

# REPORT ON OIL ENGINE MACHINERY.

No. 5940.  
29 JUL 1926

REMARKS.

Writing Report *July 28<sup>th</sup> 1926* When handed in at Local Office *July 28<sup>th</sup> 1926* Port of *MANCHESTER*  
Survey held at *June 9<sup>th</sup>* Date, First Survey *July 23<sup>rd</sup> 1926* Last Survey  
Number of Visits *7*  
on the *Single* Screw vessels  
*Scotstoun, Glasgow* By whom built *Yarrow & Co. Ltd.* Yard No. *1531* Tons Gross *1531*  
made at *Manchester* By whom made *L. Gardner & Sons Ltd* Engine No. *26910* When made *1926*  
Boilers made at By whom made Boiler No. When made  
Horse Power *48* Owners Port belonging to  
Horse Power as per Rule *14.0* Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

GINES, &c.—Type of Engines *Vertical, Reversing, Air Starting* 2 or 4 stroke cycle *2* Single or double acting *Single*  
Pressure in cylinders *300* No. of cylinders *4* Diameter of cylinders *17 1/2"* No. of cranks *4* Length of stroke *8"*  
Rings, adjacent to the Crank, measured from inner edge to inner edge *11 1/4"* Is there a bearing between each crank *Yes*  
Per minute *450* Flywheel dia. *23 3/8"* Weight *572 lbs* Means of ignition *Hot bulb* Kind of fuel used *Heavy Oil*  
ft. dia. of journals as per Rule *3 1/4"* as fitted *3 1/4"* Crank pin dia. *3 1/4"* Crank Webs Mid. length breadth *4 1/2"* Kind of fuel used *Heavy Oil*  
Mid. length thickness *1 3/8"* shrunk Thickness parallel to axis *✓*  
Thickness around eye hole *✓*  
shafts, diameter as per Rule *✓* Intermediate Shafts, diameter as per Rule *✓* Thrust Shaft, diameter at collars as per Rule *2 2/2"*  
as fitted *✓* as fitted *✓* as fitted *2 1/4"*  
Is, diameter as per Rule *✓* Screw Shaft, diameter as per Rule *✓* Is the tube shaft fitted with a continuous liner *✓*  
as fitted *✓* as fitted *✓*  
Bushes, 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 *✓*  
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 *✓*  
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 *✓*  
Are fitted, is the shaft lapped or protected between the liners *✓* Is an approved Oil Gland or other appliance fitted at the after *✓*  
the shaft Length of Bearing in Stern Bush next to and supporting propeller *✓*  
Pitch No. of blades Material whether Moveable Total Developed Surface sq. feet *✓*  
reversing Engines *✓* Is a governor or other arrangement fitted to prevent racing of the engine when disclutched *Yes* Means of lubrication *✓*  
Are the cylinders fitted with safety valves *No* Are the exhaust pipes *✓* water cooled *✓*  
If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine *✓*  
ter Pumps, No. *One on engine* Is the sea suction provided with an efficient strainer which can be cleared within the vessel *✓*  
s fitted to the Main Engines, No. *One* Diameter *1 3/4"* Stroke *2"* Can one be overhauled while the other is at work *✓*  
No. and Size How driven *✓*  
Lubricating Oil Pumps, including Spare Pump, No. and size *One 1 3/8" bore x 3/8" stroke*  
Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge *✓*  
Oil Cooler *✓*

Power Pump Direct Suctions to the Engine Room Bilges, No. and size *✓*  
Suction pipes in Holds and Tunnel Well fitted with strum-boxes *✓* Are the Bilge Suctions in the Machinery Space *✓*  
accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges *✓*  
connections fitted direct on the skin of the ship *✓* Are they fitted with Valves or Cocks *✓*  
efficiently high on the ship's side to be seen without lifting the *✓* plates *✓* Are the Overboard Discharges above or below the deep water line *✓*  
fitted with a Discharge Valve always accessible on the plating of the vessel *✓* Are the Blow Off Cocks fitted with a spigot and brass covering plate *✓*  
through the bunkers *✓* How are they protected *✓*  
through the deep tanks *✓* Have they been tested as per Rule *✓*  
Pumps, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *✓*  
out 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 *✓*  
another *✓* Is the Shaft Tunnel watertight *✓* Is it fitted with a watertight door *✓* worked from *✓*  
what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork *✓*  
Compressors, No. *One* No. of stages *One* Diameters *3 1/2"* Stroke *2"* Driven by *End of Crankshaft*  
Compressors, No. *One* No. of stages *One* Diameters *2"* Stroke *4 1/16"* Driven by *Aux. Petrol Engine Type OVC.*  
Air Compressors, No. *✓* No. of stages *✓* Diameters *✓* Stroke *✓* Driven by *✓*  
Pumps, No. *Crank Case Compression* Diameter *✓* Stroke *✓* Driven by *✓*  
Inches crank shafts, diameter as per Rule *1 1/8"* as fitted *1 1/8" at joints 1" in way of flywheels.*

IVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes*  
surfaces of the receivers be examined *Yes* What means are provided for cleaning their inner surfaces *3" gas plug in Snd.*  
arrangement fitted at the lowest part of each receiver *Yes*  
Air Receivers, No. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*  
ed or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure by Rules *✓*  
Receivers, No. *One 1/2 134420* Total cubic capacity *6 ft<sup>3</sup>* Internal diameter *12 1/2"* thickness *1/4"*  
ed or riveted longitudinal joint *Seamless* Material *Mild Steel* Range of tensile strength *28/32 lbs* Working pressure by Rules *463 lbs/ft<sup>2</sup>*

W1101-0138



## IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

## HYDRAULIC TESTS:—

DESCRIPTION.	DATE OF TEST.	WORKING PRESSURE.	TEST PRESSURE.	STAMPED.	REMARKS.
ENGINE CYLINDERS .....	9-6-26	300 lbs	600 lbs	Ac	
" " COVERS .....	10-6-26	"	"	"	
" " JACKETS .....	9 & 10-6-26	✓	50 lbs	"	
" PISTON WATER PASSAGES .....	✓	✓	✓	✓	
MAIN COMPRESSORS—1st STAGE .....	✓	✓	✓	✓	
" 2nd " .....	✓	✓	✓	✓	
" 3rd " .....	✓	✓	✓	✓	
AIR RECEIVERS—STARTING .....	6-7-26	250 lbs	500 lbs	Ac	Chesterfield Sealers.
" INJECTION .....	✓	✓	✓	✓	
AIR PIPES .....					
FUEL PIPES .....					
FUEL PUMPS .....					
SILENCER .....	✓	✓	✓	✓	
" WATER JACKET .....	9-6-26	✓	50 lbs	Ac	
SEPARATE FUEL TANKS .....	19-7-26	✓	8 lbs	(Jm.)	Tested at F. Braby & Co., Ltd.

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval)

Receivers

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

## SPARE GEAR

L GARDNER &amp; SONS, LIMITED.

The foregoing is a correct description,

J. A. Gardner

Manufacturer.

DIRECTOR

Dates of Survey while building

During progress of work in shops --

During erection on board vessel --

Total No. of visits

1926. June 9<sup>th</sup>. 10<sup>th</sup>. 15<sup>th</sup>. July 2<sup>nd</sup>. 6<sup>th</sup>. 19<sup>th</sup>. 23<sup>rd</sup>.

Dates of Examination of principal parts—Cylinders 9-6-26 Covers 10-6-26 Pistons 2-7-26 Rods ✓ Connecting rods 9-6-26

Crank shaft 9-6-26 Flywheel shaft ✓ Thrust shaft 15-6-26 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

Crank shaft, Material Mild Steel Identification Mark Ac (not tested) Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material Mild Steel Identification Mark Ac (not tested) 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.

Is this machinery <sup>similar to</sup> duplicate of a previous case Yes If so, state name of vessel Camper & Nicholson's "Margherita".

General Remarks (State quality of workmanship, opinions as to class, &c.) The above main engine of Gardner's 4 T4 Type together with one Gardner Petrol Engine Type OVC, single cylinder driving a 3" bore air compressor from long forged on foot of connecting rod, have been built under Special Survey and in accordance with the Secretary's Letter 1-6-26. The materials so far as can be seen are sound and the workmanship is good.

The main engine proved satisfactory under shop test on full load and also manoeuvred well.

The auxiliary air compressor set will be tried under working conditions on board ship.

The above engines are in my opinion eligible for the notation of L.M.C. with date when fitted on board the vessel in accordance with the requirements of this Society and subject to the Aux. OVC Type air compressor set proving satisfactory under working conditions.

Le charges to L. Gardner &amp; Sons 45 £ 17.0.0 = £ 13-12-0

The amount of Entry Fee ... £ 20 : 0 : 0 When applied for, ✓

Special ... £ 12 : 0 : 0 : 19

Donkey Boiler Fee ... £ : : When received, ✓

Travelling Expenses (if any) ... £ : : 27.8.26

Committee's Minute

Assigned

Alfred St. Paul

Engineer Surveyor to Lloyd's Register of Shipping.



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