

REPORT ON MACHINERY.

2114

THUR. 17 SEPT 1885

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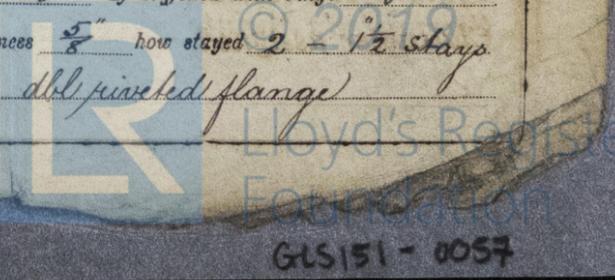
No. Y1114
 No. in Survey held at Glasgow Date, first Survey 28 April Last Survey 12 Sept 1885
 Reg. Book. J. J. "Dunrobin" (Number of Vlots 22) 340.08
 on the "Dunrobin" Tons 151.63
 Built at Bowling By whom built Messrs Scott & Co When built 1885
 Engines made at Glasgow By whom made Messrs Muir & Houston when made "
 Boilers made at "" By whom made "" when made ""
 Registered Horse Power 40 Owners Messrs J. & W. Smith Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted direct acting
 Diameter of Cylinders 21" x 40" Length of Stroke 30" No. of Rev. per minute 95 Point of Cut-off, High Pressure 18" Low Pressure 16"
 Diameter of Screw shaft 4 1/2" Diam. of Tunnel shaft 4 1/2" Diam. of Crank shaft journals 4 1/2" Diam. of Crank pin 4 1/2" size of Crank webs 4 1/2" x 9"
 Diameter of screw 10ft Pitch of screw 13" 6" No. of blades 4 state whether moveable No total surface 30 sq. ft.
 No. of Feed pumps one diameter of ditto 2 3/4" Stroke 14" Can one be overhauled while the other is at work
 No. of Bilge pumps one diameter of ditto 2 3/4" Stroke 14" Can one be overhauled while the other is at work
 Where do they pump from Ballast tanks and bilges of each compartment
 No. of Donkey Engines one Size of Pumps 3 3/4" dia, 6" cyl, 6 1/2" stroke Where do they pump from Sea, boiler, ballast tanks, hotwell and bilges
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 No. of bilge injections one and sizes 3" dia Are they connected to condenser, or to circulating pump circulating pump
 How are the pumps worked By levers
 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 accessible at all times Yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock previous to the vessel being launched
 Is the screw shaft tunnel watertight No tunnel and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers one Description Cyl. Mult Single ended Whether Steel or Iron Steel
 Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test August 19th 1885
 Description of superheating apparatus or steam chest Vertical dome
 Can each boiler be worked separately Can the superheater be shut off and the boiler worked separately
 No. of square feet of fire grate surface in each boiler 50 sq. ft. Description of safety valves direct spring No. to each boiler two
 Area of each valve 4.62 sq. ft. Are they fitted with easing gear Yes No. of safety valves to superheater 1 of each valve 1
 Are they fitted with easing gear Smallest distance between boilers and bunkers or 9" from bunkers diameter of boilers 12" 6"
 Length of boilers 10ft description of riveting of shell long. seams sub-pur tap circum. seams dbl riv lap thickness of shell plates 3/32
 Diameter of rivet holes 1 3/16 whether punched or drilled drilled pitch of rivets 4 1/2" long 4 1/2" dia Lap of plating 8"
 Per centage of strength of longitudinal joint 75% working pressure of shell by rules 93 lbs size of manholes in shell 16" x 11"
 Size of compensating rings 4" x 4" x 1 1/2" flanged plate No. of Furnaces in each boiler three
 Outside diameter 3' 3" length, top 6' 3" bottom 8' 11" thickness of plates 1/2" description of joint Butt & welded ends rings are fitted Iron
 Greatest length between rings 6' 6" working pressure of furnace by the rules 90 lbs combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"
 Pitch of stays to ditto, sides 4 1/2" x 4 1/2" back 4 1/2" x 4 1/2" top 6 1/2" x 4 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 96 lbs Diameter of stays at smallest part 1 1/2" x 1 1/2" screws working pressure of ditto by rules 102 lbs end plates in steam space, thickness 3/4"
 Pitch of stays to ditto 13 1/2" x 14 3/4" how stays are secured dbl nuts working pressure by rules 100 lbs diameter of stays at smallest part 2" body 2 1/4" ends working pressure by rules 94 lbs Front plates at bottom, thickness 5/8" Back plates, thickness 5/8"
 Greatest pitch of stays 13 1/2" x 4 1/2" working pressure by rules 118 lbs Diameter of tubes 3 1/2" pitch of tubes 4 3/8" thickness of tube plates, front 3/4" back 7/16" how stayed stay tubes pitch of stays 14" x 9 1/2" width of water spaces 5"
 Diameter of Superheater or Steam chest 2' 6" length 3' 0" thickness of plates 3/8" description of longitudinal joint dbl riv lap diam. of rivet holes 15/16"
 Pitch of rivets 3 1/2" working pressure of shell by rules 105 lbs diameter of flue thickness of plates If stiffened with rings
 Distance between rings working pressure by rules end plates of superheater, or steam chest; thickness 5/8" how stayed 2" 1 1/2" stays
and dished Superheater or steam chest; how connected to boiler dbl riveted flange



7114 G.S.

DONKEY BOILER— Description *Vertical*
 Made at *Glasgow* by whom made *Messrs. Muir & Houston* when made *1885* where fixed *Stokehold*
 Working pressure *100 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *1446* fire grate area *14 sq. ft.* description of safety valves *direct sprung*
 No. of safety valves *one* area of each *4.07 sq. ft.* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No*
 diameter of donkey boiler *5'-0"* length *11'-0"* description of riveting *dbl. riv. lap*
 Thickness of shell plates *1/16"* diameter of rivet holes *15/16"* whether punched or drilled *punched* pitch of rivets *3 5/8"* lap of plating *1 3/4"*
 percentage of strength of joint *4/4* thickness of crown plates *7/16"* stayed by *uptake 2.3-12" stays, dished*
 diameter of furnace, top *4'-0"* bottom *4'-4"* length of furnace *5'-0"* thickness of plates *7/16"* description of joint *Single riv. lap*
 Thickness of furnace crown plates *7/16"* stayed by *as above* working pressure of shell by rules *80 lbs*
 Working pressure of furnace by rules *67 lbs* diameter of uptake *12"* thickness of plates *3/8"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *One propeller two con. rod top end bolts and nuts, two con. rod bottom end bolts and nuts two main bearing bolts one set of coupling bolts, one set of feed and bilge pump valves six boiler tubes six condenser tubes a quantity of assorted bolts and nuts and iron of various sizes*
 The foregoing is a correct description,
Muir Houston Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)
The engines and boilers of this vessel are of good workmanship they have been constructed under special survey and are now in good order and safe working condition and in my opinion eligible to be noted in the Register books *C. McLog*

This submitted that this vessel is eligible to have & LMC registered
M. 17/9/85

The amount of Entry Fee £ *1* : *0* : *0* received by me,
 Special .. £ *10* : *10* : *0*
 Donkey Boiler Fee .. £ *0* : *0* : *0*
 Certificate (if required) .. £ *0* : *0* : *0* - *16/9* 1885
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *8/-*)

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

Committee's Minute FRIDAY 13 SEPT 1885

