

REPORT ON OIL ENGINE MACHINERY

No. 91,934

Received at London Office 20 OCT 1927

Date of writing Report 20 OCT 1927 When handed in at Local Office 20 OCT 1927 Port of London (Sunderland)
No. in Survey held at Newbury Date, First Survey Feb 18 1927 Last Survey 17 Oct 1927
Reg. Book. DURING INSTALLATION SEP. 1927 Number of Visits SIX 7 JAN 1928

on the ^{Single} ~~Triple~~ ^{Quadruple} Screw vessel "ABILITY"
Built at Lowestoft By whom built Messrs. Fellows & Co Yard No. 319 When built 1927
Engines made at Newbury By whom made Penby & Son Ltd. Engine No. 553 When made 1927
Donkey Boilers made at By whom made Boiler No. When made
Brake Horse Power 250 Owners Messrs. F. J. Everard & Sons Port belonging to London
Nom. Horse Power as per Rule 71 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No
Trade for which vessel is intended Boasting

OIL ENGINES, &c.—Type of Engines Heavy Oil 2 or 4 stroke cycle 2 Single or double acting S.A.
Maximum pressure in cylinders 425 Diameter of cylinders 335 $\frac{1}{2}$ Length of stroke 390 $\frac{1}{2}$ No. of cylinders 5 No. of cranks 5
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 425 $\frac{1}{2}$ Is there a bearing between each crank Yes
Revolutions per minute 300 Flywheel dia. 1050 $\frac{1}{2}$ Weight 17 cwt. Means of ignition Hot Spot Kind of fuel used Diesel
Crank Shaft, dia. of journals as per Rule 146 $\frac{1}{2}$ Crank pin dia. 174 $\frac{1}{2}$ Crank Webs Mid. length breadth 205 Mid. length thickness 100 Thickness parallel to axis shrunk SOLID FORGED Thickness around each hole
Flywheel Shaft, diameter as per Rule CRANK SHAFT Intermediate Shafts, diameter as per Rule 120 $\frac{1}{2}$ Thrust Shaft, diameter at collars as per Rule 126 $\frac{1}{2}$
Tube Shaft, diameter as per Rule as fitted 5 $\frac{1}{8}$ Is the ^{tube} ~~screw~~ shaft fitted with a continuous liner Yes
Screw Shaft, diameter as per Rule as fitted 5 $\frac{1}{8}$
Bronze Liners, thickness in way of bushes as per Rule 45 Thickness between bushes as per Rule 387 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 Yes
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
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 shaft No Length of Bearing in Stern Bush next to and supporting propeller 24"
Propeller, dia. 5'-6" Pitch 3'-9" No. of blades 3 Material C.I. whether Moveable No Total Developed Surface 13 sq. feet
Method of reversing Engines Gear Is a governor or other arrangement fitted to prevent racing of the engine when declutched Yes Means of lubrication Grease
Thickness of cylinder liners 225 $\frac{1}{2}$ Are the cylinders fitted with safety valves No Are the exhaust pipes and silencers water cooled or lagged with non-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
Cooling Water Pumps, No. one Is the sea suction provided with an efficient strainer which can be cleared within the vessel
Bilge Pumps worked from the Main Engines, No. one Diameter 125 $\frac{1}{2}$ Stroke 120 $\frac{1}{2}$ Can one be overhauled while the other is at work
Pumps connected to the Main Bilge Line No. and Size Two 125 $\frac{1}{2}$ dia x 120 $\frac{1}{2}$ Stroke. How driven One from Main Eng. and One from Aux. Engine.
Ballast Pumps, No. and size None Lubricating Oil Pumps, including Spare Pump, No. and size Sealed off from Engine
Are 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 Three @ 2 $\frac{1}{4}$ " In Holds, &c. Four @ 2 $\frac{1}{4}$ "
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size Two @ 2 $\frac{1}{4}$ "
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 Are they fitted with Valves or Cocks Valves
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 Yes
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
What pipes pass through the bunkers None How are they protected
What pipes pass through the deep tanks 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 Is it fitted with a watertight door worked from
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. None No. of stages Two Diameters Stroke Driven by Aux. Engine
Auxiliary Air Compressors, No. One No. of stages Two Diameters 2 1/2" Stroke 3 1/2" Driven by Aux. Engine
Small Auxiliary Air Compressors, No. None No. of stages Diameters Stroke Driven by
Scavenging Air Pumps, No. None Diameter Stroke Driven by
Auxiliary Engines crank shafts, diameter as per Rule 75 $\frac{1}{2}$ as fitted

