

REPORT ON MACHINERY.

46256

No. 46256 Received at London Office 18
 No. in Survey held at London Date, first Survey 17 March 1885 Last Survey 20 May 1886
 Reg. Book. 239 on the S.S. Penguin (Number of Visits 9) Tons 482
 Master J. M. Hawley Built at Dumfries By whom built When built 1876.5
 Engines made at Dumfries By whom made Gowley Bros & Co when made 1876
 Boilers made at London By whom made General Steam Nav Co when made 1886
 Registered Horse Power 220 Owners General Steam Nav Co Port belonging to London

ENGINES, &c.—

PLANS
NEW
Boilers

Description of Engines
 Diameter of Cylinders Length of Stroke No. of Rev. per minute Point of Cut off, High Pressure Low Pressure
 Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs
 Diameter of screw Pitch of screw No. of blades state whether moveable total surface
 No. of Feed pumps diameter of ditto Stroke Can one be overhauled while the other is at work
 No. of Bilge pumps diameter of ditto Stroke Can one be overhauled while the other is at work
 Where do they pump from
 No. of Donkey Engines Size of Pumps Where do they pump from
 Are all the bilge suction pipes fitted with roses Are the roses always accessible Are the sluices on Engine room bulkheads always accessible
 No. of bilge injections and sizes Are they connected to condenser, or to circulating pump
 How are the pumps worked
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers How are they protected
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock
 Is the screw shaft tunnel watertight and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers Two Description Cylindrical return tubular whether Steel or Iron Iron
 Working Pressure 65 lbs. Tested by hydraulic pressure to 130 lbs. Date of test 28.3.86.
 Description of superheating apparatus or steam chest horizontal domes.
 Can each boiler be worked separately no Can the superheater be shut off and the boiler worked separately
 No. of square feet of fire grate surface in each boiler 54 Description of safety valves spring No. to each boiler two
 Area of each valve 14.2 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 9" Diameter of boilers 154"
 Length of boilers 9' 5 1/8" description of riveting of shell long. seams treble rivet lap circum. seams double R lap Thickness of shell plates 7/8"
 Diameter of rivet holes 1 1/8" whether punched or drilled punched pitch of rivets 3 3/4" Lap of plating 7 1/4"
 Per centage of strength of longitudinal joint 70% working pressure of shell by rules 68 lbs size of manholes in shell 15" x 12"; 12" diam
 Size of compensating rings angle 4 x 4 x 5/8 + Superheater necks. No. of Furnaces in each boiler three
 Outside diameter 37" length, top 6' 6" bottom 9' 0" thickness of plates 1/2, 9/16 description of joint lap if rings are fitted partial
 Greatest length between rings 6 ft working pressure of furnace by the rules 100 combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16
 Pitch of stays to ditto, sides 8 x 8 back 7 x 9 3/4 top 13" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 57-110
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 4400 end plates in steam space, thickness 5/8
 Pitch of stays to ditto 15 x 17 (iron) how stays are secured double nuts & washers working pressure by rules 694 to diameter of stays at smallest part 2 3/16 working pressure by rules 4400 Front plates at bottom, thickness 11/16 Back plates, thickness 5/8
 Greatest pitch of stays gussets working pressure by rules ample Diameter of tubes 3 1/2" pitch of tubes 4 3/4" x 4 3/4" thickness of tube plates, front 1/16 back 1/16 how stayed stay tubes pitch of stays 14" width of water spaces 12"
 Diameter of Superheater or Steam chest 4' 9" length 9' 3" thickness of plates 1/2" description of longitudinal joint lap & rivets diam. of rivet holes 13/16
 Pitch of rivets 2 5/8 working pressure of shell by rules 94 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 iron necks

Form No. 8-2000-147/s. Transfer Ink.



462562

DONKEY BOILER— Description *Vertical Cylindrical*
 Made at *Defford* by whom made *General Steam Nav Co* when made *1886* where fixed *Lake Hall*
 Working pressure *45 lbs* tested by hydraulic pressure to *90 lbs* No. of Certificate *165* fire grate area *12 1/2 sq ft* description of safety
 valves *Spring* No. of safety valves *one* area of each *7"* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *yes* diameter of donkey boiler *57"* length *9' 6"* description of riveting *Single lap*
 Thickness of shell plates *7/16"* diameter of rivet holes *3/4"* whether punched or drilled *punched* pitch of rivets *2"* lap of plating *2 1/2"*
 per centage of strength of joint *62.5* thickness of crown plates *1/2"* stayed by *5 stays & uptake* description of joint *single rivet lap*
 Diameter of furnace, top *4' 0"* bottom *4' 0"* length of furnace *4' 3"* thickness of plates *3/8"* working pressure of shell by rules *44*
 Thickness of furnace crown plates *1/2"* stayed by *Uptake & 5 stays* thickness of water tubes *3/8"*
 Working pressure of furnace by rules *62* diameter of uptake *13"* thickness of plates *1/2"*

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

C. R. Masters Manufacturer *Superintendent General Steam Nav. Co.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The material and workmanship of these boilers appears to be good. The boilers have been securely fitted on board and their safety valves have been set to blow at the required working pressures. The sea connections are fitted to the ship's sides above the platforms except stokehold water service. Examined the high pressure & low pressure cylinders and slide valves & found them good. The low pressure cylinder has been relieved. Examined tailshaft and found it good. New lignum vitae has been fitted in the stern tube. As far as seen the machinery of this vessel is in a safe working condition and eligible in my opinion to have the notifications N. B. 86 and B. S. 5. 86 recorded in the Register Book.*

The amount of Entry Fee .. £ : : — received by me,
 Special .. £ 6 : 6 : —
 Donkey Boiler Fee .. £ : : —
 Certificate (if required) .. £ : : —
 To be sent as per margin.
 (Travelling Expenses, if any, £)

David Purves & Co. Surveyors
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Tuesday, 15th June, 1886.

[Signature]

JVB 86
B.S. 5. 86

