

## REPORT ON MACHINERY.

No. 22944

Port of Sunderland

Received at London Office

MON. 17 SEP 1906

No. in Survey held at Sunderland Date, first Survey 15<sup>th</sup> January 06 Last Survey 10<sup>th</sup> September 1906  
 Reg. Book. on the Steel Screw Steamer "Lady Cory Wright" (Number of Visits 32)  
 Master John Thompson Built at Sunderland By whom built S. P. Austin & Son Ltd Tons { Gross 2462.82  
 Engines made at Sunderland By whom made G. Clark & Co when made 1906 Net 1568.04  
 Boilers made at do By whom made do when made do  
 Registered Horse Power 251 Owners W. Cory & Son Ltd Port belonging to Sunderland  
 Nom. Horse Power as per Section 28 251 Is Refrigerating Machinery fitted for cargo purposes do Is Electric Light fitted do

ENGINES, &c.—Description of Engines Vertical Triple Expansion Surface Condensing No. of Cylinders Three No. of Cranks Three  
 Dia. of Cylinders 22 $\frac{1}{2}$  - 37 - 61 Length of Stroke 39 Revs. per minute 65 Dia. of Screw shaft as per rule 12 $\frac{1}{2}$  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 — 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 — If two  
 liners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 4 - 3 $\frac{1}{2}$   
 Dia. of Tunnel shaft as per rule 11.05 Dia. of Crank shaft journals as per rule 11.6 Dia. of Crank pin 11 $\frac{3}{4}$  Size of Crank webs 8 $\frac{1}{2}$  x 18 Dia. of thrust shaft under  
 collars 12 $\frac{1}{4}$  Dia. of screw 15 - 9 Pitch of Screw 15 - 6 No. of Blades 4 State whether moveable do Total surface 78 $\frac{1}{2}$   
 No. of Feed pumps Two Diameter of ditto 2 $\frac{1}{2}$  Stroke 25 Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two Diameter of ditto 4 $\frac{1}{4}$  Stroke 25 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines Three Sizes of Pumps 2 BALLAST FEED 7 $\frac{1}{2}$  x 9 x 10 6 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Four 3" dia In Holds, &c. Two in each 3" dia

No. of Bilge Injections 1 sizes 4" dia Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4" dia  
 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 do  
 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 None How are they protected —  
 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 2.8.06 of Stern Tube 2.8.06 Screw shaft and Propeller 13.8.06

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform  
 BOILERS, &c.—(Letter for record S) Manufacturers of Steel J. Spencer & Sons Ltd Newburn Steel Works

Total Heating Surface of Boilers 3833 $\frac{1}{2}$  Is Forced Draft fitted do No. and Description of Boilers Two single ended multi tubular  
 Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 23.7.06 No. of Certificate 2507  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 57.5 $\frac{1}{2}$  No. and Description of Safety Valves to  
 each boiler Two direct spring Area of each valve 8.29 $\frac{1}{2}$  Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 14 - 3 $\frac{1}{2}$  Length 10 - 6 Material of shell plates Steel  
 Thickness 1 $\frac{1}{2}$ " Range of tensile strength 28 $\frac{1}{2}$  to 32 $\frac{1}{2}$  tons Are the shell plates welded or flanged do Descrip. of riveting: cir. seams lap B.P.  
 long. seams DBS T.R. 5/16 Diameter of rivet holes in long. seams 1 $\frac{1}{4}$ " Pitch of rivets 8 $\frac{5}{16}$ " Lap of plates or width of butt straps 18 $\frac{1}{2}$ "  
 Per centages of strength of longitudinal joint rivets 95 plate 85 Working pressure of shell by rules 181 Size of manhole in shell End 16" x 13"  
 Size of compensating ring Plate dished No. and Description of Furnaces in each boiler Three plain Material Steel Outside diameter 43 $\frac{1}{2}$ "  
 Length of plain part top 12.875" bottom 12.875" Thickness of plates top 49" bottom 64" Description of longitudinal joint Welded No. of strengthening rings —  
 Working pressure of furnace by the rules 180.2 Combustion chamber plates: Material Steel Thickness: Sides 44" + 45" Back 11" Top 13" Bottom 11"  
 Pitch of stays to ditto: Sides 10 x 9 $\frac{1}{2}$ " Back 10 x 9" Top — If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180.7  
 Material of stays Steel Diameter at smallest part 1 $\frac{1}{2}$ " Area supported by each stay 90 $\frac{1}{2}$ " Working pressure by rules 203 End plates in steam space:  
 Material Steel Thickness 1 $\frac{1}{16}$ " Pitch of stays 18 $\frac{1}{2}$ " x 20 $\frac{1}{2}$ " How are stays secured D. NUTS Working pressure by rules 181 Material of stays Steel  
 Diameter at smallest part 3.16" Area supported by each stay 42.6 Working pressure by rules 185 Material of Front plates at bottom Steel  
 Thickness 13" Material of Lower back plate Steel Thickness 64" Greatest pitch of stays 15" Working pressure of plate by rules 182  
 Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 4 $\frac{1}{2}$  x 4 $\frac{3}{8}$ " Material of tube plates Steel Thickness: Front 13" Back 49" Mean pitch of stays 10 $\frac{1}{2}$ "  
 Pitch across wide water spaces 14 $\frac{1}{2}$ " Working pressures by rules 248 Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 12", 15 $\frac{3}{8}$  x 1 $\frac{1}{2}$ " Length as per rule 4" Distance apart — Number and pitch of stays in each —  
 Working pressure by rules — 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 —

