

REPORT ON MACHINERY.

24538

No. 24538

Port of *Newcastle on Tyne*

Received at London Office *9/8/90*

No. in Survey held at *South Shields*

Date, first Survey *25th Jan'y*

Last Survey *1st July 1890*

Reg. Book.

(Number of Visits *25*)

2426

on the *SS Trevaylor*

Tons *1572*

Master *Quiller* Built at *South Shields* By whom built *J Readhead & Sons*

When built *1890*

Engines made at *South Shields* By whom made *J Readhead & Sons*

when made *1890*

Boilers made at *South Shields* By whom made *J Readhead & Sons*

when made *1890*

Registered Horse Power *250*

Owners *E & A Ham & Son*

Port belonging to *St. Ives*

ENGINES, &c.—

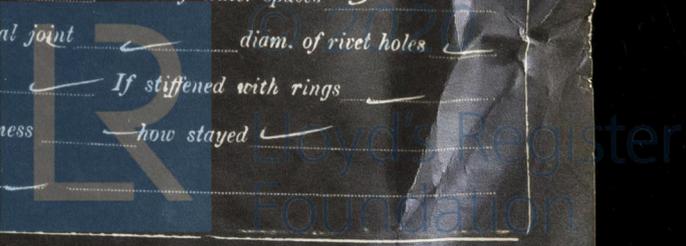
Description of Engines *Triple expansion sur. condensing*
 Diameter of Cylinders *23 3/4 6 1/2* Length of Stroke *39* No. of Rev. per minute *60* Point of Cut off, High Pressure *6* Low Pressure *5*
 Diameter of Screw shaft *1 1/2* Diam. of Tunnel shaft *1 1/2* Diam. of Crank shaft journals *1 1/2* Diam. of Crank pin *1 1/2* size of Crank webs *Fosters Patent*
 Diameter of screw *15-0* Pitch of screw *15-6 to 18-6* No. of blades *4* state whether moveable *no* total surface *5 7/8*
 No. of Feed pumps *2* diameter of ditto *2 1/2* Stroke *20* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *3 3/4* Stroke *20* Can one be overhauled while the other is at work *yes*
 Where do they pump from *(port pump) Tanks Fore hold Eng. bilges (1) (Star pump) Eng. bilges (2) & after well*
 No. of Donkey Engines *2* Size of Pumps *1 3/2 x 9 x 10 & 5 1/4 x 3 1/2 x 5* Where do they pump from *(Ball. Don.) Tanks Holds*
Eng. bilges, after well 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 *one* and sizes *3 1/2* Are they connected to condenser, or to circulating pump *circulating pump*
 How are the pumps worked *By levers over condenser from after engine*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *Both*
 Are they fitted 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*
 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*
 Have the 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 *—*

BOILERS, &c.—

Number of Boilers *2* Description *Cylind. single* Whether Steel or Iron *Steel*
 Working Pressure *160lb* Tested by hydraulic pressure to *320lb* Date of test *19th May 1890 No. spec 3233*
 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 *—*
 Area of square feet of fire grate surface in each boiler *52.25* Description of safety valves *Spring* No. to each boiler *2*
 Diameter of each valve *7.04* Are they fitted with casing gear *yes* No. of safety valves to superheater *—* area of each valve *—*
 Are they fitted with casing gear *—* Smallest distance between boilers and bunkers or woodwork *15"* Diameter of boilers *14-3"*
 Thickness of shell plates *19/32*
 Description of riveting of shell long. seams *double butt, tight, 1/2 circum.* seams *double lap*
 Diameter of rivet holes *15/16* whether punched or drilled *drilled* pitch of rivets *7/8* Lap of plating *19"*
 Percentage of strength of longitudinal joint *82.4* working pressure of shell by rules *160* size of manholes in shell *15" x 12"*
 Diameter of compensating rings *6" x 19/32* No. of Furnaces in each boiler *3*
 Inside diameter *39"* length, top *5-9* bottom *8-6* thickness of plates *—* description of joint *Welded* if rings are fitted *—*
 Working pressure of furnace by the rules *—* combustion chamber plating, thickness, sides *5/8"* back *5/8"* top *5/8"*
 Diameter of stays to ditto, sides *8 5/8"* back *8 5/8"* top *8"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *161*
 Diameter of stays at smallest part *1 5/8"* working pressure of ditto by rules *161* end plates in steam space, thickness *1 1/16"*
 How stays are secured *Double nuts & wash* working pressure by rules *159* diameter of stays at smallest part *2 13/32*
 Working pressure by rules *160* Front plates at bottom, thickness *3/4"* Back plates, thickness *13/16"*
 Smallest pitch of stays *1 1/4"* working pressure by rules *160* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2"* thickness of tube plates, front *3/4"* back *3/4"* how stayed *5 tubes* pitch of stays *9"* width of water spaces *5"*
 Diameter of Superheater or Steam chest *none* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*
 Working pressure of shell by rules *—* diameter of flue *—* thickness of plates *—* If stiffened with rings *—*
 Working pressure by rules *—* end plates of superheater, or steam chest; thickness *—* how stayed *—*
 Superheater or steam chest; how connected to boiler *—*

Report recd 10/4/90 sent to Mr. 8/8/90

Description of furnaces



DONKEY BOILER— Description *Vertical 4 cross tubes*
 Made at *Latehead* by whom made *Clarke Chapman & Co* when made *2.4.90* where fixed *Stokehold*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *3198* fire grate area *21 1/2* description of safety valves *Spring* No. of safety valves *one* area of each *9.62* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *6'-6"* length *13'-6"* description of riveting *(Lap) double lap*
 Thickness of shell plates *7/16"* diameter of rivet holes *7/8"* whether punched or drilled *drilled* pitch of rivets *3 3/16"* lap of plating *1 1/4"*
 per centage of strength of joint *72* thickness of crown plates *9/16"* stayed by *6 steel stays 1 5/8" diam*
 Diameter of furnace, top *5'-2"* bottom *5'-6"* length of furnace *5'-9"* thickness of plates *9/16"* description of joint *single lap*
 Thickness of furnace crown plates *9/16"* stayed by *as shell crown* working pressure of shell by rules *84 lb*
 Working pressure of furnace by rules *80 lb* diameter of uptake *15"* thickness of plates *7/16"* thickness of water tubes *3/8"*
3 rows of stays in furnace ¹²/₁₄ } *1 1/8" diam eff.*

SPARE GEAR. State the articles supplied:— *Propeller shaft and propeller, 1/3" Crank, 2 top end & 2 bottom end connecting rod bolts nuts, 2 main bearing bolts one set of coupling bolts, one set of flange & feed pump valves, bolts nuts assorted, bar iron various sizes & ordinary engine room outfit*
 The foregoing is a correct description,
John Headhead & Sons Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey, the material and workmanship are sound & good, and renders the vessel eligible in my opinion to have the record + LHC 790 in the Register Book of the Society*

Heating surface = 3394 sq ft
N.P. by rule = 231

Machinery Certificate
 Written
 The amount of Entry Fee . £ 2 : - : - received by me,
 Special £ 31 : 11 : -
 Donkey Boiler Fee £ - : - : -
 Certificate (if required) £ *gratis* : 13/5/90
 To be sent as per margin.
 Travelling Expenses, if any, £

Committee's Minute *TUES 12 AUGUST 1890*
+ Lm 67/90

Richd J Napier
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register Foundation