Rpt. 4.

REPORT ON MACHINERY.

No. 23463

TUES. 23 JAN 1906

Port of Glasgow

Received at London Office 19

No. in Reg. Book. 69 Sup

Survey held at Glasgow Date, first Survey 27th Sept 04 Last Survey 10th Jany 1906 (Number of Visits 49)

on the Stel Scr. Stmr. "Admiral" Tons Gross 260 Net 50

Master Built at Maryport By whom built W. Walker When built 1905

Engines made at Glasgow By whom made James Ritchie when made 1906

Boilers made at Glasgow By whom made James Nelson & Son Ltd (No 2760) when made 1906

Registered Horse Power / Owners Manchester Liverpool & N. Wales S.S. Co. Ltd. (R. R. Clark, Mgr.) Port belonging to Liverpool

Nom. Horse Power as per Section 28 54 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No.

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

Dia. of Cylinders 15" & 32" **Length of Stroke** 22" Revs. per minute 125 Dia. of Screw shaft as per rule 6·8 as fitted 7¼ Material of screw shaft Iron

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 2' 8"

Dia. of Tunnel shaft as per rule 6·23 as fitted ✓ Dia. of Crank shaft journals as per rule 6·54 as fitted 7" Dia. of Crank pin 7" Size of Crank webs 5" × 14" × 10½" Dia. of thrust shaft under collars 7" Dia. of screw 8'-0" Pitch of screw 10'-6" No. of blades 4 State whether moveable No. Total surface 30 □'

No. of Feed pumps Two Diameter of ditto 3" Stroke 11" Can one be overhauled while the other is at work Yes.

No. of Bilge pumps Two Diameter of ditto 3" Stroke 11" Can one be overhauled while the other is at work Yes

No. of Donkey Engines Two Sizes of Pumps Gen Dky. 6 × 5¾ × 6 Worthington Duplex No. and size of Suctions connected to both Bilge and Donkey pumps

Ballast. 6 × 5¾ × 6 Worthington Duplex

In Engine Room One 2" In Holds, &c. One 2" & aft peak 2"

No. of bilge injections 1 sizes 2½" Connected to condenser, or to circulating pump Circ. Is 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

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Larger Valves, Smaller, Cocks.

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 Forward bilge suctn How are they protected Strong 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 New work Is the screw shaft tunnel watertight Machy. apt

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—No. of Certificate 7333 (Letter for record r) **Total Heating Surface of Boilers** 992 □' Is forced draft fitted No.

No. and Description of Boilers One Single-ended **Working Pressure** 130 lbs Tested by hydraulic pressure to 260 lbs

Date of test 23·1·05 Can each boiler be worked separately ✓ Area of fire grate in each boiler 34 □' No. and Description of safety valves to each boiler Two. Direct Spring Area of each valve 9·62 □" Pressure to which they are adjusted 135 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork Several feet Mean dia. of boilers 11'-0" Length 10'-0" Material of shell plates Steel

Thickness 23/32 Range of tensile strength 27 to 32 tons Are they welded or flanged No. Descrip. of riveting: cir. seams D. Rv. Lap long. seams D.B. Straps

Diameter of rivet holes in long. seams 13/16 Pitch of rivets 5 9/16 ~~Lap of plates or~~ width of butt straps 12⅞"

Per centages of strength of longitudinal joint rivets 93·5 plate 185·43 Working pressure of shell by rules 130 lbs Size of manhole in shell 16" × 12"

Size of compensating ring M°Neels **No. and Description of Furnaces in each boiler** Two, plain. Material Steel Outside diameter 3'-4"

Length of plain part top 6'-6" bottom 7'-0" Thickness of plates crown 21/32 bottom 21/32 Description of longitudinal joint Welded No. of strengthening rings None

Working pressure of furnace by the rules 135 lbs Combustion chamber plates: Material Steel Thickness: Sides ½" Back ½" Top ½" Bottom 3/4"

Pitch of stays to ditto: Sides 7¾" × 7½" Back 7¾" × 7⅞" Top 7¾" × 7½" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 132 lbs

Material of stays Iron ~~Diameter~~ Area at smallest part 1·50 □" Area supported by each stay 58 □" Working pressure by rules 155 lbs End plates in steam space:

Material Steel Thickness 13/16 Pitch of stays 15¾" × 15" How are stays secured Dbl. nuts Working pressure by rules 132 lbs Material of stays Steel

~~Diameter~~ Area at smallest part 3·77 □" Area supported by each stay 236·5 Working pressure by rules 159 lbs Material of Front plates at bottom Steel

Thickness 23/32 Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 10" Working pressure of plate by rules 135 lbs

Diameter of tubes 3¼" Pitch of tubes 4½" Material of tube plates Steel Thickness: Front 23/32 Back 23/32 Mean pitch of stays 11¼"

Pitch across wide water spaces 14" Working pressures by rules 133 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 6¾" × 1¼" Length as per rule 25⅞" Distance apart 7¾" Number and pitch of Stays in each Two at 7½"

Working pressure by rules 160 lbs Superheater or Steam chest; how connected to boiler None. 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— No. ..... Description .....

Made at ..... By whom made ..... Date of test ..... 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 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 ..... 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 :— Two top end connecting rod bolts. Two bottom end connecting rod bolts. Two main bearing bolts. Set coupling bolts to one coupling. Feed & bilge pump valves Bolts & nuts: Iron etc.

The foregoing is a correct description,

p. James Ritchie Manufacturer. Geo Brown & Co

Dates of Survey while building — During progress of work in shops — 1905: Sept 27. Oct 5. 6. 14. 21. Nov 1. 7. 9. 14. 15. 16. 24. Dec. 8. 12. 21. 28. 29. 1905: Jany 6. 9. 12. 18. 20. 23. 30. Feb 2. 9. 13. 14

During erection on board vessel — 23 Mar 9. 14. 20. Apr 5. 20. May 29. Jun. 12. 20. 26. July 11. 26. Aug 8. 14. 29. Sept 12. Nov 2. Dec 8. 1905: Dec. 15. 19. 1906: Jany 10.

Total No. of visits 49. Is the approved plan of main boiler forwarded herewith No. Sent with report on Boiler. (Rep No 22686)

" " " donkey " " " "

General Remarks (State quality of workmanship, opinions as to class, &c. Plan Approved 14.9.05)

The machinery of this vessel has been made & fitted under special survey & in accordance with the Rules & the approved drawing of the boiler.

It is submitted that the machinery is eligible for the notation + LMC 1.06

It is submitted that this vessel is eligible for THE RECORD + LMC. 1.06

3.2.06

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

Certificate (if required) to be sent to .....

The amount of Entry Fee.. £ 1 : — : When applied for, 22 JAN 1906

Special .. .. .. £ 8 . 2 :

Donkey Boiler Fee .. .. £ : :

Travelling Expenses (if any) £ 1 : 6 When received, 2/3/06

Glasgow 22 JAN 1906

Committee's Minute

Assigned + LMC. 1.06

(Subject to classification of hull)

MACHINERY CERTIFICATE WRITTEN. 6.2.06

5/3/06

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES. 6 FEB 1906

When fee is paid