

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.

1 pair direct acting inverted cylinder Engines (Compound)

ENGINES, maker of *David Rowan*
 „ age of *New*
 „ last time taken out
 „ present condition *Good*
 Diameter of Cylinder *20 inches + 36 inches*
 Length of stroke *24 inches*
 No. per minute of Engines *70*
 „ of Screw *70*
 Estimated power *50 H.P.*
 Effective power
 Diameter of Screw (~~or Paddle Wheels~~) *8" 9"*
 Pitch of Screw *11" 6"*
 No. of Blades (or Floats) *4*
 Description of Screw (or Floats) *in one Casting (Right hand)*
 Holding down Bolts, size *7/8"*
 „ present condition *New*

Bilge Pumps, No. (*1*) and size *2 3/4" dia Stroke 14"*
 Feed „ No. (*1*) and size *2 3/4" " 14"*
 Spare gear, if usual quantity on } *yes*
 board Vessel }
 Fuel, where stowed *in Bunkers*
 „ space between Coal Bunkers } *9"*
 and Boilers }
 „ for what quantity is space provided
 Donkey Engine and Boiler
 „ if fitted in Engine Room or } *in Engine Room*
 on Deck }
 „ can pump be worked by hand *yes*
 „ size of pump (*2 3/4"*) and stroke *14"*
 „ is hose of sufficient length to } *yes*
 reach every part of the Vessel }
 No. () and continuation of hand }
 pumps, if fitted 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.

one Round Tubular Boiler 11'0" dia + 9'6" long fitted with Superheater
(2) 3'3" furnaces fired from aft end of Boiler

BOILER, maker of *David Rowan*
 „ age of *New*
 „ when last taken out
 „ present condition *New*
 „ working pressure *60 lbs*
 No. of surface Blow off Cocks to } *1 Boiler (1 Surface Cock)*
 each Boiler }
 SCREW SHAFT length *45 feet* diameter *6 1/2"* Tunnel thickness of ~~plate~~ *2" Wood* height *2'0" above Skaffing*
 width *22" open below* if water-tight door on Engine Bulkhead. *no*

Can each Boiler be used separately *only 1 Boiler*
 What clear space between top of } *2'0"*
 Boiler and woodwork }
 What clear space between Funnel } *18"*
 and woodwork }
 Are Engine and Boiler Keelsons } *yes*
 well connected fore and aft }

Port *of Glasgow* *5th* day of *December* 18 *73*

I hereby certify, that the whole of the above Machinery and Boilers of the Iron (or Wood)

Screw (or Paddle) Steam Vessel *Sura* belonging to *John Bell Esq*
 whereof *Roberts* is Master, *362* Tons Register, and *—* H.P. have been
 carefully inspected and examined by *me* at *Glasgow* and I found the
 same, at this date, in good order and safe working condition.

David Rowan
2 Union Street Glasgow
 Marine Engineers.