

REPORT ON MACHINERY.

3855
MON 26 JAN 91

No. 3855 Port of Belfast Received at London Office 18
No. in Survey held at Belfast Date, first Survey 2nd June 90 Last Survey 17th Jan 1891
Reg. Book. Sup (Number of Visits 22)
25 on the Machinery of the S.S. "British Crown" Tons { Gross 3219
Net 2065
Master A. W. Williams Built at Belfast By whom built Harland & Wolff When built 1890
Engines made at Belfast By whom made Harland and Wolff when made 1890
Boilers made at - do - By whom made - do - when made 1890
Registered Horse Power 320 Owners British Shipowners Co. Port belonging to Liverpool
Sloody 300

ENGINES, &c.—

Description of Engines Tri-compound, three cranks, I. D. S. C. No. of Cylinders Three
Diam. of Cylinders 23.37.64 Length of Stroke 48 Rev. per minute 75 Point of Cut off, High Pressure 31 1/2 Low Pressure 26 1/2
Diameter of Screw shaft 13 1/2 Diam. of Tunnel shaft 12 1/2 Diam. of Crank shaft journals 13 1/4 Diam. of Crank pin 13 1/4 size of Crank webs 21 1/2 x 10
Diameter of screw 16-6 Pitch of screw 18-0 No. of blades 4 state whether moveable Yes total surface 71 Sq. ft.
No. of Feed pumps 2 diameter of ditto 6 Stroke 18 Can one be overhauled while the other is at work Yes — Meers pumps not
No. of Bilge pumps 2 diameter of ditto 4 Stroke 28 Can one be overhauled while the other is at work Yes { connected to main
Where do they pump from Feed from hotwell. Bilge from all holds, & 4th space & tunnel.
No. of Donkey Engines Three Size of Pumps Washington 10" x 10" cyl. 40 p. 6" suet Where do they pump from Hotwell, Sea, all ballast
and fresh water tanks, Exhaust tank, all bilges in 8th space & holds & tunnel.
Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
No. of bilge injections One and sizes 5" Are they connected to condenser, or to circulating pump Yes — Suction
How are the pumps worked By links and levers from Centre engine. Separate engines (two) for
centrifugal circulation and likewise for feed independent of main engines.
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Cocks and valves
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
except air pump which is above.
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 None How are they protected ✓
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching, 26-11-90.
Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Upper deck.

BOILERS, &c.—

No. of Boilers Two Description Double ended Air Malt. Material Steel Letter (for record) (S)
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 lbs. Date of test 26-11-90 No. 100 cert.
Description of superheating apparatus or steam chest None
Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately ✓
No. of square feet of fire grate surface in each boiler 2690 Description of safety valves S. Cockburn's No. to each boiler Two
Area of each valve 8.3 sq. in. Are they fitted with easing gear Yes No. of safety valves to superheater ✓ area of each valve ✓
Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork 18" Diameter of boilers 12'-1"
Length of boilers 17'-0" description of riveting of shell long. seams Treble & double B. Scircum. seams Treble & double Thickness of shell plates 13/16"
Diameter of rivet holes 15/16" whether punched or drilled Drilled pitch of rivets 8 1/2" Lap of plating 19" x 3/4" B.S.
Percentage of strength of longitudinal joint 83 working pressure of shell by rules 180 lbs. size of manholes in shell 12" x 16"
Size of compensating rings 23" x 27" x 1 1/4" No. of Furnaces in each boiler 4 Description of Furnaces Curves ribbed
Outside diameter 3'-6" length 6'-10" thickness of plates 19/32" description of joint Welded if rings are fitted ✓
Greatest length between rings ✓ working pressure of furnace by the rules 183 lbs. combustion chamber plating, thickness, sides 19" bot 13" top 5"
Pitch of stays to ditto, sides 4 3/4" back ✓ top 8 1/2" x 7 1/4" If stays are fitted with nuts or riveted heads Nuts in C.C. but riveted in shell. working pressure of plating by
rules 181 lbs. Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 189 lbs. end plates in steam space, thickness 1"
Pitch of stays to ditto 18" x 16 1/2" how stays are secured 2 nuts and large washers 14" dia. x 1" riveted to front plates. working pressure by rules 190 lbs. with 240 diameter of stays at
smallest part 2 3/4" steel working pressure by rules 180 lbs. Front plates at bottom, thickness 13/16" Back plates, thickness ✓
Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/4" x 12WGP pitch of tubes 4 1/2" x 4 1/2" thickness of tube
plates, front 8" back 3" how stayed Stay tubes pitch of stays width of water spaces Bot. C.C. 6" top 14" 6"
Diameter of Superheater or Steam chest ✓ length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓
Pitch of rivets ✓ working pressure of shell by rules ✓ diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness ✓ how stayed ✓
Superheater or steam chest; how connected to boiler ✓

