

Request 20/10

REPORT ON OIL ENGINE MACHINERY.

No 33807

CEIVED

Received at London Office

18 OCT 1943

of writing Report

When handed in at Local Office 8 Oct 1943 Port of Sunderland.

in Survey held at

Sunderland.

Date, First Survey 13 Oct 42 Last Survey 7 Oct 1943

Book D.O.

Number of Visits 117

on the Single Twin Screw vessel

"CHINESE PRINCE"

Tons Gross 9485 Net 5752

built at Sunderland

By whom built J. L. Thompson & Sons L^{td}

Yard No. 625 When built 1943.

engines made at Sunderland

By whom made B. Kayford & Sons L^{td}

Engine No. 232 When made 1943.

Boilers made at Aman.

By whom made

Boiler No. When made 1943.

Indicated Horse Power 6800

Owners Prince Line, Ltd.

Port belonging to London.

Net Horse Power as per Rule 1374

Is Refrigerating Machinery fitted for cargo purposes no.

Is Electric Light fitted Yes.

Use for which vessel is intended

238 915

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/sq. in. Diameter of cylinders 600 mm Length of stroke Upper 980 mm Lower 1340 mm No. of cylinders 8 No. of cranks 8 (3 throws)

Indicated Pressure 85 lbs/sq. in. Is there a bearing between each crank (Between each 3 throws)

Revolutions per minute 114 Flywheel dia. 2200 mm Weight 55 cwt. Means of ignition Compression Kind of fuel used Tempurite

Kind of shaft Solid forged dia. of journals 432 mm Crank pin dia. 450 mm Crank Webs 365 mm Mid. length breadth 650 mm Thickness parallel to axis 255 mm

Intermediate Shafts, diameter 450 mm as fitted 365 mm Thrust Shaft, diameter at collars 432 mm as fitted 450 mm

Propeller shaft, diameter 360 mm as per Rule 389 mm as fitted 365 mm Is the tube shaft fitted with a continuous liner Yes.

Size of Liners, thickness in way of bushes 18.4 mm as per Rule 21.5 mm as fitted Thickness between bushes 13.8 mm as per Rule 16.45 mm as fitted Is the after end of the liner made watertight in the

After end 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.

When 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

When 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

Propeller, dia. 15' 4" (MEAN) Pitch 14' 3" No. of blades 4 Material Bronze whether Moveable no. Total Developed Surface 81 sq. feet

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

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

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

Driving Water Pumps, No. 2 Electrically driven Is the sea suction provided with an efficient strainer which can be cleared within the vessel (F.W. cooling)

Other 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 6" x 6" Vertical Duplex. How driven Electrically

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 no. (Brydsole Rotary) Power Driven Lubricating Oil Pumps, including Spare Pump, No. and size 2 Stroke & Pitt 40 ton/hr. elect. driven

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:—In Machinery Spaces 4 @ 3" 1 @ 3" Dunnel well. In Pump Room 3 1/2" (left)

Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 @ 9" (Ballast.) 1 @ 6" (Bilge & Gun Ser.)

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 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.

How are they protected -

Are all pipes pass through the bunkers none Have they been tested as per Rule -

Are all pipes pass through the deep tanks none (Auct. Keel)

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 (Blind) intact. worked from -

On 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 12 1/4"-3", 12 1/4"-10 1/2", 3" Stroke 4 Driven by Elect. motor

Auxiliary Air Compressors, No. one No. of stages 2 Diameters 6-1/4", 2 1/4" Stroke 4 1/2" Driven by Steam Eng. 4 1/2" x 4 1/2"

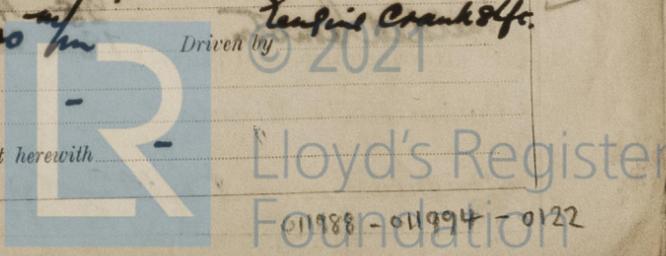
Small Auxiliary Air Compressors, No. - No. of stages - Diameters - Stroke - Driven by -

What provision is made for first Charging the Air Receivers Steam driven auxiliary compressor.

