

REPORT ON MACHINERY.

No. 7199 Port of Hull Received at London Office TUES 25 MARCH 1890
 No. in Survey held at Hull Date, first Survey May 28/89 Last Survey 20th Mar 1890
 Reg. Book. 753 on the Sam S South Western (Number of Visits 43) Tons 540.42
 Master London Built at London By whom built J W Dugdon When built 1874
 Engines made at Hull By whom made Earle & Co. Lim when made 1890
 Boilers made at Hull By whom made Earle & Co. Lim when made 1890
 Registered Horse Power 180 Owners London & Western Rail Co Port belonging to Southampton

ES, &c. — (Triple expansion) not Classed
 Kind of Engines Triple Compound Inverted Direct Acting
 No. of Cylinders 22 Length of Stroke 39" No. of Rev. per minute 62 Point of Cut off, High Pressure .64 Low Pressure .6
 Diameter of Screw shaft 1 1/4" Diam. of Tunnel shaft 10 1/4" Diam. of Crank shaft journals 1 1/4" Diam. of Crank pin 1 1/4" size of Crank webs 13" x 8"
 Pitch of screw 11:9 Pitch of screw 18:0 No. of blades 4 state whether moveable No total surface 57.09 sq ft
 Feed pumps Two diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes
 Bilge pumps Two diameter of ditto 3" Stroke 24" Can one be overhauled while the other is at work Yes
 Where they pump from Engine room Bilge, Holds & Tunnel.
 Monkey Engines One Size of Pumps Wain's 6" x 18" duplex Where do they pump from Bilges, Holds, Tunnel.
Hotwell, Bricks, Condenser & Feed heater.
 Are the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 Are the bilge injections One and sizes 7 Are they connected to condenser, or to circulating pump Circulating Pump
 How are the pumps worked Circulating Pump separate Engine, Remote from intermediate Engine Room
 Are the connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both
 Are the pipes fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the discharge pipes above or below the deep water line above
 Are each fitted with a discharge valve always accessible on the plating of the vessel Yes Are the blow off cocks fitted with a spigot and brass covering plate Yes
 How are the pipes carried through the bunkers Section to downward How are they protected board covered
 Are pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes in Engine room
 Are pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
 Are the stern tube, propeller, screw shaft, and all connections examined in dry dock Now new
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Main Deck

RS, &c. —
 Kind of Boilers Two Description Cylinder Whether Steel or Iron Steel
 Pressure 160 lbs Tested by hydraulic pressure to 520 lbs Date of test 10th Dec 1889
 Is there any superheating apparatus or steam chest None fitted
 Can the boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes
 Square feet of fire grate surface in each boiler 63.09 sq ft Description of safety valves Spring loaded No. to each boiler Two
 Are they fitted with easing gear Yes No. of safety valves to superheater - area of each valve -
 Are they fitted with easing gear - Smallest distance between boilers and bunkers or woodwork 26" Diameter of boilers 12.9"
 Description of riveting of shell long. seams all shop circum. seams all in cap Thickness of shell plates 1 1/2"
 Diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 7/8" Lap of plating 16 1/2"
 Percentage of strength of longitudinal joint 84.2% working pressure of shell by rules 161 lbs size of manholes in shell 16" x 12"
 Kind of compensating rings Flanged Ring No. of Furnaces in each boiler Three
 Diameter 40 1/2" length, top 7:0" bottom 7:0" thickness of plates 17/32 description of joint welded if rings are fitted Yes
 Length between rings longitudinal working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"
 Stays to ditto, sides 7/16" back 7/16" top 7/16" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by 73 lbs
 Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 211 lbs end plates in steam space, thickness 19/16"
 Stays to ditto 17" how stays are secured all nuts on nut working pressure by rules 160 lbs diameter of stays at at part
 Diameter at part 2 1/2" working pressure by rules 173 lbs Front plates at bottom, thickness 13/16" Back plates, thickness 13/16"
 Pitch of stays 12" working pressure by rules 160 lbs Diameter of tubes 3 1/2" pitch of tubes 4 3/4" thickness of tube front
 Thickness of tube 13/16" back 12/16" how stayed stay tubes pitch of stays 1 1/4" x 9/16" width of water spaces 10"
 Description of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes
 Are rivets working pressure of shell by rules diameter of flue thickness of plates If stiffened with rings
 Are the connections between rings working pressure by rules end plates of superheater, or steam chest; thickness how stayed
 Superheater or steam chest; how connected to boiler

Description of furnaces

DONKEY BOILER— Description *Vertical Cylinder Internal Furnace "Blake's Patent"*
 Made at *Manchester* by whom made *James Blake* when made *1890* where fixed *Wolverhampton*
 Working pressure *160 lb* tested by hydraulic pressure to *320 lb* No. of Certificate *860* fire grate area _____ description of safety
 valves *Spring loaded* No. of safety valves *two* area of each *5.14* if fitted with easing gear *Yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler _____ length _____ description of riveting _____
 Thickness of shell plates _____ diameter of rivet holes _____ whether punched or drilled _____ pitch of rivets _____ lap of plating _____
 per centage of strength of joint _____ thickness of crown plates _____ stayed by _____
 Diameter of furnace, top _____ bottom _____ length of furnace _____ thickness of plates _____
 Thickness of furnace crown plates _____ stayed by _____
 Working pressure of furnace by rules _____ diameter of uptake _____ thickness of plates _____ thickness of water tubes _____

No 860
 LLOYD'S TEST.
 320 LBS
 description of joint
 J. S.
 working pressure of shell by rules
 4. 12. 89
 thickness of water tubes

SPARE GEAR. State the articles supplied:— *The top end bolts, Two Bottom end bolts, Two
 main bearing bolts, One oil coupling bolts, One oil head and Bilge pump
 valves, Safety valve springs, Escape valve springs, Piston springs, Air pump
 and 7 Buckets, Crank shaft, Propeller shaft, Crank pin haars, bolts nuts &c*

The foregoing is a correct description,
 Manufacturer.

Wheaton
 MANAGER & DIRECTOR.

General Remarks (State quality of workmanship, opinions as to class, &c. *Workmanship Good*)

*The Machinery and Boilers of this vessel have
 been constructed under special survey and placed on board
 in accordance with the Society's Rules. They are now in my
 opinion in safe working condition and the case is respectfully
 submitted for the notification + NE + B. 90. + L.M.C. 3. 90. in
 the Register Book:*

*It is submitted that the vessel is eligible
 to have NE + B. 90. recorded in black.*
*W.A.
 25.3.90*

The amount of Entry Fee .. £ 2 : - : - received by me,
 Special .. £ 27 : - : -
 Donkey Boiler Fee .. £ - : - : -
 Certificate (if required) .. £ - : - : -
 (To be sent as per margin.)

W.A.
3/13/90

James James
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRIDAY 28 MARCH 1890** **TUES 1 APRIL 1890**
Not for Comm

