

REPORT ON MACHINERY.

Port of *Newcastle*

Received at London Office *JUN 15 1889*

Date, first Survey *February 15*

Last Survey *September 26 1889*

(Number of Visits *34*)

2893

Tons *1859*

No. in Survey held at *Newcastle*

on the *S.S. "Bunjaree"*

Master *Bliss*

Built at *Newcastle*

By whom built *Richardson & Co*

When built *1889*

Engines made at *Newcastle*

By whom made *Richardson & Co*

when made *1889*

Boilers made at *do*

By whom made *do*

when made *1889*

Registered Horse Power *450*

Owners *P. Lund*

Port belonging to *London*

GINES, &c.—

Description of Engines

Triple expansion Surface condensing

Diameter of Cylinders *28" 45" 73"* Length of Stroke *48"* No. of Rev. per minute *65* Point of Cut off, High Pressure *73%* Low Pressure *60%*

Diameter of Screw shaft *13 1/2"* Diam. of Tunnel shaft *12 1/2"* Diam. of Crank shaft journals *13 1/2"* Diam. of Crank pin *13 1/4"* size of Crank webs *8 1/2" x 21"*

Diameter of screw *16 1/2"* Pitch of screw *20" 0"* No. of blades *4* state whether moveable *yes* total surface *80 1/2*

No. of Feed pumps *2* diameter of ditto *3 1/2"* Stroke *28"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *4"* Stroke *28"* Can one be overhauled while the other is at work *yes*

Where do they pump from *Sub pump from hot well. Bilge from engine space, hold, tanks & Sea*

No. of Donkey Engines *2* Size of Pumps *4" dia x 8" st. & 9" dia x 10" st.* Where do they pump from *Engine space*

Hold. After well. Fore peak. 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 *1* and sizes *4"* Are they connected to condenser, or to circulating pump *Circulating pump*

How are the pumps worked *Locus on 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*

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

OILERS, &c.—

Number of Boilers *2* Description *Cylindrical double ended* Whether Steel or Iron *Steel*

Working Pressure *150* Tested by hydraulic pressure to *300* Date of test *13.8.89* *h. J. C. 2743*

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

Area of each valve *11.04* 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 *14"* Diameter of boilers *14.3"*

Length of boilers *16' 0"* description of riveting of shell long. seams *W. B. Sharp* circum. seams *Sept 1889* Thickness of shell plates *1 1/2"*

Diameter of rivet holes *1 1/2" x 1 1/8"* whether punched or drilled *drilled* pitch of rivets *8 1/2" x 5 1/8"* Lap of plating *2 1/2" x 14 1/8"*

Percentage of strength of longitudinal joint *84.4* working pressure of shell by rules *151* size of manholes in shell *16" x 12"*

Size of compensating rings *7 1/2" x 1 1/8"* No. of Furnaces in each boiler *6*

Outside diameter *3' 3 1/2"* length, top *6' 0"* bottom *5' 9"* thickness of plates *32 x 6 1/2* description of joint *W. B. Sharp* if rings are fitted *1 1/2"*

Greatest length between rings *5' 9"* working pressure of furnace by the rules *151* combustion chamber plating, thickness, sides *3 1/2"* back *—* top *1 1/2"*

Pitch of stays to ditto, sides *8 1/4"* back *—* top *8 1/4"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *168*

Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *179* end plates in steam space, thickness *1"*

Pitch of stays to ditto *15 1/16" x 14 1/2"* how stays are secured *W. B. Sharp* working pressure by rules *161* diameter of stays at smallest part *2 1/4"*

working pressure by rules *163* Front plates at bottom, thickness *1 1/2"* Back plates, thickness *—*

Greatest pitch of stays *13 1/16"* working pressure by rules *—* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2" x 4 1/8"* thickness of tube plates, front *13 1/16"* back *13 1/16"* how stayed *Tubes* pitch of stays *9"* width of water spaces *6 1/2"*

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 No. 111799

M.V. 810-0279

Description of furnaces

Plan

Workmanship. Are the butts of plating planed or otherwise fitted? *Planed*

DONKEY BOILER— Description *Best*
Made at *Spatishead* by whom made *Clarke Chapman & Co* when made *26.4.89* where fixed *Stoke New*
Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *2922* fire grate area *22 4* description of safety
valves *Spring* No. of safety valves *2* area of each *5.94* if fitted with easing gear *9.28* if steam from main boilers can
enter the donkey boiler *no* diameter of donkey boiler *6.6* length *14.0* description of riveting *Lap double*
Thickness of shell plates *3/16* diameter of rivet holes *7/8* whether punched or drilled *drilled* pitch of rivets *3 1/16* lap of plating *1 1/4*
per centage of strength of joint *72* thickness of crown plates *3/16* stayed by *7 Stay 1 1/2" diam.*
Diameter of furnace, top *3.0* bottom *5.7* length of furnace *-* thickness of plates *3/16* description of joint *Lap Single*
Thickness of furnace crown plates *3/16* stayed by *Same as shell crown* working pressure of shell by rules *84*
Working pressure of furnace by rules *80* diameter of uptake *10 1/2* thickness of plates *3/16* thickness of water tubes *3/16*

SPARE GEAR. State the articles supplied:— *2 main bearing bolts & nuts. 2 top end bolts*
8 nuts. 2 bottom end bolts & nuts. 1 set of shaft coupling bolts & nuts
2 Air & Circulating pumps buckets & rods. head valve for Air pump
Feed & bilge pump valves. feed check valve. 1 pair of bottom end
The foregoing is a correct description, Crapes. 2 propeller blades. 1 piston pump
1 1/2 bridle tubes. 50 condenser tubes. 1 escape
and safety valve spring bolts & nuts & wire.
Wigham Richardson & Co. Manufacturers

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery has been*
Specially Surveyed during construction the material
and workmanship good and renders the vessel
eligible in our opinion to have the Record
+ L & C 10. 89 in the Register Book of the Society.

Heating Surface = 7338 8
H.P. as per rule = 428 H.P.

It is submitted that this vessel is
eligible to have + L.M.C. 9.89 recorded
N.A.

15.10.89

The amount of Entry Fee .. £ 3 : - : *received by me,*

Special .. £ 41 : 8 : -

Donkey Boiler Fee .. £ - : - : -

Certificate (if required) .. £ *free*

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 18 OCT 1889

+ L.M.C. 9.89

cert 20/12/9/20

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

Lloyd's Register
Foundation