

REPORT ON MACHINERY.

8546

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No. in Survey held at Greenock Date, first Survey 3rd Feb 1883 Last Survey 14th Nov 1883
Reg. Book. 2256-14 (Number of Visits 57) Tons 1485.53
on the S.S. "Grouse of Arragon"
Master H. Ferguson Built at Greenock By whom built Scott & Co. When built 1883
Engines made at Greenock By whom made Scott & Co. when made 1883
Boilers made at " By whom made " when made 1883
Registered Horse Power 275 Owners Prattice Clapperton & Co. Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting.
Diameter of Cylinders 24" & 49" Length of Stroke 54" No. of Rev. per minute 84 Point of Cut off, High Pressure 40" Low Pressure 27"
Diameter of Screw shaft 11 1/2" Diam. of Tunnel shaft 10 1/2" Diam. of Crank shaft journals 11 1/2" Diam. of Crank pin 11 1/4" size of Crank webs 13 1/4" x 7 3/4"
Diameter of screw 14 1/2" Pitch of screw 14.6" No. of blades Four state whether moveable yes total surface 56 sq feet
No. of Feed pumps Two diameter of ditto 2 1/2" Stroke 54" Can one be overhauled while the other is at work yes
No. of Bilge pumps Two diameter of ditto 2 1/2" Stroke 54" Can one be overhauled while the other is at work yes
Where do they pump from Engine Room, Cargo Holds & aft end of tunnel.
No. of Donkey Engines One Size of Pumps 4 1/2" x 10" Where do they pump from Sea, Hot well & Bilges
A 4" pipe Pulverizer fitted to draw from Ballast tanks & Engine room bilge.
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" valve Are they connected to condenser, or to circulating pump Circulating pump
How are the pumps worked By Crosshead
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 Steam & Fuel pipes How are they protected Iron Casement
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 Slip before vessel was launched
Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Engine room top platform

BOILERS, &c.—

Number of Boilers Two Description Round Horizontal Multitubular Whether Steel or Iron Shells & ends iron inside & furnace feet steel.
Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs per sq. in. Date of test 10th October 1883
Description of superheating apparatus or steam chest None fitted
Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes
No. of square feet of fire grate surface in each boiler 57.75 Description of safety valves Direct spring No. to each boiler Two
Area of each valve 15 sq" 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 9" Diameter of boilers 14 1/2"
Length of boilers 10 1/3" description of riveting of shell long. seams Double butt strap circum. seams Double Thickness of shell plates 1 1/8"
Diameter of rivet holes 1 3/16" whether punched or drilled drilled pitch of rivets 4 3/4" Lap of plating 16 3/4" straps
Per centage of strength of longitudinal joint 75 working pressure of shell by rules 100 lbs size of manholes in shell 16" x 12"
Size of compensating rings 23 1/2" diam. x 1" thick No. of Furnaces in each boiler Three (Corrugated)
Outside diameter 44" length, top 6 1/6" bottom 9 1/5" thickness of plates 7/16" description of joint Welded if rings are fitted no
Greatest length between rings — working pressure of furnace by the rules 113 lbs combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
Pitch of stays to ditto, sides 8 1/4" x 7 3/4" back 7 3/4" x 7 3/4" top 8 1/2" x 7 3/4" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 108 lbs Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 111 lbs end plates in steam space, thickness 15/16"
Pitch of stays to ditto 18 5/8" x 15 1/2" & 16" how stays are secured Double nuts working pressure by rules 91 lbs diameter of stays at smallest part 2 5/8" working pressure by rules 112 lbs Front plates at bottom, thickness 7/16" steel Back plates, thickness 3/4"
Greatest pitch of stays 13 3/4" working pressure by rules 113 lbs Diameter of tubes 4" pitch of tubes 5 3/8" x 5 3/8" thickness of tube plates, front 13/16" steel back 3/4" steel how stayed Stay tubes pitch of stays 10 3/4" x 10 3/4" & 16" width of water spaces 6 to 8 inches
Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —
Pitch 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 —

State of Report is also sent on Form No. 8, 2000-215/8.

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DONKEY BOILER— Description *Round Horizontal Multitubular*
 Made at *Greenock* by whom made *Scott & Co* when made *1883* where fixed *on top deck*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *166* fire grate area *22.5 sq feet* description of safety valves *Direct Spring* No. of safety valves *Two* area of each *7 sq* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *8.6* length *9.0* description of riveting *Lap double & single*
 Thickness of shell plates *5/8* diameter of rivet holes *5/16* whether punched or drilled *drilled* pitch of rivets *3.3/8* lap of plating *4.5/8*
 per centage of strength of joint *72* thickness of crown plates *5/16* stayed by *—*
 Diameter of furnace top *30.3/4* bottom *5.0* length of furnace *6.0* thickness of plates *3/8* description of joint *Welded*
 Thickness of furnace crown plates *5/16* stayed by *—* working pressure of shell by rules *60 lbs*
 Working pressure of furnace by rules *23 lbs for top* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *1 half length crank shaft 1 propeller shaft 1 pair crank pin brasses 1 set main bearing bushes 4 propeller bushes 1 set of feed valve & donkey pump bushes & seats 2 crank pin bolts 2 top and bottom bolts 2 main bearing bolts 8 coupling bolts 24 ribs tubes 50 cushion tubes 200 ferrules for same 1 set of valves for air & circulating pumps (Thomson's patent) 1 slipper plate for guides 1 set of springs for escape valves 1 set of safety valve springs 1/2 set of furnace bars for main & donkey boilers. A quantity of studs, bolts, nuts & iron*
 The foregoing is a correct description,
Scott & Co Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers have been specially surveyed during construction workmanship of good quality & the Machinery & Boilers are now in good order & safe working condition & are in my opinion eligible to be noted in the Register Book L.M.C. 11. 83.*)

This submission that the vessel is eligible to have the registration & L.M.C. recorded 11/11/83

The amount of Entry Fee .. £ 2 : : : received by me,
 Special .. £ 33 : 15 : : at *Greenock*
 Donkey Boiler Fee .. £ : : :
 Certificate (if required) .. £ *Gratis* 14/11/1883
 To be sent as per margin.
 (Travelling Expenses, if any, £ ..)

Andrew L. Thomson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 Greenock District.

Committee's Minute TUESDAY 27 NOV 1883

