

REPORT ON MACHINERY.

No. 594

(Received in London Office 24/1/81 18)

No. in Survey held at Newcastle Date, first Survey 15th March Last Survey 6th August 1881
 Reg. Book. on the Screw Steamer "Macadaile" Tons 2198
1416
 Master Renolds. Built at Newcastle When built 1881
 Engines made at Newcastle By whom made Falmer's Co when made 1881
 Boilers made at Do. By whom made Do. when made 1881
 Registered Horse Power 270 Owners J. Temperley & Co Port belonging to Newcastle

ENGINES, &c.—

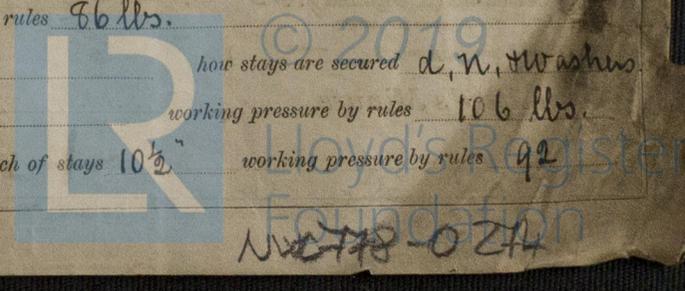
Description of Engines I wanted compound surface condensing
 Diameter of Cylinders 36" & 68" Length of Stroke 45" No. of Rev. per minute 62 Point of Cut off, High Pressure 22 1/2" Low Pressure 23"
 Diameter of Screw shaft 12 1/2" Diameter of Tunnel shaft 11 1/2" Diameter of Crank shaft journals 12 1/2" Diameter of Crank pin 12 3/4" size of Crank webs 9" x 14 1/2"
 Diameter of screw 17" 0" Pitch of screw 17" 0" No. of blades 4 state whether moveable no total surface 74 sq. ft.
 No. of Feed pumps 2 diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes.
 No. of Bilge pumps 2 diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work yes.
 Where do they pump from engine room well, tunnel well, tanks and sea and after hold well
 No. of Donkey Engines 2 Size of Pumps 12" x 8" & 9" x 4" Where do they pump from engine space well
tunnel well, after hold well, tanks and sea
 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 1 and sizes 5" Are they connected to condenser, or to circulating pump circulating
 How are the pumps worked lowers 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 new
 Is the screw shaft tunnel watertight yes. and fitted with a sluice door yes. worked from engine room platform

BOILERS, &c.—

Number of Boilers 2 Description Cylindrical and multitubular (steel shells & ends)
 Working Pressure 90 lbs. Tested by hydraulic pressure to 180 lbs. Date of test 28.6.81 No. of Certificate 631
 Description of superheating apparatus steam chest horizontal dome
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately —
 Area of square feet of fire grate surface in each boiler 55 Description of safety valves Spring
 No. of safety valves to each boiler 2 area of each valve 16.5 sq. ins. 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 12"
 Diameter of boilers 15" 0" Length of boilers 10" 6" description of riveting of shell long. seams lap, triple rivet circum. seams double riveted
 Thickness of shell plates 15/16" diameter of rivet holes 1 5/16" whether punched or drilled drilled pitch of rivets 5"
 Thickness of plating 9" percentage of strength of longitudinal joint 73.7 working pressure of shell by rules 92
 Diameter of manholes in end plate 16" x 12" size of compensating rings —
 No. of Furnaces in each boiler 3 outside diameter 46" length, top 5" 9" bottom 9" 6"
 Thickness of plates 9/16" description of joint 9" 3" if rings are fitted 1/2" rings greatest length between rings 5" 6"
 Working pressure of furnace by the rules 107 lbs.
 Thickness of combustion chamber plating, thickness, sides 1/2" back 9/16" top 9/16"
 Thickness of stays to ditto — sides 8 7/8" back 8 1/2" top 2 1/2" radius.
 Are stays fitted with nuts or riveted heads riveted heads. working pressure of plating by rules 89 lbs.
 Diameter of stays at smallest part 1 5/16" working pressure of ditto by rules 86 lbs.
 Thickness of plates in steam space, thickness 3/4" pitch of stays to ditto 15" x 14" how stays are secured d, n, washers
 Working pressure by rules 95 lbs. diameter of stays at smallest part 2 1/4" working pressure by rules 106 lbs.
 Thickness of plates at bottom, thickness 11/16" Back plates, thickness 11/16" greatest pitch of stays 10 1/2" working pressure by rules 92

