

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

1-MAY 1942

Date of writing Report 30/4/42 When handed in at Local Office 30/4/42 Port of WEST HARTLEPOOL.

No. in Survey held at WEST HARTLEPOOL Date, First Survey 1st October, 1941. Last Survey 18th April, 1942.

Reg. Book.

(Number of Visits 62)

on the S.S. EMPIRE ELGAR

Gross 2846.73

Net 1695.26

Built at WEST HARTLEPOOL By whom built W.M. GRAY & CO. LTD.

Yard No. 1130

When built 1942.

Engines made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS

Engine No. 1130

When made 1942.

Boilers made at WEST HARTLEPOOL

By whom made CENTRAL MARINE ENGINE WORKS

Boiler No. 1130

When made 1942.

Registered Horse Power

Owners MINISTRY OF WAR TRANSPORT

Port belonging to WEST HARTLEPOOL.

Nom. Horse Power as per Rule 269.

Is Refrigerating Machinery fitted for cargo purposes No.

Is Electric Light fitted Yes.

Trade for which Vessel is intended OCEAN GOING.

ENGINES, &c.—Description of Engines *Inverted triple expansion* Revs. per minute 80.
Dia. of Cylinders 20-31-55 Length of Stroke 39" No. of Cylinders 3 No. of Cranks 3.
Crank shaft, dia. of journals as per Rule 11.0" as fitted 11.2" Crank pin dia. 11.2" Crank webs Mid. length breadth 16" Mid. length thickness 6.5" Thickness parallel to axis 6.5" Thickness around eye-hole 4.5"
Intermediate Shafts, diameter as per Rule 10.47" as fitted 10.3" Thrust shaft, diameter at collars as per Rule 11.0" as fitted 11.2"
Tube Shafts, diameter as per Rule — as fitted — Screw Shaft, diameter as per Rule 11.78" as fitted 12.2" Is the {tube} shaft fitted with a continuous liner {screw} Yes.
Bronze Liners, thickness in way of bushes as per Rule 6.57" as fitted 11" Thickness between bushes as per Rule 4.92" as fitted 11" 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 —
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 Yes. If so, state type *Nichols Niska* Length of Bearing in Stern Bush next to and supporting propeller 4-3/8"
Propeller, dia. 15-11" Pitch 14-9" No. of Blades 4 Material CAST STEEL whether Moveable Yes Total Developed Surface 90.5 sq. feet
Feed Pumps worked from the Main Engines, No. 2 Diameter 3" Stroke 26" Can one be overhauled while the other is at work Yes.
Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes.
Feed Pumps { No. and size 2 @ 3 DIA X 26" 2 @ 8 X 6 X 15" SINGLES Pumps connected to the { No. and size 2 @ 4 1/4 DIA X 26" 1 @ 10 X 11 X 10" How driven MAIN ENGINES INDEPENDENT STEAM Main Bilge Line How driven MAIN ENGINES INDEPENDENT STEAM.
Ballast Pumps, No. and size 1 @ 10 X 11 X 10" Lubricating Oil Pumps, including Spare Pump, No. and size —
Are two independent means arranged for circulating water through the Oil Cooler Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 5 @ 3" 1 @ 4" In Holds, &c. No. 1. 2 @ 3" No. 2. 2 @ 3" BOILER ROOM, 2 @ 3" ENGINE ROOM 3 @ 3" No. 3. 4 @ 2 1/2" TUNNEL WELL 1 @ 2 1/2"
Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 @ 6" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 4" 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 *On reservoirs* Are they fitted with Valves or Cocks Both.
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 MAIN AUX BELOW REST 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.
What Pipes pass through the bunkers *Forward Bilge pipes* How are they protected *wood ceiling*.
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 Wave worked from —

MAIN BOILERS, &c.—(Letter for record 5.) Total Heating Surface of Boilers 3854 sq. ft.
Which Boilers are fitted with Forced Draft Both. Which Boilers are fitted with Superheaters Neither.
No. and Description of Boilers 2 Single ended Multitubular Working Pressure 200 lbs.
IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes.
IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? —
Can the donkey boiler be used for domestic purposes only —
PLANS. Are approved plans forwarded herewith for Shafting 2-10-40 Main Boilers 11-11-40 Auxiliary Boilers — Donkey Boilers —
(If not state date of approval)
Superheaters — General Pumping Arrangements — Oil fuel Burning Piping Arrangements —

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes.
State the principal additional spare gear supplied *Spare screw shaft.*
1 cast steel propeller boss and 4 cast steel blades.

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,

(Sd. J. H. G. & Co. Ltd.)

Manufacturer.

J. H. G. & Co. Ltd.
General Manager.

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Lloyd's Register
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During progress of work in shops - - 1941. Oct. 1-3-10. Nov. 22. Dec. 4-10-11-15-26-29-31. 1942. Jan. 6-7-8-9-10-12-13-14-15-16-19-20.
21-22-24-26-27-29-30. Feb. 2-4-6-10-12-16-17-18-19-23-24-25. March 2-5-7-8-9-13-18-19-20.
During erection on board vessel - - 1942. Jan. 5. Feb. 5-26-27. March 13-16-18. April 1-2-13-18.
Total No. of visits 62

Dates of Examination of principal parts—Cylinders 13-1-42- 16-2-42 Slides 19-1-42 Covers 19-1-42
Pistons 19-1-42. Piston Rods 7-1-42 Connecting rods 7-1-42.
Crank shaft 31-12-41- 17-2-42 Thrust shaft 21-1-42- 17-2-42. Intermediate shafts 23-2-42
Tube shaft ✓ Screw shaft 24-1-42- 23-2-42 Propeller 19-2-42.
Stern tube 19-2-42 Engine and boiler seatings 5-2-42. Engines holding down bolts 18-3-42.
Completion of fitting sea connections 5-2-42.
Completion of pumping arrangements 2-4-42. Boilers fixed 18-3-42. Engines tried under steam 13-4-42.
Main boiler safety valves adjusted 13-4-42. Thickness of adjusting washers $\frac{3}{64}$ $\frac{3}{64}$ $\frac{3}{64}$ $\frac{3}{64}$
Crank shaft material Bugot Steel Identification Mark N° 6715 AEG. Thrust shaft material Bugot Steel Identification Mark N° 6659 AEG.
Intermediate shafts, material Bugot Steel Identification Marks N° 6662, 3, 4, 5. Tube shaft, material Bugot Steel Identification Mark 46 AEG.
Screw shaft, material Bugot Steel Identification Mark N° 6661 AEG. Steam Pipes, material S.D. Steel Test pressure 600 lbs. Date of Test 19-3-42.
Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F. -
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 -
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 Yes. If so, state name of vessel S.S. EMPIRE TENNYSON " RRT. 18254
slight modification.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers
of this vessel have been built under special survey - and
in accordance with the approved plans and specification
The materials and workmanship have been found good.
Upon completion they were examined under full working
conditions and found satisfactory.
It is recommended that the machinery of this
vessel be classed in the Register Book S L.M.C. 4.42. 2SB. F.D. O.G.

The amount of Entry Fee ... £ 24 : 0 :
Special ... £ 65 : 7 :
Donkey Boiler Fee ... £ 16 : 7 :
Travelling Expenses (if any) £ :
When applied for, 30/4/1942
When received, 19

Committee's Minute FRI. 8 MAY 1942
Assigned + LMC 4.42
FD CA

Arthur W. Oxford.
Engineer Surveyor to Lloyd's Register of Shipping.

