

REPORT ON MACHINERY.

3399

No. 3399 *Belfast* Port of Glasgow
 No. in Survey held at Glasgow Date, first Survey 5th March 1884 Last Survey 9th March 1888
 Reg. Book. on the S. S. City of Dublin (Number of Visits 68) Tons 2150.11
 Master By whom built Workman, Clark When built 1887.8
 Engines made at Glasgow By whom made John & James Thomson when made 1887.8
 Boilers made at Glasgow By whom made John & James Thomson when made 1887.8
 Registered Horse Power 350. Owners George Smith & Sons Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Triple Expansion three cranks.
 Diameter of Cylinders 25 $\frac{1}{2}$, 43 x 67 $\frac{1}{2}$ Length of Stroke 48" No. of Rev. per minute 70 Point of Cut off, High Pressure var, Low Pressure —
 Diameter of Screw shaft 13 $\frac{1}{2}$ Diam. of Tunnel shaft 12 $\frac{1}{2}$ Diam. of Crank shaft journals 13 $\frac{1}{2}$ Diam. of Crank pin 13 $\frac{1}{2}$ size of Crank webs 9 $\frac{1}{2}$ x 17 $\frac{1}{2}$
 Diameter of screw 17'-0" Pitch of screw 19'-0" No. of blades 4 state whether moveable no total surface 82.4 sq ft
 No. of Feed pumps 2 diameter of ditto 4" Stroke 24. Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2. diameter of ditto 4. Stroke 24. 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 10⁰ gal 7" x 12" stroke Where do they pump from ballast & bilges
Two weirs - 8" x 6" x 18" "
 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 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 about
 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 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock at Belfast.

OILERS, &c.—

Number of Boilers Two Description Multitubular. Whether Steel or Iron all steel
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs. Date of test 29th Dec^r 1887.
 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 94. Description of safety valves direct spring No. to each boiler two
 Area of each valve 9.62 Are they fitted with casing gear yes No. of safety valves to superheater — area of each valve —
 Are they fitted with casing gear — Smallest distance between boilers and bunkers or woodwork 10" Diameter of boilers 12'-9"
 Length of boilers 17'-0" description of riveting of shell long. seams trub riv. d. butt circum. seams trub riv. lap Thickness of shell plates 1 $\frac{3}{16}$ "
 Diameter of rivet holes 1 $\frac{3}{16}$ whether punched or drilled drilled pitch of rivets 7 $\frac{7}{8}$ & 3 $\frac{1}{16}$ Lap of plating 18" butt str.
 Percentage of strength of longitudinal joint 84.6% working pressure of shell by rules 162 size of manholes in shell 12" x 16"
 Description of compensating rings Forged ring d. riv. No. of Furnaces in each boiler 6.
 Inside diameter 36" length, top 6'-9" bottom through thickness of plates 3 $\frac{1}{16}$ description of joint For patent if rings are fitted —
 Greatest length between rings — working pressure of furnace by the rules 166 lbs. combustion chamber plating, thickness, sides 3 $\frac{1}{16}$ full top 3 $\frac{1}{16}$ full
 Thickness of stays to ditto, sides 7x7" back — top 7x8" If stays are fitted with nuts or riveted heads nuts inside working pressure of plating by rules 160 lbs
 Diameter of stays at smallest part 1 $\frac{1}{2}$ inch working pressure of ditto by rules 161 lbs end plates in steam space, thickness 3 $\frac{1}{16}$ & double str.
 Thickness of stays to ditto 16" x 16" how stays are secured d. nuts working pressure by rules 160 lbs. diameter of stays at smallest part 2 $\frac{3}{4}$ = 4.56" working pressure by rules 160 lbs. Front plates at bottom, thickness 1 $\frac{3}{16}$ Back plates, thickness —
 Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 $\frac{1}{2}$ " pitch of tubes 4 $\frac{7}{8}$ x 4 $\frac{3}{4}$ thickness of tube plates, front 14 $\frac{1}{16}$ back 14 $\frac{1}{16}$ how stayed stayed pitch of stays 9 $\frac{1}{2}$ x 9 $\frac{3}{4}$ width of water spaces 6"
 Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —
 Thickness of rivets — working pressure of shell by rules — 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 — how stayed —
 Superheater or steam chest; how connected to boiler —

DONKEY BOILER— Description *Round Horizontal*
 Made at *Glasgow* by whom made *John & James Thomson* when made *1888* where fixed *on deck*
 Working pressure *40 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *1903* fire grate area *24 sq ft* description of safety valves *direct spring* No. of safety valves *2* area of each *7"* if fitted with casing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *8'-6"* length *8'-3"* description of riveting *treble riv. lap*
 Thickness of shell plates *13/16* diameter of rivet holes *1 1/8"* whether punched or drilled *drill* pitch of rivets *3 1/2"* lap of plating *5"*
 per centage of strength of joint *54%* thickness of ~~end~~ *end* plates *1 1/8"* stayed by *1 7/8" steel stays 14" x 14" pitch*
 Diameter of furnace, top *32"* bottom *—* length of furnace *5'-9"* thickness of plates *8/16* description of joint *butt.*
 Thickness of furnace ~~end~~ *end* plates *8/16"* stayed by *screw stays 1 1/4" dia 8 1/2" x 8 1/2" pitch* working pressure of shell by rules *98*
 Working pressure of furnace by rules *121 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Air and circulating pump rods. Top and bottom end bolts and brasses. Feed and bilge pump valves. Two valve spindles. Coupling and main bearing bolts. Two propeller blades. Bolts & nuts etc.*

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

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned engines and boilers are now completed on board in a satisfactory manner and the Machinery is in my opinion eligible to be noted in the Register Book: F.L.M.C. 3.88.*)

As submitted that the amount of the certificate is recorded
15/3/88

Accepted

The amount of Entry Fee .. £ *3* : - : - received by me,
 Special .. £ *34* : *10* : -
 Donkey Boiler Fee .. £ : : :
 Certificate (if required) .. £ : : : *9/3/1888*
 To be sent as per margin.
 (Travelling Expenses, if any, £)

John Sanderson
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

Committee's Minute **FRIDAY 16 MARCH 1888**
+ L.M.C. 3/88

Glasgow
 Lloyd's Register Foundation