No. 594
 No. in Survey held at Newcastle
 Reg. Book. on the Screw Steamer "Macadaile"
 Master Renolds.
 Engines made at Newcastle
 Boilers made at Do.
 Registered Horse Power 270
 Owners J. Temperley & Co
 Port belonging to Newcastle
 Description of Engines I wanted compound surface condensing
 Diameter of Cylinders 36" & 68"
 Length of Stroke 45"
 No. of Rev. per minute 62
 Point of Cut off, High Pressure 22 1/2"
 Low Pressure 23"
 Diameter of Screw shaft 12 1/2"
 Diameter of Tunnel shaft 11 1/2"
 Diameter of Crank shaft journals 12 1/2"
 Diameter of Crank pin 12 3/4"
 size of Crank webs 9" x 14 1/2"
 Diameter of screw 17" 0"
 Pitch of screw 17" 0"
 No. of blades 4
 state whether moveable no
 total surface 74 sq. ft.
 No. of Feed pumps 2
 diameter of ditto 4 1/2"
 Stroke 24"
 Can one be overhauled while the other is at work yes.
 No. of Bilge pumps 2
 diameter of ditto 4 1/2"
 Stroke 24"
 Can one be overhauled while the other is at work yes.
 Where do they pump from engine room well, tunnel well, tanks and sea and after hold well
 No. of Donkey Engines 2
 Size of Pumps 12" x 8" & 9" x 4"
 Where do they pump from engine space well
 tunnel well, after hold well, tanks and sea
 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 1
 and sizes 5"
 Are they connected to condenser, or to circulating pump circulating
 How are the pumps worked lowers 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 new
 Is the screw shaft tunnel watertight yes.
 and fitted with a sluice door yes.
 worked from engine room platform
 Number of Boilers 2
 Description Cylindrical and multitubular (steel shells & ends)
 Working Pressure 90 lbs.
 Tested by hydraulic pressure to 180 lbs.
 Date of test 28.6.81
 No. of Certificate 631
 Description of superheating apparatus steam chest horizontal dome
 Can each boiler be worked separately yes
 Can the superheater be shut off and the boiler worked separately —
 Area of square feet of fire grate surface in each boiler 55
 Description of safety valves Spring
 No. of safety valves to each boiler 2
 area of each valve 16.5 sq. ins.
 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 12"
 Diameter of boilers 15" 0"
 Length of boilers 10" 6"
 description of riveting of shell long. seams lap, triple rivet
 circum. seams double riveted
 Thickness of shell plates 15/16"
 diameter of rivet holes 1 5/16"
 whether punched or drilled drilled
 pitch of rivets 5"
 Thickness of plating 9"
 percentage of strength of longitudinal joint 73.7
 working pressure of shell by rules 92
 Diameter of manholes in end plate 16" x 12"
 size of compensating rings —
 No. of Furnaces in each boiler 3
 outside diameter 46"
 length, top 5" 9"
 bottom 9" 6"
 Thickness of plates 9/16"
 description of joint 9" 3"
 if rings are fitted 1/2" rings
 greatest length between rings 5" 6"
 Working pressure of furnace by the rules 107 lbs.
 Thickness of combustion chamber plating, thickness, sides 1/2"
 back 9/16"
 top 9/16"
 Thickness of stays to ditto —
 sides 8 7/8"
 back 8 1/2"
 top 2 1/2" radius.
 Are stays fitted with nuts or riveted heads riveted heads.
 working pressure of plating by rules 89 lbs.
 Diameter of stays at smallest part 1 5/16"
 working pressure of ditto by rules 86 lbs.
 Thickness of plates in steam space, thickness 3/4"
 pitch of stays to ditto 15" x 14"
 how stays are secured d, n, washers
 Working pressure by rules 95 lbs.
 diameter of stays at smallest part 2 1/4"
 working pressure by rules 106 lbs.
 Thickness of plates at bottom, thickness 11/16"
 Back plates, thickness 11/16"
 greatest pitch of stays 10 1/2"
 working pressure by rules 92

