

# REPORT ON MACHINERY.

No. 6524.

Port of *Relfast*

Received at London Office **WES. 27 OCT 1908**

Survey held at *Relfast* Date, first Survey *2 February* Last Survey *19 October 1908*  
Book *J.S. Linn* (Number of Visits *95*)

Built at *Relfast* By whom built *Wickman Clark & Co* When built *1908*  
Names made at *Relfast* By whom made *Wickman Clark & Co* when made *1908*

Registered Horse Power *1080* Owners *Shaw Savill & Alison L<sup>o</sup>* Port belonging to *Southampton*  
Is Refrigerating Machinery fitted for cargo purposes *Yes* Is Electric Light fitted *Yes*

GINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *6* No. of Cranks *6*  
No. of Cylinders *25-4 1/2-70* Length of Stroke *48* Revs. per minute *78* Dia. of Screw shaft *14 1/2* Material of screw shaft *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  
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  
shafts are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *5'-2"*

Dia. of Tunnel shaft *13 1/2* Dia. of Crank shaft journals *13 1/2* Dia. of Crank pin *15* Size of Crank web *27 x 40* Dia. of thrust shaft under  
bearings *15* Dia. of screw *16 1/2* Pitch of Screw *19 1/2* No. of Blades *3* State whether moveable *Yes* Total surface *72 1/2 sq ft.*

No. of Feed pumps *1* Diameter of ditto *4* Stroke *27* Can one be overhauled while the other is at work *Yes*  
No. of Bilge pumps *1* Diameter of ditto *5 1/2* Stroke *27* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *6* Sizes of Pumps *10 x 12 x 12 Duplex* No. and size of Suctions connected to both Bilge and Donkey pumps  
in Engine Room *4-3 1/2* *Water 6 x 6 x 10* *Oil 4 x 4 x 5* *Waste 8 x 6 x 8* *Hold, &c. 9-3 1/2 x 2-2 1/2*

No. of Bilge Injections *2* sizes *9* Connected to condenser, or to circulating pump *Pumps separate Donkey Suction fitted in Engine room & size 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 *Two 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 bilges *Yes*

Dates of examination of completion of fitting of Sea Connections *25/6/04* of Stern Tube *28/7/04* Screw shaft and Propeller *25/8/04*  
Is 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 *3*) Manufacturers of Steel *H. R. Rendu & Co L<sup>o</sup> Glasgow*

Total Heating Surface of Boilers *6308* Draft fitted *Yes* No. and Description of Boilers *6 Single End Cylindrical*  
Working Pressure *205 lbs* Tested by hydraulic pressure to *410 lbs* Date of test *28-8-08* No. of Certificate *444*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *668 sq ft* No. and Description of Safety Valves to  
each boiler *Two Rocket Spring* Area of each valve *11.04 sq* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *14 in* Mean dia. of boiler *15.4 1/2* Length *11'-10"* Material of shell plates *Steel*  
Thickness *1 1/8* Range of tensile strength *26-32 tons* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *Lap Rivet*  
long. seams *Butt Rivet* Diameter of rivet holes in long. seams *1 1/8* Pitch of rivets *10* Lap of plates or width of butt straps *2 1/2*

Per centages of strength of longitudinal joint *83 1/2* Working pressure of shell by rules *239 lbs* Size of manhole in shell *16 x 12*  
Size of compensating ring *M. Neil* No. and Description of Furnaces in each boiler *4 Mannicin* Material *Steel* Outside diameter *42 1/2*

Length of plain part *4* Thickness of plates *3 1/2* Description of longitudinal joint *Weld* No. of strengthening rings *4*  
Working pressure of furnace by the rules *232 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *3/4* Back *3/4* Top *3/4* Bottom *3/4*  
Pitch of stays to ditto: Sides *8 1/2 x 8* Back *9 1/2 x 7 1/2* Stays are fitted with nuts or riveted heads *Nuts in side* Working pressure by rules *206 lbs*

