

REPORT ON OIL ENGINE MACHINERY.

No. 675

Received at London Office 25 JUL 1949

Date of writing Report 21/7 1949 When handed in at Local Office 19 Port of Hamburg Date, First Survey 27/4/49 Last Survey 14/7 1949 Number of Visits 12

Survey held at Hamburg Tons Gross 2503.35 Net 1711.08

Single on the Twin Triple Quadruple Screw vessel Empire Dove (ex Hermes) By whom built Pot. N.V. Scheepswaerft Yard No. When built 1940/1 By whom made Bremen Engine No. 113 When made 1939 By whom made Bremen Vulkan Boiler No. When made Port belonging to London Owners M.O.W.T. Is Electric Light fitted yes Is Refrigerating Machinery fitted for cargo purposes no

MAN DSZ 60/90 2 or 4 stroke cycle 2 Single or double acting Double

Maximum pressure in cylinders 45 Kg/cm² Diameter of cylinders 2378 357/16 900 mm No. of cylinders 5 No. of cranks 5 & scavenge air pump. Mean Indicated Pressure 5.3 Kg/cm² Is there a bearing between each crank yes

Span of bearings, adjacent to the crank, measured from inner edge to inner edge 870 mm Means of ignition Compression Kind of fuel used Diesel oil

Revolutions per minute 130 Flywheel dia 2100 mm Weight 3400 kg Crank pin dia 420 mm Crank webs 560 mm Thickness parallel to axis 235 mm Thickness around eye-hole 390 mm

Crank Shaft Solid forged dia. of journals as per Rule 420 mm Crank pin dia 420 mm Thrust Shaft, diameter at collars as per Rule 390 mm

Flywheel Shaft, diameter as per Rule 300 mm Intermediate Shafts, diameter as per Rule 291 mm Is the tube screw shaft fitted with a continuous liner no

Tube Shaft, diameter as per Rule 333 mm Is the after end of the liner made watertight in the propeller boss yes

Bronze Liners, thickness in way of bushes as per Rule Thickness between bushes as fitted 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 yes

If two liners are fitted, is the shaft lapped or protected between the liners yes Is an approved Oil Gland or other appliance fitted at the after end of tube shaft yes

Propeller, dia 4200 Pitch 13750 mm No. of blades 4 Material Bronze whether moveable no Total developed surface 63.55 sq. feet

Method of reversing Engines direct Is a governor or other arrangement fitted to prevent racing of the engine when declutched yes

lubrication forced Thickness of cylinder liners 40 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material lagged

back to the engine Cooling Water Pumps, No. 2 Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes

Bilge Pumps worked from the Main Engines, No. none Diameter Stroke Can one be overhauled while the other is at work yes

Pumps connected to the Main Bilge Line No. and size Ballast 100 m³/hr G.S. 21 m³/hr Bilge 30/36 m³/hr How driven Electric Motor

Is the cooling water led to the bilges no If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping arrangements

Ballast Pumps, No. and size One 100 m³/hr Power Driven Lubricating Oil Pumps, including spare pump, No. and size One 30 m³/hr

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both main bilge pumps and auxiliary bilge pumps, No. and size:—In machinery spaces 2 (4) - 82.5 mm

In holds, &c Hold I - two 82.5 mm Hold II - two 82.5 mm Hold III - four 82.5 mm

Independent Power Pump Direct Suctions to the engine room bilges, No. and size One - stowed side to Ballast pump 113 mm

Are all the bilge suction pipes in holds and tunnel well fitted with strum-boxes yes Are the bilge suction 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 above

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 yes

What pipes pass through the bunkers none How are they protected Have they been tested as per Rule yes

What pipes pass through the deep tanks none Have they been tested as per Rule yes

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 yes Is it fitted with a watertight door yes worked from above

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 stroke diameters driven by Aux Diesel

Auxiliary Air Compressors, No. 2 No. of stages 2 diameters 250/100 mm stroke 230 mm driven by Engine

Small Auxiliary Air Compressors, No. one No. of stages one diameters 45 mm stroke 70 mm driven by Hand

What provision is made for first charging the air receivers 2 cylinders in tandem diameter 1200 mm stroke 770 mm driven by 2021 Engine

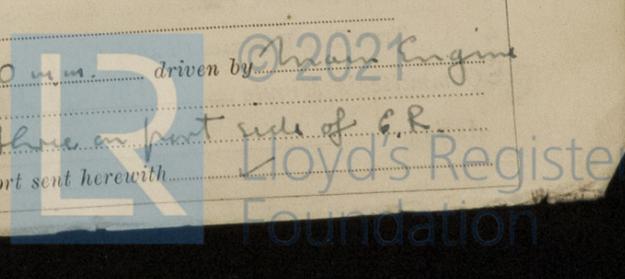
Scavenging Air Pumps, No. one as per Rule diameter 130 mm No. 1 - 130 mm No. 2 - 130 mm No. 3 - 150 mm Position three on port side of G.R.

