**

Bilge Pumps worked from the Main Engines, No. **One** Diameter **4 1/4"** Stroke **3"** Can one be overhauled while the other is at work **Yes**

Are the pumps connected to the Main Bilge Line **-** No. and Size **-** How driven **-**

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping **-**

Are the cooling water led to the bilges **-**

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size **Two in Series on M.E. 1 3/8" & 1 1/4" x 2" Stroke.**

Are there two independent means arranged for circulating water through the Oil Cooler **-** Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size: **-** In Machinery Spaces **-**

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes **-** Are the Bilge Suctions in the Machinery Spaces **-**

Are they from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges **-** Are they fitted with Valves or Cocks **-**

Are all Sea Connections fitted direct on the skin of the ship **-** Are the Overboard Discharges above or below the deep water line **-**

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates **-** Are the Blow Off Cocks fitted with a spigot and brass covering plate **-**

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel **-** How are they protected **-**

Are the pipes that pass through the bunkers **-** Have they been tested as per Rule **-**

Are the pipes that pass through the deep tanks **-**

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **-**

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 **-** Is the Shaft Tunnel watertight **-** Is it fitted with a watertight door **-** worked from **-**

Are there any means provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork **-**

Main Air Compressors, No. **One** No. of stages **2** Diameters **5 3/4" & 2 1/2"** Stroke **4"** Driven by **Main Engine.**

Auxiliary Air Compressors, No. **-** No. of stages **-** Diameters **-** Stroke **-** Driven by **-**

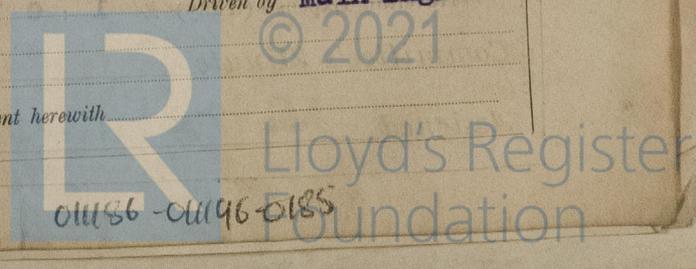
Small Auxiliary Air Compressors, No. **-** No. of stages **-** Diameters **-** Stroke **-** Driven by **-**

Is there any provision made for first Charging the Air Receivers **-** Tandem **20 1/2"** Stroke **9 1/4"** Driven by **Main Engine.**

Are the Auxiliary Engines crank shafts, diameter as per Rule **-** as fitted **-** Is a report sent herewith **-**

Have the Auxiliary Engines been constructed under special survey **-**

20/12/43



To follow later.

AIR RECEIVERS: Have they been made under survey State No. of Report or Certificate

Is each receiver, which can be isolated, fitted with a safety valve as per Rule

Can the internal surfaces of the receivers be examined and cleaned

Is a drain fitted at the lowest part of each receiver

Injection 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? 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

Donkey Boilers General Pumping Arrangements Pumping Arrangements in Machinery Space

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied As per Rule Requirements.

State the principal additional spare gear supplied

The foregoing is a correct description.

CROSSLEY BROTHERS LIMITED.

Shops

Manufacturer.

Dates of Survey while building During progress of work in shops - - 1943. 22nd Sept. 1, 18 Oct. 11, 25, 26, 29 Nov. During erection on board vessel - - - Total No. of visits

Dates of Examination of principal parts - Cylinders 18.10.43 Covers 22.9.43 Pistons 29.11.43 Rods Connecting rods 29.11.43

Crank shaft 18.10.43. Flywheel shaft - Thrust shaft 29.11.43 Intermediate shafts - Tube shaft -

Screw shaft Propeller Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions LLOYD'S 1566

Crank shaft, Material O.H.Steel. Identification Mark ELK.1.10.43. Scav. Pump O.H.Steel. Identification Mark WTM. 15.1.43

Thrust shaft, Material O.H.Steel. Identification Mark WTM. 18.6.40 Intermediate shafts, Material - Identification Marks -

Tube shaft, Material - Identification Mark - Screw shaft, Material - Identification Mark -

Identification Marks on Air Receivers

Is the flash point of the oil to be used over 150° F.

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with

Description of fire extinguishing apparatus fitted

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 Manchester Report No. 11,555.

General Remarks (State quality of workmanship, opinions as to class, &c. THIS ENGINE HAS BEEN CONSTRUCTED UNDER SPECIAL SURVEY OF TESTED MATERIALS AND IN ACCORDANCE WITH THE SECRETARY'S LETTERS, APPROVED PLANS AND RULE REQUIREMENTS. THE MATERIALS AND WORKMANSHIP ARE GOOD AND THE ENGINE WHEN TESTED IN THE SHOP UNDER FULL LOAD CONDITIONS GAVE SATISFACTORY RESULTS. THIS ENGINE IS SUITABLE, IN MY OPINION, FOR ITS INTENDED SERVICE AND WHEN SATISFACTORILY INSTALLED AND REPORTED ON WILL BE ELIGIBLE TO RECEIVE THE NOTATION OF LMC (WITH DATE).

(The Surveyors are requested not to write on or below the space for Committee's Minute)

The amount of Entry Fee .. £ 3 : 0 : 0 When applied for, & 25% Special ... £ 24 : 0 : 0 18.12.1943. Donkey Boiler Fee ... £ : : : When received, Travelling Expenses (if any) £ 1 : 0 : 0

Committee's Minute Assigned Su F.E. machy. rph

Engineer Surveyor to Lloyd's Register of Shipping.

