

LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S ~~CERTIFICATE~~ Report.

ENGINES.

Description *Inverted Compound* Are all the bilge suction pipes fitted with roses *Yes*
 Made by *The Barron Shipbuilding Engineering Co.* What vacuum and steam gauges are there attached to the engines and boilers... *3 Steam, 1 vacuum*
 In the year *1875*
 Present condition *new*
 Diameter of cylinder *14" and 38"*
 Length of stroke *2 feet 8 inches*
 No. of revolutions per minute *69*
 Point of cut off *three fourths of stroke*
 Paddle, or Screw *Screw*
 Nominal Horse Power *60*
 Diameter of screw, or of paddle wheel *14 feet*
 Pitch of screw *15 ft 6 inches*
 No. of blades, *3* total surface *12.36 sq. feet*
 No. of bilge pumps *2* and size *3 1/2 dia. 16" stroke*
 Do they pump from each compartment *Yes*
 Is there provision made for pumping from the wings of the stoke hole *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 *cocks on brass stand*
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehole plates *no*
 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, propellor, screw shaft, and all connections examined in dry dock*
 How are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge *by a three way cock*
 Have the bilge suction non-return valves fitted or not *no*

BOILERS.

Number *one*
 Description *Howard's Patent safety Boiler*
 Made by *The Barron Shipbuilding Engineering Co.*
 In the year *1875*
 Present condition *new*
 When last extensively repaired *not*
 Working pressure *120 lbs*
 When tested by Hydraulic pressure *24th April*
 To what pressure tested *240 lbs per square inch*
 Any super-heating apparatus *none*
 Describe it *only one Boiler*
 Can each boiler be worked separately *only one Boiler*
 Is each boiler fitted with a separate steam gauge *no*
 Can the super-heater be shut off and the boilers worked separately *no superheater*
 No. of safety valves on each boiler *two*
 Description and area of each safety valve *lever weighted 11 sq. in. area*
 No. of square feet of fire-grate surface in each boiler *45*
 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*

Manufacturer.

I hereby certify that the whole of the above Machinery and Boilers of the *Iron (or Wood) Screw (or Paddle)* Steam Vessel *"Howard"* owned by *Mr. Little & Co.* of the Port of *Barron* of *248* Tons Register, and *60* Nominal Horse Power, have been carefully inspected and examined by me at *Barron* and found to be at this date, viz., *22nd of April 1875* in good order and safe working condition. for a period not exceeding *three months* from this date.

Engineer Surveyor to Lloyd's Register of Shipping.