

REPORT ON MACHINERY.

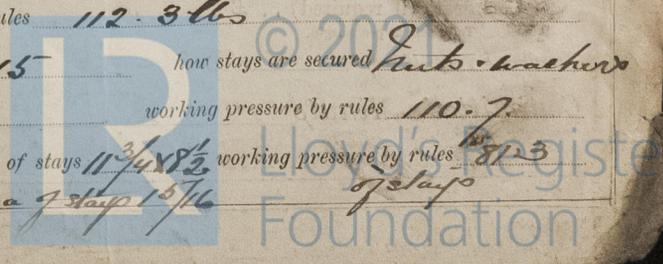
5201

No. 5201 (Received at London Office Rec'd 25 May 1883)
 No. in Reg. Book Survey held at Whitby & Stockton Date, first Survey 31st Jan Last Survey 25 May 1883
 on the S. S. Southgate Tons 1143
 Master H. Nicholson Built at Whitby When built 1883
 Engines made at Stockton By whom made Blair. Co. (Lim) when made 1883
 Boilers made at Do By whom made Do when made Do
 Registered Horse Power 150 Owners Turnbull, Scott. Co Port belonging to Whitby
 Originals & Annual Horse Power 140

ENGINES, &c.—
 Description of Engines Compound. Smoked. Surface Condensing
 Diameter of Cylinders 32 & 60 Length of Stroke 39 No. of Rev. per min. 65 Point of Cut off, High Pressure at 1/2 stroke Low Pressure at 1/2 stroke
 Diameter of Screw shaft 12 7/8 Diameter of Tunnel shaft 10 3/8 Diameter of Crank shaft journals 11 1/4 Diameter of Crank pin 11 3/4 size of Crank webs 15 3/4 x 8 1/8
 Diameter of screw 14.6 Pitch of screw at 16.0 No. of blades four state whether moveable No total surface Not ascertained
 No. of Feed pumps Two diameter of ditto 4 Stroke 28 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two diameter of ditto 4 Stroke 28 Can one be overhauled while the other is at work Yes
 Where do they pump from Forward pump draws from fore hold, engine room, after water-tanks, after pump from engine room, after water-tanks
 No. of Donkey Engines Two Size of Pumps 1/2 x 9 & 4 x 18 Where do they pump from Large donkey from fore hold engine room, after water-tanks Small donkey from sea, hotwell - ballast tanks
 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 6 Are they connected to condenser, or to circulating pump Circulating pump
 How are the pumps worked By levers worked from crosshead on low pressure jacket and
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Stop valves, 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 at level
 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 Now
 Is the screw shaft tunnel watertight Said to be and fitted with a sluice door Yes worked from top platform in engine room

OILERS, &c.—
 Number of Boilers Two Description Cylindrical. Multitubular.
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 16.4.83. Certificate R. 924
 Description of superheating apparatus or steam chest Vertical Steam dome constructed at once
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately No Superheater
 No. of square feet of fire grate surface in each boiler 33.5 Description of safety valves Sprung made by Blair Co. Lim
 No. to each boiler Two area of each valve 11.04 Are they fitted with easing gear Yes
 No. of safety valves to superheater ✓ area of each valve ✓ are they fitted with easing gear ✓
 Smallest distance between boilers and bunkers or woodwork 9 between dome - bunker casing
 Diameter of boilers 12-5 Length of boiler 9.10 description of riveting of shell long. seams all welded except seams of one plate in upper part of shell which are double
 Thickness of shell plates 1 diameter of rivet holes 1 1/8 whether punched or drilled Drilled pitch of rivets 4 1/4
 Lap of plating Straps 10 1/2 broad per centage of strength of longitudinal joint 43.5 working pressure of shell by rules 98.6 lbs
 Size of manholes in shell 16 x 12 size of compensating rings Rectangular plate 28 x 24 x 1 1/8
 No. of Furnaces in each boiler Two outside diameter 3.9 length, top 5.11 bottom 8-6
 Thickness of plates Top 9/16 bottom 5/8 description of joint Double straps Single riveted if rings are fitted No greatest length between rings ✓
 Working pressure of furnace by the rules 100 lbs
 Combustion chamber plating, thickness, sides 1/2 back 1/2 top 1/2
 Pitch of stays to ditto sides 8 x 8 back 8 1/2 x 8 1/2 top Curved top
 If stays are fitted with nuts or riveted heads Part nuts - part riveted working pressure of plating by rules 88.5 lbs
 Diameter of stays at smallest part 1 5/16 working pressure of ditto by rules 112.3 lbs
 End plates in steam space, thickness 1 13/16 pitch of stays to ditto 16 x 15 how stays are secured Nuts & washers
 Working pressure by rules 92.4 diameter of stays at smallest part 23/8 working pressure by rules 110.7
 Front plates at bottom, thickness 1 13/16 Back plates, thickness 1 13/16 greatest pitch of stays 11 3/4 x 8 1/2 working pressure by rules 81.5
 Smallest dia of stay 1 5/16 of stays

