

REPORT ON MACHINERY.

No 40686.

Received at London Office WED 20 DEC 1920

Date of writing Report 25.12.20 When handed in at Local Office 25.12.20 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 25.11.19 Last Survey 22nd Dec 1920
 Reg. Book. S.S. "Stramatist" (Number of Visits)
 on the
 Master Built at Glasgow By whom built C. Connell & Co. H. No 383. When built 1920.
 Engines made at Glasgow By whom made (TURBINES & GEARS) J. BROWN & CO. & SHAFTING ETC DUNSMUIR & JACKSON No 483 when made 1920.
 Boilers made at Glasgow By whom made Dunsmuir & Jackson. Bts No 483 when made 1920.
 Registered Horse Power 603 Owners Charante Steamship Co Ltd Port belonging to Liverpool
 Shaft Horse Power at Full Power 3040 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines Double Reduction Geared Turbines No. of Turbines ✓
 Diameter of Rotor Shaft Journals, H.P. ✓ L.P. ✓ Diameter of Pinion Shaft ✓
 Diameter of Journals ✓ Distance between Centres of Bearings ✓ Diameter of Pitch Circle ✓
 Diameter of Wheel Shaft ✓ Distance between Centres of Bearings ✓ Diameter of Pitch Circle of Wheel ✓
 Width of Face ✓ Diameter of Thrust Shaft under Collars 15 1/4" (Nickel) Diameter of Tunnel Shaft as per rule 14 1/8 ✓
 Diameter of same as per rule 15.55 Diameter of Tunnel Shaft as fitted 14 1/2" ✓
 Diameter of same as fitted 16" Diameter of Propeller 18'-6" Pitch of Propeller 17'-6" ✓
 Number of Blades 4 State whether Moveable Yes Total Surface 105 1/2 sq ft Diameter of Rotor Drum, H.P. — L.P. — Astern —
 Thickness at Bottom of Groove, H.P. — L.P. — Astern — Revs. per Minute at Full Power, Turbine — Propeller —

PARTICULARS OF BLADING.

	H. 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.
EXPANSION									
"	For particulars of Turbines & Gearing see Report attached.								
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"									
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and size of Feed pumps Two 6" 8x10 1/2 x 21"
 and size of Bilge pumps One duplex 6x6x6"
 and size of Bilge suction in Engine Room 2 @ 3 1/2" Stokehold 2 @ 3 1/2" Tunnel well 1 @ 3"
 In Holds, &c. No 1 2 @ 3 1/2" No 2 - 2 @ 3 1/2" No 3 - 2 @ 3 1/2" No 4 - 2 @ 3 1/2"
 of Bilge Injections One sizes 9" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine Room & size 8 1/2"
 All the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
 All connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both
 They fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line above the line
 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
 Pipes are carried through the bunkers none How are they protected ✓
 All Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 The Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 The Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck level.

BOILERS, &c.—(Letter for record S 9592) Manufacturers of Steel Steel Co of Scotland J. Spencer & Sons.
 Heating Surface of Boilers 8104 + 1488 MAIN IS FORCED DRAFT fitted No No. and Description of Boilers Two double ended 2013 + 1488
 Working Pressure 200 lbs Tested by hydraulic pressure to 350 lbs Date of test 17-9-20 No. of Certificate 15366 + 15367
 Each boiler be worked separately Yes Area of fire grate in each boiler 115 sq ft No. and Description of Safety Valves to boiler Two spring loaded Area of each valve 12.566 sq ft Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes
 Test distance between boilers on top plates and bunkers 15" Mean dia. of boilers 15'-0" Length 17'-6" Material of shell plates S
 Thickness 1 1/32" Range of tensile strength 29-33 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap T & B
 Seams D.S. T.R Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10 1/4" Minimum width of butt straps 22 1/8"
 Mountings of strength of longitudinal joint rivets 84.5 Working pressure of shell by rules 225 Size of manhole in shell 16" x 12"
 Compensating ring 36x32x1 1/32 plates 85.3 No. and Description of Furnaces in each Boiler 6 Corrugated Material S Outside diameter 44"
 Thickness of plates crown 1 1/32" Description of longitudinal joint weld No. of strengthening rings none
 Working pressure of furnace by the rules 214 Combustion chamber plates: Material S Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 15/16"
 of stays to ditto: Sides 9 3/4 x 9 3/8" Back Top 9 3/4 x 9 3/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 218
 Area of stays S Area supported by each stay 88.8 Working pressure by rules 201 End plates in steam space S
 Thickness 1 1/32" Pitch of stays 2 7/8 x 17 1/2" How are stays secured S. nuts Working pressure by rules 205 Material of stays S
 Area supported by each stay 282.8 Working pressure by rules 230 Material of Front plates at bottom S
 Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
 Pitch of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 1/2" Material of tube plates S Thickness: Front 1 1/8" Back 7/8" Mean pitch of stays 11 1/4"
 across wide water spaces 14 1/4" Working pressures by rules 223 Girders to Chamber tops: Material S Depth and
 ss of girder at centre 10 1/2 x 2" Length as per rule 40 1/4" Distance apart 9 1/8" Number and pitch of stays in each 3 @ 9 3/4"
 Working pressure by rules ✓ Steam dome: description of joint to shell ✓ % of strength of joint ✓ Diameter 2020
 Material ✓ Description of longitudinal joint ✓ Diameter of rivet holes ✓ Pitch of rivets ✓
 Working pressure of shell by rules ✓ Crown plates: Thickness ✓ How stayed ✓



