

REPORT ON MACHINERY.

No. 4597

Received at London Office

CAT 22 MAY 1886

No. in Survey held at Bristol Date, first Survey Feb 16 Last Survey of May 1886
Reg. Book. ✓ on the Screw Lug 'Dragon' (Number of Vials 10) Tons 7.61
Master W. J. Brown Built at Bristol By whom built Hewell & Co When built 1886
Engines made at Bristol By whom made Hewell & Co when made 1886
Boilers made at Bristol By whom made Hewell & Co when made 1886
Registered Horse Power 140 Owners Wm & Geo. Brown Port belonging to London

ENGINES, &c.—

Description of Engines Compound Inverted 2 cylinders
Diameter of Cylinders 13.26" Length of Stroke 11" No. of Rev. per minute 160 Point of Cut off, High Pressure 55 Low Pressure 55
Diameter of Screw shaft 4.2" Diam. of Tunnel shaft 4.2" Diam. of Crank shaft journals 4.2" Diam. of Crank pin 4.2" size of Crank webs 6x3"
Diameter of screw 5.6" Pitch of screw 8.6" No. of blades 3 state whether moveable no total surface 8.4 sq ft
No. of Feed pumps one diameter of ditto 2.2" Stroke 9" Can one be overhauled while the other is at work ✓
No. of Bilge pumps one diameter of ditto 2.2" Stroke 9" Can one be overhauled while the other is at work ✓
Where do they pump from Bilge
No. of Donkey Engines one Size of Pumps 11x4" Where do they pump from Sea, Bilge & Hold
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 2.2" Are they connected to condenser, or to circulating pump Pump
How are the pumps worked Levers over Condenser
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 none
Is the screw shaft tunnel watertight ✓ and fitted with a sluice door ✓ worked from ✓

BOILERS, &c.—

Number of Boilers one Description Cylindrical Multitubular Whether Steel or Iron Steel
Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs Date of test 29 April 1886
Description of superheating apparatus or steam chest ✓
Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓
No. of square feet of fire grate surface in each boiler 26.58 Description of safety valves Turret's Spring No. to each boiler Two
Area of each valve 6.5 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 3.5" Diameter of boilers 8.5"
Length of boilers 9.6" description of riveting of shell long. seams Lap triple riveted circum. seams Lap double riv. Thickness of shell plates 5/16"
Diameter of rivet holes 1" whether punched or drilled drilled pitch of rivets 4" Lap of plating 1/2"
Percentage of strength of longitudinal joint 75 working pressure of shell by rules 103.6 size of manholes in shell 16x12"
Size of compensating rings 4x3x5/16 Angle ring No. of Furnaces in each boiler Two
Outside diameter 2.6" length, top 6.10" bottom 5.10" thickness of plates 1/2" description of joint Double Butt if rings are fitted Yes
Greatest length between rings 6.10" working pressure of furnace by the rules 109.2 combustion chamber plating, thickness, sides 3/16" back 3/16" top 3/16"
Pitch of stays to ditto, sides 9x9" back 8.2x9" top 8.2x9" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 114.3 Diameter of stays at smallest part 1.11 working pressure of ditto by rules 109.9 end plates in steam space, thickness 1/8"
Pitch of stays to ditto 1.8" x 1.3" how stays are secured double nuts with large riveted washers working pressure by rules 100 diameter of stays at smallest part 2.2" working pressure by rules 106.5 Front plates at bottom, thickness 3/4" Back plates, thickness 3/8"
Greatest pitch of stays 12x9" working pressure by rules 131 Diameter of tubes 3.5" pitch of tubes 4.2x4.2" thickness of tube plates, front 3/16" back 1/16" how stayed stay tubes pitch of stays 9.2x9.2" width of water spaces 10"
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 ✓

DONKEY BOILER—

Made at _____ Description _____
 by whom made _____
 Working pressure _____ tested by hydraulic pressure to _____
 valves _____ No. of safety valves _____ No. of Certificate _____ when made _____ where fixed _____
 enter the donkey boiler _____ diameter of donkey boiler _____ area of each _____ fire grate area _____
 Thickness of shell plates _____ diameter of rivet holes _____ length _____ if fitted with easing gear _____
 per centage of strength of joint _____ thickness of crown plates _____ whether punched or drilled _____ description of riveting _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ stayed by _____ pitch of rivets _____
 Thickness of furnace crown plates _____ stayed by _____ thickness of plates _____ description of joint _____
 Working pressure of furnace by rules _____ diameter of uptake _____ thickness of plates _____ working pressure of shell by _____
 _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied:—
 bearing bolts, 11 coupling bolts, 1 set of Feed & Bilge Pump
 Assorted Bolts & nuts & iron of sizes

The foregoing is a correct description,
Rawall Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)
 This vessel machinery has been built under Order
 Survey, the steel used in the construction of the
 Boiler has been tested as required by the Rules.
 The workmanship & materials are good
 The safety Valves have been set under steam to
 the working pressure & the accumulation found to
 be 2 per cent.
 The Machinery of this vessel being satisfactory
 I am of opinion it is eligible to be classed L.N.M.
 5.86 in the Register Book

Dray

*It is submitted that this
 vessel is eligible to have
 the notation L.N.M. to have
 recorded. 24/5/86*

24/5/86

The amount of Entry Fee
 Special .. £ 1 : 0 : 0 received by me,
 Donkey Boiler Fee .. £ 8 : 0 : 0
 Certificate (if required) .. £ : : :
 To be sent as per margin.
 (Travelling Expenses, if any, £ : 2 : 6 19th May 1886.)

Committee's Minute

Friday 20th May, 1886

Rawall

R. W. Coomber
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