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

Can the internal surfaces of the receivers be examined What means are provided for cleaning their inner surfaces
Is there a drain arrangement fitted at the lowest part of each receiver
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. Three Total cubic capacity 12 cu ft Internal diameter 13" Thickness 1/4"
Seamless, lap welded or riveted longitudinal joint Material Steel Range of tensile strength 28/32 1/2" Working pressure by Rules 297

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting *No retained 28 duplicate* Receivers *30-8-26 + 12-7-27*

Separate Tanks

Donkey Boilers

General Pumping Arrangements

Oil Fuel Burning Arrangements

SPARE GEAR

One Cyldr. Head - One piston - One journal brass
One set of valves for crankcase doors - One set leathers for Bilge circulating pumps
One set of springs
One set of valves for fuel pumps
One set of fuel injection pipes
One set of blow lamp spares
5 Igniters complete
5 Igniter joints
5 Pilot injection nozzles
5 Piston Rings
5 Main Jts Complete.

The foregoing is a correct description.

FOR AND ON BEHALF OF

PLENTY & SON, LIMITED.

Manufacturer.

E. Davis

SECRETARY

Dates of Survey while building { During progress of work in shops - Feb. 18. March 17. May 23. June 22. Aug 16. Oct. 17. 1927.
During erection on board vessel -
Total No. of visits

Dates of Examination of principal parts - Cylinders 18-2-27 17-3-27 17-10-27 Pistons 17-3-27 Rods ✓ Connecting rods 17-3-27
Crank shaft 18-2-27 Flywheel shaft 18-2-27 Thrust shaft 18-2-27 Intermediate shafts ✓ Tube shaft ✓
Screw shaft 16-8-27 Propeller 16-8-27 Stern tube fitting 6-9-27 Engine seatings 2-11-27 Engines holding down bolts 2-11-27
Completion of fitting sea connections 6-9-27 Completion of pumping arrangements 17-1-27 Engines tried under working conditions
Crank shaft, Material *Steel* Identification Mark *CRH. CRH 3457* Flywheel shaft, Material *Crank Shaft* Identification Mark
Thrust shaft, Material *Crank Shaft* Identification Mark ✓ Intermediate shafts, Material ✓ Identification Marks ✓
Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *Steel* Identification Mark *LLOYDS 6513 W.G.H. 24-8-27 16-8-27*

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

Is this machinery duplicate of a previous case ✓ If so, state name of vessel ✓

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

This machinery which has been constructed under survey to approved plans & rule requirements has been despatched to Yarmouth for installation on board.

The workmanship & materials, so far as can be seen, are good and in my opinion, the machinery will be eligible for the record of + LMC (with date) when it has been fitted aboard the vessel under survey & tried under working conditions.

The machinery examined whilst being installed in the vessel & will be eligible for the record of + LMC 1-28 after being tried under working conditions.

The amount of Entry Fee ... £ 2 : 0 : 0 When applied for, 20 OCT 1927
Special ... £ 17 : 15 : 0
Donkey Boiler Fee ... £ : : : When received, 2-12-1927
Travelling Expenses (if any) £ 4 0 : 0

Committee's Minute

Assigned

*+ Lmb 1,28 C.L.
Oil Engines Subject*

FRI. 25 JAN 1928

Richard D. Calmer

Engineer Surveyor to Lloyd's Register of Shipping.

A. B. Farmer



Lloyd's Register Foundation