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LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

ENGINEER SURVEYOR'S REPORT ON MACHINERY.

Engines from S.S. "Richmond"

ENGINES.

Per 23/8/77

Report (if any) on Hull of Vessel.

Description Inverted Cy. Surface Condensing
 Made by Messrs Hall Russell & Co
 When 1877 At Aberdeen
 Diameter of cylinders 20" & 20" Length of stroke 21"
 No. of revolutions per minute 90
 Point of cut off by expansion Valve from 10 to 3/4
 Diameter of screw shaft 6"
 Diameter of crank shaft journals 6"
 Diameter of screw, or of paddle wheel 9" 2"
 Pitch of screw 9" 3"
 No. of blades Four Total surface 32 feet
 No. of bilge pumps one and sizes 3" Dia 21" Stroke
 Do they pump from each compartment Engine room only

Are all the bilge suction pipes fitted with roses yes
 No. of feed pumps one and sizes 3" dia 21" Stroke
 What gauges are there attached to the engines and boilers ... One Water & Test Cocks on Boiler and one each Pressure & Vacuum on Engines
 Description and size of Inverted Cy. D.A. 7" dia 8" Stroke
 Donkey Pumps ... 3 1/2" dia double acting pumps
 Where do they pump from from Sea, Bilge, hot Well to Boiler through Condenser and on Deck
 No. of bilge injections one and sizes 2 1/2" dia
 Are they connected to air, or circulating pumps air pumps
 Is there a hand pump in the engine room no but donkey made to work by hand
 Can it be worked by the main engines no
 Is there a deck hose of sufficient length to reach to any part of the vessel yes

Two Pumps worked by Deck Steam Winch for pumping Ballast Tanks
MAIN BOILERS.

Number one Description Circular Tubular
 Made by Messrs Hall Russell & Co
 When Aug 1877 At Aberdeen
 Working pressure 60 lbs
 Tested by hydraulic pressure to 120 lbs, Date 27/6/77
 Description of super-heating apparatus Vertical dome
 Can each boiler be worked separately —

Can the super-heater be shut off and the boilers worked separately —
 Description and area of safety valves on each boiler Two Spring Safety by Hall Russell & Co 3 1/2" dia 18.24 area
 No. of square feet of fire-grate surface in each boiler 26.6 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 yes

DONKEY BOILER.

Description Round Vertical
 Where fixed on Deck
 Working pressure 60 lbs

Tested by hydraulic pressure to 120, Date 27/6/77
 Description and area of safety valves Lower & Height 3.54 area
 No. of square feet of fire grate 5.9 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 ... 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 Above
 Are they each fitted with a discharge valve on the plating of the vessel yes

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 Before Launch
 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 no tunnel

Hall Russell & Co Manufacturers

I 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 "Spey" owned by Messrs Adam & Co of the Port of Aberdeen of 130.37 Tons Register, and 35 Registered Horse Power, and that they have been carefully inspected and examined by me at Aberdeen and found to be at this date, viz., 15 August 18 77 in good order and safe working condition.

Amount of Fee for Survey 1 : 15 : 0

(Travelling Expenses, if any, £ 3-15-0)

Substance allowance 2-11-0

(1000/31/7/76.) Cab-hire & telegrams 5--

£ 6-11-0

One survey under night

Received by me
and sent to Dundee
Aug 17 1877

J. W. Helle

John Stunoe
 Engineer Surveyor to Lloyd's Register of Shipping.