

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 22 MAY 1936

Date of writing Report 16/5/36 19 When handed in at Local Office 19 Port of Hamburg

No. in Survey held at Lübeck Date, First Survey 5.9.35 Last Survey 7.5.36 19  
Reg. Book. 37982 on the steel S.S. "Eilbeck" (Number of Volls 38)

Built at Lübeck By whom built Lüb. Maschinenbau Gesellschaft Yard No. 347 Tons Gross 2185 Net 1274  
Engines made at Berlin - Tegel By whom made Rheinmetall-Borsig A.G. Engine No. 2142 When built 1936  
Boilers made at Lübeck By whom made Lüb. Maschinenbau Ges. Boiler No. 1277/B when made 1936  
Registered Horse Power 1350 PS Owners Knöhr & Burchard NfL Port belonging to Hamburg  
Nom. Horse Power as per Rule 221 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
Trade for which Vessel is intended General

ENGINES, &c.—Description of Engines "Lentz" Double Compound Engine Revs. per minute 100

Dia. of Cylinders  $2 \times 420 \text{ mm}$ ,  $2 \times 900 \text{ mm}$  Length of Stroke  $900 \text{ mm}$  No. of Cylinders 4 No. of Cranks 4

Crank shaft, dia. of journals as per Rule  $267.5 \text{ mm}$  Crank pin dia.  $285 \text{ mm}$  Crank webs Mid. length breadth  $560 \text{ mm}$  Thickness parallel to axis  $168 \text{ mm}$   
as fitted  $285 \text{ mm}$  Mid. length thickness  $168 \text{ mm}$  shrunk Thickness around eye-hole  $135 \text{ mm}$

Intermediate Shafts, diameter as per Rule  $232.5 \text{ mm}$  1/2 cut off = 50% Thrust shaft, diameter at collars as per Rule  $296.5 \text{ mm}$  283.5  
as fitted  $272 \text{ mm}$  as fitted  $285 \text{ mm}$

Tube Shafts, diameter as per Rule  $326.5 \text{ mm}$  314.101 Is the tube screw shaft fitted with a continuous liner yes  
as fitted  $318 \text{ mm}$

Bronze Liners, thickness in way of bushes as per Rule  $20 \text{ mm}$  Thickness between bushes as per Rule  $15 \text{ mm}$  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

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

Propeller, dia.  $4200 \text{ mm}$  Pitch  $3480 \text{ mm}$  No. of Blades 4 Material Cast iron whether Moveable solid Total Developed Surface  $5.5 \text{ sq. feet}$

Feed Pumps worked from the Main Engines, No. Diameter Stroke Can one be overhauled while the other is at work

Bilge Pumps worked from the Main Engines, No. 2 Diameter  $85 \text{ mm}$  Stroke  $375 \text{ mm}$  Can one be overhauled while the other is at work yes

Feed Pumps { No. and size 3 simpl.  $180 \times 130 \text{ mm}$ , 1 injector  $9 \text{ mm}$  Pumps connected to the { No. and size 1 of  $180 \times 130 \text{ mm}$  14 tons/h, 1 of  $200 \times 160 \text{ mm}$  100 tons/h  
How driven steam 14 tons/h steam Main Bilge Line How driven steam 510 tons/h steam

Ballast Pumps, No. and size 1 of  $200 \times 160 \text{ mm}$  100 tons/h Lubricating Oil Pumps, including Spare Pump, No. and size 1 F

Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room  $5 \times 70 \text{ mm}$   $\phi$ , Boiler Room:  $2 \times 50 \text{ mm}$   $\phi$ , Tunnel:  $2 \times 70 \text{ mm}$   $\phi$ , Tunnel recess: 1 of  $50 \text{ mm}$   $\phi$   
In Holds, &c. Fore hold: 4 of  $70 \text{ mm}$   $\phi$ , Aft hold: 4 of  $70 \text{ mm}$   $\phi$

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 of  $150 \text{ mm}$  Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 of  $125 \text{ mm}$   $\phi$  Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes yes

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 yes

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

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold 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 yes

What Pipes pass through the bunkers air pipes How are they protected wood casings

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 yes Is it fitted with a watertight door yes worked from engine room entrance

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers  $292.2 \text{ m}^2$  3144  $\text{ft}^2$

Is Forced Draft fitted yes No. and Description of Boilers 2 multitubular Working Pressure 214 lb

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? no If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 16/8/35 Main Boilers 29/8/35 Auxiliary Boilers Donkey Boilers

(If not state date of approval)

Superheaters 16/10/35 12/11/35 General Pumping Arrangements 5/10/35 Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:—As per Rules and the following parts in addition: ✓