BEL 58-0082

DONKEY BOILER— Description *Horl. Mult. with two furnaces. — Steel.*
Made *Belfast* by whom made *Harland and Wolff* when made *1890* where fixed *Upper deck.*
Working pressure *70 lbs.* tested by hydraulic pressure to *140 lbs.* No. of Certificate *107* fire grate area *23.75 sqft.* description of safety
valves *O. Cockburn's R.* No. of safety valves *2* area of each *5.4 sqft.* fitted with easing gear *if steam from main boilers can*
enter the donkey boiler *No.* diameter of donkey boiler *9-0* length *9-0* description of riveting *cap & double riveted*
Thickness of shell plates *1/2* diameter of rivet holes *15/16* whether punched or drilled *drilled* pitch of rivets *3 1/2* lap of plating *4 1/2*
per centage of strength of joint *71* thickness of ^{end} crown plates *5* stayed by *2 1/2" W.I. stays 18" x 15" double nuts & washers 13"*
Diameter of furnace, top *31* bottom *—* length of furnace *5-6* thickness of plates *7/16* description of joint *Butt with double strap*
Thickness of furnace crown plates *1/2* stayed by *1 1/2" I. Screw stays 9" x 9" pitch riveted on both* working pressure of shell by rules *71 lbs.*
Working pressure of furnace by rules *100 lbs.* diameter of uptake *✓* thickness of plates *✓* thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *2 loose propeller blades, propeller boss, and shaft*
2 U.P. slide valve spindles, packing ring for each piston, 1 set of coupling bolts,
2 top end and 2 bottom end connecting rod bolts and nuts, 6 pin & ring bolts, 2 main
bearing bolts, 1 set of feed (Heiser) pump valves, 1 set of bilge pump valves, bolts and
nuts assorted etc, etc.
The foregoing is a correct description,
Harland and Wolff & Co. Manufacturer.

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

The machinery of this steamer has been constructed in accordance with the plans as approved for main and auxiliary boilers, the Secretary's letters dated 28-2-90 and 11-3-90; the Rules of the Society for new steamers or equal thereto and to the satisfaction of the undersigned.

The shafting when finished was found sound and free from any visible defects.

The material used and the workmanship throughout were good and satisfactory.

The Boilers and main steam pipes were tested by hydraulic pressure as required and the Safety valves adjusted to the above working pressure viz. 180 lbs. on main & 70 lbs. on donkey B.

The main and auxiliary engines were tried under steam and worked satisfactorily. and I am of opinion that the machinery merits the special Notification *+LMC. 1-91* & same recorded in Reg. B.R.

The Electric Light was fitted throughout by Allen & Sons. on the single wire system except in way of compasses where the double system was adopted.

It is submitted that this vessel is eligible to have *+LMC. 1-91* recorded. *W.A.*
26-1-91

The amount of Entry Fee .. £ *3 : 0 : 0* received by me,
Special .. £ *36 : 0 : 0*
Donkey Boiler Fee .. £ *✓* : :
Certificate (if required) .. £ *Ex gratia* *22.1.1891*
To be sent as per margin.
(Travelling Expenses, if any, £ ..)

Committee's Minute

TUE 27 JAN 91

+L.M.C. 1/91

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



Lloyd's Register
Foundation