

# REPORT ON MACHINERY.

Port of Belfast THUR. MAR 22 1900  
 Received at London Office \_\_\_\_\_ 18  
 No. in Survey held at Belfast Date, first Survey 8 March 1899 Last Survey 20 March 1900  
 Reg. Book. B.S. "Mimico" (Number of Visits 60)  
 on the B.S. "Mimico" Tons { Gross 6224 Net 4024  
 Master F. Newman Built at Belfast By whom built Worthington Clark & Co When built 1900  
 Engines made at Belfast By whom made Worthington Clark & Co when made 1900  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made 1900  
 Registered Horse Power \_\_\_\_\_ Owners Lyster & Co Port belonging to London  
 Nom. Horse Power as per Section 28 570 Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks Three  
 Diameter of Cylinders 24" - 46" - 48" Length of Stroke 54" Revolutions per minute 65 Diameter of Screw shaft 15 1/2"  
 Diameter of Tunnel shaft 15 1/2" Diameter of Crank shaft journals 15 1/2" Diameter of Crank pin 15 1/2" Size of Crank webs 29 1/2" x 10 1/2"  
 Diameter of screw 19" - 9" Pitch of screw 20" - 0" No. of blades Seven State whether moveable Yes Total surface 109 sq ft  
 No. of Feed pumps Two Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 6" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Three Sizes of Pumps 10" x 10" 12" x 10" 8" x 10" x 21" Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Three - 3 1/2" In Holds, &c. None @ 3 1/2" one at 2 1/2"  
 No. of bilge injections one sizes 8 1/2" Connected to condenser, or to circulating pump Pumps 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 fitted  
 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 No. 3 Hold bilge 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  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock 13 March 1900 the screw shaft tunnel watertight Stated to be  
 Is it fitted with a watertight door Yes worked from Engine Room Top Platform

BOILERS, &c.— (Letter for record 9) Total Heating Surface of Boilers 7648 sq ft Is forced draft fitted Yes Hardens  
 No. and Description of Boilers Four - Single Ended Cylind. Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs  
 Date of test 20-12-1899 Can each boiler be worked separately Yes Area of fire grate in each boiler 48 1/2 sq ft No. and Description of safety valves to  
 each boiler Two - Direct Spring Area of each valve 8.29 sq" Pressure to which they are adjusted 205 lbs Are they fitted  
 with easing gear Yes Smallest distance between boilers 24" and bunkers 24" Mean diameter of boilers 13" - 9"  
 Length 11' - 6" Material of shell plates Steel Thickness 1 1/2" Description of riveting: circum. seams Lap Rivet Long. seams Butt. Rivet  
 Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/2"  
 Per centages of strength of longitudinal joint rivets 85.2 Working pressure of shell by rules 221 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring No. Nails No. and Description of Furnaces in each boiler 3 - Morrison's Material Steel Outside diameter 41 1/2"  
 Length of plain part 5" Thickness of plates 35/64" Description of longitudinal joint Weld No. of strengthening rings 1  
 Working pressure of furnace by the rules 207 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1"  
 Pitch of stays to ditto: Sides 8 1/2" x 8" Back 8 1/2" x 8" Top 8 1/2" x 1 1/2" If stays are fitted with nuts or riveted heads Nuts in Working pressure by rules 205 lbs  
 Material of stays Steel Diameter at smallest part 1 1/2" x 1 1/8" Area supported by one stay 64 sq" Working pressure by rules 211 lbs End plates in steam space:  
 Material Steel Thickness 1 1/2" Pitch of stays 5/16" x 15 1/2" How are stays secured Q. Nuts in Working pressure by rules 266 lbs Material of stays Steel  
 Diameter at smallest part 2 1/2" Area supported by each stay 248 sq" Working pressure by rules 224 lbs Material of Front plates at bottom Steel  
 Thickness 1" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 1 1/2" Working pressure of plate by rules 298 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" x 3 1/2" Material of tube plates Steel Thickness: Front 3/8" Back 1/2" Mean pitch of stays 1 1/2"  
 Pitch across wide water spaces 1 1/2" Working pressures by rules 238 lbs with 1/2" doubler Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 8 1/2" x (1/2" x 2) Length as per rule 28 1/2" Distance apart 1 1/2" Number and pitch of Stays in each Two - 8 1/2"  
 Working pressure by rules 257 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 How stayed  
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



**DONKEY BOILER**— Description *None*  
 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 casing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long seams \_\_\_\_\_ Diameter 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 \_\_\_\_\_ Description of 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: *2 Port Steam Propeller Rods: set crank pin bushes: one port propeller shaft: thrust shaft: short length transverse shaft: set piston rods: one pump: rock & bucket: air pump: guards & studs: 2 sets valve spindles: sets packing: rings & pumps for all sections: set and all parts to Lloyd's requirements additional.*  
 The foregoing is a correct description,  
 For W. H. BELL & CO. LIMITED, Manufacturer.  
*W. H. Bell*

Dates of Survey while building  
 During progress of work in shops: *1899. March 8. April 24. May 8, 12, 23, 27. June 3, 17, 26, 29. July 3, 20, 24. Aug 4, 7, 26, 31*  
 During erection on board vessel: *Sept 5, 26, 30. Oct 4, 16, 17, 24. Nov 2, 8, 10, 14, 21, 23, 28, 29. Dec. 1, 5, 8, 18, 20. 1900. Jan 4, 9.*  
 Total No. of visits: *16, 17, 22, 24, 26, 29, Feb 9, 13, 14, 15, 16, 22, 23, 26, 28. March 3, 6, 8, 12, 19, 20*

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
**ENGINES**—Length of stern bush *67* Diameter of crank shaft journals *as per rule 14 1/2* as fitted *15 1/2* Diameter of thrust shaft under collars *15 1/2*  
**BOILERS**—Range of tensile strength *28-32* Are they welded or flanged *No* **DONKEY BOILERS**—No. *1* Range of tensile strength *28-32*  
 Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith *Yes*

The machinery of this vessel, which is duplicate of that fitted in the S.S. "Star of Australia," has been constructed under Special Survey. The materials and workmanship are of good description. It has been seriously fitted on board, and an trial worked satisfactorily. An electrical installation by Barlow Prosser & Co., London, has been fitted and will be reported upon shortly. Refrigerating Machinery, fitted by Hall & Co., for cargo purposes, has also been supplied. In my opinion, the machinery of this vessel is eligible to have notification of **L.M.C. 3-1900**, Electric Light & Forced Draft also Refrigerating Machinery.

The Piling Report on the shafting is appended.

It is submitted that this vessel is eligible for THE RECORD. ✱ LMC 3.00 F.D. Elec. light. Ref. 11  
 22.3.00  
 R.S.  
 22.3.00

The amount of Entry Fee. £ 3 : - : When applied for, 20-3-1900  
 Special . . . . . £ 48 : 10 : When received, 24/3/00  
 Donkey Boiler Fee . . . . . £ . . . : . . . :  
 Travelling Expenses (if any) £ . . . : . . . :  
 R. J. Bennett  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute  
 Assigned  
 23 MAR 1900  
 L.M.C. 3.00

MACHINERY CERTIFICATE WRITTEN



Certificate (if required) to be sent to the Registrar and Registrar not to write on or before the space for Committee's Minute.

The amount of Entry Fee	£ 2-0-0
Special Survey Fee	£ 10-0-0
Travelling expenses	£ 9-2-9
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	<u>£ 21-2-9</u>

I am, Sir  
 Your obedient servant  
 D. M. Auslan.

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*C. N. F.*