1 piston rod, 1 bottom & 2 top end brasses with bolts & nuts, 2 main bearing brasses & bolts, 2 sets of HP and LP piston rings, 2 HP and LP delivery and escape valves, 6 valve spindles with bushes and springs, 4 adjusters with bushes, 1 set of coupling bolts, 10% of all studs, 2% of condenser tubes and ferrules, Bilge pumps: 2 lever links, 1 set of valves, 1 escape valve spring, Circ. pump: 1 impeller, 1 impeller shaft feed pumps: 2 suction and 2 delivery valves, 1 compl. slide valve box. Ballast pump: 2 suction and 2 delivery valves, 3 piston rings, 1 slide valve box, 1 piston rod. Flecht. genertg. set: 1 piston, 1 piston rod with crosshead, 1 bottom end brass, 1 slide valve with spindle. Fan engine: 1 main bearing, 1 slide valve spindle, 1 bottom end brass, 1 top end brass, 1 slide valve. 1 cast iron propeller.

This pump is intended only for the lubrication of the main bearings.

The foregoing is a correct description,

Lübecker  
Maschinenbau-Gesellschaft

Manufacturer.



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Lloyd's Register

Foundation

007430-007437-0023



20912

Dates of Survey while building  
During progress of work in shops - - - 1935 Sept. 5, 19 Oct. 25 Nov. 7, 14, 21, 25 Dec. 3, 12, 19, 30, 1936 Jan. 2, 6, 9, 13, 16, 20, 23, 30  
Feb. 6, 10, 13, 17, 20, 27  
During erection on board vessel - - - 1936 Mar. 5, 9, 12, 18, 23, 26 Apr. 1, 6, 9, 16, 20, 23 May 7  
Total No. of visits 38 + 19 (Stettin Surveyor)

Dates of Examination of principal parts—Cylinders 16.9.35 8.12.35 Slides 14.12.35  
Pistons 30.9.35 1.2.36 Piston Rods 17.7.35 8.1.36 Corers 14.12.35  
Crank shaft 2.9.35 12.1.36 Thrust shaft 16.8.35 28.1.36 Connecting rods 2.10.35 28.1.36  
Tube shaft - - - - - Intermediate shafts 5.3.36  
Screw shaft 10.2.36 Propeller 27.2.36  
Stern tube 18.2.36 Engine and boiler seatings 18.3.36 Engines holding down bolts 18.3.36  
Completion of fitting sea connections 27/2/36  
Completion of pumping arrangements 23.3.36 Boilers fixed 18.3.36 Engines tried under steam 23.4.36  
Main boiler safety valves adjusted 9.4.36 Thickness of adjusting washers please see below.  
Crank shaft material O.H. Steel Identification Mark N.5.14.12.35 Thrust shaft material O.H. Steel Identification Mark 2411  
Intermediate shafts, material O.H. Steel Identification Marks 11630 Date 11633 MB 4.1.36  
Screw shaft, material O.H. Steel Identification Mark MB 4.1.36 Tube shaft, material - - - Identification Mark F.5.17.6.35  
Is an installation fitted for burning oil fuel no ✓ Is the flash point of the oil to be used over 150°F. 5.3.36 Date of Test 1.4.36  
Have the requirements of the Rules for the use of oil as fuel 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 ✓  
Is this machinery duplicate of a previous case yes If so, state name of vessel "Steinbek" Ham Rpt No. 21825

General Remarks (State quality of workmanship, opinions as to class, &c. Please see also Stettin Rpt No. 1125)  
This machinery has been constructed under Special Survey in accordance with the approved plans and instructions thereto and in compliance with the Rules. It has been satisfactorily fitted on board and the outfit is ample. During the trial trip the machinery has given full satisfaction under working and manœuvring conditions. In my opinion the machinery is eligible for notation in the Reg. Book of:  
+ LMC-5,36 and TS (CL)

Thickness of adjusting washers:  
Port Boiler: port starb. superheater.  
Star Boiler: 6- mm 5.5 mm 11.5 mm  
5.5 mm 10.5 mm 16- mm

A fly wheel of 1550 mm  $\phi$  and a weight of 1920 kgs has been fitted to the forew. coupling flange of the crankshaft in order to avoid critical vibrations which have been noted at 88-90 revs. per min. on the first voyage of the sister vessel "Steinbek"

The amount of Entry Fee ... Rem 48.-  
Special ... 655.-  
Donkey Boiler Fee ... £ - - -  
Travelling Expenses (if any) # 232.-  
When applied for, 14.5.19.36  
When received, 11.6.19.36

J.A. Kruschke  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE, 26 MAY 1936

Assigned + LMC 5,36  
J.D. CL.