

# REPORT ON MACHINERY.

Port of *Belfast*

Received at London Office \_\_\_\_\_ 18

No. in Survey held at *Belfast & Looe* Date, first Survey *13 Feb 1900* Last Survey *15 Jan 1901*  
Reg. Book. \_\_\_\_\_ (Number of Visits *3 1/2*)

on the *S.S. Greenisland* Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_

Master \_\_\_\_\_ Built at *Looe* By whom built *Whea Shipp & Coy L<sup>o</sup>* When built *1901*

Engines made at *Belfast* By whom made *Workman Clark & Coy L<sup>o</sup>* when made *1901*

Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made *1901*

Registered Horse Power *54* Owners *C. M. Legg* Port belonging to *Belfast*

Nom. Horse Power as per Section 28 *54* Is Electric Light fitted *No*

ENGINES, &c.— Description of Engines *Compound Direct Acting* No. of Cylinders *Two* No. of Cranks *Two*

Diameter of Cylinders *16 3/4* Length of Stroke *24* Revolutions per minute *110* Diameter of Screw shaft as per rule *6 3/4*

Diameter of Tunnel shaft as fitted \_\_\_\_\_ Diameter of Crank shaft journals *6 1/2* Diameter of Crank pin *7 1/4* Size of Crank webs *12 1/2 x 4 1/2*

Diameter of screw *8'-3"* Pitch of screw *10'-9"* No. of blades *4* State whether moveable *No* Total surface *23 sq ft.*

No. of Feed pumps *one* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *✓*

No. of Bilge pumps *one* Diameter of ditto *2 1/2* Stroke *12* Can one be overhauled while the other is at work *✓*

No. of Donkey Engines *Two* Sizes of Pumps *Crown 5 1/2 x 6 x 5* No. and size of Suctions connected to both Bilge and Donkey pumps *Feet 4 1/2 x 5 x 2 1/2*

In Engine Room *one - 2* In Holds, &c. *one - 2*

No. of bilge injections *one* sizes *3 1/2* Connected to condenser, or to circulating pump *Rump* a separate donkey suction fitted in Engine room & size *yes - 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 *above*

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 *Hold & tank 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*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *before touching* Is the screw shaft tunnel watertight *No tunnels*

Is it fitted with a watertight door *✓* worked from *✓*

BOILERS, &c.— (Letter for record *✓*) Total Heating Surface of Boilers *1030 sq ft* Is forced draft fitted *No*

No. and Description of Boilers *one - Cylind<sup>r</sup> Single Ended* Working Pressure *120 lbs* Tested by hydraulic pressure to *240 lbs*

Date of test *3-8-00* Can each boiler be worked separately *✓* Area of fire grate in each boiler *36 sq ft.* No. and Description of safety valves to each boiler *Two - Direct Spring* Area of each valve *5 1/4 sq* Pressure to which they are adjusted *125 lbs* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *about 9 ft* Mean diameter of boilers *11'-6"*

Length *9'-6"* Material of shell plates *Steel* Thickness *3/16* Description of riveting: circum. seams *Lap Double* long. seams *Butt Saddle*

Diameter of rivet holes in long. seams *3/4* Pitch of rivets *5 1/2* Lap of plates or width of butt straps *11 1/2*

Per centages of strength of longitudinal joint rivets *86.0* plate *86.3* Working pressure of shell by rules *122 lbs* Size of manhole in shell *16" x 12"*

Size of compensating ring *M<sup>c</sup> Nails* No. and Description of Furnaces in each boiler *Two - Plain* Material *Steel* Outside diameter *42 1/16*

Length of plain part top *36'-9"* Thickness of plates crown *3/16* bottom *3/32* Description of longitudinal joint *Weld* No. of strengthening rings *one at bottom*

Working pressure of furnace by the rules *134 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *7/16* Back *7/16* Top *7/16* Bottom *1/2*

Pitch of stays to ditto: Sides *9 x 8* Back *9 1/2 x 9* Top *9 x 8* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *132 lbs*

Material of stays *Steel* Diameter at smallest part *1 1/2 x 1 1/2* Area supported by *one* stay *83 1/2* Working pressure by rules *142 lbs* End plates in steam space:

Material *Steel* Thickness *1* Pitch of stays *18 x 18* How are stays secured *Plates & Nuts* Working pressure by rules *146 lbs* Material of stays *Steel*

Diameter at smallest part *2 1/2* Area supported by *one* stay *324 sq* Working pressure by rules *127 lbs* Material of Front plates at bottom *Steel*

Thickness *7/8* Material of Lower back plate *Steel* Thickness *3/32* Greatest pitch of stays *14 1/2* Working pressure of plate by rules *131 lbs*

Diameter of tubes *3 1/2* Pitch of tubes *4 1/2 x 4 1/2* Material of tube plates *Steel* Thickness: Front *7/8* Back *7/16* Mean pitch of stays *13 1/2 x 9 1/2*

Pitch across wide water spaces *14 1/2* Working pressures by rules *110 lbs with 1/2" Double* Chamber tops: Material *Steel* Depth and thickness of girder at centre *6 1/2 x (1/2 x 2)* Length as per rule *25 1/2* Distance apart *9* Number and pitch of Stays in each *Two - 8*

Working pressure by rules *139 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 Main bearing bolts & nuts; 2 connecting rod top end, & two bottom end bolts & nuts; 1 cast iron propeller; set coupling bolts & nuts; set air, circulating & feed & life pump valves; set H.P. piston rings, condenser tubes, screws, fire bars, bolts, nuts, air pump guards, etc.*

The foregoing is a correct description,  
 For **WORKMAN, CLARK & Co., LIMITED** Manufacturer.  
*F.b.*

Dates of Survey while building  
 During progress of work in shops— *1900, Feb 13, 14, 22, March 1, 6, 7, 10, 13, 22, 24, 28, April 10, 23, 30, May 8, 24, 30, June 8, 15, 27, July 24, 27, Aug 3, Sept 6, 26, Oct 6, 6, 11, 15, Nov 2, 1901, Jan 3, 4, 5, 8, 9, 14, 15*

During erection on board vessel — *1901, Jan 3, 4, 5, 8, 9, 14, 15*

Total No. of visits *37*

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

**ENGINES**—Length of stern bush *28"* Diameter of crank shaft journals *as per rule 1 1/4"* Diameter of thrust shaft under collars *7"*

**BOILERS**—Range of tensile strength *28-32* Are they welded or flanged *No* **DONKEY BOILERS**—No. *✓* Range of tensile strength *✓*

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

*The machinery of this vessel has been constructed under Special Survey, and is of good material, and workmanship. It has been securely fitted on board, and on trial it worked satisfactorily under steam. In my opinion it is eligible for record + L.M.C. 1-01 in the Register Books. This vessel has left for Swan, to have the hull work completed.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 1-01

*R.J. Bennett*  
 22.1.01  
 22.1.01

The amount of Entry Fee... £ 1 : - : -  
 Special ... .. £ 8 : 11 : -  
 Donkey Boiler Fee ... .. £ : : -  
 Travelling Expenses (if any) £ : : -

When applied for, *14.1.01*  
 When received, *21.1.01*

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

Committee's Minute **Glasgow. 21 JAN. 1901**  
*Assigned*  
*+ L.M.C. 1.01.*  
*(When fees paid)*



Certificate (if required) to be sent to

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