STK 007-0248



Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ thickness of tube plates, front $\frac{13}{16}$ back $\frac{13}{16}$
 How stayed *Stay tubes* pitch of stays $14\frac{1}{4} \times 9\frac{1}{2}$ width of water spaces $1\frac{1}{4}$ between tubes $4\frac{1}{2}$ between furnaces
 Diameter of Superheater or Steam chest 3.4 length 5.6
 Thickness of plates $\frac{1}{2}$ description of longitudinal joint *Lap double* diameter of rivet holes $\frac{3}{16}$ pitch of rivets $3\frac{1}{8}$
 Working pressure of shell by rules 126 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 $\frac{1}{2}$ bottom $\frac{1}{16}$ How stayed *Four stays $2\frac{1}{4}$ dia*
 Superheater or steam chest; how connected to boiler *By flanged neck over 16 dia $\times \frac{1}{8}$ thick double riveted to down boiler*

DONKEY BOILER— Description *Vertical 6 Water tubes in furnace*
 Made at *Stockton* By whom made *Roby Bros* when made *Tested 5.5.83*
 Where fixed *Stockton* working pressure *40 lbs* Tested by hydraulic pressure to *1440 lbs* No. of Certificate *934*
 Fire grate area *20.5 sq ft* Description of safety valves *Spring* No. of safety valves *Two* area of each *4.07*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler *6.0* length *13.0* description of riveting *Long seams, Lap, double riveted*
 thickness of shell plates $\frac{15}{32}$ diameter of rivet holes $\frac{13}{16}$ whether punched or drilled *Punched*
 pitch of rivets $2\frac{3}{4}$ lap of plating $4\frac{1}{4}$ per centage of strength of joint *40.4*
 thickness of crown plates $\frac{1}{2}$ stayed by *Six stays $1\frac{1}{2}$ dia*
 Diameter of furnace, top *5.0* bottom *5.5* length of furnace *4.9*
 thickness of plates $\frac{9}{16}$ description of joint *Lap single riveted*
 thickness of furnace crown plates $\frac{1}{2}$ stayed by *Six stays $1\frac{1}{2}$ dia*
 Working pressure of shell by rules *40 lbs* working pressure of furnace by rules *42 lbs*
 diameter of uptake *14* thickness of plates $\frac{7}{16}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,
Robt Blair & Co Manufacturers of Engines & Main Boilers only
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General Remarks (State quality of workmanship, opinions as to class, &c.)

Material & workmanship good
The furnace crown plates, back tube plates, & Combustion chamber plating of main boilers are of Steel manufactured by the Steel Coy of Scotland
*The Machinery & Boilers have been built under Special Survey & are in good order & safe working condition & in my opinion eligible for the Certification *L.M.C. 5.83 in the Register Book*

This is not a certificate that this vessel is fit to be licensed to have the certificate of fitness issued by the Registrar of Shipping.
McHaffey 1883

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

The amount of Entry Fee ... £ 3 : : : received by me,
 Special ... £ 22 : 10 : :
 Certificate (if required) ... £ : : : 1883
 To be sent as per margin.
 (Travelling Expenses, if any, £ : : :)

Committee's Minute ... FRIDAY 13 JUNE 1883 ... 18

