

REPORT ON MACHINERY.

No. 6158

THUR. 23 AUG 1906

Port of Belfast Received at London Office
 No. in Survey held at Belfast Date, first Survey Sep 6th Last Survey Aug 13th 1906
 Reg. Book. J.S.P. Cronsa (Number of Visits 74)
 on the R. Fletcher Built at Belfast By whom built Harland & Wolff Ltd Tons Gross 7970 Net 4523
 Engines made at Belfast By whom made - when made 1906
 Boilers made at - By whom made - when made -
 Registered Horse Power 1125 Owners Pacific Steam Nav. Co Port belonging to Liverpool
 Nom. Horse Power as per Section 28 1125 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engine Levin Percey Quadruple Expansion of Cylinders 8 No. of Cranks 8
 Dia. of Cylinders 24"-34 1/2"-50"-71" Length of Stroke 54 Revs. per minute 76 Dia. of Screw shaft 14 1/2" Material of S. Steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight
 in the propeller boss Yes If the liner is in more than one length are the joints burned Yes 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 Yes If two
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 63"
 Dia. of Tunnel shaft 13 1/2" as per rule 14 1/2" Dia. of Crank shaft journals 14 1/2" as per rule 15 1/2" Dia. of Crank pin 15 1/2" Size of Crank webs 20 1/2" x 10 1/2" of thrust shaft under
 collars 15" Dia. of screw 16"-10" Pitch of Screw 22"-0" No. of Blades 3 on each State whether moveable Yes Total surface 70 1/2 sq ft.
 No. of Feed pumps 1 Diameter of ditto 5 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 1 Diameter of ditto 5 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 7 Sizes of Pumps 14" x 10 1/2" x 26" Main feed double No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4-3 1/2" x 4-2 1/2" 9" x 6" x 12" Ballast pump 10-3 1/2" x 6-2 1/2"
 No. of Bilge Injections 2 sizes 12" Connected to circulating pump Is a separate Donkey Suction fitted in Engine room & size 2-4"
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible None
 Are all connections with the sea direct on the skin of the ship Yes 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
 Dates of examination of completion of fitting of Sea Connections 4/5/06 of Stern Tube 21/5/06 Screw shaft and Propeller 21/5/06
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform E. Room

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel D. Colville & Sons
 Total Heating Surface of Boilers 18440 Double End No. and Description of Boilers 3 Double End
 Working Pressure 215 lbs Tested by hydraulic pressure to 430 lbs Date of test 15-5-06 No. of Certificate 877
 Can each boiler be worked separately Yes Area of fire grate in each boiler 58 1/4 Description of Safety Valves to
 each boiler 3-Archie Spring Area of each valve 1104 sq Pressure to which they are adjusted 215 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 30" Mean dia. of boilers 15'-0" Length 18'-0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 29-32 tons the shell plates welded or flanged No Descrip. of riveting: cir. seams Top & B.
 long. seams Butt & Lap Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" width of butt straps 22 1/2"
 Per centages of strength of longitudinal joint 92.9 Working pressure of shell by rules 247 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring McKeils No. and Description of Furnaces in each boiler 6-Morrison Material Steel Outside diameter 47"
 Length of plain part top 10" Thickness of plates bottom 3 1/2" Description of longitudinal joint Weld No. of strengthening rings 37
 Working pressure of furnace by the rules 241 lbs Combustion chamber plates: Material Steel Thickness: Sides 5" Back 5" Top 5" Bottom 3"
 Pitch of stays to ditto Sides 8 1/2" x 7 1/2" Back 8 1/2" x 7 1/2" Top 8 1/2" x 7 1/2" stays are fitted with nuts or riveted heads Nuts Working pressure by rules 217 lbs
 Material of stay Steel Diameter at smallest part 5 1/2" Area supported by each stay 6 1/2 sq Working pressure by rules 257 lbs plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 7 1/2" x 15" How are stays secured By Nuts & Washers Working pressure by rules 279 lbs Material of stays Steel
 Diameter at smallest part 2 1/2" Area supported by each stay 262 sq Working pressure by rules 246 lbs Material of Front plates at bottom Steel
 Thickness 1 1/2" Material of Lower back plate Yes Thickness Yes Greatest pitch of stays Yes Working pressure of plate by rules Yes
 Diameter of tubes 2 1/2" Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 4 1/2" Back 4 1/2" Mean pitch of stays 8" x 8"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 364 lbs at the ends of the tubes to Chamber tops: Material Iron Depth and
 thickness of girder at centre 7" x (6 1/2" x 2) Length as per rule 46 1/2" Distance apart 8 1/2" Number and pitch of stays in each 6-7"
 Working pressure by rules 246 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description			
Made at	By whom made	When made	Where fixed	
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams	
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by		
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey	

SPARE GEAR. State the articles supplied:—

See other sheet

The foregoing is a correct description,

Manufacturer.

for Harland & Wolff Ltd.

Dates of Survey while building	During progress of work in shops—	1906 Sep. 6, 8, 12, 14, 19, 26 Oct. 4, 11, 17, 20, 26 Nov. 6, 10, 16, 22, 24 Dec. 4, 6, 12, 19, 22	1906 Jan. 3, 6, 10, 12, 16, 19, 24, 26, 30 Feb. 5, 7, 14, 16, 20, 25
	During erection on board vessel—	27 Mar. 26, 9, 12, 14, 16, 26, 29 April 5, 12, 20, 26, 27, 30 May 11, 14, 9, 9, 24, 25, 25	up to August 13th 1906
	Total No. of visits	74	To the approved plan of main boiler forwarded with sister vessel's Report

Dates of Examination of principal parts—	Cylinders	15/8/06	Slides	do	Pistons	do	Rods	do
Connecting rods	21/5/06	Crank shaft	12/4/06	Thrust shaft	do	Tunnel shafts	do	Screw shaft
Stern tube	21/4/06	Steam pipes tested	9/3/06	Engines and boiler seatings	21/4/06	Engines holding down bolts	21/7/06	
Completion of pumping arrangements	13/8/06	Boilers fixed	4/6/06	Engines tried under steam	18/6/06			
Main boiler safety valves adjusted	18/6/06	Thickness of adjusting washers	3 1/2 5 1/2					
Material of Crank shaft	S. Steel	Identification Mark on Do.	7-4-06	Material of Thrust shaft	S. Steel	Identification Mark on Do.	Do	
Material of Tunnel shafts	S. Steel	Identification Marks on Do.	Do	Material of Screw shafts	S. Steel	Identification Marks on Do.	Do	
Material of Steam Pipes	H. Iron & Weldless Steel	Test pressure	650 lbs.					

General Remarks (State quality of workmanship, opinions as to class, &c.)

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, and when tried under steam, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 8-06. + Electric Light.

The machinery is a duplicate of that fitted in the sister vessel "Ontario" Reg. Report 6137

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8-06. Elec. light.

The amount of Entry Fee.	£ 3 : 0	When applied for.	17-8-06
Special	£ 76 : 5	When received.	24/8/06
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

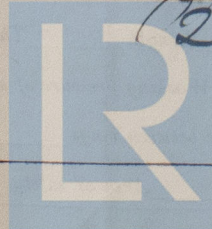
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 24 AUG 1906

Assigned

MACHINERY CERTIFICATE WRITTEN.



Lloyd's Register Foundation