

Rpt. 4b.

## REPORT ON OIL ENGINE MACHINERY.

No. 1306.

Received at London Office 12 NOV 1930 12 NOV 1930

Date of writing Report 3rd Nov 30 When handed in at Local Office 19

Port of Bremen

No. in Survey held at Reg. Book.

Vignack

Date, First Survey 27th Jan 1930 Last Survey 1st Mar. 1930

Number of Visits 37

90836 on the Twin Triple Screw vessel

"HEINRICH v. RIEDEMANN"

Tons Gross 12175 Net 6974

Built at Vignack

By whom built Krümmel &amp; Kunkel

Yard No. 694 When built 1930

Engines made at Vignack

By whom made Krümmel &amp; Kunkel

Engine No. 28570 When made 1930

Donkey Boilers made at Oberhausen

By whom made Dampfmaschinenfabrik A.G.

Boiler No. 8072 When made 1930

Brake Horse Power 4700 1592

Owners Kaiserliche Deutsche Dampfschiffahrtsgesellschaft m. b. H.

Port belonging to Stanzig

Nom. Horse Power as per Rule 1595

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

Trade for which vessel is intended Ocean going, carrying Petroleum in bulk

OIL ENGINES, &amp;c.—Type of Engines 2 Oil Engines, Type Krümmel &amp; Kunkel - M.A.N. 2 or 4 stroke cycle 2 Single or double acting single

Maximum pressure in cylinders 35 kg/cm<sup>2</sup> Diameter of cylinders 379/16" Length of stroke 471/4" No. of cylinders 2x6 No. of cranks 2x6

Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1055 mm Is there a bearing between each crank Yes

Revolutions per minute 93 Flywheel dia. 2400 mm Weight 4500 kg Means of ignition air injection Kind of fuel used gas-oil

Crank Shaft, dia. of journals 450 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 440/360 mm Thickness parallel to axis 300 mm

Flywheel Shaft, diameter 560 mm Intermediate Shafts, diameter 315 mm Thrust Shaft, diameter at collars 440 mm

Tube Shaft, diameter 336 mm Is the shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes 18 mm Thickness between bushes 18.5 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

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

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

aft No If so, state type Length of Bearing in Stern Bush next to and supporting propeller 1600 mm

propeller, dia. 4876 mm Pitch 5038 mm No. of blades 3 Material bronze whether Moveable Yes Total Developed Surface 7 m<sup>2</sup>

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

oil Thickness of cylinder liners 50 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with

insulating material If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine

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

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

Pumps connected to the Main Bilge Line No. and size 1-340 m<sup>3</sup>/hr, 1-100 m<sup>3</sup>/hr, 1-45 m<sup>3</sup>/hr

How driven electrically, electrically, by steam

Lubricating Oil Pumps, including Spare Pump, No. and size 2 each 22 m<sup>3</sup>/hr, 1-40 m<sup>3</sup>/hr

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

Pumps, No. and size:—In Machinery Spaces 1-100 mm dia. 3-90 mm dia. 4 (with) 90 mm dia. In Pump Room 2-100 mm dia.

Holds, &amp;c. in each hold 1 of 260 mm, 1 of 150 mm dia. in each or in tank 1-150 mm dia. 1 in after peak 130 mm, 1 in fore peak 140 mm

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-260 mm, 1-130 mm dia. 1 in after peak 130 mm, 1 in fore peak 140 mm

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces

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 both

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

How are they protected

Have they been tested as per Rule Yes

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

partment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes

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

In Air Compressors, No. 2 No. of stages 3 Diameters 700/620/150 mm Stroke 700 mm Driven by main engine

Auxiliary Air Compressors, No. 2 No. of stages 3 Diameters 380/340/80 Stroke 250 mm Driven by aux. Diesel Eng.

All Auxiliary Air Compressors, No. 1 No. of stages 2 Diameters 155/150 mm Stroke 125 mm Driven by steam engine

Ventilating Air Pumps, No. 2x3 double acting Diameter 830 mm Stroke 1200 mm Driven by main engine

Auxiliary Engines crank shafts, diameter 175 mm Position engine space

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

Are the internal surfaces of the receivers be examined and cleaned Yes Is a drain fitted at the lowest part of each receiver Yes

High Pressure Air Receivers, No. 2 Cubic capacity of each 300 litres Internal diameter 410 mm thickness 20 mm

Seamless, lap welded or riveted longitudinal joint seamless Material J.M. Steel Range of tensile strength 44-50 kg Working pressure by Rules 9.9 kg/cm<sup>2</sup> Actual 7.5 kg/cm<sup>2</sup>

Starting Air Receivers, No. 5 (2 aux) Total cubic capacity 13750 (500) litres Internal diameter 1000 (550) mm thickness 35 (11) mm

