

REPORT ON MACHINERY.

Port of *Belfast* Received at London Office *10th 20 SEP 1904*

No. in Survey held at *Belfast* Date, first Survey *10th 1903* Last Survey *15th Sept 1904*

Book. *A.S.P. "Glenluce Castle"* (Number of Visits *78*)

on the *Belfast* Tons { Gross *8113* Net *5105*

ster Built at *Belfast* By whom built *Harland & Wolff Ltd.* When built *1904*

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ilers made at *"* By whom made *"* when made *"*

gistered Horse Power *✓* Owners *Union Castle Mail S.S. Coy. Ltd.* Port belonging to *London*

m. Horse Power as per Section 28 *965* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes*

GINES, &c.—Description of Engines *Two 1200 H.P. Compound Expansion* of Cylinders *8* No. of Cranks *8*

a. of Cylinders *22 1/2 - 22 - 46 1/2 - 68* Length of Stroke *51* Revs. per minute *76* Dia. of Screw shaft as per rule *14.02* as fitted *14.5* Lgth. of stern bush *4-10*

a. of Tunnel shaft as fitted *13.62* Dia. of Crank shaft journals as per rule *13.47* as fitted *14.25* Dia. of Crank pin *15* Size of Crank webs *27 1/2 x 10* Dia. of thrust shaft under

lars *14 1/4* Dia. of screws *16-6* Pitch of screw *21-0* No. of blades *3* State whether moveable *Yes* Total surface *68 sq ft.*

. of Feed pumps *Two 1200 H.P. Compound Expansion* Diameter of ditto *✓* Stroke *✓* Can one be overhauled while the other is at work *✓*

. of Bilge pumps *1 on each engine* Diameter of ditto *6* Stroke *30* Can one be overhauled while the other is at work *Yes*

. of Donkey Engines *See other sheet* No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room *8-3 1/2 x 4-2 1/2* In Holds, &c. *18-3 1/2 x 2-2 1/2*

. of bilge injections *2* sizes *10* Connected to condenser, or to circulating pump *Pump* Is a separate donkey suction fitted in Engine room & size *Yes - 5*

re 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 *Yes*

re all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*

re 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 tank *Both*

re 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*

That pipes are carried through the bunkers *For both engines* How are they protected *Wood, casings*

re all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*

re the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*

Then were stern tube, propeller, screw shaft, and all connections examined in dry dock *Before launching* the screw shaft tunnel watertight *Sketch & See*

it fitted with a watertight door *Yes* worked from *Upper platform & Room*

ILERS, &c.— (Letter for record *✓*) Total Heating Surface of Boilers *16899 sq ft* Is forced draft fitted *No*

. and Description of Boilers *3 Double End Cylinders* Working Pressure *220 lbs* Tested by hydraulic pressure to *440 lbs*

ate of test *27-5-04* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *58 1/2 sq ft* No. and Description of safety valves to

ch boiler *Two - Direct Spring* Area of each valve *22 1/2 sq in* Pressure to which they are adjusted *220 lbs* Are they fitted with easing gear *Yes*

allest distance between boilers or uptakes and bunkers or woodwork *2 ft.* Mean dia. of boilers *14-9* Length *40-0* Material of shell plates *Steel*

thickness *1 1/2* Range of tensile strength *29-32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *"Double Riveted"* seams *Both Double*

diameter of rivet holes in long. seams *1 1/8* Pitch of rivets *10* Lap of plates or width of butt straps *2 1/2*

er centages of strength of longitudinal joint rivets *94.4* Working pressure of shell by rules *255 lbs* Size of manhole in shell *16 x 12*

ze of compensating ring *None* No. and Description of Furnaces in each boiler *6 - Monitors* Material *Steel* Outside diameter *45 1/2*

length of plain part top *10* Thickness of plates crown *3 1/16* bottom *3 1/16* Description of longitudinal joint *Weld* No. of strengthening rings *4*

orking pressure of furnace by the rules *249 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8* Back *5/8* Top *5/8* Bottom *5/8*

itch 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* If stays are fitted with nuts or riveted heads *Nuts inside* Working pressure by rules *220 lbs*

