

REPORT ON MACHINERY

No. 8292

THU. 12 FEB. 1920

Date of writing Report 4th Feb 1920 When handed in at Local Office 19 Port of Belfast
 No. in Survey held at Belfast Date, First Survey 1st Jan 1919 Last Survey 31st Jan 1920
 Reg. Book. S.S. "New Brighton" (Number of Visits 67) Tons { Gross 6538 Net 4023
 Master R. Jones Built at Belfast By whom built Harland & Wolff L^d When built 1920
 Engines made at Belfast By whom made - when made -
 Boilers made at Glasgow By whom made Babcock & Wilcox L^d when made -
 Registered Horse Power - Owners Apucian Steamship Coy Port belonging to London
 Shaft Horse Power at Full Power 2900 (Not for Reg. Pur.) Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
1500 (Calculated)

TURBINE ENGINES, &c.—Description of Engine Single Screw Double Reduction Gear of Turbines 2
 Diameter of Rotor Shaft Journals, H.P. 4 1/2 L.P. 5 3/4 Diameter of Pinion Shafts 4 1/2 + 9
 Diameter of Journals 4 1/2 + 9 Distance between Centres of Bearings 27 + 46 1/2 Diameter of Pitch Circles 6.29 + 13.55
 Diameter of Wheel Shaft 9 + 14.75 Distance between Centres of Bearings 26 + 45 1/2 Diameter of Pitch Circle of Wheels 49.66 + 76.58
 Width of Face 15 + 30 Diameter of Thrust Shaft under Collars 15.00 Diameter of Tunnel Shaft as per rule 13.75 as fitted 13.875
 No. of Screw Shafts 1 Diameter of same as per rule 15.14 as fitted 15.75 Cont. liner see Sel. ltr 23/2/20 Diameter of Propeller 17.9 Pitch of Propeller 16-6
 No. of Blades 4 State whether Moveable No Total Surface 180 sq ft. Diameter of Rotor Drum, H.P. 24 L.P. 36 Astern 30 + 39
 Thickness at Bottom of Groove, H.P. Sole Astern do Revs. per Minute at Full Power, Turbine 3500 Propeller 78
3220 72

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.
1ST EXPANSION	3 1/4 - 1 1/4	25" - 25 1/2"	2	2 3/4 - 3/4	38 1/2" - 39 1/2"	1	4 1/2 - 2 1/2 - 2 3/4 - 3 1/4 - 3 1/2 - 3 1/2 - 3 1/2	31 1/2" - 31 1/2" - 32 1/2" - 32 1/2" - 32 1/2"	4
2ND	1 1/2 - 1 1/2	25 1/2" - 25 1/2"	2	3 - 3	39 1/2" - 39 1/2"	1			
3RD	1 1/2 - 1 1/2	25 1/2" - 25 1/2"	1	3 1/2 - 3 1/2	40 1/2" - 40 1/2"	1			
4TH	1 1/4 - 1 1/4	25 1/2" - 25 1/2"	1	4 1/2 - 4 1/2	40 1/2" - 40 1/2"	1			
5TH	2 - 2	26 3/8" - 26 3/8"	1	6 1/2 - 6 1/2	42 1/2" - 42 1/2"	1			
6TH	2 1/4 - 2 1/4	26 1/2" - 26 1/2"	1	7 1/2 - 7 1/2	43 1/2" - 43 1/2"	1			
7TH	2 1/4 - 2 1/4	26 1/2" - 26 1/2"	1	7 1/2 - 7 1/2	43 1/2" - 43 1/2"	1			
8TH				7 3/4 - 7 3/4	43 1/2" - 43 1/2"	1			

No. and size of Feed pumps Independent 2 - 11 1/2 x 8 x 24
 No. and size of Bilge pumps Independent 2 - 10 1/2 x 14 x 24 + 7 x 8 x 12
 No. and size of Bilge suction in Engine Room 4 - 3 1/2 - 1 - 3
 In Holds, &c. 8 - 3 1/2 - 2 - 4 1/2 - 1 - 3 - 6 - 2 1/2