Report paid 12/1881 sent to Con. 24/9/81



Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
 How stayed stay tubes pitch of stays $14\frac{1}{4} \times 14\frac{1}{4}$ " width of water spaces $11\frac{1}{4}$ "
 Diameter of ~~Superheater~~ Steam chest $6 \cdot 0$ " length $5 \cdot 8$ "
 Thickness of plates $\frac{9}{16}$ " description of longitudinal joint lap, d. rivet diameter of rivet holes $7\frac{1}{8}$ " pitch of rivets $2\frac{1}{4}$ "
 Working pressure of shell by rules 117 lbs. Diameter of flue — thickness of plates —
 If stiffened with rings — distance between rings — Working pressure by rules —
 End plates of ~~superheater~~ steam chest; thickness $\frac{3}{4}$ " How stayed 9 stays, 16" pitch $2\frac{1}{4}$ " diameter effective
~~Superheater~~ steam chest; how connected to boiler steam pipes and stop valves.

DONKEY BOILER— Description Vertical cylindrical. H. 11" or 12" tubes.
 Made at Newcastle By whom made Palmer's Compagny made August 1881
 Where fixed Stakehole working pressure 70 lbs. Tested by hydraulic pressure to 140 lbs. No. of Certificate 630.
 Fire grate area 25 Sq. ft. Description of safety valves spring No. of safety valves 1 area of each 12.5 Sq. ft.
 If fitted with easing gear *yes.* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $6 \cdot 6$ " length $13 \cdot 9$ " description of riveting longitudinal seams down
 thickness of shell plates $\frac{1}{2}$ " diameter of rivet holes $7\frac{1}{8}$ " whether punched or drilled drilled
 pitch of rivets $3\frac{1}{16}$ " lap of plating $4\frac{1}{4}$ " per centage of strength of joint 70
 thickness of crown plates $\frac{9}{16}$ " stayed by 5, 2" stays.
 Diameter of furnace, top $5 \cdot 4$ " bottom $5 \cdot 8$ " length of furnace $7 \cdot 4$ "
 thickness of plates $\frac{1}{2}$ " description of joint lap, single riveted
 thickness of furnace crown plates $\frac{1}{2}$ " stayed by 5, 2" stays.
 Working pressure of shell by rules 76 lbs. working pressure of furnace by rules 70 lbs.
 diameter of uptake $1\frac{1}{2}$ " thickness of plates $7\frac{1}{16}$ " thickness of water tubes $\frac{3}{8}$ "

The foregoing is a correct description,
 _____ Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been specially surveyed during construction, the materials and workmanship good and under the vessel eligible in my opinion to have the notification of Lloyd's M. S. recorded in the Society's Register Book.

This submitted that the vessel is eligible to have the notification of Lloyd's M. S. recorded
M. 26/9/81

The amount of Entry Fee £ 32 : - : - received by me,
 Special £ 33 : 10 : -

Certificate (if required) *free* - : - : - 24th Sept 1881
 To be sent as per margin.
 (Travelling Expenses, if any, £)

Committee's Minute *Luesday, September, 21st 1881.*

Robert Edmund Taylor & Son

David Furness
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 N. Shields.



Lloyd's Register
 Foundation