

# Report on Steam Turbine Machinery.

No. 104762

4a.

Received at London Office 3-OCT-1947  
 7-JAN-1948  
 of writing Report 8/9/47 When handed in at Local Office 24 SEP 1947 Port of NEWCASTLE-ON-TYNE  
 in Survey held at Newcastle on Tyne Date, First Survey 14<sup>TH</sup> MARCH 1947 Last Survey 17<sup>TH</sup> SEPTEMBER 1947  
 Book (Number of Visits 6)  
 on the T. S. S. "EL MALEK FOAD" Tons {Gross 3745.64  
 Net  
 at SOUTHAMPTON By whom built John J. Thornycroft & Co. Ltd. Yard No. 4108 When built 1947-12  
 Lines made at Southampton By whom made Thornycroft & Co. Engine No. 4108 When made 1947-12  
 ers made at Southampton By whom made John J. Thornycroft & Co. Ltd. Boiler No. 4108 When made 1947-12  
 ft Horse Power at Full Power 8000 Owners KHEDIVAL MAILLINE S.A.E. Port belonging to ALEXANDRIA  
 n. Horse Power as per Rule 1000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 de for which Vessel is intended Passenger mail service between Alexandria & Marseilles.

AM TURBINE ENGINES, &c.—Description of Engine 2 Turbines H.P. + L.P. - Pat + Stabd - S.R. gear up.

Ahead 2 p. 2 st. Direct coupled }  
 of Turbines Astern } single reduction geared } to 2 propelling shafts. No. of primary pinions to each set of reduction gearing 2  
 double reduction geared }

t coupled to { Alternating Current Generator phase periods per second } rated Kilowatts Volts at revolutions per minute;  
 Direct Current Generator }

upplying power for driving Propelling Motors, Type  
 Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

BINE	H. P.			I. P.			L. P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
Expansion												
d												
d												
h												
h												
h												
h												
h												
h												
h												
h												
h												

Gearing and Gear bases only  
 Parsons M.S.T. Co. No 440

t Horse Power at each turbine { H.P. 1880 ✓  
 I.P. \_\_\_\_\_  
 L.P. 2120 ✓ } Revolutions per minute, at full power, of each Turbine Shaft { H.P. 3695 ✓ 1st reduction wheel ✓  
 I.P. \_\_\_\_\_  
 L.P. 2815 ✓ main shaft 250 ✓ }

r Shaft diameter at journals { H.P. \_\_\_\_\_  
 I.P. \_\_\_\_\_  
 L.P. \_\_\_\_\_ } Pitch Circle Diameter { H.P. pinion 6.8558" ✓  
 L.P. pinion 8.9982" ✓ } 1st reduction wheel ✓  
 ("ALL ADDENDUM" TEETH) } main wheel 101.3369" ✓ } Width of Face { 1st reduction wheel ✓  
 main wheel 18" ✓ }

ance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 143" ✓  
 2nd pinion \_\_\_\_\_ } 1st reduction wheel ✓  
 main wheel 16" ✓

ible Pinion { 1st \_\_\_\_\_  
 2nd \_\_\_\_\_ } Pinion Shafts, diameter at bearings { External H.P. 5 1/2" ✓  
 L.P. 6 1/2" ✓ } diameter at bottom of pinion teeth { H.P. 6.91" ✓  
 L.P. 8.8524" ✓ }

eel Shafts, diameter at bearings { 1st \_\_\_\_\_  
 main 11" ✓ } diameter at wheel shroud, { 1st \_\_\_\_\_  
 main 101.3369" ✓ } Generator Shaft, diameter at bearings \_\_\_\_\_  
 Propelling Motor Shaft, diameter at bearings \_\_\_\_\_

rmediate Shafts, diameter as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ } Thrust Shaft, diameter at collars as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ }

e Shaft, diameter as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ } Screw Shaft, diameter as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ } Is the { tube } shaft fitted with a continuous liner { \_\_\_\_\_  
 screw }

ize Liners, thickness in way of bushes as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ } Thickness between bushes as per rule \_\_\_\_\_  
 as fitted \_\_\_\_\_ } Is the after end of the liner made watertight in the \_\_\_\_\_

eller boss \_\_\_\_\_ If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner \_\_\_\_\_  
 e 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 \_\_\_\_\_  
 o 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 \_\_\_\_\_  
 t \_\_\_\_\_ If so, state type \_\_\_\_\_ Length of Bearing in Stern Bush next to and supporting propeller \_\_\_\_\_

opper, diameter \_\_\_\_\_ Pitch \_\_\_\_\_ No. of Bades \_\_\_\_\_ State whether Moveable \_\_\_\_\_ Total Developed Surface \_\_\_\_\_ square feet.  
 iple Screw, are arrangements made so that steam can be led direct to the L.P. Turbine \_\_\_\_\_ Can the H.P. or I.P. Turbines exhaust direct to the \_\_\_\_\_  
 denser \_\_\_\_\_ No. of Turbines fitted with astern wheels \_\_\_\_\_ Feed Pumps { No. and size \_\_\_\_\_  
 How driven \_\_\_\_\_ }

aps connected to the Main Bilge Line { No. and size \_\_\_\_\_  
 How driven \_\_\_\_\_ } Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_

