

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER'S CERTIFICATE.

The following is a true Account of the Particulars of the Machinery and Boilers:—

ENGINES.—Here state description of Engines, whether Direct Acting or Geared, Inverted, Horizontal, Diagonal, or Oscillating Cylinders
No. of Cylinders, &c.

*One pair Inverted Cylinder Compound Surface Condensing Screw Engines
Direct Acting*

ENGINES, maker of *Walker, Henderson & Co.*
 „ age of *new*
 „ last time taken out
 „ present condition
 Diameter of Cylinder *28" x 34"*
 Length of stroke *33"*
 No. per minute of Engines *66*
 „ of Screw *66*
 Estimated power *120*
 Effective power *600*
 Diameter of Screw (or Raddle Wheels) *12' 3"*
 Pitch of Screw *14"*
 No. of Blades (or Floats) *14*
 Description of Screw (or Floats) *Compound*
 Holding down Bolts, size *1 1/2" dia.*
 „ present condition *new*

Bilge Pumps, No. (*1*) and size *1 1/4" dia. by 16 1/2" stroke*
 Feed „ No. (*1*) and size *1 1/4" " 16 1/2" "*
 Spare gear, if usual quantity on board Vessel *Yes*
 Fuel, where stowed *Aboard ship in Engine & Boiler space*
 „ space between Coal Bunkers and Boilers *6"*
 „ for what quantity is space provided
 Donkey Engine and Boiler *Vertical Boiler*
 „ if fitted in Engine Room or on Deck *in Engine room*
 „ can pump be worked by hand *Yes*
 „ size of pump (*4*) and stroke *12"*
 „ is hose of sufficient length to reach every part of the Vessel *Yes*
 No. () and continuation of hand pumps, if fitted in Engine Room *None*

BOILER.—Here state description of Boiler, and No.; if Tubular, or Flues; No. of Furnaces; if fitted with superheating apparatus; if Fired
athwartships, or from fore, or after end of Boiler, &c.

*One round tubular Boiler—4 furnaces—Steam
Gone inside of Smoke box, fired fore and aft.*

BOILER, maker of *Walker, Henderson & Co.*
 „ age of *new*
 „ when last taken out
 „ present condition
 „ working pressure *65 lbs*
 No. of surface Blow off Cocks to each Boiler *bottom & surface*

Can each Boiler be used separately
 What clear space between top of Boiler and woodwork *14"*
 What clear space between Funnel and woodwork *14"*
 Are Engine and Boiler Keelsons well connected fore and aft *Yes*

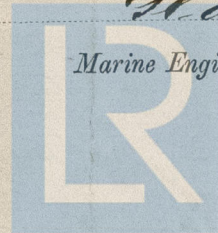
SCREW SHAFT length *15' 5 1/2"* diameter *9"* Tunnel thickness of plating height *6' 4"*
 width *4' 9"* if water-tight door on Engine Bulkhead *Yes*

Port *Glasgow* *2nd* day of *February* 18 *95*

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Raddle) Steam Vessel *"Rio Grande do Sul"* belonging to
 whereof *is* Master, *Tons* Register, and *120* H.P. have been
 carefully inspected and examined by *us* at *Port Glasgow* and *we* found the
 same, at this date, in good order and safe working condition.

Walker, Henderson & Co.
Glasgow

Marine Engineers.



Lloyd's Register
Foundation

IRON460-0164