

REPORT ON OIL ENGINE MACHINERY.

No. 8235

Received at London Office 18 JAN 1935

Date of writing Report 14 Jan 1935 When handed in at Local Office 14 Jan 1935 Port of Manchester

No. in Survey held at Manchester Date, First Survey 14 Aug 1914 Last Survey 14 Jan 1935

g. Book. on the Single Twin Triple Quadruple Screw vessel

By whom built Gool Shipbuilding Yard No. 306 When built

By whom made L. Gardner & Son Ltd Engine No. 52358 When made

By whom made Boiler No. When made

Owners Port belonging to

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

ade for which vessel is intended Coasting Great Britain & Ireland & Continent Brest to Hamburg

ENGINES, &c.—Type of Engines Vertical, airless, injection, 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 580 lb. Diameter of cylinders 11" Length of stroke 17 1/4" No. of cylinders 5 No. of cranks 5

Indicated Pressure 50 lb. in of bearings, adjacent to the Crank, measured from inner edge to inner edge 18 1/4"

Revolutions per minute 320 Flywheel dia. 44" Weight 2655 lb. Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, dia. of journals as per Rule 6 3/4" Crank pin dia. 6 3/4" Crank Webs Mid. length breadth 8 1/4" Thickness parallel to axis 3 1/2"

Intermediate Shafts, diameter as per Rule 4 1/4" Thrust Shaft, diameter at collars as per Rule 4 1/4" + 1/2"

Is the tube screw shaft fitted with a continuous liner

Is the after end of the liner made watertight in the

Is the liner in more than one length are the junctions made by fusion through the whole thickness of the liner

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

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

If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, dia. Pitch 18" No. of blades 4 Material Cast steel whether Moveable Total Developed Surface 1100 sq. feet

Method of reversing Engines Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication

Thickness of cylinder liners 1/8" Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

conducting material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

Boiling Water Pumps, No. One on engine Is the sea suction provided with an efficient strainer which can be cleared within the vessel

Age Pumps worked from the Main Engines, No. One Diameter 2 1/2" Stroke 3" Can one be overhauled while the other is at work

Pumps connected to the Main Bilge Line No. and Size How driven

The cooling water led to the bilges If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

engements

last Pumps, No. and size Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size One 2" dia x 5 1/2" stroke

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 In Pump Room

Folds, &c.

dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes 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

all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks

they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Are the Overboard Discharges above or below the deep water line

they each 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

at pipes pass through the bunkers How are they protected

at pipes pass through the deep tanks Have they been tested as per Rule

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

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

partment to another Is the Shaft Tunnel watertight Is it fitted with a watertight door worked from

wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork

in Air Compressors, No. One on main engine No. of stages 2 Diameters 2 1/2" x 4" Stroke 3" Driven by Crank shaft

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

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

venting Air Pumps, No. Diameter Stroke Driven by

Auxiliary Engines crank shafts, diameter as per Rule as fitted

AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule *Yes* *Double plug - air receiver*
Safety valves in air compressors

Can the internal surfaces of the receivers be examined and cleaned *Yes* Is a drain fitted at the lowest part of each receiver *Yes*
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 *✓*
Starting Air Receivers, No. *2 No 21175* Total cubic capacity *18.3 cpi* Internal diameter *14.2* thickness *Side 1/4" Head 1/2"*
Seamless, lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength *28/32 L* Working pressure by Rules *399.7 lb.*
Actual *365 lb.*

IS A DONKEY BOILER FITTED?

Is the donkey boiler intended to be used for domestic purposes only *Yes* If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *General ✓* Receivers *Yes* Separate Tanks *Yes*
(If not, state date of approval)
Donkey Boilers *✓* General Pumping Arrangements *✓* Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied

State the principal additional spare gear supplied *5 piston rings, 1 Schrader assembly, one fuel pipe to Schrader*
2 bilge pump valves, 2 bilge pump cup washers, 2 water pump valves, 2 water pump cup
2 fuel pump delivery valves & seats, 5 fuel pump delivery valves, one lubricator, oil pump and washers
Springs for C.A. Control valve air starting valve, lubricator pump relief del. valves, Air Compressor
fuel pump plunger & delivery valves, fuel pump & del. valves, fuel line (outside), breech safety valve
A number of gaskets and washers.

The foregoing is a correct description,

L. GARDNER & SONS LD.

William Gardner.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *14-8-34, 19-21-34, 2-19-10-34, 5-8-11-34, 14-12-34, 8-11-1-25*
During erection on board vessel -- *Director.*
Total No. of visits *12 (incl)*

Dates of Examination of principal parts—Cylinders *19-21-9-34* Covers *19-21-9-34* Pistons *21-9-34* Rods *✓* Connecting rods *19-9-34*
Crank shaft *25-9-34* Flywheel shaft *✓* Thrust shaft *2-10-34* 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 *Engt Steel* Identification Mark *Engt No 5094 ARS* Flywheel shaft, Material *✓* Identification Mark *✓*
Thrust shaft, Material *Engt Steel* Identification Mark *Engt No 5094 A* 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

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 *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c. *This main engine No 52558 has been*)

built under special survey and the materials used in accordance with the Rules. The materials so far as can be seen are sound & the workmanship is good.

The engine has been satisfactorily tested under full load & the work & has been dispatched to Messrs. G. & S. B. & Co. for installation in vessel No 506.

The amount of Entry Fee .. £ 3 : 0 : *When applied for, 14/11/34*
Special ... £ 21 : 4 : *When received, 14/11/34*
Donkey Boiler Fee ... £ : : *for the 14/11/34*
Travelling Expenses (if any) £ : : *for the 14/11/34*

Committee's Minute

Assigned

FRI. 22 MAR 1935

TUE. 13 AUG 1935

George Anderson
Engineer Surveyor to Lloyd's Register of Shipping.

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



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