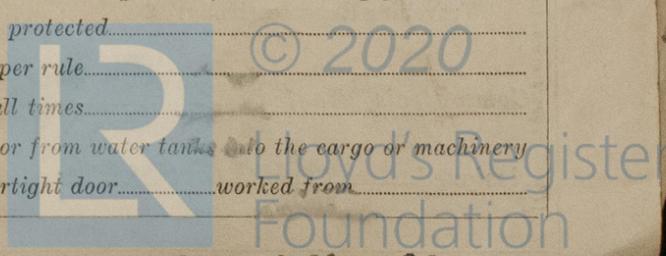
ast Pumps, No. and size \_\_\_\_\_ Oil Cooler \_\_\_\_\_ Suctions, connected both to Main Bilge Pumps and Auxiliary \_\_\_\_\_  
 two independent means arranged for circulating water through the \_\_\_\_\_ In Pump Room \_\_\_\_\_  
 e Pumps, No. and size:—In Engine and Boiler Room \_\_\_\_\_

olds, &c. \_\_\_\_\_ Independent Power Pump Direct Suctions to the Engine Room \_\_\_\_\_  
 n Water Circulating Pump Direct Bilge Suctions, No. and size \_\_\_\_\_ Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes \_\_\_\_\_  
 es, No. and size \_\_\_\_\_ 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 \_\_\_\_\_

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 stokehold plates \_\_\_\_\_ Are the Overboard Discharges above or below the deep water \_\_\_\_\_  
 Are 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 \_\_\_\_\_

ring plate \_\_\_\_\_ What pipes pass through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
 at 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 \_\_\_\_\_  
 e 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 \_\_\_\_\_  
 es, or from one compartment to another \_\_\_\_\_ Is the Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_



**BOILERS, &c.**—(Letter for record.....) Total Heating Surface of Boilers.....  
 Is Forced Draft fitted..... No. and Description of Boilers..... Working Pressure.....  
 Is a Report on Main Boilers now forwarded?.....  
 Is { a Donkey } Boiler fitted?..... If so, is a report now forwarded?.....  
 { an Auxiliary }  
 Is the donkey boiler intended to be used for domestic purposes only.....  
 Plans. Are approved plans forwarded herewith for Shafting..... Main Boilers..... Auxiliary Boilers..... Donkey Boilers.....  
 (If not, state date of approval)  
 Superheaters..... General Pumping Arrangements..... Oil Fuel Burning Arrangements.....

**SPARE GEAR.**

Has the spare gear required by the Rules been supplied? *Yes.*  
 State the principal additional spare gear supplied.....

FOR THE PARSONS MARINE STEAM TURBINE CO. LIMITED.

*W. H. Pilbrow*  
 Managing Director & Secretary

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops - - - } *15, 19, 1947* MAR. 14, 26, JUNE 16, SEPT. 17  
 { During erection on board vessel - - - }  
 Total No. of visits..... *6*

Dates of Examination of principal parts—Casings..... ✓ Rotors..... ✓ Blading..... ✓ Gearing..... ✓  
 Wheel shaft..... Thrust shaft..... ✓ Intermediate shafts..... ✓ Tube shaft..... ✓ Screw shaft..... ✓  
 Propeller..... ✓ Stern tube..... ✓ Engine and boiler seatings..... ✓ Engine holding down bolts..... ✓  
 Completion of fitting sea connections..... ✓ Completion of pumping arrangements..... ✓ Boilers fixed..... ✓ Engines tried under steam..... ✓  
 Main boiler safety valves adjusted..... ✓ Thickness of adjusting washers..... ✓  
 Rotor shaft, Material and tensile strength..... ✓ Identification Mark..... ✓  
 Flexible Pinion Shaft, Material and tensile strength..... ✓ Identification Mark..... ✓  
 Pinion shaft, Material and tensile strength { *44 ton - NICKEL Steel* } PORT. - H.P. - 3938. T.W.B. - 1.5.46. Stack - 3839. Identification Mark..... ✓  
 { *Stack. H.P. 3837. L.P. 3840. - T.W.B. 1-5-46.* } Identification Mark..... ✓  
 1st Reduction Wheel Shaft, Material and tensile strength..... ✓ Identification Mark..... ✓  
 Wheel shaft, Material *Forged Steel* Identification Mark..... ✓ Thrust shaft, Material..... ✓ Identification Mark..... ✓  
 { *PORT. 3923. T.B. 19-6-46.* }  
 { *Stack 3924. T.B. 19.6.46.* } Identification Marks..... ✓ Tube shaft, Material..... ✓ Identification Marks..... ✓  
 Intermediate shafts, Material..... ✓ Identification Marks..... ✓ Steam Pipes, Material..... ✓ Test pressure..... ✓  
 Screw shaft, Material..... ✓ Identification Marks..... ✓  
 Date of test..... Is an installation fitted for burning oil fuel.....  
 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..... 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 a duplicate of a previous case..... If so, state name of vessel.....

General Remarks. (State quality of workmanship, opinions as to class, &c.)  
*This gearing has been built in accordance with the Rules and the approved plans. The material & workmanship are good and the gearing is fit to be installed in a vessel to be classed with the Society.*

*Southampton. This gearing has been securely fitted onboard vessel and tried under working conditions with satisfactory results and is eligible in my opinion to be classed with the vessel's machinery & HMC 12,44.*

The amount of Entry Fee ... £	:	:	When applied for.
Special ... £ 42	:	:	19
Donkey Boiler Fee ... £	:	:	When received.
Travelling Expenses (if any) £	:	:	19

*H. Southwell*  
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 20 FEB 1948

Committee's Minute.....  
 Assigned..... *See F.E. mch. rpt.*

Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

