

REPORT ON MACHINERY.

Port of *Sunderland*

Received at London Office 19

No. in Survey held at *Sunderland*
 eg. Book.

Date, first Survey *5th Oct 1900* Last Survey *26th Jan 1907*
 (Number of Visits *13*)

Gross *3726.88*
 Tons Net *2415.2*

on the *Screw Steamer "Gambesi"*

Master *E. Rooney* Built at *Sunderland* By whom built *Barthram & Sons*

Engines made at *Sunderland* By whom made *J. Dickinson & Sons Ltd* when made *1901*

Boilers made at *Sunderland* By whom made *J. Dickinson & Sons Ltd* when made *1901*

Registered Horse Power Owners *Turner, Brightman & Co* Port belonging to *Rondon*

nom. Horse Power as per Section 28 *314* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *24½"-40"-66"* Length of Stroke *45"* Revs. per minute *70* Dia. of Screw shaft as per rule *12.74* as fitted *13"* Lgth. of stern bush *4'-6"*
 Dia. of Tunnel shaft as per rule *11.52* as fitted *11¾"* Dia. of Crank shaft journals as per rule *12.15* as fitted *12½"* Dia. of Crank pin *12½"* Size of Crank webs *Patent* Dia. of thrust shaft under
 flars *12½"* Dia. of screw *17'-0"* Pitch of screw *17'-0"* No. of blades *4* State whether moveable *No* Total surface *850 ft*
 No. of Feed pumps *Two* Diameter of ditto *3½"* Stroke *22½"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *Two* Diameter of ditto *4½"* Stroke *22½"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *Two* Sizes of Pumps *Douglas Feed 6"x4"x6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room *(Ballast Pump 8"x9"x10")* In Holds, &c. *two 3½" port & starboard in hold.*
two wing suction 3½" 1 Centre 3½" *3½" Tunnel suction*
 No. of bilge injections *1* sizes *4"* Connected to condenser, or to circulating pump *C.P.* Is a separate donkey suction fitted in Engine room & size *Yes 4"*
 Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible
 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 and all boiler mountings accessible at all times *Yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Nov 1900* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *Top platform*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *48100 ft.* Is forced draft fitted *No*
 No. and Description of Boilers *Two S. Cyl. Multitubular* Working Pressure *180 lbs* Tested by hydraulic pressure to *360 lbs*
 Date of test *30.11.00* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *82 ft.* No. and Description of safety valves to
 each boiler *Two direct Spring* Area of each valve *8.29"* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *Yes*
 Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean dia. of boilers *16'-0"* Length *10'-6"* Material of shell plates *Steel*
 Thickness *1½"* Range of tensile strength *28/32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *S.R. Lap* long. seams *S.R. S.B.S*
 Diameter of rivet holes in long. seams *1½"* Pitch of rivets *9½"* Dip of plates *None* width of butt straps *1'-8"*
 Per centages of strength of longitudinal joint rivets *88.5%* Working pressure of shell by rules *183 lbs* Size of manhole in shell *16"x12"*
 plate *85.5%*
 Size of compensating ring *8¾"x17/16"* No. and Description of Furnaces in each boiler *4. plain* Material *Steel* Outside diameter *3'-4¼"*
 Length of plain part top *6'-10"* Thickness of plates crown *¾"x1¼"* Description of longitudinal joint *Welded* No. of strengthening rings *None*
 bottom *6'-10"* Working pressure of furnace by the rules *181 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *11/16"* Back *11/16"* Top *11/16"* Bottom *11/16"*
 Pitch of stays to ditto: Sides *9"x10"* Back *9"x10"* Top *9"x10"* If stays are fitted with nuts or riveted heads *None - C.C.* Working pressure by rules *180 lbs*
 Material of stays *Steel* Diameter at smallest part *2.03* Area supported by each stay *90"* Working pressure by rules *2024* End plates in steam space:
 Material *Steel* Thickness *1½"* Pitch of stays *18¾"x13½"* How are stays secured *S.R. & L.* Working pressure by rules *184 lbs* Material of stays *Steel*
 Diameter at smallest part *6.7* Area supported by each stay *344"* Working pressure by rules *1954* Material of Front plates at bottom *Steel*
 Thickness *3/4"* Material of Lower back plate *Steel* Thickness *3/4"* Greatest pitch of stays *10"* Working pressure of plate by rules *215 lbs*
 Diameter of tubes *3½"* Pitch of tubes *4½"x4½"* Material of tube plates *Steel* Thickness: Front *7/8"* Back *7/8"* Mean pitch of stays *9"x9"*
 Pitch across wide water spaces *15½"* Working pressures by rules *181 lbs* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *21"x7"* Length as per rule *28½"* Distance apart *9"* Number and pitch of Stays in each *2 x 10" ft*
 Working pressure by rules *204 lbs* Superheater or Steam chest; how connected to boiler *None* Can the superheater be shut off and the boiler worked
 separately Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet
 holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

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W 731-0111

DONKEY BOILER— No. 2372. Description *one Meredith's Patent*
 Made at *Stockton* By whom made *Riley Bros.* When made *1900* Where fixed *on Deck*
 Working pressure *180* tested by hydraulic pressure to *360 lb* No. of Certificate *2372* Fire grate area *27.04* Description of safety valves *Direct Chain*
 No. of safety valves *2* Area of each *7.0* Pressure to which they are adjusted *180 lb* If fitted with easing gear *Yes* If steam from main boilers enter the donkey boiler *No.* Dia. of donkey boiler *7'-9"* Length *16'-0"* Material of shell plates *Steel* Thickness *3/4"* Range of tens strength *27/32* Descrip. of riveting long. seams *Dr. butt Shops* Dia. of rivet holes *15/16* Whether punched or drilled *drilled* Pitch of rivets *7/8*
 Lap of plating *13"* Per centage of strength of joint *96.7%* Rivets *96.7%* Thickness of shell crown plates *23/32* Radius of do. *Conical* No. of Stays to do. *✓*
 Dia. of stays. *✓* Diameter of furnace Top *4'-9"* Bottom *6'-2"* Length of furnace *2'-6"* Thickness of furnace plates *3/4"* Description joint *Lap* Thickness of furnace crown plates *3/4"* Stayed by *disked tubes 3"* Working pressure of shell by rules *195*
 Working pressure of furnace by rules *180 lb* x Diameter of uptake *3"* Thickness of uptake plates *13/16* Thickness of water tubes *13/16*
 SPARE GEAR. State the articles supplied: *Two. top End, two bottom end bolts & nuts. two main bearing bolts & nuts set of coupling bolts and nuts. Spare. Feed Bells air & circulating pump valves, Assorted. Iron. Bolts & nuts.*

The foregoing is a correct description,
John Robinson Manufacturer.

Dates of Survey { During progress of work in shops - 1900 - Oct 5. Nov 7. 29. Dec 3. 13. 14. 1901 - Jan 4. 8. 10. 11. 15. 23. 26.
 { During erection on board vessel -
 while building { Total No. of visits *13*.
 Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *No.*

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

The machinery of this Vessel constructed under Special Survey. The material and workmanship good and efficient. The Boilers and main steam pipes tested under hydraulic pressure to 360 lb and found sound and efficient in every respect at that pressure. Examined under steam and found good. The Engines tried under steam at their working pressures and found efficient. In my opinion this Vessel is worthy of the notification R M C 1.01 to be made in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 1.01. Elec. Light

The amount of Entry Fee. £ 3 : : When applied for, 29.1.1901
 Special ... £ 35 : 14 : : When received, 31.1.1901
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 TUES. 12 FEB 1901

Committee's Minute

Assigned

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



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