

REPORT ON MACHINERY.

No. 6485

THURSDAY 1 JULY 1885

No. in Survey held at *Glasgow*. Date, first Survey *22nd Aug^r 1883* Last Survey *3rd Decem^r 1884*
 Reg. Book. (Number of Plates *114*) Tons *2455*
 on the *S.S. Carthaginian*
 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 1/2"* 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 *1/16* working pressure by rules *—* Diameter of tubes *3 3/4"* pitch of tubes *5"* thickness of tube *—*
 how stayed *Stays* 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; *—* how stayed *distorted*
 Superheater or steam chest; how connected *two welded throats*

(State of Report is also sent on the Hull of the Ship)

ink.]

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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 opening* 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 *treble 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 *6"*
per centage of strength of joint *75* thickness of crown plates *5"* 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 1/2"* 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 this
vessel is eligible to have
its classification of L.M.C. 12. 84
renewed
AM 1/1/85

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/-*)

Committee's Minute DAY 2 JUL 1885

John Sanderson
Engineer Surveyor to Lloyd's Register of British



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Foundation