

15690 Iron

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S CERTIFICATE & REPORT.

Per 20/1/76

ENGINES.

Description *Compound, Inverted, Direct Acting,*
 Made by *H. Napier & Sons*
 In the year *1875*
 Present condition *New*
 Diameter of cylinder *One 4 1/4" and One 4 3/4"*
 Length of stroke *48"*
 No. of revolutions per minute *about 60*
 Point of cut off *Variable*
 Paddle, or Screw *Screw*
 Nominal Horse Power *300*
 Diameter of screw, ~~and pitch~~ *18" 0"*
 Pitch of screw *20 ft. to 23 ft.*
 No. of blades, *4* total surface *85 ft.*
 No. of bilge pumps *Two* and size *4 1/2" dia x 24" Stroke*
 Do they pump from each compartment *Yes*
 Is there provision made for pumping }
 from the wings of the stoke hold } *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 What vacuum and steam gauges are there attached to the engines and boilers... *One Vacuum, One Steam & One Compound Gauge in Engine Room & Two Steam to each boiler in Boiler Room*
 No. of feed pumps *Two* and sizes *4 1/2" x 24" Stroke*
 Description and size of Donkey Engine... *Inverted, double acting, 6" x 12" Stroke*
 Will it feed the boilers, pump from the bilges, and pump on deck... *Yes*
 Can it be driven by steam from a separate boiler *Yes*
 No. of bilge injections *Two* and sizes *One 6 1/2" attached to circulating pump, One 5 1/4" " " Air " "*
 Are they fitted with non return valves *The one to circulating pump is fitted with a nonreturn valve, the one to other pump has a screw down valve*
 Is there a hand pump in the engine room *Yes, about 6"*
 Can it be worked by the main engines *Yes*
 Is there a deck hose of sufficient length to reach to any part of the vessel *Yes*

CONNECTIONS ON HULL.

Are all connections with the sea direct on the skin of the ship *Yes*
 Are they Kingston valves or common cocks *Screw down valves & Cocks*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stoke hold plates... *They are all fitted above the turn of the Bilge*
 Are the discharge pipes above or below the deep water line *Above*
 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 *On Slip previous to being launched*
 How are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *Nonreturn Valves, and Interlocks at Cocks with single ports in side of plates*
 Have the bilge suction non-return valves fitted or not *Yes*

BOILERS.

Number *Two, Round, Horizontal with 3*
 Description *Furnaces in each end fired fore & aft*
 Made by *H. Napier & Sons*
 In the year *1875*
 Present condition *New*
 When last extensively repaired
 Working pressure *60 lbs*
 When tested by hydraulic pressure *Aug. 24th 1875*
 To what pressure tested *120 lbs*
 Any super-heating apparatus *Yes*
 Describe it *Round Vertical with 4 Tubes*
 Can each boiler be worked separately *Yes*
 Is each boiler fitted with a separate steam gauge *Two Gauges*

Can the super-heater be shut off and the boilers worked separately *No*
 No. of safety valves on each boiler *Two*
 Description and area of each safety valve *Direct Spring 25.96" area*
 No. of square feet of fire-grate surface in each boiler *92 ft.*
 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 *Yes*
 Are all pipes, cocks, and roses in connection with these boilers accessible to the engineer at all times *Yes, they are all fitted in Engine Room*

Mr. H. Napier & Sons Manufacturers
W. S. S. S.

I hereby certify that the whole of the above Machinery and Boilers of the Iron (and Wood) Screw (and Bark) Steam Vessel *"Dunrobin Castle"* owned by *Donald Currie & Co.* of the Port of *London* of *1793* Tons Register, and *300* Nominal Horse Power, have been carefully inspected and examined by *me* at *Glasgow* and found to be at this date, viz., *Jan^y 19th 1876* in good order and safe working condition.

James Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.