Seamless, lap welded or riveted longitudinal joint riveted Material J.M. Steel Range of tensile strength 45-53 kg Working pressure by Rules 67 (33) kg/cm<sup>2</sup> Actual 65 (30) kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>Working pressure by Rules 12 kg/cm<sup>2</sup> Actual 10 kg/cm<sup>2</sup>



IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes

Is the donkey boiler intended to be used for domestic purposes only

no

PLANS. Are approved plans forwarded herewith for Shafting

19/12/29, 6/3/30

Receivers

23/12/29, 24/4/30

Separate Tanks

✓

Donkey Boilers

24/4/30

General Pumping Arrangements

16/7/30

Oil Fuel Burning Arrangements

21/5/30

### SPARE GEAR.

Has the spare gear required by the Rules been supplied

yes

State the principal additional spare gear supplied

For the Main Engines:- 2 cylinder covers with all valves, 6 cylinder liners, 1 main piston, 1 piston rod, 5 sets of tubular cooling pipes, 1/2 crank shaft, 1 screw shaft, 1 propeller box with both nuts, 4 propeller blades.

For the Main Engine Air Compressor:- 1 compressor crankshaft, 1 piston complete, 1 piston rod, 1 set of safety valves, 1 set of air cooler coils.

For the Scavenging Air Pump:- 1 set of piston rings.

For the Auxiliary Diesel Engine:- 1 cylinder cover with valves complete, 1 piston, 3 cylinder liners, 1/2 bottom end bracket, 1/2 main bearing bracket.

For the electrical part:- 1 armature with shaft, 2 brush holder, 2 brushes, 1 set of bearing bracket for each set of generator and motor.

The foregoing is a correct description.

Bremer Vulkan

Schiffbau und Maschinenfabrik

Manufacturer.

Dates of Survey while building  
During progress of work in shops:- 1930: Jan. 27, Feb. 5, 17, March 1, 5, 27, 21, April 1, 5, 12, 25, May 5, 10, 13, 22, 28  
June 7, 24, 26, July 2, 16, 22, 26, Aug. 19, Sep. 1  
During erection on board vessel:- 1930: Sep. 8, 20, 22, Oct. 3, 11, 15, 18, 28, 29  
Total No. of visits 37.

Dates of Examination of principal parts—Cylinders 5, 10, 13/5/30 Covers 2, 26/7/30 Pistons 12/4, 10/5/30 Rods 12/4/30 Connecting rods 1, 9/8/30

Crank shaft 1, 2/9/30 Flywheel shaft 1, 9/8/30 Thrust shaft 1, 9/8/30 Intermediate shafts 1, 9/8/30 Tube shaft ✓

Screw shaft 1, 9/8/30 Propeller 9/8, 1/9/30 Stern tube 9/8, 1/9/30 Engine seatings 9/8, 8/9/30 Engines holding down bolts 8/9/30

Completion of fitting sea connections 1/9/30 Completion of pumping arrangements 18/10/30 Engines tried under working conditions 29/10/30

Crank shaft, Material J. M. Steel Identification Mark 240425 9/130/31/32 Flywheel shaft, Material J. M. Steel Identification Mark 240425 9/130/31/32

Thrust shaft, Material J. M. Steel Identification Mark 240425 29/1/14056 Intermediate shafts, Material J. M. Steel Identification Marks MB. 17.6.30

Tube shaft, Material J. M. Steel Identification Mark 240425 3858 Screw shaft, Material J. M. Steel Identification Mark 240425 9/108/09, 1920

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

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo

✓

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

✓

Is this machinery duplicate of a previous case

no

If so, state name of vessel

✓

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

Three Diesel Engines and their accessories have been constructed under Special Survey in accordance with the requirements of the Rules and the approved plans. The materials used in the construction and the workmanship are good. The main engines and the auxiliary have been tried under working conditions and were found to work well.

It is recommended that three Diesel Engines and their accessories be eligible to be classed in the Society's Register Book with the notations of + L.M.C. 10, 30, C.L., Oil Engines, 2 Water Tube D.B. 200 lbs.

It is submitted that this vessel is eligible for THE RECORD

Oil Engines 2 SC. SA 12 cy. 27 3/4 - 47 1/4 C-L  
2 W.T.D.B. 200 lb 2 D.B. 100 lb

N.H.P. 1592.

The amount of Entry Fee .. £ 6: 0: When applied for,

Special .. £ 139: 18: 4/11/1930

Donkey Boiler Fee .. £ 16: 16: When received,

Travelling Expenses (if any) £ 12: 0: 13.11.1930

Committee's Minute

TUE. 25 NOV 1930

Assigned

+ Lmb 11.30 Cl., Oil Eng.  
2 W.T.D.B. - 200 lb 2 D.B. - 100 lb



© 2021

Lloyd's Register Foundation