

REPORT ON MACHINERY.

3514

No. in Reg. Book. 5574 Survey held at Glasgow & Greenock Date, first Survey February Last Survey Oct 12th 1881
 on the Screw Steamer Brins. Alexander Tons 2977.93
 Master M. C. Braats Built at Glasgow When built 1881
 Engines made at Glasgow By whom made W. & A. Halliday when made 1881
 Boilers made at Glasgow By whom made " " " " when made 1881
 Registered Horse Power 400 Owners Stoomvaart, Maats. Maats. N. V. Rotterdam Port belonging to Amsterdam

ENGINES, &c.—
 Description of Engines Compound Inverted Direct Acting
 Cylinders 42" x 80" Length of Stroke 48" No. of Rev. per minute 40 Point of Cut off, High Pressure .65 Low Pressure .5
 Diameter of Screw shaft 15" Diameter of Tunnel shaft 14" Diameter of Crank shaft journals 15" Diameter of Crank pin 15 1/2" size of Crank webs 10 1/2"
 Diameter of screw 16 1/2" Pitch of screw 22 ft No. of blades four state whether moveable Yes total surface 40 ft
 No. of Feed pumps two diameter of ditto 4 3/4" Stroke 26" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps two diameter of ditto 4 3/4" Stroke 26" Can one be overhauled while the other is at work Yes
 Where do they pump from All the Compartments
 No. of Donkey Engines two Size of Pumps 9" x 9" x 5 1/2" Where do they pump from The Sea Bilge & 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 two and sizes one 8" & one 3 1/2" Are they connected to condenser, or to circulating pump To Circulating & Condenser
 How are the pumps worked By Levers
 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 Bilge pipes to Forehold How are they protected By wood casing
 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 ship previous to being launched
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Upper platform

BOILERS, &c.—
 Number of Boilers two Description Round Horizontal
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 29.8.81
 Description of superheating apparatus or steam chest Vertical Annular with single tube
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes
 No. of square feet of fire grate surface in each boiler 120 ft² Description of safety valves Direct Spring (Cochburn's)
 No. to each boiler three area of each valve 25.96" Are they fitted with easing gear Yes
 No. of safety valves to superheater one area of each valve 4" are they fitted with easing gear Yes
 Smallest distance between boilers and bunkers or woodwork 10" to bunkers
 Diameter of boilers 18" x 6" Length of boilers 16' 0" description of riveting of shell long. seams Double riveted circum. seams Double
 Thickness of shell plates 1 1/2" diameter of rivet holes 1 7/16" full whether punched or drilled Drilled pitch of rivets 5 7/8"
 Lap of plating 10" per centage of strength of longitudinal joint 71% working pressure of shell by rules 80 lbs
 Size of manholes in shell 12" x 16" size of compensating rings Forged rings fitted
 No. of Furnaces in each boiler two outside diameter 3' 4" mean length, top 6' 6" bottom Through Furnaces
 Thickness of plates 7/2" description of joint — if rings are fitted — greatest length between rings —
 Working pressure of furnace by the rules —
 Combustion chamber plating, thickness, sides 9/16" back bottoms 9/16" top 9/16"
 Pitch of stays to ditto sides 8 1/2" x 8 1/2" back — top 8 1/2" x 8 3/4"
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 106 lbs
 Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 102 lbs
 End plates in steam space, thickness 1 3/16" pitch of stays to ditto 14 1/2" x 15" how stays are secured By double nuts
 Working pressure by rules 105 lbs diameter of stays at smallest part 2 1/8" working pressure by rules 98 lbs
 Front plates at bottom, thickness 10/16" Back plates, thickness — greatest pitch of stays — working pressure by rules —

M. N. O. S. 2. 1. 10/10

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Diameter of tubes $3\frac{1}{4}$ " pitch of tubes $4\frac{3}{8} \times 4\frac{1}{2}$ " thickness of tube plates, front $\frac{10}{16}$ back $\frac{10}{16}$
 How stayed *By Tubes* pitch of stays $13\frac{1}{2} \times 13\frac{1}{8} \times 9$ width of water spaces
 Diameter of Superheater or Steam chest $10\frac{1}{2}$ " length $9\frac{1}{2}$ ft high
 Thickness of plates $\frac{13}{16}$ " description of longitudinal joint *Lap & Bead* diameter of rivet holes $\frac{11}{16}$ " pitch of rivets $4\frac{3}{16}$ "
 Working pressure of shell by rules 44 lbs Diameter of flue $4\frac{1}{2}$ " thickness of plates $\frac{11}{16}$ "
 If stiffened with rings *Yes* distance between rings $1\frac{1}{2}$ " Working pressure by rules 312 lbs T bars $5 \times 3 \times 9$
 End plates of superheater, ~~on steam chest~~; thickness $\frac{11}{16}$ " How stayed *Attached to the shell & flue by Stays*
 Superheater ~~on steam chest~~; how connected to boiler *By Copper pipes*

DONKEY BOILER Description *Round Horizontal with Single Furnace*
 Made at *Glasgow* By whom made *Gyall & Anderson* when made *1881*
 Where fixed *on main deck* Working pressure 86 lbs Tested by hydraulic pressure to 160 lbs No. of Certificate *re*
 Fire grate area 13.3 sq ft Description of safety valves *Direct Spring* No. of safety valves *Two* area of each $6\frac{1}{2}$ "
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler 4 ft length $4\frac{1}{2}$ " description of riveting *Bead & Single*
 thickness of shell plates $\frac{9}{16}$ " diameter of rivet holes $\frac{7}{8}$ " whether punched or drilled *Drilled*
 pitch of rivets 4 " lap of plating $6\frac{3}{4}$ " per centage of strength of joint $4\frac{1}{2}$ %
 thickness of crown plates *—* stayed by *—*
 Diameter of furnace, top $2\frac{1}{2}$ " bottom *—* length of furnace $5\frac{1}{2}$ "
 thickness of plates $\frac{7}{16}$ " description of joint *Double Straps*
 thickness of furnace crown plates $\frac{7}{16} + \frac{8}{16}$ bottom stayed by *—*
 Working pressure of shell by rules 86 lbs working pressure of furnace by rules 99 lbs
 diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

The foregoing is a correct description,
John Eider Hay Manufacturer.

P. A. Stoyce
 General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers are of good workmanship and are now in good order & safe working condition and eligible in our opinion to be not noted in the Register.*
 Lloyd's M.C. 10.81

It is submitted that this vessel is eligible to have the notification & Lloyd's M.C. recorded
JM 14/10/81

The amount of Entry Fee . . . £ 3 : : : received by me,
 Special . . . £ 40 : : :
 Certificate (if required) . . . £ : : : 12/10/81
 To be sent as per margin.
 (Travelling Expenses, if any, £ : : :)

Committee's Minute Friday, Oct. 14th 1881.
 Lloyd's M.C.

James Morrison *M. G. Gogor*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Clyde District

Lloyd's Register Foundation