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# 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.

*Inverted direct acting combined high and low pressure Engines with One high & One low pressure Cylinder, Surface Condensing.*

ENGINES, maker of *Thompson Boyd & Co*  
 „ age of *New*  
 „ last time taken out *—*  
 „ present condition *New*  
 Diameter of Cylinder *20 & 35*  
 Length of stroke *2' 0"*  
 No. per minute of Engines *80*  
 „ of Screw *80*  
 Estimated power *60 H.P.*  
 Effective power *270*  
 Diameter of Screw (or Paddle Wheels) *9' 6"*  
 Pitch of Screw *11' 0" to 13' 0"*  
 No. of Blades (or Floats) *4*  
 Description of Screw (or Floats) *Ordinary*  
 Holding down Bolts, size *1 3/4" dia*  
 „ present condition *New*

Bilge Pumps, No. ( *2* ) and size *2 1/2" dia* } *12 1/2" Stroke*  
 Feed „ No. ( *2* ) and size *2 1/2" dia* }  
 Spare gear, if usual quantity on board Vessel } *Yes*  
 Fuel, where stowed *In Bunkers*  
 „ space between Coal Bunkers and Boilers } *12"*  
 „ for what quantity is space provided *60 Tons*  
 Donkey Engine and Boiler *Boiler in Hatchole*  
 „ if fitted in Engine Room or on Deck } *Donkey in Engine Room*  
 „ can pump be worked by hand *Yes*  
 „ size of pump ( ) and stroke *5" dia x 6" Stroke*  
 „ is hose of sufficient length to reach every part of the Vessel } *Yes*  
 No. ( ) and continuation of hand pumps, if fitted in Engine Room } *No Handpump*

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 force, or after end of Boiler, &c.

*One tubular Boiler with two furnaces, fired from forward end.*

BOILER, maker of *Thompson Boyd & Co*  
 „ age of *New*  
 „ when last taken out *—*  
 „ present condition *New*  
 „ working pressure *60 lbs*  
 No. of surface Blow off Cocks to each Boiler } *One surface blow off*  
 „ } *One Boiler blow off*  
 SCREW SHAFT length *57' 6"* diameter *6 1/2"* Tunnel, thickness of plating *1/4"* height *4' 6"*  
 width *3 ft* if water-tight door on Engine Bulkhead. *Yes*

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

Port *Newcastle-on-Tyne* day of *June 14<sup>th</sup>* 1871.

*We* hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *Grand Duke Alexis* belonging to *Archangel* whereof *—* is Master, *—* Tons Register, and *60* H.P. have been carefully inspected and examined by us at *Low Walker* and *we* found the same, at this date, in good order and safe working condition.

*Thompson Boyd & Co*  
 Marine Engineers.

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