

REPORT ON OIL ENGINE MACHINERY.

No. 70305

9 JAN 1946

Received at London Office

Port of GLASGOW.

Date, First Survey 17.11.43

Last Survey 12th Dec. 1945

Number of Visits 100

GLASGOW.

on the **Single** **Triple** **Quadruple** Screw vessel

M/V "EMPIRE GRANADA"

Tons { Gross Net

GLASGOW

By whom built HARLAND & WOLFF LTD.

Yard No. 1197 When built -

By whom made do.

Engine No. A/MS/462 9507 When made 1945.

By whom made -

Boiler No. - When made -

Owners M.E. MOSS & CO.

Port belonging to -

Horse Power as per Rule 490

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

made for which vessel is intended

Tanker.

ENGINES, &c. Type of Engines Heavy Oil, Airless injection 2 or 4 stroke cycle 4 Single or double acting Single

Maximum pressure in cylinders 700 lbs

Diameter of cylinders 740m/m

Length of stroke 1500m/m

No. of cylinders 6

No. of cranks 6

Indicated Pressure 128 lb

of bearings, adjacent to the Crank, measured from inner edge to inner edge

972 m/m

Is there a bearing between each crank Yes.

Revolutions per minute 115

Flywheel dia. 2489m/m

Weight 2590Kgs.

Means of ignition Compression

Kind of fuel used Diesel

ank Shaft, { Solid forged
Semi built
All built

dia. of journals as per Rule 505m/m as approved

as fitted 505m/m

Crank pin dia. 505m/m

Crank Webs Bored 230m/m

Mid. length breadth 980 m/m

Thickness parallel to axis 310m/m

Wheel Shaft, diameter as per Rule -

as fitted -

Intermediate Shafts, diameter as per Rule -

as fitted 17"

Thrust Shaft, diameter at collars as per Rule -

as fitted 454 m/m

be Shaft, diameter as per Rule -

as fitted -

Screw Shaft, diameter as per Rule -

as fitted 16"

Is the { screw } shaft fitted with a continuous liner {

Yes.

onze Liners, thickness in way of bushes as per Rule -

as fitted 13/16"

Thickness between bushes as per Rule -

as fitted 21/32"

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 -

Is an approved Oil Gland or other appliance fitted at the after end of the tube

ft No. If so, state type -

Length of Bearing in Stern Bush next to and supporting propeller 5'0"

propeller, dia. 15'6"

Pitch 12'0"

No. of blades 4

Material Bronze

Whether Moveable No

Total Developed Surface 75 sq. ft.

Method of reversing Engines Direct

Is a governor or other arrangement fitted to prevent racing of the engine when decelerated Yes. Means of lubrication

ced Thickness of cylinder liners 53 m/m to 41 m/m

Are the cylinders fitted with safety valves Yes

Are the exhaust pipes and silencers water cooled or lagged with

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 -

ooling Water Pumps, No. 2 S.W. and 2 F.W.

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

lge Pumps worked from the Main Engines, No. One

Diameter -

Stroke -

Can one be overhauled while the other is at work -

pumps connected to the Main Bilge Line

No. and Size

How driven

the cooling water led to the bilges

If so, state what special arrangements are made to deal with this water in addition to the ordinary bilge pumping

arrangements

allast Pumps, No. and size

Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 @ 100 tons/hour.

two independent means arranged for circulating water through the Oil Cooler

Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge

pumps, No. and size: - In Machinery Spaces

In Pump Room

Holds, &c. dependent Power Pump Direct Suctions to the Engine Room Bilges, No. and size

all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes

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

all Sea Connections fitted direct on the skin of the ship

Are they fitted with Valves or Cocks

they fixed sufficiently high on the ship's side to be seen without lifting the platform plates

Are the Overboard Discharges above or below the deep water line

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

hat pipes pass through the bunkers

How are they protected

hat pipes pass through the deep tanks

Have they been tested as per Rule

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

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

apartment to another

Is the Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

a 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. None

No. of stages -

Diameters -

Stroke -

Driven by -

Auxiliary Air Compressors, No. 2

No. of stages 2

Diameters 280m/m

Stroke 130m/m

Driven by Steam.

