

REPORT ON MACHINERY.

No. 18619

No. in Survey held at

Newcastle

Date, first Survey 8th May

Received at London Office THURS 13 AUGUST 1885

Last Survey 10th Aug 1885

Reg. Book.

on the

Screw Steamer "Bahdad" (Number of Visits 14)

Tons 1104

Master J. 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 sq*

No. of Feed pumps *2* diameter of ditto *3* Stroke *22* Can one be overhauled while the other is at work *yes*

No. 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*

No. of Donkey Engines *2* Size of Pumps *5 x 7 & 9 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*

No. of bilge injections *one* and sizes *1 1/4* Are they connected to condenser, or to circulating pump *Circulating pump*

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*

Are all 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*

Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper platform*

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 sq* 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 tubular circum. seams* Lap double Thickness of shell plates *1 3/32*

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 1 3/4* 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 Stays* if rings are fitted *—*

Greatest length between rings *6.9* working pressure of furnace by the rules *157* combustion chamber plating, thickness, sides *3/32* back *3/32* top *19/32*

Pitch of stays to ditto, sides *8 7/16* back *8 7/16* top *2 1/4* radius *—* 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* hair 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 *13/16*

Greatest pitch of stays *11 3/8* working pressure by rules *150 lb* Diameter of tubes *3 1/2* pitch of tubes *4 1/2* thickness of tube plates, front *13/16* 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 *—*

Report recd 11/8/85 sent to Gen. 17/8/85



DONKEY BOILER— Description *Vertical three crop tubes, stay except on*
 Made at *Yatehead* by whom made *Clarke Chapman & Co.* when made *25.6.85* where fixed *Stokehold*
 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%* thickness of crown plates *5/8"* 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 lb*
 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, valve & check valves. Spare propeller eccentric
strap. Piston Spring. Escape & Safety valve Spring. Condi
 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. S. S. 85— 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.

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, £)

Submitted this morning
is eligible to have + 2
M.C. 8.85
13.8.85
 Richard Kirt
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUESDAY 18 AUGUST 1885
 + *M.C.*

