

REPORT ON MACHINERY.

8103

(Received in London Office)

19/12/87

No. in Survey held at Greenock & Glasgow Date, first Survey 26th April 1881 Last Survey 14th Decemb 1881
 Book. 1573.38
 on the S.S. "Solani" Tons 981.37
 Master John Adam Built at Port Glasgow When built 1881
 Engines made at Greenock By whom made Kinnaird & Donalson when made 1881
 Milers made at Glasgow By whom made H. Wallace & Co. when made 1881
 Registered Horse Power 157 Owners Rochburn & Birrell Port belonging to Glasgow

GINES, &c.—

Description of Engines Compound Inverted Direct Acting
 Diameter of Cylinders 32 & 60 Length of Stroke 39" No. of Rev. per minute 65 Point of Cut off, High Pressure 24" Low Pressure 28"
 Diameter of Screw shaft 10 1/4 Diameter of Tunnel shaft 9 3/4 Diameter of Crank shaft journals 10 1/2 Diameter of Crank pin 10 1/4 size of Crank webs 12 x 7
 Diameter of screw 15.8 Pitch of screw 1 1/4" No. of blades Four state whether moveable yes total surface 58 sq feet
 No. of Feed pumps Two diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two diameter of ditto 3" Stroke 21" Can one be overhauled while the other is at work yes
 Where do they pump from Engine Room & Hold
 No. of Donkey Engines Two Size of Pumps both 5 1/2 x 10" stroke Where do they pump from Sea bilges & 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 4" Are they connected to condenser, or to circulating pump Circ pump
 How are the pumps worked by Lewis connected to crosshead
 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 on line
 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
 How are the pipes 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 on Slip before ship was launched
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top of E. Room Stair

ILERS, &c.—

Number of Boilers One Description Round Horizontal Multitubular
 Working Pressure 7.5 lbs Tested by hydraulic pressure to 150 lbs per sq in Date of test 3rd November 1881
 Description of superheating apparatus or steam chest Horizontal Recirc
 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 117 Description of safety valves Direct Spring
 No. to each boiler Four area of each valve 15.9 sq in Are they fitted with easing gear yes
 No. of safety valves to superheater no superheater area of each valve — are they fitted with easing gear —
 Smallest distance between boilers and bunkers or woodwork 7 1/2"
 Diameter of boilers 13.0 Length of boilers 18.3 description of riveting of shell long. seams lap quadruple circum. seams double
 Thickness of shell plates 7/8" diameter of rivet holes 1 3/32 whether punched or drilled punched pitch of rivets 5 1/2"
 Lap of plating 10" per centage of strength of longitudinal joint 78 working pressure of shell by rules 74 lbs
 Size of manholes in shell 10 3/4 x 12 size of compensating rings 6 x 16"
 No. of Furnaces in each boiler One outside diameter 40" length, top 6.6" bottom 8.9"
 Thickness of plates 15/32" Steel description of joint double butt strap if rings are fitted yes bottom greatest length between rings 4.3"
 Working pressure of furnace by the rules 74.5 lbs
 Combustion chamber plating, thickness, sides 15/32" Steel back 15/32" Steel top 1/2" Steel
 Pitch of stays to ditto sides 8 1/2 x 8 1/2 back 8 1/2 x 8 1/2 top 8 1/2 x 8 1/2
 If stays are fitted with nuts or riveted heads riveted with black nuts on top working pressure of plating by rules 77.8 lbs for back & sides 105 lbs for top
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 82 lbs
 End plates in steam space, thickness 1 1/8" pitch of stays to ditto 16 1/2 x 16 1/2 how stays are secured double nuts &c.
 Working pressure by rules 87 lbs diameter of stays at smallest part 2 1/4" working pressure by rules 87 lbs
 Front plates at bottom, thickness 1 1/8" Back plates, thickness — greatest pitch of stays — working pressure by rules —

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Diameter of tubes $3\frac{3}{4}$ extth pitch of tubes 5×5 thickness of tube plates, front $\frac{11}{16}$ back $\frac{5}{8}$
 How stayed Stay Lugs pitch of stays $15 \times 10 \times 13 \times 13$ width of water spaces 6 to 9
 Diameter of Superheater or Steam chest $4\frac{1}{2}$ length $14\frac{1}{2}$
 Thickness of plates $\frac{7}{16}$ description of longitudinal joint Lap double diameter of rivet holes $\frac{13}{16}$ pitch of rivets $3\frac{1}{4}$
 Working pressure of shell by rules $111\frac{1}{2}$ 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 $\frac{5}{8}$ How stayed No stays ends dished
 Superheater or steam chest; how connected to boiler by mesh pieces

