

Port of *Belfast*

Received at London Office.

SAT. 6 APR 1907

No. in Survey held at
Reg. Book.Date, first Survey *20 Aug 1906* Last Survey *27 March 1907*(Number of Visits *49*)Gross *6249*Net *3991*

Muster

Built at *Belfast*By whom built *Workman Clark & Co*When built *1907*Engines made at *Belfast*

By whom made

when made *1907*

Boilers made at

By whom made

when made

Registered Horse Power

Owner *British India S. N. Coy. Ltd.*Port belonging to *Glasgow*Nom. Horse Power as per Section 28 *805*Is Refrigerating Machinery fitted for cargo purposes *No*Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines

*Triple Expansion*No. of Cylinders *3*No. of Cranks *3*Dia. of Cylinders *33-58½-86*Length of Stroke *60*Revs. per minute *70*

Dia. of Screw shaft

as per rule *17.49*Material of *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 *68"*

Dia. of Tunnel shaft

as per rule *16.35*

Dia. of Crank shaft journals

as per rule *14.16*Dia. of Crank pin *17½*Size of Crank web *23½ x 11½*

Dia. of thrust shaft under

collars *17½*Dia. of screw *19-6*Pitch of Screw *20-6*No. of Blades *4*State whether moveable *Yes*No. of Feed pumps *2*Diameter of ditto *5½*Stroke *30"*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2*Diameter of ditto *5½*Stroke *30"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *6*Sizes of Pumps *2 inches 9 x 12 x 24*

and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *4-32"*Holds, &c. *1-22" 7-32"*No. of Bilge Injections *10*sizes *10"*Connected to condenser, or to circulating pump *Yes*Is a separate Donkey Suction fitted in Engine room & size *Yes-3½"*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 *Yes*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 *Both*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 casings*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 *21-2-07*of Stern Tube *12/2/07*Screw shaft and Propeller *12-2-07*Is the Screw Shaft Tunnel watertight *Stated to be*Is it fitted with a watertight door *Yes*worked from *top platform to Room*BOILERS, &c.—(Letter for record *S*)Manufacturers of Steel *Glasgow S. N. Coy. Ltd.*Total Heating Surface of Boilers *10952 sq ft*Forced Draft fitted *Yes*No. and Description of Boilers *4 Single End Cylind.*Working Pressure *180 lbs*Tested by hydraulic pressure to *360 lbs*Date of test *29-1-07*No. of Certificate *390*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *67½ sq ft*

No. and Description of Safety Valves to

each boiler *2 No. 1 Spring*Area of each valve *11.04 sq*Pressure to which they are adjusted *180 lbs*Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *13"*Mean dia. of boilers *18-6*Length *11-6*Material of shell plates *Steel*Thickness *1½"*Range of tensile strength *28½ to 32*Are the shell plates welded or flanged *No*Descrip. of riveting: cir. seams *Lap Riv.*long. seams *Butt*Diameter of rivet holes in long. seams *132*Pitch of rivets *9½*Lap of plates or width of butt straps *20-8*

Per centages of strength of longitudinal joint

rivets *87.7*plate *84.9*Working pressure of shell by rules *205 lbs*Size of manhole in shell *18 x 18"*Size of compensating ring *McKee*No. and Description of Furnaces in each boiler *3-Mannison*Material *Steel*Outside diameter *51½"*

Length of plain part

top *4"*

Thickness of plates

crown *2½"*bottom *3½"*Description of longitudinal joint *Weld*

No. of strengthening rings

Working pressure of furnace by the rules *205 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *43/64*Back *43/64*Top *43/64*Bottom *15/16*Pitch of stays to ditto: Sides *10 x 7½*Back *10 x 8*Top *9 x 9*If stays are fitted with nuts or riveted heads *Not in use*Working pressure by rules *194 lbs*

End plates in steam space:

Material of stay *Steel*Diameter at smallest part *1½"*How supported by *each stay*Working pressure by rules *198 lbs*Material of stays *Steel*Thickness *132*Pitch of stays *22 x 19*How are stays secured *Not in use*Working pressure by rules *186 lbs*Material of Front plates at bottom *Steel*Diameter at smallest part *1½"*How supported by *each stay*Working pressure by rules *202 lbs*Material of Lower back plate *Steel*Thickness *52/64*Greatest pitch of stays *18½"*Working pressure of plate by rule *238 lbs*Mean pitch of stays *7½ x 7½*Diameter of tubes *2½"*Pitch of tubes *34 x 35*Material of tube plate *Steel*Thickness: Front *15/16*Back *13/16*Mean pitch of stays *7½ x 7½*Pitch across wide water spaces *13½"*Working pressures by rules *186 lbs*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *8½ x (4 x 2)*Length as per rule *30"*Distance apart *9"*Number and pitch of stays in each *1-9"*Working pressure by rules *184 lbs*

Superheater or Steam chest; how connected to boiler

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

How stayed

Lloyd's Register

Foundation

WS35-0004

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 _____ Description of Safety _____

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 _____ Rivets _____ Plates _____

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:— 1 Propeller Shaft; 2 propeller blades & 6 studs; set piston & packing rings for each piston; fan & spindle for Centrifugal pump; piston rod & valve spindle for do; air pump bucket & rod; air pump & valves & studs; pair crank pin bushes; pair cross head bushes; Condenser Turbine set & all gear to Lloyd's Rules extra

The foregoing is a correct description,

FOR WORKMAN, CLARK & CO., LIMITED.

M. H. Bell Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1906:— Aug 20, 28, 31, Sep 4, 4, 21, 26, 27, Oct 3, 9, 12, 19, 22, 24, 29, 31 Nov 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 Dec 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31 } During erection on board vessel - - 1.6.12.15.20.22.26.29. up till March 27th 1907. Total No. of visits 49

Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 12/10/06 Covers _____ Pistons *To* Rods _____

Connecting rods 13/2/07 Crank shaft 20/6/06 Thrust shaft _____ Tunnel shafts *To* Screw shaft 29/1/07 Propeller 14/1/07

Stern tube 2/1/07 Steam pipes tested 2/12/06 Engine and boiler seatings 8/3/07 Engines holding down bolts 8/3/07

Completion of pumping arrangements 25/3/07 Boilers fixed 9/8/07 Engines tried under steam 13/2/07

Main boiler safety valves adjusted 13/2/07 Thickness of adjusting washers 32 5/8

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S*

Material of Tunnel shafts *Steel* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*

Material of Steam Pipes *W. Iron* Test pressure 540 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 used are of good description, and an extra in Belfast Lough. The machinery worked satisfactorily. In my opinion it is eligible for record + L.M.C. 3-07 with notation "Forced Draft & Electric Light".

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3.07

Electric Light

8.4.07

HC 8/4/07

The amount of Entry Fee. £ 3 : 0 : When applied for, 4-4-07

Special £ 60 : 5 : When received, 10-4-07

Donkey Boiler Fee £ : : 10-4-07

Travelling Expenses (if any) £ : : 10-4-07

Committee's Minute

TUES. 9 APR 1907

Assigned

Home 3.07

MACHINERY CERTIFICATE WRITTEN

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



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