

# REPORT ON MACHINERY.

6597

No. 6597

No. in Survey held at *Glasgow*

Date, first Survey *19<sup>th</sup> Feb<sup>y</sup> 1884* Last Survey *14<sup>th</sup> July 1884*  
Received at London Office Rec'd 21st JULY, 1884  
(Number of Visits *25*) *8015*

Reg. Book.

on the *S. S. Gran Chaco Argentino.*

Tons *511*

Master *Wilkinson* Built at *Glasgow* By whom built *Ritten & Mansel* When built *1884*

Engines made at *Glasgow* By whom made *Hutton & Corbett* when made *"*

Boilers made at *"* By whom made *"* when made *"*

Registered Horse Power *95* Owners *Tarrado & Molero* Port belonging to *Buenos Ayres.*

## ENGINES, &c.—

Description of Engines *Compound Inverted Direct Acting.*

Diameter of Cylinders *24" & 46"* Length of Stroke *36"* No. of Rev. per minute *80* Point of Cut off, High Pressure *Var* Low Pressure *"*

Diameter of Screw shaft *9 1/8"* Diam. of Tunnel shaft *8 3/4"* Diam. of Crank shaft journals *9 1/8"* Diam. of Crank pin *9 1/8"* size of Crank webs *6 1/2" x 10 1/2"*

Diameter of screw *10'-6"* Pitch of screw *13'-6"* No. of blades *4* state whether moveable *N.* total surface *24 ft*

No. of Feed pumps *Two* diameter of ditto *3 1/4"* Stroke *14"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *Two* diameter of ditto *3 1/4"* Stroke *14"* Can one be overhauled while the other is at work *Yes*

Where do they pump from *All Compartments*

No. of Donkey Engines *One* Size of Pumps *4 1/2" dia x 10" Stroke* Where do they pump from *Sea, Hotwell and Bilges.*

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 *4"* Are they connected to condenser, or to circulating pump *Cir. pump.*

How are the pumps worked *by levers*

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 *about*

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 *on stocks before launching*

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 *Round Horizontal* Whether Steel or Iron *Steel*

Working Pressure *100 lbs* Tested by hydraulic pressure to *200 lbs* Date of test *6<sup>th</sup> June 1884*

Description of superheating apparatus or steam chest *Horizontal Steam dome*

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 *35* Description of safety valves *d. Spring* No. to each boiler *Two*

Area of each valve *9.6* Are they fitted with easing gear *Yes* No. of safety valves to superheater *is* area of each valve *"*

Are they fitted with easing gear *"* Smallest distance between boilers and bunkers or *woodwork* *4'-0"* Diameter of boilers *10'-3"*

Length of boilers *9'-9"* description of riveting of shell long. seams *d. butte.* circum. seams *d. lap.* Thickness of shell plates *4 3/8"*

Diameter of rivet holes *1 5/16"* whether punched or drilled *drill* pitch of rivets *5 1/4"* Lap of plating *butts*

Per centage of strength of longitudinal joint *79* working pressure of shell by rules *104 lbs* size of manholes in shell *12 x 15*

Size of compensating rings *6" ring 3/4 thick* No. of Furnaces in each boiler *Two*

Outside diameter *39"* length, top *6'-9"* bottom *9'-6"* thickness of plates *1 1/32"* description of joint *d. butte* if rings are fitted *L. down*

Greatest length between rings *6'-6"* working pressure of furnace by the rules *100 lbs* combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*

Pitch of stays to ditto, sides *8 3/4" x 8 3/4"* back *8 3/4" x 8 3/4"* top *9" x 9"* If stays are fitted with nuts or riveted heads *Nuts.* working pressure of plating by rules *101 lbs* Diameter of stays at smallest part *1.3"* working pressure of ditto by rules *120 lbs* and plates in steam space, thickness *1 7/16"*

Pitch of stays to ditto *13" x 13 1/2"* how stays are secured *d. nuts* working pressure by rules *110 lbs* diameter of stays at smallest part *2 1/8" screwed* working pressure by rules *100 lbs* Front plates at bottom, thickness *5/8"* Back plates, thickness *5/8"*

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

Diameter of Superheater or Steam chest *4'-0"* length *6'-6"* thickness of plates *7/16"* description of longitudinal joint *d. lap.* diam. of rivet holes *7/8"*

Pitch of rivets *3"* 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 *3/4"* how stayed *Four stays*  
*2 1/8" diameter* Superheater or steam chest; how connected to boiler *by Copper pipes*

6597 yls.

**DONKEY BOILER**— Description *Vertical*  
 Made at *Glasgow* by whom made *Hutton Corbett* when made *1884* where fixed *Stoke hold*  
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs*. No. of Certificate *1421*. fire grate area *14 ft*. description of safety valves *d. Spring* No. of safety valves *One* area of each *7*. if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *No*. diameter of donkey boiler *5'-3"* length *9'-9"* description of riveting *Single Lap*. Thickness of shell plates *3/8"* diameter of rivet holes *7/8"* whether punched or drilled *him*. pitch of rivets *2 3/16"* lap of plating *3 1/2"* percentage of strength of joint *60*. thickness of crown plates *5/8"* stayed by *5 stays 1 1/8" dia also angle iron*. Diameter of furnace, top *4'-3"* bottom *4'-10"* length of furnace *5'-0"* thickness of plates *7/16"* description of joint *Lap*. Thickness of furnace crown plates *5/8"* stayed by *as above* working pressure of shell by rules *70 lbs*. Working pressure of furnace by rules *60 lbs*. diameter of uptake *14 1/2"* thickness of plates *3/8"* thickness of water tubes *7/8"*

**SPARE GEAR.** State the articles supplied:— *Propeller and shaft complete. Air pump. Rod & bucket. Circulating Pump Rod. Top and Bottom end braces and bolts. Valve spindle. Main bearing and Coupling bolts. Feed & Bridge pump valves. Bolts Nuts assorted.*

The foregoing is a correct description,  
*J. Hutton Corbett* Manufacturer  
*Jay. Hutton*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The above mentioned Engines and Boilers are now completed on board in a satisfactory manner and the Machinery is now in my opinion in a safe and good working condition and eligible to be noted in the Society's Register Book: + L. M. C. 7. 84.*

*This submitted that this vessel is eligible to have the notification + £m to 7.84 recorded.*  
 D.S.  
 21/7/84

The amount of Entry Fee £ 1 : 0 : 0 received by me,  
 Special .. £ 14 : 5 : 0  
 Donkey Boiler Fee .. £ 0 : 0 : 0  
 Certificate (if required) .. £ 0 : 0 : 0 14/4/1884  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ - 8/- )

Committee's Minute

TUESDAY 22 JULY 1884

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

*John Underberg*  
 Glasgow

Lloyd's Register Foundation