

REPORT ON MACHINERY.

14901

Port of Sunderland

RECEIVED 31

Received at London Office

No. 14901

No. in Survey held at Sunderland

Date, first Survey 24 Sept 1888 Last Survey 23rd Jan 1889

Reg. Book. on the S.S. "Urpeth"

(Number of Visits 18) Tons 1060
669

Master J. Davies Built at Sunderland By whom built J.P. Austin & Son

When built 1889

Engines made at Sunderland By whom made North Eastern Marine Co. Ld when made 1889

Boilers made at Sunderland By whom made North Eastern Marine Co. Ld when made 1889

Registered Horse Power 120 Owners John Fenwick & Son Port belonging to London

ENGINES, &c.—

Description of Engines Triple compound. three cranks

Diameter of Cylinders 18², 30⁴, 49 Length of Stroke 33" No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2 stroke Pressure 1/2 stroke

Diameter of Screw shaft 9³/₄" Diam. of Tunnel shaft 8³/₄" Diam. of Crank shaft journals 9³/₄" Diam. of Crank pin 9³/₄" size of Crank webs 15" x 5³/₄"

Diameter of screw 11¹/₂" Pitch of screw 14-13" No. of blades 4 state whether moveable no total surface 4¹/₂ sq

No. of Feed pumps 2 diameter of ditto 2³/₄" Stroke 33" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3¹/₂" Stroke 33" Can one be overhauled while the other is at work yes

Where do they pump from Tanks, engine room and after well

No. of Donkey Engines Two Size of Pumps 6" x 9" & 3" x 6" Where do they pump from Tanks, wells, sea, hot 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 one and sizes 4" Are they connected to condenser, or to circulating pump circulating pumps

How are the pumps worked direct from crossheads

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 vessel

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform

BOILERS, &c.—

Number of Boilers one Description Ordinary type Whether Steel or Iron Steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 15-12-88

Description of superheating apparatus or steam chest none

Can each boiler be worked separately only one Can the superheater be shut off and the boiler worked separately no superheater

Area of square feet of fire grate surface in each boiler 48 sq Description of safety valves direct spring to each boiler 2

Area of each valve 4.04 sq 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 15" Diameter of boilers 14¹/₄"

Length of boilers 10-0" description of riveting of shell long. seams triple riv² butt straps double lap Thickness of shell plates 1¹/₂"

Diameter of rivet holes 1³/₁₆" whether punched or drilled drilled pitch of rivets 4¹/₂" & 3³/₄" Lap of plating 1¹/₂" straps

Percentage of strength of longitudinal joint 84.1% working pressure of shell by rules 162 lbs size of manholes in shell 16 x 13"

Size of compensating rings 8" x 1" No. of Furnaces in each boiler 3

Outside diameter 3-4¹/₂" length, top 6-2" bottom 6-2" thickness of plates 1¹/₂" description of joint corrugated if rings are fitted no

Greatest length between rings — working pressure of furnace by the rules 160 combustion chamber plating, thickness, sides 9¹/₁₆" back 9¹/₁₆" top 9¹/₁₆"

Pitch of stays to ditto, sides 4³/₄" x 4³/₄" back 4³/₄" x 4³/₄" 4³/₄" x 4¹/₂" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 162 lbs

Diameter of stays at smallest part 1⁵/₁₆" working pressure of ditto by rules 144 lbs thickness of plates in steam space, thickness 1"

Pitch of stays to ditto 14¹⁵/₁₆" x 14¹⁵/₁₆" how stays are secured nuts working pressure by rules 160 lbs diameter of stays at smallest part 2³/₈"

Greatest pitch of stays 11¹/₂" working pressure by rules 160 lbs Diameter of tubes 3¹/₄" pitch of tubes 4¹/₂" x 4¹/₂" thickness of tube plates, front 1³/₁₆" back 3¹/₄" how stayed stay tubes pitch of stays 9 x 9" width of water spaces 1¹/₄"

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 —

SLD961-0095

Lloyd's Register Foundation

DONKEY BOILER— Description *Vertical, cylindrical, three cross tubes*
 Made at *Stockton* by whom made *P Ludron & Co* when made *1-12-88* where fixed *stockhold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1695* fire grate area *21 sq ft* description of safety valves *direct spring* No. of safety valves *2* area of each *2.04 sq ft* if fitted with easing gear *yes* if steam from main boilers enter the donkey boiler *no* diameter of donkey boiler *6-0"* length *12-6"* description of riveting *dbl riveted lap*
 Thickness of shell plates *17/32"* diameter of rivet holes *13/16"* whether punched or drilled *punched* pitch of rivets *2 3/4"* lap of plating *4 1/2"*
 per centage of strength of joint *40%* thickness of crown plates *17/32"* stayed by *uptake & 6 stays 1 1/2" diam*
 Diameter of furnace, top *4-10"* bottom *5-4 1/2"* length of furnace *5-4 1/2"* thickness of plates *5/8"* description of joint *single riv^d lap*
 Thickness of furnace crown plates *5/8"* stayed by *uptake & six stays 1 1/2" diam* working pressure of shell by rules *85 lbs*
 Working pressure of furnace by rules *81 lbs* diameter of uptake *12"* thickness of plates *7/16"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied: *Top & bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, feed and bilge pump valves, bolts, nuts & iron, piston springs & propeller*

The foregoing is a correct description,
 For the *North Eastern Marine Engineering Co (Ltd)* Manufacturer of main engines & boilers.
J. H. Quinn

General Remarks (State quality of workmanship, opinions as to class, &c.)
The main steam pipes have been tested by hydraulic pressure to 320 lbs per square inch. The machinery has been constructed under special survey, the material and workmanship are good and efficient and the engine when tried under steam worked satisfactorily. In my opinion the machinery of this vessel is in good order in safe working condition and eligible for the notification in the Register Book of L.M.C. 1.89.

Large handwritten signature in blue ink.

It is submitted that this vessel is eligible to have L.M.C. 1.89, recorded n.d. 31-1-89.

The amount of Entry Fee . . . £ *2 : 0* : *received by me*
 Special . . . £ *18 : 0* : *1989*
 Donkey Boiler Fee . . . £ . . . : . . .
 Certificate (if required) . . . £ . . . : *31/1/89*
 To be sent as per margin.

John Salmon
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRIDAY 1 FEB 1889**
+ L.M.C. 1/89



Record free bear