

REPORT ON MACHINERY.

No. 6485

Received at London Office THURSDAY 1st JAN. 1885

No. in Survey held at Glasgow Date, first Survey 22nd Aug^r 1883 Last Survey 3rd Decem^r 1884
 Reg. Book. on the S.S. Carthaginian (Number of Platts 114) Tons 2455
 Master Mr. Nichol Built at Glasgow By whom built Iron Shipbuilding Co. When built 1883-4
 Engines made at Glasgow By whom made John & James Thomson when made 1883-4
 Boilers made at do By whom made do when made 1883-4
 Registered Horse Power 520 Owners J & A. Allan Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting.
 Diameter of Cylinders 51" & 88" Length of Stroke 54" No. of Rev. per minute 62. Point of Cut off, High Pressure Var. Low Pressure —
 Diameter of Screw shaft 16 1/2" Diam. of Tunnel shaft 15 1/2" Diam. of Crank shaft journals 16 1/2" Diam. of Crank pin 16 1/2" size of Crank webs 12" built
 Diameter of screw 18-2" Pitch of screw 22 ft. m. No. of blades 4. state whether moveable yes total surface 96 sqft.
 No. of Feed pumps 2. diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work yes.
 No. of Bilge pumps 2. diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work yes.
 Where do they pump from All Compartments.
 No. of Donkey Engines One Size of Pumps 11" C. x 11" S. x 5 1/2" dia Where do they pump from Hot well, sea, bilges and Tanks. (One 4 1/2" Centrifugal pump for tanks only)
 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 5" Are they connected to condenser, or to circulating pump Cir. pump.
 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 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 for 2 aft hold suction How are they protected wood flooring
 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 stocks before launching
 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 Multitubular Whether Steel or Iron Steel.
 Working Pressure 80 lbs. Tested by hydraulic pressure to 160 lbs. Date of test 8th July 1884
 Description of superheating apparatus or steam chest Horizontal Steam Chests.
 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 132. Description of safety valves Direct Spring No. to each boiler three
 Area of each valve 22.6" 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 13" Diameter of boilers 16'-0"
 Length of boilers 19'-0" description of riveting of shell long. seams d. butts circum. seams d. lap Thickness of shell plates 15/16
 Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 5" Lap of plating Butts 14"
 Per centage of strength of longitudinal joint 75% working pressure of shell by rules 94 lbs. size of manholes in shell 12 1/2 x 16"
 Size of compensating rings Angle 3 1/2 x 3 1/2 x 5/8 thick. No. of Furnaces in each boiler 6.
 Outside diameter 50 1/2" length, top 4'-1 1/2" bottom through thickness of plates 4/16" description of joint welded if rings are fitted Corrugated
 Greatest length between rings — working pressure of furnace by the rules 99 lbs. combustion chamber plating, thickness, sides 1/2" back — top 1/2"
 Pitch of stays to ditto, sides 8 1/4" back — top 8 1/2 x 4" If stays are fitted with nuts or riveted heads Nuts. working pressure of plating by rules 101 lbs.
 Diameter of stays at smallest part 1.01" working pressure of ditto by rules 107 lbs. end plates in steam space, thickness 13/16
 Pitch of stays to ditto 16 1/2" x 14 1/2" how stays are secured d. nuts & plate working pressure by rules 82 lbs. diameter of stays at smallest part 2 1/4" steel working pressure by rules 124 lbs. Front plates at bottom, thickness 1/16 Back plates, thickness 1/16
 Smallest pitch of stays — working pressure by rules — Diameter of tubes 3 3/4" pitch of tubes 5" thickness of tube —
 how stayed Stubs pitch of stays 10" width of water spaces 6 1/2"
 Length of Steam chest 4'-6" length 19'-0" thickness of plates 1/2" description of longitudinal joint Lap diam. of rivet holes 5/8
 working pressure of shell by rules — diameter of flue — thickness of plates — If stiffened with rings —
 working pressure by rules — end plates of superheater, or steam chest; thickness 5/8 how stayed distich
 Superheater or steam chest; how connected two welded throats

State of Report to also sent on the Hull of the Ship

6785-96

DONKEY BOILER— Description *Round Multitubular*
 Made at *Glasgow* by whom made *John & James Thomson* when made *1884* where fixed *On deck*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1413* fire grate area *27 1/2 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 *no* diameter of donkey boiler *9'-0"* length *9'-0"* description of riveting *tree lap*
 Thickness of shell plates *9/16"* diameter of rivet holes *7/8"* whether punched or drilled *drill* pitch of rivets *3 1/2"* lap of plating *16"*
 per centage of strength of joint *75* thickness of crown plates *5/8"* stayed by *stays with nuts 9" x 8 5/8"*
 Diameter of furnace, top *33 1/2"* bottom *33"* length of furnace *6'-0"* thickness of plates *7/16" x 3/4"* description of joint *d. butt*
 Thickness of furnace crown plates *5/8"* stayed by *rod stays 14" x 14" 2" diam* working pressure of shell by rules *80 lbs*
 Working pressure of furnace by rules *84 lbs* diameter of uptake *—* thickness of plates *7/8" x 9/16"* thickness of water tubes *3 1/2"*

SPARE GEAR. State the articles supplied:— *Two propeller blades. One pair Crank pin brasses*
up and bottom end bolts. Coupling bolts. Main bearing bolts.
Valves seats for feed, bilge & donkey pumps. Bolts for eccentric
stays. Bolts, nuts & rivets of various sizes.

The foregoing is a correct description,
John & James Thomson Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned engines*
and boilers are now completed onboard in a satisfactory manner
and the machinery is in my opinion in a safe & good
working condition and eligible to be noted in the Register
Book: L.M.C. 12. 84.

*This submitted that the
 vessel is eligible to have
 its certificate of fitness
 renewed*
AM 11/85

The amount of Entry Fee .. £ 3 : : : received by me,
 Special £ 40 : : :
 Donkey Boiler Fee £ : : :
 Certificate (if required) .. £ : : : *9/12/1884*
 To be sent as per margin.
 Travelling Expenses, if any, £ *8/-*

John Sanderson
 Engineer Surveyor to Lloyd's Register of British

Committee's Minute DAY 2 JUN 1885



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