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REPORT ON OIL ENGINE MACHINERY.

No. 19396

Received at London Office 31 JUN 1946

Writing Report 20-5 1946 When handed in at Local Office 19 Port of Rotterdam Date, First Survey 2-2-46 Last Survey 20-5-1946 Number of Visits 15

Survey held at Rotterdam in Book. 107 on the Single Triple Quadruple Screw vessel M.V. "Van Gelder" Tons Gross 325 Net 230

at Duisburg By whom built Ewald Berninghaus Yard No. When built 1914

Boilers made at Bolnus By whom made M. Koch Fabrik "Bolnus" Engine No. 877 When made 1934

Boilers made at not fitted By whom made " Boiler No. When made "

Indicated Horse Power 300 Owners Mrs. J. Hermans Schepwaart Bedrijf Port belonging to Rotterdam Is Electric Light fitted Yes

Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

Intended for which vessel is intended Coastal Trade

ENGINES, &c. Type of Engines Bolnus Diesel Engine Type 4H.S. 2 or 4 stroke cycle Single or double acting single

Minimum pressure in cylinders 37.5 kg/cm² Diameter of cylinders 260 mm Length of stroke 370 mm No. of cylinders 4 No. of cranks 4

Indicated Pressure 14.6 kg/cm² Is there a bearing between each crank Yes

Revolutions per minute 325 Flywheel dia. 1200 mm Weight 1050 kg Means of ignition Compression Kind of fuel used Diesel oil

Crank shaft, Solid forged as per Rule Crank pin dia. 140 mm Crank Webs accepted 117 m/m Mid. length breadth 100 mm Thickness parallel to axis as per Rule

Intermediate Shafts, diameter as fitted Thrust Shaft, diameter at collars as fitted 120 mm

Propeller shaft, diameter as fitted 122 mm Is the tube shaft fitted with a continuous liner no

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

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

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 the tube Yes

Length of Bearing in Stern Bush next to and supporting propeller 500 mm

Propeller, dia. 1400 mm Pitch 10 1/4 No. of blades 3 Material Bronze whether Moveable Yes Total Developed Surface 500 mm sq. feet

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

Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with Yes

Thickening of cylinder liners 25 mm Are the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine above

Non-conducting material Yes Is the sea suction provided with an efficient strainer which can be cleared within the vessel Yes

Cooling Water Pumps, No. two Diameter 74 mm Stroke 60 mm Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. one Diameter 74 mm Stroke 60 mm Can one be overhauled while the other is at work Yes

Pumps connected to the Main Bilge Line { No. and Size one rotary How driven Belt driven by main engine or by auxiliary engine 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 rotary 300 mm Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size one rotary + one hand pump

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 302" In Pump Room Yes

In Holds, &c. 402" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size one 2" Are the Bilge Suctions in the Machinery Spaces Yes

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are they fitted with Valves or Cocks Cocks

Are all Sea Connections fitted direct on the skin of the ship Yes Are the Overboard Discharges above or below the deep water line above

Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes How are they protected Yes

What pipes pass through the bunkers none Have they been tested as per Rule Yes

What pipes pass through the deep tanks 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 no tunnel Is it fitted with a watertight door Yes worked from Yes

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

Main Air Compressors, No. one No. of stages one Diameters 101 mm Stroke 127 mm Driven by belt driven by main and auxiliary engine

Auxiliary Air Compressors, No. one No. of stages one Diameters 101 mm Stroke 127 mm Driven by main and auxiliary engine

Small Auxiliary Air Compressors, No. one No. of stages one Diameters 101 mm Stroke 127 mm Driven by main and auxiliary engine

What provision is made for first Charging the Air Receivers Aux air compressor Driven by Yes

Scavenging Air Pumps, No. one Diameter 65 mm Stroke 127 mm Position Starboard side

Auxiliary Engines crank shafts, diameter 65 mm Is a report sent herewith no G.H.

Have the Auxiliary Engines been constructed under special survey no G.H.



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AIR RECEIVERS:—Have they been made under survey. 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. *✓* Cubic capacity of each *✓* Internal diameter *✓* thickness *✓*
 Seamless, lap welded or riveted longitudinal joint *✓* Material *✓* Range of tensile strength *✓* Working pressure *✓*
Starting Air Receivers, No. *two* Total cubic capacity *272 h* Internal diameter *302 mm* thickness *9 mm*
 Seamless, lap welded or riveted longitudinal joint *Seamless* Material *Steel* Range of tensile strength *✓* Working pressure *Actual 30 kg/cm²*

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 *Approved 22-3-46* Receivers *22-3-46* Separate Fuel Tanks *✓*
 (If not, state date of approval)
 Donkey Boilers *✓* General Pumping Arrangements *14-3-46* Pumping Arrangements in Machinery Space *14-3-46*
 Oil Fuel Burning Arrangements *✓*

SPARE GEAR.

Has the spare gear required by the Rules been supplied *Yes*
 State the principal additional spare gear supplied *one piston, one cylinder head, one fuel pump, bronze propeller set of piston rings.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
 During progress of work in shops --
 During erection on board vessel --
 Total No. of visits *15*

Dates of Examination of principal parts—Cylinders *5-3-46* Covers *5-3-46* Pistons *24-4-46* Rods *24-4-46* Connecting rods *✓*
 Crank shaft *15-3-46* Flywheel shaft *✓* Thrust shaft *15-3-46* Intermediate shafts *✓* Tube shaft *✓*
 Screw shaft *12-3-46* Propeller *12-3-46* Stern tube *12-3-46* Engine seatings *7-5-46* Engines holding down bolts *7-5-46*
 Completion of fitting sea connections *12-3-46* Completion of pumping arrangements *4-4-46* Engines tried under working conditions *20-5-46*
 Crank shaft, Material *✓* Identification Mark *G.L.* Flywheel shaft, Material *✓* Identification Mark *G.L.*
 Thrust shaft, Material *✓* Identification Mark *✓* Intermediate shafts, Material *✓* Identification Marks *✓*
 Tube shaft, Material *✓* Identification Mark *✓* Screw shaft, Material *✓* Identification Mark *G.L.*
 Identification Marks on Air Receivers *G.L.*

Is the flash point of the oil to be used over 150° F. *X*
 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 *no* If so, have the requirements of the Rules been complied with *no*
 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 *no* If so, state name of vessel *no*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery has been built under the Germ. Lloyd's supervision and rules. The main and aux. machinery have now been completely opened up, air receivers tested hydraulically, screw shaft drawn, and all exam^d and made in good condition and have been afterwards tried under full working conditions and was found in good working and manouring order. (Please see survey report.)*
The vessel's machinery being in a good condition, I am of opinion that the vessel is eligible to be classed in the Society's Registerbook L.M.C. 5-46 and notation T.S. seen 3-46.

The amount of Entry Fee .. £ *240.00* When applied for, .. 19
 Special £ : : When received, .. 19
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ *3.50*

Committee's Minute

Assigned *LMC 5,46 Oil Eng. S.3.46*

A. Hassell
 Engineer Surveyor to Lloyd's Register of Shipping.



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Rpt. 13.

Date of writing

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