

Recd 18/4/79

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

ENGINES.

Description *2 Cyl^{rs} Compound Reverted S.C*
 Made by *John Shaw & Co*
 When *April 1879* At *Low Walker on Tyne*
 Diameter of cylinders *32" & 62"* Length of stroke *48"*
 No. of revolutions per minute *55*
 Point of cut off *5/8^{ths} of stroke*
 Diameter of screw shaft *11 5/8"*
 Diameter of crank shaft journals *11 7/8"*
 Diameter of screw, or of paddle wheel *16.6"*
 Pitch of screw *21 feet*
 No. of blades, *(41)* Total surface *58 sq. feet*
 No. of bilge pumps *(2)* and sizes *4 1/2" dia, 24" stroke*
 Do they pump from each compartment *Yes*

Are all the bilge suction pipes fitted with roses *Yes*
 No. of feed pumps *(2)* and sizes *4 1/2" dia, 24" stroke,*
 What gauges are there attached to the engines and boilers ...
1 Steam for both Boiler & Condensers
1 ditto " each in stoke hold
1 vacuum gauge,
1 "Pulsometer" 1/2" suction D.A.
 Description and size of Donkey Pumps ...
1 "Feed pump" 3 dia 5 1/2" stroke D.A.
 Where do they pump from
Pulsometer from sea & all compartments.
Feed pump ditto
 No. of bilge injections *(1)* and sizes *3 1/2"*
 Are they connected to air, or circulating pumps *to condenser*
 Is there a hand pump in the engine room *No. small donkey*
 Can it be worked by the main engines *can be used as hand pump*
 Is there a deck hose of sufficient length to reach to any part of the vessel } *Yes.*

MAIN BOILERS.

Number *Two* Description *Cylindrical tubular*
 Made by *John Shaw & Co*
 When *April 1879* At *Low Walker*
 Working pressure *90 lbs valves set to 79 lbs*
 Tested by hydraulic pressure to *180 lbs*, Date *22. 1. 79*
 Description of super-heating apparatus *None*
 Can each boiler be worked separately *Yes*

Can the super-heater be shut off and the boilers worked separately } *None*
 Description and area of safety valves on each boiler
(2) Spring valves by J. Shaw & Co
= 28 sq inches,
 No. of square feet of fire-grate surface in each boiler } *54 sq feet*
 Are there separate blow off and brine cocks on each boiler, independent of those on the vessel's skin } *Yes*
 Are all pipes, cocks, roses, and pumps in connection with the machinery accessible at all times
all except roses & non return valves in main holds.

DONKEY BOILER.

Description *Cylindrical Vertical*
 Where fixed *Stokehold*
 Working pressure *70 lbs value set to 65 lbs*
Made by J. Shaw & Co

Tested by hydraulic pressure to *140 lbs*, Date *22. 1. 79*
 Description and area of safety valves *(1) Spring valve = 8.25"*
 No. of square feet of fire grate *18 sq feet*

PIPES, COCKS, AND CONNECTIONS.

Are all connections with the sea direct on the skin of the ship } *Yes*
 Are they Kingston valves or common cocks ... } *1 King stem rest all common 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,*
Reptons Lazen Marks
John Shaw & Co. Manufacturer.

What pipes are carried through the bunkers *None.*
 How are they protected
 When were the stern tube, propeller, screw shaft, and all connections examined in dry dock } *New.*
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilge } *Yes.*
 Is the screw shaft-tunnel water tight and fitted with a sluice door on bulkhead } *Appears water tight and fitted with a sluice door*
Enquiries & Bilges tried under Steam
Sates factory.

We hereby certify that the whole of the above are correct particulars of the Machinery and Boilers of the Iron (or Wood) Screw (or Paddle) Steam Vessel *"Celtic Monarch"* owned by *John Patton jr & J. J. Dickes* of the Port of *Londow* of *1307* Tons Register, and *200* Registered Horse Power, and that they have been carefully inspected and examined by *us* at *Low Walker on Tyne* and found to be at this date, viz., *April 7th* 1879 in good order and safe working condition.

Amount of Fee for Survey £10: 0: 0 } Paid by *George W. Marshall & John Brewster*
Engineer Surveyor to Lloyd's Register of Shipping.
North Shields
17/4/79.

No. 14311 Port Newcastle

The Engines and Boilers of this vessel
have been built and are fitted
in accordance with the rules
submitted that she is eligible
to have Lloyd's M.C. and a
machinery certificate from 7th
April 1879

M 15.4.79



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