

REPORT ON MACHINERY.

No. 5344 (Received in London Office 2/11/81)
 No. in Survey held at Glasgow Date, first Survey March 9th Last Survey Feb. 20th 1881
 Reg. Book. S. S. "Torvento"
 on the Glasgow Tons 1527.45
 Master Paul Built at Glasgow When built 1881
 Engines made at Glasgow By whom made A. Stephens & Co. when made 1881
 Boilers made at " By whom made do when made 1881
 Registered Horse Power 220 Owners R. M. Sloman & Co. Port belonging to Hamburg

ENGINES, &c.—

Description of Engines Compound Inverted Surface Condensing
 Diameter of Cylinders 38" & 68" Length of Stroke 42" No. of Rev. per minute 56 Point of Cut off, High Pressure 1/2" Low Pressure 1/2"
 Diameter of Screw shaft 12 1/4" Diameter of Tunnel shaft 11 1/2" Diameter of Crank shaft journals 12 1/4" Diameter of Crank pin 12 3/4" size of Crank webs 13 1/2" x 8"
 Diameter of screw 1 1/4" 0" Pitch of screw 20" 0" No. of blades 4 state whether moveable yes total surface 65
 No. of Feed pumps 2 diameter of ditto 4 1/2" Stroke 25" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 4 1/2" Stroke 25" Can one be overhauled while the other is at work yes
 Where do they pump from Bilges of Cygni Rooms and all Compartments of Vessel
 No. of Donkey Engines one Size of Pumps 5" x 10" Where do they pump from Bilges of Cygni Rooms and all Compartments of Vessel. Boilers. Hotwell. Sea. & Condenser.
 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 1 and sizes 4" Are they connected to condenser, or to circulating pump to Circulating
 How are the pumps worked By Levers Attached to Crossheads of both Cylinders
 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 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 Hold suction. How are they protected Wooden Casing
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes except in holds
 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 not been in dry dock
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top Platform of Cygni

BOILERS, &c.—

Number of Boilers Two Description Cylindrical & Multitubular.
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test 29/11/81
 Description of superheating apparatus or steam chest Horizontal tube
 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 44 sq. ft. Description of safety valves Ind. Spring
 No. to each boiler 2 area of each valve 15-9 sq. in. 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 4' 0" to Deck
 Diameter of boilers 13' 6" Length of boilers 11' 9" description of riveting of shell long. seams Welded except 2 heads circum. seams Lap d. r
 Thickness of shell plates 1 1/16" diameter of rivet holes 1 1/8" whether punched or drilled punched pitch of rivets 4 1/2"
 Lap of plating 10 1/2" per centage of strength of longitudinal joint 87.5 in 1/2" working pressure of shell by rules 89 lbs
 Size of manholes in shell 15" dome heads size of compensating rings Some heads 7/8" thick
 No. of Furnaces in each boiler 3 outside diameter 3' 4" x 3' 2" length, top 8' 0" bottom 8' 0"
 Thickness of plates 9/16" description of joint Double Butt. if rings are fitted No greatest length between rings —
 Working pressure of furnace by the rules 82 lbs
 Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"
 Pitch of stays to ditto sides 4 1/2" x 7 1/4" back 4 1/2" x 7 1/4" top Circular 1" 9 rad
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 96 lbs
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 105
 End plates in steam space, thickness 1 3/16" pitch of stays to ditto 16" x 14 1/2" how stays are secured Nuts
 Working pressure by rules 92 lbs diameter of stays at smallest part 2 3/16" working pressure by rules 95 lbs
 Front plates at bottom, thickness 1 3/16" Back plates, thickness 1 3/16" greatest pitch of stays 7 1/2" x 7 1/2" working pressure by rules 86 lbs

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{5}{8} \times 4\frac{3}{4}$ thickness of tube plates, front $13/16$ " back $4/16$ "
 How stayed tubes pitch of stays $13\frac{3}{8} \times 9\frac{1}{2}$ width of water spaces 7 "
 Diameter of Superheater or Steam chest 36 " length $10' 9"$
 Thickness of plates $7/16$ " description of longitudinal joint d.r. diameter of rivet holes $3/4$ " pitch of rivets $2\frac{3}{4}$ "
 Working pressure of shell by rules 130 lb 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 $1/2$ " How stayed stayed to 36" rad. one stay 1 1/2 dia
 Superheater or steam chest; how connected to boiler by two nozzles

DONKEY BOILER— Description Circular, Vertical 3 Water Tubes in Furnace
 Made at Glasgow By whom made A. Stephen & Sons when made 1881
 Where fixed In Stokhead working pressure 80 lb Tested by hydraulic pressure to 160 lb No. of Certificate 679
 Fire grate area 16 sq ft Description of safety valves direct spring No. of safety valves two area of each 7"
 If fitted with easing gear yes If steam from main boilers can enter the donkey boiler yes
 Diameter of donkey boiler 4' 0" length 12' 6" description of riveting Lap d.r.
 thickness of shell plates 5/8" diameter of rivet holes 7/8" whether punched or drilled punched
 pitch of rivets 2 3/8" lap of plating 4 1/4" per centage of strength of joint 40
 thickness of crown plates 5/8" stayed by 10 stay 1 3/4 dia effective
 Diameter of furnace, top 5' 6" bottom 6' 2" length of furnace 6' 0"
 thickness of plates 1/2" description of joint Lap single riveted
 thickness of furnace crown plates 1/2" stayed by 10 stay 1 3/4 dia effective
 Working pressure of shell by rules 85 lb working pressure of furnace by rules 80 lb Peru stay 12' 14"
 diameter of uptake 16 1/2 thickness of plates 1/2 thickness of water tubes 3/8"

The foregoing is a correct description,

Alex Stephen & Sons Manufacturer.

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

The above Machinery has been constructed under special
 Survey. the workmanship and material is of good quality
 and found satisfactory when tested under steam. And is
 in my opinion eligible for the Certification of Lloyd's M.C. 182
 in the Society's Register Book

The amount of Entry Fee £ 3 : 0 : 0 received by me,
 Special £ 31 : 0 : 0
 Certificate (if required) £ 0 : 0 : 0
 To be sent as per margin. £ 31 : 0 : 0
 Travelling Expenses, if any, £

Committee's Minute Tuesday, January, 3rd 1882

Wm. C. Clegg
 Engineer, Surveyor to Lloyd's Register of British & Foreign Shipping.

Clyde District
 Lloyd's Register
 Foundation