

REPORT ON MACHINERY

No. 8292

THU. 12 FEB. 1920

Date of writing Report 14 Feb 20 When handed in at Local Office 19

Port of Belfast

No. in Survey held at Belfast

Date, First Survey 1 Jan 1919 Last Survey 31 Jan 1920

Reg. Book.

on the S.S. "New Brighton"

(Number of Vents 67)

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 Dublin Steamship Co

Port belonging to London

Shaft Horse Power at Full Power 2900

1500 (Calculated)

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engine Single Screw Double Reduction Geared 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 7/8" 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" Cont. liner see Sel. Bk. 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 3/4" 39"

Thickness at Bottom of Groove, H.P. Solid Disc Astern 66 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 ⁵ / ₈ "	2	2 ³ / ₄ -	38 ¹⁵ / ₁₆ -	1	4 ¹ / ₂ - 1 ¹ / ₂ - 2 ³ / ₄	31 ¹ / ₂ - 31 ¹ / ₂ - 32 ⁵ / ₈ - 32 ¹⁵ / ₁₆	4
2ND "	1 ¹ / ₂ - 1 ¹ / ₂	25 ⁵ / ₈ - 25 ⁵ / ₈ "	2	3 -	39 ³ / ₈ -	1			
3RD "	1 ¹ / ₂ -	25 ¹ / ₂ -	1	3 ¹ / ₂ -	40 ¹ / ₂ -	1			
4TH "	1 ³ / ₄ -	25 ⁵ / ₁₆ -	1	4 ¹ / ₂ -	40 ¹⁵ / ₁₆ -	1	L. P. 1 ¹ / ₂ - 3 ¹ / ₁₆ - 4 ¹⁵ / ₁₆ - 41 ¹ / ₈ - 42 ⁵ / ₈ - 44 ⁵ / ₈		
5TH "	2 ⁵ / ₁₆ -	26 ³ / ₁₆ -	1	6 ¹ / ₈ -	42 ⁵ / ₁₆ -	1			
6TH "	2 ⁵ / ₁₆ -	26 ¹ / ₂ -	1	7 ¹ / ₂ -	43 ¹ / ₂ -	1			
7TH "	2 ¹ / ₂ -	26 ¹ / ₈ -	1	7 ¹ / ₂ -	43 ¹ / ₂ -	1			
8TH "				7 ³ / ₄ -	43 ¹⁵ / ₁₆ -	1			

No. and size of Feed pumps 2 - 1 1/2" x 8" x 24"

No. and size of Bilge pumps 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 1 1/4" 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 Suction 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 Word Pump

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 B. 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 rivets Working pressure of shell by rules Size of manhole in shell plates

Size of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings bottom

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

W1334-0119 1/2

SUPERHEATER. Type *None* Date of Approval of Plan *None* Tested by Hydraulic Pressure to *None*
 Date of Test *None* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *None*
 Diameter of Safety Valve *None* Pressure to which each is adjusted *None* Is Easing Gear fitted *None*
 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 & WOLFE Ltd.

Manufacturer.

F. Eckelbeck

Dates of Survey
 During progress of work in shops - -
 During erection on board vessel - -
 building
 Total No. of visits *67*

1st Jan 1919 to 31st Jan 1920

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 *20-11-19* Propeller *10-9-19*
 Stern tube *10-9-19* Steam pipes tested *16-10-19* Engine and boiler seatings *29-10-19* Engines holding down bolts *22-11-19*
 Completion of pumping arrangements *31-1-20* Boilers fired *22-11-19* Engines tried under steam *22-1-20*
 Main boiler safety valves adjusted *22-1-20* Thickness of adjusting washers *5/32*
 Material and tensile strength of Rotor shaft *Piemont 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 *Piemont 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 26-10-19* Material of Screw shafts *do* Identification Marks on Do. *LLOYDS 26-10-19*
 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 the "Standard" design of Double Reduction geared Lubricator, 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 : - :
 (Special) ... £ 32 : 14 :
 Donkey Boiler Fee ... £ 6 : 18 : 9
 Travelling Expenses (if any) £

When applied for, *4-2-20*

When received, *19/3/20*

JUL FEB. 17. 1920

FRI. JUL. 16. 1920

Committee's Minute

Assigned

+ L.M.C. 1:20 F.R.

Machinery Certificate

Rpt. 9a.

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

P.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 Lantary & Bells, driven off circulating 2" bore
1 Ballast & Bells 10 1/2" x 14" x 24"
1 General 7" x 8" x 12"

Spare Gear, Principal Items.

2 Bushes H.P. Lubric Bearing
2 L.P.
2 Secondary Gear Wheel Bearings
2 Pinion
2 Primary wheel
2 Pinion
8 Liners + 6 Pads for adjusting blocks
1 Set Pads for Michel Lubricator Block
1 Set bolts for Main Pinion Shaft + primary wheel shaft
1 Tunnel shifting
5 Canham rings for H.P. Lubricator Glands
4 L.P.
1 H.P. inter? diaphragm
1 Set springs, with hooks, eyes + 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 Lubricator + Gears
Casings in excess of Rule requirements
Wear down + gap gauges
50 Bolt nuts, 5 bars iron, 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. Beveridge

R. Beveridge
 Engineer Surveyor to Lloyd's Register of Shipping.
Belfast