

# REPORT ON OIL ENGINE MACHINERY.

No. 6300

1 OCT 1927

Received at London Office

Date of writing Report Sept 26<sup>th</sup> 1927 When handed in at Local Office Sept 26<sup>th</sup> 1927 Port of Manchester  
 No. in Survey held at Manchester Date, First Survey August 12<sup>th</sup> 1927 Last Survey Sept 23<sup>rd</sup> 1927  
 Reg. Book. Number of Visits 6

on the Single Screw Barge, Owned by Messrs The Anglo Mexican Petroleum Co. Ltd stationed at Tampico, Mexico. Tons { Gross / Net }  
 Built at Manchester By whom built Messrs L. Gardner & Sons Ltd Yard No. 116 When built 1927  
 Engines made at Manchester By whom made Messrs L. Gardner & Sons Ltd Engine No. 116 When made 1927  
 Key Boilers made at 1 By whom made 1 Boiler No. 1 When made 1927  
 Indicated Horse Power 140 Owners Messrs The Anglo Mexican Pet. Co. Ltd Port belonging to 1  
 Indicated Horse Power as per Rule 40 ✓ Is Refrigerating Machinery fitted for cargo purposes 1 Is Electric Light fitted 1  
 Name of vessel for which intended 1

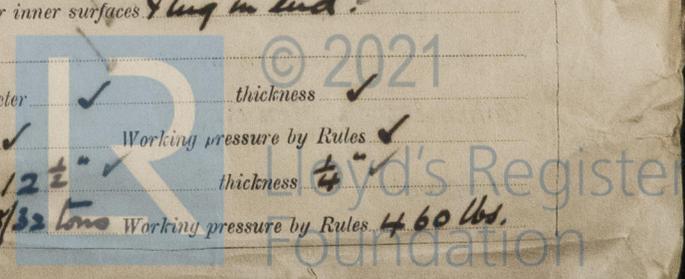
**ENGINES, &c.** Type of Engines Vertical, Semi-Diesel, Air Starting, Reversible 2 or 4 stroke cycle 2 Single or double acting Single  
 Maximum pressure in cylinders 300 Diameter of cylinders 11 1/2" Length of stroke 12 1/2" No. of cylinders 4 No. of cranks 4  
 No. of bearings, adjacent to the Crank, measured from inner edge to inner edge 17 1/4" Is there a bearing between each crank Yes  
 Revolutions per minute 320 Flywheel dia. 38 3/8" Weight 1767 lbs Means of ignition Hot bulb Kind of fuel used heavy oil  
 Crank Shaft, dia. of journals as per Rule 4.97" as fitted 5 1/8" Crank pin dia. 5 1/2" Crank Webs Mid. length breadth 6 3/4" Mid. length thickness 3" Thickness parallel to axis 1 Thickness around eye-hole 1  
 Wheel Shaft, diameter as per Rule 1 as fitted 1 Intermediate Shafts, diameter as per Rule 1 as fitted 1 Thrust Shaft, diameter at collars as per Rule 3.6" as fitted 3.74"  
 Main Shaft, diameter as per Rule 1 as fitted 1 Screw Shaft, diameter as per Rule 1 as fitted 1 Is the screw shaft fitted with a continuous liner 1  
 Piston Liners, thickness in way of bushes as per Rule 1 as fitted 1 Thickness between bushes as per rule 1 Is the after end of the liner made watertight in the after boss 1  
 If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner 1  
 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 1  
 Are two liners fitted, is the shaft lapped or protected between the liners 1 Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft 1

Propeller, dia. 48" Pitch 36" No. of blades 4 Material Cast Iron whether Moveable No Total Developed Surface 7.6 sq. feet  
 Method of reversing Engines Camshaft adjustment a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication manifolds  
 Thickness of cylinder liners 1 Are the cylinders fitted with safety valves No Are the exhaust pipes and blowers water cooled or lagged with 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 1  
 Working Water Pumps, No. 1 driven by main engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel 1  
 Bilge Pumps worked from the Main Engines, No. 1 Diameter 1 3/4" Stroke 3" Can one be overhauled while the other is at work 1  
 Pumps connected to the Main Bilge Line { No. and Size / How driven } 1