Small Auxiliary Air Compressors, No. -

No. of stages -

Diameters -

Stroke -

Driven by -

at provision is made for first Charging the Air Receivers

Steam driven compressors.

avenging Air Pumps, No. None

Diameter -

Stroke -

Driven by -

Auxiliary Engines crank shafts, diameter as per Rule -

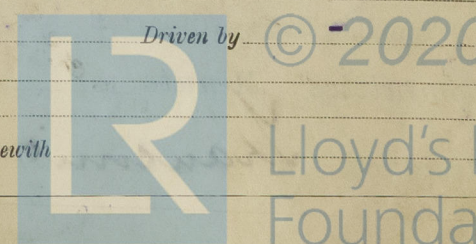
as fitted -

No. -

Position -

ve the Auxiliary Engines been constructed under special survey

Is a report sent herewith



002522-002528-0159

AIR RECEIVERS:—Have they been made under survey **Yes** ✓ State No. of Report or Certificate **Bel. Cert. No. Z. 1398**
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** ✓ Is a drain fitted at the lowest part of each receiver **Yes** ✓
Injection Air Receivers, No. None ✓ Cubic capacity of each **-** Internal diameter **-** thickness **-**
Seamless, lap welded or riveted longitudinal joint **-** Material **-** Range of tensile strength **-** Working pressure **-**
Starting Air Receivers, No. 2 ✓ Total cubic capacity **900cu.ft.** Internal diameter **6'05/16** thickness **1"**
Seamless, lap welded or riveted longitudinal joint **Riveted** Material **Steel** Range of tensile strength **28/32tons** Working pressure **361.51**
Actual **356 1**

IS A DONKEY BOILER FITTED?

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 **15: 1: 44.**
(If not, state date of approval) **7: 1: 44.**

Receivers **2: 12: 43.**
2: 12: 44.

Separate Fuel Tanks **-**

Donkey Boilers **-**

General Pumping Arrangements **-**

Pumping Arrangements in Machinery Space **-**

Oil Fuel Burning Arrangements **-**

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes** ✓

State the principal additional spare gear supplied

As per rule and specification.

The foregoing is a correct description,

FOR HARLAND AND WOLFF, LIMITED.

Wm. J. Wright.

Finneston Secretary

Manufacturer.

Dates of Survey while building
During progress of work in shops--
During erection on board vessel--
Total No. of visits **100**

Dates of Examination of principal parts—Cylinders **27:11:44** Covers **27:11:44 to 15:11:45** Pistons **15/11/44**
14: 2: 45 Connecting rods **7: 2: 45**

Crank shaft **11: 9: 44.** Flywheel shaft **-** Thrust shaft **11: 9: 44** Intermediate shafts **12: 12: 45.** Tube shaft **-**

Screw shaft **12: 12: 45.** Propeller **12: 12: 45.** Stern tube **29: 11: 45.** Engine seatings **-** Engines holding down bolts **-**

Completion of fitting sea connections **-** Completion of pumping arrangements **-** Engines tried under working conditions **26: 11: 45**

Crank shaft, Material **Steel** Identification Mark **Lloyds 9507** Flywheel shaft, Material **-** Identification Mark **-**

Thrust shaft, Material **Steel** Identification Mark **Lloyds 3.9523** Intermediate shafts, Material **Steel** Identification Mark **Lloyds 3.7374**

Tube shaft, Material **-** Identification Mark **Lloyds 14507** Screw shaft, Material **Steel** Identification Mark **H.A.I. G.E.**

Identification Marks on Air Receivers **No.306** **No.307**
Lloyds Test 556 lbs. **Lloyds Test 556lbs.**
W.P. 356 lbs./sq. in. **W.P. 356 lbs.**
1: 11: 44 T.D.S. **16:11:44 T.D.S.**

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 **Yes** ✓ If so, state name of vessel **"BRITISH MIGHT."**

General Remarks (State quality of workmanship, opinions as to class, &c. **The machinery of this vessel has been constructed**

under Special survey, and in accordance with the approved plans, the Rules of this Society,

and the Ministry of War Transport specification for the main engines. The materials and

workmanship are good. On completion the engine was tried in the shop at full power, with

satisfactory results. This engine is intended for a vessel No.1197 building at Messrs.

Harland & Wolff Ltd., Govan to B.G. Classification.

NOTE: Torsional records, notice No.1803. This machinery is a duplicate of M/V British

Courage, see London letter 20th March, 1944.

The shafting is not a duplicate of British Courage whose screw shaft is 15 7/8 & intermediate is 16"

The amount of Entry Fee .. £ : : When applied for, **29/12/45**
Special .. £ **65 : 13 : 4**
Specification .. £ **16 : 8 : 0** When received, **-**
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : : **-**

Committee's Minute

Assigned

Transmit to London

G. E. Murdoch.

Engineer Surveyor to Lloyd's Register of Shipping.

MAY 10 1946

See also file 2020619

Not for Closing Committee

Lloyd's Register Foundation