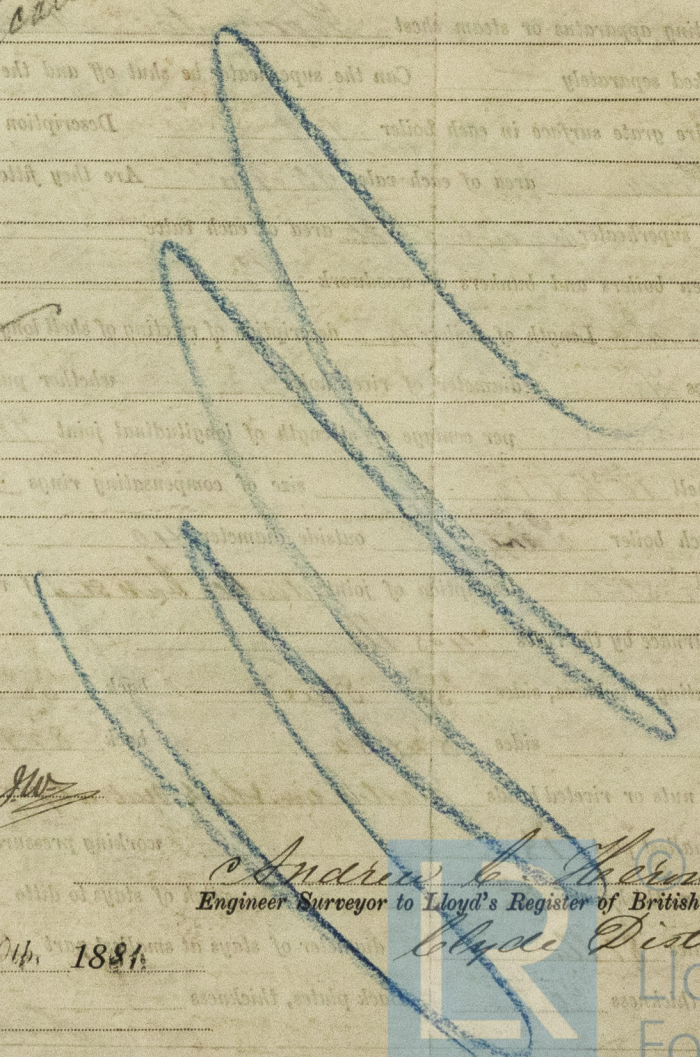
DONKEY BOILER— Description Round Upright
 Made at Glasgow By whom made H. Wallace & Co. when made 1881
 Where fixed in Hold hole working pressure $75\frac{1}{2}$ Tested by hydraulic pressure to $150\frac{1}{2}$ No. of Certificate 667
 Fire grate area 13 sq feet Description of safety valves Duct opening No. of safety valves one area of each $7.06\frac{1}{2}$
 If fitted with easing gear yes If steam from main boilers can enter the donkey boiler yes if stop valve is open
 Diameter of donkey boiler $5\frac{1}{2}$ length Height $10\frac{1}{2}$ description of riveting double & single
 thickness of shell plates $\frac{7}{16}$ diameter of rivet holes $\frac{13}{16}$ whether punched or drilled punched
 pitch of rivets $3\frac{1}{4}$ in vertical lap of plating $4\frac{1}{2}$ per centage of strength of joint 73
 thickness of crown plates $\frac{1}{2}$ steel stayed by Four $1\frac{3}{4}$ bar stays & uptake
 Diameter of furnace, top $3\frac{1}{2}$ bottom $4\frac{1}{2}$ height length of furnace $5\frac{1}{2}$
 thickness of plates $\frac{7}{16}$ steel description of joint Lap single
 thickness of furnace crown plates $\frac{1}{2}$ steel stayed by Four bar stays & uptake
 Working pressure of shell by rules $75\frac{1}{2}$ working pressure of furnace by rules Furnace stayed by two rows of
 diameter of uptake $1\frac{3}{2}$ thickness of plates $\frac{7}{16}$ thickness of water tubes $\frac{3}{8}$ Stay Lugs 10 diam

The foregoing is a correct description,
 Kincaid Donaldson Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c.) The Engines were inspected during construction by Mr. Olabin; the Boilers were constructed under my inspection: they have been fitted in board and tested under steam by me & in my opinion the quality of workmanship is good. The Machinery & Boilers are now in good order and safe working condition, and eligible to be noted in the Register Book.

LLOYD'S M.C. 12. 81.

It is submitted that this vessel is eligible to have the notification recorded
 J. H. 19/12/81



The amount of Entry Fee £ 3 : : : received by me,
 Special .. £ 23 : 11 : :
 Certificate (if required) .. £ Gratis: 15/12/1881
 (To be sent as per margin.)
 (Travelling Expenses, if any, £)

Committee's Minute Tuesday, December, 20th, 1881

Andrew & Co. 2019
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Lloyd's Register Foundation