

# REPORT ON MACHINERY.

24119

MON 5 MAY 1890

Port of *Newcastle-on-Tyne*

Received at London Office

13

No. *24119*

No. in Survey held at

*South Shields*

Date, first Survey

*Dec 1889*

Last Survey

*20 April 1890*

Reg. Book.

on the

*S.S. Tresillian*

(Number of Visits

Tons

*1570*

Master

*Gyles*

Built at

*South Shields*

By whom built

*Readhead & Sons*

When built

*1890*

Engines made at

*South Shields*

By whom made

*Readhead & Sons*

when made

*1890*

Boilers made at

*Do*

By whom made

*Do*

when made

*1890*

Registered Horse Power

*250*

Owners

*Edwin & Son*

Port belonging to

*St. J. & Co.*

## ENGINES, &c.—

Description of Engines

*Triple expansion. sur. condensing*

Diameter of Cylinders *23.37 1/2" 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 *11 1/2"* Diam. of Tunnel shaft *11"* Diam. of Crank shaft journals *11 1/2"* Diam. of Crank pin *11 1/2"* size of Crank webs *13 1/2" x 8"*

Diameter of screw *15-0"* Pitch of screw *15-6" to 18-6"* No. of blades *4* state whether moreable *no* total surface *57 1/4"*

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, Forehold Eng. bilges (1). (Star pump) Eng. bilges (2) - after well*

No. of Donkey Engines *2* Size of Pumps *13 1/2" x 9" x 10" & 5 1/4" x 3 1/2" x 5"* Where do they pump from *B Don. Tanks. Holds,*

*Engine bilges after well & sea. And Don. same as B D & from 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 *1* 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 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*

## OILERS, &c.—

Number of Boilers

*2*

Description

*Cylind. single ended*

Whether Steel or Iron

*Steel*

Working Pressure

*160 lbs*

Tested by hydraulic pressure to

*320 lbs*

Date of test

*12 March 1890. 1st & 2nd 3166*

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 *52.25* Description of safety valves *Spring* No. to each boiler *2*

Area of each valve *4.07 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' 3"*

Length of boilers *9' 8"* description of riveting of shell long. seams *doub butt triple* circum. seams *doub 1st lap* Thickness of shell plates *1 1/2"*

Diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *7 1/8"* Lap of plating *19"*

Per centage of strength of longitudinal joint *82.4* working pressure of shell by rules *160* size of manholes in shell *15" x 12"*

Size of compensating rings *6 x 1 1/32"* No. of Furnaces in each boiler *3*

Outside diameter *39"* length, top *5' 9"* bottom *8' 6"* thickness of plates *1 1/32"* description of joint *Welded* if rings are fitted *—*

Greatest length between rings *5' 9"* working pressure of furnace by the rules *166* combustion chamber plating, thickness, sides *5/8"* back *5/8"* top *5/8"*

Pitch of stays to ditto, sides *8 1/8"* back *8 1/8"* 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 1/8"* working pressure of ditto by rules *161* end plates in steam space, thickness *1 1/16"*

Pitch of stays to ditto *16"* how stays are secured *Doub. nut & wash* working pressure by rules *159* diameter of stays at smallest part *2 1/32"*

working pressure by rules *160* Front plates at bottom, thickness *3/4"* Back plates, thickness *1 1/16"*

Greatest pitch of stays *11 1/4"* working pressure by rules *160* Diameter of tubes *5 1/4"* pitch of tubes *4 1/2"* thickness of tube plates, front *3/4"* back *3/4"*

how stayed *915 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 *—*

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 *—*

Description of furnaces Furnaces



**DONKEY BOILER—** Description *Vertical 4 cross tubes*  
Made at *Gateshead* by whom made *Charles Chapman & Co.* when made *24.2.87* where fixed *Stockholm*  
Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *3074* fire grate area *22 sq ft* description of safety valves *Spring* No. of safety valves *one* area of each *9.6 sq in* 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 *double lap*  
Thickness of shell plates *7/16"* diameter of rivet holes *7/8"* whether punched or drilled *both* pitch of rivets *3 3/16"* lap of plating *4 1/4"*  
per centage of strength of joint *12.5* thickness of crown plates *9/16"* stayed by *6 stays 1 5/8" off diam.*  
Diameter of furnace, top *5'-2"* bottom *5'-6 3/4"* length of furnace *5'-8"* thickness of plates *9/16"* description of joint *single lap*  
Thickness of furnace crown plates *9/16"* stayed by *as shell crown 9 rows 1 5/8" stays* working pressure of shell by rules *86*  
Working pressure of furnace by rules *80* diameter of uptake *15"* thickness of plates *7/16"* thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *1/3 crank shaft, propeller shaft and propeller 2 top and 2 bottom end connecting rod bolts, 2 main bearing bolts, one set of coupling bolts, one set of flange of feed pump valves bolts & nuts assorted bar iron of various sizes and ordinary engine room outfit.*

The foregoing is a correct description,  
*John Readhead & 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 & workmanship are sound and good and eligible in my opinion to have the Record + LMC 4-90 in the Register Book of the Society*

*Heating surface = 3397 sq ft  
N.P. Grule 231*

*It is submitted that this vessel is eligible to have + LMC 4-90 recorded.*  
*N.A.*  
*5.5.90*

The amount of Entry Fee .. £ *2* : received by me,  
Special .. £ *31 11* :  
Donkey Boiler Fee .. £ :  
Certificate (if required) .. £ *gratis* *3/6* 1890  
To be sent as per margin.  
(Travelling Expenses, if any, £ )

Committee's Minute *TUES 6 MAY 1890*

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



*+ LMC 4/90*