Scavenging Air Pumps, No. one (back engine) Diameter 1500 mm Stroke 1200 mm Driven by Leasing Crank 8 1/2"

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

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



AIR RECEIVERS: - Have they been made under survey

Is each receiver, which can be isolated, fitted with a safety valve as per Rules

Can the internal surfaces of the receivers be examined and cleaned

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 -

Starting Air Receivers, No. **Three**

Total cubic capacity **450 cu ft.**

Internal diameter **4'-6"**

thickness **1 1/4"**

Seamless, lap welded or riveted longitudinal joint **Riveted**

Material **M. Steel**

Range of tensile strength **28/32**

Working pressure by Rules **600**

IS A DONKEY BOILER FITTED?

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

PLANS. Are approved plans forwarded herewith for Shafting

(If not, state date of approval) **20/8/42.**

Receivers **Yes.**

Separate Fuel Tanks **(Built in ship)**

Donkey Boilers

General Pumping Arrangements

Pumping Arrangements in Machinery Space **Retained for Dist. Wood.**

Oil Fuel Burning Arrangements

SPARE GEAR.

Has the spare gear required by the Rules been supplied **Yes (2 C.I. bearings for top shaft and Conn. rods).**

State the principal additional spare gear supplied

2 C.I. Propellers, 1 C.I. liner & pack. Complete, 1 main piston head & 24 rings, 2 Side & Centre top shaft end bearing bolts & nuts, 2 main bearing bolts & nuts, 1 set. Complete bolts for crank shaft & 1 ditto for intermediate shafting, 4 front & 4 back fuel valves Complete, 16 Spray Pumps, 1 N.R. Starting air valve, 1 C.I. relief valve, 8 screws & jump 1/2 discs, 2 fuel pump bodies complete, 1 set. Thrust pads, 3 pads for int. shaft bearings, 3 ditto for tail shaft bearing, 16 rubber hoses for cooling system, 6 links of roller chain for camshaft drive.

The foregoing is a correct description
WILLIAM DOXFORD & SONS, Limited.

Wm. H. Purdie Director.

Manufacturer.

Table with columns: Dates of Survey while building, During progress of work in shops, During erection on board vessel, Total No. of visits. Includes dates from 1942 Oct to 1943 Feb.

Table with columns: Dates of Examination of principal parts, Crank shaft, Flywheel shaft, Screw shaft, Completion of fitting sea connections, Completion of pumping arrangements, Engines tried under working conditions, Identification Marks. Includes dates and marks like 'PORT 13/10/42', 'S. 24/2/43', 'K. 1498/9 & 1500'.

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 in. perforated pipe for steam led around E.R. & 50lb Co2 delivered in 3' min main in E.R. & 8-2 Gall container**

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 **Not desired.**

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.) **This machinery has been built under special survey in accordance with the approved plans & the rule requirements of the Rules. The materials & workmanship are good. It has been securely fitted on board the vessel tried under working conditions alongside quay with Satis factory results. The 2 exhaust gas "blaston" boilers & the oil fired Cochran boiler have been securely fixed on board. The Cochran boiler has been fitted to burn oil fuel (F.P. above 150° F). Section 20 of the Rules has been complied with & the Safety valves of both boilers adjusted under steam. The machinery is now eligible, in our opinion, to have notation L.M.C. 10.43 (oil fuel) T.S. (C), 2 DB. 120 lbs.**

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

Special ... £ 134 : : 7 OCT 1943

Donkey Boiler Fee ... £ 25 : : When received

Travelling Expenses (if any) £ 18 : : 18 OCT 1943

Committee's Minute

Assigned **L.M.C. 10.43 C.I. 2 DB - 120lb oil fuel**

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