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SUPERHEATER. Type *Schmidt* Date of Approval of Plan *See Copy of Rpt attached* Tested by Hydraulic Pressure to *140*
Date of Test *19-11-20* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*
Diameter of Safety Valve *2"* Pressure to which each is adjusted *210 lbs* Is Easing Gear fitted *Yes*
IS A ~~DONKEY~~ *Auxiliary* BOILER FITTED? *Yes* If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:— *2 bolts & nuts for each eye of rotor bearing, main gear wheel bearing & pinion bearing, 1 set of coupling bolts for each eye, 1/20 of a set of bolts, nuts & studs for each gear case, turbine casing joints, 1 set of bearing bolts for gear wheel shaft, rotor & pinion shafts, 1/2 set of packing rings & Segments for each gland on rotor shaft, 1/2 set of pad thrust shaft collar (bracket) 1 set of pads for each turbine thrust shaft (bracket) 1 set of lines for each adjusting block each of fuel bridge donkey, ballast & General donkey pump valves, 1 set of valves, 1 bucket & rod for lubricating pump, escape valve spring of each eye fitted, 1 propeller shaft, 35.171 bronze blades, 1 air pump bucket, rod & valves, 1 pump impeller & shaft, 12 boiler tubes, 20 condenser tubes, 2 salt cooler tubes, 2 boiler check valves, 1 safety valve spring & each eye fitted, 1 propeller boss, assorted bar iron, plate iron, bolts & nuts.*

The foregoing is a correct description,

James Fletcher

Manufacturer.

Director.

Dates of Survey while building
During progress of work in shops -- *1919. Nov 25. Dec 1-5-8-11-16-19-23.*
During erection on board vessel -- *1920. Jan. 12-16-21-28-30. Feb 5-10-17-26. Mar 2-9-17-28-29. Apr 1-14-20-29. May 3-6-13-19-23-24.*
Total No. of visits *73.*

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Casings. *✓* Rotors. *✓* Blading. *✓* Gearing. *✓*
Rotor shaft *✓* Thrust shaft *25-11-19* Tunnel shafts *16-12-19* Screw shaft *14-4-20* Propeller *14-4-*
Stern tube *29-6-20* Steam pipes tested *14-18/10/20* Engine and boiler seatings *29-6-20* Engines holding down bolts *11-11-*
Completion of pumping arrangements *16-12-20* Boilers fired *28-10-20* Engines tried under steam *16-12-20*
Main boiler safety valves adjusted *30-11-20* Thickness of adjusting washers *P. P 2 1/4" S 2 3/4" S P 2 3/4" S 1 1/4" AUX. F 1 1/2"*

Material and tensile strength of Rotor shaft *✓* Identification Mark on Do. *✓*
Material and tensile strength of Pinion shaft *✓* Identification Mark on Do. *✓*
Material of Wheel shaft *✓* Identification Mark on Do. *✓* Material of Thrust shaft *S* Identification Mark on Do. *25-11-19*
Material of Tunnel shafts *S* Identification Marks on Do. *16-12-19, J.E.S.* Material of Screw shafts *S* Identification Marks on Do. *14-4-*
Material of Steam Pipes *Lap welded Iron* Test pressure *600 lbs.*

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 Section 49 of the Rules been complied with? *Yes (see below).*

Is this machinery a duplicate of a previous case? *No* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, etc.) *These Engines & Boilers have been built to Special Survey and in accordance with the Rules, the workmanship and materials are and good, on completion they were fitted on board in an efficient manner, tried under working conditions and found satisfactory and are eligible in my opinion to be classed with record of L.M.C 12-20.*

With regard to the 'Installation for burning oil fuel', this has been fitted in satisfactory manner and will be eligible for record of 'Fitted for burning oil' (with date) *F.P above 150°F*, when the system has been tried under working conditions, there is at present no oil fuel on board the vessel.

The amount of Entry Fee ... £ *3* : : When applied for, *15-12-20.*
Special ... £ *50* : *3* : : When received, *21-12-20.*
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : : *Donkey.*

Committee's Minute *Glasgow 28 DEC 1920*

Assigned. *+ LMC 12-20*

Note re oil fuel.

MACHINERY CERT
WRITTEN
24-12-20



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