

12370 *Ln*

IRON 456-0276

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 surface condensers and one high & one low pressure cylinder

ENGINES, maker of *Palmer's Shipbuilding*
 „ age of *new* *Iron Co. Ltd*
 „ last time taken out *—*
 „ present condition *new*
 Diameter of Cylinder *52 & 98*
 Length of stroke *52*
 No. per minute of Engines *56 revolutions*
 „ of Screw *56*
 Estimated power *500 HP nom*
 Effective power *2000 HP indic*
 Diameter of Screw (~~or Paddle Wheels~~) *18.0*
 Pitch of Screw *20.0 increasing to 26.0*
 No. of Blades (~~or Floats~~) *4*
 Description of Screw (~~or Floats~~) *movable blades*
 Holding down Bolts, size *1 3/4*
 „ present condition *new*

Bilge Pumps, No. (*2*) and size *9 1/2" diam 12 stroke*
 Feed „ No. (*2*) and size *6 1/2" 30*
 Spare gear, if usual quantity on board Vessel *yes*
 Fuel, where stowed *side bunkers and cross bunkers at each end of boiler space*
 „ space between Coal Bunkers and Boilers *9 1/2*
 „ for what quantity is space provided *554 tons*
 Donkey Engine and Boiler *yes*
 „ if fitted in Engine Room or on Deck *Donkey in Engine room*
 „ can pump be worked by hand *Boiler in Stoke hole*
 „ size of pump (*6*) and stroke *8*
 „ is hose of sufficient length to reach every part of the Vessel *yes*
 No. (*1*) and continuation of hand pumps, if fitted in Engine Room *yes*

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.

There are 2 cylindrical tubular double ended boilers with 12 circular furnaces, dry up takes with 2 vertical superheaters on top, each with 3 circular flues. The boilers are fired from their fore and aft ends—

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

Can each Boiler be used separately *yes*
 What clear space between top of Boiler and woodwork *5.3*
 What clear space between Funnel and woodwork *2.4*
 Are Engine and Boiler Keelsons well connected fore and aft *yes*
 height *9.6 & 10.6*
 from top of props

SCREW SHAFT length *148.1* diameter *15 & 16* Tunnel thickness of plating *5/16*
 width *4.6* if water-tight door on Engine Bulkhead *yes*

Port *Newcastle on Tyne* *23rd* day of *February* 1874

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (~~or Wood~~) Screw (~~or Paddle~~) Steam Vessel *Whampoa* belonging to *—* whereof *—* is Master, *500* Tons Register, and *500* H.P. have been carefully inspected and examined by *us* at *Garrow on Tyne* and we found the same, at this date, in good order and safe working condition.

Palmer's Shipbuilding and Iron Co. Ltd
Thos. L. M. Esq.
 Marine Engineers.

12370 *Iron*