aterial of stay *Steel* Diameter at smallest part *1 1/4 x 1 1/8* Area supported by each stay *64 sq in* Working pressure by rules *246 lbs* And plates in steam space:

aterial *Steel* Thickness *1 1/4* Pitch of stays *7 1/2 x 14 1/2* How are stays secured *Nuts & Washers* Working pressure by rules *246 lbs* Material of stays *Steel*

diameter at smallest part *2 1/2 - 2 3/8* Area supported by each stay *253 sq in* Working pressure by rules *207 lbs* Material of Front plates at bottom *Steel*

thickness *1 1/2* Material of Lower back plate *Steel* Thickness *1 1/2* Greatest pitch of stays *12 1/2* Working pressure of plate by rules *251 lbs*

diameter of tubes *2 1/2* Pitch of tubes *4 x 4* Material of tube plate *Steel* Thickness: Front *3/4* Back *3/4* Mean pitch of stays *8 x 8*

itch across wide water spaces *14* Working pressures by rules *338 lbs* Girders to Chamber tops: Material *Iron* Depth and

ickness of girder at centre *8 1/2* Length as per rule *28 1/2* Distance apart *8 1/2* Number and pitch of Stays in each *6 - 7 1/2*

orking pressure by rules *261 lbs* Superheater or Steam chest; how connected to boiler *✓* Can the superheater be shut off and the boiler worked

eparately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

les Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

f stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

orking pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

DONKEY BOILER— No. ✓ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boiler enter the donkey boiler _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of 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 _____ Rivets _____ 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 _____ Descrip. joint _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:—

See other Sheet

The foregoing is a correct description.

Harland & Wolff Ltd. Manufacturer.

Dates of Survey while building { During progress of work in shops - - } *1903. Feb. 10, 11, 23, 28. Oct. 2, 6, 10, 17, 19, 26, 29. Nov. 2, 5, 10, 13, 18, 20, 25, 27, Dec. 1, 4, 15.*
 { During erection of board vessel - - } *Dec. 1, 4, 5, 18 (1904), Jan. 6, 12, 15, 20, 22, 26, Feb. 2, 5, 10, 15, 19, 25, 29. Mar. 15, 18.*
 Total No. of visits *48*

Is the approved plan of main building for the building of the vessel?

Is the approved plan of main boiler forwarded herewith

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

Material of screw shaft *Export 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
non-corrosive *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes*

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules. The materials and the workmanship, are of good description throughout, and trials under steam in Belfast Lough, the machinery worked satisfactorily.

In my opinion, it is advisable for record + L.M.C. 9-04.
Report on the Electric Light installation, will be forwarded later.

It is submitted that
this vessel is eligible for
THE RECORD. - LMC 9.04 FLEELIGHT

Rs. 20.9.04
20.9.04

The amount of Entry Fee..	£ 3 : 0 :	When applied for,
Special	£ 68 5 :	19-9-19..
Donkey Boiler Fee	£ : :	When received,
Travelling Expenses (if any) £	: :	78 9 19..

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

Committee's Minute

FRI. 23 SEP 1904

Assigned

* L.M.B. 904
Elec. light.

MACHINERY CERTIFICATE
WRITTEN

Rpt. 9a.

Port of Belfast Continuation of Report No. 5790, dated 19th Sept 1904 on the

Weirs Double Pump:-	14" x 10" x 26"
auxiliary Feed	10 1/2" x 8" x 24" Single Woodsons
2 General	10" x 6 1/2" x 10" Double Cornuthers
Ballast	12" x 12" x 14" Rockmaster, Nations
Druck Water	4" x 4" x 6" Single Woodsons

Share Bear

2 Bronze Propeller Blads
1 per pump rod. guide, bucket, valves, & studs etc.
1 Set packing rings for H.P. Piston
2 Sets Springs
1 Set W.S. Piston rod packing & springs complete.
1 Set Studs for Propeller boss
1 Set of Connecting rod top & bottom end braces.
1 Set of valve springs, and a brace valve springs
10 Cy. Genser tubes. for main & 5 for auxiliary ~~two~~ genser
parts gear for Neef, and all Donkey Pumps
and all gear to our Rules additional

R. F. Broun

Certificate (if required) to be sent to _____
 (in the space for Committee's Minute)