

REPORT ON STEAM TURBINE MACHINERY. No. 1942.

Received at London Office.....

Date of writing Report 17.11.42 When handed in at Local Office 19.11.42 Port of Mobile, ALA.

No. in Survey held at CHICKASAW, ALA. Date, First Survey 19.4 Last Survey 7.11.1942

Reg. Book. on the STEEL SINGLE SCREW STEAMER "RAPHAEL SENNES" (Number of Visits 12)

Gross 6165 Tons Net 3519

Built at CHICKASAW, ALA. By whom built GULF SHIPBUILDING CO. Yard No. 4.7948 When built 1942.

Engines made at LYNN, MASS. By whom made GENERAL ELECTRIC CO. Engine No. 49604 When made 1942.

Boilers made at BARBERTON OHIO. By whom made BABCOCK & WILCOX CO. Boiler No. 192 When made 1942.

Shaft Horse Power at Full Power 6000. Owners WATERMAN STEAMSHIP CORP. Port belonging to Mobile, ALA.

Nom. Horse Power as per Rule 1220. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted YES.

Trade for which Vessel is intended ALL OCEANS.

STEAM TURBINE ENGINES, &c.—Description of Engines. CROSS COMPOUND TURBINES D. R. GEARS.

No. of Turbines Ahead TWO. Direct coupled, single reduction geared } to ONE propelling shafts. No. of primary pinions to each set of reduction gearing TWO.

Astern ONE. double reduction geared }

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

for supplying power for driving Propelling Motors, Type

rated Kilowatts Volts at revolutions per minute. Direct coupled, single or double reduction geared to propelling shafts.

TURBINE BLADING.	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.
1ST EXPANSION												
2ND												
3RD												
4TH												
5TH												
6TH												
7TH												
8TH												
9TH												
10TH												
11TH												
12TH												

Shaft Horse Power at each turbine { H.P. I.P. L.P. } Revolutions per minute, at full power, of each Turbine Shaft { H.P. I.P. L.P. } 1st reduction wheel main shaft

Rotor Shaft diameter at journals { H.P. I.P. L.P. } Pitch Circle Diameter { 1st pinion 2nd pinion } 1st reduction wheel main wheel Width of Face { 1st reduction wheel main wheel }

Distance between centres of pinion and wheel faces and the centre of the adjacent bearings { 1st pinion 2nd pinion } 1st reduction wheel main wheel

Flexible Pinion Shafts, diameter { 1st 2nd } Pinion Shafts, diameter at bearings External Internal { 1st 2nd } diameter at bottom of pinion teeth { 1st 2nd }

Wheel Shafts, diameter at bearings { 1st main } diameter at wheel shroud, { 1st main } Generator Shaft, diameter at bearings Propelling Motor Shaft, diameter at bearings

Intermediate Shafts, diameter as per rule as fitted 16.5" TINGSBURY. Thrust Shaft, diameter at collars as per rule as fitted 11.749" Tube Shaft, diameter as per rule as fitted

Screw Shaft, diameter as per rule as fitted 17.64 Is the tube screw shaft fitted with a continuous liner YES. Bronze Liners, thickness in way of bushes as per rule as fitted 1.06"

Thickness between bushes as fitted 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 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 NO.

Propeller, diameter 18'-6" Pitch 20'-8" No. of Blades FOUR. State whether Moveable YES. Total Developed Surface 483 square feet.

If Single Screw, are arrangements made so that steam can be led direct to the L.P. Turbine YES. Can the H.P. or I.P. Turbine exhaust direct to the Condenser YES. No. of Turbines fitted with astern wheels ONE. Feed Pumps No. and size 2 TRIPLEX ALORICH GROSS 4" STONE. How driven MOTOR (1-AUX. 11" X 7" X 24" STEAM.)

Pumps connected to the Main Bilge Line No. and size (2) 1.75" X 9" X 12" - 1-10" X 15" X 12" How driven STEAM.

Ballast Pumps, No. and size 1-7.5" X 9" X 12" Lubricating Oil Pumps, including Spare Pump, No. and size 2-SCREW GEAR IN HEAD.

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 Engine and Boiler Room 3 AT 3" In Holds, &c. 2 AT 3" NOS. 1.2.3 4 HOLDS 2 AT 2.5" IN NO. 5 HOLD.

