

REPORT ON MACHINERY.

14901

Port of *Sunderland*

THURS 31

No. *14901*

No. in Survey held at *Sunderland*

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

Reg. Book.

(Number of Visits *18*)

1060

on the *S.S. "Urpeth"*

Tons *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. Ltd* when made *1889*

Boilers made at *Sunderland* By whom made *North Eastern Marine & Co. Ltd* 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 *18 1/2, 30, 49* Length of Stroke *33"* No. of Rev. per minute *60* Point of Cut off, High Pressure *1/2 stroke* Low Pressure *1/2 stroke*
 Diameter of Screw shaft *9 1/4"* Diam. of Tunnel shaft *8 3/4"* Diam. of Crank shaft journals *9 1/4"* Diam. of Crank pin *9 1/4"* size of Crank webs *15" x 5 3/4"*
 Diameter of screw *11-1/2"* Pitch of screw *14-1/2"* No. of blades *4* state whether moveable *no* total surface *4 1/2 sq ft*
 No. of Feed pumps *2* diameter of ditto *2 1/2"* Stroke *33"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *3 1/2"* 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 1/4" 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 ft* Description of safety valves *direct spring* to each boiler *2*
 Area of each valve *4-0 sq ft* 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 *14-1/4"*
 Length of boilers *10-0"* Description of riveting of shell long. seams *triple riv^d butt straps* double lap Thickness of shell plates *1 1/2"*
 Diameter of rivet holes *1 3/16"* whether punched or drilled *drilled* pitch of rivets *4 1/2" x 3 3/4"* Lap of plating *1 1/8" straps*
 Percentage of strength of longitudinal joint *84-1/2%* 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 *3-4 1/2"* length, top *6-2"* bottom *6-2"* thickness of plates *1 1/4"* 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 *9/16"* back *9/16"* top *9/16"*
 Pitch of stays to ditto, sides *4 3/4" x 4 3/4"* back *4 3/4" x 4 3/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *162 lbs*
 Diameter of stays at smallest part *1 5/16"* working pressure of ditto by rules *144 lbs* d plates in steam space, thickness *1"*
 Pitch of stays to ditto *14 5/16" x 14 5/16"* how stays are secured *nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2 3/8"*
 Working pressure by rules *148 lbs* Front plates at bottom, thickness *3/4"* Back plates, thickness *1/8"*
 Greatest pitch of stays *11 1/2"* working pressure by rules *160 lbs* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2" x 4 1/2"* thickness of tube plates, front *13/16"* back *3/4"* how stayed *stay tubes* pitch of stays *9 x 9"* width of water spaces *1 1/4"*
 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

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 ft* description of safety
 valves *direct spring* No. of safety valves *2* area of each *4.04 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 *70%* 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-^l la*
 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. fuel and bilge pump valves.
 bolts. nuts & iron. piston springs & propeller*

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

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 &
 safe working condition and eligible for the notification in the Regu-
 lar Book of L.M.C. 1.89.*

*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 : 0* *received by me,*
 Special . . . £ *18 : 0 : 0*
 Donkey Boiler Fee . . . £ . . .
 Certificate (if required) . . . £ . . . *31/1/89*
 To be sent as per margin.
 (Travelling Expenses, if any, £ . . .)

Committee's Minute *FRIDAY 1 FEB 1889*

+ L.M.C. 1/89

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



Lloyd's Register
 Foundation