

REPORT ON MACHINERY.

3870

JUN 88

No. 3870

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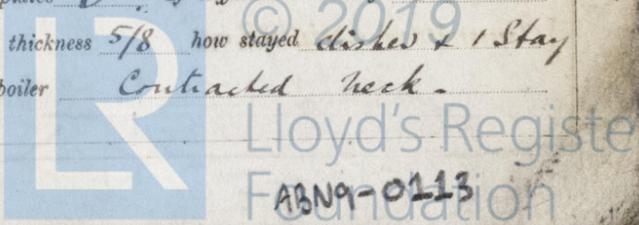
No. in Survey held at Aberdeen Date, first Survey 20 Dec 1887 Last Survey 2 June 1888
 Reg. Book. _____ (Number of Plates 45)
 on the Steel S.S. INANDA Tons 1128
 Master Stuart Built at Aberdeen By whom built Hall Russell & Co When built 1888
 Engines made at Aberdeen By whom made Hall Russell & Co when made 1888
 Boilers made at D^o By whom made D^o when made 1888
 Registered Horse Power 220 Owners J J Rennie Sons & Co Port belonging to Aberdeen

ENGINES, &c.—

Description of Engines Inverted Direct acting Triple Expansion Surface Condensing
 Diameter of Cylinders 21-³⁴56 Length of Stroke 42 No. of Rev. per minute 70 Point of Cut off, High Pressure 28¹/₄ ^{1^m 27} Low Pressure 24
 Diameter of Screw shaft 11¹/₂ Diam. of Tunnel shaft 11 Diam. of Crank shaft journals 11¹/₄ Diam. of Crank pin 11¹/₄ size of Crank webs 14 x 7¹/₈
 Diameter of screw 14-2 Pitch of screw 17-0 No. of blades 4 state whether moveable no total surface 58 sq ft.
 No. of Feed pumps 2 diameter of ditto 3 Stroke 23 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 3³/₄ Stroke 23 Can one be overhauled while the other is at work yes
 Where do they pump from all compartments & Sea
 No. of Donkey Engines Two Size of Pumps 8 D² x 10 S. 3³/₄ D² x 10 S Where do they pump from all compartments, Sea tanks & hotwell
 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 4¹/₂ Are they connected to condenser, or to circulating pump Circ. Pump
 How are the pumps worked lever over condenser
 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 Fore & Main Tank & Bilge Suction How are they protected by stout boxing of wood.
 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 while building
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform

BOILERS, &c.—

Number of Boilers Two Description Cylindrical Whether Steel or Iron Steel
 Working Pressure 160 Tested by hydraulic pressure to 320 Date of test 27 April 1888
 Description of superheating apparatus or steam chest Horizontal drum
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately ✓
 No. of square feet of fire grate surface in each boiler 55 Description of safety valves spring No. to each boiler 2
 Area of each valve 11 sq 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 10 Diameter of boilers 13-4
 Length of boilers 10-4 description of riveting of shell long. seams Double Strap circum. seams Double Lap Thickness of shell plates 1⁷/₃₂
 Diameter of rivet holes 14¹/₄ whether punched or drilled drilled pitch of rivets 8¹/₂ Lap of plating 20 Straps
 Percentage of strength of longitudinal joint 85 working pressure of shell by rules 168 size of manholes in shell 18 x 12
 Size of compensating rings 28 D² x 1¹/₂ No. of Furnaces in each boiler Three
 Outside diameter 41 length, top 7-0 bottom ✓ thickness of plates 19¹/₃₂ description of joint Ribbed furnaces if rings are fitted half in chamber bottom
 Greatest length between rings as per plan working pressure of furnace by the rules 182 combustion chamber plating, thickness, sides 17¹/₃₂ back 17¹/₃₂ top 17¹/₃₂
 Pitch of stays to ditto, sides 7⁶/₈ back 7³/₈ top 7¹/₄ If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 160 Diameter of stays at smallest part 1¹/₄ + 1³/₈ working pressure of ditto by rules 182 end plates in steam space, thickness 1
 Pitch of stays to ditto 14³/₄ x 14¹/₂ how stays are secured dn + washers working pressure by rules 164 diameter of stays at smallest part 2-5¹/₁₆ working pressure by rules 176 Front plates at bottom, thickness 13¹/₁₆ Back plates, thickness 7¹/₈
 Greatest pitch of stays as per plan working pressure by rules as per 160 Diameter of tubes 3⁷/₂ pitch of tubes 4-3¹/₄ thickness of tube plates, front 31¹/₃₂ back 7¹/₈ how stayed tube pitch of stays as per plan width of water spaces 1¹/₄
 Diameter of Superheater or Steam chest 3-3 length 6-6 thickness of plates 7¹/₁₆ description of longitudinal joint Double Lap diam. of rivet holes 13¹/₁₆
 Pitch of rivets 2³/₄ working pressure of shell by rules 169 diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of ~~superheater~~ steam chest; thickness 5¹/₈ how stayed clashed & 1 Stay
2¹/₁₆ Effective Dia ~~Superheater~~ steam chest; how connected to boiler Contracted neck



3870 alm.

DONKEY BOILER— Description Vertical x Tube Steel

Made at Aberdeen by whom made Hall Russell & Co when made 27.4.88 where fired Stokholm

Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 33 fire grate area 25 sq ft description of safety valves Spring No. of safety valves 2 area of each 7 sq ft if fitted with easing gear yes if steam from main boilers can enter the donkey boiler No diameter of donkey boiler 6-6 length 13-0 description of riveting d lap

Thickness of shell plates 1/2 diameter of rivet holes 13/16 whether punched or drilled p & Annand pitch of rivets 2 13/16 lap of plating 1 1/4 per centage of strength of joint 62 thickness of crown plates 13/16 stayed by uptake & 8 stays 1 1/16 Diae Eff Diae

Diameter of furnace, top 5-0 bottom 6-0 length of furnace 6-3 thickness of plates 5/8 description of joint Single Lap

Thickness of furnace crown plates 5/8 stayed by dishes & as above working pressure of shell by rules 117 Working pressure of furnace by rules 70 + 1 row of stays as compensation diameter of uptake 1 1/8 thickness of plates 1/2 iron thickness of water tubes 3/8

SPARE GEAR. State the articles supplied:— Propeller, half crank shaft, tail shaft, two top end, two bottom end, two main bearings & one set coupling bolts, feed & bilge pump valves assorted bolts & nuts, a few bars of iron & spare piston springs

The foregoing is a correct description,
Hall Russell & Co, Manufacturers

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

The Machinery has been built under special survey. The material & workmanship is good throughout. This vessel is eligible in my opinion to have I.M.C. 6.88 recorded.

It is submitted that this vessel is eligible to have I.M.C. 6.88 recorded.

The amount of Entry Fee £ 2 : - : received by me, Special Machinery Certificate £ 31 : - : Donkey Boiler Fee .. £ 2 : 2 : Certificate (if required) .. £ gratis : 18/88

John H Heck, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute TUES 5 JUNE 1888 + dmlb 6/88

