

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S CERTIFICATE & REPORT.

ENGINES.

15578 Iron

Rev 3/12/95

Description *Inverted, Compound, Surface Condensing,*
 Made by *Messrs Palmer & Co. Janow,*
 In the year *1871.*
 Present condition *good.*
 Diameter of cylinder *One HP. 30 and One LP 54*
 Length of stroke *33.*
 No. of revolutions per minute *about 57.*
 Point of cut off *1/2 stroke.*
 Paddle, or Screw *Screw.*
 Nominal Horse Power *120.*
 Diameter of screw, or of paddle wheel *13.6*
 Pitch of screw *15.0.*
 No. of blades, *4* total surface *47 sq. ft.*
 No. of bilge pumps *2* and size *6" x 6" stroke single acting.*
 Do they pump from each compartment *all except forward.*
 Is there provision made for pumping } *no.*
 from the wings of the stoke hold }

Are all the bilge suction pipes fitted with roses *yes*
 What vacuum and steam gauges are there attached to the engines } *Vacuum on Condenser & 1 Compound on each boiler. Steam in Engine room common to both boilers and boilers. 1" on Superheater in stokehold.*
 No. of feed pumps *2* and sizes *5 1/2 dia x 8 stroke single acting*
 Description and size of } *Inverted Cyl 8" x 8" stroke*
 Donkey Engine... } *Pump 4 x 8 " double acting.*
 Will it feed the boilers, pump from the bilges, and pump on deck } *yes.*
 Can it be driven by steam } *yes.*
 from a separate boiler }
 No. of bilge injections *1* and sizes *6 dia.*
 Are they fitted with non return valves *yes.*
 Is there a hand pump in the engine room *no (Donkey Can be used as such)*
 Can it be worked by the main engines *no.*
 Is there a deck hose of sufficient length } *yes.*
 to reach to any part of the vessel }

CONNECTIONS ON HULL.

Are all connections with the sea } *yes.*
 direct on the skin of the ship }
 Are they Kingston valves or common cocks *Common stop valves & Cocks.*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates } *yes.*
 Are the discharge pipes above or below the deep water line } *below.*
 Are they each fitted with a discharge valve on the plating of the vessel } *yes.*

Are any pipes carried through the bunkers *no.*
 If so state how protected
 When was the stern tube, propeller, screw shaft, and all connections examined in dry dock } *November 1875.*
 How are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge } *non return valves and shell cocks with only 1 port in plug.*
 Have the bilge suctions non-return valves fitted or not } *not fitted.*

BOILERS.

Number *Two.*
 Description *Cylindrical,*
 Made by *Messrs Palmer & Co.*
 In the year *1871.*
 Present condition *good*
 When last extensively repaired *have had no extensive repairs*
 Working pressure *66 lbs per sq. inch.*
 When tested by hydraulic pressure *1871*
 To what pressure tested *67 in. 120 lbs.*
 Any super-heating apparatus *yes.*
 Describe it *Annular.*
 Can each boiler be worked separately *yes*
 Is each boiler fitted with a separate steam gauge *no.*

Can the super-heater be shut off and the boilers worked separately } *no.*
 No. of safety valves on each boiler *2.*
 Description and area of each safety valve *Lower & weight 3 1/2 dia = 9.6 area*
 No. of square feet of fire-grate } *31 1/2.*
 surface in each boiler }
 Is there a separate blow off and brine cock on each boiler, independent of those on the vessel's skin } *yes.*
 Is the screw shaft tunnel water tight and fitted with a sluice door on bulkhead } *No Tunnel. Engines are in aft end of ship.*
 Are all pipes, cocks, and roses in connection with these boilers accessible to the engineer at all times } *yes.*

I was present when steam was raised & Engines worked slowly in Tyne Dock. Nov. 27th steam 66 lbs vacuum 27 inches revs about 30. all worked satisfactory. W.A.

Wm. L. Smith for Messrs Palmer & Co. Manufacturer.

I hereby certify that the whole of the above Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"Cartago Nova"* owned by *J. Hall. (Hall Brothers Newcastle.)* of the Port of *London* of *1336* Tons Register, and *120* Nominal Horse Power, have been carefully inspected and examined by *me* at *Janow and Tyne Dock.* and found to be at this date, viz., *Nov. 27th* 18 *75.* in good order and safe working condition.

William Allison,
 Engineer Surveyor to Lloyd's Register of Shipping.