Main Water Circulating Pump Direct Bilge Suctions, No. and size ONE-14" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size ONE-8" 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 they fitted with Valves or Cocks VALVES.

Are all Sea Connections fitted direct on the skin of the ship YES. 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 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 SUCTIONS-BILGE & BALLAST How are they protected PIPE TUNNEL.

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 YES. Is the Shaft Tunnel watertight YES. Is it fitted with a watertight door YES. worked from UPPER DECK.

BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers 7402 sq. 8144
Is Forced Draft fitted YES. No. and Description of Boilers TWO WATER TUBE. Working Pressure 500 LBS.
Is a Report on Main Boilers now forwarded? YES.

Is a Donkey Boiler fitted? NO. If so, is a report now forwarded? —
Plans. Are approved plans forwarded herewith for Shafting 5/9/41. Main Boilers. NO. Auxiliary Boilers. — Donkey Boilers. —
(If not state date of approval)

Superheaters NO. General Pumping Arrangements NO. Oil Fuel Burning Arrangements NO.
Spare Gear. State the articles supplied: TWO BLADES WITH STUDS AND NUTS, SETS OF COUPLING BOLTS
ONE COMPLETE BEARING MAIN GEAR WHEEL SHAFT, ONE COMPLETE BEARING FOR
ROTOR SHAFTS, ONE COMPLETE BEARING FOR PINION SHAFTS, PACKING FOR ROTOR SHAFT
GLANDS WITH SPRINGS PADS FOR KINGSBURY THRUST, TURBINE THRUST BUSHES
AND RINGS, SET LINERS, ONE SET VALVES OF EACH SIZE LIQUID END EACH
PUMP, SET OIL FUEL BURNERS NOZZLES COMPLETE WITH ATOMIZERS
FOR ONE BOILER ASSORTED STUDS, BOLTS, NUTS, BARS, PIPE AND PLATES
PROPELLER SHAFT COMPLETE WITH KEY AND NUT.

The foregoing is a correct description,

Dates of Survey while building { During progress of work in shops -- }
{ During erection on board vessel --- }
Total No. of visits APRIL 4. MAY 2.3. JUNE 15.18. JULY 15.18.21.22 AUG. 8.15.
SEP. 4. OCT. 1.2.8.19 NOV. 4.

Dates of Examination of principal parts—Casings — Rotors — Blading — Gearing —
Wheel shaft — Thrust shaft — Intermediate shafts 4.9.42 Tube shaft 2.5.42 Screw shaft 2.5.42.
Propeller 2.5.42. Stern tube 2.5.42. Engine and boiler seatings 15.8.42. Engine holding down bolts 4.9.42.
Completion of pumping arrangements 4.9.42. Boilers fixed 4.9.42. Engines tried under steam 19.10.42.
Main boiler safety valves adjusted 2.10.42. 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 — Identification Mark —
1st Reduction Wheel Shaft, Material and tensile strength — Identification Mark —

Wheel shaft, Material — Identification Mark — Thrust shaft, Material — Identification Mark —
Intermediate shafts, Material 60. STEEL. Identification Marks SEE FR. REPORTS Tube shaft, Material — Identification Marks —
Screw shaft, Material 60. STEEL. Identification Marks SEE FR. REPORTS Steam Pipes, Material STEEL. Test pressure 1500 LBS.
Date of test 15.8.42. Is an installation fitted for burning oil fuel YES.

Is the flash point of the oil to be used over 150°F. YES. Have the requirements of the Rules for the use of oil as fuel been complied with YES.
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 —
Is this machinery a duplicate of a previous case YES. If so, state name of vessel S.S. FAIRPORT
S.S. FAIRHLE
S.S. FAIRLAND

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel
has been built under special survey and according to the
plans approved the main and auxiliary machinery has been
properly installed and tested under full working conditions
and found to operate satisfactorily. The rigging doors to the
gears were opened up after the trial run and found in
good order. in my opinion the machinery of this vessel
is eligible to be classed + L.M.C. with this Society.

The amount of Entry Fee ... £ 30 00
Special ... £ 435 00
Donkey Boiler Fee (Btm. of 217 50) ... £ 217 50
Travelling Expenses (if any) £ : :
When applied for, 19/11/42
When received, 19/11/42

J. S. Wood. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute NEW YORK DEC 2 1942
Assigned + L.M.C. - 11/42.

NOTE - CL
2 WTB (Cht) 500 lbs.