

# REPORT ON MACHINERY.

THUR. 23 AUG 1806

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 *J.S.P. Cronsa* Tons Gross *7970* Net *4523*

Master *R. Fletcher* Built at *Belfast* By whom built *Harland & Wolff L* When built *1906*

Engines made at *Belfast* By whom made *-* when made *1906*

Boilers made at *-* By whom made *-* when made *-*

Registered Horse Power *v* 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 *15*

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 *14.6* Material of screw shaft *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 *v* If two

liners are fitted, is the shaft lapped or protected between the liners *v* Length of stern bush *63*

Dia. of Tunnel shaft *13.57* as per rule *14.5* Dia. of Crank shaft journals *14.25* as per rule *15.25* Dia. of Crank pin *15 1/2* Size of Crank webs *20 1/2 x 10 1/2* Dia. of thrust shaft under

collars *15* Dia. of screw *16-10* Pitch of Screw *22-0* No. of Blades *3* 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* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *4-3 1/2 x 4-2 1/2* *10-3 1/2 x 6-2 1/2*

No. of Bilge Injections *2* sizes *12* Connected to *-* circulating pump *Yes* 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 bilge *Yes*

Dates of examination of completion of fitting of Sea Connections *4/5/06* of Stern Tube *2/5/06* Screw shaft and Propeller *2/5/06*

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* 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 *377*

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-Action Spring* Area of each valve *11.04 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 & Bot.*

long. seams *Butt* 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 rivets *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 *10* Thickness of plates *3/8* Description of longitudinal joint *Weld* No. of strengthening rings *37*

Working pressure of furnace by the rule *241 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8* Back *v* Top *5/8* Bottom *3/4*

Pitch of stays to ditto Sides *8 1/2 x 7 1/2* Back *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 *5/8 x 1 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 1/4* Pitch of stays *7 1/2 x 15* How are stays secured *Nuts* Working pressure by rules *279 lbs* Material of stays *Steel*

Diameter at smallest part *2 1/2* Area supported by each stay *262 1/2 sq* Working pressure by rules *246 lbs* Material of Front plates at bottom *Steel*

Thickness *1 1/2* Material of Lower back plate *v* Thickness *v* Greatest pitch of stays *v* Working pressure of plate by rules *v*

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

Pitch across wide water spaces *14 1/2* Working pressures by rules *167 lbs* Chamber tops: Material *Iron* Depth and

thickness of girder at centre *7 x (7 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 *v* 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 casing 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, *for Harland & Wolff Ltd.*  
 Manufacturer.

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 Jan. 3, 4, 10, 12, 16, 19, 24, 26, 30 Feb. 5, 7, 14, 16, 20, 25  
 During erection on board vessel— 27, Mar. 2, 6, 9, 12, 14, 16, 26, 29 April, 5, 12, 20, 26, 27, 30 May 4, 11, 14, 9, 9, 24, 25, 25  
 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 *do* Propeller *do*  
 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 *12/8/06* Boilers fixed *4/6/06* Engines tried under steam *18/6/06*  
 Main boiler safety valves adjusted *18/6/06* Thickness of adjusting washers *3/2 5/32*  
 Material of Crank shaft *S. Steel* Identification Mark on Do. *F.J.B. 12-4-06* 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 *N. Iron & Weldless Steel* Test pressure *600 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 "Ortega" 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*  
 Special £ *76 : 5*  
 Donkey Boiler Fee £ : :  
 Travelling Expenses (if any) £ : :

When applied for *17-8-06*  
 When received *24/8/06*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
*Belmont*

Committee's Minute  
 Assigned *FRI. 24 AUG 1906*  
*+ L.M.C. 8.06*  
*elec. light.*



Certificate (if required) to be sent to the office

The Surveyors are requested not to write on or below the space for Committee's Minute.

Is a Report also sent on the Hull of the Ship?

Lloyd's Register Copyable Ink.