

List of

Rpt. 4b.

REPORT ON OIL ENGINE MACHINERY.

No. 35204

Received at London Office 5 OCT 1949

Date of writing Report

19 13th October 1949 Port of Sunderland

No. in Survey held at Reg. Book.

Sunderland

Date, First Survey 28th May 1948 Last Survey 10th October 1949

Number of Visits 7

on the Single Triple Quadruple Screw vessel

"STEINGRIM STANGE"

Tons: Gross 10099
Net 5895

Built at Sunderland

By whom built Sci. J. Lang Sons Ltd

Yard No. 483 When built 1949

Engines made at Sunderland

By whom made Wm Langford Sons Ltd

Engine No. 266 When made 1949

Donkey Boilers made at Stockton

By whom made Stockton Chem. Eng. Works, Stockton

Boiler No. 4094 When made 1949

Brake Horse Power 3300

Owners Skibs A/S Arustein

Port belonging to Oso.

Nom. Horse Power as per Rule 688 MN 4/2

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

Trade for which vessel is intended

OIL ENGINES &c. Type of Engines Opposed piston airless injection 2 or 4 stroke cycle 2 Single or double acting Single

Maximum pressure in cylinders 640 lbs. Diameter of cylinders 600 mm Length of stroke Upper 980 mm 91 3/16 Lower 1340 mm No. of cylinders 4 No. of cranks 4 triple throws

Mean Indicated Pressure 88 lbs. Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 886 mm Is there a bearing between each crank Between each triple throw

Revolutions per minute 108 Flywheel dia. 2450 mm Weight A. 3.4 tons Means of ignition Compression Kind of fuel used Heavy oil

Crank Shaft, Semi built dia. of journals as fitted 431 mm Crank pin dia. 450 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 255 mm

Flywheel Shaft, diameter as per Rule 431 mm Intermediate Shafts, diameter as per Rule 322 mm Thrust Shaft, diameter at collars as per Rule 431 mm

Tube Shaft, diameter as per Rule Screw Shaft, diameter as per Rule 450 mm Is the tube shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule 22 mm Thickness between bushes as per Rule 14 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 one length

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 No

If two liners are fitted, is the shaft lapped or protected between the liners No Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes

Propeller, dia. 16'-6" Pitch 12.5' mean No. of blades 4 Material Bronze whether Movable No. Total Developed Surface 102 sq. feet

Method of reversing Engines Hand lever Is a governor or other arrangement fitted to prevent racing of the engine when de-latched Yes Means of lubrication Hand forced

Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves Yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material Yes

If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine No

Cooling Water Pumps, No. 1 Engine driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel (F.V. Corbin)

Bilge 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 2 @ 4" x 8" x 8" duplex How driven Steam

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 1 @ 10" x 12" x 10" Power Driven Lubricating Oil Pumps, including Vacuum Pump, No. and size 1 Engine driven 110 mm x 510 mm

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 3 @ 3 1/2" in C.R.

In Holds, &c. (Tanker) Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 8" (Ballast pump) + 1 @ 6"

Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes Yes Are the Bilge Suctions in the Machinery Spaces 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 plate Yes Are the Overboard Discharges above or below the deep water line Below

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 -

What pipes pass through the deep tanks - 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 (Tanker) Is the Shaft Tunnel watertight - Is it fitted with a watertight door - worked from -

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. Two No. of stages 3 Diameters 11 1/2" - 23 1/4" - 11 1/2" - 9 1/4" - 23 1/4" Stroke 4" Driven by Steam Engine 13 1/2" x 4"

Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

What provision is made for first charging the Air Receivers (Steam driven compressors)

Scavenging Air Pumps, No. Two Diameter 1510 mm Stroke 510 mm Driven by Lowers from Main Engines

Auxiliary Engines crank shafts, diameter as per Rule No. - Position -

Have the Auxiliary Engines been constructed under special survey - Is a report sent herewith -

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AIR RECEIVERS: — Have they been made under survey...

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.*

State No. of Report or Certificate... *Geo. No. 64342.*

Fitted with fusible plugs. Relief valves on Comp. discharge.
 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 by Rules Actual ...

Starting Air Receivers, No. *Two* ... Total cubic capacity *220 Cuft.* ... Internal diameter *3'-6 3/4"* ... thickness *1"*
 Seamless, lap welded or riveted longitudinal joint *welded* ... Material *M/Steel* ... Range of tensile strength *28/32* ... Working pressure by Rules Actual *600 lbs.*

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 *3/10/48* ... Receivers *Yes.* ... Separate Fuel Tanks *Yes.*

Donkey Boilers ... General Pumping Arrangements ... Pumping Arrangements in Machinery Space *Yes.*
 Oil Fuel Burning Arrangements *Yes.*

Has the spare gear required by the Rules been supplied... *Yes.*
SPARE GEAR.

