

REPORT ON MACHINERY.

5688

No. 5688

(Received at London Office RECEIVED 24th. APR. 82.)

No. in Survey held at Glasgow Date, first Survey May 1881 Last Survey April 21st 1882.
 Reg. Book. Glasgow Tons 1651.09
 on the S. S. "Mudela" Tons 1106.39
 Master V. Salvidegoitia Built at Glasgow When built 1881-2.
 Engines made at Glasgow By whom made A. Shepherdson when made 1881-2
 Boilers made at do By whom made do when made 1881-2
 Registered Horse Power 200 Owners Martinez de las Pivas Port belonging to Bilbao

ENGINES, &c.—

Description of Engines Direct acting, surface condensing, inverted Compound
 Diameter of Cylinders 35 x 65 Length of Stroke 42" No. of Rev. per minute 150 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
 Diameter of Screw shaft 11 1/2 Diameter of Tunnel shaft 11 Diameter of Crank shaft journals 11 1/2 Diameter of Crank pin 11 3/4 size of Crank webs 13 1/4 x 7 3/4
 Diameter of screw 16-0 Pitch of screw 20H No. of blades 4 state whether moveable yes total surface 66 sq ft
 No. of Feed pumps Two diameter of ditto 4 1/2 Stroke 33" Can one be overhauled while the other is at work yes
 No. of Bilge pumps Two diameter of ditto 4 1/2 Stroke 33" Can one be overhauled while the other is at work yes
 Where do they pump from Mid hold, Mid well, Engine room, bilges, Fore + main holds + all bunks
 No. of Donkey Engines One Size of Pumps 8 x 8 + 4 pumps Where do they pump from Engine room, bilges
+ engine room bilges - Donkey engine + hand pumps from all bilges + holds.
 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 Circulating pump
 How are the pumps worked By levers from crankhead on each engine
 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 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 Before the vessel was launched
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Main deck

BOILERS, &c.—

Number of Boilers Two Description Cylindrical - multitubular
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test March 15th 1882
 Description of superheating apparatus or steam chest Horizontal
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately —
 Square feet of fire grate surface in each boiler 46 sq ft Description of safety valves Direct acting spring
 No. of safety valves to superheater — area of each valve 15.9 sq in Are they fitted with easing gear yes
 No. of safety valves to boiler — area of each valve — are they fitted with easing gear —
 Smallest distance between boilers and bunkers or woodwork 6 in
 Diameter of boilers 13-0 Length of boilers 11-0 description of riveting of shell long. seams Weld Butt joints circum. seams Lap joint, double and
 Thickness of shell plates 1" diameter of rivet holes 1" whether punched or drilled drilled pitch of rivets 3 3/4
 Lap of plating 1 1/2 x 5/8 per centage of strength of longitudinal joint Weld 70% working pressure of shell by rules 90 lbs.
 Size of manholes in shell 15 x 11 1/2 size of compensating rings 4 1/2 x 5/8
 No. of Furnaces in each boiler Three outside diameter 3-4" length, top 7-3" bottom 7-3"
 Thickness of plates 17/32 description of joint Double butt strap if rings are fitted No greatest length between rings —
 Working pressure of furnace by the rules 87 lbs.
 Combustion chamber plating, thickness, sides 7/16" steel back 7/16" steel top 7/16" steel
 Pitch of stays to ditto sides 7 3/4" back 7 1/4" top Cylindrical
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 90 lbs.
 Diameter of stays at smallest part 1 1/4" new working pressure of ditto by rules 90 lbs
 End plates in steam space, thickness 13/16" pitch of stays to ditto 15 1/4" how stays are secured Double nuts
 Working pressure by rules 100 lbs diameter of stays at smallest part 2 3/16" working pressure by rules 99 lbs
 Front plates at bottom, thickness 13/16" Back plates, thickness 13/16" greatest pitch of stays 15 working pressure by rules 90 lbs.

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{13}{16}$ " back $\frac{11}{16}$ "
 How stayed *Stay tubes* pitch of stays 15 " width of water spaces 4 " to $7\frac{1}{2}$ "
 Diameter of ~~Superheater~~ Steam chest $3-0$ length $8-2$
 Thickness of plates $\frac{7}{16}$ description of longitudinal joint *Lap, double rivet* diameter of rivet holes $\frac{3}{4}$ " rivet pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules 131 lbs 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 $\frac{1}{2}$ " How stayed *Centre stay $1\frac{1}{2}$ " dia*
~~Superheater on steam chest; how connected to boiler~~ *By necks 15 " dia = $\frac{5}{8}$ " thick, welded*

DONKEY BOILER— Description *Vertical with cross tubes.*
 Made at *Glasgow* By whom made *A. Stephen & Son* when made *1881-2*
 Where fixed *In dock hold* working pressure 60 lbs Tested by hydraulic pressure to 120 lbs No. of Certificate *446*
 Fire grate area $11\frac{1}{2}$ sq ft Description of safety valves *Direct acting spring* No. of safety valves *Two* area of each *7.9 sq ins*
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler $6-0$ length $11-0$ description of riveting *Lap joint, double riveted*
 thickness of shell plates $\frac{7}{16}$ diameter of rivet holes $\frac{3}{4}$ " whether punched or drilled *Punched*
 pitch of rivets $2\frac{3}{4}$ " lap of plating 4 " per centage of strength of joint 73
 thickness of crown plates $\frac{1}{2}$ " stayed by *Eight stays $1\frac{3}{4}$ " dia*
 Diameter of furnace, top $4-10$ bottom $5-2$ length of furnace $5-0$
 thickness of plates $\frac{7}{16}$ description of joint *Lap, double riveted*
 thickness of furnace crown plates $\frac{7}{16}$ stayed by *Eight stays $1\frac{3}{4}$ " dia + uptake.*
 Working pressure of shell by rules 69 lbs working pressure of furnace by rules 65 lbs
 diameter of uptake $1-3$ thickness of plates $\frac{7}{16}$ thickness of water tubes $\frac{3}{8}$ " $10\frac{1}{2}$ " dia

The foregoing is a correct description,

Alex Stephen & Son Manufacturer.

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

The machinery of this vessel has been built under special survey of good material & workmanship, it has been satisfactorily fitted on board & was in good working condition when tested under steam, I am therefore of opinion that the notification "LLOYD'S M.C." 4-82 should be recorded in the Register book.

This submitted that this vessel is eligible to have the notification & Lloyd's M.C. recorded
W. E. Robson
21/4/82

The amount of Entry Fee .. £ 3 : 0 : 0 received by me,
 Special .. £ 30 : 0 : 0
 Certificate (if required) .. £ 0 : 0 : 0 *21/4/1882*
 To be sent as per margin. £ 33 : 0 : 0
 (Travelling Expenses, if any, £

Walter E. Robson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute Tuesday 25th April 1882