

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.

Compound direct-acting inverted Cylinder Engines with one high pressure & one low pressure Cylinder

ENGINES, maker of *M. Napier & Sons*

„ age of *new*

„ last time taken out

„ present condition *new*

Diameter of Cylinders *30 ins & 54 ins*

Length of stroke *3 feet*

No. per minute of Engines *60 to 40 revolutions*

„ of Screw *do do*

Estimated power *130 Horse P.P.*

Effective power *abt 600 Ind P.P.*

Diameter of Screw (or Raddle Wheel) *14 feet*

Pitch of Screw *15 in*

No. of Blades (or Plates) *4*

Description of Screw (or Plates) *Griffiths, fixed blades*

Holding down Bolts, size *1 1/2 ins*

„ present condition *new*

Bilge Pumps, No. (*2*) and size *3 dia x 14 1/2 stroke*

Feed „ No. (*2*) and size *3 in x 14 1/2*

Spare gear, if usual quantity on board Vessel *yes*

Fuel, where stowed *forward of boiler space*

„ space between Coal Bunkers and Boilers *4 feet*

„ for what quantity is space provided *100 tons*

Donkey Engine and Boiler *2 Donkey Engines & 1 Boiler*

„ if fitted in Engine Room or on Deck *Engines in Engine room Boiler on Deck*

„ can pump be worked by hand *no*

„ size of pump (*One 4 1/2 in*) and stroke *8 inches*

„ 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 *5 feed boiler, & one in Engine room*

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.

2 single ended horizontal tubular boilers, 3 furnaces in each fired fore and aft from forward end of boilers. One vertical Superheater placed above boilers.

BOILER, maker of *M. Napier & Sons*

„ age of *new*

„ when last taken out

„ present condition *new*

„ working pressure *60 lbs per sq. inch*

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 *21 ins*

What clear space between Funnel and woodwork *38 ins*

Are Engine and Boiler Keelsons well connected fore and aft *yes*

SCREW SHAFT length *20' 10 1/2 in* diameter *9 7/8 in* Tunnel, thickness of plating *3/16 in* height *5 ft 6 ins*
width *4 1/2 in* if water-tight door on Engine Bulkhead. *yes.*

Port *Glasgow* *21st* day of *October* 18 *77*

We hereby certify, that the whole of the above Machinery and Boilers of the Iron (*W*) Screw (*or Raddle*) Steam Vessel *"Courland"* belonging to *D. Currie Esq. & others* whereof *M. Newman* is Master, *803 25/100* Tons Register, and *130* H.P. have been carefully inspected and examined by *us* at *Glasgow* and *we* found the same, at this date, in good order and safe working condition.

M. Napier & Sons
D. Bell
Marine Engineers

IRON 506-0044