No. of Bilge Injections 1 sizes 14 Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine Room & size yes 3 1/2
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
 Are all connections with the sea direct on the skin of the ship Yes - Except Main Tank Suctions Are they Valves or Cocks Both
 Are 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 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 are carried through the bunkers Fore hold suction How are they protected Wood casing
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform Engine Room

BOILERS, &c.—(Letter for record)

Manufacturers of Steel See Glasgow Report N-39128
 Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers -
 Working Pressure Tested by hydraulic pressure to Date of test - No. of Certificate -
 Can each boiler be worked separately - Area of fire grate in each boiler - No. and Description of Safety Valves to each boiler -
 Area of each valve - Pressure to which they are adjusted - Are they fitted with easing gear -
 Smallest distance between boilers or uptakes and bunkers or woodwork - Mean dia. of boilers - Length - Material of shell plates -
 Thickness - Range of tensile strength - Are the shell plates welded or flanged - Descrip. of riveting: cir. seams -
 long. seams - Diameter of rivet holes in long. seams - Pitch of rivets - Lap of plates or width of butt straps -
 Per centages of strength of longitudinal joint - Working pressure of shell by rules - Size of manhole in shell -
 Size of compensating ring - No. and Description of Furnaces in each Boiler - Material - Outside diameter -
 Length of plain part - Thickness of plates - Description of longitudinal joint - No. of strengthening rings -
 Working pressure of furnace by the rules - Combustion chamber plates: Material - Thickness: Sides - Back - Top - Bottom -
 Pitch of stays to ditto: Sides - Back - Top - If stays are fitted with nuts or riveted heads - Working pressure by rules -
 Material of stays - Diameter at smallest part - Area supported by each stay - Working pressure by rules - End plates in steam space -
 Material - Thickness - Pitch of stays - How are stays secured - Working pressure by rules - Material of stays -
 Diameter at smallest part - Area supported by each stay - Working pressure by rules - Material of Front plates at bottom -
 Thickness - Material of Lower back plate - Thickness - Greatest pitch of stays - Working pressure of plate by rules -
 Diameter of tubes - Pitch of tubes - Material of tube plates - Thickness: Front - Back - Mean pitch of stays -
 Pitch across wide water spaces - Working pressures by rules - Girders to Chamber tops: Material - Depth and thickness of girder at centre -
 Length as per rule - Distance apart - Number and pitch of stays in each -
 Working pressure by rules - Steam dome: description of joint to shell - % of strength of joint - Diameter -
 Thickness of shell plates - Material - Description of longitudinal joint - Diameter of rivet holes - Pitch of rivets -
 Working pressure of shell by rules - Crown plates: Thickness - How stayed -

Lloyd's Register Foundation

W1334-0119 1/2

SUPERHEATER. Type None Date of Approval of Plan 1919 Tested by Hydraulic Pressure to 100 lbs
 Date of Test 1919 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 1 1/2" Pressure to which each is adjusted 100 lbs Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes
 SPARE GEAR. State the articles supplied: See other sheet

The foregoing is a correct description,
 For HARLAND & WOLF Ltd. Manufacturer.

F. Schebeck

Dates of Survey 14th Jan 1919 to 31st Jan 1920
 while building 67
 Total No. of visits 67

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Casings 16-1-19 Rotors to 16-1-19 Gearing 13-10-19
 Rotor shaft 20-5-19 Thrust shaft 20-5-19 Tunnel shafts 29-10-19 Screw shaft 20-10-19 Propeller 20-9-19
 Stern tube 20-9-19 Steam pipes tested 16-10-19 Engine and boiler seatings 29-10-19 Engines holding down bolts 22-11-19
 Completion of pumping arrangements 30-1-20 Boilers fired 22-11-19 Engines tried under steam 22-1-20

Main boiler safety valves adjusted 22-1-20 Thickness of adjusting washers 3/32"
 Material and tensile strength of Rotor shaft Leimers Steel 38.6 Tons Identification Mark on Do. J.P. W.C.H.

