

REPORT ON MACHINERY.

7271

No. 4241

Received at London Office

MONDAY 11 JAN 1886

No. in Survey held at Glasgow Date, first Survey 1st Sept 1885 Last Survey Dec 31st 1885
 Reg. Book. 1318 on the M.S.S. Courland (Number of Visits 27) Tons 1241
 Master Newman Built at Glasgow By whom built R. Napier & Sons When built 1842-4
 Engines made at Glasgow By whom made R. Napier & Sons when made 1842
 Boilers made at " By whom made Barclay Curle & Co when made 1885
 Registered Horse Power 130 Owners J. Currie Port belonging to Leith

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
 Diameter of Cylinders 30" & 54" Length of Stroke 36" No. of Rev. per minute _____ Point of Cut off, High Pressure _____ Low Pressure _____
 Diameter of Screw shaft 10" Diam. of Tunnel shaft 9" Diam. of Crank shaft journals 9 3/4" Diam. of Crank pin 9 3/4" size of Crank webs 1 1/2" / 6 3/4"
 Diameter of screw 1 1/2" Pitch of screw 15 1/2" No. of blades four state whether moveable yes total surface 52 1/2"
 No. of Feed pumps two diameter of ditto 3" Stroke 14 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two diameter of ditto 3" Stroke 14 1/2" 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 6" x 12" stroke / 3 1/2" x 4" " Where do they pump from Sea Bilge Hotwell & Bunkers
 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 _____
 No. of bilge injections one and sizes 5 1/2" Are they connected to condenser, or to circulating pump Circulating
 How are the pumps worked by Eccentric
 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 Wipe pipes to Fore Hold & Tank How are they protected By wood casing
 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 15th Dec 1885
 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 Round Horizontal Whether Steel or Iron Steel
 Working Pressure 40 lbs Tested by hydraulic pressure to 2140 lbs Date of test 5th Dec 1885
 Description of superheating apparatus or steam chest Annular with single flue
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately no
 No. of square feet of fire grates surface in each boiler 40 1/2 Description of safety valves Direct spring No. to each boiler two
 Area of each valve 9.62" Are they fitted with easing gear yes No. of safety valves to superheater one area of each valve 4"
 Are they fitted with easing gear yes Smallest distance between boilers and bunkers or woodwork about 18" under deck Diameter of boilers 11" 8"
 Length of boilers 8" 10" description of riveting of shell long. seams double straps double riveted circum. seams double riveted Thickness of shell plates 9/16"
 Diameter of rivet holes 3/8" whether punched or drilled drilled pitch of rivets 3 1/8" Lap of plating straps 1/16" x 1/16"
 Per centage of strength of longitudinal joint 44/100 working pressure of shell by rules 44 lbs size of manholes in shell 12" x 16"
 Size of compensating rings double piece fitted No. of Furnaces in each boiler three
 Outside diameter 3 1/2" length, top 6 1/2" bottom " thickness of plates 3/8" description of joint Corrugated if rings are fitted _____
 Greatest length between rings _____ working pressure of furnace by the rules 111 lbs combustion chamber plating, thickness, sides 1/16" back 1/16" top 1/16"
 Pitch of stays to ditto, sides 8 3/4" x 1/2" back 8 3/4" x 1/2" top 7 1/2" x 1/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 41 lbs Diameter of stays at smallest part 1 5/8" & 1 1/4" working pressure of ditto by rules 42 lbs end plates in steam space, thickness 1/16"
 Pitch of stays to ditto 15" x 15" how stays are secured By double nuts working pressure by rules 45 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 194 lbs Front plates at bottom, thickness 1/16" Back plates, thickness 1/16"
 Greatest pitch of stays 16" working pressure by rules _____ Diameter of tubes 3" pitch of tubes 11 1/8" thickness of tube plates, front 1/16" back 1/16" how stayed By tubes pitch of stays 12 3/8" x 8 1/4" width of water spaces 7 1/2"
 Diameter of Superheater about 4" 2" length 6" 3" thickness of plates 1/16" description of longitudinal joint double riveted diam. of rivet holes 3/4"
 Pitch of rivets 2 3/8" working pressure of shell by rules 40 lbs diameter of flue 4" thickness of plates 1/16" If stiffened with rings two rings 4" x 5 1/2" x 3/8"
 Distance between rings _____ working pressure by rules _____ end plates of superheater, or steam chest; thickness 1/16" how stayed no stays
 Superheater or steam chest; how connected to boiler By Copper pipes