W830-0151



# 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:— *Propeller, 2 Pack bolts + nuts for top + bottom end and main bearings, set of Coupling bolts, valves for all pumps, piston rings + pumps bolts, nuts + washers, secured.*

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED

*James C. Clark* Manufacturers of main engines + boilers only

Dates of Survey while building { During progress of work in shops - - } 1906 Jan. 15. May. 9. 11. 22. 30. June. 13. 18. 20. 26. 29. July. 1. 6. 9. 18. 19. 23. 24. 27. Aug. 1. 7. 8. 9. 10. 13. 15. 20.  
 { During erection on board vessel - - } 21. 22. 27. Sept. 5. 7. 10.  
 Total No. of visits *32*

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

Dates of Examination of principal parts—Cylinders *13.6.06* Slides *29.6.06* Covers *30.5.06* Pistons *20.6.06* Rods *11.5.06*  
 Connecting rods *11.5.06* Crank shaft *30.5.06* Thrust shaft *26.6.06* Tunnel shafts *21.7.06* Screw shaft *18.7.06* Propeller *9.8.06*  
 Stern tube *18.7.06* Steam pipes tested *21.8.06* Engine and boiler seatings *18.8.06* Engines holding down bolts *15.8.06*  
 Completion of pumping arrangements *5.9.06* Boilers fixed *18.8.06* Engines tried under steam *5.9.06*  
 Main boiler safety valves adjusted *5.9.06* Thickness of adjusting washers *P 2" 5 1/2" P 1 1/2" 5 3/8"*  
 Material of Crank shaft *S.W. Steel* Identification Mark on Do. *1815 278C A.H.* Material of Thrust shaft *S.W. Steel* Identification Mark on Do. *1834 A.H.*  
 Material of Tunnel shafts *do* Identification Marks on Do. *1831.2 A.H. 266 P.A. 3417.8 A.H.* Material of Screw shafts *Steel* Identification Marks on Do. *278C E.V.S.*  
 Material of Steam Pipes *Solid drawn copper 2 lengths 4 1/2 dia 5 ft. 6 in.* Test pressure *4000 lb*

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

*The machinery of this vessel has been constructed under special survey, the material + workmanship found good, tested + fitted in accordance with the rules, + eligible in my opinion for Classification with Record of + L.M.C. 9.06.*

It is submitted that this vessel is eligible for THE RECORD

*L.M.C. 9.06.*

*17.9.06*  
*19.9.06*

The amount of Entry Fee. £ *2* : : When applied for.  
 Special .. £ *32* : *11* : *17.9.06*  
 Donkey Boiler Fee .. £ : : When received,  
 Travelling Expenses (if any) £ : : *15.9.06*

Committee's Minute TUES. 18 SEP 1906

Assigned

MACHINERY CERTIFICATE WRITTEN.



Lloyd's Register Foundation