

# REPORT ON MACHINERY.

16740  
No. in Survey held at *Newcastle* Date, first Survey *17 April 1882* Last Survey *4 April 1883*  
Book. *Chollerton* (Received at London Office Rec'd 19th April 1883)  
on the *Screw Steamer* (Number of Visits *22*) Tons *2650*  
*James Clark* Built at *Newcastle* When built *1883*  
By whom made *James Clark* when made *1883*  
By whom made *Adams & Co* when made *1883*  
Registered Horse Power *300* Owners *J. H. Maitland & Co* Port belonging to *London*

GINES, &c.—  
Description of Engines *Vertical acting compound Surface Condensing*  
Diameter of Cylinders *36" & 70"* Length of Stroke *48"* No. of Rev. per minute *65* Point of Cut off, High Pressure *.5* Low Pressure *.5*  
Diameter of Screw shaft *12 1/4"* Diameter of Tunnel shaft *12"* Diameter of Crank shaft journals *12 1/4"* Diameter of Crank pin *13"* size of Crank web *8 1/2" x 15 1/2"*  
Diameter of screw *15.6"* Pitch of screw *19.0"* No. of blades *4* state whether moveable *no* total surface *66 sq*  
No. of Feed pumps *2* diameter of ditto *4 1/4"* Stroke *26"* Can one be overhauled while the other is at work *yes*  
No. of Bilge pumps *2* diameter of ditto *4 1/4"* Stroke *26"* Can one be overhauled while the other is at work *yes*  
Where do they pump from *Engine space Tanks, holds, bilges tunnel well, hot well & sea*  
No. of Donkey Engines *2* Size of Pumps *6 x 10 & 4 x 9* Where do they pump from *Engine space, Tanks holds bilges tunnel well, hot 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 *2 1/2"* Are they connected to condenser, or to circulating pump *Circulating pump*  
Are the pumps worked *Locals or a 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 *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*  
Are all pipes 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*  
Are the stern tube, propeller, screw shaft, and all connections examined in dry dock *here*  
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *Upper platform*


BOILERS, &c.—  
Number of Boilers *2* Description *Cylindrical Single ended (Steel)*  
Working Pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* Date of test *8.3.83* by *W. G. C. 1171*  
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 *60 sq* Description of safety valves *Spring*  
No. to each boiler *2* area of each valve *15.9* Are they fitted with easing gear *yes*  
Area of safety valves to superheater *—* area of each valve *—* are they fitted with easing gear *—*  
Smallest distance between boilers and bunkers or woodwork *9"*  
Diameter of boilers *15.3"* Length of boilers *10.6"* description of riveting of shell long. seams *Butt Strap* circum. seams *Lap double*  
Thickness of shell plates *1 1/16"* diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *2 1/2"*  
Thickness of plating *5/8"* per centage of strength of longitudinal joint *73.6 %* working pressure of shell by rules *111 lbs*  
No. of manholes in shell *16 x 12"* size of compensating rings *62 x 1 1/16"*  
No. of Furnaces in each boiler *3* outside diameter *3.5"* length, top *6.9"* bottom *9.10"*  
Thickness of plates *1 3/32"* description of joint *Butt Strap* if rings are fitted *2* greatest length between rings *6.6"*  
Working pressure of furnace by the rules *114 lbs*  
Combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*  
Thickness of stays to ditto, sides *8"* back *8 1/2"* top *26" radius*  
Are stays fitted with nuts or riveted heads *both* working pressure of plating by rules *114 & 116 lbs*  
Diameter of stays at smallest part *1 3/8" & 1 1/4"* working pressure of ditto by rules *164 & 175 lbs*  
Thickness of plates in steam space, thickness *1 1/16"* pitch of stays to ditto *15 3/8"* how stays are secured *W. M. A. 1171*  
Working pressure by rules *114 lbs* diameter of stays at smallest part *2 1/2"* working pressure by rules *125 lbs*  
Front plates at bottom, thickness *5/8"* Back plates, thickness *5/8"* greatest pitch of stays *12"* working pressure by rules *97 lbs*



Diameter of tubes  $3\frac{3}{4}$ " pitch of tubes  $5\frac{1}{8}$ " thickness of tube plates, front  $\frac{3}{4}$ " back  $\frac{1}{16}$ "  
How stayed *Stay tubes* pitch of stays  $10\frac{1}{4}$ " width of water spaces  $12$ "  
Diameter of Superheater or Steam chest *none* length *—*  
Thickness of plates *—* description of longitudinal joint *—* diameter 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 *—*  
DONKEY BOILER— Description *Vertical 3 Corp tubes*  
Made at *Gateshead* By whom made *Clarke Chapman & Co* when made *5.3.83*  
Where fixed *Stockhold* working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *1170*  
Fire grate area *20 ft* Description of safety valves *spring* No. of safety valves *2* area of each *7.07*  
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*  
Diameter of donkey boiler *6'6"* length *12'6"* description of riveting *Lap donkey riveted*  
thickness of shell plates *9'6"* diameter of rivet holes *15'16"* whether punched or drilled *punched*  
pitch of rivets *3 3/8"* lap of plating *4 5/8"* per centage of strength of joint *72 %*  
thickness of crown plates *9'16"* stayed by *8 Stay 1 1/4" diam*  
Diameter of furnace, top *4'8 3/8"* bottom *5'1 1/2"* length of furnace *5'1"*  
thickness of plates *9'16"* description of joint *Lap Single riveted*  
thickness of furnace crown plates *9'16"* stayed by *as above*  
Working pressure of shell by rules *92.8 lbs* working pressure of furnace by rules *73 lbs* compensated with *3 rods of*  
diameter of uptake *15"* thickness of plates *3"* thickness of water tubes *3"* *Secured stays*

The foregoing is a correct description,  
*In Lougham Road and son* Manufacturer.

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

The machinery of this vessel has been specially surveyed during construction the material and workmanship good and under the vessel classed in my opinion. I have the notification  L. M. C. H. 83 in the Register Book of the Society.

*Is submitted that this vessel is described in the notification & L.M.C. H. 83*  
*19/4/83*

The amount of Entry Fee *£ 3 : - : -* received by me,  
Special *£ 35 : - : -*  
Certificate (if required) *£ 18 : - : -* 18<sup>th</sup> April 1883  
To be sent as per margin.

(Travelling Expenses, if any, £ *—* )  
Committee's Minute *Friday, 20th April, 1883.*

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

*North Shields*