

REPORT ON MACHINERY

4493

THURS 3 1887

No. 4493

No. in Survey held at Dumbarton
Reg. Book.

Date, first Survey 20th May 1885 Last Survey Feb^{ry} 1st 1887
(Number of Visits 43)

Tons 2148.05

on the S. S. "Landaura"

Master J. Gray Built at Dumbarton By whom built Wm Denny Brothers When built 1886

Engines made at Dumbarton By whom made Denny & Co when made 1886

Boilers made at " By whom made " when made 1886

Registered Horse Power 274 Owners British India Ste. Nav. Co (Lim) Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Quadruple Expansion

Diameter of Cylinders 44" 34" 48" 68" Length of Stroke 48" No. of Rev. per minute 66^{to} 62 Point of Cut off, High Pressure " Low Pressure "

Diameter of Screw shaft 13¹/₂" Diam. of Tunnel shaft 12¹/₂" Diam. of Crank shaft journals 13¹/₂" Diam. of Crank pin 13¹/₂" size of Crank webs 19" 10"

Diameter of screw 1 1/2" Pitch of screw 19 p^{ts} 21 p^{ts} No. of blades four state whether moveable yes total surface 65¹/₂ p^{ts}

No. of Feed pumps two diameter of ditto 4 1/2" 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 10" Cyl 8" plunger x 19" stroke + 10" Cyl 6" plunger x 19" stroke Where do they pump from Sea Bilge & Hotwell

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" Are they connected to condenser, or to circulating pump Circulating

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 near to load line

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 Bilge pipes to forehold 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 On slip before launching

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

OILERS, &c.— Number of Boilers two Description Round Horizontal Whether Steel or Iron Steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 6th Nov^r 1885

Description of ~~superheating apparatus~~ steam chest Round longitudinal

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately "

No. of square feet of fire grate surface in each boiler 96 p^{ts} Description of safety valves Direct Spring No. to each boiler three

Area of each valve 8-9" Are they fitted with easing gear yes No. of safety valves to superheater 4 area of each valve "

Are they fitted with easing gear " Smallest distance between boilers and bunkers or woodwork 14" Diameter of boilers 13' 2 3/16"

Length of boilers 10 p^{ts} description of riveting of shell long. seams double riveted circum. seams Double riveted Thickness of shell plates 1 1/4"

Diameter of rivet holes 1 1/4" whether punched or drilled Drilled pitch of rivets 8" & 4" Lap of plating laps 1 1/2" x 1 1/2"

Per centage of strength of longitudinal joint 80% working pressure of shell by rules 164 lbs size of manholes in shell 17" x 13"

Size of compensating rings Double plate No. of Furnaces in each boiler Six

Outside diameter 3' 3" length, top 5' 6" bottom 5' 6" thickness of plates 9/16" description of joint Corrupted if rings are fitted "

Greatest length between rings 14' 2" working pressure of furnace by the rules 14 1/2 lbs combustion chamber plating, thickness, sides 9/16" back " top 9/16"

Pitch of stays to ditto, sides 6 1/8" x 6 1/8" back " top 8" x 6 1/8" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 172 lbs

Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 184 lbs end plates in steam space, thickness 1 1/16"

Pitch of stays to ditto 18" x 10" & 12" how stays are secured By double nuts working pressure by rules 160 lbs diameter of stays at smallest part 2-66" & 2-28" working pressure by rules 180 lbs Front plates at bottom, thickness 1 3/16" Back plates, thickness "

Greatest pitch of stays " working pressure by rules " Diameter of tubes 3" pitch of tubes 4 1/4" x 4 1/4" thickness of tube plates, front 1 3/16" back 1 3/16" how stayed By tubes pitch of stays 8 1/2" x 12 3/4" width of water spaces 9"

Diameter of Superheater or Steam chest 3' 1 3/16" length 6 p^{ts} thickness of plates 9/16" description of longitudinal joint Double riveted diam. of rivet holes 7/8"

Pitch of rivets 3" x 1 1/2" working pressure of shell by rules 240 lbs diameter of flue " thickness of plates " If stiffened with rings "

Distance between rings " working pressure by rules " end plates of ~~superheating~~ or steam chest; thickness 9/16" how stayed No stays

~~Superheating~~ or steam chest; how connected to boiler By iron (or plate) neck 18" dia plate 3/8" thick

Form No. 8-2-00-10/100-1 (revised 1914)

Lloyds Foundation

GLS 153-0093

7793.gls.

DONKEY BOILER— Description *Round Horizontal*
Made at *Dumbarton* by whom made *Deeny & Co* when made *1886* where fixed *On Main Deck*
Working pressure *160 lbs* tested by hydraulic pressure to *320* No. of Certificate *1629* fire grate area *16.5* description of safety valves *Direct Spring* No. of safety valves *One* area of each *5.8* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *8 ft* length *8' 3 1/2"* description of riveting *Double riveted double straps* Thickness of shell plates *1 1/16"* diameter of rivet holes *1 1/8"* whether punched or drilled *Drilled* pitch of rivets *4 1/2"* lap of plating *12 1/2" x 9/16"* per centage of strength of joint *42* thickness of ~~exposed~~ *end* plates *1 5/16"* stayed by *2 1/2" dia. stays (solid bars) 14" x 14" pitch* Diameter of furnace, top *3' 3"* bottom *—* length of furnace *6 ft* thickness of plates *9/16"* description of joint *Corrugated* Thickness of furnace ~~cross~~ *comb chamber* plates *9/16"* stayed by *1 3/4" + 1 3/8" stays 4 1/4" x 4 1/4" pitch* working pressure of shell by rules *14 1/4 lbs* Working pressure of furnace by rules *14 1/4 lbs* diameter of uptake *—* thickness of plates *1 3/16" + 1 1/16"* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *1 Half length Crank Shaft, 1 Propeller shaft with brass liners Key & nuts complete, 2 Propeller blades & 6 studs & nuts, 2 main bearing bolts, 2 tops & 2 bottom end connecting rod bolts, 1 pair Crank brasses lined with patent metal, 1 double valve spindle for each engine with connecting piece with nuts cottars &c, 2 Eccentric straps bolts & 2 pins, 1 Air pump rod complete with bucket & Guards Piston The foregoing is a correct description, packing rings for 4 & 2 1/2 cyls and a considerable quantity of other gear, 40 1/2 mile & plan tubes, & 5 stay tubes, assortment of bolts & studs, Springs, and valves for all the pumps*
Deeny & Co - Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers are of good materials & workmanship and are now in good order and safe working condition & eligible in my opinion to be noted in the Register Book*
Lloyds M.C 2/87

The amount of Entry Fee .. £ *2* : .. received by me,
Special £ *33* : *14* : ..
Donkey Boiler Fee £ .. : .. : ..
Certificate (if required) .. £ .. : .. : .. *26/6/1886*
To be sent as per margin.
(Travelling Expenses, if any, £ - *8/-*)

Committee's Minute *FRIDAY 4 FEB 1887*
L M C

Submitted this 2nd day of Feb 1887
L.M.C 2-87
7793
5-2-87
James Morrison
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Clyde District