

REPORT ON MACHINERY.

6874

No. 6874 Received at London Office FRIDAY 13 MARCH 1885
 No. in Survey held at Glasgow Date, first Survey 5th Sept 1884 Last Survey 11th March 1885
 Reg. Book. on the Screw Steamer "Electra" (Number of Visits 14) Tons 1219
 Master Paterson Built at Glasgow By whom built R. Napier & Sons When built 1884-5
 Engines made at Glasgow By whom made " " " when made 1884-5
 Boilers made at " " " " " when made 1884-5
 Registered Horse Power 200 Owners Eastern Telegraph Co. (Limited) Port belonging to London

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting
 Diameter of Cylinders 32" + 64" Length of Stroke 42" No. of Rev. per minute 48 Point of Cut off, High Pressure .72 Low Pressure .7
 Diameter of Screw shaft 10 1/8" Diam. of Tunnel shaft 10 3/8" Diam. of Crank shaft journals 11 1/4" Diam. of Crank pin 11 1/4" size of Crank webs 15 3/4" / 14"
 Diameter of screw 1 1/2" Pitch of screw 2 1/2" No. of blades four state whether moveable Yes total surface 60.7
 No. of Feed pumps Two diameter of ditto 3 1/2" Stroke 22" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two diameter of ditto 4" Stroke 22" 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 8" x 4 1/2" x 8" 10 1/2" x 6 1/2" x 9" Where do they pump from From Sea + Hotwell
Centrifugal pump 6"
 Are the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 Bilge injections Two and sizes 8" x 5" Are they connected to condenser, or to circulating pump To both + also a connection to centrifugal
 How are the pumps worked By Levers
 Are the 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
 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
 How are the pipes carried through the bunkers Bilge + Ballast pipes 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 previous to being launched
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Upper platform

BOILERS, &c.—

No. of Boilers Two Description Round Horizontal Whether Steel or Iron Steel
 Pressure 85 lbs Tested by hydraulic pressure to 140 lbs Date of test 19th Dec 1884
 Is there a superheating apparatus or steam chest None
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes
 Area of square feet of fire grate surface in each boiler 58.5 Description of safety valves Direct Spring No. to each boiler Two
 Area of each valve 15.9 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 about 4" Diameter of boilers 13' 3"
 Thickness of boiler plates 10' 3" description of riveting of shell long. seams Double Lap circum. seams Double Thickness of shell plates 3/4"
 Diameter of rivet holes 1" whether punched or drilled Drilled pitch of rivets 1 1/8" + 2 1/16" Lap of plating 4 1/2"
 Working pressure of longitudinal joint 80 working pressure of shell by rules 85 lbs size of manholes in shell 16" x 12"
 Thickness of compensating rings 1 1/16" doubling No. of Furnaces in each boiler Three
 Inside diameter 3' 3" length, top 4 1/2" bottom 9' 1/2" thickness of plates 9/16" description of joint Corrupted if rings are fitted —
 Smallest length between rings — working pressure of furnace by the rules 100 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 10/16"
 Pitch of stays to ditto, sides 7 1/2" x 7 1/2" back 10 1/2" x 10 1/2" top 11 1/2" x 11 1/2" Are stays fitted with nuts or riveted heads Nuts working pressure of plating by rules 86 lbs
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 85 lbs thickness of plates in steam space, thickness 1 1/16"
 Pitch of stays to ditto 16 1/4" x 15 1/4" how stays are secured by double nuts working pressure by rules 103 lbs diameter of stays at smallest part 1.91" working pressure by rules 90 lbs Front plates at bottom, thickness 10/16" Back plates, thickness 9/16"
 Greatest pitch of stays 11 1/2" working pressure by rules — Diameter of tubes 3" pitch of tubes 4 1/8" thickness of tube plates, front 12/16" back 11/16" how stayed by tubes pitch of stays 8 1/2" x 12 3/8" width of water spaces 5"
 Diameter of Superheater or Steam chest None 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 —

6877 g/s

DONKEY BOILER— Description *Round Horizontal*
 Made at *Glasgow* by whom made *R. Napier & Sons* when made *1884* where fixed *Upper deck*
 Working pressure *85 lbs* tested by hydraulic pressure to *140 lbs* No. of Certificate *1576* fire grate area *10 1/2* description of sq
 valves *Direct Spring* No. of safety valves *one* area of each *8.29* if fitted with easing gear *yes* if steam from main boilers
 enter the donkey boiler *no* diameter of donkey boiler *8 ft* length *4 1/2* description of riveting *Double riveted*
 Thickness of shell plates *3/16* full diameter of rivet holes *3/8* whether punched or drilled *Filled* pitch of rivets *3 1/2* lap of plating *6*
 per centage of strength of joint *75%* thickness of ~~plates~~ *plates* stayed by *Screw Stays 1 1/2" x 10 1/2" pitch*
 Diameter of furnace, top *3'-9"* bottom *3'-9"* length of furnace *8 ft* thickness of plates *3/16* description of joint *Double butt*
 Thickness of furnace crown plates *1/4"* stayed by *Bar Stays 2 1/2" dia 16" x 14" pitch* working pressure of shell by rules *81*
 Working pressure of furnace by rules *99 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *3/16*

SPARE GEAR. State the articles supplied:— *One half length crank shaft & propeller blades & 1*
studs, 1 pair top & 1 pair bottom connecting rod brasses, 1 pair main brass
2 main bearing bolts 12 coupling bolts, 4 connecting rod bolts, 2 sets of valves,
all the pumps with seats for feed pumps large assortment of bolts, nuts, &c
Boiler & Condenser, tubes &c
 The foregoing is a correct description,
M. Napier & Sons Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *These Engines & Boilers are*
good workmanship and materials and are now in good order
safe working condition & eligible in my opinion to be noted in
Register Book Lloyd's M.C. 3/85

*I do submit that this
 vessel is eligible to have
 its registration & M.C.
 renewed*
M. 13/3/85

The amount of Entry Fee .. £ *2* : - : - received by me,
 Special £ *30* : - : -
 Donkey Boiler Fee £ - : - : -
 Certificate (if required) .. £ - : - : - *11/3/1885*
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *8/-*)

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

Committee's Minute FRIDAY 13 MARCH 1885
[Signature]