Lubricating Oil Pumps, including Spare Pump, No. and size One 1 1/2" bore x 3" stroke  
 Are two independent means arranged for circulating water through the Oil Cooler 1 Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:— In Machinery Spaces  
 Holds, &c. 1  
 Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1  
 Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 1 Are the Bilge Suctions in the Machinery Spaces from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges 1  
 Are all Sea Connections fitted direct on the skin of the ship 1 Are they fitted with Valves or Cocks 1  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates 1 Are the Overboard Discharges above or below the deep water line 1  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel 1 Are the Blow-Off Cocks fitted with a spigot and brass covering plate 1  
 How are they protected 1  
 Have they been tested as per Rule 1  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times 1  
 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 1 Is the Shaft Tunnel watertight 1 Is it fitted with a watertight door 1 worked from 1

On a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork 1  
 Main Air Compressors, No. 1 No. of stages 1 Diameters 6" Stroke 3" Driven by Main engine ok.  
 Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 1 Stroke 1 Driven by 1  
 Small Auxiliary Air Compressors, No. 1 No. of stages 1 Diameters 1 Stroke 1 Driven by 1  
 Revolving Air Pumps, No. 1 Diameter 1 Stroke 1 Driven by 1  
 Auxiliary Engines crank shafts, diameter as per Rule 1 as fitted 1  
**R RECEIVERS.** Is each receiver, which can be isolated, fitted with a safety valve as per Rule 1  
 Are the internal surfaces of the receivers be examined Yes What means are provided for cleaning their inner surfaces Plug in end.  
 Is there a drain arrangement fitted at the lowest part of each receiver Yes  
 High Pressure Air Receivers, No. 1 Cubic capacity of each 1 Internal diameter 1 thickness 1  
 Seamless, lap welded or riveted longitudinal joint 1 Material 1 Range of tensile strength 1 Working pressure by Rules 1  
 Starting Air Receivers, No. 2 Total cubic capacity 1343 Internal diameter 12 1/2" thickness 1  
 Seamless, lap welded or riveted longitudinal joint Seamless Material Mild Steel Range of tensile strength 28/32 tons Working pressure by Rules 460 lbs.  
Chesterfield type No. 148773/4

013057-013062-0149 1/2



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting Crank and thrust Receivers Yes Separate Tanks No

Donkey Boilers General Pumping Arrangements Oil Fuel Burning Arrangements

SPARE GEAR

Handwritten notes and diagrams related to spare gear, including various measurements and component descriptions.

The foregoing is a correct description,

L. GARDNER & SONS, LTD.

William Gardner, Manufacturer.

Dates of Survey while building

During progress of work in shops - - 1927 August 13. 16. 23. Sept. 8. 20. 23.

During erection on board vessel - -

Total No. of visits

Dates of Examination of principal parts - Cylinders 16-8-27 Covers 23-8-27 Pistons 8-9-27 Rods Connecting rods 16-8-27

Crank shaft 16-8-27 Flywheel shaft Thrust shaft 6-9-27 Intermediate shafts Tube shaft

Screw shaft Propeller 23-9-27 Stern tube Engine seatings Engines holding down bolts

Completion of fitting sea connections Completion of pumping arrangements Engines tried under working conditions

Crank shaft, Material Mild Steel Identification Mark 52 Flywheel shaft, Material Identification Mark

Thrust shaft, Material Mild Steel Identification Mark 1239 Intermediate shafts, Material Identification Marks

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

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

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

Is this machinery duplicate of a previous case Yes If so, state name of vessel J. Pollock Sons Co 1087. Incl. Rept. 5314

General Remarks (State quality of workmanship, opinions as to class, &c. The above main engine of Gardner's 4 T 8 Type,

has been built under special survey and the materials tested in accordance with the Rules of this Society. The materials so far as can be seen are sound and the workmanship is good. A test bed trial proved satisfactory and the engine manoeuvred well.

The above engine is in our opinion eligible for the notation of + L.M.C. with date when fitted on board the vessel in accordance with the Rules of this Society.

Amount charged to Messrs L. Gardner & Sons Ltd £(17-0-0) = £13-13-0.

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, 30 Sept 1927
Special ... £ 15 : 0 : 0
Donkey Boiler Fee ... £ 13 : 12 : 0
Travelling Expenses (if any) ... £ 1 : 0 : 0 When received, 28.10.27

Committee's Minute

Assigned

Signature of C.G. Butterworth, Surveyor to Lloyd's Register of Shipping.

MAR 23 1928

FRI. 1 FEB 1929

Rpt. 9a.

Port of

MANCHESTER

Continuation of Report No.

dated

on the

L. Gardner & Sons, Ltd.

4 T 8 Engine for Anglo-Mexican Petroleum Co. Ltd.

Plans enclosed:-

General Arrgt. ✓

Clutch. ✓

Crankshaft. ✓

Thrust Shaft. ✓

Flywheel. ✓

Connecting Rod. ✓

Air Bottles. ✓

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