

REDUCTION GEARING REPORT ON STEAM TURBINE MACHINERY.

No. 1925.

Received at London Office

4a.

Date of writing Report 24. 6. 1937 When handed in at Local Office

Port of BREMEN

Survey held at BREMEN & WESERMÜNDE

Date, First Survey 11th Aug 1937 Last Survey 8th June 1937

Reg. Book. 18442 on the SINGLE SCREW VESSEL

GAMBIAN

(Number of Visits 20) Tons Gross 5452 Net 3106

built at WESERMÜNDE

By whom built DESCHIMAG, WERK: SEEBECK Yard No. 571 When built 1937

Engines made at BREMEN

By whom made DESCHIMAG, WERK: A.G. WESER Engine No. V.A. 60 When made 1937

Boilers made at

By whom made Boiler No. When made

Shaft Horse Power at Full Power 2300 Owners LEVER BROS. TORONTO

Port belonging to FREETOWN

Nom. Horse Power as per Rule 577

Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

Trade for which Vessel is intended OPEN SEA SERVICE

STEAM TURBINE ENGINES, &c.—Description of Engines TWO 2 SCRA HEAVY OIL ENGINES, SINGLE REDUCTION GEARED TO

WO VULKAN OIL COUPLINGS Direct coupled, single reduction geared to 1 propelling shafts. No. of primary pinions to each set of reduction gearing 2

No. of Turbines Ahead ✓ Astern ✓

direct coupled to Alternating Current Generator phase periods per second Direct Current Generator rated Kilowatts Volts at revolutions per minute;

for supplying power for driving Propelling Motors, Type

rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE LOADING.	H.P.			I.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine OIL ENGINE H.P. 1200 ✓ L.P. 275 ✓ 1st reduction wheel - main shaft 90 ✓

PRIMARY Rotor Shaft diameter at journals H.P. 330 7/8 ✓ L.P. 120 7/8 ✓ Pitch Circle Diameter 1st pinion 600.655 7/8 1st reduction wheel - main wheel 1788.187 7/8 Width of Face 1st reduction wheel - main wheel 560 7/8

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings 1st pinion 490 7/8 1st reduction wheel - main wheel 700 7/8 545 7/8

Flexible Pinion Shafts, diameter 1st 300 7/8 ✓ 2nd 120 7/8 ✓ Pinion Shafts, diameter at bearings External 1st 300 7/8 ✓ 2nd 120 7/8 ✓ Internal 1st 120 7/8 ✓ 2nd 120 7/8 ✓ diameter at bottom of pinion teeth 1st 584.145 7/8 2nd 1771.667 7/8

2 THRUST Wheel Shafts, diameter at bearings 1st 330 7/8 ✓ 2nd 330 7/8 ✓ diameter at wheel shroud, 1st 1710 7/8 ✓ 2nd 1710 7/8 ✓ Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule as fitted Thrust Shaft, diameter at collars as per rule as fitted

Tube Shaft, diameter as per rule as fitted Screw Shaft, diameter as per rule as fitted Is the tube screw shaft fitted with a continuous liner

Bronze Liners, thickness in way of bushes as per rule as fitted Thickness between bushes as per rule as fitted Is the after end of the liner made watertight in the propeller boss

If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner 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 If so, state type Length of Bearing in Stern Bush next to and supporting propeller

Propeller, diameter Pitch No. of Blades State whether Moveable Total Developed Surface square feet. Can the H.P. or I.P. Turbine exhaust direct to the

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine Condenser No. of Turbines fitted with astern wheels Feed Pumps No. and size How driven

Pumps connected to the Main Bilge Line No. and size How driven Lubricating Oil Pumps, including Spare Pump, No. and size Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge In Pump Room

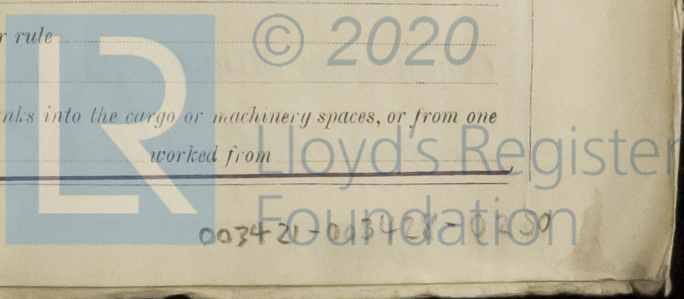
Ballast Pumps, No. and size Are two independent means arranged for circulating water through the Oil Cooler Main Water Circulating Pump Direct Bilge Suctions, No. and size Independent Power Pump Direct Suctions to the Engine Room

Bilges, No. and size Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges

Are all Sea Connections fitted direct on the skin of the ship Are they fitted with Valves or Cocks Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Overboard Discharges above or below the deep water line

Are 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 What pipes pass through the bunkers 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 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 Is the Shaft Tunnel watertight Is it fitted with a watertight door



BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers

Is Forced Draft fitted No. and Description of Boilers

Working Pressure

Is a Report on Main Boilers now forwarded?

Is { a Donkey Boiler fitted? an Auxiliary }

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

28.5.36

Main Boilers

Auxiliary Boilers

Donkey Boilers

Superheaters

General Pumping Arrangements

Oil Fuel Burning Arrangements

Has the spare gear required by the Rules been supplied

SPARE GEAR.

State the principal additional spare gear supplied

2 compl. sets of turn bearing branes for pinion shafts.

8 pads and bolts.

1 compl set of bearing branes for pinion shaft

1 compl set of turn bearing branes for primary shafts.

10 pads & bolts.

2 compl sets of turn bearing branes for main shaft

12 pads & bolts.

1 compl set of main shaft bearing branes

35 tubes for oil covers

a number of bolts, studs & nuts for

primary, pinion, main shaft bearing

a wheel

The foregoing is a correct description,

Deutsche Schiff- und Maschinenbau Aktiengesellschaft

Manufactured

Dates of Survey while building During progress of work in shops - 1936 11/8. 12/8. 14/8. 20/8. 22/8. 17/9. 2/10. 14/10. 10/12. 16/12. 18/12. 29/12. 6/1. 27/1. 9/3. 1932 2/4. 15/4. 7/5. 2/6. 8/6. During erection on board vessel - 1932 2/4. 15/4. 7/5. 2/6. 8/6. Total No. of visits 20

Dates of Examination of principal parts—Casings 10/12. 27/1.

COUPLING

Rotors 20/8. 18/12. 18/12.

Blading

Gearing 29/12. 27/1.

Wheel shaft 12/8. 18/12. 27/1.

PRIMARY

Thrust shafts 12/8. 18/12. 27/1.

PINION

Intermediate shafts 10/12. 18/12. 27/1.

Tube shaft

Screw shaft

Propeller

Stern tube

Engine and boiler seatings

Engine holding down bolts 7.5.37

Completion of fitting sea connections

Completion of pumping arrangements

Boilers fixed

Engines tried under steam 2/6 - 8/6.37

Main boiler safety valves adjusted

Thickness of adjusting washers

PORT PRIMARY

STAR PRIMARY

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The amount of Entry Fee ... £

Special ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

19.

When received,

19.

Committee's Minute

FR 2 JUL 1937

Assigned

See other F.E. report

A. Carstensen G. H. C. Kahr

Engineer Surveyor to Lloyd's Register of Shipping.



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