

# REPORT ON MACHINERY.

No. 18619

No. in Survey held at  
Reg. Book.

Newcastle

Date, first Survey 8<sup>th</sup> May

Last Survey 10<sup>th</sup> Aug 1885

(Number of Visits 14)

1704

Tons 1104

on the *Suez Steamer "Baphdadi"*  
Master *Young* Built at *Newcastle* By whom built *Messrs. Phipps Richardson* When built *1885*  
Engines made at *Newcastle* By whom made *Messrs. Phipps Richardson* when made *1885*  
Boilers made at *Do* By whom made *Do* when made *1885*  
Registered Horse Power *200* Owners *The Persian Gulf S. S. Co.* Port belonging to *London*

## ENGINES, &c.—

Description of Engines *Mixed acting triple expansion Surface condensing*  
Diameter of Cylinders *21 1/2, 33, 55* Length of Stroke *39* No. of Rev. per minute *80* Point of Cut off, High Pressure *62%* Low Pressure *65%*  
Diameter of Screw shaft *10 3/4* Diam. of Tunnel shaft *10* Diam. of Crank shaft journals *10 5/8* Diam. of Crank pin *10 5/8* size of Crank webs *6 1/2 x 12 1/2*  
Diameter of screw *13.9* Pitch of screw *14.3* No. of blades *4* state whether moveable *no* total surface *50 &*  
Diameter of Feed pumps *2* diameter of ditto *3* Stroke *22* Can one be overhauled while the other is at work *yes*  
Diameter of Bilge pumps *2* diameter of ditto *4* Stroke *22* Can one be overhauled while the other is at work *yes*  
Where do they pump from *Tanks, holds, bilges, hot well & sea*  
Diameter of Donkey Engines *2* Size of Pumps *3 x 7 & 19 x 10* Where do they pump from *Tanks, holds, After well, bilges, 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*  
Diameter of bilge injections *1 1/2* and sizes *4"* Are they connected to condenser, or to circulating pump *Circulating pump*  
How are the pumps worked *Levers 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 *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 pipes at 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 *never*

## BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical Single ended* Whether Steel or Iron *Steel*  
Working Pressure *150 lb* Tested by hydraulic pressure to *300 lb* Date of test *10.7.85 by J. Ca. 1875*  
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 *40 &* Description of safety valves *Spring* No. to each boiler *2*  
Area of each valve *7.07* 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 *6 1/2"* Diameter of boilers *11.9"*  
Length of boilers *10.3* description of riveting of shell long. seams *W. Butt, treble circum. seams* Lap double Thickness of shell plates *1 3/8"*  
Diameter of rivet holes *1 1/4"* whether punched or drilled *drilled* pitch of rivets *5 3/8"* Lap of plating *18 1/2"*  
Percentage of strength of longitudinal joint *78.7%* working pressure of shell by rules *158 lb* size of manholes in shell *16 x 12"*  
Size of compensating rings *6 1/2 x 13 1/2"* No. of Furnaces in each boiler *3*  
Outside diameter *2.9* length, top *6.9* bottom *6.9* thickness of plates *5/8"* description of joint *W. Butt, Single* if rings are fitted *yes*  
Greatest length between rings *6.9* working pressure of furnace by the rules *151* combustion chamber plating, thickness, sides *3/8"* back *3/8"* top *1/2"*  
Pitch of stays to ditto, sides *8 7/16"* back *8 7/16"* top *2 1/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *152* Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *159* end plates in steam space, thickness *1/16"*  
Pitch of stays to ditto *14 3/8 x 14 3/8"* how stays are secured *W. nuts & washers* working pressure by rules *152 lb* diameter of stays at smallest part *2 3/8"* working pressure by rules *159 lb* Front plates at bottom, thickness *4/16"* Back plates, thickness *1 3/16"*  
Greatest pitch of stays *11 5/8"* working pressure by rules *150 lb* Diameter of tubes *3 1/2"* pitch of tubes *4 1/2"* thickness of tube plates, front *1 3/16"* back *3/4"* how stayed *Stay tube* pitch of stays *9 1/2"* width of water spaces *4 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 *—*



DONKEY BOILER— Description *Vertical three crop tubes, Scotch type*  
Made at *Gateshead* by whom made *Clarke Chapman & Co.* when made *25.6.85* where fixed *Stokeholes*  
Working pressure *55 lb* tested by hydraulic pressure to *110 lb* No. of Certificate *1870* fire grate area *18 8* 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 *5.9* length *13.6* description of riveting *Lap double*  
Thickness of shell plates *3/8* diameter of rivet holes *3/4* whether punched or drilled *Punch* pitch of rivets *2 3/4* lap of plating *3 7/8*  
per centage of strength of joint *70 7/8* thickness of crown plates *3/8* stayed by *3 Stay 1 1/4" diam?*  
Diameter of furnace, top *4.5* bottom *4.10* length of furnace *5.0* thickness of plates *1 7/16* description of joint *Lap single*  
Thickness of furnace crown plates *5/8* stayed by *as above* working pressure of shell by rules *70*  
Working pressure of furnace by rules *60 lb* diameter of uptake *14* thickness of plates *3/8* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:—*2 Main bearing bolts & nuts. 2 top end*  
*8 nuts. 2 bottom end bolts & nuts, 1 Set of Coupling bolts & nuts*  
*1 Set of feed, bilge & check valves. Spare propeller, eccentric*  
*trap, Piston Spring, Escape & Safety valve Spring, Cord.*  
The foregoing is a correct description, & boiler tubes iron ablated.  
*Clarke Chapman & Co.* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this boiler*  
*has been specially surveyed during construction &*  
*material & workmanship good & eligible in my*  
*opinion to have the Record L. M. H. S. S. S. in*  
*the Register Book of the Society.*

*All the combustion chamber crowns have been examined*  
*after being steamed for twelve hours at 150 lb pressure*  
*and found that there was no distortion or any sign*  
*of leakage in any of them. M.C.*

The amount of Entry Fee .. £ 2 : - : - received by me,

Special .. £ 30 : - : -

Donkey Boiler Fee .. £ - : - : -

Certificate (if required) .. £ - : - : - 7 Aug 1885

To be sent as per margin.

(Travelling Expenses, if any, £ ..)

Committee's Minute

TUESDAY 18 AUGUST 1885

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