Material of stay *Steel* Diameter at smallest part *1 1/2* Area supported by each stay *69 3/4* Working pressure by rules *206 lbs* End plates in steam space:  
Material *Steel* Thickness *1 1/2* Pitch of stays *19 1/2 x 16* How are stays secured *Nuts & washers* Working pressure by rules *205 lbs* Material of stays *Steel*  
Diameter at smallest part *1 1/2* supported by each stay *312 sq* Working pressure by rules *222 lbs* Material of Front plates at bottom *Steel*  
Thickness *1 1/2* Material of Lower back plate *Steel* Thickness *3/4* Greatest pitch of stays *13 1/2* Working pressure of plate by rules *206 lbs*  
Diameter of tubes *2 1/2* Pitch of tube *3 3/4 x 3 3/4* Material of tube plate *Steel* Thickness: Front *1* Back *1 1/2* Mean pitch of stays *1 1/2 x 1 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 *9 1/2 x (3 x 2)* Length as per rule *32 1/2* Distance apart *8 1/2* Number and pitch of stays in each *3-7 1/2*  
Working pressure by rules *213 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 *213 lbs* Area of safety valves to superheater *Are they fitted with easing gear*

Lloyd's Register Foundation

W31-0137

**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:— *1/2 Crank shaft, 2 Hurst shafts, Russell's shaft, Piston rod, valves spindle, 2 venturis with pulley & strap, H.P. piston, 2 sets piston rings for H.P. 1. P. & L.P. pistons, H.P. piston valve, I.P. piston valve, pair crank pin bushes, pair crosshead bushes, air pump bucket, rod & head, pair pump & ball pump plungers etc. all sent to Lloyd's Rules authorities.*

The foregoing is a correct description, *M. J. Bell* Manufacturer.

Dates of Survey while building: During progress of work in shops— *1908. Feb 2. 6. 28 Mar 9. 13. 20. 25. Apr 1. 6. 9. 13. 16. 24. 29. May 5. 6. 8. 13.*

During erection on board vessel— *18. 20. 22. 27. 29. June 2. 9. 11. 12. 15. 17. 19. 23 up to October 19<sup>th</sup> 1908.*

Total No. of visits *95* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *5-5-08* Slides *To* Covers *To* Pistons *28-8-08*

Connecting rods *26-3-08* Crank shaft *26-3-08* Tunnel shaft *To* Screw shaft *14-8-08* Propeller *24-7-08*

Stern tube *24-7-08* Steam pipes tested *17-9-08* Engine and boiler seatings *16-9-08* Engines holding down bolts *16-9-08*

Completion of pumping arrangements *17-10-08* Boilers fixed *18-9-08* Engines tried under steam *17-8-08*

Main boiler safety valves adjusted *8-8-08* Thickness of adjusting washers *10-13/32*

Material of Crank shaft *S. Steel* Identification Mark on Do. *LLOYD'S 14-8-08* Material of Thrust shaft *Do* Identification Mark on Do. *Do (18-9-08)*

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

Material of Steam Pipes *W. Swan & Sapper* Test pressure *320 & 420 lbs per sq. in.*

**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 workman-ship, and the materials used are of good description, and on trial under steam in perfect order, the machinery worked satisfactorily.*

*In my opinion, it is eligible for record of Survey + L.M.C. 10-08.*

*with notation Force & Draft Electric Light & Refrigerating Machinery*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10.08.

Elec. light. Ref. Mch. F.D.

*JWD 28/10/08* *APR 28/10/08*

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

The amount of Entry Fee. £ *3 : 0* :  
Special .. .. . £ *74* : - :  
Donkey Boiler Fee .. . £ : :  
Travelling Expenses (if any) £ : :

When applied for. *26-10-1908*  
When received. *29/10/08*

Committee's Minute **FRI. 30 OCT 1908**

Assigned *+ L.M.C. 10.08*  
*F. D. Elec. Light*  
*Refrigerating*



This office certificate (if required) to be sent to the Registrar of Shipping (The Surveyors are requested not to write on or upon the space for Committee's Minute.)

These par  
Signal Letter  
Official  
124  
No., Date, an  
Whether Brit  
Foreign B  
Boats  
Number