

# 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.

The Engines are inverted direct acting compound, with one high and one low pressure Cylinder & Surface condenser.

ENGINES, maker of *Palmer's Shipbuilding & Iron Co. Ltd.*  
 „ age of *new.*  
 „ last time taken out *—*  
 „ present condition *—*  
 Diameter of Cylinder *24 & 45.*  
 Length of stroke *30*  
 No. per minute of Engines *70 revs*  
 „ of Screw *70*  
 Estimated power *80 HP nom.*  
 Effective power *360 HP indicator*  
 Diameter of Screw (or ~~Paddle~~ *Wheels*) *12.5*  
 Pitch of Screw *12.5 increasing to 16.5.*  
 No. of Blades (or ~~Plates~~) *4*  
 Description of Screw (or ~~Plates~~) *Movable blades.*  
 Holding down Bolts, size *2 1/2" diam*  
 „ present condition *new.*

Bilge Pumps, No. ( *2* ) and size *6" diam 6" stroke*  
 Feed „ No. ( *2* ) and size *5" diam 8"*  
 Spare gear, if usual quantity on board Vessel *yes*  
 Fuel, where stowed *on each side of Engines & Boilers*  
 „ space between Coal Bunkers and Boilers *10"*  
 „ for what quantity is space provided *129 tons.*  
 Donkey Engine and Boiler *are both provided*  
 „ if fitted in Engine Room or on Deck *Donkey in Engine room & Boiler on Deck*  
 „ can pump be worked by hand *yes* { *2 Ballast donkey*  
 „ size of pump ( *4* ) and stroke *8* } *is also provided*  
 „ is hose of sufficient length to reach every part of the Vessel *yes* { *and fixed in Engine room.*  
 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 cylindrical tubular Boiler with three circular Furnaces, dry Uptake and an annular Superheater on top of Uptake round base of Funnel. The boiler is fired from its forward End.

BOILER, maker of *Palmer's Shipbuilding & Iron Co. Ltd.*  
 „ age of *new.*  
 „ when last taken out *—*  
 „ present condition *—*  
 „ working pressure *75 lbs*  
 No. of surface Blow off Cocks to each Boiler *one*

Can each Boiler be used separately *—*  
 What clear space between top of Boiler and woodwork *7.6*  
 What clear space between Funnel and woodwork *2.4*  
 Are Engine and Boiler Keelsons well connected fore and aft *yes*

SCREW SHAFT length *26.9* diameter *7 1/4 & 7 1/2* Tunnel, thickness of plating *No Tunnel* height *—*  
 width *—* if water-tight-door on Engine Bulkhead *No.* The space in which the shafting works, forms part of Engine room as far aft as stern tube bulkhead.

Port *Newcastle on Tyne* 13<sup>th</sup> day of *May* 1873.

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (or ~~Wood~~) Screw (or ~~Paddle~~) Steam Vessel *Peter Grakan* belonging to *Newcastle* whereof *is Master, 516.20 Tons Register, and 80 H.P.* have been carefully inspected and examined by *us* at *Larion on Tyne* and *we* found the same, at this date, in good order and safe working condition.

*Palmer's Shipbuilding & Iron Co. Ltd.*

*Thos. Leitch*  
 Marine Engineers.