Form No. 100-71 (State if Report is also sent to the Hull of the Ship)

7871 Gls

DONKEY BOILER— Description *Flat Lidded*

Made at *Glasgow* by whom made *Barclay Curle & Coy* when made *1885* where fixed *On upper deck*
 Working pressure *45 lbs* tested by hydraulic pressure to *90 lbs* No. of Certificate *1074* fire grate area *18 ft* description of sa
 valves *Direct Spring* No. of safety valves *Two* area of each *4"* if fitted with easing gear *Yes* if steam from main boilers
 enter the donkey boiler *No* diameter of donkey boiler *4' 9"* length *4' 6"* ^{height} *9' 2"* description of riveting *Single Lap*
 Thickness of shell plates *3/16" + 1/16"* diameter of rivet holes *3/16"* whether punched or drilled *Drilled* pitch of rivets *1 3/4"* lap of plating *3"*
 per centage of strength of joint *54* thickness of ~~crank~~ ^{Comb Chamber} plates *1/16"* stayed by *Screw Stays 9" x 8 3/4" + 9 1/2" x 8 3/4" 1 1/2" dia*
 Diameter of furnace, ^{top} *3' 6"* ~~bottom~~ length of furnace *5' 2"* thickness of plates *1/16"* description of joint *Laps*
 Thickness of furnace ~~plates~~ ^{Lube} *1/16"* stayed by *Lubes* working pressure of shell by rules *45*
 Working pressure of furnace by rules *60 lbs* diameter of uptake *—* thickness of ^{cut} plates *1/16"* thickness of water tubes *—*

SPARE GEAR. State the articles supplied: *Two propeller blades (1 pair brasses for Crank pin + top
 of connecting Rods with 4 bolts complete) 4 Main bearing bolts, 4 Coupling bolts, 1 slide valve
 for each engine, 1 Air pump rod, 1 pair main bearing brasses, 5 Air pump valve seats with
 4 valves for feed pumps 22 Boiler tubes, 50 Condenser, and a considerable quantity
 bolts nuts, iron assorted India rubber tubs*

The foregoing is a correct description,
FOR BARCLAY, CURLE & CO., LTD Manufacturers of Boilers

James Githrist
 General Remarks *(State quality of workmanship, opinions as to class, &c.)* The Engines have been thro
 repaired and overhauled, the Crank & Tunnel Shafting adjusted
 Propeller shaft drawn & bush fitted with new wood on bottom
 Sea cocks & valves, overhauled pumps pipes & connections.

*Main & Donkey Boilers, new, also safety valves & other
 mountings new.*
 The Machinery & Boilers have been tried under steam
 and are now in my opinion in good order & safe ^{com} *work*
 eligible to be noted in the Register Book **R.N.B. C.M.C.**

*Miss submitted that this
 vessel is eligible to have
 & N/B 85 and LUB 12.85 records
 M 1/1886*

The amount of Entry Fee .. £ *v : v : v* received by me,
 Special £ *4 : 4 : "*
 Main Donkey Boiler Fee £ *8 : 8 : "*
 Certificate (if required) .. £ *v : 5 : "* *8/11 1886*
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *5-*)
 Committee's Minute

TUESDAY 12 JAN 1886

James Morrison
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
Clyde District

*+ JVB 83
 M 12.05*