Auxiliary Engines crank shafts, diameter as fitted No. 1 - 130 mm No. 2 - 130 mm No. 3 - 150 mm Is a report sent herewith no

Have the auxiliary engines been constructed under special survey no

Ed 28/7/49

005292 - 0060



AIR RECEIVERS:—Have they been made under survey... *no* ✓ State No. of report or certificate... ✓
 Is each receiver, which can be isolated, fitted with a safety valve as per Rule... *yes* ✓
 Can the internal surfaces of the receivers be examined and cleaned... *yes* ✓ Is a drain fitted at the lowest part of each receiver... *yes* ✓
Injection Air Receivers, No.... *none* ✓ 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* ✓ Total cubic capacity... *12.6 m³* Internal diameter... *1500 mm* thickness... *23.5 mm* Actual... ✓
 Seamless, lap welded or riveted longitudinal joint... *riveted* Material... *steel* Range of tensile strength... *44/Kg/cm²* Working pressure by Rules... ✓ Actual... *30K* ✓
IS A DONKEY BOILER FITTED... *no* ✓ 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... *no - approved 13/12/48* Receivers... *13/12/48* Separate fuel tanks... *13*
 (If not, state date of approval)
 Donkey boilers... ✓ General pumping arrangements... *13/12/48* Pumping arrangements in machinery space... *13/12/48*
 Oil fuel burning arrangements... ✓

SPARE GEAR.

Has the spare gear required by the Rules been supplied... *yes* ✓
 State the principal additional spare gear supplied... *1 crank pin bearing of 1 set of top end bearings*

The foregoing is a correct description,—

Manufacturer.

Thomas D. Both

Dates of Survey while building...
 During progress of work in shops... ✓
 During erection on board vessel...
 Total No. of visits... *12*
 Dates of examination of principal parts—Cylinders... *20/11/48* Covers... *20/11/48* Pistons... *20/11/48* Rods... *20/11/48* Connecting rods... *14/7/48*
 Crank shaft... *9/7/48* Flywheel shaft... *9/7/48* Thrust shaft... *9/7/48* Intermediate shafts... *9/7/48* Tube shaft... ✓
 Screw shaft... *30/12/48* Propeller... *30/12/48* Stern tube... *30/12/48* Engine seatings... *30/12/48* Engine holding down bolts... *30/12/48*
 Completion of fitting sea connections... *30/12/48* Completion of pumping arrangements... ✓ Engines tried under working conditions... *14/7/48*
 Crank shaft, material... *steel* Identification mark... *C.H. 7758* Flywheel shaft, material... *steel* Identification mark... *2068 10384*
 Thrust shaft, material... *steel* Identification mark... *2068 10384* Intermediate shafts, material... *steel* Identification marks... *10228 10.6L.38*
 Tube shaft, material... ✓ Identification mark... *16.6L.38* Screw shaft, material... *steel* Identification mark... *2068 10266*
 Identification marks on air receivers... *steel receivers - Brown rollers N°209 Capacity 6300 litres working Press. 30Kg/cm² tested 45Kg/cm² N°8525BM. 5.6L.1943 Part receiver - Brown rollers N°210 Capacity 6300 litres working Press. 30Kg/cm² tested 45Kg/cm² N°8526BM 5.6L.1943.*
 Is the flash point of the oil to be used over 150°F... *yes* ✓
 Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with... *yes* ✓
 Description of fire extinguishing apparatus fitted... *In B.R. 6 patent foam type - CO₂ smothering - 59 bottles 30*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo... *no* ✓ 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... *no* ✓
 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.)
The main auxiliary machinery of this vessel has been examined throughout & all parts have been found to be in an efficient condition & have been examined under working conditions & found satisfactory. It is submitted that the vessel's machinery is eligible in my opinion to be classed with this Society with notation of L.M.C 7.49 & record of screw shaft (S.S.) seen 12.48

T.V.C. app^d 26/7/49 for 130 fms

The amount of LMC Entry Fee ... £ *72* : —
 Special ... £ : :
 Donkey Boiler Fee... £ : :
 Travelling Expenses (if any) £ *7* : *10* :
 When applied for... *19*
 When received... *19*

Committee's Minute... **FRI. 29 JUL 1949**

Assigned... *LMC 7.49*
5 (S.S.) 12.48



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