State the principal additional spare gear supplied... *1 Cylinder liner & socket, 1 main piston head & 24 rings, 2 Central Cam rod top & bottom bearings, bell crank shafts, 2 Side & 4rd bell crank shafts, 2 top side rod bell crank shafts, 2 main bearing studs & nuts, 1 Self-Coupling bell crank shaft, 4 fuel valves complete, 8 Spray pumps, 1 N.R. Starting air valve, 1 Exh. relief valve, 1 fuel pump body with duct, 4th. Chamber & valves, 1 bell crank lever with 4th & 5th, 1 Self-Thrust. Pade, 1 ditto for shaft bearings, 1 spl. bearing for cent. side belt end, 2 Central & side top end bearings, 1 C.I. Propeller, 1 screw shaft, 6 rubber hoses for piston cooling, 6 links roller chain for camshaft drive &c. &c.*

The foregoing is a correct description...
Wm. G. Foxford & Sons, Limited.

Wm. G. Foxford Director, Manufacturer.

Dates of Survey while building...
 During progress of work in shops... 1948 May 18 Jun 3, 7, 8, 14, 15, 17, 21, 25, 28, Aug 17, 23, 25, 27, Sep 10, Nov 10 Dec 8, 13, 16, 17, 21, 22, 23, 24, 28, 31 / 1949 Jan 4, 5, 6, 7, 10, 11, 12, 14, 17
 During erection on board vessel... 18, 19, 20, 21, 26, 27, 28 Feb 2, Mar 7, 8, 9, 11 May 20, 31 Jun 2, 8, 10, 13, 14, 15, 16, 23 Jul 12, 14, 15 Aug 5 Sep 5, 7, 12, 19 Oct 10
 Total No. of visits *64*

Dates of Examination of principal parts—Cylinders *26/8/48, 27/8/48* Covers — Pistons *4/1/49* Rods *4/1/49* Connecting rods *11/1/49*
 Crank shaft *1/10/48* Flywheel shaft *as crank* Thrust shaft *as crank* Intermediate shafts *2/6/49* Tube shaft —
 Screw shaft *23/6/49* Propeller *10/6/49* Stern tube *2/6/49* Engine seatings (Tank top) *4/10/49* Engines holding down bolts *4/9/49*
 Completion of fitting sea connections *8/6/49* Completion of pumping arrangements *4/10/49* Engines tried under working conditions *12th 11/10/49*
 Crank shaft, Material *Ingot Steel* Identification Mark *N: 266 WHF 1/10/48* Flywheel shaft, Material *as crank* Identification Mark *as crank*
 Thrust shaft, Material *as crank* Identification Mark *as crank* Intermediate shafts, Material *Ingot Steel* Identification Marks *N: 14815 - 483, 484 WHF 21/6/49*
 Tube shaft, Material — Identification Mark — Screw shaft, Material *Ingot Steel* Identification Mark *N: 14815 - 481 WHF 23/6/49*
 Identification Marks on Air Receivers *K 2148 / 9*
LR. 22439
A.R.R. 2/9/48

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 *1 1/2" w.l. Perforated pipe for steam led around ER & B. Rm. 8-2 full. Containment in Phosgene*
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo (Tanker) *Yes.* 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... *not required.*
 Is this machinery duplicate of a previous case *Yes.* If so, state name of vessel *"Koege Rover"*

General Remarks (State quality of workmanship, opinions as to class, &c.)
The machinery of this vessel has been built under Special Survey in accordance with the approved plans & the rules of the Society. The materials & workmanship are good. It has been securely fitted on board the vessel & tried under full working conditions with satisfactory results. The two donkey boilers have also been securely fixed on board, fitted to burn oil fuel (F.P. above 150°F) & safety valves adjusted under steam to working pressure. Section 20 of the rules have been complied with. The machinery is eligible in our opinion to have notation as LMC 10.49 (oil Eng) T.S. (CL) 2 DB 150 lbs. Note: The auxiliary machinery & shafting of this vessel is that originally intended for boat 264.

The amount of Entry Fee ... £ : :
 Special ... £ *24* : *8* :
 Donkey Boiler Fee *welded bond* ... £ *16* : - :
 Travelling Expenses (if any) £ : :
 When applied for, *OCT 14 1949*
 When received, *19*

Wm. G. Foxford & Sons, Limited.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 11 NOV 1949*
 Assigned *+ LMC 10.49 Oil Eng. C.L. 2 DB 150 lb.*

