

REPORT ON MACHINERY.

No. 8844 Port of Glasgow Received at London Office 31 OCT. 88
 No. in Survey held at Glasgow Date, first Survey 17th September Last Survey 18th October 88
 Reg. Book. A Steel Main Boiler for Shipment to China. (Number of Visits 4) Tons -
 Master - Built at - By whom built - When built -
 Engines made at - By whom made - when made -
 Boiler made at Glasgow By whom made Ross & Duncan. when made 1888
 Registered Horse Power - Owners - Port belonging to -

ENGINES, &c.—

Description of Engines
 Diameter of Cylinders Length of Stroke No. of Rev. per minute Point of Cut off, High Pressure Low Pressure
 Diameter of Screw shaft Diam. of Tunnel shaft Diam. of Crank shaft journals Diam. of Crank pin size of Crank webs
 Diameter of screw Pitch of screw No. of blades state whether moveable total surface
 No. of Feed pumps diameter of ditto Stroke Can one be overhauled while the other is at work
 No. of Bilge pumps diameter of ditto Stroke Can one be overhauled while the other is at work
 Where do they pump from
 No. of Donkey Engines Size of Pumps Where do they pump from
 Are all the bilge suction pipes fitted with roses Are the roses always accessible Are the sluices on Engine room bulkheads always accessible
 No. of bilge injections and sizes Are they connected to condenser, or to circulating pump
 How are the pumps worked
 Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line
 Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate
 What pipes are carried through the bunkers How are they protected
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock
 Is the screw shaft tunnel watertight and fitted with a sluice door worked from

BOILERS, &c.—

Number of Boilers One Description Cylindrical - Multiflash Whether Steel or Iron Steel
 Working Pressure 100 lbs. Tested by hydraulic pressure to 200 lbs. Date of test October 18th 1888.
 Description of superheating apparatus or steam chest None
 Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately ✓
 No. of square feet of fire grate surface in each boiler ✓ Description of safety valves ✓ No. to each boiler ✓
 Area of each valve ✓ Are they fitted with easing gear ✓ No. of safety valves to superheater ✓ area of each valve ✓
 Are they fitted with easing gear ✓ Smallest distance between boilers and bunkers or woodwork ✓ Diameter of boilers 9'-0"
 Length of boilers 9'-0" description of riveting of shell long. seams Lap. treble. circum. seams Lap. single. Thickness of shell plates $\frac{21}{32}$ "
 Diameter of rivet holes $\frac{15}{16}$ " whether punched or drilled Drilled pitch of rivets $3\frac{1}{2}$ " Lap of plating $6\frac{1}{2}$ "
 Percentage of strength of longitudinal joint 73 working pressure of shell by rules 102 lbs. size of manholes in shell $15 \times 11\frac{1}{2}$ "
 Size of compensating rings Double riveted ring. No. of Furnaces in each boiler Two
 Outside diameter 34" length, top 6'-2" bottom - thickness of plates $\frac{17}{32}$ " description of joint Butt if rings are fitted As per rule.
 Greatest length between rings 6'-0" working pressure of furnace by the rules 120 lbs. combustion chamber plating, thickness, sides $\frac{7}{16}$ " back $\frac{7}{16}$ " top $\frac{7}{16}$ "
 Pitch of stays to ditto, sides $7\frac{1}{4} \times 7\frac{1}{4}$ back $7\frac{1}{4} \times 7\frac{1}{4}$ top $7 \times 7\frac{1}{4}$ If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 103 lbs. Diameter of stays at smallest part $1\frac{1}{8}$ screw working pressure of ditto by rules 130 lbs. end plates in steam space, thickness $\frac{11}{16}$ "
 Pitch of stays to ditto 13×13 how stays are secured nuts working pressure by rules 100 lbs. diameter of stays at smallest part $1\frac{3}{4}$ screw working pressure by rules 101 lbs. Front plates at bottom, thickness $\frac{11}{16}$ " Back plates, thickness $\frac{5}{8}$ "
 Greatest pitch of stays $10 \times 7\frac{1}{4}$ working pressure by rules 120 lbs. Diameter of tubes $3\frac{1}{4}$ " pitch of tubes $4\frac{1}{2}$ " thickness of tube plates, front $\frac{11}{16}$ " back $\frac{5}{8}$ " how stayed Tubes pitch of stays 13×9 width of water spaces 5"
 Diameter of Superheater or Steam chest None length ✓ thickness of plates ✓ description of longitudinal joint ✓ diam. of rivet holes ✓
 Pitch of rivets ✓ working pressure of shell by rules ✓ diameter of flue ✓ thickness of plates ✓ If stiffened with rings ✓
 Distance between rings ✓ working pressure by rules ✓ end plates of superheater, or steam chest; thickness ✓ how stayed ✓
 Superheater or steam chest; how connected to boiler ✓

8867 90.

DONKEY BOILER— Description

Made at _____ by whom made _____ when made _____ where fixed _____
Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ fire grate area _____ description of safety
valves _____ No. of safety valves _____ area of each _____ if fitted with easing gear _____ if steam from main boilers can
enter the donkey boiler _____ 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 _____ description of joint _____
Thickness of furnace crown plates _____ stayed by _____ working pressure of shell by rules _____
Working pressure of furnace by rules _____ diameter of uptake _____ thickness of plates _____ thickness of water tubes _____

SPARE GEAR. State the articles supplied :—

The foregoing is a correct description,
Manufacturer. _____

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

This main boiler has been constructed under special survey - it is of good material & workmanship - it has been satisfactorily tested in my presence by hydraulic pressure to 200 lbs per square inch and I am of opinion it is suitable for the intended working pressure of 100 lbs per sq inch - This boiler is to be shipped to China to be fitted on board on the vessel.

Appended hereto are four Reports on steel tests also the approved name of boiler.

It is submitted that this steel boiler should be approved of

M.C.

1. 11. 88

The amount of Entry Fee .. £ : :
Special .. £ 4 : 4 :
Donkey Boiler Fee .. £ : :
Certificate (if required) .. £ : :
To be sent as per margin.
(Travelling Expenses, if any, £ _____)

received by me, _____
29/10/1888

Walter R. Robson
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute _____

