

REPORT ON MACHINERY.

3741

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No. 10044
 No. in Survey held at Glasgow
 Date, first Survey 4th May Last Survey 18th Aug 1890
 (Number of Visits 19)
 on the S.S. City of Dundee
 Built at Belfast By whom built Workman, Clark & Co When built 1890
 Engines made at Glasgow By whom made James Howden & Co when made 1890
 Boilers made at Glasgow By whom made James Howden & Co when made 1890
 Registered Horse Power 350 Owners George Smith & Son Port belonging to Glasgow
 Tons { Gross
 Net

Received at London Office 23 AUGUST 1890

GINES, &c.—
 Description of Engines Triple Expansion No. of Cylinders Three
 Diam. of Cylinders 25", 42" + 68 1/2" Length of Stroke 48" Rev. per minute _____ Point of Cut off, High Pressure Var Low Pressure var
 Diameter of Screw shaft 14" Diam. of Tunnel shaft 13" Diam. of Crank shaft journals 13 1/2" Diam. of Crank pin 13 1/2" size of Crank webs built
 Diameter of screw 17'-0" Pitch of screw 17'-0" to 18'-0" No. of blades 4 state whether moveable yes total surface 75 sq. ft.
 No. of Feed pumps Two diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes
 Where do they pump from All compartments.
 No. of Donkey Engines Two Size of Pumps Wine pumps Where do they pump from Water, Sea
Tanks & Bilges
 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 5 1/4" Are they connected to condenser, or to circulating pump yes
 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 —
 How are 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
 Have the stern tube, propeller, screw shaft, and all connections examined in dry dock See Belfast Report attached
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from upper platform

BOILERS, &c.—
 No. of Boilers Two Description Howdens forced draught arrangement Material Steel Letter (for record) S.
 Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test 21st May 1890.
 Description of superheating apparatus or steam chest None
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately —
 Area of square feet of fire grate surface in each boiler 42 Description of safety valves direct spring No. to each boiler two
 Diameter of each valve 9.6" 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 15" Diameter of boilers 14'-3"
 Thickness of shell plates 1 9/32"
 Diameter of rivets 1 9/32" whether punched or drilled drilled pitch of rivets 8 1/2" x 4 1/4" Lap of plating butt str.
 Percentage of strength of longitudinal joint 85% working pressure of shell by rules 161 lbs. size of manholes in shell 12" x 16"
 Description of Furnaces plain with flanges
 Diameter of compensating rings 9 1/2" length 8'-9" thickness of plates 9/16" description of joint welded if rings are fitted yes
 Smallest length between rings 19" working pressure of furnace by the rules 162 lbs. combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16" full 9/16"
 No. of stays to ditto, sides 7 3/4" back 7 3/4" top 7 3/4" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 162 lbs.
 Diameter of stays at smallest part 7/8" working pressure of ditto by rules 160 lbs. end plates in steam space, thickness 7/8" + 7/8" str.
 Diameter of stays to ditto 15 1/2" x 15 1/2" how stays are secured Nuts working pressure by rules 160 lbs. diameter of stays at largest part 2 7/8" bars working pressure by rules 162 lbs. Front plates at bottom, thickness 3/4" Back plates, thickness 3/4"
 Smallest pitch of stays — working pressure by rules — Diameter of tubes 2 1/2" pitch of tubes 3 1/2" x 3 3/4" thickness of tube —
 How are stays stayed stubs pitch of stays 7 1/2" x 7 7/8" width of water spaces 6"
 Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —
 How are rivets — working pressure of shell by rules — diameter of flue — thickness of plates — If stiffened with rings —
 How are end plates between rings — working pressure by rules — end plates of superheater, or steam chest; thickness — how stayed —
 Superheater or steam chest; how connected to boiler —

Lloyd's Register Foundation

Bel 57-0118

DONKEY BOILER— Description *Multitubular (Steel)*
 Made at *Glasgow* by whom made *James Howden & Co* when made *1890* where fixed *deck house*
 Working pressure *70 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *2578* fire grate area *28 sq ft* description of safety valves *d. spring* No. of safety valves *2* 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'-9"* length *9'-9"* description of riveting *lap*
 Thickness of shell plates *1/2 full* diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *2 1/8"* lap of plating *4 1/2"*
 per centage of strength of joint *70%* thickness of ~~end~~ plates *5/8"* stayed by *1 1/4" stays pitched 13 x 15"*
 Diameter of furnace, top *34 1/2"* bottom — length of furnace *6'-8 1/2"* thickness of plates *7/16"* description of joint *butt.*
 Thickness of ^{C. Ch.} furnace crown plates *7/16"* stayed by *stayed stays* working pressure of shell by rules *70 lbs*
 Working pressure of furnace by rules *101 lbs* diameter of ^{tubes} uptake *3 1/2"* thickness of ^{tubes} plates *5/8"* thickness of water tubes —

SPARE GEAR. State the articles supplied: *One Set Connect Rod bushes (top & bottom) Air pumps bucket & rod also for Circulating pumps set of valves for all the pumps, 2 main bearing bolts, connect rod bolts, 8 Coupling bolts, one Valve Spindle assortment of Springs & bottom nuts, and other gear.*
 The foregoing is a correct description,
 Manufacturer. *James Howden & Co*

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned engines and boilers have been built under special survey and are now completed onboard in a satisfactory manner. The machinery is now in my opinion eligible to the notation: + L.M.C. 8/90*
8/90

It is submitted that this vessel is eligible to have + L.M.C 8-90 recorded
M.A.
23-8-90

[Large blue scribble]

The amount of Entry Fee .. £ 3 : 4 : 4 received by me,
 Special £ 35 : 6 : 4
 Donkey Boiler Fee £ .. : .. : ..
 Certificate (if required) .. £ .. : .. : .. 22/8/1890
 To be sent as per margin.

Rumen.
John Anderson, Walter Robson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **TUES 26 AUGUST 1890**

+ L.M.C 8, 90

Lloyd's Register Foundation Glasgow