

REPORT ON MACHINERY.

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5520

No. 5520.

No. in Survey held at Whitby - Stockton Date, first Survey 26th Feb Last Survey 16 June 1884
 Reg. Book. (Number of Visits 18) Tons 1487
 ✓ on the J. J. Invermay Tons 952
 ✓ Master H. Long Built at Whitby By whom built J. Turnbull & Sons When built 1884
 Engines made at Stockton By whom made Blair & Co. Ltd when made No
 Boilers made at do By whom made do when made No
 Registered Horse Power 1514 Owners Stoddart Bros Port belonging to Whitby
 Makers W. & F. P. 140

ENGINES, &c.-

Description of Engines Compound. Inverted. Surface Condensing
 Diameter of Cylinders 32 - 60 Length of Stroke 39 No. of Rev. per min 26.65 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 11 1/2 Diam. of Tunnel shaft 10 5/8 Diam. of Crank shaft journals 11 1/4 Diam. of Crank pin 11 3/4 size of Crank webs 16 x 15 1/8
 Diameter of screw 14 1/2 Pitch of screw Ab - 16 - 0 No. of blades Four state whether moveable No total surface total 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 Pump from fore hold, engine room - after well - tanks. All pump engine room
 No. of Donkey Engines Two Size of Pumps 4 1/2 dia x 9 1/2 height Where do they pump from Large Pump from fore hold
engines room after well - tanks. Small pump from sea, hotwell - 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 pump rod
 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 Below
 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 New
 Is the screw shaft tunnel watertight Not to be and fitted with a sluice door Yes worked from Top platform on engine room

BOILERS, &c.-

Number of Boilers Two Description Cylindrical Multitubular Whether Steel or Iron Partly of Steel
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 2 - 5 - 84. Certificate No. 11444
 Description of superheating apparatus or steam chest Vertical. Contracted at neck
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately As Superheater
 No. of square feet of fire grate surface in each boiler 39 2/3 Description of safety valves Spring No. to each boiler Two
 Area of each valve 12.56 sq ft 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 Ab - 16" Diameter of boilers 13 2/8
 Length of boilers 10 - 2 description of riveting of shell long. seam held except seams circum. seams Double Thickness of shell plates 1 1/2
 Diameter of rivet holes 1 1/8 whether punched or drilled Punched pitch of rivets 4 1/16 Lap of plating Straps 10 1/4 broad
 Per centage of strength of longitudinal joint 66.3 working pressure of shell by rules 89.9 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 Three
 Outside diameter 3 - 4 length, top 6 1/2 bottom 8 - 11 thickness of plate 9/16 x 5/8 description of joint Double edge if rings are fitted No
 Greatest length between rings ✓ working pressure of furnace by the ridge 110 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 x 8 to curved If stays are fitted with nuts or riveted head Part and part working pressure of plating by
 rules 119.6 Diameter of stays at smallest part 1 5/16 working pressure of ditto by rules 119 lbs end plates in steam space, thickness 1/8
 Pitch of stays to ditto 16 1/2 x 16 how stays are secured Nuts & washers working pressure by rules 84.5 lbs diameter of stays at
 smallest part 2 1/4 working pressure by rules 112 lbs Front plates at bottom, thickness 1/8 Back plates, thickness 1/8
 Greatest pitch of stays 1 1/2 x 9 1/2 working pressure by rules 114 lbs Diameter of tubes 3/2 pitch of tubes 4 3/4 x 4 3/4 thickness of tube
 plates, front 1 1/2 back 1 1/2 how stayed Stay tubes pitch of stays 14 1/4 x 9 1/2 width of water spaces 1 1/4 inches
 Diameter of Superheater or Steam chest 3 - 4 length 11 - 9 thickness of plates 9/16 description of longitudinal joint laps of 1/4 the diam. of rivet holes 13 1/2
 Pitch of rivets 3 1/8 working pressure of shell by rules 120 diameter of flue ✓ thickness of plates 9/16 If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness 1/8 how stayed Lap
 Stays 2 1/2 dia Superheater or steam chest; how connected to boiler Mallard neck pipe 1 1/2 x 1 1/2 thickness 1/8

SPK910-0337

Lloyd's Register Foundation

DONKEY BOILER— Description Vertical water tubes in furnace
 Made at Stockton by whom made Taylor Pers when made 30.5.84 Stokehole
 Working pressure 40 lbs tested by hydraulic pressure to 140 lbs No. of Certificate 1154 fire grate area 30.4.91 description of safety
 valves Spring No. of safety valves Two area of each 8.3^{ft} if fitted with easing gear 800 if steam from main boilers can
 enter the donkey boiler 70 diameter of donkey boiler 4.0 length 13.6 description of riveting Long Gums lap double
 Thickness of shell plates 1¹/₃₂ diameter of rivet holes 1³/₁₆ whether punched or drilled Punched pitch of rivets 3³/₄ lap of plating 4¹/₄
 per centage of strength of joint 70.4 thickness of crown plates 9¹/₁₆ stayed by six stays 1¹/₂ dia
 Diameter of furnace, top 5.6 bottom 6.5 length of furnace 5.2 thickness of plates 5⁷/₈ description of joint Caps single
 Thickness of furnace crown plates 9¹/₁₆ stayed by six stays 1¹/₂ dia working pressure of shell by rules 40 lbs
 Working pressure of furnace by rules 40 lbs diameter of uptake 18 thickness of plates 7¹/₁₆ thickness of water tubes 3¹/₈

SPARE GEAR. State the articles supplied: Propeller, two connecting rod top and bolts
 nuts, two connecting rod bottom and bolts nuts, two main bearing
 bolts, one set coupling bolts, one set feed & large pump valves, one
 set piston springs quantity of assorted bolts nuts iron of various sizes
 The foregoing is a correct description,
 Rob Blair the 2nd J. B. Blair Manufacturer of engines & marine boilers only

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

Material & workmanship good
 Furnace crown plates, back tube plates, Combustion chamber platings, dome ends & all rivets in main boiler are of steel.

The machinery & Boilers have been constructed under special survey & are in good order & safe working condition & in my opinion eligible for the notification ~~#~~ L.M.C. 6.84 in the Register Book.

Dr. Edmund Taylor
 Engineer
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