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REPORT ON MACHINERY.

Port of *Glasgow*

WED. 21 DEC 1893

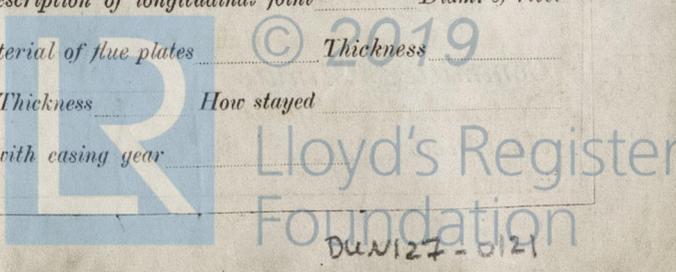
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No. in Survey held at *Glasgow* Date, first Survey *13 Dec 1894* Last Survey *25 April 1895*
 Reg. Book. *Machinery for Dundee* (Number of Visits *7*) Tons { Gross *361.28*
 on the *Nº 31* Net *195.49*
 Master *G. Nelson* Built at *Montrose* By whom built *J. Guthrie & Co* When built *1899*
 Engines made at *Glasgow* By whom made *Hall Brown & Buttery & Co* when made *1894*
 Boilers made at *Glasgow* By whom made *S. Wilson & Son* when made *1898*
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Section 28 *52* Is Electric Light fitted _____

ENGINES, &c.—Description of Engines *Compound* No. of Cylinders *two* No. of Cranks *2*
 Diameter of Cylinders *15" 02"* Length of Stroke *24* Revolutions per minute _____ Diameter of Screw shaft as per rule *6.4*
 as fitted _____ Diameter of Crank shaft journals *6 1/2* Diameter of Crank pin *6 1/2* Size of Crank webs *4 1/2 x 11 1/4*
 as fitted _____ Diameter of Tunnel shaft _____ Diameter of Crank shaft journals _____ Diameter of Crank pin _____ Size of Crank webs _____
 Diameter of screw *7.6* Pitch of screw *10.0* No. of blades *3* State whether moveable *no* Total surface *17 1/2 sq ft*
 No. of Feed pumps *one* Diameter of ditto *2 1/8* Stroke *12"* Can one be overhauled while the other is at work
 No. of Bilge pumps *one* Diameter of ditto *2 1/8* Stroke *12"* Can one be overhauled while the other is at work
 No. of Donkey Engines *one* Sizes of Pumps *6 x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps _____
 Engine Room *Two = 2" dia* In Holds, &c. *Two = 2" diam*
 No. of bilge injections / sizes *3 1/2* Connected to condenser or to circulating pump *yes* 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 *yes*
 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 *Four hold suction* How are they protected *wood ceiling*
 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 *not in dry dock* Is the screw shaft tunnel watertight *none*
 Is it fitted with a watertight door worked from _____

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *895 sq ft* Is forced draft fitted *no*
 No. and Description of Boilers *one single ended cylindrical* Working Pressure *130* Tested by hydraulic pressure to *260*
 Date of test *18/11/95* 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 spring* Area of each valve *5.41* Pressure to which they are adjusted *134 lbs* Are they fitted
 with easing gear *yes* Smallest distance between boilers or bulkheads and bunkers or *woodwork* (back = *25 1/2"* Mean diameter of boilers *11" 0"*
 length *10.0* Material of shell plates *steel* Thickness *3/32* Description of riveting: circum. seams *double lap* long. seams *D. Butt 6 rivets*
 Diameter of rivet holes in long. seams *4/16* Pitch of rivets *5 1/2* Lap of plates or width of butt straps *11 1/2*
 Percentages of strength of longitudinal joint _____ Working pressure of shell by rules *131* Size of manhole in shell *16 x 12*
 Size of compensating ring *1 1/2 rivets* No. and Description of Furnaces in each boiler *two plain* Material *steel* Outside diameter *41 5/16*
 Length of plain part top *36-10* Thickness of plates crown *3/32* Description of longitudinal joint *united butt straps* No. of strengthening rings *1 partial*
 bottom *3/32* Working pressure of furnace by the rules *199* Combustion chamber plates: Material *steel* Thickness: Sides *1/2* Back *1/2* Top *1/2* Bottom *3/32*
 Pitch of stays to ditto: Sides *8 x 7 3/4* Back *7 1/2 x 7 1/2* Top *8 x 7 1/4* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *128*
 Material of stays *steel* Diameter at smallest part *1.01* Area supported by each stay *62"* Working pressure by rules *130* End plates in steam space:
 Material *steel* Thickness *3/32* Pitch of stays *16 x 16* How are stays secured *2 nuts* Working pressure by rules *131* Material of stays *steel*
 Diameter at smallest part *0.77* Area supported by each stay *206"* Working pressure by rules *147* Material of Front plates at bottom *steel*
 Thickness *3/32* Material of Lower back plate *steel* Thickness *3/16* Greatest pitch of stays *7 3/4 x 7 3/8* Working pressure of plate by rules *182*
 Diameter of tubes *3 1/2* Pitch of tubes *4 3/4 x 4 3/4* Material of tube plates *steel* Thickness *3/32* Front _____ Back *3/32* Mean pitch of stays *11.25*
 Pitch across wide water spaces *13 1/2* Working pressures by rules *184* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *6 1/2 x 9 double* Length as per rule *26 3/4* Distance apart *8"* Number and pitch of Stays in each *two 7 3/4"*
 Working pressure by rules *138* 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 _____

Chief Engineer Surveyor



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 easing 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:— As per Rule

The foregoing is a correct description,
Hall-Brown, Buttery & Co Manufacturers of Engines
James Neilson & Son Boilermakers

Dates of Survey while building { During progress of work in shops - } 1894: - Dec. 13, 19, 1895: - Jan. 14, Mar. 22, Apr. 5, 9, 25.
{ During erection on board vessel - - }
Total No. of visits Seven

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

ENGINES—Length of stern bush _____ Diameter of crank shaft journals ^{as per rule 6.4} _____ Diameter of thrust shaft under collars _{as fitted 6.2} _____

BOILERS—Range of tensile strength 27,500 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 _____

This machinery has been constructed under special survey, the materials & workmanship are of good description it has now been forwarded to Dundee to be fitted on board the vessel

It is submitted that this vessel is eligible for THE RECORD. ✕ L.M.C. 2.99.

H.S. A.C.H.
14.2.99 13.2.99.

Certificate (if required) to be sent to Glasgow

The amount of Entry Fee. £ 1 : : : : When applied for.
Special Boiler Fee £ 5 : : : : 26. 11. 18. 98.
Donkey Boiler Fee £ 3 : : : :
Travelling Expenses (if any) £ : : : : When received, 29. 11. 12. 18. 98.

A. McLeod & I. Kerr
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUES. 14 FEB 1899

Assigned

