

REPORT ON MACHINERY.

26445

TH. RS. 15 OCT 1891

Received at London Office

Port of Newcastle

26445

Survey held at

Newcastle

Date first Survey 1 April

Last Survey 8 Oct

1891

Book.

S.S. "Benwell Tower"

(Number of Visits 19)

Tons

Gross 3200.50

Net 2072.69

on the

Built at Newcastle

By whom built Edwards Ship By Co.

When built 1891

Engines made at

Newcastle

By whom made Wallsend Shipways & Fyfe & Co.

when made 1891

Engines made at

do

By whom made do do do

when made 1891

Registered Horse Power

968.74/10

Owners

Port belonging to

ENGINES, &c.—

Description of Engines Triple expansion Surface Condensing No. of Cylinders 3
 No. of Cylinders 28" 38" & 61" Length of Stroke 24" Rev. per minute 66 Point of Cut off, High Pressure .61 Low Pressure .62
 Diameter of Screw shaft 11 3/4" Diam. of Tunnel shaft 11 3/4" Diam. of Crank shaft journals 11 3/4" Diam. of Crank pin 12 size of Crank webs 8 1/2" x 14"
 Diameter of screw 16.0" Pitch of screw 14.6" No. of blades 4 state whether moveable no total surface 4 1/2 sq ft
 No. of Feed pumps 2 diameter of ditto 3 1/2" Stroke 24 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes
 Where do they pump from Hot well. Holds. Tanks. Engine space. After well & Sea.
 No. of Donkey Engines 2 Size of Pumps 6" x 4" 6" x 8 1/2" x 6" Where do they pump from Tanks. Holds. Sea
 Engine space. Hot well & after well.
 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 4 1/2" Are they connected to condenser, or to circulating pump Circulating 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
 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 vessel
 Is the screw shaft tunnel watertight - and fitted with a sluice door Yes worked from Upper Platform

OILERS, &c.—

No. of Boilers 2 Description Cylindrical Single end Material Steel Letter (for record)
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 22.6.91 No. of Cert. 3678
 Description of superheating apparatus or steam chest None
 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 61.5 Description of safety valves Spring No. to each boiler 2
 Area of each valve 8.3 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 Ship Side Diameter of boilers 15.0"
 Length of boilers 10.3" description of riveting of shell long. seams W.P. tubular circum. seams Lap thickness of shell plates 1 1/32"
 Diameter of rivet holes 1 1/32" whether punched or drilled Drilled pitch of rivets 8 1/2" Lap of plating 1.7 1/4"
 Percentage of strength of longitudinal joint 84.19 working pressure of shell by rules 163 size of manholes in shell 16" x 12"
 Size of compensating rings 9" x 1 1/32" No. of Furnaces in each boiler 3 Description of Furnaces Hot patent
 Outside diameter 3.9" length 6.6" thickness of plates 13/32" description of joint Welded if rings are fitted 1/2"
 Greatest length between rings 6.3" working pressure of furnace by the rules 166 combustion chamber plating, thickness, sides 5/8" back 3/8" top 3/8"
 Pitch of stays to ditto, sides 8 1/2" back 8 1/2" top 8 1/2" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 166 Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 164 end plates in steam space, thickness 1"
 Pitch of stays to ditto 18" x 17 1/2" how stays are secured Dr. Machine working pressure by rules 170 diameter of stays at smallest part 2 3/4" x 2 1/2" working pressure by rules 160 lbs Front plates at bottom, thickness 13/16" Back plates, thickness 1/2"
 Greatest pitch of stays 12 1/2" working pressure by rules 160 Diameter of tubes 3 1/4" pitch of tubes 4 1/2" thickness of tube plates, front 1/2" back 13/16" how stayed Tubes pitch of stays 9" width of water spaces 6"
 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 -

Report received 14/10/91
 26445

DONKEY BOILER— Description *vertical with four crop tubes*
 Made at *Gatehead* by whom made *Clarke Chapman & Co* when made *6.8.91* where fixed *Stoke Newington*
 Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *3668* fire grate area *30 sq* description of safety valves *Spring*
 No. of safety valves *2* area of each *4.04* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no*
 diameter of donkey boiler *4.6"* length *14.0"* description of riveting *Lap double*
 Thickness of shell plates *1/2"* diameter of rivet holes *15/16"* whether punched or drilled *drilled* pitch of rivets *3 1/4"* lap of plating *4 1/2"*
 per centage of strength of joint *72* thickness of crown plates *5/8"* stayed by *9 Stays 1 1/2" off diam?*
 Diameter of furnace, top *5.11 1/2"* bottom *6.4 1/2"* length of furnace *6.0"* thickness of plates *5/8"* description of joint *Lap Single*
 Thickness of furnace crown plates *9/16"* stayed by *Same as shell crown* working pressure of shell by rules *86 lb*
 Working pressure of furnace by rules *80 lb* diameter of uptake *18"* thickness of plates *7/16"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Propeller, 2 main bearing bolts & nuts, 2 top end bolts & nuts, 2 bottom end bolts & nuts, 1 set of shaft coupling bolts & nuts, packing rings for R.P. piston, 1 set of feed pump valves, 1 set of Bilge pump valves, 2 safety valves Spring, nuts, Bolts & iron assorted.*

The foregoing is a correct description,
 FOR THE LONDON AND LONDON & ENGINEERING CO. LTD.
 Manufacturer.

Oct 9/91 *L. G. R. Allen* *Manager*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery has been specially surveyed during construction the materials and workmanship good and renders the vessel eligible in my opinion to have the Record + L & C 10.91 in the Register Book of the Society.*

Heating Surface in (2) main boilers = *4220 sq*
 in W.P. as per Rules = *265 sq ft.*

Allen

It is submitted that this vessel is eligible for the record + L & C 10.91
Oct 15 1891

Machinery Certificate Written.

Certificate (if required) to be sent to _____

The amount of Entry Fee .. £ 2 : : : received by me,
 Special *W. J. G.* .. £ 33 : 5 : :
 Donkey Boiler Fee .. £ : : :
17/10/1891

Richard Hirst
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Bevercastles

(Travelling Expenses, if any, £ _____)

Committee's Minute
 OCT 16 1891
 + L & C 10, 91

