

REPORT ON MACHINERY.

No. 14294

No. in Survey held at *Newcastle*
Reg. Book.

Date, first Survey *25th October* Last Survey *19th Decr* 1883
(Number of Visits *10*)

on the *S.S. John Grafton*

Master *Halsey* Built at *Newcastle* By whom built *Valmies & Co Ltd* Tons *586*
Engines made at *Newcastle* By whom made *Valmies & Co Ltd* When built *1883*

Boilers made at *Do* By whom made *Do* when made *1883*
Registered Horse Power *80* Owners *Stephenson Clarke & Co* when made *1883*

Port belonging to *London*

ENGINES, &c.—

Description of Engines *Inverted Compound Surface Condensing*
Diameter of Cylinders *23 & 45* Length of Stroke *30* No. of Rev. per minute *80* Point of Cut off, High Pressure *.5* Low Pressure *.5*

Diameter of Screw shaft *8 1/4* Diam. of Tunnel shaft *7 1/2* Diam. of Crank shaft journals *8 1/4* Diam. of Crank pin *8 1/4* size of Crank webs *10 1/2 x 5 1/2*
Diameter of screw *11* Pitch of screw *12* No. of blades *4* state whether moveable *no* total surface *36 ft*

No. of Feed pumps *2* diameter of ditto *3* Stroke *14* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2* diameter of ditto *3* Stroke *14* Can one be overhauled while the other is at work *yes*

Where do they pump from *Engine space & 4 suction from arrangement*
No. of Donkey Engines *2* Size of Pumps *11 x 12 & 4 x 8* "Donkey direct" *4* Hold 1. Sea. Tank

Main hold tank 1. Where do they pump from *All bilges as above*

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"* Are they connected to condenser, or to circulating pump *no*

How are the pumps worked *Lower 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 *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 *—* 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*
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *—*

BOILERS, &c.—

Number of Boilers *One* Description *Cylindrical* Whether Steel or Iron *Steel*
Working Pressure *80* Tested by hydraulic pressure to *160* Date of test *13th November 1883*

Description of superheating apparatus or steam chest *1 Cylindrical fire & aft with contracted neck*
Can each boiler be worked separately *—* Can the superheater be shut off and the boiler worked separately *—*

No. of square feet of fire grate surface in each boiler *45* Description of safety valves *Spring* No. to each boiler *2*
Area of each valve *13 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 *18* Diameter of boilers *12-9*

Length of boilers *10-0* description of riveting of shell long. seams *Double Lap* circum. seams *Double Lap* Thickness of shell plates *3/4"*
Diameter of rivet holes *1 1/2* whether punched or drilled *Drilled* pitch of rivets *4 1/4* Lap of plating *8 1/2*

Per centage of strength of longitudinal joint *72.5* working pressure of shell by rules *87 lbs* size of manholes in shell *16 x 12*

Size of compensating rings *5 x 3/4* No. of Furnaces in each boiler *3*

Outside diameter *37"* length, top *7-0* bottom *9-5* thickness of plates *3/4"* description of joint *Double Strap* if rings are fitted *half*

Greatest length between rings *6-6* working pressure of furnace by the rules *108* combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*

Pitch of stays to ditto, sides *9 3/4"* back *9 3/4"* top *10* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *80* Diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *100* end plates in steam space, thickness *3/8"*

Pitch of stays to ditto *19 x 19* how stays are secured *to nuts* working pressure by rules *80 lbs* diameter of stays at smallest part *2 1/4"* working pressure by rules *82 lbs* Front plates at bottom, thickness *1/16"* Back plates, thickness *7/16"*

Greatest pitch of stays *9 3/4"* working pressure by rules *—* Diameter of tubes *3 1/2"* pitch of tubes *4 3/4"* thickness of tube plates, front *3/4"* back *1/16"* how stayed *Tubes* pitch of stays *14 1/2"* width of water spaces *6*

Diameter of Superheater or Steam chest *3-0* length *5-0* thickness of plates *1/2"* description of longitudinal joint *Double Lap* diam. of rivet holes *3/8"*

Pitch of rivets *2 7/8* working pressure of shell by rules *200* 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 *1/16"* how stayed *4 Stays*

1 1/4" off diameter Superheater or steam chest; how connected to boiler *Contracted neck*

NWC789-0041

DONKEY BOILER— Description *Upright*

Made at *Sunderland* by whom made *Welford Martin* when made *2/10/83* where fixed *Thorold*
 Working pressure *80 lb* tested by hydraulic pressure to *160* No. of Certificate *699* fire grate area *13* description of safety
 valves *Spring* No. of safety valves *1* area of each *8.5* if fitted with easing gear *yes* if steam from main boilers can
 enter the donkey boiler *no* diameter of donkey boiler *5-0* length *9-9* description of riveting *Double Lap*
 Thickness of shell plates *7/16* diameter of rivet holes *5/8* whether punched or drilled *punched* pitch of rivets *2 1/2* lap of plating *2 3/4*
 per centage of strength of joint *72.7* thickness of crown plates *7/16* stayed by *Divided & 2 Stays*
 Diameter of furnace, top *3-6* bottom *4-7* length of furnace *4-5* thickness of plates *1/2* description of joint *Single Lap*
 Thickness of furnace crown plates *7/16* stayed by *as above* working pressure of shell by rules *82 lb*
 Working pressure of furnace by rules *84 lb* diameter of uptake *13* thickness of plates *5/8* thickness of water tubes *5/8*

SPARE GEAR. State the articles supplied:— *2 Tops & 2 bottom and connecting rods & nuts*
2 main bearing bolts, 1 Set of coupling bolts,
1 Set of feed & 1 Set of bilge pump valves, 1 Set of piston spring
A quantity of assorted bolts & nuts, 6 bars iron of various sizes
 The foregoing is a correct description.

W. Hall Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under special survey. The materials and workmanship are sound and satisfactory and eligible in my opinion to have the notation Lloyds M & 12-83 in the Society's Register Book.

It is submitted that this vessel is eligible to have the notation Lloyds M & 12-83 in the Society's Register Book.

The amount of Entry Fee *£ 1* : — : — received by me,
 Special .. *£ 12* : — : —
 Donkey Boiler Fee .. *£* — : — : —
 Certificate (if required) *£ 1* : — : —
 To be sent as per margin.
 (Travelling Expenses, if any, £ —)

Committee's Minute

FRIDAY 13 JAN 1884

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

John Brockat

Lloyd's Register Foundation