

# REPORT ON MACHINERY. SAT. 29 SEP 1906

Port of Belfast

Received at London Office 19

No. in Survey held at Belfast Date, first Survey 8 Dec 1905 Last Survey 20 Sept 1906

Reg. Book. on the S.S. Japan (Number of Visits 67) Gross 6045 Tons Net 3806 Tons

Master J. O'Connell Built at Belfast By whom built Workman Clark & Co when built 1906

Engines made at Belfast By whom made " when made "

Boilers made at " By whom made " when made "

Registered Horse Power 996 Owners Ascar & Co Port belonging to Calcutta

Nom. Horse Power as per Section 28 996 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 31-52 1/2-88 Length of Stroke 60 Revs. per minute 75 Dia. of Screw shaft 17.63 Material of screw shaft 9. 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 42

Dia. of Tunnel shaft 16.47 Dia. of Crank shaft journals 17.3 Dia. of Crank pin 17 1/2 Size of Crank web 33 1/2 x 12 Dia. of thrust shaft under collars 17 1/2 Dia. of screw 19.0 Pitch of Screw 21.6 No. of Blades 4 State whether moveable Yes Total surface 105 sq ft.

No. of Feed pumps 2 Diameter of ditto 5 1/2 Stroke 30 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work Yes

No. of Donkey Engines See other sheet No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4-3 1/2 In Holds, &c. 9-8 1/2 1-2 1/2

No. of Bilge Injections 1 sizes 11 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes - 3 1/2

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 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 lock 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 2-7-06 of Stern Tube 2-7-06 Screw shaft and Propeller 2-7-06

Is the Screw Shaft Tunnel watertight States to be Is it fitted with a watertight door Yes worked from Upper deck.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Guest Keen & Nettleton, Steel Coy Scot

Total Heating Surface of Boilers 13227 sq ft IS Forced Draft fitted Yes No. and Description of Boilers 3 Double End Cyl 2

Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 8-8-06 No. of Certificate 384

Can each boiler be worked separately Yes Area of fire grate in each boiler END 59 No. and Description of Safety Valves to each boiler 3 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20 Mean dia. of boilers 14.6 Length 19.0 Material of shell plates Steel

Thickness 1 1/2 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam L.D.R.

long. seams Butt Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 9 1/2 Lap of plates or width of butt straps 2 1/4

Per centages of strength of longitudinal joint rivets 88.2 Working pressure of shell by rules 228 lbs Size of manhole in shell 16 x 12

Size of compensating ring McNeill No. and Description of Furnaces in each boiler 6 - Double end Material Steel outside diameter 47 1/4

Length of plain part top 4 bottom 10 Thickness of plates crown 3 1/2 bottom 3 1/4 Description of longitudinal joint Weld No. of strengthening rings 1

Working pressure of furnace by the rules 284 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/32 Back 1/32 Top 1/32 Bottom 1

Pitch of stays to ditto: Sides 8 1/4 x 8 Back 8 1/4 x 7 1/4 Top 8 1/4 x 7 1/4 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 212 lbs

Material of stay Steel Diameter at smallest part 1 1/2 Area supported by each stay 70 sq Working pressure by rules 251 lbs plates in steam space:

Material Steel Thickness 1 1/4 Pitch of stays 17 1/2 x 15 1/2 How are stays secured Nuts inside Working pressure by rules 281 lbs Material of stay Steel

Diameter at smallest part 2 1/4 x 3 1/4 supported by each stay 27 1/4 sq Working pressure by rule 275 lbs Material of Front plates at bottom Steel

Thickness 1 Material of Lower back plate Steel Thickness 1 Greatest pitch of stays 1 Working pressure of plate by rules 1

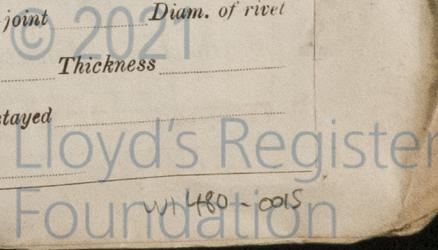
Diameter of tube 2 1/2 Pitch of tubes 3 1/8 x 3 1/2 Material of tube plate Steel Thickness: Front 1 Back 1/16 Mean pitch of stays 7 1/8 x 7 1/4

Pitch across wide water spaces 13 1/2 Working pressures by rules 212 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 13 1/2 x (1/4 + 2) Length as per rule 46 3/8 Distance apart 8 x 7 1/2 Number and pitch of stays in each 4-8 1/2

Working pressure by rules 216 lbs Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked separately Yes

holes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet 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— *Manila* 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:— *See other sheet*

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—	1905, Dec 18, 20, 1906, Jan 3, 8, 10, 17, 19, 24, 25, 29, Feb 2, 6, 8, 13.
	During erection on board vessel—	15, 20, 26, March 1, 5, 8, 13, 15, 22, 28, April 2, 11, up to 20 Sept 1906
	Total No. of visits	67

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

Dates of Examination of principal parts—	Cylinders	8-1-06	Covers	6	Pistons		Rods		
Connecting rods	2/8/06	Crank shaft	12/6/06	Thrust shaft	do	Tunnel shafts	do	Screw shaft	do
Stern tube	30/5/06	Steam pipes tested	29/8/06	Engine and boiler seatings	22/8/06	Engines holding down bolts	3/9/06		
Completion of pumping arrangements	6/9/06	Boilers fixed	3/9/06	Engines tried under steam	20/9/06				
Main boiler safety valves adjusted	20/9/06	Thickness of adjusting washers	12-11/32						
Material of Crank shaft	S. Steel	Identification Mark on Do.	44028	Material of Thrust shaft	do	Identification Mark on Do.	do		
Material of Tunnel shafts	do	Identification Marks on Do.	do	Material of Screw shafts	do	Identification Marks on Do.	do		
Material of Steam Pipes	M. Iron			Test pressure	400				

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

*The machinery of this vessel has been constructed under Special Surveys, and in accordance with the Rules. The workmanship, and the materials are of good description, and on trial in Belfast Lough the machinery worked satisfactorily. In my opinion, it is eligible for record of Survey + L.M.C. 9-06 in the Register Book, with notation "Forced Draft & Electric Light"*

It is submitted that this vessel is eligible for THE REGD L.M.C. 9.06 F.D. ELEC. LIGHT.

The amount of Entry Fee..	£ 3 : -	When applied for.	1.10.06
Special	£ 69 : 16	When received.	1.10.06
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

*R. H. Beveridge*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. OCT 2 1906

Assigned

MACHINERY CERTIFICATE WRITTEN



© 2021

Lloyd's Register Foundation

Certificate (if required) to be sent to this office

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

If not, state whether, and when, one will be sent

Lloyd's Register of British & Foreign Shipping