Material and tensile strength of Pinion shaft do 46.4 Identification Mark on Do. do
 Material of Wheel shaft Leimers Steel Identification Mark on Do. J.P. W.C.H. Material of Thrust shaft do Identification Mark on Do. do
 Material of Tunnel shafts do Identification Marks on Do. LLOYDS 20-10-19 Material of Screw shafts do Identification Marks on Do. LLOYDS 20-10-19

Material of Steam Pipes W. Steel Test pressure 600 lbs
 Is an installation fitted for burning oil fuel No 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
 Is this machinery a duplicate of a previous case No If so, state name of vessel Yes

General Remarks (State quality of workmanship, opinions as to class, etc.) The machinery of this vessel has been constructed under Special Survey and in accordance with the Rules. The workmanship and the materials, are of good description throughout. Having regard to the high tooth pressures on the gearing of this "Standard" design of Double Reduction geared Lubliner, it was decided to temporarily limit the power transmitted, consequently ten of the twenty nozzles have been blanked off, and the fitting of complete new gearing later on is contemplated. On the official Trial Trip in Belfast & on light draft, the machinery worked satisfactorily under these conditions, and in opinion, it is eligible for record + L.M.C. 1-20, with notation "Local Draft Collective Light" (The alteration figures in the Report are indicated in red ink)

The amount of Entry Fee ... £ 3 - - : When applied for, 4-2-20
 (Special) ... £ 32 14 :
 Donkey Boiler Fee ... £ 6 18 9 :
 Travelling Expenses (if any) £ :
 Committee's Minute TUE FEB. 17. 1920
 Assigned + L.M.C. 1:20 F.R.
 R. J. Beveridge
 Engineer Surveyor to Lloyd's Register of Shipping.
 Belfast
 FRI. JUL. 16. 1920

Rpt. 9a.

Port of Belfast Continuation of Report No. 8292 dated 7th Feb 1920 on the

S.S. New Brighton

List of Pumps.

- 2 Weir Feed Pumps 11 1/2" x 8" x 24"
- 1 Air Pump (Duplex) 20" x 20" x 15" Stroke
- 1 Circulating Centrif. 14" pipe
- 1 Sanitary & Bilge, driven off circulating 2" bore
- 4 Ballast Bilge 10 1/2" x 14" x 24"
- 1 General 7" x 8" x 12"

Spare Gear, Principal Items.

- 2 Bushes H.P. Lubline Bearing
- 2 L.P.
- 2 Locking Gear Wheel bearings
- 2 Pinion
- 2 Pinion wheel
- 2 Pinion
- 8 Liners + 6 Pads for affixing blocks
- 1 Set Pads for Michel Lubnet Block
- 1 Set balls for Main pinion shaft + primary wheel shaft Couplings
- 1 Tunnel shafting
- 5 Carbon rings for H.P. Lubline Glands
- 4 L.P.
- 1 H.P. inter diaphragm
- Set pumps, with tools, spcs + adaptors for H.P. + L.P. glands
- 8 Flexible Coupling bolts + nuts
- Lifting gear, gland testing gear etc.
- Bolt nuts + studs for all bearings, and Lubline + Gland Casings in excess of Rule requirements
- Wear down + gap gauges.
- 50 Bolt nuts, 5 bars new, round, 3 bars flat.
- 10 Condenser tubes, 100 packings, 50 flanges
- 1 Filter bucket.
- 1 C.I. propeller.
- 1 Spare lubricating oil pump + spare gear for same
- Spare gear in excess of Rule requirements, for Feed, Air, Circulating, Lubrication, General & Ballast Pumps, also Fan Engine, Evaporator etc. spare gear.
- 3 Thermometers.

R. J. Beveridge