

REPORT ON MACHINERY.

No. 5476.

Received at London Office Rec'd 1st May, 1884.

No. in Survey held at Stockton Hartlepool Date first Survey 20 Mar 1883 Last Survey 23 April 1884
Reg. Book. S. S. Merjulio (Number of Visits 1522) Tons 981

Master A. Young Built at Hartlepool By whom built H. Gray & Co When built 1884

Engines made at Stockton By whom made Blair & Co. Ltd when made 1884

Boilers made at Do By whom made Do when made Do

Registered Horse Power 99 Owners Marshall, Rodson & Co Port belonging to Leith
Engines N.H.P. 120

ENGINES, &c.—

Description of Engines Compound. Inverted. Surface Condensing
Diameter of Cylinders 30" & 55" Length of Stroke 36" No. of Rev. per min 100 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
Diameter of Screw shaft 10 3/4" Diam. of Tunnel shaft 9 1/8" Diam. of Crank shaft journals 10 1/2" Diam. of Crank pin 11" size of Crank webs 11 1/4" x 1 3/8"
Diameter of screw 14" 0" Pitch of screw at 15" 0" No. of blades four state whether moveable No total surface Not ascertained
No. of Feed pumps Two diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
No. of Bilge pumps Two diameter of ditto 3 1/2" Stroke 26" Can one be overhauled while the other is at work Yes
Where do they pump from Ind. pump from engine room, after wall & tanks. Cf. pump from engine room after wall & tanks.
No. of Donkey Engines Two Size of Pumps 1 1/2" dia x 9" stroke Where do they pump from Large donkey from engine room after wall & tanks. Small donkey from sea, hot water & tanks.
Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
No. of bilge injections One and sizes 6" Are they connected to condenser, or to circulating pump Circulating
How are the pumps worked By levers worked from crosshead on low pressure piston rod
Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Stop valves & cocks
Are they 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 they 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
What pipes are carried through the bunkers None How are they protected ✓
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes
When were stern tube, propeller, screw shaft, and all connections examined in dry dock New
Is the screw shaft tunnel watertight Said to be and fitted with a sluice door Yes worked from Top platform in engine room

BOILERS, &c.—

Number of Boilers One Description Cylindrical fired from both ends Material Steel or Iron Internal plates of shell Internal plates of shell
Working Pressure 85 lbs Tested by hydraulic pressure to 140 lbs Date of test 12.3.84 Certificate N. 1120
Description of ~~superheating apparatus~~ or steam chest Horizontal steam receiver. Cylindrical
Can each boiler be worked separately ✓ Can the superheater be shut off and the boiler worked separately No Superheater
No. of square feet of fire grate surface in each boiler At 53 sq ft Description of safety valves Spring No. to each boiler Two
Area of each valve 19.63 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 at 14" bunkers & boiler Diameter of boilers 12" 8"
Length of boilers 15" 0" description of riveting of shell long. seam Double Thickness of shell plates 1"
Diameter of rivet holes 1 1/16" whether punched or drilled drilled pitch of rivets 5 1/16" Lap of plating 13 5/8" straps
Per centage of strength of longitudinal joint 49 working pressure of shell by rules 103.9 lbs size of manholes in shell 13" x 16"
Size of compensating rings Rectangular plate 24" x 28" x 1 1/8" No. of Furnaces in each boiler Four
Outside diameter 3' 5" length, top 5' 6" bottom 14' 6" thickness of plates 9/16" & 5/8" description of joint Double plates 8 sq ft if rings are fitted Linear to bottom plate
Greatest length between rings 5' 3" working pressure of furnace by the rules 109.4 lbs combustion chamber plating, thickness, sides 1/2" back ✓ top 7/16"
Pitch of stays to ditto, sides 8 x 8 back ✓ top 8 x 8 If stays are fitted with nuts or riveted heads Cast nut & bolt working pressure of plating by rules 126 lbs Diameter of stays at smallest part 1 5/16" working pressure of ditto by rules 100 lbs plates in steam space, thickness 13/16"
Pitch of stays to ditto 15 3/4" x 15 3/4" how stays are secured Stub washers working pressure by rules 95.4 lbs diameter of stays at smallest part 2 1/4" working pressure by rules 96 lbs Front plates at bottom, thickness 13/16" Back plates, thickness ✓
Greatest pitch of stays ✓ working pressure by rules ✓ Diameter of tubes 3 1/4" pitch of tubes 4 1/2" x 4 5/8" thickness of tube plates, front 13/16" back 13/16" how stayed Stay tubes pitch of stays 13 1/2" x 9 1/4" width of water spaces 1 1/4" between tubes
Diameter of Superheater or Steam chest 3' 4" length 4' 1/2" thickness of plates 1/2" description of longitudinal joint Double plates 8 sq ft diam. of rivet holes 13/16"
Pitch of rivets 3 1/8" working pressure of shell by rules 126 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 46 how stayed Stay tubes
Stays 2 1/8" dia Superheater or steam chest; how connected to boiler Marshall & Rodson & Co

DONKEY BOILER—

Description *Vertical. Water tubes in furnace*

Made at *St. Helens* by whom made *H. Gray & Co* when made *12.3.84* where fixed *Stoke hole*

Working pressure *65 lbs* tested by hydraulic pressure to *130 lbs* No. of Certificate *1116* fire grate area *20.5 sq ft* Description of safety

valves *Spring* No. of safety valves *Two* area of each *5.4 sq in* fitted with easing gear *Yes* if steam from main boilers can

enter the donkey boiler *No* diameter of donkey boiler *6.0"* length *13.0"* description of riveting *Long seams, lap double*

Thickness of shell plates *1/16* diameter of rivet holes *13/16* whether punched or drilled *Punched* pitch of rivets *3 3/4* lap of plating *4 1/4*

per centage of strength of joint *40.4* thickness of crown plates *1/2"* stayed by *Six stays 2" dia*

Diameter of furnace, top *4.10"* bottom *5.4"* length of furnace *5.9"* thickness of plates *3/16* description of joint *Lap single*

Thickness of furnace crown plates *7/16* stayed by *Six stays 2" dia* working pressure of shell by rules *66.3 lbs*

Working pressure of furnace by rules *65.5 lbs* diameter of uptake *15"* thickness of plates *3/8* thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied: *Propeller, two connecting rod top end bolts & nuts, two connecting rod bottom end bolts & nuts, two main bearing bolts, one set coupling bolts, one set flange & gird pump valves, one set of fastenings & springs a quantity of assorted bolts & nuts, pieces of iron of various sizes & other spare gear.*

The foregoing is a correct description,

Robt Blair & Co Manufacturers of Engines & Marine Boilers only

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

Material & workmanship good.

Furnace crown plates, combustion chamber & staying back tube plates, dome ends & all rivets in main boiler are of steel supplied by J. & G. Beardmore Glasgow.

*The Machinery & Boilers have been constructed under special survey & are in good order & safe working condition & in my opinion eligible for the notification * L.M.C. 4.84 in the Registered Book.*

This submitted that this vessel is eligible to have the notification L.M.C. recorded M 7/5/84

The amount of Entry Fee £ 1: 0: 0 received by me,

Special .. £ 14: 17: 0

Donkey Boiler Fee .. £ 2: 1: 0

Certificate (if required) .. £ 28: 4: 18 1884

To be sent as per margin.

(Travelling Expenses, if any, £ ..)

Committee's Minute

FRIDAY 2 MAY 1884

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

+ L.M.C.